

FLORA OF WEST TROPICAL AFRICA

BY

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SECOND EDITION

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With annotations (marked *APD*) from

African Plants Database (version 3.4.0). Conservatoire et Jardin botaniques de la Ville
de Genève and South African National Biodiversity Institute, Pretoria,
Retrieved December 2013 from <http://www.ville-ge.ch/musinfo/bd/cjb/africa/>

PUBLISHED ON BEHALF OF THE GOVERNMENTS OF NIGERIA, THE GOLD COAST,
SIERRA LEONE AND THE GAMBIA

BY THE

CROWN AGENTS FOR OVERSEAS GOVERNMENTS
AND ADMINISTRATIONS

MILLBANK, LONDON, S.W.1

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Gymnospermae

CYCADACEAE

Shrubs or small trees with thick, usually simple stems and a crown of pinnatisect leaves circinate in bud; leaflets often with spiny teeth. Cones dioecious. Males terminal or subterminal, composed of numerous leathery or fleshy flat or peltate scales bearing on the under-surface numerous pollen-sacs. Female cones similar, the scales bearing a pair of inverted nude ovules on the lower side. Seeds large, drupe-like, with copious endosperm; cotyledons 2.

Mainly found in [S. Africa](#), [Australia](#) and [Central America](#).

The most ancient of the families of Gymnosperms, only one species represented in our area.

ENCEPHALARTOS

Lehm.—F.T.A. 6, 2: 346. *APD acc*

- 1 Stem very short, ellipsoid; leaves pinnatisect, 1–2 m. long, up to about 25 cm. wide; segments up to about 80 pairs, linear-lanceolate, very acute, with a few spinulose teeth on the margin, and numerous close parallel nerves; male cones pedunculate, pale green, 30–40 cm. long including the stalk; female cones subsessile, up to 25 cm. long; seeds crimson when ripe[barteri](#)

Encephalartos barteri *Carruth.*—F.T.A. 6, 2: 348; Bot. Mag. t. 8232; Pilger in E. & P. Pflanzenfam. 13: 80 (1926); Chev. Fl. Viv. 1: 3. *APD acc*

Stem rarely over 1 ft. high and 9 in. across, covered with persistent leaf-bases clothed with cottony indumentum.

G. C.: Kwahu Chipp 624! Labolabo Anderson! Upper Volta Schonfeld! **Togo:** fide Pilger l.c. **Dah.:** Borgu Prov. Poisson. Savalou Chev. **N. Nig.:** rocky valley 3 miles S. of Jebba Barter 1692! N. of Ilorin by Jebba Road (fr. Dec.) Meikle 870!

PODOCARPACEAE

Trees, or shrubby in some species; leaves persistent, alternate or opposite, or absent and represented by phylloclades, very variable from acicular to broadly lanceolate. Plants dioecious or monoecious; male flowers in terminal or axillary strobili, the stamens usually many, the anthers 2-celled; female flower solitary or paired, axillary or terminal, or in strobili with megasporophylls 1-ovuled and bracteate; seed solitary, or paired; cotyledons 2.

A family of 7 genera, largely of the southern hemisphere.

PODOCARPUS

L'Hérit. ex Pers.—F.T.A. 6, 2: 339.

Dioecious, very rarely monoecious; leaves alternate (in our species); ovule adnate to the face of the fertile scale and usually much exceeding it, inverted, and enclosed in a false aril (epimatium) arising from the face of the scale and adnate to the single integument.

- 1 Receptacle well-developed, fleshy, finally bright red, obconical to subglobose, 15–18 mm. long, 15–20 mm. broad at the broadest point, with a pair of seeds (or sometimes only 1), at the distal end; seeds subglobose, 8–9 mm. diam.; leaves linear-lanceolate, 5–10 cm. long, 6–16 mm. broad, with stomata on one side of the leaf only[L. milanjanus](#)

Receptacle not large and fleshy; seeds solitary, pyriform, 2.5–3.8 cm. long; leaves linear, 6–16 cm. long, 4–11 mm. broad, with stomata on both surfaces[2. mannii](#)

1. **Podocarpus milanjianus** *Rendle*—F.T.A. 6, 2: 340; Pilger in E. & P. Pflanzenfam. 13: 247 (1926); Chalk, Burt Davy & Desch in For. Trees & Timbers Brit. Emp. 1: 24 (1932).

APD: Synonym of Podocarpus latifolius (Thunb.) R. Br. ex Mirb.

A shrub, or tree up to 100 ft. high; male cones flesh-pink about 1 in. long; seeds glaucous, on the large fleshy scarlet receptacle; indigenous.

Br. Cam.: Mamfe Div. (Jan.) Lobe Babute FHI 8797! Bali-Ngomba F.R. Ujor FHI 30326! L. Oku, Bamenda Johnstone 233/31!

Also in **French Cameroons**, and widespread on the mountains of eastern Africa.

2. **Podocarpus mannii** *Hook. f.*—F.T.A. 6, 2: 341; Pilger l.c. 13: 245, t. 132 (1926); Chalk, Burt Davy & Desch l.c. 1: 23 (1932); Dandy in Exell Cat. S. Tomé 99 (1944); Netta E. Gray in J. Arn. Arb. 34: 75 (1953).

APD: Synonym of Afrocarpus mannii (Hook. f.) C. N. Page

A tree 30–50 ft. high.

Introduced and widely planted in the Cameroons, rarely so in S. Nigeria. Endemic to S. Tomé.

Br. Cam.: Buea (fr. Dec., Jan.) Maitland 343! 345! Fairchild SPD 74656!

GNETACEAE

Erect or scandent shrubs, leaves opposite, simple. Flowers in catkin-like spikes, usually dioecious; spikes jointed, with the flowers in whorls. Male flowers with a tubular envelope of 2 connate scales; anthers 2 or 1, sessile on the summit of a central column. Female flowers with a close-fitting utricle resembling an ovary; ovule otherwise naked, integument produced into a straight micropylar tube exerted through the orifices of the aril and utricle, truncate, toothed or fimbriate. Seed with copious endosperm.

A small family of one genus, widely distributed in the tropics and warmer regions.

GNETUM

Linn.—F.T.A. 6, 2: 330.

- 1 Internode of male spike of the same diameter throughout its length, slender in dried (or old) specimens; staminal column exerted from the mouth of the envelope; leaves ovate-oblong or elliptic-oblong, more rarely lanceolate, attenuate at base, abruptly acuminate, 10–13 cm. long, 3.5–5 cm. broad[1. africanum](#)

Internode of male spike in the fresh condition much thicker at the base than higher up; staminal column hardly exerted from the mouth of the envelope; leaves ovate-elliptic or broadly elliptic, rounded or very slightly cuneate at base, abruptly acuminate, 9–14 cm. long, 4–7 cm. broad[2. buchholzianum](#)

1. **Gnetum africanum** *Welw.*—F.T.A. 6, 2: 330; Markgraf in E. & P. Pflanzenfam. 13: 440 (1926). *APD acc*

A dioecious liane; **in forest**.

Br. Cam.: Abonando, Mamfe (Apr.) Rudatis 42!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

2. **Gnetum buchholzianum** *Engl.*—F.T.A. 6, 2: 331; Markgraf l.c. *APD acc*

A dioecious liane; **in forest**.

Br. Cam.: Victoria (Oct., Nov.) Maitland 749! 780! Johann-Albrectshöhe Staudt 543!

Also in **French Cameroons**.

Angiospermae

Dicotyledones

ANNONACEAE

Trees, shrubs or climbers, aromatic. Leaves alternate, entire, exstipulate. Flowers terminal, leaf-opposed or axillary, solitary or crowded, hermaphrodite or rarely unisexual, mostly trimerous. Sepals 3, rarely 2, separate or united into a 3-lobed calyx, valvate or rarely imbricate, persistent or deciduous. Petals generally 6, in two series, valvate or slightly imbricate, rarely in two series of 2, or the inner series absent. Stamens generally numerous, hypogynous; anther-cells adnate, with the connective often truncate. Carpels numerous or rarely few or solitary, free or very rarely united into a 1-celled ovary with parietal placentas; ovules 1 or more. Fruiting carpels sessile or stipitate, mostly indehiscent. Seed with or without an aril, with copious ruminant endosperm and minute embryo.

Mainly in tropical and subtropical regions.

Recognized by the alternate, exstipulate leaves, mostly trimerous flowers, numerous and often truncate free stamens, free carpels, and seeds with ruminant endosperm.

- 1 Carpels spirally arranged, free, or if united forming a many-celled syncarp; stigmas erect; petals free, or rarely slightly united at base:2
- Carpels in a single whorl, united into a 1-celled ovary with parietal placentas; stigmas radiating; petals more or less united into a tube: 23
- 2 Fruit apocarpous, of sessile or stipitate carpels always free at maturity (fruiting carpels contiguous and at the base included in the receptacle in *Pachypodanthium*):3
- Fruit syncarpous; carpels united into a fleshy mass in fruit: 22
- 3 Petals always in two series, both or only the inner series imbricate:4
- Petals all valvate, in two distinct series or in one series:6
- 4 Fruiting carpels stipitate or sessile, not included in the receptacle at base:5
- Fruiting carpels contiguous and included in the receptacle at base; ovules numerous; indumentum stellate3.
- [*Pachypodanthium*](#)
- 5 Inner and outer petals subequal, the inner ones at length spreading; ovules 6 or more; indumentum usually of stellate, or more rarely simple, hairs; shrubs or lianes1. [*Uvaria*](#)
- Inner petals much shorter than the outer and closely appressed over the stamens and carpels; ovules 1–2; leaves glabrous; trees2. [*Cleistopholis*](#)
- 6 Petals in two series, each of 3 petals:7
- Petals in a single series, 3–6: 17
- 7 Outer 3 petals much smaller than the inner ones and scarcely distinguishable from the sepals; inner petals elongated:8
- Outer 3 petals as large as, or larger than, the inner petals (but see *Xylopia rubescens*), distinct from the sepals: 9
- 8 Flowers in cymes or panicles; inner petals ovate-lanceolate4. [*Piptostigma*](#)
- Flowers in fascicles; inner petals linear 5. [*Brieya*](#)
- 9 Inflorescence borne on a recurved hook-like thickened peduncle, leaf-opposed6. [*Artabotrys*](#)
- Inflorescence not on hook-like peduncles: 10
- 10 Petals broadened and hollowed at base, usually with a more or less lanceolate blade (but see *Xylopia africana* and *X. staudtii*); anthers transversely septate; pollen grains large: 11
- Petals not broadened and hollowed at base; anthers not transversely septate: 12
- 11 Carpels with 2–12 ovules; fruiting carpels several-seeded, sessile or on a stout stipe; inner petals usually only a little shorter than the outer, rarely much shorter (in *X. rubescens*)7. [*Xylopia*](#)
- Carpels with 1 ovule; fruiting carpels 1-seeded, on slender stipe; inner petals much shorter than the outer8. [*Neostenanthera*](#)
- 12 Sepals relatively small and not covering the petals in bud (but see *Uvariadendron fuscum*): 13
- Sepals relatively large and entirely covering the petals in bud; often with the angles of the bud winged (but not in

- U. elliotianum) [14. Uvariastrum](#)
- 13** Flower buds oblong; petals subequal, linear to lanceolate; carpels with 1–3 ovules; fruiting carpels subglobose, stipitate [9. Polyalthia](#)
- Flower buds subglobose or ovoid-conical: **14**
- 14** Fruiting carpels stipitate, 1-seeded, or if several-seeded then narrowly constricted between the seeds: **15**
- Fruiting carpels sessile or subsessile, several-seeded but not narrowly constricted between the seeds: **16**
- 15** Inner and outer petals subequal, or somewhat dissimilar in size, but similar in shape and texture [10. Popowia](#)
- Inner and outer petals very unequal and dissimilar in shape and texture [11. Oxymitra](#)
- 16** Inner petals contiguous from base to apex in bud [12. Polyceratocarpus](#)
- Inner petals contiguous only at the top, narrowed at base leaving a gap between adjacent petals [13. Uvariadendron](#)
- 17** Petals 6: **158**
- Petals 3 or 4: **20**
- 18** Sepals completely covering the petals in bud; petals united into a short tube at base, transversely plicate in bud [15. Hexalobus](#)
- Sepals not covering the petals in bud: **19**
- 19** Petals equal, not covering each other in bud, free at base; stamens very numerous on an ellipsoid receptacle [16. Monocyclanthus](#)
- Petals with the 3 larger covering the 3 smaller ones in the upper part in bud, free or united at base; stamens 9–12 in a single whorl; leaves often glaucous beneath [17. Enneastemon](#)
- 20** Petals 4, sepals 2, flowers unisexual [18. Uvariopsis](#)
- Petals 3, sepals 3, flowers hermaphrodite: **21**
- 21** Ovules about 10 in each carpel; petals alternate with the sepals [19. Dennettia](#)
- Ovule solitary; petals opposite the sepals [20. Enantia](#)
- 22** Inner petals imbricate; flowers numerous in branched cymes on leafless branches below the foliage [21. Anonidium](#)
- Inner and outer petals valvate; flowers solitary, or 2–7 in fascicles, on usually leafy twigs [22. Annona](#)
- 23** Petals in a single series, corolla tube funnel-shaped, lobes all alike [23. Isolona](#)
- Petals in 2 series; the external petals shortly united at base, with larger lobes, often with wavy margins; internal petals smaller and entire or with lateral lobes [24. Monodora](#)

Cananga odorata (Lam.) Hook. f. & Thoms

From tropical Asia is often cultivated in our area.

1. UVARIA

Linn.-Engl. & Diels Monogr. Afr. Annonac. 7 (1901). APD acc

- 1** Calyx cupular in bud, splitting more or less irregularly into 3 lobes as the flowers open, or remaining scarcely lobed: **2**
- Calyx with the lobes distinct in bud, separating as the flowers open into regular sepals, free to the middle or to the base: **9**
- 2** Petals not exceeding 2 cm. long: **3**
- Petals up to 4 cm. long, 1.3 cm. broad, oblong-lanceolate, rather densely stellate-pubescent outside; leaves oblong, rounded or obtuse at apex, 6–9 cm. long, 4–5 cm. broad; rather densely stellate pubescent beneath; flowers few in a cluster; pedicels 7–8 mm. long, fruiting carpels densely warty, up to 4.5 cm. long and 2 cm. broad [7. sofa](#)
- 3** Fruiting carpels globose or subglobose, up to 1–2 cm. diam.: **4**
- Fruiting carpels cylindrical or ellipsoid, exceeding 1.2 cm. in length: **6**
- 4** Fruiting carpels smooth, sessile or shortly stipitate; stipe shorter than the carpel; leaves with up to 8 pairs of rather obscure lateral nerves: **5**
- Fruiting carpels verrucose, long-stipitate; stipe 2–3 cm. long; leaves oblong-lanceolate, 7–10 cm. long, 2.3–3.5 cm. broad, rounded at base, densely tomentellous with long and short stellate hairs beneath; 15–20 pairs of

- lateral nerves, impressed above and very prominent beneath; calyx about 1 cm. in diam. when expanded, scarcely lobed; petals suborbicular, concave, about 1 cm. in diam. [2. baumannii](#)
- 5 Leaves oblong-lanceolate, rounded to cordate at base, 4–8 cm. long, 1.5–2.5 cm. broad, midrib beneath densely clothed with long simple or fascicled hairs even at maturity; sepals about 5 mm. long, petals 6–8 mm. long in open flower [1. ovata subsp. ovata](#)
- Leaves ovate-elliptic, obtuse to cuneate at base, 4–8 cm. long, 1.5–3.5 cm. broad, midrib beneath very sparsely pubescent at maturity, with short hairs; flowers and fruits as above [1a. ovata subsp. afzeliana](#)
- 6 Mature leaves very sparsely pubescent with short stellate hairs: 7
- Mature leaves pubescent with long spreading simple and fasciculate hairs, sometimes with shorter stellate hairs as well: 8
- 7 Leaves oblong-elliptic to ovate-elliptic, obtuse to cuneate at base, shortly acuminate, 4.5–15 cm. long, 2.5–6.5 cm. broad, with 6–10 pairs of rather obscure lateral nerves, not impressed above; calyx about 5 mm. long; petals oblong, up to 14 mm. long and 8 mm. broad; fruiting carpels cylindrical, up to 3 cm. long, subsessile or with stipe up to 1 cm. long [3. chamae](#)
- Leaves oblong-ovate or broadly elliptic, rounded or subcordate at base, acutely acuminate, 10–25 cm. long, 5–13 cm. broad, with 10–15 pairs of lateral nerves impressed above and prominent beneath; calyx about 8 mm. long; petals broadly ovate about 16 mm. long and 15 mm. broad; fruiting carpels ellipsoid 2–3 cm. long, with stipe about 1.5 cm. long [4. anonoides](#)
- 8 Fruiting carpels smooth, cylindrical, up to 5 cm. long, stipe 10–15 mm. long; leaves oblong to oblong-obovate, rounded to subcordate at base, acute at apex, 7–17 cm. long, 3–9 cm. broad [5. angolensis subsp. guineensis](#)
- Fruiting carpels densely warty, ellipsoid, 2–2.5 cm. long, stipe 7–12 mm. long; leaves narrowly oblong-obovate, rounded at base, shortly acuminate, 7–12 cm. long, 2.5–6 cm. broad [6. doeringii](#)
- 9 Leaves quite glabrous, subcoriaceous, oblong, rounded to subcordate at base, acute at apex, 15–20 cm. long, 5.5–7 cm. broad, with a cartilaginous margin; sepals thick, broadly ovate, 9–10 mm. long; petals semiorbicular, 2–3 cm. long and almost as broad [8. obanensis](#)
- Leaves pubescent, without a cartilaginous margin: 10
- 10 Leaves obovate, narrowed to a subacute base, acutely acuminate, 6–15 cm. long, 2–5.5 cm. broad, softly stellate-pubescent beneath; lateral nerves 8–10 pairs; pedicels 1.5 cm. long, tomentellous; petals subequal, about 1 cm. long, tomentellous [9. dinklagei](#)
- Leaves rounded or cordate at base: 11
- 11 Leaves rounded and emarginate at apex, subcordate at base, shortly petiolate, elliptic, 4–6.5 cm. long, 2.5–4 cm. broad, finely pubescent beneath; lateral nerves about 5 pairs; sepals broadly triangular, about 4 mm. long, outer petals about 12 mm. long; young fruiting carpels stipitate, glabrous [10. farquharii](#)
- Leaves acute or acuminate; 12
- 12 Sepals not exceeding 1 cm. long: 13
- Sepals exceeding 1 cm. in length, ovate, acute or subacute; petals more or less ovate and flat, 1.8–3 cm. long: 14
- 13 Petals flat or nearly so, oblong or obovate, spreading, densely tomentose within, oblong, 1–1.4 cm. long; sepals broadly ovate, about 5 mm. long; flowers solitary, supra-axillary; leaves oblong-oblancoate, 10–13 cm. long, 3–4.5 cm. broad, rounded at base, long-acuminate, like the stems long bristly pilose beneath; fruit unknown [11. thomasi](#)
- Petals concave, connivent, broadly triangular-semiorbicular, thick, about 1.5 cm. diam. or more; sepals broadly ovate-triangular, 8–10 mm. long; leaves oblong-obovate, 15–35 cm. long, 5–15 cm. broad, rounded at base, acuminate, with 10–15 pairs of nerves prominent beneath, pubescent with rather long fascicled hairs beneath; fruit unknown [12. bipindensis](#)
- 14 Fruiting carpels long-stipitate; stipe attached to one side of carpel which is lobed on the other side; carpels densely covered with long hairs; leaves and branchlets with long hairs, upper surface of leaves not scabrid; leaves oblong, rounded at base, subacute or obtuse at apex, 7–25 cm. long, 3–7 cm. broad [13. afzelii](#)
- Fruiting carpels sessile; leaves and branchlets with short, mainly stellate hairs, upper surface of leaves scabrid with short simple hairs; leaves oblong, rounded at base, obtuse at apex, 10–18 cm. long, 3.5–6.5 cm. broad [14. scabrida](#)

1. *Uvaria ovata* (Dunal) A. DC. subsp. *ovata*—F.T.A. 1: 21; Engl. & Diels Monogr. Afr. Annonac. 29 (1901); Keay in Kew Bull. 1952: 543 (1953). *APD acc APD acc*

Unona ovata Dunal (1817).

Uvaria cordata Schum. & Thonn. (1827); F.T.A. 1: 22; Engl. & Diels l.c. 29; F.W.T.A., ed. 1, 1: 50 (excl. descr. and spec. Farquhar).

Uvaria globosa Hook. f. (1849); F.T.A. 1: 22; Engl. & Diels l.c. 14 (excl. syn. *U. leonensis* Engl. & Diels); F.W.T.A., ed. 1, 1: 50.

Uvaria globosa var. *warneckei* Engl. in Engl. & Diels l.c.; F.W.T.A., ed. 1, 1: 50.

Shrub, forming dense thickets, 3–8 ft. high; petals brown, fruits orange.

Iv. C.: Baoulé (Oct.) Pohéguin 203! **G. C.:** Thonning! Accra (fl. & fr. July) T. Vogel! Dalz. 109! Achimota (fl. & fr. Jan.–June) Foggie FH 5133! Milne-Redhead 5050! 5050b! Cape Coast Brass! Aburi Hills (Apr.) Bally 67a! **Togo:** Lome (fl. & fr. May) Warnecke 147!

1a. *Uvaria ovata* subsp. *afzeliana* (DC.) Keay in Kew Bull. 1952: 544 (1953). *APD acc*

Unona ovata var. *afzeliana* DC. Syst. Veg. 1: 489 (1818).

Uvaria leonensis Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 293 (1899).

Uvaria globosa of Engl. & Diels Monogr. 14, partly.

Uvaria ovata of F.W.T.A., ed. 1, 1: 50, not of (Dunal) A. DC.

Uvaria microphylla A. Chev. Bot. 7, name only.

Shrub of rocky places in hill forest.

S. L.: Afzelius! Near top of Sugar Loaf (Apr.) Sc. Elliot 5774! Rowala (fr. July) Thomas 1056! **Lib.:** Soplina, Kolahun (fr. Nov.) Baldwin 10053! **Iv. C.:** Mt. Goula, Danané (Apr.) Chev. 21210!

2. *Uvaria baumannii* Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 294 (1899); Monogr. 21. *APD acc*

Uvaria verrucosa Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 294 (1899), not of Scheff. (1885).

Uvaria engleriana Exell in J. Bot. 73, Suppl. Polypet. 4 (1935); Boutique in Fl. Congo Beige 2: 286 (1951).

Liane, with numerous long-stipitate carpels.

S. L.: Biu Kolo (fr. Aug.) Thomas 1815! **Lib.:** Barclayville (Mar.) Baldwin 11103! **Togo:** Misahöhe (fr. Apr.) Baumann 527!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

3. *Uvaria chamae* P. Beauv.—F.T.A. 1: 22; Engl. & Diels Monogr. 15; Aubrév. Fl. Soud.-Guin. 37. *APD acc*

Unona macrocarpa Dunal (1817).

Uvaria cylindrica Schum. & Thonn. (1827).

Uvaria cristata R. Br. ex Oliv.—F.T.A. 1: 28; F.W.T.A., ed. 1, 1: 60.

Uvaria nigrescens Engl. & Diels—F.W.T.A., ed. 1, 1: 50.

Uvaria echinata A. Chev. Bot. 6, name only.

Scandent shrub or small tree to 10 ft. high; petals dirty ochraceous; fruits rusty-brown.

Sen.: Leprieur! **Fr. Sud.:** Kita (fr. Oct.) Dubois 25! **Fr. G.:** Karkandy Heudelot 873! Conakry (June) Debeaux 428! Farana (Mar.) Sc. Elliot 5316! **S. L.:** Afzelius! Purdie! Njala (fr. July) Deighton 1960! Waterloo (June) Deighton 2741! **Lib.:** Gola (Mar.) Bunting! **Iv. C.:** Ferki (Apr.) Aubrév. 2274! **G. C.:** Thonning! Alabadi (Apr.) Scholes 291! Dodowa, E.P. (Dec.) Vigne 4280! **Togo:** Lome (May) Warnecke 148! **Dah.:** Newton 5. **N. Nig.:** Nupe Barter 1336! Bauchi Plateau (Apr.) Lily P. 229! **S. Nig.:** Lagos (Aug.–Nov.) Rowland! Millen! Dalz. 1098! Ibadan (Apr.) Meikle 1441! 1449! Awka (May) Jones FHI 6527! Degema Talbot 3759!

Extends to **Belgian Congo**.

4. *Uvaria anonoides* Bak. f. in Cat. Talb. 2 (1913). *APD acc*

Annona latifolia Sc. Elliot in J. Linn. Soc. 30: 69 (1895).

Uvaria latifolia (Sc. Elliot) Engl. & Diels Monogr. 22 (1901), not of (Dunal) Blume (1828); F.W.T.A., ed. 1, 1: 50.

Uvaria platyphylla Boutique in Fl. Congo Belge 2: 296 (1951).

Chrysophyllum akuasi A. Chev. Bot. 385, name only.

Forest liane or small tree of straggling habit.

S. L.: Falaba (Mar.) Sc. Elliot 5421! Kafogo, Limba (Apr.) Sc. Elliot 5617! Dodo (Apr.) Deighton 3915! Njala (fr. Feb.) Deighton 3117! **Iv. C.:** Attlé Chev. 22663! **G. C.:** Kumasi (Apr.) Vigne 1099! Mampong (Apr.) Vigne 1926! **S. Nig.:** Osun F. R. (May) Ejiofor FHI 26126! Akure F. R. (fr. Oct.) Keay! Shasha F. R. (Feb.–Apr.) Richards 3093! Ross 196! Oban Talbot 1558!

Also in **French Cameroons** and **Belgian Congo**.

5. *Uvaria angolensis* subsp. *guineensis* Keay in Kew Bull. 1953: 71. *APD acc*

APD: *Synonym of Uvaria angolensis Welw. ex Oliv.*

Uvaria cordata of F.W.T.A., ed. 1, 1: 50, partly, not of Schum. & Thonn.

Straggling tree or shrub, with light golden-brown indumentum; petals brownish-yellow, waxy; [at edge of forest and in fringing forest](#).

S. L.: Crichton 159! **Togo:** Togo Plateau F. R. (June) Adogla FH 4080! **S. Nig.:** Ukehe, Benin (Sept.) Farquhar 73a! Enugu (May) Jones FHI 18864! **Br. Cam.:** Lakka, Bamenda (June) Maitland 1568!

Also in [French Cameroons](#).

The typical species is in Belgian Congo, Uganda, Kenya, N. Rhodesia and Angola (see Boutique in Fl. Congo Belge 2: 295 (1951)).

6. *Uvaria doeringii* **Diels** in Engl. Bot. Jahrb. 53: 435 (1915). *APD acc*

Tree or scrambling shrub, to 20 ft. high; flowers brown.

G. C.: Achlmota-Aburi Road (fl. & fr. Apr., May) Irvine 698! Boughey 129! Abokobi (fl. & fr. Jan.) Irvine 1987! 2593! Abuantem (May) Andoh FH 5021! Agena (fr. June) Boughey 130! **Togo:** Atakpame (fr. May) Doering 259! **Dah.:** Poisson!

7. *Uvaria sofa* **Sc. Elliot** in J. Linn. Soc. 30: 69 (1895); Engl. & Diels Monogr. 27; Chev. Bot. 7. *APD acc*

A tree or scandent shrub, up to 20 ft. high.

Fr. G.: Farmar 337! Farana (Mar.) Sc. Elliot 5376! Macenta (Oct.) Baldwin 9815! Timbo (Mar.) Pobéguin 903! Labé (Mar.) Chev. 12400! Dalaba (fr. Apr.–Oct.) Chev. 18227! 18863!

8. *Uvaria obanensis* **Bak. f.** in Cat. Talb. 1 (1913). *APD acc*

Uvaria marginata **Diels** in Engl. Bot. Jahrb. 53: 437 (1915).

Scandent shrub, inner petals dull orange, outer apricot lined deep red.

S. Nig.: Oban Talbot 402! 432! 1579! 1603! **Br. Cam.:** Johann-Albrechtshöhe (Dec.) Busgen 191.

Also in [French Cameroons](#).

9. *Uvaria dinklagei* **Engl. & Diels** Monogr. 21 (1901). *APD acc*

A climbing shrub with yellowish-green flowers.

Lib.: Grand, Bassa in low bush near the seashore (fl. May, Aug., fr. Sept.) Dinklage 1794! 1822! 2061!

10. *Uvaria farquharii* **Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 50 (1927); Kew Bull. 1927: 151. *APD acc*

Woody climber.

S. Nig.: Ukehe, Benin, (Sept.) Farquhar 73 (partly)!

11. *Uvaria thomasii* **Sprague & Hutch.** in Kew Bull. 1916; 158. *APD acc*

A twining shrub with spreadingly hispid branches.

S. L.: Sendugu (June) Thomas 569!

12. *Uvaria bipindensis* **Engl.** in Notizbl. Bot. Gart. Berl. 2: 292 (1899); Engl. & Diels Monogr. 12. *APD acc*

Extensive liane, in [forest](#); flowers on old wood, petals whitish, sepals pale green.

Br. Cam.: S. Bakundu F. R. (Mar.) Brenan 9445!

Also in [French Cameroons](#).

13. *Uvaria afzelii* **Sc. Elliot** in J. Linn. Soc. 30: 70 (1895); Engl. A Diels Monogr. 22; Chev. Bot. 5. *APD acc*

Small tree to 15 ft. high, or spreading shrub; flowers greenish-yellow or cream.

Fr. G.: Kindia Jac.-Fel. **S. L.:** Afzelius! Between Kahreni and Port Loko (Apr.) Sc. Elliot 5812! Mofari Sc. Elliot 4412! Njala (May-June) Deighton 2581! 2643! **Lib.:** Sinoe Basin Whyte! Gbanga (fr. Sept.) Linder 691! **Iv. C.:** Dabou Chev. 15564! 17218! Bingerville Jolly! Baoulé Pobéguin 272! **G. C.:** Axim (Apr.) Chipp 708! Kumasi (July) Vigne 3955! Atwabo (fr. Feb.) Irvine 2292! **S. Nig.:** Olokemeji (fr. June) Foster 308! Mamu Biver F. R., Onitsha (young fr. July) Latilo FHI 27628!

14. *Uvaria scabrida* Oliv. F.T.A. 1: 21 (1868); Engl. & Diels Monogr. 14. *APD acc*

Climbing shrub, or small tree, to 30 ft. high; petals yellowish-green.

Lib.: Grand Basaa (May) Dinklage 1936. **S. Nig.:** Calabar Thomson 98! Eket Talbot 3250! Degema Talbot 3668! **Br. Cam.:** Cameroons R. Mann 1433!

Extends to **Belgian Congo** and **Angola**.

Uvaria tortilis A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 50 (1927); Chev. Bot. 8, name only.

Flowers unknown; genus uncertain.

Iv. C.: Bingerville Chev. 15563!

2. CLEISTOPHOLIS

Pierre—Engl. & Diels Monogr. Afr. Annonac. 33 (1901).

- 1 Leaves ovate-elliptic to lanceolate, coriaceous, shining above, midrib noticeably depressed, 12–25 cm. long, 3–5 cm. broad, glabrous, petioles up to 1 cm. long; pedicels 2–2.5 cm. long; sepals small; outer petals obovate to oblong, 7–10 mm. long, 3–4 mm. broad, inner petals about 2 mm. long and broad; fruiting carpels on thickened stipe, tuberculate, 2.5 cm. long, 1.5 cm. diam *l. patens*
- 1.2. Leaves obovate-elliptic to elliptic-lanceolate, coriaceous, 10–15 cm. long, 5–6 cm. broad, glabrous, petioles more than 1 cm. long; pedicels 1 cm. long; sepals triangular, small; outer petals almost linear, 8–10 mm. long, 2 mm. broad; fruits similar to above *2. staudtii*

1. *Cleistopholis patens* (Benth.) Engl. & Diels Monogr. Afr. Annonac. 35, t. 12 (1901). *APD acc*

Oxymitra patens Benth.—F.T.A. 1: 34.

Cleistopholis klaineana of F.W.T.A. ed. 1, 1: 51.

A tree up to 90 ft. high with horizontal branches; flowers greenish-yellow; young leaves often very long; bark pale grey, slash moist and fragrant; wood light, floats easily.

S. L.: Bagroo R. (Apr.) Mann 828! Falaba (Feb.) Aylmer 4! **Lib.:** Dukwia R. (fr. May) Cooper 430! **Iv. C.:** Faranou (fr. Aug.) Chev. 22379! **G. C.:** Kwahu Prasu (Feb.) Vigne 1616! **N. Nig.:** Lokoja (Mar.) Shaw 16! **S. Nig.:** Eppah Barter 3267! Old Calabar Thomson 5! **Br. Cam.:** Bibundi (Nov.) Mildbr. 10640!

Also in **French Cameroons** and **Gabon**.

2. *Cleistopholis staudtii* Engl. & Diels l.c. 35 (1901). *APD acc*

Medium-sized tree (fide Ross & Mildbraed) with horizontal branches and more or less distichously arranged shining leaves; ripe fruits purple.

S. Nig.: Shasha F. R. (fr. Apr.) Ross 247! **Br. Cam.:** Johann-Albrechtshöhe (Apr.) Staudt 957!

Also in **French Cameroons** and **Uganda**.

3. PACHYPODANTHIUM

Engl. & Diels in Notizbl. Bot. Gart. Berl. 3: 55 (1900).

- 1 Leaves elongate-oblong, shortly tapered at each end, 15–25 cm. long, 4–5 cm. broad, sparingly clothed with minute stellate hairs beneath; branchlets closely tomentellous; sepals densely tomentellous outside, glabrous inside; petals glabrous; fruiting carpels loosely united, ribbed *l. staudtii*

Leaves broadly elliptic-lanceolate, narrowed from near the middle to each end, 17–22 cm. long, 5–6.5 cm. broad, sparingly clothed with minute stellate hairs beneath; branchlets at first minutely puberulous, at length glabrous; flowers not seen; fruiting carpels compact[2. barteri](#)

1. **Pachypodanthium staudtii** Engl. & Diels Monogr. Afr. Annonac. 32, t. 11 (1901); Chev. Bot. 8.

APD: *Synonym of Duguetia staudtii* (Engl. & Diels) Chatrou

A large-boled forest tree, 60–90 ft. high, with grey, rough, odoriferous bark; timber hard; flowers pale yellow; mature fruit fleshy, reddish.

S. L.: Kambul Lane-Poole 197! Sawyerr FHN 13554! **Lib.:** Dukwia B. (Feb.) Cooper 296! **iv. C.:** Anvama (fr. Feb.) Cher. 16224! Abidjan (Nov.) Aubrév. 164! **G. C.:** Mampong Scarp (May) Vigne 1721! **S. Nig.:** Oban Talbot 1494!

Also in **French Camerouns.**

2. **Pachypodanthium barteri** (Benth.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 51 (1927); Kew Bull. 1927: 151.

APD: *Synonym of Duguetia barteri* (Benth.) Chatrou

Annona barteri Benth.—F.T.A. 1: 17.

Tree, 50 ft., leaves shining; fruit the size of a peach.

S. Nig.: Onitsha Barter 445! Koton Karifi Swamp F. R. Johnstone K. 14! Ibaji-Ojoku F. R., Kabba Prov. (fr. Mar.) Taylor 13!

4. PIPTOSTIGMA

Oliv.—F.T.A. 1: 18.

1 Inflorescence elongated, 15–35 cm. long; leaves abruptly acuminate, more or less obovate or broadly elliptic:..2

Inflorescence few-flowered, on the branches; leaves narrowly oblong-obovate, narrowed to a rounded base, gradually acuminate, or rounded at apex, 6–24 cm. long, 2–8 cm. broad, with 18–22 pairs of lateral nerves; sepals lanceolate, acute, 6–7 mm. long; outer petals lanceolate 9–10 mm. long; inner petals 3–3.5 cm. long, long pilose; fruiting carpels 2–4, sessile, ovoid, bluntly beaked, warted, about 18 mm. long[4. fugax](#)

2 Sepals linear-lanceolate, acuminate; leaves rounded at base, 20–30 cm. long, up to 15 cm. broad, with about 20 pairs of lateral nerves, weakly pilose beneath; inner petals longitudinally nerved, about 5–5 cm. long [1. pilosum](#)

Sepals ovate-triangular, short, scarcely acuminate:3

3 Leaves oblong or obovate-elliptic, distinctly narrowed to the base, up to about 20 cm. long and 9 cm. broad, with 20–30 pairs of lateral nerves; inner petals linear-lanceolate, about 4–5 cm. long, rather obscurely nerved[2. preussii](#)

Leaves broadly elliptic, rounded to the base, very large, up to 30–35 cm. long and 25 cm. broad, with about 30 pairs of lateral nerves; inner petals broadly lanceolate, about 5 cm. long, strongly nerved outside, softly tomentose; fruiting carpels stellate, sessile, bluntly beaked, ribbed, about 2–5 cm. long[3. giganteum](#)

1. **Piptostigma pilosum** Oliv.—F.T.A. 1: 18. APD acc

S. Nig.: Calabar Thomson 61! Oban Talbot 1290! 1420! Eket Talbot 3143!

2. **Piptostigma preussii** Engl. & Diels Monogr. Afr. Annonac. 54 (1901).

APD: *Synonym of Piptostigma glabrescens* Oliv. var. *glabrescens*

A tree, 30 ft.

Br. Cam.: Barombi Preuss 251!

Also in **French Camerouns.**

3. **Piptostigma giganteum** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 52 (1927); Kew Bull. 1927: 151. APD acc

A tree.

S. Nig.: Oban Talbot 1336!

4. **Piptostigma fugax** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1,1: 52 (1927); Chev. Bot. 13, name only. *APD acc*

A shrub, up to 12 ft.; flowers red.

Lib.: Peahtah (fr. Oct.) Linder 962! **Iv. C.:** Mid. Sassandra to Mid. Cavally (June) Chev. 19193! Grabo (July) Chev. 19620!

5. BRIEYA

De Wild. in Fedde Rep. 13: 383 (1914).

- 1 A small tree; young branches shortly tomentose, at length glabrous; leaves oblong-obovate, 15–30 cm. long, 4–10 cm. broad, apex rounded to broadly acuminate, rounded and unequal at base, glabrous when mature; 15–20 pairs of ascending lateral nerves prominent beneath; flowers fasciculate on woody twigs; pedicels 1–1.5 cm. long; sepals broadly triangular, 2–3 mm. long; outer 3 petals short and similar to the sepals; inner 3 petals 6–8 cm. long, 5–9 mm. broad; sepals and petals finely pubescent; stamens 1.5–2 mm. long; carpels 2–5, pubescent, stigmas densely hairy; fruit of 2–4 ovoid carpels about 10 cm. long and 6 cm. broad *fasciculata*

Brieya fasciculata *De Wild.* in Fedde Rep. 13: 383 (1914).

APD: *Synonym of Piptostigma fasciculatum (De Wild.) Boutique ex R. E. Fr.*

Piptostigma aubrevillei *Ghesq. ex Aubrév.* Fl. For. C. Iv. 1: 98 (1936), French deser. only.

An understorey tree of forest.

Iv. C.: Agnéby (fl. & fr. Aug.) Aubrév. 2115! Agboville (Aug.) Aubrév. 1500! **G. C.:** Tafo (May) Darko 194! S. Fomang Su F. R. (June) Vigne 2057!

Also in **Congo** and **Angola**.

6. ARTABOTRYS

R. Br.—F.T.A. 1: 27. *APD acc*

Species 7–10 are very close and some may not prove to be distinct. I have not seen authentic material of *A. libericus* Diels and *A. dahomensis* Engl. & Diels.—R.W.J.K.

- 1 Outer petals in mature flowers exceeding 15 mm. long and 3 mm. broad:.....2
Outer petals in mature flowers up to 15 mm. long and not exceeding 3 mm. broad in the blade:6
- 2 Inflorescence many-flowered, dense:3
Inflorescence 1–3-flowered:4
- 3 Outer petals about 25 mm. long, constricted above the thickened base, with a blade about 8 mm. broad; leaves oblong-elliptic 15–21 cm. long, 7–9 cm. broad, rounded or cuneate at base, abruptly acuminate, closely and prominently reticulate, glabrous *1. jollyanus*
Outer petals 15–17 mm. long, 3 mm. broad, lanceolate, slightly constricted above the base; leaves oblong-elliptic, 10–15 cm. long, about 6 cm. broad, rounded at base, shortly acuminate, with 9–12 pairs of lateral nerves prominent beneath, pilose on nerves beneath, then glabrescent *2. thomsonii*
- 4 Petals with a broad thickened basal portion surrounding the stamens, and a blade contracted where it joins the basal part:5
Petals broadly lanceolate, not contracted above a thickened base; outer petals lanceolate, about 20 mm. long and 8 mm. broad, very shortly pubescent; leaves lanceolate, about 15 cm. long and 5 cm. broad, cuneate at base, acuminate, glabrous *5. oliganthus*
- 5 Outer petals at least 30 mm. long and 8 mm. broad, tomentellous outside, densely so at base; leaves oblong, 7–20 cm. long, 3–10 cm. broad, shortly cuneate, gradually acuminate; fruiting carpels obovoid, long-stipitate *3. insignis*

- Outer petals 18–20 mm. long, shortly pubescent; leaves oblong-elliptic, 5–13 cm. long, 2.5–4.5 cm. broad, cuneate at base, abruptly acuminate; fruiting carpels ovoid, beaked, sessile [4. *coccineus*](#)
- 6 Leaves large, 15–25 cm. long, 10–15 cm. broad, broadly elliptic or ovate-rotundate, rounded at base, rather abruptly and acutely acuminate, with 6–8 pairs of arcuate nerves prominent beneath, glabrous; inflorescences densely many-flowered; petals about 15 mm. long with broad base and short narrow blade, about twice as long as the sepals [6. *macrophyllus*](#)
- Leaves up to 15 cm. long and 6 cm. broad: 7
- 7 Outer petals linear or lanceolate, not subulate: 8
- 8 Outer petals 8–9 mm. long, densely ferruginous-pilose, gradually broadened to a 3–4 mm. broad base; inner petals rather thick and subterete, leaves oblong-elliptic to lanceolate, 7–12 cm. long, 3–4 cm. broad, cuneate at base, shortly acuminate, midrib and nerves appressed pilose beneath; branchlets pilose when young, becoming only sparsely so [7. *velutinus*](#)
- Outer petals 9–15 mm. long, with narrow blade broadened to a 1.5–2 mm. broad base; inner petals flat in section: 9
- 9 Mature branchlets and underside of leaves glabrous or very sparsely pubescent; leaves oblong-lanceolate, acute at base, long-acuminate, 6–10 cm. long, 2–3 cm. broad; inflorescence slender, many-flowered; outer petals about 13 mm. long (flowers very similar to *dahomensis*) [8. *libericus*](#)
- Mature branchlets and underside of leaves pubescent with spreading hairs: 10
- 10 Leaves ovate to suborbicular, 4–8 cm. long, 2.5–4 cm. broad, very obtusely and shortly acuminate, rounded at base; outer petals pilose, up to 12 mm. long, with blade 1.5 mm. broad [9. *dahomensis*](#)
- Leaves oblong-ovate to elliptic, 8–13 cm. long, 3–5.5 cm. broad, distinctly acuminate, cuneate to obtuse at base; outer petals rather shortly pubescent on the narrow blade, up to 15 mm. long [10. *stenopetalus*](#)
- Outer petals subulate, 15 mm. long, acute, subterete, with broadened thickened base; leaves oblong-lanceolate 5–10 cm. long, 2–4 cm. broad, rounded at base, obtusely acuminate, pilose on midrib beneath; branchlets very hispid with rust-coloured hairs [11. *hispidus*](#)

1. **Artabotrys jollyanus** *Pierre ex Engl. & Diels* Monogr. Afr. Annonac. 73 (1901). *APD acc*

IV. C.: Dabou (Nov.) Jolly 157!

Also in **French Cameroons**.

2. **Artabotrys thomsonii** *Oliv.* F.T.A. 1: 28 (1868). *APD acc*

Scandent shrub to 45 ft. high, flowers yellow.

S. Nig.: Calabar (Feb.) Thomson 25! 2310! Oban Talbot 1407! Eket Talbot 3228! 3230!

Also in **French Cameroons**, **Gabon** and **Upper Congo**.

3. **Artabotrys insignis** *Engl. & Diels* in Engl. Bot. Jahrb. 39: 483 (1907). *APD acc*

Artabotrys lucidus *A. Chev.* Bot. 9, name only.

Forest liane with large yellow flowers.

S. L.: Gegbwema (Apr.) Deighton 3662! **IV. C.:** fide Chev. l.c. **G. C.:** Atroni, W. Ashanti (Aug.) Vigne 2446! Owabi (fl. & fr. Dec.) Lyon FH 2661!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

4. **Artabotrys coccineus** *Keay* in Kew Bull. 1952: 149 (1952). *APD acc*

Small liane, with yellowish-green flowers and brilliant scarlet fruits.

S. Nig.: Ibadan South F. R. (fl. Sept., fr. Jan.) Keay FHI 19799! 28041!

5. **Artabotrys oliganthus** *Engl. & Diels* Monogr. Afr. Annonac. 73 (1901). *APD acc*

Artabotrys rubicunda *A. Chev.* Bot. 9, name only

A climbing shrub, fruit red when ripe.

Lib.: Cook 102; 183. Grand Bassa, in wet patches of forest near seashore (Oct.) Dinklage 2083! **IV. C.:** Basin of the Haut-Nuon (fr. Apr.) Chev. 21297.

6. *Artabotrys macrophyllus* Hook. f.—F.T.A. 1: 28. *APD acc*

A small glabrous tree.

F. Po: T. Vogel 137!

7. *Artabotrys velutinus* Sc. Elliot in J. Linn. Soc. 30: 71 (1894). *APD acc*

Artabotrys nigericus Hutch. in Kew Bull. 1921: 356; F.W.T.A., ed. 1, 1: 54.

Artabotrys djalonis A. Chev. Bot. 8, name only.

Scandent shrub or liane, with yellowish flowers.

Fr. G.: Kouroussa (Nov.) Pobéguin 590! **S. L.:** Falaba (Mar.) Sc. Elliot 5137! Bumbuna (fr. Oct.) Thomas 3676! Musala (fr. Dec.) Deighton 4453! **G. C.:** Akumadan (Oct.) Vigne 2558! **N. Nig.:** Naraguta (Aug.) Lely 541!

8. *Artabotrys libericus* Diels in Engl. Bot. Jahrb. 53: 446 (1915). *APD acc*

Shrub, with weak trailing branches; flowers greenish-yellow.

Lib.: Cook 102; 183. Between Jenneh and Cabiola (Apr.) Dinklage 2567.

9. *Artabotrys dahomensis* Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 299 (1899); Chev. Bot. 8. *APD acc*

Dah.: Newton. Allada, in fringing forest (Feb., Mar.) Chev. 23434! **S. Nig.:** Aguku Thomas 1399!

10. *Artabotrys stenopetalus* Engl. & Diels l.c. 300 (1899). *APD acc*

Forest liane, flowers yellow.

G. C.: Kumasi (Mar.) Vigne 1001! 1652! 3737! Bobiri F.R. (Jan.) Andoh FH 5092! **S. Nig.:** Foster 316!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

11. *Artabotrys hispidus* Sprague & Hutch. in Kew Bull. 1916: 149. *APD acc*

S. L.: Roruks (Nov.) Thomas 5770! Magbile (Dec.) Thomas 6154!

7. XYLOPIA

Linn.—F.T.A. 1: 29; Engl. & Diels Monogr. Afr. Annonac. 57 (1901).

- 1 Flower-buds ovoid or ovoid-globose; outer petals more or less ovate, almost as broad as long:2
 Flower-buds lanceolate to linear, more or less pointed; outer petals more or less linear:3
- 2 Buds rounded at apex; calyx spreading, with ovate-triangular lobes about 5 mm. long; pedicels about 1 cm. long; leaves obovate-elliptic, subcuneate at base, 9–16 cm. long, 4–7.5 cm. broad, strongly reticulate [1. africana](#)
 Buds subacute at apex; calyx small, very shallowly lobed, lobes about 2–3 mm. long; pedicels about 3–4 mm. long; leaves as above but smaller [2. staudtii](#)
- 3 Inner petals (about 6 mm. long) much shorter than the outer (about 35 mm. long); leaves coriaceous, ovate-elliptic, 9–24 cm. long, 4–9 cm. broad, very shortly puberulous beneath, finely reticulate, lateral nerves faint, about 10 pairs, often rust-coloured; carpels about 10, narrow, 6–10 cm. long [3. rubescens](#)
 Inner and outer petals subequal:4
- 4 Outer petals 1–1.7 cm. long; flowers clustered, often nodding or reflexed in bud; leaves cuneate at base, almost glabrous beneath, up to 13 cm. long and 6 cm. broad, obovate; carpels few, stipitate, about 5 cm. long and 1 cm. diam. [4. quintasii](#)
 Outer petals 2.5 cm. or more long; flowers clustered or solitary, usually erect:5
- 5 Branchlets and leaves densely pilose with spreading hairs; flowers shortly pedicellate:6
 Branchlets and leaves at the most thinly pilose or pubescent or appressed pilose when young, glabrescent; flowers with short or long pedicels:8
- 6 Leaves cuneate at base, ovate-lanceolate, 5–9 cm. long, 2–3 cm. broad; flowers solitary, pedicels about 5 mm. long; outer petals about 2.5 cm. long [5. elliotii](#)

- Leaves rounded or obtuse at base; pedicels very short:7
- 7 Flowers usually fasciculate, petals with appressed hairs; leaves oblong-lanceolate, rounded or obtuse at base, acute at apex, 6–13 cm. long, 2–4 cm. broad; carpels several, sessile, thick, about 6 cm. long and 2 cm. broad, velutinous [6. villosa](#)
- Flowers solitary, petals with long spreading hairs; leaves similar to above but thinner and with a long acumen (about 1 cm.) [7. talbotii](#)
- 8 Pedicels long and very slender, 1–1.5 cm. long, petals narrowly linear with broad base, outer ones 4–4.5 cm. long; carpels few, subsessile, short and thick, 3–4 cm. long and 1.2–1.5 cm. diam.; leaves ovate-elliptic, obtuse or slightly acuminate, rounded at base, 3–8.5 cm. long and 2–3.5 cm. broad, petiole about 6 mm. long [8. parviflora](#)
- Pedicels short, or if up to 1 cm. then rather stout and petals not very narrow:9
- 9 Carpels very numerous (25 or more), narrow, 5–6 cm. long and 4–6 cm. broad; leaves elliptic to oblong, gradually acuminate, obtuse or rounded at base, up to 15 cm. long and 6 cm. broad, appressed pilose beneath when young, becoming rather shining above and glaucous beneath, reticulate; outer petals about 5 cm. long, thick and gradually narrowed to the apex; pedicels stout, up to 1 cm. long [9. aethiopica](#)
- Carpels fewer (5–10), shorter and relatively stout, about 3 cm. long and 1 cm. diam.; leaves ovate-elliptic to lanceolate, obtusely acuminate, obtuse or rounded at base, 4.5–10 cm. long, 2–3.7 cm. broad, thinly pilose beneath, glabrescent, midrib above hirsute; outer petals about 4.5 cm. long; flowers solitary and sessile [10. acutiflora](#)

1. **Xylopia africana** (*Benth.*) *Oliv.*—F.T.A. 1: 30 (1868); *Engl. & Diels Monogr. Afr. Annonac.* 59, partly.

APD: *Synonym of Xylopia staudtii Engl. & Diels*

Melodorum africanum Benth. (1862).

A tree of **montane forest**, 30–40 ft. high, with dark crimson veins on the leaves beneath; olive-brown silky buds.

S. Nig.: Ikwette Plateau, Obudu (fl. & fr. Dec.) Keay & Savory FHI 25179! **Br. Cam.**: Buea, 3,000 ft. (fl. & fr. Jan.) Maitland 233! Cam. Mt., 4,000 ft. (Feb.) Mann 1193!

Also in **S. Tomé**.

2. **Xylopia staudtii** *Engl. & Diels* in *Notizbl. Bot. Gart. Berl.* 2: 298 (1899). *APD acc*

Forest tree to 150 ft. high, with buttresses and stilt roots.

S. L.: Kambui (Aug.) Aylmer 596! **Lib.**: Firestone Plantation No. 3 (fl. & fr. Aug.) Cooper 66! Dukwia R. (fr. Feb., Mar.) Cooper 60! 139! **G. C.**: Abosso (Aug.) Vigne 982! Achembrom, Prestea (July) Vigne 1268! **S. Nig.**: Calabar Prov. (Nov.) Rosevear C. 21! **Br. Cam.**: Johann-Albrechtshöhe Staudt 530!

Also in **French Cameroons**, **Gabon** and **Angola**.

3. **Xylopia rubescens** *Oliv.*—F.T.A. 1: 30 (1868); *Engl. & Diels Monogr.* 60. *APD acc*

Xylopia humilis Engl. & Diels (1901).

Xylopia zenkeri Engl. & Diels (1907).

A **forest** tree, up to 90 ft.; leaves coriaceous, drying reddish; fruit-carpels slender, stoutly stipitate, cylindric, slightly twisted, with shallow constrictions.

Lib.: Grand Bassa Dinklage, 2006! **iv. C.**: Sanvi, Assinie (Apr.) Chev. 16321! Banco Aubrév. 507! **S. Nig.**: Sapoba, Kennedy 205! 2821! Calabar Thomson 53!

4. **Xylopia quintasii** *Engl. & Diels* *Monogr.* 62 (1901). *APD acc*

Xylopia striata Engl. (1904).

Xylopia lane-poolei Sprague & Hutch. (1916).

Xylopia parviflora of Chev. *Bot.* 15, partly.

A **forest** tree, to 90 ft. high, with clean straight bole and easily stripped bark; flowers cream.

S. L.: Kessewe (Apr.) Lane-Poole 123! Heddles Farm (Apr.) Lane-Poole 210! Njala (Feb) Deighton 4153! **Lib.:** Dukwia R. Cooper 222! **Iv. C.:** Bouroukrou (Dec.–Jan.) Chev. 16118! Abidjan Aubrév 38! **G. C.:** Adeambra (May) Vigne 856! Tanosu (fr. Sept.) Brent 389! **S. Nig.:** Omo F.R. (Mar.) Jones & Onochie FHI 17012! Sapoba Kennedy 702! Oban Talbot 1302!

Also in **Cameroons** and **S. Tomé**.

5. *Xylopia elliotii* Engl. & Diels Monogr. 65 (1901); Aubréy. Fl. For. C. Iv. 1: 112. *APD acc*

A small forest tree, to 30 ft. high, with sweet-scented flowers.

Fr. G.: Niger bank Sc. Elliot 5325! **S. L.:** Falaba (Mar.) Sc. Elliot 5288! **Iv. C.:** Abidjan (Feb.) Aubrév.

6. *Xylopia villosa* Chipp in Kew Bull. 1923: 183. *APD acc*

Xylopia macrocarpa A. Chev. Bot. 15, name only.

A forest tree to 80 ft. high and 4 ft. girth.

Iv. C.: Etérokrou to Tchumkrou (fr. Dec.) Chev. 22516! Abidjan (Jan.) Aubrév. 198! **G. C.:** Dunkwa Vigne 81! Jimira F. R. (Oct.) Vigne 3113! **S. Nig.:** Ibadan F. R. (Nov.) Punch 119! Benin Dist Kennedy 415! 417! Sapoba (Nov.) A. F. Ross 236! Degema Talbot 3775!

7. *Xylopia talbotii* Exell in J. Bot. 69: 98 (1931). *APD acc*

Xylopia villosa of F.W.T.A., ed. 1, 1: 53, partly.

Forest tree or shrub.

S. Nig.: Eket Talbot 3209! Oban Talbot 1601!

8. *Xylopia parviflora* (A. Rich.) Benth. in Trans. Linn. Soc. 23: 479 (1862); F.T.A. 1: 31; Engl. & Diels Monogr. 64; not of Spruce (1861), name only.

APD: *Synonym of Xylopia longipetala De Wild. & T. Durand*

Uvaria parviflora A. Rich. in Guill. & Perr. Fl. Seneg. 9 (1831).

Xylopia vallonii Chipp ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 53 (1927); Kew Bull. 1927: 152; Exell in J. Bot. 64, Suppl. Polypet. 8 (1926), name only.

Small tree or shrub of forests, especially fringing forests; common throughout the area. Petals with crimson base and yellow green tails. Ripe carpels, green outside, dehiscent, bright pink within, seeds green.

Sen.: Casamance Perrottet 7! **S. L.:** Karene Dist. Sc. Elliot 5730! Njala (Feb.) Deighton 1081! **Lib.:** Peahtah (fl. & fr. Oct.) Linder 910! 1017! 1115! **Iv. C.:** Comoe (Jan.) Aubrév. 667! **G. C.:** Tano R. (Dec.) Talmie 84! **Togo:** Kete-Krachi (fl. & fr. June) Vigne 3883! **Dah.:** between Savé and Agouagon (fr. May) Chev. 23586! **N. Nig.:** Nupe Barter 1035! Lokoja Barter 426! Anara F. R., Zaria (Oct.) Keay FHI 20129! **S. Nig.:** Olokemeji (fl. & fr. Oct.) Foster 99! Keay FHI 28044!

Extending to A.–E. **Sudan**, **Uganda** and **Angola**.

9. *Xylopia aethiopica* (Dunal) A. Rich.—F.T.A. 1: 32; Engl. & Diels Monogr. 60. *APD acc*

Unona aethiopica Dunal (1817).

Xylopia eminii of Chev. Bot. 15, not of Engl.

A tree, up to 60 ft. high with greenish-white fragrant flowers; fruit a cluster of very numerous narrow dark brown carpels.

Sen.: Niayes (Dec.) Chev. 2545! **Gam.:** Ingram! **Fr. G.:** Rio Nunez Heudelot! Conakry Maclaud 189! **S. L.:** Sc. Elliot! Waterloo (June) Lane-Poole 319! **Lib.:** Grand Bassa Dinklage 2005! Dukwia R. (fr. Feb.) Cooper 174! **Iv. C.:** Bouaké Aubrév. 828! **G. C.:** Eady! **Togo:** Alavanyo (Nov.) St. Clair Thompson 3656! Kersting A. 181! **Dah.:** Adjara Chev. 22747! **S. Nig.:** Eppah Barter 3268! Nun R. Mann 485! Eket Talbot 3281! Calabar (Mar.) Holland 296!

Also in **Gabon** and **Principe**.

The closely related *X. eminii* Engl. is widespread in E. Africa.

10. *Xylopia acutiflora* (Dunal) A. Rich.—F.T.A. 1: 32; Engl. & Diels Monogr. 63. *APD acc*

Unona acutiflora Dunal (1817).

Xylopia oxypetala (DC.) Oliv. ex Engl. & Diels Monogr. l.c.

Xylopia thomsonii Olliv. F.T.A. 1: 31 (1868).

Xylopia dinklagei Engl. & Diels l.c.

A shrub or small tree of **forest**; fruits scarlet.

S. L.: Afzelius! Bagroo R. (Apr.) Mann 14! Kumrabai (Dec.) Thomas 6972! Near Dodo (Apr.) Deighton 3808! **Lib.:** Grand Bassa (May) Dinklage! **Iv. C.:** Ebrie Lagoon Aubrév. 1537! **G. C.:** Kumasi Cummins 117! **Togo:** Sihabola (Mar.) Kersting 67! **S. Nig.:** Lagos (Dec.) Dalz. 1144! Sapoba Kennedy 2276! Old Calabar Thomson 63! Cross R. (Mar.) Johnston! Oban Talbot 1353! **Br. Cam.:** Johann-Albrechtshöhe Staudt 504! Bamenda 3,000–3,500 ft. (May) Maitland 1731! Johnstone 70/31!

Also in **French Camerouns** and **Ubangi-Shari-Chad**.

Xylopia sp.

Forest tree "with red upper bark."

S. Nig.: Okwango, Ikom (fl. Nov., fr. Dec.) Catterall 51! 61!

Imperfectly known species.

8. NEOSTENANTHERA

Exell in J. Bot. 73, Suppl. Polypet. 5 (1935).

Stenanthera Engl. & Diels (1900), not of R. Br. (1810).

- 1 Leaves closely appressed puberulous and glaucous beneath; branchlets and pedicels sparingly pubescent, the latter only slightly thickened towards the apex; outer petals up to 3 cm. long:2
 Leaves more or less densely rusty pubescent with spreading hairs beneath, especially on midrib and nerves; branchlets and pedicels densely rusty tomentose, the latter markedly thickened towards the apex; leaves oblong-elliptic, 7–14 cm. long, 3–5 cm. broad, with 8–10 pairs of lateral nerves; outer petals up to 7 cm. long; fruiting carpels ellipsoid, rusty tomentose, up to 20 mm. long and 11 mm. broad, not ribbed, on stipes 1–8 cm. long[3. hamata](#)
- 2 Leaves rounded at base, elongate-oblong to broadly oblanceolate, 15–30 cm. long, 5–10 cm. broad, with about 15 pairs of lateral nerves; outer petals up to 2.5 cm. long; fruiting carpels very numerous, ovoid, about 6 mm. long (? mature), not ribbed, on stipes about 5 mm. long[1. myristicifolia](#)
 Leaves cuneate to obtuse at base, oblong-obovate, 9–16 cm. long, 3–6 cm. broad, with 7–12 pairs of lateral nerves; outer petals up to 3 cm. long; fruiting carpels ellipsoid, up to 25 mm. long and 5 mm. broad, longitudinally ribbed, on stipes 5–15 mm. long[2. gabonensis](#)

1. *Neostenanthera myristicifolia* (Oliv.) *Exell* in J. Bot. 73, Suppl. Polypet. 6 (1935). *APD acc*

Oxymitra myristicifolia Oliv. F.T.A. 1: 33.

Stenanthera myristicifolia (Oliv.) Engl. & Diels Monogr. Afr. Annonac. 67; F.W.T.A., ed. 1, 1: 56.

Slender-stemmed **forest** tree, to 15 ft. high; flowers green at first, yellow when mature; fruits green.

S. Nig.: Newi (fr. Jan.) Kitson! Okomu F. R. (fl. & fr. Feb.) Brenan 9015! 9015a! Sapoba (May) Ainslie 308! Calabar Thomson 134!

Also in **French Camerouns**.

2. *Neostenanthera gabonensis* (Engl. & Diels) *Exell* l.c. 6 (1935). *APD acc*

Oxymitra gabonensis Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 297 (1899).

Stenanthera gabonensis (Engl. & Diels) Engl. & Diels Monogr. 68, t. 24a.

Stenanthera bakuana A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 56 (1927); Chev. Bot. 15, name only; Aubrév. Fl. For. C. Iv. 1: 118, t. 40b.

Neostenanthera bakuana (A. Chev. ex Hutch. & Dalz.) *Exell* l.c.

Shrub or small tree to 25 ft. high in **forest**.

Lib.: Dukwia R. (Mar., May) Cooper 306! 416! Gbanga (fr. Sept.) Linder 560! **Iv. C.:** Banco (Jan.) Aubrév. 884! 1936! Bingerville Chev. 15429! **G. C.:** Ankasa, W. P. (fr. Dec.) Vigne 3173! Aguna (Aug.) Vigne 1308! Dunkwa, W. P. (fr. Oct.) Akpabla 870!

Also in **Gabon**.

3. *Neostenanthera hamata* (Benth.) Exell l.c. 6 (1935). *APD acc*

Oxymitra hamata Benth.—F.T.A. 1: 33.

Stenanthera hamata (Benth.) Engl. & Diels Monogr. 68, t. 24b; F.W.T.A., ed. 1, 1: 56; Aubrév. l.c. 1: 116, t. 40a.

Neostenanthera yalensis Hutch. & Dalz. ex Cooper & Record in Yale Univ. For. Bull. 31: 17 (1931); F.W.T.A., ed. 1, 2: 605 (1936).

Tree to 50 ft. high, in **forest**.

S. L.: Bagroo R. (Apr.) Mann 876! Sherbro Sc. Elliot 5861! Port Loko (Dec.) Thomas 6677! Kambui (fr. Aug.) Edwardson 144! **Lib.:** Dukwia R. (fl. & young fr. Apr.) Cooper 371! **Iv. C.:** Sanvi, Aboisso (Apr.) Chev. 16306! Banco (fr. June) Aubrév. 463! Danané (Mar.) Chev. 1096! **G. C.:** Ankasa F. R. (fr. Dec.) Vigne 3163! Neung F. R., Tarkwa (fr. Feb.) Kellas FH 5105!

9. POLYALTHIA

Blume—F.T.A. 1: 26.

- 1** Hairs on young shoots sparse and appressed; leaves ovate-oblong, tapering at apex into a long acumen, cuneate at base, 10–20 cm. long, 4.5–7.5 cm. broad; petals 10–12 mm. long; fruit of several stipitate, globose carpels, 5–8 mm. diam. *1. oliveri*

Hairs on young shoots dense and spreading; leaves oblong, acuminate, cuneate at base, 9–14 cm. long, 3.5–5 cm. broad; petals 2 cm. long; fruit as above, but carpels 10–13 mm. diam. *2. sauveolens*

1. *Polyalthia oliveri* Engl.—Engl. & Diels Monogr. Afr. Annonac. 42; Chev. Bot. 10. *APD acc*

Polyalthia acuminata Oliv.—F.T.A. 1: 26, not of Thwaites.

A **forest** tree, with high-crown and clean straight bole, up to 40 ft. high; flowers greenish-white; fruiting carpels red at first then black.

S. L.: Bagroo R. (Apr.) Mann 841! Bandajuma (May) Aylmer 77! Gola Forest (Apr.) Deighton 3683! Powana (fr. Dec.) Burbridge 431! **Lib.:** Sinoe Basin Whyte! Dukwia R. (fr. Jan.) Cooper 208! Grand Bassa (Apr.) Dinklage 1639! Banga (fr. Oct.) Linder 1213! **Iv. C.:** Banco (fr. Jan.) Martineau 318! **G. C.:** Amentia (Mar.) Vigne 1863! Pra River station (Feb.) Vigne 1048! Bobiri F. R. (Jan.) Andoh F H 5458! **S. Nig.:** Calabar Thomson 109! Arochuku Akpata FHI 3933!

Also in **French Cameroons** and **Gabon**.

2. *Polyalthia sauveolens* Engl. & Diels l.c. 42 (1901); Kennedy For. Fl. S.Nig. 11. *APD acc*

Forest tree with straight bole, to 65 ft. high.

S. Nig.: Sapoba (Aug.–Oct.) Kennedy 1544! 1617! Okomu F. R. (fr. Feb.) Brenan 9112! Afi River F. R. Keay!

Extends to **Belgian Congo** and **Angola**.

10. POPOWIA

Endl.—Engl. & Diels Monogr. Afr. Annonac. 43 (1901).

Note-species 8 and 9 differ somewhat from the other species of *Popowia* and may perhaps represent distinct genera.

- 1** Flowers unisexual; male borne on leafy shoots in cymes 2–3 cm. diam.; female in dense many-flowered cymes 7–15 cm. diam., on leafless branches of several season's growth; leaves oblong-elliptic to oblong-obovate, 7–23 cm. long, 3.5–8 cm. broad; fruiting carpels torulose with 1–6 ellipsoid seeds: **2**

Flowers hermaphrodite; flowers solitary, paired, or in few-flowered cymes or lax racemes, usually on leafy branches: **3**

- 2** Stem and under surface of leaves densely hirsute; male flowers in slender cymes; male buds 2–3 mm. diam. .. *1. declina*

- Stem puberulous or tomentellous; leaves puberulous or glabrous beneath; male flowers in robust cymes; male buds 3·5–4 mm. diam [2. cauliflora](#)
- 3 Bracteole large, foliaceous, suborbicular, amplexicaul, 8–13 mm. diam.; flowers solitary, extra-axillary, pedicel 2·5–4 cm. long; leaves oblong-elliptic, rounded to subcordate at base, obtuse at apex, 3·5–10 cm. long, 1·5–4·5 cm. broad [3. littoralis](#)
- Bracteole small, less than 5 mm. long: [4](#)
- 4 Sepals much shorter than the petals, more or less triangular, not more than 3 mm. long; buds globose: [5](#)
- Sepals at least 5 mm. long, more than half as long as the petals, lanceolate or ovate-lanceolate; buds ovoid: [8](#)
- 5 Flowers in few-flowered cyme on woody branches below the leaves; inflorescence, sepals and petals rusty tomentellous; leaves subelliptic, rounded at base, obtuse at apex, 10–16 cm. long, 4·5–6·5 cm. broad, sparsely puberulous and greyish beneath; carpels with 2 ovules [4. whytei](#)
- Flowers solitary, mainly among the leaves on the current season's growth: [6](#)
- 6 Segments of the fruiting carpels cylindrical, 1·5–2·5 cm. long; leaves elliptic to obovate-elliptic, rounded to subcordate at base, obtuse or shortly acuminate at apex, 4·5–17 cm. long, 2·5–6·5 cm. broad; pedicel 5–7 mm. long [5. congensis](#)
- Segments of the fruiting carpels globose to shortly ellipsoid, 5–10 mm. long; leaves up to 7·5 cm. long and 3 cm. broad: [7](#)
- 7 Pedicel 12–25 mm. long, borne about 1 mm. above the axil on the same side of the stem as the leaf; leaves oblong, rounded at base, acute to obtuse at apex, 5–7·5 cm. long, 2–3 cm. broad; fruiting carpels 1-seeded .. [6. nimbana](#)
- Pedicel 2·5–5 mm. long, borne more or less at the node on the side of the stem opposite to the leaf; leaves oblanceolate to oblong-elliptic, rounded to subcordate at base, obtuse to rounded and slightly emarginate at apex, 2·5–7·5 cm. long, 1·5–3·5 cm. broad; fruiting carpels 1–5-seeded [7. oliveriana](#)
- 8 Stem and leaves sparingly puberulous; leaves broadly oblanceolate, obtuse at base, acutely and rather broadly acuminate, 5–13 cm. long, 2–4 cm. broad; flowers axillary, solitary, pedicels about 1·5 cm. long; sepals and outer petals about 5 mm. long [8. stenosepala](#)
- Stem and leaves densely long-hirsute; leaves oblong to oblong-elliptic, cordate or subcordate at base, obtuse or shortly acuminate at apex, 11–19 cm. long, 4·5–7·5 cm. broad; flowers in axillary few-flowered lax racemes, with rhachis up to 13 cm. long, rarely solitary or paired; sepals 5–10 mm. long, outer petals 8–15 mm. long [9. filamentosa](#)

1. **Popowia declina** *Sprague*—Chipp in Kew Bull. 1923;. 182; Sprague in Kew Bull. 1908: 53, partly; Boutique in Fl. Congo Beige 2: 343 (1951).

APD: *Synonym of Monanthotaxis diclina (Sprague) Verdc.*

APD: *Synonym of Monanthotaxis cauliflora (Chipp) Verdc.*

ClathrospERMUM mannii *Oliv.* F.T.A. 1: 25, partly (male spec.).

Popowia mannii of Engl. & Diels Monogr. Afr. Annonac. 45, partly, not of Baill.

Popowia ferruginea of Cooper & Record in Yale Univ. For. Bull. 31: 17 (1931), not of Engl. Liane.

Lib.: Dukwia R. Cooper 199!

Also in **French Camerouns**, **Gabon** and **Belgian Congo**.

2. **Popowia cauliflora** *Chipp* l.c. (1923); Boutique l.c. 2: 344.

APD: *Synonym of Monanthotaxis cauliflora (Chipp) Verdc.*

ClathrospERMUM mannii *Oliv.* F.T.A. 1: 25, partly (female spec.).

Popowia mannii of Engl. & Diels l.c., partly, not of Baill.

Popowia declina *Sprague* in Kew Bull. 1908: 53, partly.

A lotty-climbing shrub.

S. Nig.: Calabar Thomson! & Oban Talbot!

Also in **French Camerouns**, **Gabon** and **Belgian Congo**.

3. **Popowia littoralis** *Bagshawe & Bak. f.* in J. Bot. 46: 221 (1908); Boutique l.c. 2: 347 (1961).

APD: *Synonym of Monanthotaxis littoralis (Bagsh. & Baker f.) Verdc.*

Shrub or small tree.

Br. Cam.: Bambui, Bamenda (June) Maitland 1618!

Also in **Gabon**, **Belgian Congo** and **Uganda**.

4. **Popowia whytei** *Stapf* in Johnston Lib. 2: 575 (1906).

APD: Synonym of Monanthotaxis whytei (Stapf) Verdc.

Popowia prehensilis A. Chev. Bot. 11, name only.

A shrub, erect or climbing; flowers yellowish; fruit yellow.

Lib.: Sinoe Basin Whyte! **iv. C.:** Bingerville (young fr. Dec.) Chev. 16048. Guébo to Mbago (fr. Feb.) Chev. 17077. Byanouan Soubiré (Mar.) Chev. 17701.

5. **Popowia congensis** (*Engl. & Diels*) *Engl. & Diels* l.c. 44 (1901); Boutique in Fl. Congo Belge 2: 362 (1951).

APD: Synonym of Monanthotaxis laurentii (De Wild.) Verdc.

Annona congensis *Engl. & Diels* (1899).

Popowia heudelotii of F.W.T.A., ed. 1, 1: 55 and of *Engl. & Diels Monogr. Afr. Annonac.* 51, partly, not of Baill.

A scandent shrub, up to 6 ft.; fault yellow, orange or red.

S. L.: Ronietta (fr. Aug.) Thomas 1642! Jigaya (fr. Sept.) Thomas 2705! **Lib.:** Zigida (Mar.) Bequaert 140! **iv. C.:** Guidéko (fr. June) Chev. 19490! **S. Nig.:** Gambari F. R., Ibadan (fr. Aug.) Onochie FHI 19139! Onitsha (fr. May) Barter 1335! Unwin 49! Degema Talbot 3726! 3727!

Also in **Ubangi** and **Belgian Congo**.

6. **Popowia nimbana** *Schnell* in Bull. Inst. Fr. Afr. Noire 15: 93, t. 1 (1953).

APD: Synonym of Monanthotaxis nimbana (Schnell) Verdc.

Slender scandent shrub; leaves glaucous beneath; in montane forest.

Fr. G.: Mt. Nimba, 4,000–5,100 ft. (fl. Apr., fr. Feb., Sept.) Schnell 3516! 5202! 4399. Mt. Ziama, 4,200 ft. (fl. May, fr. Feb.) Schnell 2636! 4541.

7. **Popowia oliveriana** *Exell & Mendonça* in Consp. Fl. Ang. 1: 24 (1937); Boutique l.c. 2: 353.

Unona parvifolia *Oliv.* F.T.A. 1: 36.

Popowia parvifolia (*Oliv.*) *Engl. & Diels* l.c. 46 (1901), not of Kurz (1875).

Fr. Sud.: R. Niger, Bamako Chev. 26908! **Fr. G.:** Kouroussa Pobéguin 823!

Also in **Ubangi**, **Belgian Congo**, **N. Rhodesia** and **Angola**.

8. **Popowia stenosepala** *Engl. & Diels* *Monogr. Afr. Annonac.* 49 (1901).

APD: Synonym of Monanthotaxis stenosepala (Engl. & Diels) Verdc.

Shrub; fruiting carpels 1–2-seeded.

S. L.: Madina, Limba (Apr.) Sc. Elliot 5564! Port Loko (Apr.) Sc. Elliot 5882! Mayosso (fr. Aug.) Thomas 1446!

9. **Popowia filamentosa** *Diels* in *Engl. Bot. Jahrb.* 39: 478 (1907); Boutique l.c. 2: 356.

APD: Synonym of Monanthotaxis filamentosa (Diels) Verdc.

Liane with golden-brown hair on shoots; leaves metallic grey beneath; calyx green, outer petals pale brown, inner petals rich pink.

S. Nig.: Aboabam (Dec.) Keay FHI 28187! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 566!

Also in **French Cameroons**, **Ubangi** and **Belgian Congo**.

Popowia lucidula (*Oliv.*) *Engl. & Diels* (see *Boutique* l.c. 351)

Talbot 41 from Oban, S. Nigeria recorded as *Popowia vogelii* (Hook. f.) Baill. in Ed. 1, is possibly *P. lucida*, but there can be no certainty as the specimen lacks flowers and the species is not otherwise known from our area. Imperfectly known species.

11. OXYMITRA

Hook. f. & Thoms.—*Sprague & Hutch.* in *Kew Bull.* 1916: 153.

- 1 Pedicels slender, about 2 cm. long or more; branchlets more or less glabrous:2
 Pedicels short and stoutish, about 1 cm. long or less; branchlets more or less hirsute:5
- 2 Leaves shortly acuminate, acumen not much more than 1 cm. long:3
 Leaves acutely long-acuminate, acumen about 2 cm. long; blade obovate-oblong, 7–14 cm. long, 2.5–4.5 cm. broad, more or less glaucous and minutely pubescent beneath; outer petals lanceolate, 2 cm. long, puberulous, the inner connivent, less than half as long as the outer[4. rosea](#)
- 3 Flowers in fascicles of about 3; pedicels about 3 cm. long; leaves subacute at base, oblong, 7–15 cm. long, 3–5 cm. broad, pale glaucous-green beneath, glabrous; petals minutely pubescent, the outer 7–8 mm. long, triangular; fruit ribbed, about 2 cm. long, glabrous[1. longipedicellata](#)
 Flowers solitary; pedicels about 2 cm. long:4
- 4 Leaves obovate, rounded or obtuse at base, 7–11 cm. long, 2.5–3.5 cm. broad, slightly hairy and more or less glaucous beneath; outer petals ovate, 1.2 cm. long, minutely pubescent; inner petals connivent, about half as long as the outer; fruiting carpels stipitate, 1–4-seeded, moniliform[2. gracilis](#)
 Leaves elliptic, rounded at base, 6–12 cm. long, 3–5 cm. broad, glabrous and glaucous beneath; flowers small (seen only in the young stage)[3. gracilipes](#)
- 5 Leaves glabrous, very glaucous beneath; oblong or oblong-elliptic, acutely long-acuminate, slightly cordate at base, 12–25 cm. long, 4–7 cm. broad, with numerous slender tertiary nerves; inner petals glabrous; fruiting carpels shortly stipitate, 1–2.5 cm. long, tomentellous[5. glaucifolia](#)
 Leaves pubescent or pilose on the nerves and veins beneath:6
- 6 Leaves narrowed towards the base, oblong or oblong-oblancheolate, up to 6.5 cm. broad:.....7
 Leaves broadly elliptic, rounded to a shortly cordate base, 8–12 cm. long, 3.5–8 cm. broad, acuminate to rounded or emarginate at apex, pilose on the nerves beneath; outer petals ovate, acute, 1.7 cm. long, silky and strongly nerved; fruiting carpels oblong, stipitate, 3.5 cm. long, hirsute[8. hirsuta](#)
- 7 Branchlets shortly and densely tomentose; leaves oblong-elliptic to oblong-oblancheolate, shortly and obtusely acuminate, subcordate at base, 9–18 cm. long; outer petals ovate-lanceolate, 1–1.3 cm. long, 5–6 mm. broad, tomentellous outside; inner petals about half as long[6. velutina](#)
 Branchlets loosely bristly pilose; leaves subsessile, 10–14 cm. long, slightly glaucous and laxly pilose on the nerves beneath; sepals broadly ovate, about 0.5 cm. long; outer petals ovate, 1.5 cm. long, nervose; inner petals glabrous[7. obanensis](#)

1. Oxymitra longipedicellata (*Bak. f.*) *Sprague & Hutch.* in *Kew Bull.* 1916: 154.

APD: Synonym of Friesodielsia gracilipes (*Benth.*) *Steenis*

Oxymitra albida var. *longipedicellata* *Bak. f.* in *Cat. Talb.* 3 (1913).

A climbing shrub; petals yellowish, mauve inside at the base; fruits scarlet.

S. Nig.: Oban Talbot 1559! 1677! Afi River F. R. (fr. May) Jones & Onochie FHI 18634! **Br. Cam.:** Bulifambo, Buea, 2,500 ft. (Mar.) Maitland 536!

2. Oxymitra gracilis (*Hook. f.*) *Sprague & Hutch.* l.c. (1916).

APD: Synonym of Friesodielsia gracilis (*Hook. f.*) *Steenis*

Uvaria gracilis *Hook. f.* in *Fl. Nigrit.* 210 (1849); *F.T.A.* 1: 22; *Engl. & Diels Monogr. Afr. Annonac.* 22.

Oxymitra platypetala *Benth.*—*F.T.A.* 1: 33.

Cleistopholis platypetala (*Benth.*) *Engl. & Diels.*

Unona millenii Engl. & Diels; Chev. Bot. 10.

Small liane with flattened stems, leaves metallic grey beneath; flowers dull greenish-purple.

S. L.: Bagroo R. (Apr.) Mann 857! Kambia (Jan.) Sc. Elliot 4382! **Lib.:** Banga (fr. Oct.) Linder 1212! **Iv. C.:** Bingerville Chev. 15433! **S. Nig.:** Lagos (fl. & fr. Mar.) Millen 149! Dalz. 1096! Akure F. R. (Nov.) Keay FHI 25599! Eket Talbot 3381!

3. **Oxymitra gracilipes** Benth.—F.T.A. 1: 33.

APD: Synonym of Friesodielsia gracilipes (Benth.) Steenis

A shrub, up to 25 ft. high with greenish-white petals.

F. Po: on the beach Mann 251!

Probably very close to *O. albida* (Engl.) Sprague & Hutch.

4. **Oxymitra rosea** Sprague & Hutch. l.c. (1916).

APD: Synonym of Friesodielsia rosea (Sprague & Hutch.) Steenis

A shrub with flexuous grey branches covered with lenticels; flowers pendulous, bright pink.

S. Nig.: Oban Talbot 199!

5. **Oxymitra glaucifolia** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 57 (1927); Kew Bull. 1927: 153.

APD: Synonym of Friesodielsia glaucifolia (Hutch. & Dalziel) Steenis

A shrub.

S. Nig.: Oban Talbot 403! 1255!

6. **Oxymitra velutina** Sprague & Hutch. l.c. 156 (1916).

APD: Synonym of Friesodielsia velutina (Sprague & Hutch.) Steenis

Forest liane with flexuous rusty branches and red fruits.

S. L.: Yonibana (fl. & fr. Nov.) Thomas 4701! 5005! Makump (fr. July) Thomas 968! Near Roruks (fl. & fr. July) Deighton 2498!

7. **Oxymitra obanensis** (Bak. f.) Sprague & Hutch. l.c. (1916).

APD: Synonym of Friesodielsia enghiana (Diels) Verdc.

Unona obanensis Bak. f. in Cat. Talb. 1 (1913).

Shrub; inflorescence with a broad hairy bract at the base of the peduncle; outer petals apricot red, inner dull-orange.

S. Nig.: Oban Talbot 1246! 1323!

8. **Oxymitra hirsuta** (Benth.) Sprague & Butch. l.c. 155 (1916).

APD: Synonym of Friesodielsia hirsuta (Benth.) Steenis

Unona hirsuta Benth.—F.T.A. 1: 35; Chev. Bot. 10.

Uvaria caillei A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 50; Chev. Bot. 5.

Small **forest** liane, to 20 ft. high, outer petals green, inner brownish; vegetatively very like *Popowia filamentosa* Diels.

Fr. G.: Mamou (Nov.) Chev. 14817! Dalaba to Mamou (Jan.) Chev. 20341! **S. L.:** Talla Hills (fr. Feb.) Sc. Elliot 4854! **Iv. C.:** Bingerville Chev. 15428! Guidéko (May) Chev. 15408! **Br. Cam.:** Likomba (Dec.) Mildbr. 10777! **F. Po:** (Nov.) Mann 559!

12. POLYCERATOCARPUS

Engl. & Diels Monogr. Afr. Annonac. 67 (1901).

Alphonseopsis Bak. f. in Cat. Talb. 3 (1913).

- 1 Leaves oblong to elliptic, glabrous above, glaucous beneath, apex acuminate, 18–23 cm. long, 4–7 cm. broad, main lateral nerves 9–11 pairs; pedicels up to 6 mm. long; bracteoles several; petals yellow, the outer up to 9 mm. long, the inner slightly smaller [parviflorus](#)

Polyceratocarpus parviflorus (*Bak. f.*) *Ghesq.* in Rev. Zool. & Bot. Afr. 32: 140 (1939); Pellegr. in Bull. Soc. Bot. Fr. Mém. 1949: 68 (1950). *APD acc*

Alphonseopsis parviflora Bak. f. in Cat. Talb. 3, t. 1 (1913); F.W.T.A., ed. 1, 1: 52.

Uvaria microtricha of Chev. Bot. 7.

Uvaria scabrada of F.W.T.A., ed. 1, 1: 50, partly.

Small tree or shrub, to 20 ft. high; flowers creamy-white; leaves pale duck's egg blue beneath.

Iv. C.: Dyolas (fr. Apr.) Chev. 21343! Guidéko (fl. & fr. May, fr. June) Chev. 16423! 19032! **G. C.:** Atromi, W. Ashanti (Aug.) Vigne 2473! Nkinkaso (fr. Oct.) Vigne 2544! **S. Nig.:** Sapoba Kennedy 260! 772! 1980! Oban Talbot 1607!

Also in **Gabon**.

13. UVARIODENDRON

(*Engl. & Diels*) *R. E. Fries* in Act. Hort. Berg. 10: 51 (1931). *APD acc*

- 1 Flowers axillary, solitary among the leaves on relatively young shoots; leaves up to 40 cm. long and 7–12 cm. broad, elongate-obovate, rounded to slightly cuneate at base, abruptly acuminate, quite glabrous, usually with at least 20 pairs of lateral nerves, petiole 4–10 mm. long, stout; pedicel about 1.5 cm. long; sepals broadly ovate, about 1 cm. long, shortly tomentellous outside; outer petals broadly ovate, 2.6–2.8 cm. long, 2 cm. broad, shortly tomentellous; fruiting carpels glabrous, ellipsoid, about 4 cm. long, and 3 cm. broad [1. connivens](#)

Flowers on older branches or trunk, well below the leafy shoots; fruiting carpels (where known) pubescent: **2**

- 2 Branchlets, petioles and midrib and nerves on lower surface of mature leaves glabrous, or sparsely appressed pubescent: **3**

Branchlets, petioles and midrib and nerves on lower surface of leaves densely tomentose even when mature; leaves 40–60 cm. long, 12–20 cm. broad, oblanceolate, rounded at base, broadly rounded to almost truncate at apex but with abrupt acumen about 2 cm. long; flowers about 4 cm. diam., fruiting carpels velvety brown ... [2. calophyllum](#)

- 3 Mature leaves up to 20 cm. long, with 8–16 pairs of lateral nerves, broadest at about the middle: **4**

Mature leaves exceeding 20 cm. long, with more than 15 pairs of lateral nerves, broadest rather above the middle: **5**

- 4 Leaves cuneate at base, 10–18 cm. long, 3–7 cm. broad, narrowly elliptic to lanceolate, gradually acuminate, with 8–11 pairs of lateral nerves rather obscure beneath; leaf-buds densely silky but leaves very soon glabrous; outer petals oblong-ovate, 2–2.5 cm. long, 1.2–1.4 cm. broad, densely silky outside; fruits not known [2. angustifolium](#)

Leaves rounded at base, 12–20 cm. long, 3.5–6.5 cm. broad, elongate-elliptic, shortly and obtusely acuminate, with 14–16 pairs of lateral nerves prominent beneath; outer petals ovate, 1.5–1.7 cm. long, 1–1.2 cm. broad; fruit not known [3. letestui](#)

- 5 Mature leaves up to 50 cm. long and 13 cm. broad, with 15–20 pairs of lateral nerves, obtuse to cuneate at base: **6**

Mature leaves 40–60 cm. long, 10–20 cm. broad, with 25–30 pairs of lateral nerves, rounded at base, oblong-oblanceolate, shortly acuminate; flowers 7–8 cm. diam. [6. giganteum](#)

- 6 Outer petals 2.5–3.5 cm. long, appressed pubescent outside, broadly ovate, 2–2.5 cm. broad; calyx with short triangular lobes leaving the petals almost completely exposed even in early bud stages; leaves 15–30 cm. long, 2.5–9 cm. broad, broadly oblong-oblanceolate, abruptly acuminate, lateral nerves prominent beneath and

impressed above; leaf-buds densely pubescent, leaves appressed pubescent beneath, becoming glabrous when old; fruiting carpels cylindrical with transverse grooves, closely grey pubescent, about 4 cm. long and 1·8 cm. diam., stipes about 1 cm. long [4. *mirabile*](#)

Outer petals 1·5–2·5 cm. long, long silky-pilose outside, suborbicular, 1·5–2 cm. broad; calyx cupular at first in bud and covering a large part of the corolla up to a late stage; leaves 20–50 cm. long, 5–13 cm. broad, oblong-oblancoate, obtuse acuminate, lateral nerves not impressed above, leaf-buds densely pubescent, leaves soon glabrous except for appressed hairs on and by the midrib; fruit not known [5. *fuscum*](#)

1. **Uvariodendron connivens** (*Benth.*) *R. E. Fries* in Act. Hort. Berg. 10: 55 (1931). *APD acc*

Uvaria connivens *Benth.* in Trans. Linn. Soc. 23: 465 (1862); F.T.A. 1: 20; F.W.T.A., ed. 1, 1: 50.

Understorey tree in [forest](#), to 40 ft. high, sepals green, petals purple.

S. Nig.: Oban Talbot 62! 404! 1254! Aboabam, Ikom (Dec.) Keay FHI. 28191! **Br. Cam.:** Buea (Mar.) Maitland 537! Buea to Mayuko (fr. Feb.) Dalz. 8243! Amba Bay (Feb.) Mann 763! **F. Po:** Mann 1159!

Also in [French Cameroons](#).

2. **Uvariodendron angustifolium** (*Engl. & Diels*) *R. E. Fries* l.c. 58 (1931). *APD acc*

Uvaria angustifolia *Engl. & Diels* in Notizbl. Bot. Gart. Berl. 2: 295 (1899); F.W.T.A. ed. 1, 1: 50.

Understorey tree, or shrub, of [forest](#) 15–40 ft. high; caulliflorous.

G. C.: Pria B., Ashanti (Feb.) Vigne 1610! Worobang F. R. (Jan.) Vigne 4318! **S. Nig.:** Owo F. R. Jones FHI 3480! Shasha F. R. Lancaster 13! **Br. Cam.:** Johann-Albrechtshöhe (Mar.) Staudt 642! 742a.

3. **Uvariodendron letestui** (*Pellegr.*) *R. E. Fries* l.c. 60 (1931).

APD: *Synonym of Uvariodendron molundense* (*Engl. & Diels*) *R. E. Fr. var. molundense*

Uvaria letestui *Pellegr.* in Bull. Mus. Hist. Nat. 26: 658 (1920).

Uvaria mannii *Hutch. & Dalz.* in Kew Bull. 1927: 150; F.W.T.A., ed. 1, 1: 50.

A shrub 15–20 ft. high; calyx green, corolla white with 4 dark purple spots at the base inside.

F. Po: Mann 257!

Also in [French Congo](#).

4. **Uvariodendron mirabile** *R. E. Fries* l.c. 59 (1931). *APD acc*

APD: *Synonym of Uvariodendron occidentale* *Le Thomas*

Uvariodendron sp. *Aubrév.* Fl. For. C. Iv. 1: 102, t. 37.

Understorey tree with straight bole, to 30 ft. high, in [forest](#); cauliflorous; petals yellow with red or violet markings within.

Iv. C.: Guiglo Aubrév. 1224! Agnéby (fr. Feb.) Aubrév 1780! **G. C.:** Ofin Headwaters F. R. (young fl. Nov., young fr. Apr.) Vigne 3417! Andoh FH 4171! Tano-Ofin F. R. (young fl. Jan.) Lyon 110! **S. Nig.:** Akure F. R. (fl. May, fr. Feb.) Darko 182! Keay FHI 19701! 24604! **Br. Cam.:** between Victoria and Bimbria (Mar.) Preuss 1378. Buea (Jan.) Lehmbach 178. Likomba Mildbr. 10720!

5. **Uvariodendron fuscum** (*Benth.*) *R. E. Fries* l.c. 61 (1931). *APD acc*

Uvaria fusca *Benth.* in Trans. Linn. Soc. 23: 466 (1862); F.T.A. 1: 20; F.W.T.A., ed. 1, 1: 50.

Understorey tree of [forest](#), to 30 ft. high; cauliflorous, sepals and petals brown outside, petals cream blotched with red inside.

Br. Cam.: Kalbreyer 41 Buea, 4,000 ft. (Mar.) Maitland 453! **F. Po:** 1,300 ft. Mann 308! Above Basllé, 1,900–2,600 ft. Mildbr. 6428.

6. **Uvariodendron giganteum** (*Engl.*) *R. E. Fries* l.c. 62 (1931). *APD acc*

Uvaria gigantea *Engl.* in Notizbl. Bot. Gart. Berl. 2: 292 (1899), partly, not of Wall., name only.

Forest tree, to 30 ft. high; caulliflorous, petals yellow, purple within.

Br. Cam.: Buea, by waterfall, 3,200 ft. (young fr. Apr.) Lehm bach 230.

7. *Uvariadendron calophyllum* R. E. Fries l.c. 63 (1931). *APD acc*

Tree or shrub in understorey of forest, 10–40 ft. high; cauliflorous, flowers almost sessile, in clusters of 2 or 3; bracts, calyx and outer whorl of petals dark velvety brown, inner petals yellow outside; all petals crimson-red within with broad yellow margins.

G. C.: Kwahu Prasu (Feb.) Vigne 1611! Tafo (Jan.) Box 3650! **S. Nig.:** Ibadan South F. R. (fr. Apr.) Keay FHI 22812! Ikom (Jan.) Keay FHI 28683! **Br. Cam.:** Kumba Dundas FHI 13989!

Also in French Cameroons.

14. UVARIASTRUM

Engl.—Engl. & Diels Monogr. Afr. Annonac 31 (1901); Sprague & Hutch, in Kew Bull. 1916: 159.

- 1 Sepals broadly triangular; buds acutely angled and winged towards the apex:2
 Sepals ovate-lanceolate rounded at apex, early caducous; buds not sharply angled and not winged; flowers usually several together on short slender lateral branches, or more rarely solitary, supra-axillary:4
- 2 Sepals sparsely pubescent or glabrescent outside, 17–25 mm. long, 8–19 mm. broad; outer petals 15–35 mm. long; pedicels 1.5–3 cm. long; leaves oblong-ob lanceolate, 9–20 cm. long, 3–6 cm. broad, cuneate, acuminate, glabrous, with 10–15 pairs of lateral nerves prominent beneath, not impressed above; flowers on old twigs or trunk, solitary or several in a fascicle [1. zenkeri](#)
 Sepals densely pilose:3
- 3 Sepals 18–30 mm. long, 10–20 mm. broad, shortly pilose; buds acute and markedly winged at apex; outer petals 23–42 mm. long, pedicels 1.5–7 cm. long; leaves oblanceolate to obovate-elliptic, 5.5–16 cm. long, 3–5 cm. broad, cuneate at base, long-acuminate, sparsely pubescent, with 9–12 pairs of lateral nerves not impressed above; flowers on old twigs, solitary or several together; fruiting carpels oblong, up to 7 cm. long, 3 cm. broad and 2 cm. thick, densely tomentose, smooth [2. pierreanum](#)
 Sepals 10–18 mm. long, up to 10 mm. broad, densely long ferruginous pilose; buds obtuse and only slightly winged at apex; outer petals 1.5–2.5 cm. long, pedicels up to 1.5 cm. long; leaves oblong-ob lanceolate, 8–15 cm. long, 3–4.5 cm. broad, rounded at base, long-acuminate, pubescent on midrib beneath, with 8–12 pairs of lateral nerves, impressed above and prominent beneath; flowers solitary, axillary, on leafy twigs and just below; fruiting carpels cylindrical up to 9 cm. long and 2 cm. diam., acute at the apex, longitudinally ridged, pilose [3. insculptum](#)
- 4 Leaves more or less coriaceous, pubescent on the midrib above; pedicels and sepals densely pilose:5
 Leaves chartaceous, almost glabrous from youth, midrib above glabrous; pedicels and sepals thinly pubescent; otherwise as var. *elliotianum* [4b. elliotianum var. glabrum](#)
- 5 Leaves very thick, densely brown-sericeous when young, lanceolate-elliptic, gradually long-acuminate, 12–24 cm. long, 4–7 cm. broad; petals 18 mm. long [4a. elliotianum var. sericeum](#)
 Leaves somewhat thinner, and less densely hairy, obovate-elliptic rather abruptly acuminate, 8–20 cm. long, 2.5–6 cm. broad; petals 14–16 mm. long [4. elliotianum var. elliotianum](#)

1. *Uvariastrum zenkeri* Engl. & Diels in Engl. Bot. Jahrb. 39: 473 (1907). *APD acc*

Uvariastrum zenkeri var. *nigritianum* Bak. f. in Cat. Talb. 3.

Forest tree, to 90 ft. high.

S. Nig.: Oban Talbot 3! 1341! 1534!

Also in French Cameroons.

2. *Uvariastrum pierreanum* Engl. in Engl. & Diels Monogr. Afr. Annonac. 32, t. 10 (1901). *APD acc*

Forest tree, to 90 ft. high; sepals olive outside, pale green within, petals pale yellow.

G. C.: Atuma, N.W. Ashanti (Dec.) Vigne 3511! Amentia (Mar.) Vigne 1860! Akokoasu (fr. Aug.) Hughes FH 3381! **S. Nig.:** Okomu F. R. (Jan.–Mar.) Richards 3264! Brenan 8827! 8901! Kennedy 2571!

Also in **French Cameroons** and **Gabon**.

3. **Uvariastrum insculptum** (*Engl. & Diels*) *Sprague & Hutch.* in Kew Bull. 1916: 159; Aubrév. Fl. For. C. Iv. 1: 114, t. 38. *APD acc*

Uvaria insculpta *Engl. & Diels* in Notizbl. Bot. Gart. Berl. 2: 295 (1899).

Shrub or tree, in **forest**, up to 50 ft. high.

Iv. C.: Banco (fl. Mar., fr. June) Aubrév. 1331! 1341! **G. C.:** Asientiem, W.P. (young fr. July) Chipp 291! **S. Nig.:** Kennedy 1711! Atigere (Feb.) Millen 151! Eba Isl. (Mar.) Ross 98! **Br. Cam.:** Johann-Albrechtshöhe (Mar.) Staudt 740! Likomba (Dec.) Mildbr. 10795! Near Tiko (Jan.) Box 3554!

Also in **French Cameroons** and **Gabon**.

4. **Uvariastrum elliotianum** (*Engl. & Diels*) *Sprague & Hutch.*, var. *elliotianum*-Kew Bull. 1916: 159.

APD: Synonym of Mischogyne elliotianum (Engl. & Diels) R. E. Fr.

Uvaria elliotiana *Engl. & Diels* Monogr. Afr. Annonac. 28 (1901).

Uvariopsis chevalieri *Robyns & Ghesq.* in Ann. Soc. Sci. Brux. 53: 318 (1933).

Tree 15–20 ft. high, often in **riverine forest**, flowers white.

S. L.: Talla Hills (Feb.) Sc. Elliot 4855! Bandajuma (May) Aylmer 79! **G. C.:** Banks of R. Volta (Apr.) Vigne 1689! Bonsa Su (May) Vigne 1977! Yabei (June) Vigne 3893! **N. Nig.:** Abinsi, in ravines (June) Dalz. 761! **S. Nig.:** Lagos Rowland! Foster 9! Olokemeji (fr. July, Aug.) Chev. 13998! 14069! Symington FHI 5073!

4a. **Uvariastrum elliotianum** var. **sericeum** *Keay* in Kew Bull. 1952: 151.

APD: Synonym of Mischogyne elliotianum (Engl. & Diels) R. E. Fr.

Bush 15 ft. high, flowers white, fruiting carpels pear-shaped 1 1/2 in. long, velutinous.

Fr. G.: Kindia (May) Jac.-Fel. 465! **S. L.:** Njala (fl. Feb., fr. July) Deighton 510! 3015!

4b. **Uvariastrum elliotianum** var. **glabrum** *Keay* l.c. (1952).

APD: Synonym of Mischogyne elliotianum var. *glabra* (*Keay*) *Evrard*

Shrub or small tree to 20 ft., flowers white, in **forest undergrowth**.

Iv. C.: San Pedro Thoiré **G. C.:** Kwahu Prasu (Feb.) Vigne 1628! Atewa Range, E.P. (Feb.) Vigne 4336! S. Fomang Su F. R. (Jan.) Vigne 2679!

15. HEXALOBUS

A.DC.—F.T.A. 1: 26.

- 1 Petals about 8 cm. long, silky outside, lanceolate; leaves acutely acuminate at apex, obtuse or rounded at base, 12–20 cm. long, 4–7 cm. broad, glabrous and shining above, shortly pubescent or glabrescent beneath; pedicels 1–1.5 cm. long; sepals ovate, thick, at length reflexed, about 1.5 cm. long, silky-tomentose; fruiting carpels subsessile, ferrugineous-tomentose, oblong, 8 cm. long, 4 cm. broad, woody. [1. crispiflorus](#)
- Petals under 3 cm. long; leaves at most acute; flowers subsessile: **2**
- 2 Leaves more or less acute, distinctly pointed, pubescent beneath, oblong-lanceolate, rounded at base, up to 15 cm. long and 4.5 cm. broad; lateral nerves prominent beneath; young branchlets softly tomentellous; fruiting carpels turgid, 4–5 cm. long, 2 cm. thick [2. monopetalus](#) var. [monopetalus](#)
- Leaves obtuse or rounded at apex, becoming almost glabrous beneath, narrowly oblong, rounded at base, generally smaller than above, lateral nerves rather faint beneath, young branches pubescent ... [2a. monopetalus](#) var. [parvifolius](#)

1. **Hexalobus crispiflorus** *A. Rich.* in Sagra Fl. Cub. 1: 43 (1845); Chev. Bot. 9; Aubrév. Fl. For. C. Iv. 1: 104, t. 33. *APD acc*

Hexalobus grandiflorus Benth.—F.T.A. 1: 27.

A forest tree, 60–80 ft. fluted at the base, with conspicuous, pale-yellow, fragrant flowers; fruit red.

Fr. G.: Farmar 263! Mamou (Mar.) Dalz. 8391! And various localities fide Chev. l.c. **S. L.:** Likuru, Talla (Feb.) Sc. Elliot 4953! Sewa B., Simbuia (Feb.) Lane-Poole 167! Keyeima (fr. Mar.) Deighton 3140! **Iv. C.:** Morenou (Nov.) Chev. 22446! Adzope Aubrév. 1794! **G. C.:** Jimira F. R. (Oct.) Vigne, 3114! Togo; Kersting A. 594! **S. Nig.:** Lagos Rowland! Abo (fr. Mar.) Barter! Calabar (fl. Mar. fr. Aug.) Thomson 41! Oban Talbot 1245a! **Br. Cam.:** Ambas Bay Mann 709! Missellele, Tiko (Jan.) Box 3571! Likomba (Nov.) Mildbr. 10611.

Extends to A.–E. **Sudan** and **Belgian Congo**.

2. *Hexalobus monopetalus* (A. Rich.) Engl. & Diels var. *monopetalus*—Monogr. Afr. Annonac. 56 (1901); Aubrév. Fl. Soud.-Guin. 38. *APD acc*

Uvaria monopetala A. Rich. in Guill. & Perr. Fl. Seneg. 8, t. 2 (1831).

Hexalobus senegalensis A. DC.—F.T.A. 1: 27.

Hexalobus tomentosa A. Chev. Bot. 9, name only.

A small tree of savannah, larger in fringing forest; petals cream.

Sen.: Perrottet 8! Heudelot 360! Galam Perrottet! **Gam.:** Dawe 51! Genieri (Feb.) Fox 37! **Fr. Sud.:**, **Fr. G.:**, and **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Prang to Attabubu Kitson 965! Gambaga (June) Vigne 3868! Kaga (Apr.) Vigne 4732! **Dah.:** Atacora Mts. (June) Chev. 24159! **N. Nig.:** Nupe Barter 938! Patti Lokoja (Nov.) Dalz. 206! Keay FHI 28093!

Extends to E. **Sudan** and **Uganda**.

2a. *Hexalobus monopetalus* var. *parvifolius* Bak. f. in Cat. Talb. 5 (1913).

APD: Synonym of *Hexalobus monopetalus* (A. Rich.) Engl. & Diels var. *monopetalus*

Hexalobus glabrescens Hutch. & Dalz. in Kew Bull. 1927: 152; F.W.T.A., ed. 1, 1: 52.

A small tree or shrub of savannah; flowers yellow; fruiting carpels irregularly ovoid, or cylindrical, orange yellow.

G. C.: Pabarabo Hill (fr. May) Kitson 1110! Aframso (Oct.) Vigne 4030! **N. Nig.:** Lere to Ham Talbot 531! Yola (Oct.) Shaw 103! Song (fr. May) Rosevear FHI 26603!

Extends to east and south tropical Africa.

16. MONOCYCLANTHUS

Keay in Kew Bull. 1953: 69.

- 1 Branchlets and leaves glabrous; leaves oblong-elliptic, cuneate at base, gradually acuminate, 13–25 cm. long, 5–7.5 cm. broad, with a swollen sulcate petiole, 5–7 mm. long, lamina minutely and densely gland-dotted; inflorescence on stem and older branches, fasciculate, few-flowered; petals 6, valvate in a single whorl, triangular-lanceolate, 14–16 mm. long, up to 4–6 mm. broad, exposed in bud; receptacle ellipsoid with very numerous linear stamens; carpels free, about 7, densely pilose; fruits not known [vignei](#)

Monocyclanthus vignei Keay in Kew Bull. 1953: 69. *APD acc*

A forest tree, to 20 ft. high; cauliflorous; petals yellow.

G. C.: Benso (Sept.) Vigne 4744! Ankasa F. R. (Dec.) Viyne 3175!

17. ENNEASTEMON

Exell in J. Bot. 70 Suppl. 1: 209 (1932).

ClathrospERMum Planch. ex Benth. & Hook. f. Gen. Pl. 1: 29 (1862).

- 1 Flowers solitary or paired: 2

- Flowers in cymes of more than 2 flowers; flower-buds depressed-subglobose; pedicels, sepals and petals densely rusty tomentellous outside; leaves without marginal glands at the base:.....**5**
- 2** Flower-buds ovoid just before opening; pedicels, sepals and petals puberulous outside; leaves without marginal glands at the base:**3**
- Flower-buds depressed-subglobose before opening; pedicels, sepals and petals densely rusty tomentellous outside; leaves with a pair of marginal glands at the base; fruiting carpels, 2–4-seeded, brown tomentose:.....**4**
- 3** Leaves oblong-obovate, rounded to subcordate at the broad base, 8–15 cm. long, 3.5–6.5 cm. broad; lateral nerves 6–10 pairs; fruiting carpels 1– (rarely 2–) seeded, puberulous, cylindrical, about 1 cm. long and 4 mm. diam. [1. vogelii](#)
- Leaves oblanceolate, rounded at the narrow base, 6–14 cm. long, 2–4.5 cm. broad; lateral nerves 5–7 pairs; fruits not known [2. angustifolius](#)
- 4** Fruiting carpels verrucose, not torulose, 1–3.2 cm. long, 7–8 mm. diam.; leaves oblong-elliptic to obovate-elliptic, 8–17 cm. long, 3.5–7.5 cm. broad [3. capea](#)
- Fruiting carpels smooth, torulose, 2–4.5 cm. long, 6–8 mm. broad; leaves oblong-elliptic to obovate-elliptic, 4.5–14 cm. long, 1.5–4.5 cm. broad [4. barteri](#)
- 5** Flowers in numerous, lax, branched, 4–12-flowered cyme, often crowded towards the ends of the branches above the leaves; pedicels more than 5 mm. long; flowers more than 5 mm. diam.; leaves oblong-elliptic, 8–18 cm. long, 3.5–7.5 cm. broad, densely brown silky pilose beneath when young [5. foliosus](#)
- Flowers in 3–6-flowered, axillary, fasciculate cymes; pedicels less than 5 mm.; flowers less than 5 mm. diam.; leaves oblong-elliptic, 3.5–11 cm. long, 1.5–4.5 cm. broad, sparingly puberulous beneath when young, becoming markedly glaucous beneath [6. mannii](#)

1. Enneastemon vogelii (Hook. f.) Keay in Kew Bull. 1953: 72. APD acc

Uvaria? *vogelii* Hook. f. in Fl. Nigrit. 208, t. 17 (1849).

Clathropermum vogelii (Hook. f.) Planch.—F.T.A. 1: 25, partly (T. Vogel 203).

Popowia vogelii (Hook. f.) Baill.-Engl. & Diels Monogr. Afr. Annonac. 50, partly; F.W.T.A., ed. 1, 1: 55, partly (T. Vogel 203).

Popowia dalzielii Hutch. in F.W.T.A., ed. 1, 1: 55; Kew Bull. 1927: 152.

Popowia barteri of F.W.T.A., ed. 1, 1: 55, partly (Barter 1221).

Scrambling shrub or small tree; flowers orange; **usually by streams.**

G. C.: R. Volta, Kpong (Apr.) Irvine 2887! **Togo:** Kete Krachi (June) Vigne 3884! **N. Nig.:** Nupe Barter 1221! Lokoja Barter! R. Niger, Stirling (fr. Sept.) T. Vogel 203! Abinsi (July) Dalz. 712! **S. Nig.:** Olokemeji Foster 312! Jones & Keay FHI 14604! Shasha F. R. (fl. Apr.) Ross 232!

2. Enneastemon angustifolius Exell in J. Bot. 75: 163 (1937).

APD: Synonym of Monanthotaxis angustifolia (Exell) Verdc.

Shrub to 5 ft. high; **in rocks by streams.**

S. Nig.: R. Oni, Ajebandele (May) Richards 3469! Owo F. R. (May) Jones FHI 3608! **Br. Cam.:** Abonando, Mamfe (May) Rudatis 54!

3. Enneastemon capea (E. G. & A. Camus) Ghesq. in Rev. Zool. & Bot. Afr. 32: 141 (1939).

APD: Synonym of Monanthotaxis capea (E.G. Camus & A. Camus) Verdc.

Popowia capea E. G. & A. Camus in Bull. Maison Roure-Bertrand Fils, Sér. 3, 8: 43, t. 1–5 (1911); Aubrév. Fl. For. C. Iv. 1: 96.

Liane, leaves glaucous beneath, scented.

Iv. C.: Attié Camuis! Agboville (fr. Aug.) Aubrév. 1496!

4. Enneastemon barteri (Baill.) Keay l.c. 72 (1953).

APD: Synonym of Monanthotaxis barteri (Baill.) Verdc.

Popowia barteri Baill. in Adansonia 8: 324 (1868); Engl. A Diels l.c. 51, t. 21; F.W.T.A., ed. 1, 1: 55, partly (excl. Barter 1221).

P. heudelotii Baill. l.c. 321 (1868); Engl. & Diels l.c. 51, partly (excl. Barter ex Onitsha).

Clathropermum heudelotii (Baill.) Sc. Elliot in J. Linn. Soc. 33: 71 (1894), partly.

Popowia nigritiana Bak. f. In Cat. Talb. 4 (1913); F.W.T.A., ed. 1, 1: 55.

Enneastemon nigritianus (Bak. f.) Exell in J. Bot. 72: 28 (1934).

Shrub, to 6 ft. high; flowers yellow; fruits red.

Port. G.: Formosa, Amedi (Apr.) Esp. Santo 1953! **Fr. G.:** Farmar 192! Karkandy (fl. & fr. Apr.) Heudelot 878! Kindia (fr. Sept.) Pobéguin 1291! Kouria (Apr.) Pobéguin 1550! Boulléré (fr. Jan.) Chillou! **S. L.:** (May) Barter! Kambia (fr. Jan.) Sc. Elliot 4671! Madina, Limba (Apr.) Sc. Elliot 5656! **S. Nig.:** Oban Talbot 1550!

Also in **Ubangi**.

5. **Enneastemon foliosus** (*Engl. & Diels*) *Robyns & Ghesq.* in Ann. Soc. Sci. Brux. Sér. B., 53: 165 (1933).

APD: Synonym of Monanthotaxis schweinfurthii var. tisserantii (Le Thomas) Verdc.

APD: Synonym of Monanthotaxis foliosa (Engl. & Diels) Verdc. var. foliosa

Popowia foliosa *Engl. & Diels* l.c. 52 (1901).

A woody climber in **secondary forest and forest margins**; petals cream, sepals pale brown.

G. C.: Anwhiaso F. R. (Sept.) Foggie FH4437! Sefwi Bekwai, W. Prov. Akpabla 906! **S. Nig.:** Okomu F. R. (Jan., Feb.) Brenan 8826! 8917! 9125! **Br. Cam.:** Mapanya, Cam. Mt., 2,400 ft. (Apr.) Maitland 1072!

Also in **French Cameroons**.

6. **Enneastemon mannii** (*Baill.*) *Keay* l.c. 72 (1953).

APD: Synonym of Monanthotaxis mannii (Baill.) Verdc.

Popowia mannii *Baill.* l.c. 320. (1868); F.W.T.A., ed. 1, 1: 55.

ClathrospERMUM baillonii *Sc. Elliot* l.c. 70 (1894).

Popowia baillonii (*Sc. Elliot*) *Engl. & Diels* l.c. 48.

P. vogelii of *Engl. & Diels* l.c. 50, partly, not of Planch.

A scrambling shrub with silvery leaves and very small flowers.

S. L.: Bagroo R. Mann 809! Berria (Mar.) Sc. Elliot 5415! Karene (fr. Dec.) Sc. Elliot 4020! Yonibana (fr. Oct.) Thomas 4200! Ronietta (fr. Nov.) Thomas 5538!

18. UVARIOPSIS

Engl. & Diels—*Robyns & Ghesq.* in Ann. Soc. Sci. Brux. 53: 312 (1933).

- 1 Flower buds elongate, tetragonal in section; petals 1.5–3 cm. long, linear-lanceolate, strigose pubescent outside; flowers solitary or in few-flowered fascicles on the bole; leaves elongate or oblanceolate, rounded and slightly subcordate at base, rather long-acuminate, 15–20 cm. long, 4–9 cm. broad, glabrous except for the midrib beneath, laxly reticulate; fruiting carpels lobulate, 5.5 cm. long, 2 cm. broad [1. bakeriana](#)
- Flower buds globose or ovoid-conical; petals suborbicular to ovate: **2**
- 2 Flowers solitary, or up to 3 together, axillary on leafy shoots; buds globose; petals suborbicular, 9–12 mm. diam.; fruiting carpels shortly stipitate, subcylindrical to obovoid, 2–4 cm. long, 1.2–1.7 cm. broad, constricted between the seeds; leaves oblong to oblong-ob lanceolate, rounded or obtuse at base, gradually acuminate, 12–23 cm. long, 3.5–8.5 cm. broad, with 9–14 pairs of looping lateral nerves [2. globiflora](#)
- Flowers in fascicles on the bole: **3**
- 3 Flower buds depressed globose; petals of male flower ovate-triangular, 18–20 mm. long, 14–17 mm. broad, very fleshy and up to 6 mm. thick, connate for 5–7 mm. at base; female flowers not known; fruiting carpels sessile, up to 4.5 cm. long, constricted between the seeds, fruiting pedicels up to 6.5 cm. long; leaves very similar to above, 15–25 cm. long, 5–9 cm. broad, with about 10 pairs of lateral nerves looped well within the margin [3. guineensis](#)
- Flower buds ovoid-conical; petals ovate, female up to 25 mm. long and 15 mm. broad, male 8–13 mm. long, 5–7 mm. broad, up to 2 mm. thick; pedicels variable in length, up to 18 cm. long in female flower; fruiting carpels almost sessile, subglobose to cylindrical, about 5 cm. long and 3 cm. broad, not constricted between the seeds; leaves oblong, obovate or oblanceolate, 12–20 cm. long, 4–8 cm. broad, very similar to above [4. dioica](#)

1. **Uvariopsis bakeriana** (*Hutch. & Dalz.*) *Robyns & Ghesq.* in Ann. Soc. Sci. Brux. 53: 9 (1933); Keay

in Kew Bull. 1952: 153. *APD acc*

Tetrastemma bakerianum Hutch. & Dalz. F.W.T.A., ed. 1, 1: 57 (1927); Kew Bull. 1927: 153.

Shrub or small tree to 20 ft., in [marshy forest](#); petals pinkish-brown outside, carmine within. Monoecious, female flowers with about 12 carpels, male flowers with numerous whitish stamens, fruiting carpels bright red.

S. Nig.: Mbarakpa-Obutong Road, Oban (Dec.) Talbot 1517! Between Obutong and Mfamoseng (fr. Mar.) McElderry FHI 7737! **Br. Cam.:** S. Bakundu F. R. (fl. & fr. Mar.) Brenan 9305! 9409!

Also in [French Cameroons](#).

2. *Uvariopsis globiflora* Keay in Kew Bull. 1952: 152.

APD: *Synonym of Uvariopsis guineensis* Keay

[Forest](#) tree, to 20 ft. high, petals yellow.

G. C.: Amentia (Mar.) Vigne 1877! Bobiri F. R. (fr. Jan.) Andoh FH 5096! S. Fomang Su F. R. (Oct.) Andoh FH 4246!

3. *Uvariopsis guineensis* Keay l.c. (1952). *APD acc*

Uvaria spectabilis A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 50 (1927); Chev. Bot. 7; not of DC. (1818).

[Forest](#) tree to 35 ft. high; cauliflorous, flowers very fragrant, petals green outside, yellowish within; fruits red.

Fr. G.: Fassakoidou Chev. 20797! **S. L.:** Gola Forest (fr. Jan.) Unwin, & Smythe 51! Kenema (May) Small 101! **Lib.:** Gbanga (Sept.) Linder 580! **iv. C.:** Dyolas (fr. Apr.) Chev. 21305!

4. *Uvariopsis dioica* (Diels) Robyns & Ghesq. l.c. 321 (1933); Keay l.c. 154. *APD acc*

Tetrastemma dioicum Diels in Engl. Bot. Jahrb. 38: 241 (1906) and 39: 475, t. 1 (1907).

Uvariopsis pedunculosa (Diels) Robyns & Ghesq. l.c.

Tetrastemma pedunculosa Diels l.c. 53: 441 (1915).

Tree of [dense forest](#), to 25 ft. high; cauliflorous, flowers very dense at ground level, sparse higher up; pedicel, calyx and petals outside crimson; inside of petals and anthers pale yellow; fruiting carpels crimson; monoecious (or dioecious?).

S. Nig.: Sapoba F. R. (fl. Oct., Nov., & fr. Nov.) A. F. Ross 216! Keay FHI 28066! Kennedy 2573! **Br. Cam.:** Bibundi (Nov.) Mildbr. 10647!

Also in [French Cameroons](#).

19. DENNETTIA

Bak. f. in Cat. Talb. 5, t. 2 (1913).

- 1 Medium-sized tree; branchlets glabrous; leaves oblong or oblong-elliptic, very shortly cuneate at base, obtusely acuminate, 10–15 cm. long, 4–6 cm. broad, laxly reticulate; lateral nerves about 10 pairs, much branched towards margin; flowers few on short pustular branchlets; pedicels about 1 cm. long, tomentellous; sepals very broad, 3 mm. long, appressed-pubescent; petals ovate, 1 cm. long, shortly pubescent [tripetala](#)

Dennettia tripetala *Bak. f.* in Cat. Talb. 5, t. 2 (1913).

APD: *Synonym of Uvariopsis tripetala* (Baker f.) G.E. Schatz

[Forest](#) tree, to 50 ft. high.

S. Nig.: Olokemeji Unwin 12! Owena, Ondo Prov. (Feb.) Darko 186! Benin City (Jan.) Dennett 44! Oban Taltot 1496! **Br. Cam.:** Bonjongo, 2,000 ft. (Apr.) Maitland 626! Missellele, Tiko (Jan.) Box 3656!

20. ENANTIA

Oliv.—F.T.A. 1: 17; Robyns & Ghesq. in Bull. Jard. Bot. Brux. 9: 303 (1933).

- 1 Undersurface of leaves with simple or paired hairs, without stellate hairs; fruiting stipes relatively short, 7–18 mm. long; monocarps up to about 20; leaves oblong-ob lanceolate, base obtuse, apex acuminate, 8–25 cm. long, 3–9 cm. broad; petals about 25 mm. long and 12 mm. broad [1. *chlorantha*](#)
- Undersurface of leaves with stellate as well as simple hairs; fruiting stipes 15–40 mm. long; monocarps 30 or more; otherwise as above [2. *polycarpa*](#)

1. ***Enantia chlorantha* Oliv.**—F.T.A. 1: 18; Chev. Bot. 13; Robyns & Ghesq. l.c. 308 (excl. spec. ex Liberia).

APD: *Synonym of Annickia chlorantha (Oliv.) Setten & Maas*

APD: *Synonym of Annickia affinis (Exell) Versteegh & Sosef*

Forest tree, to 90 ft. high and 3 ft. girth, wood bright yellow; fruiting carpels black, fleshy, on reddish stipes.

S. Nig.: Owo F. R. Jones FHI 3483! Okomu F. R. (fl. & fr. Dec.) Brenan & Richards 8610! Sapoba (May) Kennedy 832! Old Calabar Thomson 130! Aboabam, Ikom (fl. & fr. May) Jones FHI 18706! **Br. Cam.:** Bambuko (fr. Sept.) Olorunfemi FHI 30760! **F. Po:** Bokoko Mildbr. 6896.

Also in **French Cameroons**.

2. ***Enantia polycarpa* (DC.) Engl. & Diels** Monogr. Afr. Annonac. 69 (1901).

APD: *Synonym of Annickia polycarpa (DC.) Setten & Maas*

Unona ? polycarpa DC. (1817).

Xylopia polycarpa (DC.) Oliv. F.T.A. 1: 32.

Enantia chlorantha of Cooper & Record in Yale Univ. For. Bull. 31: 14 (1931), not of Oliv.

Forest tree to 60 ft. high; like the preceding.

S. L.: Afzelius! Sugar Loaf Mt. 1,800–2,000 ft. Daniell! Kambui Hills (Nov.) Edwardson 192! **Lib.:** Dukwia R. (fr. Feb.) Cooper 146! 268! **Iv. C.:** Bouroukrou (fr. Jan.) Chev. 1611! Abidjan (Oct.) Aubrév. 125! **G. C.:** E. Akim (fr. June) Johnson 740! Mampong Scarp, 1,400 ft. (fr. May) Vigne 1726! Jimira F. R. (fr. Nov.) Vigne 4086! **S. Nig.:** Benin City (fr. July) Unwin 111! Ibadan F. R. (Apr.) FHI 22854!

21. ANONIDIUM

Engl. & Diels in Notizbl. Bot. Gart. Berl. 3: 56 (1900). *APD acc*

- 1 Sepals acutely triangular-ovate, up to 1.8 cm. broad and 3 cm. long; outer petals lanceolate, broadest towards the base, up to 4.5 cm. long and 2 cm. broad; inner petals similar in shape but a little smaller; leaves oblong-ob lanceolate, apex long-acuminate, base auriculate, up to 50 cm. long and 14 cm. broad, longer in proportion to breadth than in the next species; inflorescences borne on large leafless branches beneath the foliage [1. *friesianum*](#)
- Sepals broadly triangular, obtuse at apex, up to 3 cm. broad and long; outer petals elliptic, broadest at or above the middle, up to 7 cm. long and 3.5 cm. broad; inner petals similar in shape but considerably smaller; leaves similar to above but relatively shorter and broader, up to 35 cm. long and 17 cm. broad; inflorescences as above [2. *mannii*](#)

1. ***Anonidium friesianum* Exell** in J. Bot. 70, Suppl. 1: 211 (1932).

APD: *Synonym of Anonidium brieyi De Wild.*

Forest tree to 60 ft. high; like the next.

Br. Cam.: Kumba, S. Bakundu F. R. (Mar., Apr.) Brenan 9410! Olorunfemi FHI 30508!

Also in **Cabinda**.

2. **Anonidium mannii** (*Oliv.*) *Engl. & Diels* Monogr. Afr. Annonac. 37 (1901). *APD acc*

Annona mannii *Oliv.*—F.T.A. 1: 17.

Tree 20–60 ft. high, wide-spreading crown of dense foliage. Flowers pale green, borne on leafless branches; fruit up to 30 cm. long.

G. C.: Abofaw (June) Vigne 191! Bobiri F. R. (Jan.) Andoh FH 5091! **S. Nig.:** Okomu F. R. (Dec.) Brenan 8450! Sapoba Kennedy 2087! Old Calabar (Feb.) Mann 2231! Oban Talbot 1477! **Br. Cam.:** Johann-Albrechtshöhe (Jan.) Staudt 813!

Also in **French Cameroons**, **Gabon** and **Congo**.

22. ANNONA

Linn.—F.T.A. 1: 14; Robyns & Ghesq. Essai de Révision des Espèces africaines du Genre Annona L. (1934). *APD acc*

- 1 Inner petals definitely smaller than the outer petals; leaves rounded or obtuse at apex:.....**2**
Inner petals of about the same size as the outer petals; leaves acuminate, oblong-elliptic, 5–12 cm. long, 3·5–5·5 cm. broad, obtuse at base, glabrous, main nerves and venation prominent on both surfaces; sepals and petals glabrous outside, outer petals 1·5–2 cm. long [4. glabra](#)
- 2 Leaves and branchlets quite glabrous even when young; petiole less than 5 mm. long; leaves oblong, elliptic or more or less obovate-lanceolate, 8–15 cm. long, 2·5–5·5 cm. broad, cuneate and slightly decurrent at base; sepals and petals glabrous, outer petals about 2 cm. long [1. glauca var. glauca](#)
Leaves and branchlets pubescent or tomentose, often densely so when young:**3**
- 3 Petiole less than 5 mm. long, or leaves sessile; leaves suborbicular or broadly obovate, 5·5–8·5 cm. long and about 4 cm. broad; branchlets and underside of leaves shortly appressed pubescent; sepals and petals glabrous outside, outer petals 2 cm. long [1a. glauca var. minor](#)
Petiole more than 5 mm. long; sepals and petals pubescent outside, outer petals up to 1·5 cm. long:**4**
- 4 Lower surface of adult leaves very shortly tomentose with curly hairs; leaves broadly ovate-elliptic, subcordate to broadly cuneate at base, 9·5–20 cm. long, 6–12·5 cm. broad; sepals and petals tomentose outside, outer petals up to 1·5 cm. long [2. arenaria](#)
Lower surface of adult leaves sparsely or densely pubescent with relatively long hairs, becoming less hairy and glaucous with age; leaves 5–13 cm. long, 3–8·5 cm. broad, with parallel lateral nerves prominent beneath; sepals and petals pubescent outside, outer petals up to 1·2 cm. long:**5**
- 5 Leaves broadly ovate to ovate-elliptic, subcordate or rounded at base densely pubescent when young[3. senegalensis var. senegalensis](#)
Leaves elliptic to oblong-elliptic, obtuse or broadly deltoid at base, rather sparsely pubescent even when young [3a. senegalensis var. deltoides](#)

1. **Annona glauca** *Schum. & Thonn. var. glauca*—Beskr. Guin. Pl. 259 (1827); F.T.A. 1: 17; Engl. & Diels Monogr. Afr. Annonac. 80. *APD acc APD acc*

A shrub, up to 5 ft. high.

G. C.: Thonning. Cape Coast Brass! Prampram (May) Irvine 1431! Puru R., Prang (Apr.) Kitson 500! 904! Wale-Wale, N. T. Armitage H 3247!

1a. **Annona glauca var. minor** *Robyns & Ghesq.* Essai de Révision des Espèces africaines du Genre Annona, 22 (1934).

APD: *Synonym of Annona glauca Schumach. & Thonn.*

Shrub like the last but with broader leaves and appressed pubescent young shoots.

Sen.: various localities fide Robyns & Ghesq. l.c. Also (determined from description): Dakar, near airport (May) Baldwin 5737!

2. **Annona arenaria** *Thonn.*, in Schum. Beskr. Guin. Pl. 257 (1827); including var. *obtusa* Robyns & Ghesq. l.c. 22–28.

APD: *Synonym of Annona senegalensis Pers. var. senegalensis*

A small tree, up to 25 ft. high.

Fr. G.: Farmar 307! **S. L.:** Afzelius! Don! Talla Hills (Feb.) Sc. Elliot 4891! Near Berria, Tambakka Sc. Elliot 4960b! Waterloo (fr. May) Deighton 2655! Tepetuk (Apr.) Jordan 220! **Iv. C.:** fide Robyns & Ghesq. l.c.

Also in **French Camerouns** and extending to **Belgian Congo** and **Angola**.

3. **Annona senegalensis Pers. var. senegalensis**—Syn. Pl. 2: 95 (1806); Robyns & Ghesq. l.c. 35. *APD acc*

Shrub or small tree in **savannah**. Fruit edible, smooth yellow when ripe, showing outline of carpels by coloured reticulation on the surface.

Sen.: various localities fide Robyns & Ghesq. l.c. **Gam.:** north bank of R. Gambia Ozanne 13! Foal (Mar.) Perrottet 4! **G. C.:** Bawku, N. T. (Apr.) Vigne 3747! **Togo:** Misahöhe (Nov.) Mildbr. 7339. **N. Nig.:** Nupe Barter 1168! Katagum Dalz. 82! Zurmi (Apr.) Keay FHI 15639! Bauchi Plateau (Mar.) Lely 10!

Also in **A.–E. Sudan**, and in **Cape Verde islands**.

- 3a. **Annona senegalensis var. deltoides Robyns & Ghesq. l.c. 37 (1934). APD acc**

Similar to above, apparently more abundant.

Sen.: various localities fide Robyns & Ghesq. l.c. 37 **Fr. G.:** Rio Nunez Heudelot 781! **Fr. Sud.:** Kankan (Mar.) Chev. 575! **S. L.:** near Berria, Tambakka Sc. Elliot 4960a! **Iv. C.:** Aubrév. 742! **G. C.:** Achimota (Feb.) Irvine 149! Jagalo to Tuli (Mar.) Kitson 711! Pan to Bujan (Apr.) Kitson 501! Tamale (young fr. Apr.) Williams 149! **Togo:** Misahöhe (Mar.) Baumann 146. Sokode-Basari (fr. Feb.) Kersting 544. **Dah.:** Cotonou Debeaux 336! **N. Nig.:** Katagum Dalz. 82 bis! Bauchi Plateau (Mar.) Lely P. 196! Bornu (May) E. Vogel 70! **S. Nig.:** Lagos (Mar.) Rowland! Foster 30! Onitsha Dist. Rosevear 14/29!

Also in **Ubangi-Shari**.

4. **Annona glabra Linn. Sp. Pl. 537 (1753); Robyns & Ghesq. l.c. 49. APD acc**

Annona palustris Linn. (1762)—F.T.A. 1: 16; F.W.T.A., ed. 1, 1: 57.

A small tree or shrub of coastal marshes; flower white; fruits smooth, yellowish when ripe.

Sen.: Cayor Perrottet. **Gam.:** Albreda Perrottet 5! **S. L.:** Bawbaw (May) Deighton 2740! Luti (young fr. July) Jordan 279! **Lib.:** Grand Bassa (July) T. Vogel 100! **Iv. C.:** mouth of R. Cavally (Aug.) Chev. 19907. **S. Nig.:** Lagos (Feb.–Apr.) Dalz. 1097!

Also in **French Camerouns**, **S. Tome**, **Congo** and in **tropical America**.

Robyns & Ghesquiere (l.c.) also record from our area *A. chrysophylla* Boj. on a single specimen (Lely P. 391b from the Bauchi Plateau). This species is widespread in tropical Africa east of the Camerouns, but I am not sufficiently convinced of the identity of Lely P. 391b to include *A. chrysophylla* Boj. in our key. This species is close to *A. senegalensis* Pers. var. *senegalensis* but, according to Robyns & Ghesquiere, differs in its thicker and rather larger leaves, irregularly spaced curved lateral nerves and ferruginous indumentum.—R.W.J.K.

Annona muricata Linn.

Several species have been introduced and are cultivated for their fruit; they may be naturalized in places. Introduced species include the sour-sop.

Annona reticulata Linn.

Several species have been introduced and are cultivated for their fruit; they may be naturalized in places. Introduced species include the custard apple, or bullock's heart.

Annona squamosa Linn.

Several species have been introduced and are cultivated for their fruit; they may be naturalized in places. Introduced species include the sweet-sop.

Annona cherimola Mill.

Several species have been introduced and are cultivated for their fruit; they may be naturalized in places. Introduced species include the cherimola.

23. ISOLONA

Engl.—*Engl. & Diels Monogr. Afr. Annonac.* 82 (1901).

- 1 Young shoots and leaves glabrous:2
 Young shoots and leaves pubescent or densely hirsute:5
- 2 Corolla lobes up to 10 mm. long, less than twice as long as the tube:3
 Corolla lobes 12–25 mm. long, more than twice as long as the tube:4
- 3 Corolla lobes narrowly triangular, up to 3.5 mm. broad at base, acute or obtuse at apex, 7–10 mm. long; tube expanded at base, about 4–5 mm. long; leaves oblong or oblong-lanceolate, obtusely long-acuminate, narrowly cuneate at base, 8–15 cm. long, 2–5 cm. broad, with 8–10 pairs of lateral nerves prominent beneath and markedly looped about 5 mm. from the margin; fruit narrowly ovoid, lobulate, not ridged, 4–5 cm. long, 2–3 cm. broad [1. *campanulata*](#)
 Corolla lobes oblong, 3–5 mm. broad at base, rounded at apex, 5–10 mm. long; tube expanded at base, about 10 mm. long; leaves oblong-oblong-lanceolate gradually acuminate, broadly cuneate to obtuse at base, 8–15 cm. long, 2–4.5 cm. broad, with 9–13 pairs of lateral nerves prominent above and beneath, extending almost to the margin without looping; fruit subovoid to depressed subglobose, lobulate, with irregular transverse ridges, 8–10 cm. long, 7–8 cm. broad [2. *pleurocarpa* subsp. *nigerica*](#)
- 4 Corolla lobes oblong, 3.5–4.5 mm. broad, tube 5–7 mm. long; leaves oblong-obovate, 20–27 cm. long, 7–10 cm. broad, obtuse to rounded at base, acuminate, with 9–12 pairs of lateral nerves prominent beneath [3. *cooperi*](#)
 Corolla lobes lanceolate, acute, up to 3.5 mm. broad, tube 3–5 mm. long; leaves oblong-elliptic, 8–25 cm. long, 2.5–8.5 cm. broad, obtuse to cuneate at base, rather abruptly acuminate, with 10–13 pairs of lateral nerves [4. *thonneri*](#)
- 5 Leaves beneath, especially the midrib and nerves, and the shoots densely hirsute to maturity; leaves 12–18 cm. long and 3.5–6 cm. broad, elongate obovate to lanceolate, with 8–10 pairs of lateral nerves, base cuneate, apex long-acuminate; lower part of corolla tube 5 mm. long, upper expanded part 7 mm. long; lobes 13 mm. long triangular, spreading; sepals 14 mm. long by 9 mm. broad; fruit, flattened, ellipsoid, 6 cm. long, 4 cm. broad and 1.8 cm. thick [5. *deightonii*](#)
 Leaves and shoots finely pubescent when young, only very sparsely so when mature; leaves 13–19 cm. long and 3.5–5 cm. broad, with 13–18 pairs of lateral nerves, cuneate at base, gradually long-acuminate; lower part of corolla tube 4 mm. long, upper expanded part 5 mm. long; lobes about 13 mm. long, triangular; sepals 2 mm. long [6. *maitlandii*](#)

1. *Isolona campanulata* *Engl. & Diels* in *Monogr. Afr. Annonac.* 83 (1901); Aubrév. *Fl. For. C. Iv.* 1: 22, t. 41, 6–9. *APD acc*

APD: *Synonym of Isolona congolana (De Wild. & T. Durand) Engl. & Diels*

Isolona leonensis *Sprague & Hutch.* in *Kew Bull.* 1916: 151; F.W.T.A., ed. 1, 1: 58.

Isolona soubreana *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 58.

Forest tree, 12–50 ft. high; corolla green, turning yellow; fruit yellow when ripe.

S. L.: Sendugu (June) Thomas 687! Yonibana (fl. & fr. Oct.) Thomas 4230! 4259! 4690! Mamaha (fl. & fr. Nov.) Thomas 4593! 4648! Kongohun (Apr.) Deighton 3676! Jau (fr. Oct.) Deighton 5238! **Iv. C.:** San Pedro Thoiré! Soubre (June) Chev. 19088! 19138! Rasso (fl. & fr. Dec.) Aubrév. 570! **G. C.:** Bonsa-Ben F. R. (Dec.) Vigne 4753! Subiri F. R. (Feb.) Vigne 4757! **S. Nig.:** Oban Talbot 3261!

Also in **French Cameroons** and **Gabon**.

2. *Isolona pleurocarpa* subsp. *nigerica* *Keay* in *Kew Bull.* 1952: 157.

APD: *Synonym of Isolona hexaloba (Pierre) Engl. & Diels*

Isolona leonensis of Kennedy *For. Fl. S. Nig.* 14, not of *Sprague & Hutch.*

Forest tree, to 60 ft. high; corolla green with carmine centre; fruit dark brown.

S. Nig.: Sapoba (Sept.) Kennedy 1568! Shasha F. R. (Apr.) Richards 3343!

The typical plant, which has longer corolla lobes, occurs in French Cameroons.

3. *Isolona cooperi* Hutch. & Dalz. ex Cooper & Record in Yale Univ. For. Bull. 31: 15 (1931). *APD acc*

Tree or shrub to 12 ft. high. in [forest](#); corolla yellow.

Lib.: Dukwia R. (May) Cooper 417! **G. C.:** Sefwi-Bekwai (Aug.) Vigne 1337!

[Possibly not distinct from *I. zenkeri* Engl.]

4. *Isolona thonneri* (De Wild. & Th. Dur.) Engl. & Diels l.c. 83 (1901). *APD acc*

Monodora thonneri De Wild. & Th. Dur. (1899).

Tree to 35 ft. high, in [forest](#); corolla green at first, then yellow.

S. Nig.: Ohosu F. R. (Dec.) Hide 1/38!

Also in [Belgian Congo](#).

[Ejiofor FHI 29302 from Kumba, British Cameroons, is very close to this species, but has narrower corolla lobes and longer sepals. The specimen recorded by Aubréville (l.c. 1: 122) is inadequate for certain identification but does not appear to be this species.]

5. *Isolona deightonii* Keay in Kew Bull. 1952: 156. *APD acc*

Tree 15 ft. high, in [forest](#); flowers green, fruit yellowish, edible.

S. L.: Jama (fr. Sept.) Deighton 3072! Kongohun (Apr.) Deighton 3675! Daru, Tunkia (Mar.) Deighton 4112!

6. *Isolona maitlandii* Keay l.c. 155 (1952).

APD: *Synonym of Isolona congolana* (De Wild. & T. Durand) Engl. & Diels

A [forest](#) tree.

Br. Cam.: Ngong, Bamenda, 3,000 ft. (June) Maitland 1555! Wae, Bamenda, 3,500 ft. (Apr.) Maitland 1596!

24. MONODORA

Dunal—F.T.A. 1: 37.

- 1 Inner petals as long as or longer than the outer crispate petals, shortly clawed, broadly obovate, about 2·5 cm. long, pilose-setose near the middle of the margin; leaves oblong-ob lanceolate, rounded at base, obtuse at apex, 6–12 cm. long, 3–4·5 cm. broad, somewhat glaucous beneath; lateral nerves about 15 pairs; pedicels about 5 cm. long [1. unwinii](#)
- Inner petals much shorter than the outer crispate ones: **2**
- 2 Inner petals very narrow, with a pair of lateral hairy appendages about the middle; leaves obovate-oblong, 15–20 cm. long, 4–5·5 cm. broad; flowers borne on the previous season's growth; sepals ovate-lanceolate, up to 5 cm. long and 3 cm. broad; fruit ovoid, not ribbed, about 10 cm. long and 8·5 cm. broad [2. tenuifolia](#)
- Inner petals very broad and obovate or clawed and spatulate, not appendaged, or the appendages near the base: **3**
- 3 Inner petals with a long claw almost as long as the limb, spatulate; pedicels very slender, 3 cm. long, with a lanceolate acute bract about the middle; sepals, lanceolate, crispate on the margin; leaves obovate to oblong, acuminate, rounded at base, 6–8 cm. long, 2·5–4 cm. broad [3. crispata](#)
- Inner petals shortly clawed, broadly ovate: **4**
- 4 Sepals lanceolate, up to 3·5 cm. long, with wavy crispate margins; leaves elliptic to obovate-elliptic, rounded at base, acuminate, 15–45 cm. long, 5–20 cm. broad; flowers large on long pedicels; outer petals up to 10 cm. long; fruit 10–15 cm. diam. [4. myristica](#)
- Sepals orbicular, 1 cm. long, not crispate on the margins; leaves obovate to oblong, obtuse at base, shortly acuminate, 15–30 cm. long, 7–12 cm. broad; outer petals up to 4·5 cm. long; fruit ribbed, globose, 7·5 cm. diam. [5. brevipes](#)

1. *Monodora unwinii* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 59 (1927); Kew Bull. 1927: 153.

APD: Synonym of Monodora myristica (Gaertn.) Dunal

A tree.

S. Nig.: Benin Unwin 45!

2. **Monodora tenuifolia Benth.**—F.T.A. 1: 38; Chev. Bot. 12. *APD acc*

Small tree, up to 40 ft. high; flowers appearing before the leaves, sepals green, petals white at base, yellow at the tips, with reddish spots.

Fr. G.: Timba to Frigniagbe (Mar.) Pobéguin 134! Near Mamou (Mar.) Dalz. 8395! **S. L.:** near Ninia, Talla Hills (Feb.) Sc. Elliot 4814! Kalangba (Feb.) Glanville 177! **Iv. C.:** Aubrév. 13! **G. C.:** Aquapim Hills (Feb.) Johnson 579! Aburi Road (Feb.) Dalz. 8270! **Togo:** Kersting A. 332! **Dah.:** Porto Novo (Jan.) Chev. 22860! **N. Nig.:** near Lafla (Feb.) Hepburn 52! **S. Nig.:** Eppah Barter 3298! Okomu F. R. (Mar.) Ross 116! Oban Talbot 1362! Old Calabar (Feb.) Mann 2249! **Br. Cam.:** Amba Bay (Feb.) Mann 111! Johann-Albrechtschöhe Staudt 650! **F. Po:** Mann 164 (partly).

3. **Monodora crispata Engl. & Diels** in Notizbl. Bot. Gart. Berl. 2: 301 (1899). *APD acc*

Monodora angolensis of F.T.A. 1: 38, partly.

A shrub or tree, up to 30 ft.; outer petals purple-variegated, inner rose and white.

S. L.: Mano (Mar.) Deighton 1108! Near Zimi (Apr.) Deighton 3632! **Lib.:** Gola Forest (Mar.) Bunting! Pandamai (Feb.) Bequaert 89! **G. C.:** Banka (Mar.) Vigne 1870! Kibi (Feb.) Burnett 48! **S. Nig.:** Old Calabar Thomson 89! Oban Talbot 1499! Eket Talbot 3221!

Also in **French Cameroons**.

4. **Monodora myristica (Gaertn.) Dunal**—F.T.A. 1: 37; Chev. Bot. 11. *APD acc*

Annona myristica Gaertn. (1791).

A tree, up to 60 ft. with large fragrant flowers; calyx red-spotted; petals yellow and red, the three inner spotted red outside and green inside; fruit spherical, green.

Lib.: Grand Bassa (Mar.) Dinklage 1615! Dukwia R. Cooper 352! **G. C.:** Anobeko (Mar.) Chipp 123! Near Bompata (Dec.) Dalz. 119! Mampong Scarp (Mar.) Vigne 1060! **S. Nig.:** Ibadan F. R. (Apr.) Punch 150! Oban Talbot 1388! 1469! Old Calabar Thomson 62! **Br. Cam.:** Amba Bay Mann 27! Victoria (Jan.) Preuss 1303!

Also from French Cameroons to **Uganda** and **Angola**, and in Principe and S. Tomé.

5. **Monodora brevipes Benth.**—F.T.A. 1: 39.

APD: Synonym of Monodora undulata (P. Beauv.) Couvreur

Monodora preussii Engl. & Diels in Notizbl. Bot. Gart. Berl. 2: 301 (1899).

A wide shrub or tree, up to 40 ft. high; calyx and bracts pale green; petals yellowish-cream, conspicuously blotched crimson.

Fr. G.: Farmar 333! **S. L.:** Scarcies R. (Jan.) Sc. Elliot 1892! Levuma, Koya (Dec.) Deighton 3843! **Lib.:** Kakatown Whyte! Salala Dist. (Dec.) Baldwin 10621! Dukwia R. Cooper 83! **G. C.:** Prestea (Dec.) Vigne 3146! **S. Nig.:** Sapoba (Nov.) Meikle S Keay 605! Oban Talbot 145! Eket Talbot 3100! **Br. Cam.:** Victoria Preuss 1314! Bimbila Road Maitland 408! **F. Po:** Mann 164 (partly)!

Also in **French Cameroons** and **Principe**.

MONIMIACEAE

Trees or shrubs, rarely climbers, usually fragrant, with opposite, or rarely alternate, entire or serrate, coriaceous leaves with pellucid dots; stipules absent. Flowers actinomorphic, rarely oblique, hermaphrodite, polygamous or unisexual, cymose or racemose, rarely solitary, small or medium-sized; inflorescence axillary or rarely terminal. Perianth inferior, with 4 to many often connivent teeth or lobes in 2 to many series and imbricate, equal, or the outer sepaloid and the inner petaloid, rarely obsolete. Disk adnate to the perianth-tube. Stamens numerous or few in 1–2 series; filaments very

short, often flattened, with or without glands at the base; anthers erect, 2-celled, opening by a longitudinal slit or by valves from the base upwards. Female fl.: staminodes present or none; carpels several or rarely solitary, 1-celled; style short or elongated; stigma terminal; ovule solitary, erect or pendulous. Carpels separate in fruit, enclosed by the perianth or the latter deciduous, indehiscent, often drupaceous. Seed erect or pendulous; testa membranous; endosperm fleshy; embryo small to half as large as the endosperm; cotyledons erect or spreading.

Distributed in tropical and subtropical regions mainly of the Southern Hemisphere, absent from India (except Ceylon and Burma), and very rare in Africa.

Recognized by the gland-dotted exstipulate leaves, apetalous flowers with the staminal disk adnate to the perianth-tube, 2-celled anthers opening by either slits or flaps (as in Lauraceae), the carpels separate in fruit, the endospermic seeds, and usually small embryo.

Plagiostyles Baill., formerly included in Monimiaceae, is now placed in Euphorbiaceae.

- 1 Perianth oblique with one lobe produced on one side into a tongue-like process, the other lobes small and deltoid; flowers dioecious, few in axillary fascicles, pedicellate; leaves subopposite, markedly anisophyllous, the reduced leaf filiform, early caducous, often leaving a scar, so that leaves on a mature shoot appear alternate [1. *Glossocalyx*](#)

Perianth symmetrical, lobes all deltoid; flowers dioecious in axillary racemes; leaves nearly opposite, both leaves of each pair well-developed, coriaceous; leaf-margins coarsely and irregularly serrate, more rarely entire [2. *Xymalos*](#)

1. GLOSSOCALYX

Benth.—F.T.A. 6, 1: 167.

- 1 Leaves equal-sided and narrowed at base, with scattered stellate hairs beneath; petiole 0.5–1 cm. long; perianth-limb linear-lanceolate, up to 2.5 cm. long [1. *longicuspis*](#)
 Leaves rounded or slightly cordate and unequal at base, sparingly strigose beneath with often bifurcate hairs; petiole up to 5 mm. long: [2](#)
- 2 Perianth-limb narrowed from near the base, more or less linear, up to 1 cm. long; pedicels up to 7 mm. long [2. *staudtii*](#)
 Perianth-limb triangular, up to 5 mm. long; pedicels up to 4 mm. long [3. *brevipes*](#)

1. **Glossocalyx longicuspis** *Benth.*—F.T.A. 6, 1: 167; Perkins & Gilg in Engl. Pflanzenr. Monim. 116, t. 28; Thonner Fl. Pl. Afr. t. 50; Chev. Fl. Viv. 1: 31. *APD acc*

A tree, 30–40 ft. high; young branches furnished with very short hairs.

F. Po: Mann 1428!

Also in **French Cameroons** and **Spanish Guinea**.

2. **Glossocalyx staudtii** *Engl.*—F.T.A. 6, 1: 168; Perkins & Gilg l.c. 117.

APD: Synonym of Glossocalyx brevipes var. letouzeyi Foulloy

A shrub, up to 24 ft. high; branches slightly flexuous, pithy; flowers with an odour of nutmeg.

S. Nig.: Oban Talbot 84! **Br. Cam.:** Johann-Albrechtshöhe (Jan.) Staudt 808!

Also in **French Cameroons**.

3. **Glossocalyx brevipes** *Benth.*—F.T.A. 6, 1: 168; Perkins & Gilg l.c. 116. *APD acc*

A shrub, 10 ft. high; flowers green.

Br. Cam.: Cameroons R. (Jan.) Mann 722! 2196!

2. XYMALOS

Baill.—F.T.A. 6, 1: 167.

- 1 A shrub or medium-sized tree; branches and leaves glabrous; leaves obovate to narrowly elliptic, cuneate at base, 7–20 cm. long, 2·5–10 cm. broad, 6–8 pairs of main lateral nerves, prominent beneath, looping well within margin; fruit ovoid, 1–1·5 cm. long, fleshy, crowned by persistent stigma, one-seeded [monospora](#)

Xylosma monospora (Harv.) Baill. ex Warb.—F.T.A. 6, 1: 169. *APD acc*

Xylosma monospora Harv.

Evergreen tree or shrub, leaves smelling of lemon; fruit orange-coloured.

Br. Cam.: Bambulue Hill, Bamenda, 5,000–7,000 ft. (Jan., Oct.) Johnstone 211/31! 274/32! Lakom, Bamenda (May) Maitland 1372! **F. Po:** above Musola Mildbr. 7114. Moka, 3,800–5,700 ft. Mildbr. 7044.

Widespread on mountains in central, east and south Africa.

LAURACEAE

Trees or shrubs, very rarely twining parasitic herbs, all parts with aromatic oil-glands. Leaves alternate, rarely opposite or subopposite, coriaceous and evergreen, variously nerved; stipules absent. Flowers small, greenish or yellowish, usually cymose or racemose, hermaphrodite, polygamous or dioecious, actinomorphic. Calyx usually inferior; tube sometimes enlarging in fruit; lobes usually 6, imbricate. Petals absent. Stamens typically in 4 whorls, often the fourth row suppressed or reduced to staminodes; filaments sometimes glandular at the base, very rarely the glands fused into a disk; anthers continuous with the filament, 2- or 4-valved, cells superposed or more or less collateral, opening from the base upwards by flaps, introrse or sometimes the third whorl extrorse. Ovary superior, rarely inferior, 1-celled; style terminal, simple; stigma small. Ovule solitary, pendulous. Fruit baccate or drupaceous. Seed pendulous, without endosperm; testa membranous; embryo straight; cotyledons thick, fleshy; radicle superior.

Generally distributed in tropical and subtropical regions, but comparatively rare in Africa.

Readily recognized by the simple aromatic evergreen leaves without stipules, the absence of petals, the characteristic dehiscence of the anthers, and the seed without endosperm.

- 1 Trees and shrubs with normal foliage: 2
 Leafless slender parasitic climbers; stems filiform, glabrous to tomentose; flowers small, spicate, with green receptacle and white calyx [3. Cassytha](#)
 2 Anthers 2-valved; fruit superior; flowers hermaphrodite [1. Beilschmiedia](#)
 Anthers 4-valved, the valves collateral; fruit inferior; flowers dioecious [2. Hypodaphnis](#)

Persea americana Mill.

P. gratissima Gaertn. f.

The Avocado Pear, a native of tropical America, a dessert or salad fruit is cultivated in our area.

Cinnamomum camphora Nees & Eberm.

The Camphor tree. A native of the Far East, it is cultivated in our area.

C. zeylanicum Nees

The Cinnamon tree. A native of the Far East, it is cultivated in our area.

C. cassia Lour.

A native of the Far East, it is cultivated in our area.

1. BEILSCHMIEDIA

Nees—Robyns & Wilczek in Bull. Jard. Bot. Brux. 19: 459 (1949).

Tylostemon Engl.—F.T.A. 6, 1: 173; F.W.T.A., ed. 1, 1: 61.

- 1 Stamens of the third whorl perfect (i.e. total of 9 fertile stamens): 2

- Stamens of the third whorl barren (i.e. total of 6 fertile stamens):9
- 2 Filaments of the outer two whorls of stamens elongated, generally narrow, considerably longer than the anthers:3
Filaments of the outer two whorls of stamens short and broad, scarcely as long as the anthers:8
- 3 Perianth outside and pedicels glabrous, except for the often ciliate margins of the perianth lobes:4
Perianth outside and pedicels more or less densely puberulous, or tomentellous:6
- 4 Perianth, including the lobes, 1.5 mm. long; leaves about 25 cm. and up to 11 cm. broad [1. hutchinsoniana](#)
Perianth, including the lobes, 2–3 mm. long when mature:5
- 5 Bracts early caducous, stamens of the third whorl with much narrower filaments than those of the outer two whorls; petioles 6–15 mm. long; leaves 10–22 cm. long, 4–10 cm. broad, often subopposite [2. mannii](#)
Bracts persistent, stamens of the third whorl subequal to those of the outer whorl; petiole 4 mm. long; leaves 8–12 cm. long, 3.5–5 cm. broad [3. myriciifolia](#)
- 6 Perianth, including the lobes, about 1 mm. long, densely tomentellous outside; ovary hairy; leaves lanceolate, long-acuminate, up to 25 cm. long and 7 cm. broad [4. preussii](#)
Perianth, including the lobes, 2–3 mm. long, evenly pubescent outside, but with the surface clearly visible between the hairs; ovary glabrous:7
- 7 Bracts early caducous, perianth lobes densely pilose at the tips; leaves 10–22 cm. long, 4–9 cm. broad, acutely acuminate [5. chevalieri](#)
Bracts persistent, perianth lobes sparingly but evenly puberulous; leaves 15–20 cm. long, 6–8 cm. broad, acuminate [6. staudtii](#)
- 8 Inflorescence lax, up to 18 cm. long and broad; perianth densely rusty-puberulous; leaves 12–20 cm. long, 4–7 cm. broad, drying brown [7. talbotiae](#)
Inflorescence short, up to 3 cm. long and 4 cm. broad; perianth sparsely and minutely puberulous; leaves 12–18 cm. long, 3–4 cm. broad, drying dark olive-green [8. foliosa](#)
- 9 Perianth, including the lobes, about 2 mm. long, tomentellous; inflorescence up to 12 cm. long; leaves acute or obtuse at base, shortly acuminate, 8–23 cm. long, 2.5–7.5 cm. broad, obscurely reticulate above [9. gaboonensis](#)
Perianth, including the lobes, 3–4 mm. long, densely tomentellous; inflorescence 10–18 cm. long; leaves rounded at base, long-acuminate, 17–25 cm. long, 5–9 cm. broad, prominently reticulate on both surfaces . [10. caudata](#)

1. *Beilschmiedia hutchinsoniana* Robyns & Wilczek in Bull. Jard. Bot. Brux. 19: 487 (1949). *APD acc*

Tylostemon macrophyllus Hutch. & Dalz. F.W.T.A., ed. 1, 1: 61 (1927); Kew Bull. 1927: 153.

Beilschmiedia macrophylla (Hutch. & Dalz.) A. Chev. Fl. Viv. 1: 38 (1938), not of Meisn. (1864).

Shrub or small tree.

S. Nig.: Oban Talbot 2301! 2302; 2322! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 559!

Also in **French Cameroons**.

[Very close to *B. minutiflora* (Meisn.) Benth. & Hook. f. from Gabon, which has densely pubescent inflorescences.]

2. *Beilschmiedia mannii* (Meisn.) Benth. & Hook. f. Gen. Pl. 3, 1: 158 (1880); Robyns & Wilczek l.c. 463; Fl. Congo Beige 2: 428. *APD acc*

Oreodaphne? mannii Meisn. (1864).

Tylostemon mannii (Meisn.) Stapf in F.T.A. 6, 1: 178; F.W.T.A., ed. 1, 1: 61.

Beilschmiedia elata Sc. Elliot in J. Linn. Soc. 30: 96 (1895); Chev. Fl. Viv. 1: 36.

T. longipes Stapf in F.T.A. 6, 1: 179 (1909); F.W.T.A., ed. 1, 1: 61; not of Hook. f.

Beilschmiedia stapfiana Robyns & Wilczek in Bull. Jard. Bot. Brux. 19: 479 (1949).

Beilschmiedia caudata of Chev. Fl. Viv. 1: 35, partly, not of Stapf.

Forest tree with spreading crown, to 30 ft. high (straight tree to 100 ft. high, fide Cooper & Record); flowers green in lax panicles; fruit red, ellipsoid, about 1 1/2 in. long.

Fr. G.: fide Chev. l.c. **S. L.:** Mofari (Jan.) Sc. Elliot 4400! Musaia (fr. Mar.) Sc. Elliot 5125! Bumbuna (Oct.) Thomas 3255! **Lib.:** Dukwia R. (Apr.) Cooper 384! Kolahun (Nov.) Baldwin 10134! Vonjama (Oct.) Baldwin 9880! **iv. C.:** Abidjan (July) Aubrév. 44! Banco (June) Martineau 261! **G. C.:** Anyinam (July) Mow 118! Kwaben (Aug.) Vigne 1296! Prestea (fl. & fr. Sept.) Vigne 3101! Nkwanta (Sept.) Chipp 367! **S. Nig.:** Calabar (Feb.) Mann 2255 (partly)! 2255a!

Also in **French Cameroons** and extending to Gabon and **Belgian Congo**.

3. *Beilschmiedia myriciifolia* (S. Moore) Robyns & Wilczek: l.c. 478 (1949). *APD acc*

Tylostemon myrciifolius *S. Moore* in Cat. Talb. 95 (1913); F.W.T.A., ed. 1, 1: 61.

Forest shrub.

S. Nig.: Oban Talbot 2334!

4. *Beilschmiedia preussii* *Engl.* in Bot. Jahrb. 26: 387, t. 9 (1899); Robyns & Wilczek l.c. 464. *APD acc*

Tylostemon preussii (*Engl.*) *Stapf* in F.T.A. 6, 1: 176; F.W.T.A., ed. 1, 1: 61.

Forest shrub.

Br. Cam.: between Victoria and Bimbia (May) Preuss 1272!

5. *Beilschmiedia chevalieri* *Robyns & Wilczek* l.c. 486 (1949). *APD acc*

Beilschmiedia caudata of Chev. Fl. Viv. 1: 35, not of (*Stapf*) Chev.

Shrub or tree, to 50 ft. high; perianth pink.

Lib.: Gbangba (Sept.) Linder 618! *iv. C.*: Yaba, Bas-Cavally (July) Chev. 19414; 19550.

6. *Beilschmiedia staudtii* *Engl.* l.c. 387, t. 9 D (1899); Robyns & Wilczek l.c. 464. *APD acc*

Tylostemon staudtii (*Engl.*) *Stapf* in F.T.A. 6, 1: 177; F.W.T.A., ed. 1, 1: 61.

A shrub, branches very minutely rusty-pubescent when quite young.

Br. Cam.: Johann-Albrechtshöhe (Feb.) Staudt 457!

7. *Beilschmiedia talbotiae* (*S. Moore*) *Robyns & Wilczek* l.c. 494 (1949). *APD acc*

Tylostemon talbotiae *S. Moore* in Cat. Talb. 94 (1913); F.W.T.A., ed. 1, 1: 61.

Shrub or small tree to 25 ft. high. In swamp or fringing forest.

S. Nig.: Degema (Aug.) Bassey 3/39! Oban Talbot 1539! s.n.! *Br. Cam.*: Bulifambo, Buea (Mar.) Maitland 558! S. Bakundu F. R. (Mar.) Brenan 9413! Ngong, Bamenda (June) Maitland 1605!

[An incomplete specimen (Brenan 9014) from Okomu F. R., S. Nigeria, probably belongs here also.]

8. *Beilschmiedia foliosa* (*S. Moore*) *Robyns & Wilczek* l.c. 488 (1949). *APD acc*

Tylostemon foliosus *S. Moore* l.c. 96 (1913); F.W.T.A., ed. 1, 1: 61.

A bushy shrub.

S. Nig.: Oban Talbot 2342! s.n.!

9. *Beilschmiedia gaboonensis* (*Meisn.*) *Benth. & Hook. f.* Gen. Pl. 3, 1: 158 (1880); Robyns & Wilczek l.c. 464; Fl. Congo Beige 2: 435. *APD acc*

Oreodaphne gaboonensis *Meisn.* (1864).

Tylostemon gaboonensis (*Meisn.*) *Stapf* in F.T.A. 6, 1: 183; F.W.T.A., ed. 1, 1: 61.

T. obscurus *Stapf* in F.T.A. 6, 1: 183 (1909).

Beilschmiedia obscura (*Stapf*) *A. Chev.* Fl. Viv. 1: 41 (1938); Robyns & Wilczek in Bull. Jard. Bot. Brux. 19: 464 (1949); *Engl. ex* *Stapf* in J. Linn. Soc. 37: 112 (1905), name only.

T. confertus *S. Moore* in J. Bot. 52: 33 (1914); F.W.T.A., ed. 1, 1: 61.

Beilschmiedia conferta (*S. Moore*) *Robyns & Wilczek* l.c. 496.

Tall forest tree, to 100 ft. high; fruit obovoid to subglobose, about 1 1/2 in. long.

S. Nig.: Eket Talbot 3899! Old Calabar (Feb.) Mann 2255 (partly)! *Br. Cam.*: Victoria (Mar., fl. & fr. May) Maitland 535! 560! 688!

Also in French Cameroons, Gabon and Belgian Congo.

[Two gatherings by Maitland (147; 177) from Victoria are close to this species but have the inflorescence and perianth much more sparsely pubescent; each specimen is described as a tall forest tree with straight bole, flowers Feb. and Dec.]

10. *Beilschmiedia caudata* (*Stapf*) *A. Chev.* Fl. Viv. 1: 35 (1938) (excl. spec. Chev. 19414 and 19550)

which are *B. Chevalieri* Robyns & Wilczek, and Aubréy. 44 and 69 which are *B. mannii* (Meisn.) Benth. & Hook. f., excl. also ref. *Tylostemon* aff. *mannii* of Aubrév. Fl. For. C. Iv. 1: 30, t. 45); Robyns & Wilczek l.c. 464. *APD acc*

Afrodaphne caudata Stapf in J. Linn. Soc. 37: 112 (1905).

Tylostemon caudatus (Stapf) Stapf in F.T.A. 6, 1: 181; F.W.T.A., ed. 1, 1: 61.

Afrodaphne euryneura Stapf in J. Linn. Soc. 37: 112 (1905).

Tylostemon euryneura (Stapf) Stapf in F.T.A. 6, 1: 181; F.W.T.A., ed. 1, 1: 61.

Beilschmiedia euryneura (Stapf) Robyns & Wilczek l.c. 495.

Forest tree or shrub.

Lib.: Sinoe Basin Whyte (3 sheets)!

[As 4 out of the 7 specimens cited by Chevalier in Fl. Viv. 1: 36 are incorrectly identified, I hesitate, without seeing the specimens, to accept as this species the remaining records from Ivory Coast and Gold Coast.—R.W.J.K.]

1. *Tylostemon crassifolius* Engl.—F.T.A. 6, 1: 185.

A tree 60-120 ft. high; flowers not known. .

Br. Cam.: Johann-Albrechtshöhe (Dec.) Staudt 505!

Possibly a *Beilschmiedia*. Imperfectly known species.

2. *Beilschmiedia djalensis* A. Chev. Fl. Viv. 1: 40 (1938), French descr. only. *Tylostemon* sp. 1 of Aubrév. Fl. For. C. Iv. 1: 130. *APD acc*

Tall forest tree, to 120 ft. high; leaves very thick. Androecium not described.

Fr. G.: Dalaba Chev. 18135; 18888; 34574. **Iv. C.:** Malamosso Chev. 16248. Tabou (fr. Apr.) Aubrév. 1315! 1664!

Considerably more good specimens and accurate field observations are needed before the W. African species of this difficult genus can be adequately understood. Specimens lacking mature flowers are useless, but systematic collections from marked trees to show young and mature flowers, fruits, and the range of leaf-shape would be of great value. The important revision by Robyns and Wilczek is valuable in distinguishing the sections and the Belgian Congo species, but does not enable one to distinguish the other species many of which are very doubtfully distinct.—R.W.J.K.

2. HYPODAPHNIS

Stapf—F.T.A. 6, 1: 185.

- 1 A tree; young parts rusty-pubescent; leaves elliptic to obovate, acutely acuminate, shortly acute at base, 12–25 cm. long, up to 10 cm. broad, slightly puberulous on the nerves; lateral nerves 4–5 on each side of midrib, ascending; tertiary nerves subparallel, at length conspicuous; petiole up to 3–5 cm. long; panicle subcorymbose, 3–5–8 cm. long, many-flowered, finely rusty-pubescent all over [zenkeri](#)

Hypodaphnis zenkeri (Engl.) Stapf in F.T.A. 6, 1: 185 (1909); Hook. Ic. Pl. t. 2938; Chev. Fl. Viv. 1: 44. *APD acc*

Lower storey tree of forest, to 50 ft. high; bark smooth, grey; slash cream darkening to dirty brown, with black edge; leaves deep green; seeds ovoid with flattened sides, about 4–5 cm. long and 3 cm. broad.

S. Nig.: Okomu F. R. (Feb.) Brenan 9058! Sapoba (Apr.) Kennedy 779! **Br. Cam.:** Johann-Albrechtshöhe Staudt 961!

Also in **French Cameroons**.

3. CASSYTHA

Linn.—F.T.A. 6, 1: 188.

- 1 Twining parasitic herbs, with the leaves reduced to minute scales, adhering to the host by means of haustoria;

flowers white, small, loosely spicate, often rusty-pubescent; bracteoles ciliolate; outer perianth-segments similar to the bracteoles, the inner broadly ovate-oblong, longer than the outer; fruits crowned with the persistent perianth-limb, 4–6 mm. in diam. [filiformis](#)

Cassytha filiformis Linn.—F.T.A. 6,1: 188; Chev. Fl. Viv. 1: 45. *APD acc*

Cassytha senegalensis A. Chev. l.c. 1: 46 (1938), French descr. only.

Sen.: Roger! **S. L.:** Sc. Elliot 4177! 5875! Freetown (Feb.) Johnston 71! **Lib.:** Monrovia (Nov.) Linder 1415! **G. C.:** Aburi (June) Johnson 970! Kintampo Vigne 3057! **Togo:** Lome Warnecke 53! **N. Nig.:** Nupe Barter 412! Vom Dent Young 219! **S. Nig.:** Lagos MacGregor 33! Oyo (Feb.) Brenan & Keay 8964! Niger mouth (Aug.) Mann 464!

Very common throughout the area and in the tropics generally.

HERNANDIACEAE

Trees or shrubs, sometimes scandent, with alternate, simple or digitately compound leaves; stipules absent. Flowers hermaphrodite, or monoecious or polygamous by abortion, actinomorphic, arranged in axillary corymbose or paniculate cymes, bracteate or not. Calyx with 3–5 valvate subequal segments in two whorls or rarely 4–8 in one whorl. Stamens 3–5 in a single whorl, when the perianth is double opposite the outer segments, often 4; anthers 2-celled, opening introrsely or laterally by 2 valves; staminodes gland-like, in one or two whorls outside the stamens, or absent, those of the outer whorl in pairs at the base of the filaments, those of the inner whorl alternate with the stamens. Ovary single, inferior, 1-celled; ovule solitary, pendulous. Fruit dry, more or less ribbed, either with 2–4 wings on the body or with two terminal wings formed by enlarged perianth-segments, or wingless but enclosed in the inflated receptacle. Seed solitary, without endosperm; testa leathery; embryo straight; cotyledons large, plano-convex or flat and twisted around the radicle.

Distributed in the tropics of both hemispheres, mainly near the coasts, and especially on oceanic islands.

- 1 Leaves simple; sometimes peltate; fruits surrounded by the inflated calyx; flowers monoecious; calyx-lobes 6–8; petals absent; stamens 3–4 [1. Hernandia](#)
- Leaves digitately compound; fruits with 2–4 broad lateral wings; flowers hermaphrodite; calyx-lobes 5; petals 5; stamens 5 [2. Illigera](#)
- Leaves simple broadly ovate, often deeply 3–5-lobed; fruits with two long terminal wings; flowers male and hermaphrodite; calyx-lobes 4–7; petals absent; stamens 4 alternating with the staminodes **3. Gyrocarpus**

1. HERNANDIA

Linn.—F.T.A. 6, 1: 191.

- 1 Tree; branchlets stout, minutely puberulous; leaves ovate, rounded or very slightly cuneate at base, up to 22 cm. long and 13 cm. broad, firmly papery, glabrous, 5-nerved at the base; petiole up to 12 cm. in fruiting specimens; corymbs many-flowered, on stout peduncles; fruits broadly ellipsoid, ribbed, 2–5 cm. long, the calyx up to about 4 cm. long [beninensis](#)

Hernandia beninensis Welw. ex Henriq.—F.T.A. 6, 1: 192; Exell Cat. S. Tomé 280. *APD acc*

A tree 30–40 ft. high.

F. Po: Mann 1418!

Also in **S. Tomé**.

2. ILLIGERA

Blume—F.T.A. 6: 192.

- 1 Leaves normally 5-foliolate, but sometimes 3-foliolate in the inflorescence; leaflets ovate, oblong-elliptic to ovate-lanceolate, acuminate, acumen itself obtuse, obtuse, rounded or subcordate at base, with 2 (rarely 3) strong lateral nerves on each side of midrib, 5–8 cm. long, 3.5–6 cm. broad; midrib, lateral nerves and veins

sparingly hirsute beneath; petiole often tendriform, up to 10 cm. long, petiolules about 2 cm. long, hirsute when young; cymes panicate, axillary, shortly tomentose, the flowers merely puberulous or nearly glabrous; fruits 2.5 cm. long, about 10 cm. from tip to tip of the wings, finely puberulous [1. *pentaphylla*](#)

Leaves 3-foliolate; leaflets obovate, rounded or obtuse at apex, obtuse to cuneate at base, with 1 (rarely 2) strong lateral nerves on each side of midrib; midrib sparsely hirsute beneath near base only, leaves otherwise glabrous, rather smaller than in the above species [2. *vespertilio*](#)

1. *Illigera pentaphylla* Welw.—F.T.A. 6,1: 192; Chev. Fl. Viv. 1: 49; Keay in Kew Bull. 1952: 157, 158.

APD acc

Stout forest liane.

iv. C.: Bouroukrou Chev. 16642! **G. C.:** Aburi Hills (June) Brown 317! Sukyen (fr. June) Thompson 94! Kumasi (fr. June) Vigne 2003! **S. Nig.:** Okomu F. R. Brenan & Onochie 9000! Ibadan North F. R. (fr. Aug.) Ahmed & Chizea FHI 20024! **Br. Cam.:** Buea (May) Maitland 665! Bail-Ngemba F. R., Bamenda (May) Ujor FHI 30346!

Also in **French Cameroons**, **Spanish Guinea**, **Congo**, **Uganda** and **Angola**.

2. *Illigera vespertilio* (Benth.) Bak. f. in J. Bot. 63: 174 (1925) (excl. syn. *I. pentaphylla* Welw.); F.W.T.A., ed. 1, 2: 382, 605 (excl. syn. *I. pentaphylla* Welw.); Keay l.c. *APD acc*

***Discorea vespertilio* Benth.** in Hook. Fl. Nigrit. 638 (1849).

Liane, like the last, with white flowers.

S. L.: Don! **Lib.:** Gbanga (Sept.) Linder 381!

Also in **French Cameroons**.

3. GYROCARPUS

Jacq.—F.T.A. 6, 1: 189.

- 1** A tree; leaves crowded towards the ends of the branches; petioles 2.5–17 cm. long, blade broadly ovate, acuminate, sometimes deeply 3– (rarely 5–) lobed, averaging about 12 cm. diam., but reaching 25 cm., pubescent; flowers in ample terminal cymes up to about 12 cm. long, pubescent; flowers either all male in a cyme, or the terminal ones hermaphrodite, 1–2 mm. long; fruit ovoid, velvety, about 1–2 cm. long, with a pair of elongate spatulate wings 5–10 cm. long [americanus](#)

***Gyrocarpus americanus* Jacq.**—Chev. Fl. Viv. 1: 47. *APD acc*

***Gyrocarpus asiaticus* Willd.**—F.T.A. 6, 1: 190.

Tree, 25–50 ft. high; flowers greenish-yellow or cream.

Fr. Sud.: rocky hills between Diré and Bandiagra Rogeon & Leclercq 306 bis. Kita (fr. July) Jaeger 15!

Also in other parts of tropical and south Africa, and in tropical Asia, Polynesia and South America.

MYRISTICACEAE

Trees, often large and frequently aromatic. Leaves alternate, entire, penninerved, often with pellucid dots; stipules absent. Flowers small, dioecious, apetalous, fascicled, racemose, umbellate or capitate. Calyx 3- (rarely 2–5–) lobed, funnel-shaped to globose or saucer-shaped, lobes valvate. Male flower: stamens 2–30; filaments united into a column; anthers 2-celled, free or united in a mass, dehiscing longitudinally; rudimentary ovary absent. Female flower: staminodes absent; ovary superior, sessile, 1-celled; stigma subsessile; ovule 1, almost basal. Fruit fleshy, usually dehiscing by two valves. Seeds erect, with a thin or fleshy, sometimes lacinate, often coloured aril; endosperm copious, replete with fat and often starch, mostly ruminant; embryo small; cotyledons ascending or spreading, sometimes connate.

Generally distributed in the tropics, comparatively rare in Africa, abundant in Tropical Asia and America.

Recognized by habit and aromatic leaves, small dioecious flowers, the seeds often rich in fat and conspicuously arillate.

- 1 Lateral nerves of the leaves prominent, often numerous; endosperm ruminant:2
 Lateral nerves faint, rather few; endosperm not ruminant; flower-heads almost sessile in the leaf-axils, solitary or in small clusters; aril entire4. [Staudtia](#)
- 2 Leaves with 15–60 usually very marked lateral nerves on each side of the midrib; male flower-heads paniculate or in umbels without a common involucre; seeds solid in the middle:3
 Leaves with 7–10 slender curved lateral nerves on each side of the midrib; male flower-heads at first enclosed in a common involucre which falls away except the persistent disk-like base; seed with a longitudinal cavity in the middle3. [Coelocaryon](#)
- 3 Male flowers sessile in small heads arranged in a divaricate panicle; anthers 2–4; fruit oblong, 3–4 cm. long; aril of seed lacinate1. [Pycnanthus](#)
 Male flowers pedicellate, in small head-like umbels, the umbels solitary or crowded in reduced panicles; anthers 6–10; fruit depressed; aril entire2. [Scyphocephalum](#)

***Myristica fragrans* Houtt.**

The Nutmeg has been introduced in various parts of our area.

1. PYCNANTHUS

Warb.—F.T.A. 6, 1: 157.

- 1 Leaves cordate at base, with 20–35 prominent lateral nerves on each side; indumentum of the leaves rusty, composed of branched hairs; male flower-heads about 5 mm. in diam., crowded1. [angolensis](#)
 Leaves cordate at base, with 40–60 prominent lateral nerves on each side; indumentum of leaves of minute papillous stellate hairs; male flower-heads about 3 mm. in diam., laxly arranged 2. [microcephalus](#)2. [microcephalus](#)
 Leaves shortly cuneate at base, with 15–18 rather obscure lateral nerves on each side; indumentum merely papillous below; male flower-heads about 3 mm. in diam., laxly arranged3. [dinklagei](#)

1. *Pycnanthus angolensis* (Welw.) Warb. in Notizbl. Bot. Gart. Berl. 1: 100 (1895). *APD acc*

Myristica angolensis Welw. (1862).

M. kombo Baill. (1868).

Pycnanthus kombo (Baill.) Warb.—F.T.A. 6, 1: 158; F.W.T.A., ed. 1, 1: 64; Chev. Fl. Viv. 1: 51; Thonner Fl. Pl. Afr. t. 49.

A forest tree up to 120 ft. high, with long straight bole up to 15 ft. in girth: crown of horizontal, whorled branches; bark exuding red sticky juice when cut; fruit dehiscent with single seed covered by bright red lacinate aril.

Fr. G.: Timbo (Dec.) Caille 14779! **S. L.:** Commendi (Nov.) Aylmer 266! Njala (Dec.) Deighton 2578! Bo (Feb.) Lane-Polle 174! **iv. C.:** Bouroukrou (Dec.) Chev. 16101 bis! Bouake Aubrév. 831! **G. C.:** Sunyani (Jan.) Chipp 73! Between Amfoi and Alafanjo (June) Krause! Dunkwa (Nov.) Vigne 245! **Togo:** Alakgama Doering 901. **S. Nig.:** Ibadan F.R. (Dec.) Punch 126! Asaba Leslie 43! Ajaiye (Dec.) Yates 3! Awka Jones FHI 6603! **Br. Cam.:** Likomba (Nov.) Mildbr. 10699!

Also from French Cameroons to **Uganda** and **Angola**, and in **S. Tomé**.

2. *Pycnanthus microcephalus* (Benth.) Warb. l.c.; F.T.A. 6, 1: 159 (1909); Chev. Fl. Viv. 1: 53.

APD: *Synonym of Pycnanthus angolensis* (Welw.) Warb. *subsp. angolensis*

Myristica microcephala Benth. (1878).

A forest tree to 80 ft. high.

S. Nig.: Oban Talbot 53! **F. Po:** (Nov.) Mann 572!

Also in **French Cameroons** and **Spanish Guinea**.

3. *Pycnanthus dinklagei* Warb.—F.T.A. 6, 1: 159; Chev. Fl. Viv. 1: 54. *APD acc*

A forest liane; the type is described as a tree about 30 ft. high with drooping branches, but all subsequent collections are described as lianes; Dinklage's specimen may well have been a liane draping a tree.

S. L.: Bumbu (Feb.) Lane-Poole 170! Falaba (Apr.) Aylmer 39! **Lib.:** Grand Bassa (Feb.) Dinklage 2096! Dukwia R. (Mar.) Cooper 299! Suen (Nov.) Linder 1397! **Iv. C.:** fide Chev. l.c.

2. SCYPHOCEPHALIUM

Warb.—F.T.A. 6, 1: 160.

- 1 A tree; leaves slightly falcate, oblong to oblanceolate, acuminate, obtuse at base, 14–30 cm. long, up to 13 cm. broad, papery, glabrescent; lateral nerves up to 20 pairs, prominent beneath; male flowers in dense head-like axillary branched inflorescences, fulvous; peduncles stout [mannii](#)

Scyphocephalum mannii (*Benth.*) *Warb.*—F.T.A. 6, 1: 161; Chev. Fl. Viv. 1: 55. *APD acc*

Myristica mannii Benth. (1878).

A forest tree, 40–100 ft. high.

S. Nig.: Old Calabar Mann 2290! Oban Talbot 1316! 1507! 1673! Eket Talbot 3145! **Br. Cam.:** Cameroons R. (Jan.) Mann 752! Victoria (Feb.) Maitland 403! Kumba Dist. (Feb., Mar.) Smith 76/36! Jeme 17/38!

Also in **French Cameroons**.

3. COELOCARYON

Warb.—F.T.A. 6, 1: 162.

- 1 Fruits obtuse, ovoid-oblong to oblong-ellipsoid, 2.5–4 cm. long, 2–3 cm. diam.; testa reddish-brown, shining, deeply grooved; leaves obovate-oblong to elliptic or lanceolate-oblong, obtuse to long-cuneate at base, 10–25 cm. long, 3–10 cm. broad, lateral nerves 6–13 pairs; inflorescences pubescent or glabrous [l. preussii](#)
- Fruits beaked, oblong-ellipsoid, 2.5–3 cm. long, 1 cm. diam.; testa brown, not grooved; leaves obovate-elliptic, obtuse at base, 10–15 cm. long, 5–7 cm. broad, lateral nerves 6–8 pairs; inflorescences glabrous [2. oxycarpum](#)

1. **Coelocaryon preussii** *Warb.* in Notizbl. Bot. Gart. Berl. 1: 99 (1895); F.T.A. 6, 1: 163; Chev. Fl. Viv. 1: 58. *APD acc*

Coelocaryon klainei Pierre (1903)—F.T.A. 6, 1: 162.

Tall tree of **rain forest**, to 100 ft. high, with long clear bole without buttresses; branchlets rufous-puberulous near the tips.

Lib.: Dukwia R. (fr. May) Cooper 433! Ganta (Feb.) Harley 1151! **Iv. C.:** fide Chev. l.c. **S. Nig.:** Okomu F.R. (Mar.) Hide 38/37! Sapoba (Aug.) Kennedy 960! 1739! 1848! Ukpon F.R. (Mar.) Catterall 3! Uwet (fr. Apr.) FHI 980! **Br. Cam.:** Victoria (May) Preuss 331! Maitland 435! Bibundi (Nov.) Mildbr. 10653!

Also in **French Cameroons Gabon** and **Congo**.

2. **Coelocaryon oxycarpum** *Stapf* in F.T.A. 6, 1: 164 (1909); Chev. Fl. Viv. 1: 56. *APD acc*

APD: *Synonym of Coelocaryon sphaerocarpum Fougilloy*

A forest tree with glabrous branches.

Fr. G.: Farana, R. Niger (fr. May) Chev. 13178! **Iv. C.:** Dabou (Feb.) Chev. 16213. **G. C.:** Kwahu (Dec.) Vigne 3191!

4. STAUDTIA

Warb.—F.T.A. 6, 1: 164.

- 1 Fruit 2–3.5 cm. long, 1.4–1.8 cm. broad, with stipe 2–8 mm. long or sessile in malformed fruits; leaves oblong to oblong-lanceolate, acuminate, 10–18 cm. long, 3–6.5 cm. broad, glabrous; midrib prominent on both surfaces, petiole channelled above [l. stipitata](#)

Fruit 5 cm. long, 3-5 cm. broad, with stipe 2-4 mm. long; otherwise as above [2. *kamerunensis*](#)

1. *Staudtia stipitata* Warb. in Engl. Bot. Jahrb. 33: 384 (Mar. 1903); F.T.A. 6, 1: 165; Chev. Fl. Viv. 1: 59.

APD: Synonym of Staudtia kamerunensis var. gabonensis (Warb.) Fouilloy

***Staudtia gabonensis* Warb.** l.c. 384-385 (Mar. & Dec. 1903); F.T.A. 6, 1: 165.

Hard-wooded forest tree, reaching over 100 ft. in height; bark scaly yellow-brown exuding red juice when slashed; fruits brown, seed with red aril.

N. Nig.: Ibaji-Ojoku F.R., Kabba (fr. Feb.) Taylor 11! **S. Nig.:** Epe (fr. Jan.) Onochie & Ladipo FHI 20656! Sapoba Kennedy 796! 2223! 2337! **Br. Cam.:** Johann-Albrechtehöhe Staudt 484! 751! Likomba Mildbr. 10580. Mamfe (Oct.) Johnstone 249/31!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Cabinda**.

2. *Staudtia kamerunensis* Warb. in Nov. Act. Nat. Cur. 68: 241 (1897); F.T.A. 6, 1: 165. *APD acc*

Tree like the last, but with considerably larger traits.

Br. Cam.: Victoria Bot. Gardens Winkler 1090; 1335.

Also in **French Cameroons**.

RANUNCULACEAE

Perennial (rarely annual) herbs with alternate leaves, or rarely shrubs or climbers with opposite leaves; stipules absent. Indumentum of simple hairs. Flowers hermaphrodite, hypogynous, usually actinomorphic. Perianth usually double, of calyx and corolla, or rarely the calyx petaloid and the petals absent. Sepals imbricate or valvate. Petals when present often with a nectariferous claw. Stamens numerous, free from one another; anthers dehiscing longitudinally. Carpels numerous, free or rarely partially connate, with a slightly bifid style or subsessile stigma. Ovules numerous or solitary. Fruit a bunch of follicles, rarely baccate, or of dry achenes with often persistent and elongated styles. Seeds small, usually smooth; embryo very small, at the base of horny or fleshy endosperm.

Abundant in temperate and cold regions of the Northern, comparatively rare in the Southern Hemisphere, and very rare in the tropics; poorly represented in our area, but interesting isolated species of northern genera are found at high altitudes in the mountains of East and South Africa.

Clematopsis is endemic to Africa and Madagascar, and the African species of *Thalictrum*, with their long, thread-like pedicels, differ markedly from most of the species from the Northern Hemisphere.

- 1** Flowers regular: **2**
 Flowers irregular; sepals petaloid, posterior sepal spurred; petals present; flowers bright blue; fruit of 3 follicles [5. *Delphinium*](#)
- 2** Petals present, yellow, with nectaries; sepals not petaloid; fruit of numerous glabrous achenes, without long hairy tails [1. *Ranunculus*](#)
 Petals absent: **3**
- 3** Sepals green, small, imbricate; stamens few, with glabrous filaments; leaves alternate, compound, with small and maidenhair-fern-like leaflets; pedicels very slender and much elongated in fruit; achenes solitary, ribbed, not hairy [2. *Thalictrum*](#)
 Sepals petaloid, large, induplicate-valvate or partly imbricate; stamens numerous, with hairy filaments; leaves opposite, simple or compound; pedicels not elongate; achenes in a cluster, hairy and with long hairy tails: **4**
- 4** Low anemone-like herbaceous savannah plants arising from woody rhizomes; sepals partly imbricate and partly valvate; flowers mostly solitary [3. *Clematopsis*](#)
 Tall climbing plants; sepals induplicate-valvate; flowers often paniculate [4. *Clematis*](#)

***Nigella sativa* Linn.**

Chevalier (Fl. Viv. 1: 81) records that this is cultivated in gardens at Timbuktu.

1. RANUNCULUS*Linn.*—F.T.A. 1: 8.

- 1** Lowest leaflets of radical leaves ovate to lanceolate, irregularly lobed and toothed, with petiolules longer than the leaflets; stems creeping, rooting at the nodes; fruit with up to about 15 achenes; sepals green, deciduous, petals up to 7 mm. long [1. *extensus*](#)
- Lowest leaflets of radical leaves linear, irregularly lobed and toothed, with petiolules shorter than the leaflets; stems usually erect; fruit with numerous achenes, at least 20; flowers as above [2. *multifidus*](#)

1. *Ranunculus extensus* (Hook. f.) Schube ex Engl. in Abb. Preuss. Akad. Wiss. 1891: 218.*APD*: Synonym of *Ranunculus multifidus* Forssk.*APD*: Synonym of *Ranunculus multifidus* Forssk.***Ranunculus pinnatus* Poir. var. *extensus* Hook. f.**—F.T.A. 1: 10.

Perennial herb, rooting at the nodes, flowers yellow.

Br. Cam.: Cam. Mt., Litoka, 4,400 ft. (fl. & fr. Apr.) Maitland 1121! **F. Po:** Clarence Peak, 8,500 ft. (Dec.) Mann 618! Serrano Peak (Jan.) Guinea 2004!**2. *Ranunculus multifidus* Forsk.** Fl. Aegypt.-Arab. 102 (1775); Turrill & Milne-Redhead F.T.E.A. Ranunc. 19. *APD acc**APD*: Synonym of *Ranunculus volkensii* Engl.***Ranunculus pubescens* Thunb.** Prod. Pl. Cap. 94 (1800); Chev. Fl. Viv. 1: 82.***Ranunculus pinnatus*** of F.T.A. 1: 9, not of Poir.

Perennial herb most often with erect stems, up to 4 ft. high, flowers yellow.

N. Nig.: Bauchi Plateau, in long grass by streams (July) Lely P. 374!Also in **E. Africa**, from **Arabia** to Cape Province and **Angola**.**2. THALICTRUM***Linn.*—F.T.A. 1: 8.

- 1** A slender herbaceous plant 1–4 m. high, with numerous small leaflets; pedicels very long and filiform, much elongating in fruit; sepals small and greenish; petals absent; stamens 6–11, slightly exserted; fruits prominently ribbed, capped by a large, persistent style [rhynchocarpum](#)

Thalictrum rhynchocarpum* Dill. & Rich.**—F.T.A. 1: 8; Turrill & Milne-Redhead F.T.E.A. Ranunc. 11. *APD acc*Thalictrum mannii* Hutch.** in F.W.T.A., ed. 1, 1: 66; Kew Bull. 1927: 154; Chev. Fl. Viv. 1: 79.**Br. Cam.:** Nkwe, Bamenda (fr. Aug.) Tamajong FHI 23452! Cam. Mt., 3,000–8,000 ft. (fl. & fr. Jan., fr. Apr.–Nov.) Mann 1999! Keay FHI 28599! Deistel 644! **F. Po:** Clarence Peak, 6,000 ft. Mann 293! Musola to Moka (fr. Jan.) Guinea 1772.Also in **highlands of E. Africa**.**3. CLEMATOPSIS***APD*: Synonym of *Clematis* L.

Boj. ex Hutch. in Kew Bull. 1920: 12.

- 1 Erect perennial herb with stout rhizome; stems 0.7–1.5 m. tall, strongly longitudinally striate, with long hairs or glabrescent; leaves pinnate to bipinnate or trifoliate, lobes very irregular in shape; stems 1–5-flowered; flowers solitary, 3.5–5 cm. diam.; sepals more or less spreading, softly pubescent on both surfaces; anthers up to 5 mm. long; achenes in heads up to 10 cm. in diam. [scabiosifolia](#)

Clematopsis scabiosifolia (DC.) Hutch. in Kew Bull. 1920: 20; Turrill & Milne-Redhead F.T.E.A. Ranunc. 7.

APD: *Synonym of Clematis villosa* DC. subsp. *villosa*

Clematis scabiosifolia DC. (1818).

Clematopsis oliveri Hutch. l.c.; F.W.T.A., ed. 1, 1: 66; Chev. Fl. Viv. 1: 79.

Clematopsis nigerica Hutch. in F.W.T.A., ed. 1, 1: 66 (1927); Kew Bull. 1927: 154.

Flowering stems appearing in [grassland](#) after fire; sepals white, cream, mauve or pink.

N. Nig.: Bauchi Plateau (June) Lamb! Vom, 3,000–4,500 ft., Dent Young 1! 2! Naraguta (fl. Jan., fr. Apr.) Lely P. 128! 732! **Br. Cam.:** Bamenda, 5,000 ft. (Jan.) Migeod 393! Bambui, 4,000 ft. (fr. Apr.) Maitland 1628! Jakiri, 5,500 ft. (Jan.) Keay FHI 28429!

Also in [French Cameroons](#), and throughout tropical E. Africa to the Transvaal.

4. CLEMATIS

Linn.—F.T.A. 1: 4.

- 1 Flowers 1–3 in each inflorescence; sepals yellowish, erect at anthesis, calyx thus more or less campanulate; carpels very numerous: [2](#)
- Flowers numerous in a panicle; sepals white or greenish-white, less than 1.5 cm. long, not reflexed; leaflets mostly less than 8 cm. long and 5 cm. broad; carpels not very numerous: [3](#)
- 2 Flowers large; sepals about 5 cm. long, tips reflexed; leaflets ovate with short acute teeth, averaging about 10 cm. long and 5 cm. broad, more or less cordate at base, densely pilose to pubescent or almost glabrous beneath; achenes (including persistent style) 8–10 cm. long [1. grandiflora](#)
- Flowers much smaller; sepals about 1.8 cm. long, not reflexed; leaflets ovate-lanceolate, entire to remotely denticulate, 2.5–6 cm. long, 0.7–2.5 cm. broad, rounded at base, pubescent to glabrous beneath; achenes (including persistent style) about 4 cm. long [2. kakoulimensis](#)
- 3 Leaflets usually rather coarsely lobed as well as toothed, shortly pubescent beneath [3. hirsuta](#)
- Leaflets only serrate-dentate, rarely slightly lobulate, glabrous or nearly so beneath [4. simensis](#)

1. **Clematis grandiflora** DC.—F.T.A. 1: 7; Chev. Fl. Viv. 1: 73; Turrill & Milne-Redhead in F.T.E.A. Ranunc. 2. *APD acc*

A climber in [low bush and forest margins](#), in [forest regions](#).

Fr. G.: Farmar 258! Fouta Djallon (fr. Dec.) Chev. 20329! **S. L.:** Afzelius! Near Kukuna (fr. Jan.) Sc. Elliot 4670! Regent (Dec.) Sc. Elliot 3940! Hill Station (Dec.) Deighton 481! Smythe 54! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 158! **Lib.:** Mt. Mpaka Fossa (fr. Jan.) Bequaert 32! **G. C.:** Kumasi (fr. Jan.) Andoh 4130! S. Fomang Su F.R. (Jan.) Vigne 2681! **S. Nig.:** Oban Talbot 239! 1411! **Br. Cam.:** Cam. Mt., 2,400–3,500 ft. (Mar., Apr.) Maitland 438! 1108! Diestel 149! Johann-Albrechtshöhe Staudt 483! Bambui, Bamenda, 4,000 ft. (fr. Apr.) Maitland 1633!

Also in [French Cameroons](#), [Belgian Congo](#), [Uganda](#) and [Angola](#).

2. **Clematis kakoulimensis** R. Schnell in Bull. Soc. Bot. Fr. 96: 223 (1949). *APD acc*

A slender liane.

Fr. G.: Mt. Kakoulima, 2,000 ft. (fl. & fr. Feb.) Schnell 2461!

3. **Clematis hirsuta** Guill. & Perr. Fl. Seneg. 1 (1830); Chev. Fl. Viv. 1: 74; Turrill & Milne-Redhead

l.c. 6. *APD acc**Clematis thunbergii* Steud.—F.T.A. 1: 6.*Clematis djalensis* A. Chev. in Bull. Mus. Hist. Nat. 4: 1010 (1932); Chev. Fl. Viv. 1: 74.

A climber, up to 20 ft., over trees and rocks, very **common in savannah country**.

Sen.: Cape Verde Peninsular Leprieur. **Gam.:** Ingram! Brown-Lester 20! **Fr. Sud.:** Niayes (Dec.) Chev. 2536! **Fr. G.:** Rio Nunez Heudelot! Labé (Nov.) Chev. 34545. **S. L.:** Musaia (Dec.) Deighton 4483! **G. C.:** Abofaw (Nov.) Vigne 3130! Kwahu Tafo (fr. Jan.) Irvine 1675! **Togo:** Kpedsu (Dec.) Howes 1048! **N. Nig.:** Sokoto, Lely 121! Patti Lokoja (Nov.) Keay FHI 28092! **S. Nig.:** Olokemeji Foster 143!

Also widespread in most other parts of tropical Africa.

4. *Clematis simensis* Fres.—F.T.A. 1: 6; Turrill & Milne-Redhead l.c. *APD acc**Clematis altissima* Hutch. in Kew Bull. 1923: 180; F.W.T.A., ed. 1, 1: 67; Chev. Fl. Viv. 1: 74.

A **forest** climber; up to 120 ft. high.

Br. Cam.: Mt. Mba Kokeka, Bamenda, 6,700 ft. (Jan.) Keay FHI 28412! Cam. Mt., 3,000–8,000 ft. (Dec.–Jan.) Mann 1245! 2170! Johnston 28! 103! Maitland 247! 1230! Diestel 154! **F. Po:** Clarence Peak, 4,000–8,000 ft. (Nov.) Mann 576! Near Mioko (Jan.) Guinea 1878!

Also in central and eastern tropical Africa, to Abyssinia and S. Rhodesia.

5. DELPHINIUM

Linn.—F.T.A. 1: 11.

- 1 Erect herb, shortly pilose with spreading hairs, sometimes glabrescent below, with few long-petiolate leaves; radical leaves deeply 5-lobed, lobes irregularly incised, 5–12 cm. in diam., petiole up to 23 cm. long; cauline leaves deeply 5-partite, segments irregularly lobed and incised; racemes up to 7 cm. long, flowers about 1.5 cm. in diam., posterior sepal with a spur 4–5 mm. long containing the spurs of the two posterior petals; fruit of 3 follicles, 12–14 mm. long[*dasycaulon*](#)

Delphinium dasycaulon Fres.—F.T.A. 1: 11; Turrill & Milne-Redhead F.T.E.A. Ranunc. 22. *APD acc*

Erect herb, rather lax, to 4 ft. high. in **grassland**; flowers bright blue.

S. Nig.: Mt. Koloishe, Obudu, 5,000–5,400 ft. (Dec.) Keay & Savory FHI 25081! **Br. Cam.:** above Bamenda, 8,000 ft. (Dec.–Jan.) Migeod 344! Keay FHI 28398!

Widespread in central, east and south tropical Africa.

CERATOPHYLLACEAE

Aquatic submerged herbs with leafy floating branches. Leaves verticillate, variously divided with thread-like or linear segments. Flowers monoecious, solitary in the whorls, the males and females at separate nodes, sessile. Calyx thinly herbaceous, many-parted into narrow subvalvate segments often dentate or lacerate at the apex. Male flowers: stamens 10–22, crowded on a flat torus; anthers almost sessile, erect, linear-oblong, 2-celled, cells parallel, opening lengthwise; connective produced beyond the cells, thick and often coloured. Female flowers: staminodes 0; ovary sessile, ovoid, 1-celled; style continuous with the ovary. Ovule 1, pendulous. Fruit a nut, ovoid or ellipsoid. Seed pendulous; endosperm 0; embryo straight; cotyledons oblong, equal; radicle very short, the plumule already well developed and showing several leaves in the seed.

A well-marked family found in nearly all parts of the world.

CERATOPHYLLUM

Linn.—F.T.A. 6, 2: 326.

Characters of the family.

- 1 A glabrous perennial aquatic herb; branches elongated, floating; leaves in whorls of 5–12, more or less deeply divided into linear or filiform segments; flowers small, axillary, sessile; calyx-segments oblong; fruit broadly ellipsoid, strongly warted and armed with 3 horns, about 5 mm. long without the horns[demersum](#)

Ceratophyllum demersum Linn.—F.T.A. 6, 2: 326; Chev. Fl. Viv. 1: 86, t. 17. *APD acc*

Sen.: Perrottet! And various localities fide Chev. l.c. **Fr. Sud.:** fide Chev. l.c. **S. L.:** Mattru to Gbangbema Deighton 2339! **Dah.:** fide Chev. l.c. **S. Nig.:** Cradu L., Lagos Barter 3242! Okomu F.R. (fr. Dec., Jan.) Brenan 8498! 8769!.

Almost cosmopolitan.

Only a few fruiting specimens of this genus have been collected in West Africa, but when more adequate material is available it is possible that one or two additional species or varieties may be recognizable. The Perrottet specimen cited above is evidently an isotype of *C. cristatum* Guill. & Perr. (Fl. Seneg. 296), a species reduced to synonymy in the F.T.A. and by Chevalier (Fl. Viv. 1: 86), but which may well prove distinct. A sterile specimen, collected by T. Vogel from the R. Niger in Nigeria, is possibly *C. submersum* Linn., a species not yet definitely recorded from tropical Africa.

NYMPHAEACEAE

Aquatic herbs with peltate or cordate leaves arising from a submerged prostrate rhizome. Flowers solitary, large and showy, often sweet-scented. Sepals 4–6, free or adherent to the receptacle. Petals numerous, imbricate, sometimes gradually passing into stamens. Anthers introrse, often flattened or petaloid, opening by a longitudinal slit. Carpels 8 or more, free and immersed in the receptacle or more or less united into an ovary of as many cells, inferior or semi-inferior. Receptacle large, fleshy, surrounding the ovary and with the petals and stamens inserted on its side. Ovules numerous, attached to the sides of the dissepiments. Fruit many-celled, indehiscent, fleshy. Seeds often arillate; endosperm copious; embryo minute, with thick cotyledons.

A small family found in both temperate and tropical regions of both hemispheres.

Water-lilies, easily recognized by their aquatic habit, floating leaves, showy flowers, several petals sometimes passing gradually into the numerous stamens, the numerous carpels, and endospermous seeds with minute embryo.

NYMPHAEAE

Linn.—F.T.A. 1: 52; Gilg in Engl. Bot. Jahrb. 41: 351 (1908).

Rhizome perennial. Leaves deeply cordate with numerous radiating nerves. Sepals 4. Petals indefinite in 2 or more series. Stamens numerous, inserted with the petals on the side of the receptacle. Ovary many-celled, with radiating sessile stigmas. Seeds numerous, immersed in pulp.

- 1 Leaves with entire or slightly undulate margins, glabrous or nearly so beneath; anther connective usually tapered at apex:**2**
 Leaves sharply toothed, with many strong nerves and usually hairy beneath; lamina up to 30 cm. diam.; anther-connective blunt and very shortly produced; flowers up to 20 cm. diam.[4. lotus](#)
- 2 Leaves bearing a cluster of bulbils, arising at the top of the petiole from a hairy umbo; lamina 10–17 cm. long, 8–12 cm. broad; flowers about 10–12 cm. diam. when spread out; young plants with smaller leaves and flowers; connective of anther shortly produced, conical, terete[1. micrantha](#)
- Leaves not bearing bulbils; hairy umbo absent:**3**
- 3 Sepals up to 1 cm. broad and 4 cm. long; petals about 5–10; flowers 3–8 cm. diam.; leaves up to about 15 cm. long and 11 cm. broad; nerves only slightly prominent beneath; undersurface of leaves only slightly spotted [2. maculata](#)
- Sepals 1–2 cm. broad, 4–6 cm. long; petals about 10–20; flowers 7–13 cm. diam.; leaves up to about 22 cm. long and 19 cm. broad; nerves rather prominent beneath; undersurface of leaves usually rather heavily blotched and often reddish or purplish[3. rufescens](#)

1. **Nymphaea micrantha** Guill. & Perr. Fl. Seneg. 16 (1830); Conard Water-lilies 146, t. 9 (excl. syn. N. rufescens Guill. & Perr.); Gilg in Engl. Bot. Jahrb. 41: 356 (1908); Chev. Fl. Viv. 1: 93. *APD acc*

Nymphaea heudelotii of F.W.T.A., ed. 1, 1: 68, partly.

Nymphaea maculata of F.W.T.A., ed. 1, 1: 68, partly.

The plant is viviporous from the second year; leaves and flowers of young plants often much smaller than those of the parent; petals white to bluish; sepals spotted.

Sen.: Perrottet. Roger! Brunner 126! **Gam.:** Sylvester! Brooks! **Fr. Sud.:** Gourma (July) Chev. 24485! Gao (Sept.) De Wailly 4829! **S. L.:** Mambolo (Jan.) Deighton 974! Rokupr (Dec.) Deighton 4574! Rhombe Swamp (Mar.) Adames 150! **Lib.:** Ganta (May) Harley! **Iv. C.:** Baoulé Chev. 22393. **N. Nig.:** Sokoto (Oct.) Dalz. 352! Katagum Dalz. 200!

2. *Nymphaea maculata* Schum. & Thonn. Beskr. Guin. Pl. 247 (1827); Gilg l.c. 357; Chev. l.c. 94. *APD acc*

APD: *Synonym of Nymphaea heudelotii Planch.*

Nymphaea heudelotii Planch.—F.W.T.A., ed. 1, 1: 68; Chev. l.c. 95.

Petals white, or pale whitish lilac or tinged pale blue at the tips.

Sen.: & **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Heudelot 844! Kankan (Sept.) Pobéguin 1106! Conakry (Jan.) Dalz. 8142! **S. L.:** Lusenya Samu Sc. Elliot 4085! Waterloo (June) Deighton 2714! Moselolo to Sembehun (Nov.) Deighton 2392! Makeni to Kabala (Jan.) King 171b! **Lib.:** Monrovia (Nov.) Linder 1423! Bumbumi to Moala (Nov.) Linder 1349! **Iv. C.:** Abengourou Chev. 34091. **G. C.:** Thonning! Achimota (June) Irvine 1467! Tamale (Nov.) Williams 412! **Togo:** Warnecke 194! **N. Nig.:** Kontagora-Auna Road (Jan.) Meikle 1042! **S. Nig.:** Sapoba (Mar.) Kennedy 1791! Jones FHI 741!

3. *Nymphaea rufescens* Guill. & Perr. l.c. 15 (1830); Chev. l.c. 92 (excl. var. *bulbillifera* A. Chev. which is probably *N. micrantha* Guill. & Perr.).

APD: *Synonym of Nymphaea micrantha Guill. & Perr.*

Petals bright blue, or sometimes white.

Sen.: Roger 4! **Gam.:** Kuntaur (Aug.) Ruxton 110! **N. Nig.:** near Jebba Barter 1037! 1064! Bida to Zungera (Jan., May) Meikle 1027! Keay FHI 22846! Yola (Mar.) Dalz. 68! Baga Seyoram, L. Chad (Jan.) Davey FHI 27132!

4. *Nymphaea lotus* Linn.—F.T.A. 1: 52; Conard l.c. 194, t. 16; Gilg l.c. 366; Chev. l.c. 1: 89 (incl. var. *rogeoni* A. Chev., and var. *sinoensis* Stapf). *APD acc*

Nymphaea liberiensis A. Chev. l.c. 1: 92 (1938), French descr. only.

Petals white; flowers open from early evening until late morning.

Sen.: Roger! Brunner 123! **Gam.:** Brooks 61! **Fr. Sud.:** L. San (June) Chev. 1039! Bourem (July) Chev. 1314! **S. L.:** Njala (Aug.) Deighton 2785! Masuri (Mar.) Glanville 258! **Lib.:** Sinoe Whyte! Kakatown Whyte! Dukwia R. (Oct., Nov.) Cooper 16! **Iv. C.:** fide Chev. l.c. **G. C.:** Kumasi (Dec.) Darko 483! Tamale (Nov.) Williams 398! **Togo:** Kpedsu (Dec.) Howes 1075! **N. Nig.:** Nupe Barter 1071! Sokoto (Oct.) Dalz. 353! Kumu (Oct.) Lely 679! Musgu E. Vogel 74! **S. Nig.:** Lagos (Apr.) Dalz. 1261! Nun R. Mann! Sapoba Richards 3927! Meikle 554! **Br. Cam.:** Johann-Albrechtshöhe Staudt 477! **F. Po:** Mann 272!

Also in **north Africa** and **central Africa**, **Egypt**, **Madagascar** and in **S.E. Europe**, **India** and **Malaya**.

MENISPERMACEAE

Twining, or rarely erect shrubs or small trees, with the wood in cross-section showing broad medullary rays. Leaves petiolate, sometimes peltate, alternate, exstipulate, usually simple, rarely trifoliate, or palmately lobed and nerved. Inflorescences cymose, paniculate, racemose, capitulate, fasciculate, or rarely the flowers solitary or geminate, axillary or borne on the leafless wood. Flowers small, inconspicuously coloured, unisexual, dioecious, actinomorphic, rarely slightly zygomorphic. Male flowers: sepals 3–12 or more, rarely 1, generally in series, or slightly connate, imbricate or rarely valvate, the outer smaller; petals 1–6, usually in series, minute or absent, free, or rarely connate, usually imbricate; stamens 3–6 or indefinite, rarely 2, when few opposite the sepals, free or variously united; anthers short. Female flowers: sepals and petals as in male flowers; staminodes present or absent; carpels 3–6 or more, rarely 1, free, sessile or stipitate; styles terminal or subterminal, rarely recurved;

stigma terminal, entire or lobed; ovules 2, soon reduced to 1 by abortion, attached to the ventral suture. Fruiting carpels drupaceous, with the scar of the style subterminal or near the base by excentric growth, sessile or stipitate; exocarp membranous or subcoriaceous, mesocarp more or less pulpy, endocarp often chartaceous or bony, rugose, tuberculate or ribbed; seed often curved in the form of a horseshoe, with uniform or ruminant endosperm or without endosperm; embryo often curved, with a small radicle and flat or semi-terete cotyledons.

Generally distributed throughout the tropics, with a few species in warm temperate regions, in tropical Africa mainly occurring in evergreen forest areas.

Easily recognized by the structure of the wood, the usually twining habit, the alternate and exstipulate leaves, the unisexual small flowers often 3-merous, the stamens generally opposite the petals, the free carpels, and the often peculiar horseshoe-shaped fruit.

Key to plants with female flowers and fruits

- 1 Twiners: 2
 - Erect shrubs or small tree: 17
- 2 Leaves not peltate; carpels 3 or more: 3
 - Leaves peltate; carpel solitary: 16
- 3 Inner sepals valvate; seeds generally without endosperm: 4
 - Inner sepals imbricate; seeds always with endospermum: 8
- 4 Inner sepals connate: 5
 - Inner sepals free: 6
- 5 Condyle of the fruit present [1. Synclisia](#)
 - Condyle of the fruit absent [2. Epinetrum](#)
- 6 Carpels 3–5; style on the fruit minute; seeds almost annular [3. Syrrheonema](#)
 - Carpels 6–40: 7
- 7 Surface of fruit glabrescent, smooth or rugose; petals well developed; sepals glabrous or nearly so .. [4. Tiliacora](#)
 - Surface of fruit velutinous or puberulous; petals minute or absent; sepals hairy [5. Triclisia](#)
- 8 Flowers solitary or in fasciculate cymes; carpels 3; leaves up to 3 cm. long and 1.5 cm. broad [15. Cocculus](#)
 - Flowers numerous in more or less elongated and compound inflorescences; leaves much exceeding 3 cm. long and 1.5 cm. broad: 9
- 9 Panicles of solitary flowers; endocarp of fruits echinate [6. Kolobopetalum](#)
 - Racemes of solitary flowers or of few-flowered cymes: 10
- 10 Endocarp of fruit echinate [7. Rhigiocarya](#)
 - Endocarp of fruit not echinate: 11
- 11 Carpels 1, villous; bracts enlarged in fruit; sepals 1 [14. Cissampelos](#)
 - Carpels 3–6, glabrescent or hirsute; bracts deciduous in fruit; sepals 3–6: 12
- 12 Petals 0; flowers pedicellate, crowded in the upper part of the simple raceme; carpels 3–6 . [8. Dioscoreophyllum](#)
 - Petals 6, rarely 3; flowers borne on the whole inflorescences: 13
- 13 Staminal nodes absent; leaves glabrous, trifoliate or simple, lobed or entire; carpels 3 [9. Syntriandrium](#)
 - Staminal nodes present: 14
- 14 Leaves deeply lobed, hirsute; fruit bristly hirsute outside [10. Jateorhiza](#)
 - Leaves entire or angular, pubescent, tomentellous or glabrescent; outside of fruit pubescent or glabrescent: ... 15
- 15 Petioles up to 3–8 cm. long; leaves 5–8 cm. long and broad, glabrescent or hispidulous on the nerves; racemes 5–10 cm. long [11. Tinospora](#)
 - Petioles 5–12 cm. long; leaves 8–20 cm. long and broad, tomentellous or pubescent; racemes 10–30 cm. long [12. Chasmanthera](#)
- 16 Bracts minute, not enlarged in fruit; sepals 3–6; petals 2–4, free [13. Stephania](#)
 - Bracts conspicuous, membranous or leafy in fruit; sepals 1; petals 1–3, united into a cup [14. Cissampelos](#)
- 17 Leaves heteromorphous, often pinnately lobed; carpels several (up to 20?) [16. Sphenocentrum](#)
 - Leaves not lobed; carpels 3 [17. Penianthus](#)

Key to plants with male flowers

1	Twiningers:	2
	Erect shrubs or small trees:	19
2	Leaves not peltate:	3
	Leaves peltate; stamens united:	18
3	Inner sepals connate:	4
	Inner sepals free:	5
4	Stamens 6–9, united only at the base	1. Synclisia
	Stamens 20–30 united in an elongated synandrium	2. Epinetrum
5	Stamens free, or united only at the base:	6
	Stamens united:	10
6	Leaves membranous; petioles twisted at the base:	7
	Leaves not membranous; petioles not twisted at the base:	8
7	Racemes up to 10 cm. long, composed of solitary flowers or few-flowered cymules	11. Tinospora
	Panicles elongated and very slender, up to 40 cm. long	6. Kolobopetalum
8	Inner sepals imbricate; flowers in axillary cymes; sepals 6; petals 6; leaves up to 3 cm. long and 1.5 cm. broad	15. Cocculus
	Inner sepals valvate; inflorescences axillary or borne on the older wood; sepals 6–18; petals 3–9, or absent:	9
9	Petals well developed; sepals glabrous or nearly so	4. Tiliacora
	Petals minute or absent; sepals hairy	5. Triclisia
10	Inner sepals valvate:	11
	Inner sepals imbricate:	12
11	Inflorescence a fascicle of solitary flowers or of long-pedunculate 2–3-flowered congested cymules; flowers subglobose, sepals hairy	3. Syrrheonema
	Inflorescence a panicle of cymules; flowers oblong; sepals glabrous	4. Tiliacora
12	Petals absent; flowers solitary on the axis of the raceme; stamens united in an hemispherical synandrium	8. Dioscoreophyllum
	Petals 3–6; flowers not solitary on the axis of the inflorescence:	13
13	Flowers sessile; leaves deeply lobed and hispid	10. Jateorhiza
	Flowers pedicellate:	14
14	Leaves glabrous:	15
	Leaves pubescent:	17
15	Petals 3; leaves trifoliolate or simple, lobed or entire	9. Syntriandrium
	Petals 6:	16
16	Anthers opening by a semi-orbicular slit; flowers in elongate very slender panicles up to 60 cm. long	6. Kolobopetalum
	Anthers opening by a transverse slit; flowers in short panicles up to 20 cm. or in racemes	7. Rhigiocarya
17	Petals 6, free; sepals 6; petioles 8–12 cm. long; racemes pendulous, elongated	12. Chasmanthera
	Petals 1–3, united into a cup; sepals 4; petioles up to 3 cm. long; cymes crowded in fascicles or glomerules	14. Cissampelos
18	Sepals 6–8; petals 6, free	13. Stephania
	Sepals 4; petals 1–3, united into a cup	14. Cissampelos
19	Leaves heteromorphous, often pinnately lobed; sepals 6; petals 9; stamens 18–22	16. Sphenocentrum
	Leaves not lobed; sepals 6–10; petals 5–6; stamens 5–9	17. Penianthus

1. SYNCLISIA

Benth.—F.T.A. 1: 49.

- 1 Liane with slender stems and leaves clothed with long, stiff, spreading hairs; lower leaves sublanceolate, up to 20 cm. long; upper leaves ovate-cordate, acuminate, 5–12 cm. long, 4–9 cm. broad; petiole slender, 2–5 cm. long; male flowers axillary, solitary or paired, on slender pedicels 8–25 mm. long; female flowers unknown; fruits

ellipsoid, 12–17 mm. long, in dense clusters [scabrida](#)

Synclisia scabrida Miers—F.T.A. 1: 49; Diels in Engl. Pflanzenr. Menisp. 87 (excl. spec. Sc. Elliot 5751); Chev. Fl. Viv. 1: 100; Troupin in Fl. Congo Belge 2: 219 (1951). *APD acc*

A slender liane of [forest and regrowth](#); flowers yellow.

S. Nig.: Eket Talbot 3332! **Br. Cam.:** Missellele, Tiko (Jan.) Box 3558!

Also in [French Cameroons](#), [Gabon](#), [Belgian Congo](#) and [Angola](#).

2. EPINETRUM

Hiern in Cat. Welw. 1: 21 (1896).

- 1 Stem and leaves quite glabrous; leaves ovate-elliptic, cuneate to decurrent at base, obtusely long-acuminate, mucronate, 4·5–9 cm. long, 2–4·5 cm. broad, petiole 6–11 mm. long; male flowers sessile in 1–3-flowered cymules subsessile in the axils of leaves; inner united sepals glabrous outside, 6 mm. long; female flowers and fruits unknown [1. cuneatum](#)
Stem and leaves pilose or pubescent: **2**
- 2 Petioles up to 4 cm. long: **3**
Petioles 5–8 cm. long, leaves ovate to ovate-lanceolate, distinctly cordate at base, acute at apex, 8–15 cm. long, 5–8 cm. broad; female flowers 1–2 in subsessile axillary cymules; male flowers distinctly pedicellate, 2–5 together in lax axillary cymes [5. cordifolium](#)
- 3 Inner united sepals glabrous outside; male and female inflorescences in few-flowered axillary subsessile glomerules; leaves obovate to ovate-elliptic or suborbicular, rounded at base, obtuse and mucronate or emarginate at apex, 2·5–8 cm. long, 1·5–4 cm. broad; petiole up to 1 cm. long [2. undulatum](#)
Inner united sepals setose-pubescent: **4**
- 4 Leaves oblong-lanceolate to oblong-elliptic, not bullate, lamina more or less glabrous beneath except for the midrib which is hirsute with forward-spreading hairs, rounded to subcordate at base, obtuse to acute at apex, mucronate, 5–16 cm. long, 2·5–5·5 cm. broad; petiole 1–2 cm. long [3. scandens](#)
Leaves ovate-lanceolate, bullate, lamina densely hirsute beneath, the midrib densely hirsute with laterally spreading hairs, deeply cordate at base, gradually acuminate, 9–18 cm. long, 3–7 cm. broad, petiole 1–4 cm. long [4. ferrugineum](#)

1. Epinetrum cuneatum Keay in Kew Bull. 1953: 73.

APD: Synonym of Albertisia cuneata (Keay) Forman

Climbing among trees and undershrubs in xerophytic woods on hills near the coast.

G. C.: Yamoransa, Cape Coast (Mar., May) Box 2588! 2588a!

2. Epinetrum undulatum Hiern in Cat. Welw. 1: 21 (1896); Diels in Engl. Pflanzenr. Menisp. 95, t. 34; Mangenot & Miège in Rev. Gen. Bot. 58: 446 (1951).

APD: Synonym of Albertisia undulata (Hiern) Forman

Low climber, flowers yellow.

Iv. C.: Sangouine forest, 20 miles W. of Man Mangenot.

Also in [Angola](#), [Belgian Congo \(?\)](#) and [Uganda](#).

3. Epinetrum scandens Mangenot & Miège l.c. 442, t. 2 (1951).

APD: Synonym of Albertisia scandens (Mangenot & J. Miège) Forman

Synclisia ferruginea of Chev. Fl. Viv. 1: 100, partly (Pobéguin 198).

A climber of [forest](#) regrowth; flowers pale yellow; fruits with silvery hairs.

IV. C.: Adiopodoumé (fl. Mar., Sept., fr. July) Favarger; Mangenot! Grand Bassam (Jan.) Pobéguin 198! Mid. Sassandra (fr. June) Chev. 19052! **G. C.:** Atabadi, Elmina (Feb.) Box 2441! 2442!

4. *Epinetrum ferrugineum* (Diels) Keay l.c. 73 (1953).

APD: *Synonym of Albertisia ferruginea (Diels) Forman*

Anisocycla ferruginea Diels l.c. 92 (1910).

Synclisia ferruginea (Diels) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 70 (1927), partly (excl. Chev. 20989 & 21157); Kew Bull. 1927: 154; Chev. Fl. Viv. 1: 100, partly (excl. Chev. 20989 & 21157 which are *Chlamydocarya capitata* Baill.; excl. Pobéguin 198 which is *E. scandens* Mangenot & Miège; excl. Chev. 21134 which is sterile but clearly not Menispermaceae).

Synclisia scabrida of Diels l.c. 87, partly, not of Miers.

Liane.

S. L.: Sc. Elliot 5751! Njala (fl. Oct., Jan., fr. Mar.) Deighton 3120! 3231! 3231a! Kenema (Jan.) Thomas 7630! 7685! **Lib.:** Grand Bassa (fr. Aug.) Dinklage 1686. Bushrod Isl. (Aug.) Dinklage 2844!

5. *Epinetrum cordifolium* Mangenot & Miège l.c. 443, t. 1 (1951).

APD: *Synonym of Albertisia cordifolia (Mangenot & J. Miège) Forman*

Shrub, then climber; common in forests and regrowth.

IV. C.: Adiopodoumé (Sept.) Mangenot.

3. SYRRHEONEMA

Miers—F.T.A. 1: 50.

- 1** Petals absent; male flowers with 3 stamens; female flowers with 3 or 0 staminodes; branches tomentose; leaves rounded-ovate, slightly cordate or rounded at base, acutely acuminate, 7–11 cm. long, 7–9 cm. broad, softly tomentose beneath with simple and stellate hairs, becoming almost glabrous [1. fasciculatum](#)

Petals 6; male flowers with 6 stamens; female flowers with 6 staminodes; branches puberulous, then glabrescent; leaves elliptic, rounded to subacute at base, obliquely acute or acuminate at apex, 9–18 cm. long, 4.5–10 cm. broad, sparsely puberulous beneath [2. hexastamineum](#)

1. *Syrrheonema fasciculatum* Miers—F.T.A. 1: 50; Diels in Engl. Pflanzenr. Menisp. 91; Troupin in Fl. Congo Belge 2: 219 (1951). *APD acc*

Climbing shrub, branches to 30 ft.; flowers whitish.

F. Po: (Jan.) Mann 192!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

2. *Syrrheonema hexastamineum* Keay in Kew Bull. 1953: 75, t. 2. *APD acc*

Slender woody climber of **secondary forest growth**; flowers white, fruits deep red.

S. L.: Dodo (Apr.) Deighton 3909! **G. C.:** Asuansi (fl. Feb., Mar., July, fr. July) Box

4. TILIACORA

Colebr.—F.T.A. 1: 43.

- 1** Stamens free or connate only at the base: **2**
 Stamens united at least to the middle; male inflorescence paniculate with pedunculate several-flowered cymes: **5**
- 2** Stamens included, shorter than the inner larger whorl of petal-like sepals; male inflorescence a narrow raceme with 1–2-flowered shortly pedunculate cymes: **3**

Stamens exserted; male inflorescence paniculate, composed of pedunculate congested, several-flowered cymes:

- **4**
- 3** Male flowers up to 2.5 mm. long; inflorescence densely pubescent; leaves elliptic, acutely long-acuminate, 7–18 cm. long, 3–6 cm. broad, 3–5-nerved at base [1. dinklagei](#)
- Male flowers 5–8 mm. long; inflorescence glabrous or sparsely pubescent, on leafy shoots and cauliflorous; female flowers in short few-flowered racemes; carpels about 30; fruiting carpels obovoid, 8–12 mm. long, with stipes up to 7 mm. long; leaves oblong-elliptic, long-acuminate, 8–12 cm. long, 3–5.5 cm. broad, 3-nerved at base [2. ? odorata](#)
- 4** Leaves ovate, rounded to cordate at base, 4–8 cm. long, up to 6 cm. broad; petioles about 2 cm. long; male flowers about 4 mm. long; fruits globose, 1–1.5 cm. in diam., obliquely stalked [3. warneckeii](#)
- Leaves oblong-elliptic to ovate-elliptic, rounded at base, not cordate, 10–17 cm. long, 5–8.5 cm. broad; petioles 1–2 cm. long; male flowers about 5 mm. long; fruits obovoid, about 1 cm. long, oblique and beaked at base [4. johannis](#)
- 5** Leaves cuneate at base, long-acuminate, acumen obtuse, oblong-elliptic to oblanceolate, 9–15 cm. long, 3–6 cm. broad, stamens 6–9; male inflorescence cauliflorous; fruit unknown [5. leonensis](#)
- Leaves obtuse or rounded at base; stamens 6; male flowers about 4 mm. long: **6**
- 6** Petiole 2–2.5 cm. long, leaves ovate to ovate-oblong, 8–13 cm. long, 4–6 cm. broad, gradually acuminate; inflorescences cauliflorous; fruit obovoid about 7 mm. long [6. lehmbachii](#)
- Petiole up to 1.5 cm. long, leaves oblong, shortly acute, 9–20 cm. long, 4–7.5 cm. broad, 5-nerved at base, main nerves sculptured above; inflorescences on leafy-shoots or cauliflorous; female flowers and fruits unknown [7. dielsiana](#)

- 1. *Tiliacora dinklagei* Engl. Bot. Jahrb. 26: 402 (1899); Diels in Engl. Pflanzenr. Menisp. 60 (excl. spec. Whyte ex Monrovia); Chev. Fl. Viv. 1: 113.**

APD: Synonym of Tiliacora leonensis (Scott-Elliot) Diels

Glossopholis dinklagei (Engl.) Stapf in Johnston Lib. 576 (excl. spec. Whyte).

Forest liane.

Lib.: Grand Bassa (fl. & fr. Apr.) Dinklage 1646! 1803! 2123! **IV. C.:** fide Chev. l.c.

- 2. *Tiliacora ? odorata* Engl. l.c. 400 (1899); Diels l.c. 67. *APD acc***

APD: Synonym of Tiliacora louisii Troupin

Climbing shrub in [regrowth forest](#); flowers yellow or green; fruits golden-yellow.

S. L.: near Regent (fr. Dec.) Sc. Elliot 4017! Njala (fl. & fr. Oct.–Jan.) Deighton 2529! 2574! 2943! 3241! 4905! 5347! Rokupr (fl. & fr. Oct.) Jordan 140! 356! 366! Njama (fr. Mar.) Deighton 5363! **G. C.:** Asuansi (Feb., Apr.) Box 2411! 2674! Near Jukwa (fr. Mar.) Box 2577!

[*T. odorata* Engl. is based on a single gathering from the French Cameroons which has somewhat smaller flowers than the material from our area.]

- 3. *Tiliacora warneckeii* Engl. ex Diels l.c. 64 (1910); Chev. Fl. Viv. 1: 111.**

APD: Synonym of Tiliacora funifera (Miers) Oliv.

Stout climbing or trailing liane; sepals mauvish-brown; ripe fruits orange, [in coastal thickets](#).

G. C.: Anamabu (Jan.–May) Box 2216! 2698! 2699! Elmina (fr. Mar.) Box 2595! Achimota (Apr.) Milne-Redhead 5062! 5063! **Togo:** Lome (Aug.) Warnecke 221! (Nov.) Mildbr. 7505!

- 4. *Tiliacora johannis* Exell in J. Bot. 73, Suppl. Polypet. 7 (1935).**

APD: Synonym of Tiliacora funifera (Miers) Oliv.

Large [forest](#) liane, cauliflorous, with flowers low down; sepals cream.

S. Nig.: Olokemeji F.R. (July, Nov.) Keay FHI 14186! 22415! Shasha F.R. (fr. Jan.) Tamajong FHI 21051!

Also in [Cabinda](#).

5. *Tiliacora leonensis* (*Sc. Elliot*) *Diels* l.c. 67 (1910); Chev. Fl. Viv. 1: 112. *APD acc*

Synclisia leonensis *Sc. Elliot* (1894).

Forest liane, flowers yellow.

S. L.: Aylmer 591! Kafogo, Limba Sc. Elliot 5537! Karene (Apr.) Sc. Elliot 5627! Between Bumban and Falaba (Apr.) Sc. Elliot 5670! **Iv. C.:** fide Chev. l.c.

6. *Tiliacora lehmbachii* *Engl.* l.c. 401 (1899); Diels l.c. 68; Troupin in Fl. Congo Belge 2: 210 (1951). *APD acc*

Forest liane with rather thick branches.

Br. Cam.: Buea, over 3,000 ft. (Nov.) Lehmbach 90! (fr. Jan.) Maitland 313!

Also in **Belgian Congo** (?).

7. *Tiliacora dielsiana* *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 71 (1927); Kew Bull. 1927; 155.

APD: *Synonym of Tiliacora leonensis (Scott-Elliot) Diels*

Tiliacora dinklagei *Engl. ex Diels* l.c. 60, partly (Whyte s.n.).

Glossopholis dinklagei (*Engl.*) *Stapf* l.c. 576, partly (Whyte s.n.).

Stout forest liane; flowers yellow.

S. L.: Thomas 9899! Kuntara (June) Thomas 465! Njala (May) Deigliton 5051! **Lib.:** Monrovia Whyte! **G. C.:** Amentia (Apr.) Vigne 2891! Asuansi (Mar.) Box 2554! Asenanyo River F.R. (Feb.) Andoh FH 4309!

***Tiliacora* sp.**

Liane, flowers cream on leafless part of stem; male flowers with 3 free stamens and 3 united stamens; female flowers unknown; leaves known only by fragment.

S. Nig.: Akure F.R. (Oct.) Keay FHI 25493!

Imperfectly known species.

***Tiliacora trichantha* *Diels* l.c. 63.**

Included in F.W.T.A., ed. 1, 1: 71, but the only specimen cited is from the French Cameroons.

Excluded species.

5. TRICLISIA

Benth.—F.T.A. 1: 48.

- 1 Inflorescence of male flowers laxly cymose, or fasciculate; male flowers with 0–3 petals; inner sepals in both sexes oblong to oblanceolate; leaves usually much exceeding 10 cm. long, glabrous beneath except for midrib and main laterals, but sometimes shortly and sparsely pubescent when young:2
- Inflorescence of male flowers congested, subsessile, or capitate on a short peduncle; male flowers congested, subsessile, or capitate on a short peduncle; male flowers with 6 petals; inner sepals in both sexes suborbicular; leaves seldom exceeding 10 cm. long, pilose beneath, densely so when young:4
- 2 Leaves deeply and widely cordate at base, ovate-oblong to suborbicular, rather abruptly acuminate, with on each side of midrib 2–3 main basal nerves and 2–3 other nerves:3
- Leaves shortly cuneate to subcordate at base, ovate to ovate-elliptic, triangular-acuminate, 10–18 cm. long, 6–12 cm. broad, with 3–4 main lateral nerves on each side of midrib; petiole, midrib and main nerves beneath densely and shortly pubescent; petals 0–3 in male flower *3. patens*
- 3 Petiole, midrib and main nerves beneath densely pubescent; leaves 20–25 cm. long, 10–18 cm. broad; petals absent from male flower *1. macrophylla*
- Petiole, midrib and main nerves beneath very shortly puberulous to almost glabrous; leaves up to 36 cm. long and broad; petals 3 in male flower; fruits ellipsoid, 4–5 cm. long, 3–5 cm. broad, in many bunches forming a very large infructescence *2. gillettii*

- 4 Flowers with 9 small bract-like sepals, and 3 inner sepals 4–5 mm. diam.; leaves stiffly papery, very variable in shape, suborbicular, oblong or ovate, rounded to deeply cordate at base [4. subcordata](#)
 Flowers with 15 small bract-like sepals, and 3 inner sepals about 2 mm. diam.; leaves leathery, suborbicular .. [5. coriacea](#)

1. **Triclisia macrophylla** *Oliv.* F.T.A. 1: 48 (1868); Diels in Engl. Pflanzenr. Menisp. 70 (1910). *APD acc*

Climbing shrub, stems to 30 ft. long; calyx and corolla of male flower green.

F. Po: (Jan.) Mann 197!

2. **Triclisia gillettii** (*De Wild.*) *Staner* in Inst. Roy. Col. Belge Bull. 4: 430 (1933); Troupin in Fl. Congo Belge 2: 215 (1951).

APD: Synonym of Triclisia dictyophylla Diels

Tiliacora gillettii *De Wild.* (1911).

Triclisia macrophylla of Chev. Bot. 19 and of Fl. Viv. 1: 115, not of Oliv.; F.W.T.A., ed. 1, 1: 72, partly.

Massive liane, to 60 ft. high; flowers mostly on old wood below the leaves; male flowers pale brown, in lax cymes; female flowers dull orange in congested cymes; ripe fruits bright orange in an enormous bunch.

IV. C.: Grabo (fr. July) Chev. 19684. **G. C.:** Pra R., Ntronang (fr. Sept.) Box 2842! Pra-Anum F. R. (Jan.) Box 3108! **S. Nig.:** Omo F.R. (fr. Apr.) Tamajong FHI 16923! Okomu F.R. (Dec.–Feb.) Brenan 8570! 8809! 9108! **Br. Cam.:** L. Barombi, Kumba (Mar.) Brenan 9461! Miseellele, Tiko (Jan.) Box 3559!

Also in **Ubangi** and **Belgian Congo**.

3. **Triclisia patens** *Oliv.* F.T.A. 1: 49 (1868); Diels l.c. 70; Chev. Fl. Viv. 1: 114. *APD acc*

Liane; flowers yellow or orange; fruit yellow in bunches, smaller than above.

Sen.: Farmar 152! **Fr. G.:** Conakry (June) Debeaux 424! **S. L.:** Bagroo R. (Apr.) Mann 797! Njala (Mar.) Deighton 1939! 4285! Talla Hills (Feb.) Sc. Elliot 3955! 4816! Layah (Jan.) Sc. Elliot 4660! Newton (Mar.) Adames 202! **Lib.:** Kakatown Whyte! Grand Bassa (fl. May, fr. Sept.) Dinklage 1886! **G. C.:** Asuansi (fl. Jan., Feb., fr. Mar.) Box 2307! 2320! 2409! 2438! 2592!

4. **Triclisia subcordata** *Oliv.* F.T.A. 1: 49 (1868); Diels l.c. 71; Chev. Fl. Viv. 1: 116; Milne-Redhead in Kew Bull. 1950: 261 (1951). *APD acc*

Triclisia dielsii *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 72 (1927); Kew Bull. 1927: 155.

Tiliacora subcordata of Chev. Bot. 17.

Slender woody twiner with brownish stems 6–15 ft. long; flowers green, becoming brown; fruits orange.

G. C.: Cape Coast (Feb.) Box 2427! Anamabu (Jan., Mar.) Box 2217! 2562! Achimota (fl. Apr., fr. May) Milne-Redhead 5058a! 5058b! Akropong, Akwapim (fr. Aug.) Irvine 782! **Togo:** Lome Warnecke 327! Kadjebi, Jasikan (Mar.) Box 3440! **Dah.:** Abomey (Feb.) Chev. 23164. **N. Nig.:** Nupe Barter 1146! **S. Nig.:** Lagos Dawodu 223! Abeokuta Barter 3397! Ibadan (Apr.) Keay FHI 22539! Gambari F.R. (fr. Aug.) Onochie FHI 19149! Obu Thomas 377!

5. **Triclisia coriacea** *Oliv.* F.T.A. 1: 49 (1868); Diels l.c. 71. *APD acc*

Woody climber, 10–15 ft. long.

F. Po: Mann 174!

Triclisia sp.

Slender woody twiner; carpels numerous; male flowers unknown.

S. Nig.: R. Oni, Omo F.R. (Feb.) Jones FHI 17554!

Imperfectly known species.

6. KOLOBOPETALUM*Engl. Bot. Jahrb.* 26: 410 (1899). *APD acc*

- 1 Leaves cordate at base: **2**
 Leaves rounded at base, not cordate; ovate or ovate-elliptic, long-acuminate, 7–10 cm. long, 4–5.5 cm. broad, petioles 3–7 cm. long; axis of inflorescence elongated, lower branches simple: **3**
- 2 Axis of male inflorescence elongated, to 60 cm. long, with relatively short lateral branches of which the lower ones are compound; stamens 3–6; leaves elliptic to ovate, acutely or obtusely auriculate to rather widely cordate at base, caudate-acuminate, often remotely repand-dentate, 5–15 cm. long, 3.5–9 cm. broad, petioles 2–9 cm. long [1. auriculatum](#)
 Axis of inflorescence (male and female) abbreviated, much shorter than the lower branches, which are simple and up to 20 cm. long; leaves elliptic, closely cordate at base, caudate-acuminate, 11–17 cm. long, 7–9 cm. broad, petioles 4–10 cm. long [2. leonense](#)
- 3 Stamens free, 1.5 mm. long; inner sepals about 2.5 mm. long; petals about 1 mm. long [3. Chevalieri](#)
 Stamens connate, 1 mm. long; inner sepals about 1.5 mm. long; petals about 0.6 mm. long [4. ovatum](#)

1. Kolobopetalum auriculatum *Engl. Bot. Jahrb.* 26: 410 (1899); Diels in *Engl. Pflanzenr. Menisp.* 165, t. 56, 57. *APD acc*

Kolobopetalum exauriculatum *H. Winkl.* (1908).*Kolobopetalum veitchianum* *Diels* l.c. 164 (1910); F.W.T.A., ed. 1, 1: 73; Chev. Fl. Viv. 1: 117.

Lofty climber, petioles twining; male flowers yellowish; female flowers green.

G. C.: Asuansi (Apr.) Box 2650! Kakum F.R. (Apr.) Box 2631! **S. Nig.:** Ibadan (Mar.) Keay FHI 25695a! Oban Talbot! **Br. Cam.:** Victoria (Jan.–May) Kalbreyer 19! Preuss 1118! Winkler 525! Missellele, Tiko (Jan.) Box 3557!Also in **French Cameroons** and **Gabon**.

2. Kolobopetalum leonense *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 73 (1927); Kew Bull. 1927: 156; Dinklage in *Fedde Rep.* 41: 249 (1937). *APD acc*

A climbing shrub; petioles twining; flowers pink.

S. L.: Thomas 3858! **Lib.:** Gbanga (Sept.) Linder 578! Fayapulu (Oct.) Linder 1142! **G. C.:** Asuansi (fl. Sept., fr. Jan.) Box 2345! 2847! Amoabin, Jakkai (fr. Apr.) Box 2669!

3. Kolobopetalum chevalieri (*Hutch. & Dalz.*) *Troupin* in *Bull. Jard. Bot. Brux.* 19: 423 (1949). *APD acc*

Rhigiocarya chevalieri *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 70 (1927); Kew Bull. 1927: 155; Dinklage l.c.; Chev. Fl. Viv. 1: 103.*Kolobopetalum ovatum* of Chev. Bot. 20, partly, not of Stapf.

Flowers greenish-yellow; fruits red when ripe.

Lib.: Peáhtah (fr. Oct.) Linder 986! Morris' farm (May) Dinklage 3047! **Iv. C.:** Soubré (fr. May) Chev. 16404! Taté, Tepo (Aug.) Chev. 19810! Lower Cavally, To (Aug.) Chev. 19846! Guidéko (fr. May) Chev. 16463!Also in **Ubangi** and **Belgian Congo**.

4. Kolobopetalum ovatum *Stapf* in *J. Linn. Soc.* 37: 82 (1905); Diels l.c. 164; Chev. Bot. 20, partly; Chev. Fl. Viv. 1: 118; Dinklage l.c. *APD acc*

A glabrous climbing shrub.

Lib.: Sinoe Basin Whyte! Fishtown (May) Dinklage 1882. **Iv. C.:** Soubré (June) Chev. 19140. Man to Zagoue (May) Chev. 2155! **Togo:** Misahöhe (fl. Apr.) Baumann 487.Also in **Ubangi** and **Belgian Congo** (?).**7. RHIGIOCARYA**

Miers in *Ann. Nat. Hist. Sér. 3*, 14: 100 (1864).

- 1 A glabrous liane; branchlets slender, with long internodes; leaves broadly ovate, openly cordate at base, abruptly acutely acuminate, 7–18 cm. long, 6–16 cm. broad, thinly papery, entire, about 7-nerved at base; petiole up to 9 cm. long, twisted at base; male inflorescences axillary, in racemes or panicles, up to 18 cm. long; pedicels nearly 1 cm. long; fruits ellipsoid, 1.5 cm. long, 1 cm. broad [racemifera](#)

Rhigiocarya racemifera *Miers*—Diels in *Engl. Pflanzenr. Menisp.* 160, t. 55; Chev. *Bot.* 16. *APD acc*

Chasmanthera? nervosa *Miers*—F.T.A. 1: 41.

Miersiophyton nervosum (*Miers*) *Engl.* (1899).

Rhigiocarya nervosa (*Miers*) *Chev. Fl. Viv.* 1: 103.

Large liane; lower part of stem warty; flowers greenish or yellowish-white.

S. L.: Afzelius! Bagroo R. (Apr.) Mann 888! Yonibana (Oct.–Nov.) Thomas 4791! 5019! Joru, Gaura (Oct.) Deighton 5217! 5218! Mano (fr. Nov.) Deighton 2431! Kenema (fl. & fr. Jan.) Thomas 7539! 7577! **Lib.:** Peáhtah (Oct.) Linder 896! 1051! Gbanga (Sept.) Linder 651! **Iv. C.:** widespread fide Chev. l.c. **G. C.:** Kumasi Cummins 122! Huniso (fr. Jan.) Irvine 1065! Akwascho, Khabu (Jan.) Irvine 1673! Foso-Juaso F.R. (July) Box 2765! **Dah.:** Sakete (Jan.) Chev. 22838 **S. Nig.:** Epe Barter 3315 (partly)! Sunmoge (Jan.) Richards 3007! Ibadan (Jan.) Meikle 952! **Br. Cam.:** Maitland 314b!

Also in **French Cameroons**, **Gabon** and **Cabinda**.

8. DIOSCOREOPHYLLUM

Engl. Pflanzenwelt Ost-Afr. C. 81 (1895).

- 1 Flowers with synandrium sessile or slightly stipitate, stipe thick, up to 1 mm. long; leaves entire or irregularly dentate or about 3–5-lobed; stems, inflorescences, and sometimes leaves, with dark rusty bristly hairs [1. cumminsii](#)
- Flowers with synandrium distinctly stipitate, stipe slender up to 2 mm. long; leaves as above: [2](#)
- 2 Stems, inflorescences, and sometimes leaves, with scattered pale hairs, not bristly [2. tenerum var. tenerum](#)
- Stems, inflorescences, and sometimes leaves with dark rusty bristly hairs [2a. tenerum var. fernandense](#)

1. **Dioscoreophyllum cumminsii** (*Stapf*) *Diels* in *Engl. Pflanzenr. Menisp.* 181, t. 64 a–f (1910), partly; Chev. *Fl. Viv.* 1: 108.

APD: *Synonym of Dioscoreophyllum volkensii Engl.*

Rhopalandria cumminsii *Stapf* (1898).

Dioscoreophyllum strigosum *Engl.* (1899).

Dioscoreophyllum klaineanum *Pierre ex Diels* (1910), partly.

Rhopalandria lobatum *C. H. Wright* (1908).

Dioscoreophyllum lobatum (*C. H. Wright*) *Diels* (1910); F.W.T.A., ed. 1, 1: 71, partly; Chev. *Fl. Viv.* 1: 110.

Dioscoreophyllum cumminsii var. *lobatum* (*C. H. Wright*) *Troupin*

A high climber, leaves very variable in shape; flowers green with yellow anthers; fruit red; **in forest**.

Fr. G.: Kouyeyo (July) Maclaud 220! R. Kolente (July) Pobéguin 772! **S. L.:** Limba (Apr.) Sc. Elliot 5633! Sendugu (June) Thomas 562! Pendembu (July) Thomas 719! Masasa (Sept.) Jordan 323! Njala (fl. June, fr. Aug.) Deighton 3239! 3240! **Lib.:** Betwa (Dec.) Bunting 90! **Iv. C.:** fide Chev. l.c. **G. C.:** (fr. July) Johnston 102! Kumasi Cummins 230! Begoro (Apr.) Irvine 1189! Bremang, Jukwa (Mar.) Box 2575! Asuansi (Feb.) Box 2410! **Togo:** Misahöhe (fl. May) Baumann 557. **S. Nig.:** Ibadan (Sept.) Newberry 71! Gambari group F.R. (Apr.–Aug.) Keay FHI 16240! **Br. Cam.:** fide Diels l.c.

Also in **French Cameroons**, **Gabon**, **Ubangi**, **Belgian Congo** and **A.–E. Sudan**.

2. **Dioscoreophyllum tenerum** *Engl. var. tenerum* -Diels l.c. 181. Chev. *Fl. Viv.* 1: 108. *APD acc*

Dioscoreophyllum lobatum of F.W.T.A., ed. 1, 1: 71, partly, not of (*C. H. Wright*) *Diels*.

A slender twiner; leaves entire or lobed; flowers yellow; fruits red.

S. L.: Afzelius! Pujehun to Fwendu Deighton 1730! Njala (fl. May, June, fr. Oct.) Deighton 2429! 2523! 2523b! Rokupr (June, Aug.) Jordan 62! 273! Rowala (July) Thomas 1210! Makump (July) Thomas 921! **Lib.:** Ganta Harley! **iv. C.:** basin of Upper Nuon (Apr.) Chev. 21146!

Also in **Cabinda** and **Tanganyika Territory**.

2a. **Dioscoreophyllum tenerum var. fernandense** (*Hutch. & Dalz.*) Troupin stat. nov.

APD: *Synonym of Dioscoreophyllum volkensii var. fernandense* (*Hutch. & Dalziel*) Troupin

Dioscoreophyllum fernandense *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 71 (1927).

Dioscoreophyllum klaineanum *Pierre ex Diels*, partly.

Dioscoreophyllum podandrium *Exell* in J. Bot. 75: 165 (1937).

Climbing plant, 6 ft. high, calyx green.

S. Nig.: Nikrowa (Mar.) Ross 107! **F. Po:** (June) Mann 416!

9. SYNTRIANDRIUM

Engl. Bot. Jahrb. 26: 412 (1899).

- 1 Leaves simple or trifoliate, lobed or entire, cordate or obliquely auriculate at base; male inflorescences in very long and slender panicles up to 150 cm. long; stamens 3, connate; female inflorescences in elongated racemes *preussii*

Syntriandrium preussii *Engl.* Bot. Jahrb. 26: 412, t. 14 (1899); Diels in Engl. Pflanzenr. Menisp. 158, t. 53 & 54; Troupin in Fl. Congo Beige 2: 233. *APD acc*

Syntriandrium cordatum *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 73 (1927); Kew Bull. 1927: 156.

Syntriandrium dinklagei *Engl.*—Diels l.c. 158.

Syntriandrium edentatum *Engl. ex Diels* l.c. 158.

A glabrous climbing shrub; male flowers greenish-yellow, soon falling off.

S. Nig.: Okomu F.R. (Feb.) Brenan 9102! Eket Talbot 3136! Calabar Williams 28! Oban Talbot 1423! s.n.! **Br. Cam.:** between Victoria and Bimbia (May) Preuss 1273! Victoria (July) Maitland 374!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

10. JATEORHIZA

Miers—F.T.A. 1: 41.

- 1 A climber, with stems, petioles and leaf-margins clothed with stiff hairs; leaves up to 20 cm. in diam., digitately 3–5-lobed up to the middle, deeply cordate, lobes acutely acuminate, papery, reticulate, setose only on the nerves; petiole up to 20 cm. long; male flowers in lax panicles, sessile on the lateral branchlets; panicles over 30 cm. long; female flowers in simple racemes with conspicuous lacinate deciduous bracts; fruit ovoid, 2.5 cm. long, echinate *macrantha*

Jateorhiza macrantha (*Hook. f.*) *Exell & Mendonca* in J. Bot. 73, Suppl. Polypet. 10 (1935). *APD acc*

Cocculus macranthus *Hook. f.* (1848).

Jateorhiza strigosa *Miers* (1849)—F.T.A. 1: 42; Diels in Engl. Pflanzenr. Menisp. 167, t. 59; f.w.t.a., ed. 1, 1: 72.

Liane to 30 ft. high, with stiff brown hairs; flowers cream; fruits with stiff brown hairs.

S. Nig.: Ibadan (Apr.) Meikle 1405! Akinjare, Owo (Apr.) Jones FHI 3120! Okomu F.R. (fl. & fr. Dec., Jan.) Brenan 8445! 8480! Oban Talbot 449! 1328! Afi River F.R. (Dec.) Keay FHI 28247! **Br. Cam.:** Victoria (Feb.) Maitland 412! R. Mungo, Missellele (fl. & fr. Jan.) Box 3574! 3575! 3576! Barombi (fl. & fr. June) Preuss 355. **F. Po:** (fr. Jan.) Mann 193! (fr. June) Barter! Clarence Cove (Oct., Nov.) T. Vogel 37!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Cabinda**.

[Two sterile specimens from the Gold Coast (Bowdich s.n. and Williams 709) may also be this plant.]

11. TINOSPORA*Miers*—F.T.A. 1: 43.

- 1 A slender glabrous twiner; older branches lenticellate; leaves broadly ovate, widely cordate at base, shortly acuminate, 5–8 cm. long and broad, thinly papery, glabrous, digitately 7-nerved at base; petiole 3–8 cm. long, slender; male inflorescences axillary, racemose, slender, up to 9 cm. long; pedicels fasciculate, 3–5 mm. long; flowers about 5 mm. in diam. [bakis](#)

Tinospora bakis (*A. Rich.*) *Miers*—F.T.A. 1: 43; Diels in Engl. Pflanzenr. Menisp. 140; Chev. Fl. Viv. 1: 101. *APD acc*

Cocculus bakis *A. Rich.* in Guill. & Perr. Fl. Seneg. 12, t. 4.

Twiner with perennial rootstock; **in dry regions; flowers yellow-green.**

Sen.: Richard! Perrottet 10! Walo Heudelot! **Fr. Sud.:** Macina (Sept.) Chev. 24902. Zinder (Nov.) Hagerup 617! Sango-Bandiagara (fr. July) De Granay 74! Gao (fl. Mar., fr. Mar., Apr.) De Wailly 4978! 5036! Near Timbuktu (fl. & fr. Sept.) Chudeau! **N. Nig.:** Katagum (Jan.) Dalz. 323!

Also in **Mauritania** and extending to Abyssinia and **Tanganyika**.

12. CHASMANTHERA

APD: *Synonym of Tinospora Miers*

Hochst.—F.T.A. 1: 40.

- 1 Liane; young stems softly pubescent; leaves broadly ovate to suborbicular, widely cordate at base, long-mucronate at apex, up to 20 cm. long and broad, thinly papery, entire or shortly 3–7-repand-lobate, the lobes mucronate, thinly pilose on both surfaces, about 7-nerved at base; petioles 5–12 cm. long; inflorescences very slender, drooping, axillary, pubescent, up to 30 cm. long; bracts linear, 4–5 mm. long; pedicels clustered, about 5 mm. long, fruits ellipsoid, about 1 cm. long [dependens](#)

Chasmanthera dependens *Hochst.*—F.T.A. 1: 41; Diels in Engl. Pflanzenr. Menisp. 152; Chev. Fl. Viv. 1: 104. *APD acc*

Liane of **forest margins, and in savannah especially by rocks; sometimes planted;** bark papery, exfoliating; flowers greenish-yellow; ripe fruits scarlet.

S. L.: Waterloo (May) Deighton 2264! King Tom, Freetown (May) Deighton 1175! **G. C.:** Farmar 509! Mampong (May) Box 3205! 3206! Furnso (fr. May) Box 3202! **Togo:** Kadjebi, Jasikan (Mar.) Box 3239! **Dah.:** Savalou (May) Chev. 23713. Atacora Mts. (June) Chev. 24036! **N. Nig.:** Nupe Barter 1728! 1731! Anara F.R. (May) Keay FHI 22871! Gayo, Kano (July) Daggash FHI 22396! Yola (June) Dalz. 79! **S. Nig.:** Lagos Rowland! Dalz. 1137! Ibadan South F.R. (fl. Apr., fr. June) Keay FHI 22843!

Extends to Abyssinia and **Kenya**.

13. STEPHANIA*Lour.*—F.T.A. 1: 46.

- 1 Inflorescences 4–7 cm. in diam., composed of pseudo-umbels on a single peduncle up to 10 cm. long, solitary or fasciculate in the axils of leaves; leaves ovate to orbicular-ovate, acute, 5–10 cm. long, 4–13 cm. broad, entire, petiole 4–12 cm. long: **2**
- Inflorescences elongated, up to 50 cm. long with a single main axis which bears numerous lateral racemes or pseudo-umbels, in leaf axils or on older leafless branches: **3**
- 2 Plant glabrous [l. abyssinica var. abyssinica](#)

Plant densely pubescent [1a. abyssinica var. tomentella](#)

- 3 Plant hispid, with long stiff brown hairs; inflorescence up to 50 cm. long, usually axillary, with shortly stalked lateral branches diminishing in size from base to apex, clothed with short appressed curly white hairs as well as sparse brown setae; leaves broadly ovate or orbicular, 12–25 cm. long, 10–20 cm. broad, mucronate, margin crenulate, ciliate, petiole 8–15 cm. long [2. laetificata](#)

Plant glabrous; inflorescence up to 50 cm. long, usually on older wood, main axis with long-stalked lateral branches bearing pseudo-umbels, upper branches as long as lower; leaves ovate to suborbicular, 7–15 cm. in diam., acute, margin undulate, petiole 6–12 cm. long [3. dinklagei](#)

1. **Stephania abyssinica (Dill. & Rich.) Walp. var. abyssinica**—F.T.A. 1: 47; Diels in Engl. Pflanzenr. Menisp. 268; Chev. Fl. Viv. 1: 125. *APD acc*

Clypea abyssinica Dill. & Rich. (1840).

Slender liane, to 30 ft. high, leaves dark green above, glaucous beneath, flowers green or purple.

Fr. G.: Labé (Apr.) Chev. 12300! Ladedeperre (Apr.) Chev. 12335. **Br. Cam.:** Cam. Mt., 4,400–7,800 ft. (Dec.–Apr.) Mann 1242! 2169! Maitland 1112! Hutch. & Metcalfe 19! Brenan 9526! **F. Po:** Moka, crater lake, 6,000 ft. (Jan.) Exell 816!

Widely spread in tropical Africa.

1a. **Stephania abyssinica var. tomentella (Oliv.) Diels** l.c. 270 (1910). *APD acc*

Stephania hernandifolia var. *tomentella* Oliv. in Trans. Linn. Soc. 2: 328 (1887).

As above, but densely pubescent.

Br. Cam.: Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30322!

Widespread in central and east Africa.

2. **Stephania laetificata (Miers) Benth.** in Benth. & Hook. f. Gen. Pl. 1: 962 (1867); F.T.A. 1: 47; Diels l.c. 262; Chev. Fl. Viv. 1: 124.

APD: *Synonym of Perichasma laetificata Miers var. laetificata*

Perichasma laetificata Miers (1866).

Slender liane, to 30 ft. high, calyx green, corolla white.

S. Nig.: Owena, Ondo Box 3522! Sapoba Kennedy 2179! Calabar Robb! Oban Talbot 594! s.n.! **Br. Cam.:** Victoria (Jan.) Deistel 142. R. Mungo, Missellele (Jan.) Box 3577! Buea (Mar.–May) Lehmbach 54; 118. Barombi (Apr.) Preuss 275.

Extends southwards to [Angola](#).

3. **Stephania dinklagei (Engl.) Diels** l.c. 265 (1910); Chev. Fl. Viv. 1: 126. *APD acc*

Cissampelos dinklagei Engl. (1899).

Liane, to 60 ft. high, with warty rope-like stems; leaves dark glossy green above, glaucous beneath with purplish veins; flowers greenish; peduncle and pedicels in fruit brilliant scarlet, fruits green, yellowish when ripe, seed black.

Fr. G.: Kindia (Mar.) Chev. 13075. **S. L.:** Tassin, R. Scarcies (Jan.) Sc. Elliot 4495! Kamalu (May) Thomas 324! Njala (fl. Apr., fr. June) Deighton 2602! 2905! 3732! **Lib.:** Bonuta (Oct.) Linder 921! Dukwia R. (May) Cooper 434! **Iv. C.:** Bouroukrou (Dec.–Jan.) Chev. 16659. Diambarakou (Mar.) Chev. 17703. **G. C.:** Asuansi (fl. & fr. Mar.) Box 2525! 2547! **Togo:** Misahöhe (fr. Apr.) Baumann 521. Amedjofe (Mar.) Box 3438! **S. Nig.:** Shasha F.R. (Apr.) Richards 3372! Oban Talbot 593! Ikorodu (Mar.) Schlechter 12306. **Br. Cam.:** Buea Lehmbach 199; Mildbr. 3466.

Also in [French Cameroons](#), [Congo](#) and [Angola](#).

14. **CISSAMPELOS**

Linn.—F.T.A. 1: 45.

- 1 Leaves peltate, suborbicular, usually repand-lobate, lobes mucronate, thin, thinly pubescent or glabrescent beneath, 5–11 cm. broad; male inflorescence elongate, very slender; female with large membranous bracts ..[1. owariensis](#)
- Leaves not or only slightly peltate, entire, thickly papery, softly tomentose beneath, up to 8 cm. broad; male inflorescence short, corymbose, female with small leafy bracts[2. mucronata](#)

1. **Cissampelos owariensis** *P. Beauv. ex DC.*-Diels in Engl. Pflanzenr. Menisp. 302; Chev. Fl. Viv. 1: 128. *APD acc*

APD: *Synonym of Cissampelos rigidifolia (Engl.) Diels var. rigidifolia*

Cissampelos pareira var. **owariensis** (*P. Beauv. ex DC.*) Oliv. F.T.A. 1: 46.

Cissampelos robertsonii *Exell* in J. Bot. 64: 192 (1926).

A twiner; **mainly in secondary growth in forest regions**; female inflorescence, with greenish-white bracts, and red fruits.

Iv. C.: various localities fide Chev. l.c. **G. C.**: Cape Coast Brass! Aburi (Oct.) Brown 338! Assuantsi (Mar.) Irvine 1554! **Togo**: Kpandu Robertson 27! 81! **Dah.**: Allada (Mar.) Chev. 23401! **S. Nig.**: Lagos Barter 20156! Ijaye Barter 3345! Ibadan South F.R. (fr. Apr.) Keay FHI 22542! Calabar (fl. Apr., fr. July) Holland 41! 119! Eket Talbot 3313! Oban Talbot 489! **Br. Cam.**: Victoria (Apr.) Maitland 635! **F. Po.**: Mann 180!

Extends to N. Rhodesia and **Angola**.

2. **Cissampelos mucronata** *A. Rich.-Diels* l.c. 300; Chev. Fl. Viv. 1: 127. *APD acc*

Cissampelos pareira of F.T.A. 1: 45, partly.

A twiner **over shrubs in savannah regions**; flowers greenish, fruits red, root thickened.

Sen.: Perrottet 12! Walo Heudelot! Dakar (May) Baldwin 5747! **Fr. Sud.**: Bandiagra (fr. Sept.) Chev. 24929! Kabarah Hagerup 306! **Fr. G.**: Boké Maclaud. **S. L.**: Charlotte (June) Deighton 2712! **Iv. C.**: frequent fide Chev. l.c. **G. C.**: Achimota (June) Irvine 572! Passankwia, White Volta R. (May) Kitson! **Togo**: Lome Warnecke 263! 338! **Dah.**: fide Chev. l.c. **N. Nig.**: Nupe Barter 854! Kukawa (May) E. Vogel 76! Bauchi Plateau (Jan.) Dent Young 3! Lely 15! P. 42! Abinsi Dalz.!

Widespread in drier parts of tropical Africa.

15. COCCULUS

DC.—F.T.A. 1: 44.

- 1 A prostrate or straggling and climbing shrub; branches elongate, slender, glabrous; leaves variable, entire or obscurely lobed, ovate to lanceolate, 1.5–3 cm. long, 0.5–1.5 cm. broad, subglaucous, glabrous; male flowers in axillary fascicles, female solitary or paired; pedicels slender; fruits subglobose, about 6 mm. in diam., red, often pruinose [pendulus](#)

Cocculus pendulus (*J. R. & G. Forst.*) *Diels* in Engl. Pflanzenr. Menisp. 237, t. 78, 0 (1910); Chev. Fl. Viv. 1: 98. *APD acc*

Epibaterium pendulum *J. R. & G. Forst.*

Cocculus leaeba (*Del.*) *DC.*—F.T.A. 1: 44. For full synonymy see Diels l.c.

Sen.: Walo Heudelot! Perrottet 11! **Fr. Sud.**: Kabara (July, Aug.) Chev. 1559! **N. Nig.**: Kukawa (Jan.) E. Vogel 29! Bure, L. Chad (fr. Dec.) Elliott 114!

Also in **Cape Verde Islands**, **Mauritania** and **Sahara**; extends to **Angola**, Abyssinia and **Arabia**.

16. SPHENOCENTRUM

Pierre in Bull. Soc. Linn. Paris 1: 79 (1898).

- 1 Erect shrub; branchlets glabrous; leaves variable on the same shoot, obovate-elliptic and entire or pinnately

lobed, both apex and lobes acuminate, 12–20 cm. long, 5–12 cm. broad, glabrous; lateral nerves about 6, the basal pair marginal; petiole sulcate, 2–7 cm. long, conspicuously bent and thickened at apex, tumid at base; flowers in axillary clusters, yellowish-white; fruit ovoid-ellipsoid, about 2 cm. long, up to 1.5 cm. broad, puberulous [jollyanum](#)

Sphenocentrum jollyanum *Pierre*—Diels in Engl. Pflanzenr. Menisp. 99, t. 36; Chev. Fl. Viv. 1: 121. *APD acc*

Sparingly branched evergreen, shrub or treelet, to 4 ft. high; flowers cream, fruits bright orange; **abundant in forest undergrowth.**

IV. C.: Dabou (fl. & fr. May) Jolly 132! Guidéko and env. (Jan., May, June) Chev. 16383; 19081. Bouroukrou (Dec., Jan.) Chev. 16810; 16760. Abengourou Chev. **G. C.:** Akwapim Hills (fr. Apr.) Irvine 1150! Kwahu Prasu (Feb.) Vigne 1605! **Dah.:** various localities fide Chev. l.c. **S. Nig.:** Ibadan (fr. Mar.) Meikle 1258! Epe Barter 3290! Sapoba (fr. May) Kennedy 1381! Annye, Benin (fr. Sept.) Unwin 138! Nikrowa (Dec.) Brenan 8479!

17. PENIANTHUS

Miers—F.T.A. 1: 50.

- 1** Lateral nerves raised on upper surface; male flowers cymose, pedicellate; leaves generally obovate-oblongate, long-cuneate to obtuse at base [1. zenkeri](#)
 Lateral nerves impressed on upper surface; male flowers glomerate, subsessile; leaves variable in shape, cuneate to subrotundate at base [2. longifolius](#)

1. Penianthus zenkeri (*Engl.*) *Diels* in Engl. Pflanzenr. Menisp. 101, t. 37, A–K (1910). *APD acc*

APD: Synonym of Penianthus patulinervis Hutch. & Dalziel

Heptacyclum zenkeri *Engl.* (1899).

Penianthus patulinervis *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 74 (1927); Kew Bull. 1927: 156; Dinklage in Fedde Rep. 41: 249 (1937); Chev. Fl. Viv. 1: 122.

A small tree or shrub, to 20 ft. high, in **forest**; male flowers pale yellowish, female greenish; fruit orange.

S. L.: Kememe (fr. Jan.) Thomas 7650a! 7991! Heirakohun Smythe 100! **Lib.:** Peahtah (fr. Oct.) Linder 1067! **IV. C.:** frequent between Cavally and G.C. border (fl. & fr. Jan.–Apr.) fide Chev. l.c.; Aubrév. 1516! 1518! **G. C.:** Kumasi (fr. Jan.) Cummins 169! 190! Amentia (Mar.) Irvine 445! Vigne 1895! **S. Nig.:** Oban (fr. Jan.) Talbot 1358! Obompa (fr. Jan.) Thomas 2218! **Br. Cam.:** L. Barombi, Kumba (Jan.–Mar.) Preuss 49; Staudt 535; Brenan 9462! 9463!

Also in **French Cameroons.**

2. Penianthus longifolius *Miers*—F.T.A. 1: 60; Diels l.c. 101, t. 37, L–P; Chev. Fl. Viv. 1: 123; Troupin in Fl. Congo Belge 2: 253 (1951). *APD acc*

Penianthus fruticosus *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 74 (1927); Kew Bull. 1927: 157.

A small tree or shrub, to 15 ft. high, in **forest**; male flowers cream, female brown-red; fruit red.

S. Nig.: Oban Talbot 1444! **Br. Cam.:** Cam. Mt., 500 ft. (Jan.) Mann 1205! S. Bakundu F.R. (fr. Mar.) Brenan 9482! Kumba (fr. Sept.) Rosevear 99/37! R. Metschum falls, Bamenda (Jan.) Keay FHI 28530! **F. Po.:** (fl. Jan., fr. June) Mann 194! Barter!

Also in **French Cameroons, Ubangi, Spanish Guinea, Gabon** and **Belgian Congo.**

ARISTOLOCHIACEAE

Climbing shrubs, or rarely dwarf and erect; stems of the woody species in cross-section showing broad medullary rays; roots often medicinal. Leaves petiolate, alternate, exstipulate, simple, mostly entire. Flowers solitary or racemose, axillary or in clusters on the older wood, pedicellate, hermaphrodite, zygomorphic or rarely actinomorphic. Perianth single, often enlarged and petaloid, variously produced above the ovary, often tubular, the limb either symmetrically 3-lobed, or unilateral and entire or lobed,

usually highly coloured and foetid. Stamens 6-∞, in 1-2 series around the apex of the ovary or stylar column; filaments short, thick, free or scarcely distinguishable from the column; anthers free or adnate, with 2 parallel cells, extrorse, opening longitudinally. Ovary inferior or rarely semi-superior, 4-6-celled or imperfectly celled; styles thick, short, united into a column, divided into 3-8 stigmatic lobes; ovules numerous in each cell. Fruit capsular or rarely indehiscent, sometimes dehiscing from the base upwards and hanging like an inverted parachute. Seeds numerous, often immersed in the pulpy endocarp, 3-sided or flattened, raphe sometimes thickened or winged; endosperm copious, fleshy; embryo small.

Generally distributed throughout the tropics and warm temperate regions, with a few species in the cooler parts of the North Temperate Zone especially.

Easily recognized by the structure of the wood, the usually climbing habit, the hermaphrodite flowers with often (*Aristolochia*) enlarged and petaloid single perianth, and usually capsular fruit with triquetrous or flattened seeds.

- 1 Fruit indehiscent, elongated, strongly ribbed, cucumber-like; perianth regular, 3-lobed, or zygomorphic with 3 or 1 long tails dependent from the mouth of the limb; 6-12 stigmatic lobes; 6-24 anthers; flowers mostly on old woody stems below the leaves [1. *Pararistolochia*](#)
- Fruit dehiscent, short, basket-like; perianth irregular, oblique with a single lobe or bilabiate with a broad standard and long keel; stigmatic lobes 6 or less, anthers 6 or less; flowers on leafy shoots [2. *Aristolochia*](#)

1. PARARISTOLOCHIA

Hutch. & Dalz. F.W.T.A., ed. 1, 1: 75 (1927); Kew Bull. 1928: 22; Keay in Kew Bull. 1952: 159.

- 1 Perianth lobes with intermediate very small lobes; leaves not known [1. *ju-ju*](#)
Perianth without intermediate lobes: **2**
- 2 Perianth regularly 3-lobed: **3**
Perianth irregularly lobed: **9**
- 3 Leaves cuneate, rounded or very slightly cordate at base, not lobed and not deeply cordate: **4**
Leaves deeply cordate at base: **8**
- 4 Perianth tube about 2 cm. long, only slightly pouched at base; lobes triangular, hardly 1 cm. long, almost forming a triangle in open flower; flowers on leafy shoots; leaves ovate, acuminate, 8-11 cm. long, 4-7 cm. broad, very laxly veined [2. *leonensis*](#)
Perianth tube at least 4 cm. long, flowers on older wood: **5**
- 5 Perianth lobes triangular to lanceolate without long slender tails: **6**
Perianth lobes triangular about 1.2 cm. long and broad, with slender tails up to 4 cm. long; pouch about 2 cm. long and 1-5 cm. diam.; tube curved, about 3.5 cm. long; leaves oblong-elliptic, cuneate, abruptly acuminate, 11-16 cm. long, 4.5-8 cm. broad [6. *preussii*](#)
- 6 Perianth lobes ovate-lanceolate to lanceolate, at least 4 cm. long and twice as long as broad, tapering to a fine point: **7**
Perianth lobes triangular, 2-2.5 cm. long, 1.2-2 cm. broad, reflexed; lower swollen part of tube 2.5-3 cm. long, 1.5-1.8 cm. broad, upper part about 3.5 cm. long; leaves oblong-elliptic, abruptly acuminate, 7-11 cm. long, 5-6.5 cm. broad; fruit 15 cm. or more long, 3 cm. broad, 6-grooved with rounded ridges [5. *zenkeri*](#)
- 7 Perianth tube about 4 cm. long, only slightly pouched at base, more or less straight; lobes lanceolate, about 4 cm. long; leaves oblong-ovate, 15 cm. long, 9 cm. broad [3. *tribrachiatata*](#)
Perianth tube 5-8 cm. long, conspicuously pouched at base and curved; lobes ovate-lanceolate, 2-3.5 cm. broad, 5-8 cm. long; leaves ovate-elliptic, 7-14 cm. long, 6-9.5 cm. broad; fruits to 60 cm. long and 3 cm. diam., hexagonal in section [4. *flos-avis*](#)
- 8 Leaves not lobed, broadly rounded-ovate, abruptly acuminate, up to about 15 cm. long and broad; perianth limb very large and spreading with 3 linear tails; basal portion of tube about 18 cm. long and 4-5 cm. wide, with well-marked ribs [7. *goldieana*](#)
Leaves shallowly 3-lobed, deeply cordate-auriculate, 12-15 cm. long, 9-12 cm. broad; perianth tube about 8 cm. long with large pouch at base; fruit about 25 cm. long, 3-4 cm. diam., with 6 angular ridges [8. *triactina*](#)
- 9 Perianth with short rounded lobes, two of the lobes being longer than the third thus making the mouth of the tube 2-lipped; pouch about 2.5 cm. long and 1.5 cm. broad; slightly oblique limb about 6 cm. long; leaves 3-5-lobed closely and deeply cordate at base, auricles sometimes overlapping, glabrous [9. *mannii*](#)
Perianth with 1-3 long tails arising from one side of the mouth of the tube: **10**

- 10** Perianth gradually tapered into 3 long tails (to 45 cm.); perianth tube at maturity 8–11 cm. long; leaves oblong-elliptic acuminate, chartaceous when mature, 8–13 cm. long, 3·5–5·5 cm. broad, 3-nerved at base [10. *promissa*](#)
- Perianth abruptly narrowed into the long tails; perianth tube up to 8 cm. long at maturity; leaves not known: . **11**
- 11** Flower with a single tail about 10 cm. long; perianth tube 4·5–5 cm. long, about 1 cm. broad in the middle when flattened out; pedicels about 3 cm. long [11. *talbotii*](#)
- Flower with 3 thread-like tails about 20 cm. long; perianth tube 8 cm. long, about 1·5 cm. broad in the middle when flattened out [12. *tenuicauda*](#)

1. *Pararistolochia ju-ju* (*S. Moore*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 23.

APD: Synonym of Pararistolochia mannii (*Hook. f.*) *Keay*

Aristolochia ju-ju *S. Moore* in *J. Bot.* 58: 269 (1920).

A twiner; bark rugose with lenticels; flowers rather large, inflated part of perianth 3 cm. long, 2–2·5 cm. diam., tube 7 cm. long.

S. Nig.: Degema Talbot 3766!

2. *Pararistolochia leonensis* (*Mast.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 24.

APD acc

Aristolochia leonensis *Mast.* in *J. Linn. Soc.* 30: 95 (1894).

A stout twiner, often with warty bark; flowers comparatively small; petioles twisted and twining.

S. L.: near Kassa, 3,600 ft. (Mar.) *Sc. Elliot* 5062! Falaba (Mar.) *Sc. Elliot* 5401!

3. *Pararistolochia tribrachiata* (*S. Moore*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 24.

APD: Synonym of Pararistolochia macrocarpa (*Duch.*) *Poncy*

Aristolochia tribrachiata *S. Moore* in *Cat. Talb.* 92 (1913).

Stem twining, stout, assured; inflorescence with a thickly wooded base; flowers yellowish-white, lobes reddish-purple with white streaks.

S. Nig.: Oban Talbot 213! 1542!

4. *Pararistolochia flos-avis* (*A. Chev.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 24; Chev. *Fl. Viv.* 1: 132.

APD: Synonym of Pararistolochia macrocarpa (*Duch.*) *Poncy*

Aristolochia flos-avis *A. Chev.* in *Journ. de Bot.* 1909: 129.

A. tessmannii *Engl. Bot. Jahrb.* 46: 413 (1911).

A stout forest liane, to 100 ft. high, with rough channelled bark, and twining petioles; perianth tube greenish to yellowish-white outside with very numerous purple spots, lobes deep purple.

S. L.: Commendi-Gengaru Road (Nov.) *Aylmer* 622! **Iv. C.:** Guidéko (May) Chev. 17786! 16434. Between Sampleu and Ganhoue (Apr.) Chev. 21145. **G. C.:** Gould! Pamu Berebun F.R. (fl. & fr. Sept.) Vigne 2492! **S. Nig.:** Omo F.R. (fl. & fr. Feb., Apr.) Ross 40! Jones & Onochie FHI 17301! Richards 3125! Oban Talbot 213! **Br. Cam.:** Kumba (fl. & fr. Nov.) Dundas FHI 8498!

Also in **French Cameroons** and **Spanish Guinea**.

5. *Pararistolochia zenkeri* (*Engl.*) *Hutch. & Dalz.* in Kew Bull. 1928: 24. *APD acc*

Aristolochia zenkeri *Engl. Bot. Jahrb.* 24: 490 (1898).

Forest liane, to 30 ft. high, stems rough; perianth tube pale brown outside, lobes deep purple-brown with many small white spots, and white hairs; white within with long hairs; fruit green.

S. Nig.: Okomu F.R. (Dec.) *Brenan* 8467!

Also in **French Camerouns**.

6. **Pararistolochla preussii** (Engl.) Hutch. & Dalz. in Kew Bull. 1928: 24. *APD acc*

Aristolochia preussii Engl. l.c. 492 (1898).

Forest liane, to 30 ft. high, outside of perianth tube and lobes pale dull brown with dull purple markings, throat deep purple.

Br. Cam.: Barombi, between the station and Kumba (Apr.) Preuss 108. **S. Bakundu F.R.** (Mar.) Brenan 9484!

[Preuss 108, the type was a poor leafless specimen and was presumably destroyed at Berlin in the war; Brenan's excellent specimen collected in the same district agrees well with Engler's description, except for the pedunculate flowers and longer internodes in the well-developed cymes of Brenan 9484.]

7. **Pararistolochla goldieana** (Hook. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 25; Chev. Fl. Viv. 1: 135. *APD acc*

Aristolochia goldieana Hook. f.—F.T.A. 6, 1: 142; Bot. Mag. t. 5672.

A climber, 20 ft. long with very large reddish-purple flowers up to 18 in. long; fruits several inches long with six well-marked ribs.

S. L.: Port Loko (Apr.) Sc. Elliot 5747! Pendembu Sc. Elliot 5682! Njala (July) Deighton 2907! **G. C.:** near Kibbi (Mar.) Vigne 4374! **N. Nig.:** forests near Lokoja Elliot 250! **S. Nig.:** Ijaiye F.R. (Apr.) Onochie FHI 21984! Lagos Carter! Elugu Barter 3427! Oban Talbot 2340! Old Calabar Thomson! **F. Po:** (May) Mann. 391!

Also in **French Camerouns**.

8. **Pararistolochla triactina** (Hook. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 77 (1927); Kew Bull. 1928: 24; Chev. Fl. Viv. 1: 134. *APD acc*

Aristolochia triactina Hook. f.—F.T.A. 6, 1: 140.

A. schweinfurthii Engl. Bot. Jahrb. 24: 492 (1898).

A woody climber, 25 ft. or more long, with pendulous cucumber-like fruits; perianth-lobes red-purple, tube paler.

Dah.: Zagnanado Chev. 23296. Tori-Avamé (July) Poisson. **S. Nig.:** Lagos (Mar.) Moloney 18! Dalz. 1076! Itu (Mar.) Holland 26!

Also in **Gabon, A.-E. Sudan, Uganda** and **Angola**.

9. **Pararistolochla mannii** (Hook. f.) Keay in Kew Bull. 1952: 159. *APD acc*

Aristolochia mannii Hook. f.—F.T.A. 6, 1: 140; F.W.T.A., ed. 1, 1: 77.

Woody climber 10–15 ft. long; flowers dark violet with yellowish spots; fruit long, 6-ridged.

Iv. C.: Adiopodoumé Favarger. **S. Nig.:** Old Calabar (Feb.) Mann 2323! Thomson 69! Bonny (fl. & fr. Feb.) Kalbreyer 62!

10. **Pararistolochla promissa** (Mast.) Keay l.c. 160, t. 1 (1952). *APD acc*

Aristolochia promissa Mast.—F.T.A. 6, 1: 142; F.W.T.A., ed. 1, 1: 78.

A. flagellata Stapf—F.T.A. 6, 1: 141; F.W.T.A., ed. 1, 1: 77.

A. talbotii var. *longissima* S. Moore in Cat. Talb. 94 (1913).

A. congolana Hauman in Fl. Congo Belge 1: 384 (1948), French descr. only.

Woody climber, flowers on old stems freely almost from ground to the top; to 30 ft. high, in **forest**. Outside of flower dirty yellow to greenish-white with purplish brown blotches; inside yellow, brown-spotted, with white hairs; fruit with 6 rounded ridges, to 6 in. long.

G. C.: Aburi Hills (Oct.) Johnson 487! Aburi Gardens (Nov.) Johnson 1060! Kwahu Prasu (Feb.) Vigne 1606! 1607! Bunsu, Akim (Mar.) Irvine 1806! **S. Nig.:** Oban Talbot 1642! **Br. Cam.:** Victoria (Jan.) Kalbreyer 7! Barombi (Mar.) Preuss 45!

Also in **French Camerouns** and **Belgian Congo**.

11. **Pararistolochla talbotii** (S. Moore) Keay l.c. 161 (1952).

APD: Synonym of Pararistolochia promissa (Mast.) Keay

Aristolochia talbotii S. Moore in Cat. Talb. 93, t. 11 (1913) (excl. var. longissima); F.W.T.A., ed. 1, 1: 78.

Perianth pale-yellowish-green with black-bulbous-based hairs within.

S. Nig.: Oban Talbot 128! 2310!

12. *Pararistolochia tenuicauda* (S. Moore) Keay l.c. 160 (1952).

APD: Synonym of Pararistolochia promissa (Mast.) Keay

Aristolochia tenuicauda S. Moore l.c. 94; F.W.T.A., ed. 1, 1: 78.

Colour of outside of perianth not recorded; inside with white hairs.

S. Nig.: Oban Talbot 2318!

2. ARISTOLOCHIA

Linn.—F.T.A. 6, 1: 135. APD acc

- 1 Perianth lobes not forming a keel-like lip and broad standard; flowers subtended by a leafy bract:2
Perianth lobes consisting of a keel-like lip up to 17 cm. long and a standard about 4 cm. diam. on a claw about 3.5 cm. long; tube consisting of an asymmetrical pouch about 5 cm. long and 4 cm. broad; leaves orbicular, deeply cordate, 8–12 cm. diam. (naturalized alien)[3. ringens](#)
- 2 Perennial herb, stems flexuous; flowers solitary in the leaf axils; older leaves not very reticulate; fruits about 2.5 cm. long[1. bracteolata](#)
Shrubby climber; stems twining; flowers racemose; older leaves markedly reticulate; fruits about 5–6 cm. long [2. albida](#)

1. *Aristolochia bracteolata* Lam. Encyl. 1: 258 (1783). *APD acc*

Aristolochia bracteata Retz.—F.T.A. 6, 1: 136; F.W.T.A., ed. 1, 1: 77; Chev. Fl. Viv. 1: 130.

A small glabrous shrub, stems flexuous from a woody base; flowers yellow-brown with a purple lip.

Fr. Sud.: L. Tacadji (Aug.) Chev. 3460! **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Bornu (Feb.) E. Vogel 45!

Also in **tropical E. Africa**, **S. Arabia** and **India**.

2. *Aristolochia albida* Duchartre—F.T.A. 6, 1: 137; Chev. Fl. Viv. 1: 131. *APD acc*

Aristolochia ledermannii Engl. (1911).

Stems glabrous, twining on other plants; flowers blackish-purple.

Sen.: Bondou Heudelot 173. **Fr. Sud.:** fide Chev. l.c. **S. Nig.:** Nupe Barter 1531! Katagum Dalz. 87! **S. Nig.:** Lagos Dawodu 206!

Also in **Shari-Chad** and **Angola**.

3. *Aristolochia ringens* Vahl Symb. Bot. 3: 99 (1794). *APD acc*

A glabrous climber, with pale glaucescent leaves; perianth pale green with dense dark violet network all over, especially dense on lobes; fruit-baskets about 7 cm. long.

S. Nig.: Ibadan Fuel Plantation (Feb.) Brenan & Keay 8981! Onitsha (Oct.) Dundas!

Native of tropical America; naturalized in several parts of Nigeria; cultivated in Gold Coast.

Aristolochia ridicula N.E.Br.

Grown in the Aburi Botanic Gardens, Gold Coast. Native of tropical America.

This species has been introduced into gardens, and may have become naturalized.

Aristolochia elegans Mast.

From Njala in Sierra Leone, Aburi, Kumasi and Abetifi Kwahu in Gold Coast, and Ibadan and Brass in Nigeria. Native of tropical America.

This species has been introduced into gardens, and may have become naturalized.

***Aristolochia gibbosa* Duchartre**

From Njala, Aburi and Kumasi. Native of tropical America.

This species has been introduced into gardens, and may have become naturalized.

***Aristolochia brasiliensis* Mast. & Zucc.**

From Njala. Native of tropical America.

This species has been introduced into gardens, and may have become naturalized.

***Aristolochia ringens* Vahl**

Naturalized in several parts of Nigeria and is included in the above key. Native of tropical America.

PIPERACEAE

Herbs or shrubs, erect or scandent; vascular bundles more or less scattered, as in Monocotyledones. Leaves usually alternate, entire, rarely opposite or whorled, petiolate, stipules adnate to the petiole or absent. Flowers minute, hermaphrodite or unisexual, usually densely spicate or spikes umbellate. Perianth absent. Stamens 2–6, hypogynous; filaments usually free; anthers 2-celled, distinct or confluent. Ovary superior, 1-celled, 1-ovuled; stigmas 1–5, short; ovule erect. Fruit baccate, small, with a succulent, thin or dry pericarp. Seeds small, with small endosperm and copious mealy perisperm; embryo very small.

Throughout the warmer regions of the world, comparatively rare in Africa, very abundant in tropical America.

Readily recognized by the structure of the stem, the minute spicate flowers entirely devoid of perianth, the definite number of stamens, the 1-celled and 1-ovuled ovary, the baccate fruit, and minute embryo of the seed.

- 1 Herbs; stamens 2, with confluent anther-cells; stigma single, sessile, penicillate or undivided; stipules absent; leaves sometimes opposite or whorled [1. *Peperomia*](#)
- Shrubs; stamens 2–6, usually with distinct anther-cells; stigmas 2–5; stipules adnate to the petiole; leaves alternate [2. *Piper*](#)

1. PEPEROMIA

Ruiz & Pav.—F.T.A. 6, 1: 147

- 1 Leaves alternate: **2**
 - Leaves opposite or whorled, spikes axillary or terminal: **11**
- 2 Lateral inflorescences leaf-opposed, or inflorescence terminal: **3**
 - Lateral inflorescences axillary: **5**
- 3 Leaves cordate or rounded-cordate at base, with 5–7 nerves, very thin; inflorescences very slender, with scattered flowers [1. *pellucida*](#)
 - Leaves rounded or cuneate at base, 3–5-nerved, moderately firm or rather thick: **4**
- 4 Leaves rounded and 5-nerved at base; plant not very fleshy; spikes slender [2. *molleri*](#)
 - Leaves cuneate and 3-nerved at base; plant fleshy, stems becoming almost angular when dry; spikes rather stout [3. *vulcanica*](#)
- 5 Leaves over 1 cm. long, not, or not entirely, orbicular, midrib distinct: **6**
 - Leaves less than 1 cm. diam., thick and fleshy, orbicular, veins all hidden; stems creeping and rooting nearly to the tip [10. *rotundifolia*](#)
- 6 Leaves acutely acuminate, more or less ovate or lanceolate, 3–6 cm. long, 1·5–3 cm. broad; inflorescences often paired; stems creeping and rooting at the base, then ascending [4. *fernandopoiana*](#)
 - Leaves obtuse, rounded or notched at apex; inflorescences solitary: **7**
- 7 Leaves entire at apex: **8**

- Leaves notched at apex: 10
- 8 Petioles less than 1/3 length of lamina; stems ascending from decumbent base: 9
- Petioles more than 1/3 length of lamina; stems trailing and rooting nearly to the tip; leaves elliptic-rhomboid to orbicular, up to about 1·8 cm. long and 1·4 cm. broad [7. mannii](#)
- 9 Leaves broadly to narrowly rhomboid, obtuse at apex, 3–5 cm. long, 0·8–2 cm. broad [5.? stuhlmannii](#)
- Leaves ovate to orbicular, up to about 15 mm. long and 8 mm. broad; ascending branches several together in a bunch [6. retusa](#)
- 10 Spike 3–6 cm. long, 1 mm. broad; leaves obovate to broadly oblanceolate, 2–3·5 cm. long, 1–1·5 cm. broad, long-petiolate; stems ascending from decumbent base, ascending portions to about 15 cm. long [8. vacciniifolia](#)
- Spike 5–10 cm. long, 2–3 mm. broad; leaves rhomboid-obovate, 2–5·3 cm. long, 1·5–4 cm. broad, petiole above 8 mm. long; stems rather stout, decumbent below, ascending to about 30 cm. above [9. hygrophila](#)
- 11 Stems and leaves densely pubescent: 12
- Stems and leaves glabrous; branching dichotomous; leaves in fours, broadly obovate-elliptic, about 1·5 cm. long, shortly petiolate [13. reflexa](#)
- 12 Undersurface of leaves showing only midrib, laterals very faint; lamina elliptic-obovate, 1–2·5 cm. long and 1–1·8 cm. broad; young shoots with brownish spreading pubescence [11. kamerunana](#)
- Undersurface of leaves with distinct main laterals; lamina obovate-cuneate, 6–11 mm. long and 4–8 mm. broad; young shoots with greyish-spreading pubescence [12. dusenii](#)

1. **Peperomia pellucida** (Linn.) H.B. & K.—F.T.A. 6, 1: 149; Chev. Fl. Viv. 1: 142. *APD acc*

Piper pellucidum Linn. (1753).

A herb, usually erect and often terrestrial, with delicate leaves; a common weed in moist situations.

Sen.: Perrottet! Dakar Chev. 34002. **Fr. G.:** Farana (Feb.) Chev. 20634. **S. L.:** Lester Peak (Dec.) Sc. Elliot 3885! Kumrabai-Mamila (Nov.) Deighton 4943! **Lib.:** Monrovia (Nov.) Linder 1529! **Iv. C.:** Upper Sassandra (May) Chev. 21559. **G. C.:** Bunsu (Mar.) Irvine 1809! **N. Nig.:** Patti Lokoja (Sept., Nov.) T. Vogel 192! Dalz. 211! **S. Nig.:** Lagos (Jan.) Dalz. 1275! **Br. Cam.:** Victoria (Nov.) Thorold 77! **F. Po.:** (Dec.) Guinea 609!

Cosmopolitan in tropics.

2. **Peperomia molleri** C. DC. in Henriq. Bol. Soc. Brot. 10: 154 (1893); Exell Cat. S. Tomé 277; F.T.A. 6, 1: 150. *APD acc*

Peperomia fernandopoiana var. *subopacifolia* C. DC. (1869).

Peperomia zenkeri C. DC. (1894)—F.W.T.A., ed. 1, 1: 79; Chev. Fl. Viv. 1: 143.

Peperomia holstii C. DC. (1894)—F.T.A. 6, 1: 151.

Peperomia baumannii C. DC. (1899)—F.T.A. 6, 1: 149.

A delicate herb, more or less erect; epiphytic.

G. C.: Obosomase (Aug.) Johnson 176! **Togo:** Misahöhe (July) Baumann 205. **S. Nig.:** Akure F.R. (Nov.) Keay FHI 25563! **Br. Cam.:** Buea, 3,000 ft. (Oct.) Preuss 1060! **F. Po.:** (Jan.) Guinea 1844!

Widespread in tropical Africa.

3. **Peperomia vulcanica** Baker & C. H. Wright in F.T.A. 6, 1: 151 (1913). *APD acc*

Stout fleshy herb with erect stems, in mist forest and on lava.

Br. Cam.: Cam. Mt., 8,000 ft. (Jan.) Mann 1305! Mann's Spring 7,000 ft. (Mar.) Brenan 9373!

4. **Peperomia fernandopoiana** C. DC. in Seem. Journ. Bot. 1866: 134 (excl. var. *subopacifolia* C. DC.); F.T.A. 6, 1: 154. *APD acc*

Peperomia preussii C. DC. (1894)—F.T.A. 6, 1: 150; F.W.T.A., ed. 1, 1: 78.

Peperomia staudtii Engl. (1899)—F.W.T.A., ed. 1, 1: 79; Chev. Fl. Viv. 1: 143.

Perennial herb, stems trailing and rooting, stems and undersides of leaves purplish; usually epiphytic.

Fr. G.: & **Iv. C.:** fide Chev. l.c. **S. Nig.:** Oban Talbot 2324! Koloishe, Obudu, 4,000 ft. (Dec.) Keay & Savory FHI 25040! **Br. Cam.:** Buea, 4,000 ft. (Feb.) Deistel 587! Maitland 419! Cam. Mt., 3,500–5,700 ft. (Feb.–Apr.) Dais. 8340! Hutch. & Metcalfe 35! Brenan 9342! L. Bambulue. Bamenda, 7,200 ft. (Jan.) Migeod 373! **F. Po.:** Mann 394! Moka (Jan.) Guinea 2101!

Also in **French Camerouns**.

5. *Peperomia stuhlmannii* C. DC.—F.T.A. 6, 1: 152.

APD: Synonym of Peperomia abyssinica Miq.

Peperomia vacciniifolia of F.T.A. 6, 1: 152, partly (Sierra Leone spec.), not of C. DC.

Epiphytic herb.

S. L.: Sugar Loaf Mt. (Apr., May) Sc. Elliot 5755! Barter! Kamadugu to Bandakarafaia, 1,500 ft. (Nov.) Glanville! Sankon Biriwa, 4,000 ft. (Feb.) Deighton 3509! Simbaru (Jan.) Deighton 4583! Yifin (Apr.) Deighton 5100! **Lib.:** R. Mao, Nyandamolahun (Feb.) Bequaert 76! **G. C.:** Irvine 11781! **Br. Cam.:** Tombel (Nov.) Thorold 76!

[Very close to Uganda specimens of *P. stuhlmannii* C. DC., but type (Stuhlmann 2485 from Ruwenzori) not seen.]

6. *Peperomia retusa* (Linn. f.) A. Dietr.—Fl. Capensis 5, 1: 491. *APD acc*

Piper retusum Linn. f. (1781).

Peperomia ulugurensis Engl.—F.T.A. 6, 1: 151.

Small epiphyte with erect branches.

S. Nig.: Oban Talbot 657! **Br. Cam.:** L. Oku, Bamenda (Jan.) Keay FHI 28532!

Also on highlands of tropical E. Africa, and in **S. Africa**.

7. *Peperomia mannii* Hook. f. ex C. DC.—F.T.A. 6, 1: 153 (incl. var. fernandopoana C. DC.).

APD: Synonym of Peperomia retusa (L. f.) A. Dietr. var. *retusa*

Peperomia bueana C. DC.—F.W.T.A., ed. 1, 1: 80.

Epiphyte with slender trailing stems.

S. Nig.: Shasha F.R. (May) Richards 3317! 3477! Okomu F.R. (Dec., Feb.) Brenan 8484! 9009! **Br. Cam.:** Cam. Mt., 4,000–7,000 ft. (Dec.–Apr.) Mann 2016! Preuss 663! Dunlap 3! 48! Hutch. & Metcalfe 4! Brenan 9372! **F. Po:** Mann 291! Balacha to Ureka (Feb.) Guinea 2304! 2306!

8. *Peperomia vacciniifolia* C. DC.—F.T.A. 6, 1: 152 (excl. Sierra Leone spec.).

APD: Synonym of Peperomia thomeana C. DC.

Herb with trailing stems, on ground and epiphytic.

Br. Cam.: Cam. Mt., 5,000–6,000 ft. (Nov.) Preuss 875a! Migeod 141! Cam. Mt., Mimbria, 4,400 ft. (Nov.) Brenan 9364! **F. Po:** Moka (Jan.) Guinea 2223!

9. *Peperomia hygrophila* Engl. in Mildbr. Wiss. Ergebn. Deutsch. Zentr.-Afr. Exped. 1907–08, 2: 177 (1911).

APD: Synonym of Peperomia vulcanica Baker & C.H. Wright

Stems prostrate below, ascending above, leaves succulent, spike stout; **in caves**.

Br. Cam.: Cam. Mt., 8,000–8,300 ft. (June) Mildbr. 3400. Between Buea and Mann's Spring (May) Preuss 805!

Also in **S. Tomé**.

10. *Peperomia rotundifolia* (Linn.) H.B. & K. Nov. Gen. & Sp. 1: 65 (1815).

APD: Synonym of Peperomia bangroana C. DC.

Piper rotundifolium Linn. (1753).

Peperomia bagroana C.DC.—F.T.A. 6, 1: 154; F.W.T.A., ed. 1, 1: 80; Chev. Fl. Viv. 1: 142.

Annual with filiform creeping stem and orbicular leaves.

S. L.: Bagroo R. (Apr.) Mann 905! Melekuri (Mar.) Glanville 430! Mendekiam, Gaura (Nov.) Deighton 5031! **Lib.:** Shew (Nov.) Linder 13921 **iv. C.:** fide Chev. l.c. **G. C.:** Kibbi (Dec.) Johnson 273! Effiduase Cox 118! Begoro, Akim (Jan.) Irvine 1162! **Togo:** Büttner! **Br. Cam.:** Tombel (Nov.) Thorold 75!

Widespread in tropical Africa and in Madagascar and tropical America.

11. **Peperomia kamerunana** *C. DC.*—F.T.A. 6, 1: 154. *APD acc*

Epiphyte with fleshy, creeping stems, hairy.

Br. Cam.: Preuss 918! Cam. Mt., 6,700 ft. (Mar., Apr., Nov.) Brenan 9371! Migeod 84! Maitland 1174! **F. Po:** Finca de Puente (Jan.) Guinea 1674! 1820!

12. **Peperomia dusenii** *C. DC.*—F.T.A. 6, 1: 155. *APD acc*

Apparently creeping at the base, with dwarf erect shoots to 4 in. high.

Br. Cam.: Dusen 436!

13. **Peperomia reflexa** (*Linn. f.*) *A. Dietr.*—F.T.A. 6, 1: 155; Chev. Fl. Viv. 1: 143.

APD: *Synonym of Peperomia tetraphylla (G. Forst.) Hook. & Arn.*

Piper reflexum *Linn. f.* (1781).

Stems tufted, creeping; leaves shining.

Fr. G.: Dalaba, 3,500 ft. (Dec.) Chev. 20288. Diaguissa, 3,000–4,000 ft. (Apr.) Chev. 13456. **S. L.:** Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 65! **Br. Cam.:** Cam. Mt., 4,000–7,000 ft. (Jan.) Dunlap 5! 223! L. Bambulue, Bamenda, 6,700 ft. (Jan.) Keay FHI 28360!

Widespread throughout the tropics.

2. PIPER

Linn.—F.T.A. 6, 1 : 144

- 1 Inflorescence solitary, leaf-opposed or terminal; leaves rounded or slightly cordate at base:2

Inflorescences from 2 to several in a pedunculate axillary umbel; peduncle shorter than the flowering axis; stigmas 3; leaves deeply cordate and many-nerved at base 3. *umbellatum*

- 2 Fruits spicate; peduncle as long as or longer than the flowering axis; stigmas 2; leaf-base 7-nerved ... 1. *capense*

Fruits racemose; pedicels up to 5 mm. long; peduncle usually shorter than the flowering axis; stigmas 3; leaf-base at most 5-nerved 2. *guineense*

1. **Piper capense** *Linn. f.*—F.T.A. 6, 1: 146 (incl. var. *magnifolium* *C. DC.*); Chev. Fl. Viv. 1: 138. *APD acc*

Piper bisexuale *C. DC.* (1914).

A shrub, erect or more or less scandent.

Fr. G.: Dalaba-Diaguissa Plateau, 3,000–4,000 ft. Chev. 18748. **S. Nig.:** Ijua, Obudu, 3,000 ft. (Dec.) Keay & Savory FHI 25027! **Br. Cam.:** Cam. Mt., 4,000–8,000 ft. (Nov.–Apr.) Mann 2015! Preuss 615! Maitland 1283! Brenan 9353! Above Bamenda, 6,500–7,000 ft. (Feb.) Migeod 471! 485! **F. Po:** 1,300 ft. Mann 299!

Also in **French Camerouns** and in **East** and **South Africa**.

[The specimens in our area have mostly glabrescent leaves, and the peduncles are often longer than the flowering axis; the reverse is the case in the S. African material.]

2. **Piper guineense** *Schum. & Thonn.*—F.T.A. 6, 1: 145; Chev. Fl. Viv. 1: 139. *APD acc*

Piper leonense *C. DC.* (1866)-Chev. Fl. Viv. 1: 140.

Piper famechonii *C. DC.* (1914).

A climber, 30–40 ft. long, on trees; fruit red or red-brown when ripe, black when dry.

Port. G.: Viegas 189! **Fr. G.:** Kafogo (fr. Apr.) Sc. Elliot 4003! Kissidougou (Feb.) Chev. 20719. **S. L.:** Don! Dunnia Talla (fr. Feb.) Sc. Elliot 4875! Yonibana (Nov.) Thomas 4788! **Lib.:** Gbanga (Sept.) Linder 569! 672! Dukwia R. (fr. Feb.) Cooper 305! **Iv. C.:** common fide Chev. l.c. **G. C.:** E. Akim (fl. Mar., fr. June) Johnson 720! 745! Bisaa (fr. Nov.) Sampson 1! **N. Nig.:** Nupe Barter! **S. Nig.:** Lagos (fr. Mar.) Millen 65! Okomu F.R. (fr. Jan.) Brenan 8782! Brass Barter 2076! **F. Po.:** (Jan.) Mann 162! (fr. June) Barter! (fr. Nov.) T. Vogel 97!

Also in **French Camerouns** and extends to **Angola** and **Uganda**,

3. Piper umbellatum Linn.—F.T.A. 6, 1: 144; Chev. Fl. Viv. 1: 137. *APD acc*

A shrub, 4–6 ft. high, with white narrow catkins; in moist shady places.

Fr. G.: Kouria (Nov.) Caille in Hb. Chev. 14856. Dalaba-Diaguissa Plateau, 3,000–4,000 ft. (Oct.) Chev. 18778. **S. L.:** near Regent (Dec.) Sc. Elliot 4077! Njala Deighton 2551! **Lib.:** Sinoe Basin Whyte! Gbanga (Sept.) Linder 531! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Kumasi Cummins 149! W. Apollonia (Aug.) Chipp 321! **N. Nig.:** Lokoja (Feb.) Dalz. 923! **S. Nig.:** Lagos (Mar.) Millen 113! Oban Taltot 172! **Br. Cam.:** Cam. Mt., 3,000–4,000 ft. (Jan.–Feb.) Mann 1272! Dunlap 12! **F. Po.:** Mann 70! T. Vogel 53!

Piper betle Linn. (Holl. 4: 552).

Cultivated in gardens

Piper cubeba Linn. f. (Holl. 4: 552).

Cultivated in gardens

Piper nigrum Linn. (Holl. 4: 552).

Cultivated in gardens

PAPAVERACEAE

Annual, biennial, or perennial herbs with coloured juice, often glaucescent and prickly, or rarely shrubs or small trees; root usually a rhizome or tuber. Leaves exstipulate, alternate, rarely the floral leaves opposite or whorled, much divided, rarely entire. Flowers hermaphrodite, actinomorphic, hypogynous or rarely perigynous, mostly solitary, fugacious and visited by pollen-eating insects. Perianth of calyx and corolla, or rarely the latter absent. Sepals 2, rarely 3, green, falling off separately on the opening of the flower or united into a deciduous calyptra. Petals showy, 4 or 6, rarely 8 or 12, free, imbricate and often crumpled in the bud, deciduous. Stamens numerous, rarely few, free, with filiform filaments; anthers mostly nearly as long as the filaments, 2-celled, dehiscing by longitudinal slits. Ovary free, of 2 or more united carpels, 1-celled with parietal placentas, or several-celled by the placentas reaching to the middle. Ovules numerous, rarely solitary. Fruit a capsule, opening by valves or pores. Seeds small, with minute embryo in fleshy or oily endosperm.

Mainly natives of the North Temperate Zone, rare in the tropics; represented in our area by a single introduced species.

ARGEMONE

Linn.—F.T.A. 1: 54. *APD acc*

Sepals 2–3. Petals 4–6, yellow. Stamens numerous. Ovary with 4–7 placentas; stigmas radiating. Capsule opening by valves at the top. Seeds pitted.

Argemone mexicana Linn.—F.T.A. 1: 54; Chev. Fl. Viv. 1: 145. *APD acc*

A prickly glaucous erect herb, with yellow juice; leaves semi-amplexicaul, pinnately lobed; flowers bright yellow; capsule smooth or setose, 3–4 cm. long; seeds pitted-reticulate.

Sen.: Roger 70! Dakar (Dec.) Debeaux! **Fr. G.:** Kouroussa (Oct.) Pobéguin 562! Farana (Mar.) Sc. Elliot 5323! **S. L.:** Deighton 2009! **Lib.:** (May) Willmott! **G. C.:** Tamale (Apr.) Williams 153! N'Kwanta, W. Ashanti (Jan.) Chipp 63! Afram Plains (Apr.) Cansdale 4384! **Dah.:** Burton! **N. Nig.:** Sokoto (Jan.) Lugard! Bauchi Plateau (Mar.) Lely P. 193! **S. Nig.:** Oshogobo (Apr.) Moloney! Lanlate (July) Foster 113! **Br. Cam.:** Talbot 1411!

Mexican Poppy, introduced from America and found in waste dry places and roadsides throughout the area and in other parts of Africa.

TURNERACEAE

Herbs or undershrubs with entire or lobed alternate leaves; stipules absent. Flowers hermaphrodite, actinomorphic, yellowish. Calyx tubular, 5-toothed, teeth imbricate. Petals 5, inserted on the calyx-tube, free, clawed, contorted. Stamens 5, from the base of the calyx-tube; filaments free; anthers 2-celled, opening lengthwise. Ovary superior, 1-celled with 3 parietal placentas; styles 3, terminal, slender; stigmas fringed; ovules numerous. Fruit a capsule, opening loculicidally by 3 valves with the placenta in the middle of each. Seeds arillate, pitted; endosperm horny or fleshy; embryo straight, large.

Tropics and subtropics.

Mostly herbaceous and resembling Cruciferae or Capparidaceae. Recognized by the tubular calyx and 1-celled ovary with parietal placentas.

Turnera ulmifolia Linn. (incl. var. *elegans* Urb., and var. *angustifolia* Urb.)

A native of tropical America, is cultivated in Sierra Leone (Njala) and Gold Coast (Aburi).

WORMSKIOLDIA

Thonn.—F.T.A. 2: 501.

Herbs. Calyx tubular, 5-toothed. Petals 5, clawed, with a scale at their base. Stamens 5, arising from the base of the calyx-tube. Ovary 1-celled; styles 3, slender; stigmas fringed. Capsule linear, opening loculicidally by 3 valves with the placenta in the middle of each; seeds conspicuously pitted.

- 1 A branched herb about 1 ft. high; stems finely pubescent and with numerous purple bristles; leaves linear or linear-lanceolate, entire, denticulate or pinnatifid, up to 18 cm. long and 1 cm. broad, glabrous or shortly bristly beneath; flowers much resembling a Crucifer, racemose; calyx long-tubular, narrow, 1 cm. long, shortly 5-lobed, more or less bristly outside; petals exceeding the calyx; pod slender, slightly torulose, about 5 cm. long, shortly stipitate, beaked; seeds about 20, about 3 mm. long, straw-coloured, conspicuously pitted *pilosa*

Wormskioldia pilosa (Willd.) Schweinf. ex Urb. in Jahrb. Kgl. Bot. Gart. Berl. 2: 54 (1883); Chev. Fl. Viv. 1: 148.

APD: Synonym of Tricliceras pilosum (Willd.) R. Fern.

Rapanus pilosus Willd. (1801).

Wormskioldia heterophylla Schum. & Thonn. (1827); Guill. & Perr. Fl. Seneg. t. 11; F.T.A. 2: 503.

Annual herb, flowers bright yellow.

Sen.: St. Louis Leprieur; Perrottet. **Gam.:** Kuntaur (July, Aug.) Ruxton 68! 138! **Fr. Sud.:** Gourma (July) Chev. 24494. **Port. G.:** Catió, Granja (July) Esp. Santo 2129! **G. C.:** Hb. Vahl! Gambaga (June) Akpabla 674! **Dah.:** Savalou (May) Chev. 23736. **N. Nig.:** Patti Lokoja (Sept.) T. Vogel 188! Nupe Barter 1552! Liruwen-Kano Hills Carpenter! Birnin Gwari, Mando (June) Keay FHI 25849! Zungeru (Oct.) Dalz. 93! Bauchi Plateau (July) Lely P. 509!

Also in **Ubangi-Shari**, **French Cameroons**, **A.-E. Sudan**, **Uganda**, **Kenya** and **Tanganyika**.

CAPPARIDACEAE

Herbs, shrubs or trees, sometimes scandent. Leaves alternate or rarely opposite, simple or digitately 3–7-foliolate; stipules when present minute or spiny. Flowers mostly hermaphrodite, actinomorphic or rarely zygomorphic, hypogynous, axillary or terminal, variously arranged. Perianth of calyx and corolla, or the latter absent. Sepals free or partially united, imbricate or valvate, usually 4. Petals 4 to many or absent. Torus elongated or short, rarely with an appendix. Stamens few to many, sometimes some of them without anthers; filaments sometimes partially adnate to the torus; anthers 2-celled, longitudinally dehiscent. Ovary sessile or more usually supported on a long or short gynophore, 1-

celled with parietal placentas or divided into 2 or more cells by spurious dissepiments; ovules few to many. Fruit a capsule or berry, sometimes the latter elongate or torulose. Seeds usually reniform or angular; endosperm none or scanty; embryo arcuate or incurved.

Tropics and subtropics of both hemispheres, very numerous in East Africa and South America.

Recognized by the usually showy flowers, clawed petals, mostly stipitate ovary, parietal placentas and curved embryo with scanty or no endosperm.

- 1 Fruit a capsule, splitting its full length into two valves; mostly herbaceous annuals:2
Fruit a berry or drupe, often torulose; shrubs or trees or rarely suffrutescent with woody rhizomes and annual shoots:3
- 2 Torus short, not adnate to the free filaments; stamens 4 to many1. [Cleome](#)
Torus elongated into a gynophore bearing the filaments; stamens usually 62. [Gynandropsis](#)
- 3 Petals present:.....4
Petals absent; leaves simple:8
- 4 Sepals connate into a tube at the base, valvate in a single series; fruits generally torulose; leaves simple3. [Maerua](#)
Sepals free to the base or nearly to the base; imbricate or if in 2 series only the outer ones coherent and valvate; or valvate in a single series:5
- 5 Sepals in 2 series; leaves simple:.....6
Sepals imbricate in a single series; leaves trifoliolate; stamens 8–20; fruits not torulose6. [Crateva](#)
Sepals valvate in a single series; leaves trifoliolate or up to 5-foliolate, rarely 1-foliolate:.....7
- 6 Stamens numerous; fruits not torulose4. [Capparis](#)
Stamens 4–8; fruits often subtorulose5. [Cadaba](#)
- 7 Petals equal; torus without an appendage at the base; stamens 12 to many7. [Ritchiea](#)
Petals unequal, 2 much larger than the other 2; torus with a linear appendage of united staminodes between the two larger petals; stamens 5–78. [Euadenia](#)
- 8 Calyx imbricate:9
Calyx valvate in a single series:10
- 9 Small shrubs, with small leaves; flowers more or less shortly corymbose; stamens 4–5; fruit torulose or small and elliptic5. [Cadaba](#)
Trees; leaves large; flowers in rather long lax racemes; stamens indefinite; fruits large, ellipsoid ..9. [Buchholzia](#)
- 10 Fruit torulose; seeds numerous; calyx tubular at the base3. [Maerua](#)
Fruit entire, globose or ellipsoid; seeds few:11
- 11 Flowers racemose or subpaniculate; ovary 1-celled; fruit globose10. [Boscia](#)
Flowers axillary, solitary; ovary 2–3-celled; fruit ellipsoid11. [Courbonia](#)

1. CLEOME

Linn.—F.T.A. 1: 74.

- 1 Leaves simple:.....2
Leaves digitately compound:.....3
- 2 Leaves ovate to orbicular, 1–2 cm. long, setose-pilose, the marginal hairs gland-tipped; fruits falcate, slightly recurved, about 2.5 cm. long, slightly muricate1. [scaposa](#)
Leaves lanceolate or linear-lanceolate, up to 6 cm. long, setulose on the nerves beneath; fruits nearly straight, ascending, about 6 cm. long, strigose-pubescent2. [monophylla](#)
- 3 Leaflets filiform or linear:4
Leaflets lanceolate to obovate:6
- 4 Branches and leaflets filiform; fruits not stipitate, 3.5–4 cm. long, 2 mm. broad; flowers small, about 4 mm. long3. [tenella](#)
Branches not filiform; leaflets linear:5
- 5 Fruits 3–6 cm. long, stipitate, 2 mm. broad; flowers 8–10 mm. long4. [polyanthera](#)

- Fruits about 12 cm. long, stipitate; flowers large, 3 cm. long [5. *paradoxa*](#)
- 6** Stems with prickles at the base of the leaves and sometimes prickles also on the petioles: **7**
 Stems not prickly: **8**
- 7** Flowers in a dense corymbose raceme; lower leaves long-petiolate; leaflets often 5–7, oblanceolate, acutely acuminate, up to 10 cm. long; the upper leaves gradually reduced to leafy subsessile bracts; fruits long-stipitate, 4–6.5 cm. long, 6–9 mm. diam. [6. *spinosa*](#)
 Flowers in few-flowered racemes; lower leaves long-petiolate; leaflets 3, rhomboid to obovate, up to 3 cm. long; the upper leaves gradually reduced to subsessile ovate bracts; fruits shortly stipitate, about 4 cm. long and 2–3 mm. diam. [7. *aculeata*](#)
- 8** Fruits not stipitate; plants glandular-pubescent: **9**
 Fruits stipitate; plants not glandular; leaflets mostly 3: **10**
- 9** Leaflets 3–6, often 5, about 3 cm. long; pedicels up to 6.5 cm. long; fruits about 9 cm. long [8. *viscosa*](#)
 Leaflets 3, mostly small, up to 1.5 cm. long; pedicels slender, up to 1 cm. in fruit, the latter 1–1.25 cm. long, capped by the long slender style [9. *brachycarpa*](#)
- 10** Perennial with woody stock; leaflets oblong, rounded at apex, 6–15 mm. long, 3–4 mm. broad, petiole 5–10 mm. long; scape with very small 1–3-foliate leaves; petals 6–8 mm. long; fruit 3–4 cm. long [10. *montana*](#)
 Annual herb; leaflets ovate-lanceolate, acute at apex, 1–4.5 cm. long, 8–18 mm. broad, petiole 1–5.5 cm. long; petals 8–10 mm. long; fruit 2.5–6 cm. long [11. *ciliata*](#)

1. *Cleome scaposa* DC.—Gilg & Benedict in Engl. Bot. Jahrb. 53: 153; Chev. Fl. Viv. 1: 152. *APD acc*

Erect slender-branched herb, roughly setose, flowers yellow.

Fr. Sud.: Amongo (Sept.) Hagerup 379! Also various localities fide Chev. l.c. **N. Nig.:** Sokoto (Dec.) Moiser 188!

Also in **Mauritania**, **Tibesti**, **Eastern Sudan**, **Abyssinia**, **Somaliland** and **Arabia**.

2. *Cleome monophylla* Linn.—*F.T.A.* 1: 76; Chev. Fl. Viv. 1: 153. *APD acc*

Erect herb branching, up to 2 ft.; flowers white to pink.

Sen.: Galam Heudelot 425! **Fr. Sud.:** Kangara (May) Chev. 853. Diaguara (June) Chev. 1018. **G. C.:** Williams 544! **Fr. Nig.:** Kokoro Rogeon 507. **N. Nig.:** Nupe Barter 796! Katagum Dalz. 135! Sokoto (July) Dalz. 382! Bauchi Plateau (Jan., June) Lely 273! P. 94! Dent Young 5!

Also throughout tropical Africa and sub-tropical S. Africa.

3. *Cleome tenella* Linn. f.—*F.T.A.* 1: 78; Chev. Fl. Viv. 1: 153. *APD acc*

Erect shrub, 1–2 ft. high, glabrous, glaucescent, with abundantly forked branching; flowers white.

Sen.: Walo Heudelot 429! Hussenot! **Fr. Sud.:** Ile de Bourem (July) Chev. 1289.

Extends to Eastern **Sudan**, Zanzibar, Madagascar, Socotra and India.

4. *Cleome polyanthera* Schweinf. & Gilg—Gilg & Benedict l.c. 165; Chev. Fl. Viv. 1: 154. *APD acc*

Erect herb, 1–2 ft. high, somewhat glandular; flowers white or purplish.

N. Nig.: Yola (July) Dalz. 179!

Extends Into Eastern **Sudan**.

5. *Cleome paradoxa* R. Br. ex DC.—*F.T.A.* 1: 78; Chev. Fl. Viv. 1: 155. *APD acc*

Shrubby, 2–3 ft. high; leaves 3–6-foliate; flowers conspicuous, in terminal racemes.

Fr. Sud.: Goundam (Aug.) Chev. 2490!

Also in **Mauritania**, **Nubia**, **Abyssinia** and **Arabia**.

6. *Cleome spinosa* Jacq.—*F.T.A.* 1: 78; Chev. Fl. Viv. 1: 155. *APD acc*

APD: *Synonym of Cleome afrospina* Ittis

APD: Synonym of Cleome hassleriana Chodat

Much-branched erect herb, up to 3–5 ft.; flowers white to pink.

N. Nig.: Abinsi (July) Dalz. 742! **S. Nig.:** Oshogbo (Apr.) Millson 5! Lagos (Aug.) Phillips 21! Omo F.R. (Feb.) Jones FHI 16825! FHI 17247! Calabar Thomson 118! Williams 1! **Br. Cam.:** Moliko, 2,000 ft. (Apr.) Hutch. & Metcalfe 87!

Also in **French Cameroons** and **Congo region**; a native of tropical S. America.

7. **Cleome aculeata** Linn. Syst. ed. 12, 3; 232 (1768). *APD acc*

Much-branched herb, to 2 ft. high, flowers white.

Fr. G.: Farmoréah Jac.-Fel. 1720! **S. L.:** Port Loko (Dec.) Thomas 5826! Yungeru (Jan.) Thomas 7250! 7392! Freetown (Dec.) Deighton 475! Kambia (Dec.) Deighton 898! Mano (Nov., May) Deighton 1433! 1735! Bonthe (Nov.) Deighton 2266! **Lib.:** Monrovia (July, Nov.) Linder 16! 1563!

A native of tropical S. America, naturalized in many localities in Sierra Leone and in **Belgian Congo**.

8. **Cleome viscosa** Linn.—F.T.A. 1: 80; Chev. Fl. Viv. 1: 156. *APD acc*

Cleome foliosa of Chev. Bot. 25; of F.W.T.A., ed. 1, 1: 84; of Chev. Fl. Viv. 1: 159; not of Hook. f.

Erect herb, to 2 ft. high, very sticky, flowers yellow.

Sen.: Kouma Heudelot 426! **Fr. Sud.:** Goundam (Aug.) Chev. 2491! Bamako Waterlot 1112! **Fr. G.:** Kindia Jac.-Fel. 38! **S. L.:** Freetown (Dec.) Deighton 473! **Fr. Nig.:** Tlemcés Le Rumeur 83. **Dah.:** Atacora Mts. (June) Chev. 23965! **N. Nig.:** Sokoto (July) Dalz. 380! Mokwa (Apr.) Keay FHI 25713! Yola (July) Dalz. 57! **S. Nig.:** Lagos (Mar.) Dalz. 1392! Ibadan (Apr.) Jones FHI 14103!

Also in **Cape Verde Islands**, **Mauritania**, Cameroons to Eastern **Sudan**, S. **Arabia** and Socotra.

9. **Cleome brachycarpa** Vahl ex DC.—F.T.A. 1: 77; Chev. Fl. Viv. 1: 157. *APD acc*

A low diffuse herb, with numerous branches from a woody rhizome.

Fr. Sud.: Goundam (Aug.) Chev. 2493.

Also in Mauritania, Eastern **Sudan**, Abyssinia, and on the coasts of the Red Sea to **Arabia** and India.

10. **Cleome montana** A. Chev. ex Keay in Kew Bull. 1953: 287; Chev. Fl. Viv. 1: 159 (1938), French descr. only.

APD: Synonym of Cleome iberidella Welw. ex Oliv.

Perennial herb with woody stock, erect stems to 18 in. high.

Fr. G.: Mali, Fouta Djallon, 4,500 ft. Chev. 34461!

11. **Cleome ciliata** Schum. & Thonn.—F.T.A. 1: 78; Chev. Fl. Viv. 1: 158.

APD: Synonym of Cleome rutidosperma DC.

Annual weed of waste places and fields, 2–3 ft. high; flowers white, lilac or pink.

Fr. G.: Heudelot 625! **S. L.:** Sherbro Garrett 5849! Freetown (Dec.) Deighton 498! Hagerup 767a! Gbinti (Sept.) Deighton 4847! **Lib.:** Grand Bassa T. Vogel 34! Sinoe Basin Whyte! **Iv. C.:** several localities fide Chev. l.c. **G. C.:** Aburi (June) Brown 319! Cape Coast T. Vogel! Akim Irvine 562! **Togo:** Lome Warnecke 313! **N. Nig.:** R. Niger, Stirling (Sept.) T. Vogel 131! 152! Abinsi (July) Dalz. 741! **S. Nig.:** Lagos Dawodu 29! Idanre (Jan.) Brenan & Jones 8720! **Br. Cam.:** Mamfe (Dec.) Migeod 263! **F. Po.:** (Nov.) Mann 560!

Also in **Principe**, **Cameroons** and Congo to **Angola**.

2. GYNANDROPSIS

APD: Synonym of Cleome L.

DC.—F.T.A. 1: 81.

- 1 Leaves digitately 5-foliolate, long-petiolate; leaflets obovate to oblanceolate, up to 5 cm. long, acute or obtuse, slightly pubescent or glabrous; bracts foliaceous, the lower trifoliate, the uppermost becoming simple, subsessile; inflorescence racemose, the lower flowers often already in fruit before the uppermost have opened; petals 1–1.5 cm. long; fruits long-stipitate, the stipe composed of the gynophore and the slender base of the fruit, fruit-body about 6–7 cm. long, reticulate [gynandra](#)

Gynandropsis gynandra (Linn.) Briq. in Ann. Conserv. Jard. Bot. Genève. 17: 382 (1914); Chev. Fl. Viv. 1: 162.

APD: *Synonym of Cleome gynandra* L.

Cleome gynandra Linn. (1753).

Cleome pentaphylla Linn. (1763).

Gynandropsis pentaphylla DC.—F.T.A. 1: 82; F.W.T.A., ed. 1, 1: 84.

Herb, about 2 ft. high, flowers white to purplish; weed of waste places and fields.

Sen.: Perrottet! **Fr. Sud.:** Timbuktu (fl. July, fr. Sept.) Hagerup 154a! Chudeau! **Fr. G.:** Kouroussa (May) Pobéguin 259! **S. L.:** (June) T. Vogel 21! **G. C.:** Afram Plains (May) Kitson 1088! Ashanti Irvine 538! **Togo:** Lome Warnecke 291! **N. Nig.:** Kukawa (Feb.) E. Vogel 57! Sokoto (Nov.) Moiser 24! **S. Nig.:** Lagos (Aug.) Phillips 24! Olokemeji (Apr.) Foster 286! **Br. Cam.:** Victoria (Apr.) Ejiofor FHI 29333!

All over north and tropical Africa and India, occurring also in America.

Gynandropsis speciosa DC.

The flowers and leaves are larger than in *G. gynandra* and the plant is almost glabrous.

A native of central and S. America, has been introduced into gardens (e.g. Sierra Leone, Njala Deighton 1904! Nigeria, Sapoba Kennedy 427!).

3. MAERUA

Forsk.—F.T.A. 1: 83; Gilg & Benedict in Engl. Bot Jahrb. 53: 232 (1915).

- 1 Leaves small or rather small, with the flowers borne on very short arrested lateral branchlets; sepals broadly oblong-elliptic, rounded at apex; petals none or minute; fruits torulose, few-seeded:..... **2**
 Leaves larger, borne on elongated shoots:..... **3**
- 2 Leaves, pedicels and calyces pubescent; fruit softly pubescent; sepals 5–7 mm. long [1. crassifolia](#)
 Leaves, pedicels and calyces quite glabrous, except for the tomentose margins of the calyx-lobes; sepals 10–11 mm. long [2. de-waillyi](#)
- 3 Leaves elliptic or ovate-lanceolate, mucronate, 4–6.5 cm. long, 2–3 cm. broad, long-petiolate; sepals oblong, rounded at apex, 1.25 cm. long; fruits elongated, torulose, with 20 or more seeds [3. angolensis](#)
 Leaves oblong-lanceolate to linear, the lower oblong, about 7.5–9 cm. long and 2 cm. broad, the upper narrower, up to about 16 cm. long and 1.5 cm. broad; fruits short, about 4-seeded [4. oblongifolia](#)

1. **Maerua crassifolia** Forsk.—Gilg & Benedict in Engl. Bot. Jahrb. 53: 250 (1915); Chev. Fl. Viv. 1: 164; Aubrév. Fl. For. Soud.-Guin. 53. *APD acc*

Maerua rigida R.Br.—F.T.A. 1: 86; Gilg & Benedict l.c. 251.

Maerua senegalensis R.Br. ex A. Rich. in Guill. & Perr. Fl. Seneg. 28, t. 7; Chev. l.c. 165 (excl. spec. De Wailly).

Maerua trichocarpa Gilg & Benedict l.c. 256.

Tree, 20–30 ft. high, often with twisted branches and smooth bark; **in the drier savannahs and Sahara; flowers white, sweet-scented.**

Sen.: Richard Tol (Feb.) Roger 9! **Fr. Sud.:** Timbuktu (July) Chev. 1211! **Fr. Nig.:** various localities fide Chev. l.c. **N. Nig.:** Sokoto (Feb.) Lely 807! Hadeija (Mar.) Dalz. 141! Kukawa (Feb.) E. Vogel 63!

Also in **Mauritania** and **Central Sahara**, and extends to Eastern **Sudan**, **Egypt** and **Arabia**. (See Appendix, P. 22.)

2. **Maerua de-waillyi** *Aubrév. & Pellegr.* in Notulae Syst. 14: 59 (1950); Aubrév. Fl. For. Soud.-Guln. 53. *APD acc*

Tree, similar to above.

Fr. Sud.: Islands of R. Niger rapids between Gao and Ansongo (Mar.) De Wailly 5374!

3. **Maerua angolensis** *DC.*—F.T.A. 1: 86; Gilg & Benedict l.c. 257; Chev. Fl. Viv. 1: 165; Aubrév. l.c. 55. *APD acc*

Shrub, or tree to 30 ft. high or more, in *savannah*; flowers white.

Sen.: L. Guier (Panie-Foul) Roger 85! Walo Heudelot! L. Cayor Perrottet! **Gam.:** north bank of R. Gambia (July) Ozanne 26! Kudary (Jan.) Dalz. 8122! **Fr. Sud.:** Bamako (May) Hagerup 64! And several other localities fide Chev. l.c. **G. C.:** Wiasi, N.T. (Mar.) Vigne 4486! Nangodi (fr. July) Vigne 3298! **N. Nig.:** Nupe Barter 1703! Katagum (Jan.) Dalz. 142! Sokoto Lely 841!

Widely dispersed in tropical Africa.

4. **Maerua oblongifolia** (*Forsk.*) *A. Rich.*—F.T.A. 1: 85; Gilg & Benedict l.c. 260; Chev. Fl. Viv. 1: 166. *APD acc*

Capparis oblongifolia *Forsk.* (1775).

Maerua angustifolia *A. Rich.* in Guill. & Perr. Fl. Seneg. 29, t. 8 (1830); Gilg & Benedict l.c. 259; F.W.T.A., ed. 1, 1: 84; Chev. l.c. 1: 166; Aubrév. Fl. For. Soud.-Guin. 55.

Maerua dasyura *Gilg & Benedict* l.c. 259.

Maerua rogeani *A. Chev.* in Bull. Mus. Hist. Nat. 4: 584 (1932).

Low shrub, to 3 ft. high with thick rootstock, stiff branches and rather thick leaves; flowers white, fragrant.

Sen.: Lelievre! Carrey 48! **Fr. Sud.:** Gourma (July) Chev. 24365! Timbuktu (fl. & fr. Apr.) Chudeau! San to Donua (Mar.) Chev. 43970! Ségou Rogeon! **G. C.:** Amansare, Ashanti (July) Chipp 519! Bunsuru, N.T. (May) Vigne 3847! Tamale (Apr.) Williams 121! **N. Nig.:** Katagum Dalz. 138! Kukawa E. Vogel 68! Yauwa (Apr.) Daggash FHI 24951! Abinsi (Apr.) Dalz. 740!

Also in *Eastern Sudan* to *Red Sea* and *Arabia*.

4. CAPPARIS

Linn.—F.T.A. 1: 94; Gilg & Benedict in Engl. Bot. Jahrb. 53: 184 (1915).

- | | | |
|---|---|-----------------------------------|
| 1 | Leafless at time of flowering | <i>1. decidua</i> |
| | Leafy at time of flowering: | 2 |
| 2 | Branches and leaves glabrous, or the former slightly pubescent: | 3 |
| | Branches and leaves more or less tomentose: | 6 |
| 3 | Flowers solitary or paired in the axils of the leaves, or few and clustered at the end of a leafy shoot; sepals and petals over 5 mm. long: | 4 |
| | Flowers in lax axillary simple or slightly branched racemes; sepals and petals 2.5–3.5 mm. long; leaves lanceolate-elliptic, emarginate or mucronate, 3–6 cm. long, 2–2.5 cm. broad, sometimes rather densely pubescent beneath | <i>5. thonningii</i> |
| 4 | Petals 15–30 mm. long; flowers on stout pedicels (2–2.5 cm. long) clustered at the end of a leafy shoot; spines 4 mm. long, recurved: | 5 |
| | Petals 6–7 mm. long; flowers on slender pedicels (3 cm. long) in leaf-axils along the shoot; spines 3–4 mm. long, recurved; leaves ovate, rounded at base, 4–9 cm. long, 2–4.5 cm. broad | <i>4. viminea</i> |
| 5 | Ovary ribbed; petals at most emarginate; leaves very variable in shape, from obovate through elliptic to ovate and lanceolate, base cuneate to rounded, apex sharply acuminate to obtuse, 3–14 cm. long, 1.5–5 cm. broad | 2.
<i>erythrocarpos</i> |
| | Ovary not ribbed; petals bilobed; leaves broadly elliptic, rounded at each end, emarginate, 4.5–6 cm. long, 2.5–3.5 cm. broad | <i>3. biloba</i> |
| 6 | Flowers rather small; petals up to about 1 cm., sepals 5 mm. or less long: | 7 |

- Flowers larger; sepals 8–10 mm. long, petals about 3 cm. long:9
- 7 Calyx glabrous:8
- Calyx pubescent to densely tomentose, more or less thin; flowers 4–12 in short axillary cymes, sometimes appearing subfasciculate, pedicels 4–13 mm. long; leaves oblong or oblong-lanceolate, rounded at each end, emarginate or apiculate, 2–4 cm. long, densely tomentose when young, glabrescent7. *rothii*
- 8 Flowers in lax axillary simple or slightly branched racemes; sepals 2.5–3.5 mm. long; see above ..5. *thonningii*
- Flowers clustered in corymbs at the ends of short shoots; sepals about 5 mm. long, coriaceous; pedicels 1–1.5 cm. long; leaves tomentose on both surfaces, oblong or oblong-lanceolate, 2–4 cm. long, obtuse or emarginate6. *corymbosa*
- 9 Pedicels and sepals very shortly grey-tomentellous; flowers axillary along the shoots, sometimes also clustered towards the ends of the shoots; leaves oblong-elliptic to oblong-obovate, 2–5 cm. long, 1–3 cm. broad, nerves rather obscure beneath8. *tomentosa*
- Pedicels and sepals densely yellow-brown-pubescent; flowers corymbose at the ends of the shoots; leaves very variable in shape, 4–7.5 cm. long, 2–4.5 cm. broad, nerves obvious and often raised beneath ...9. *polymorpha*
1. **Capparis decidua** (Forsk.) Edgew. in J. Linn. Soc. 6: 184 (1862); Gilg & Benedict in Engl. Bot. Jahrb. 53: 203 (1915); Chev. Fl. Viv. 1: 171. *APD acc*
- Sodada decidua* Forsk. (1775).
Capparis aphylla Hayne ex Both—F.T.A. 1: 95.
- A shrub or small tree of desert regions, much branched, glabrous, with stipular spines, often leafless except on young shoots and barren branchlets.
- Sen.: Salde Heudelot 243. Fr. Nig.: fide Chev. l.c. N. Nig.: near L. Chad Denham & Clapperton.
- Also in Mauritania and extending to Eastern Sudan, Arabia and India.
2. **Capparis erythrocarpos** Isert—F.T.A. 1: 98; Gilg & Benedict. l.c. 200; Chev. Fl. Viv. 1: 172; Milne-Redhead in Kew Bull. 1950: 261. *APD acc*
- Capparis afzelii* DC., not of Pax.
Capparis warneckei Gilg & Benedict l.c. 201; F.W.T.A., ed. 1, 1: 85.
- A shrub, usually scandent; common in thickets of coastal scrub and inland; flowers white, often pink at the base of the stamens; fruit scarlet, ribbed, 2 in. long.
- Fr. G.: Boké (June) Chillou! S. L.: Afzelius! Ninia, Talla Hills Sc. Elliot 4917! Falaba (fr. Apr.) Sc. Elliot 5439! Mesima (fr. Apr.) Deighton 3701! Iv. C.: fide Chev. l.c. G. C.: Accra Plains (Apr.–July) T. Vogel! Moloney! Dalz. 129! Milne-Redhead 5087! Aburi Road (Feb.) Dalz. 8266! Prampram (Aug.) Vigne 4250! Togo: Lome (Sept.) Warnecke 258! Dah.: fide Chev. l.c. S. Nig.: Ilaro (Oct.) Onochie FHI 13544!
- Extends to Congo, Angola, A.–E. Sudan, Uganda and E. Africa.
3. **Capparis biloba** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 85 (1927); Kew Bull. 1928: 25; Chev. Fl. Viv. 1: 173.
- APD: Synonym of Capparis tomentosa Lam.*
- A prickly woody climber; flowers conspicuous, pink and white.
- Iv. C.: Cavally Basin, Beriby, near sea (Aug.) Chev. 20026. G. C.: Assuantsi (Sept.) Dalz. 160!
4. **Capparis viminea** Hook. f. & Thoms. ex Oliv. F.T.A. 1: 97 (1868), excl. distrib. Asiat.; Exell & Mendonca in Consp. Fl. Ang. 1: 63. [Not C. viminea Hook. f. & Thoms. in Fl. Brit. India 1: 179 (1872).] *APD acc*
- Capparis welwitschii* Pax & Gilg in Engl. Bot. Jahrb. 33: 214 (1903); F.W.T.A., ed. 1, 1: 85; Chev. Fl. Viv. 1: 174.
Capparis holliensis A. Chev. in Bull. Soc. Bot. Fr. Mém. 8: 137 (1912), partly.
- Scrambling prickly shrub; flowers white.
- Dah.: Abbo, Hollis country (Feb.) Chev. 22959! N. Nig.: Abinsi (Mar.) Dalz. 769! S. Nig.: Onitsha (Feb.) Jones FHI 5036!
- Also in Belgian Congo and Angola.

5. *Capparis thonningii* Schum.—F.T.A. 1: 97; Gilg & Benedict l.c. 190; Chev. Fl. Viv. 1: 173.

APD: *Synonym of Capparis brassii* DC.

Capparis holliensis A. Chev. in Bull. Soc. Bot. Fr. Mém. 8: 137 (1912), partly.

A prickly scrambling or climbing shrub, with dark-green leaves and white fragrant flowers; fruit orange or red, globose or shortly cylindrical, 1/2–3/4 in. diam.

S. L.: Forbes! **G. C.:** Accra (May) Dalz. 131! Milne-Redhead 5161! **Togo:** Lome (Nov.) Mildbr. 7499! Warnecke 60! 384! Sokode-Basari Kersting A. 728. **Dah.:** Hollis country, Pobe and Abomey (Feb.) Chev. 22943; 23160! **S. Nig.:** Abeokuta (Feb.) Irving 66! Ijaye to Oyo Barter 3326! Olokemeji (Mar.) Meikle 1298!

6. *Capparis corymbosa* Lam.—F.T.A. 1: 96; Chev. Fl. Viv. 1: 174.

APD: *Synonym of Capparis sepiaria* var. *fischeri* (Pax) DeWolf

Scrambling prickly shrub of **savannah**; flowers white, fruits spherical yellow.

Sen.: Roger! Perrottet! **Fr. Sud.:** & **Fr. Nig.:** very common fide Chev. l.c. **G. C.:** Lawra Seth Smith 8! **N. Nig.:** Kukawa (Apr.) E. Vogel 90! Dumbum (Mar.) Foster 30! Samae (Mar.) Foster 23! Zurmi (Apr.) Keay FHI 15848!

Extends to Eastern **Sudan** and E. Africa.

7. *Capparis rothii* Oliv. F.T.A. 1: 97; Chev. Fl. Viv. 1: 175.

APD: *Synonym of Capparis fascicularis* DC. var. *fascicularis*

? *C. oliveriana* Gilg in Engl. Bot. Jahrb. 33: 216 (from Gilg's description this does not appear to be distinct from *C. rothii* Oliv., but I have not seen Gilg's type—R.W.J.K.); F.W.T.A., ed. 1, 1: 185.

Scrambling shrub, to 20 ft. high, similar to the preceding, but calyx silky pubescent; petals and filaments white.

Gam.: Macarthy Isl. (Jan.) Dalz. 8123! **Fr. Sud.:** Ansongo, Gao (Mar.) De Wailly 5363! **S. L.:** Afzelius. **Fr. Nig.:** Zinder (Sept.) Hagerup 607! **N. Nig.:** Hadeija (Mar.) Dalz. 139! Katsina town (Apr.) Meikle 1366!

Extends to Abyssinia and E. Africa.

8. *Capparis tomentosa* Lam.-Guill. & Perr. Fl. Seneg. 23; F.T.A. 1: 96, partly (var. α); Gilg & Benedict l.c. 189, partly; Chev. Fl. Viv. 1: 175, partly. APD *acc*

Capparis puberula DC. (1824).

A thorny climbing shrub; flowers sweet-scented, petals white, stamens pink; fruit orange-yellow.

Sen.: Perrottet s.n.! 20! 21! 30! Sieber 32! Richard Tol Leprieur! Walo Heudelot! Dakar (Apr.) Hagerup 7! Thies (Feb.) De Wailly 4449! Berhaut 221! **Fr. Sud.:** R. Niger Monod 762! **G. C.:** Cape Coast Brass! Accra Don! **N. Nig.:** Hadeija (Mar.) Dalz. 137! Kukawa E. Vogel 22! L. Chad Talbot 509! 1238!

Widespread in dry regions of Africa.

9. *Capparis polymorpha* Guill. & Perr. Fl. Seneg. 24, t. 5 (1831).

APD: *Synonym of Capparis tomentosa* Lam.

Capparis tomentosa of F.T.A. 1: 96, partly (var. β); Gilg & Benedict l.c. 189, partly; F.W.T.A., ed. 1, 1: 85, partly; Chev. Fl. Viv. 1: 175, partly.

Sen.: M'boro Perrottet! Brunner 91! Cape Verde Perrottet 19! Ngazobil (May) Berhaut 1904! Casamance (Jan.) Chev. 2513! **Gam.:** Don! Albreda (Mar.) Perrottet 21! R. Gambia Heudelot 370! On the beach, Sukoko (Jan.) Dalz. 8124! Genieri (Feb.) Fox 29! **G. C.:** Namvilli to Pala, N.T. (Mar.) Kitson 967! **N. Nig.:** Plateau Prov. Kennedy FHI 8063! **Br. Cam.:** Buea (Jan.) Maitland 241!

Widespread in tropical Africa.

Forsk.—F.T.A. 1: 88; Gilg & Benedict in Engl. Bot. Jahrb. 53: 222 (1915).

- 1 Leaves more or less orbicular, 1–3 cm. in diam., like the branchlets glandular-setose, distinctly petiolate; petal 1, unguiculate, oblong, about 2 cm. long [1. glandulosa](#)
 Leaves oblong or elliptic, up to 2.5 cm. long and 1 cm. broad, like the branchlets mealy-puberulous, very shortly petiolate; petals 4, linear or narrowly oval, clawed [2. farinosa](#)

1. **Cadaba glandulosa** *Forsk.*—F.W.T.A. 1: 89; Gilg & Benedict in Engl. Bot. Jahrb. 53: 225 (1915); Chev. Fl. Viv. 1: 177. *APD acc*

A low much-branched shrub; fruit glandular-bristly, about 1/2 in. long.

Fr. Sud.: Goundam (Aug.) Chev. 2508! Tacadji (Aug.) Chev. 2506. **Fr. Nig.:** fide Chev. l.c.

Extends to Red Sea and [Arabia](#), Somaliland and E. Africa.

2. **Cadaba farinosa** *Forsk.*—F.T.A. 1: 89; Gilg & Benedict l.c.; Chev. Fl. Viv. 1: 178.

APD: Synonym of Cadaba benguellensis Mendes

A hoary shrub, branched from the base, erect or scrambling amongst other shrubs and trees; fruits subtorulose, 11/2–21/2 in. long.

Sen.: Walo Heudelot! Dakar (Apr.) Hagerup 2! **Fr. Sud.:** Sebi (July) Chev. 1164! Gourma, Konkobiri (July) Chev. 24323! **G. C.:** Kubori to Mangkurugu (May) Kitson 504! Kumbungu (May) Kitson 505! Yambga (Mar.) Vigne 4730! **N. Nig.:** Sokoto Ryan 37! Katagum (Nov.) Dalz. 140! Near L. Chad (Dec., Jan.) E. Vogel 19! Elliott 113!

All over the [Sudan](#) to the Red Sea, S. [Arabia](#) and India, and E. Africa.

6. CRATEVA

Linn.—F.T.A. 1: 99.

- 1 A tree; branches glabrous; leaves trifoliate, appearing after the flowers; leaflets ovate-lanceolate, narrowed into the petiolule at the base, acutely long-acuminate, about 9 cm., rarely up to 12 cm. long, 3–5 cm. broad, thinly papery, glabrous, finely reticulate beneath; flowers white with the stamens and sometimes the tips of the petals lilac; fruits subglobose, stoutly long-stipitate, 4–5 cm. or more in diameter, with a hard yellow pericarp [religiosa](#)

Crateva religiosa *Forst. f.*—F.T.A. 1: 99; Gilg & Benedict in Engl. Bot. Jahrb. 63: 169 (1915); Aubrév. Fl. For. Soud.-Guin. 45.

APD: Synonym of Crateva adansonii DC. subsp. adansonii

Crateva adansonii *Oliv.*—F.W.T.A., ed. 1, 1: 86; Chev. Fl. Viv. 1: 179.

A tree in [savannah](#), often planted, 15 to 20 ft. or more high; flowers appearing before the leaves, generally in February.

Sen.: Sieber 28! Richard Tol (May) Döllinger 62! Walo Heudelot! **Gam.:** Sounders 58! **Fr. Sud.:** Gao (Apr.) De Wailly 5379! **Fr. G.:** Kankan (May) Chev. 567! Kouroussa (Jan.) Pobéguin 643! **G. C.:** Shai Plains (Feb.) Irvine 1975! Accra Plains (fl. & fr. Apr.) Bally 57! **N. Nig.:** Ketsa, Nupe Barter 1103! Sokoto (Feb., Apr.) Ryan 33! 62! Lely 806! Katagum Dalz. 399! Bauchi Plateau (Mar.) Lely P. 185! Bornu (Apr.) E. Vogel 77! Yola (Mar.) Dalz. 181! **S. Nig.:** Lagos (Dec.) Dalz. 1149! Fiditi Foster 167!

Widely spread throughout drier parts of tropical Africa north of the equator and in India and Burma.

7. RITCHIEA

R. Br.—F.T.A. 1: 100; Gilg & Benedict in Engl. Bot. Jahrb. 53: 173 (1915).

- 1 Petals numerous (8–20), generally linear or filiform; inflorescences generally at the end of the shoots, not, or rarely, axillary along the shoots:2
- Petals 4, generally spatulate or broadly linear, or obovate:8
- 2 Erect shrubs; pedicels generally less than 4.5 cm. long in open flowers:3
- Scandent shrub or liane; pedicels generally more than 4.5 cm. long in open flowers, inflorescences terminal on relatively short lateral branches; leaves 3-foliolate, rarely simple; leaflets broadly elliptic to obovate, lateral leaflets unequal at base, abruptly and very shortly acuminate, sometimes with acumen bent back, up to 16 cm. long and 7 cm. broad; lateral nerves about 4 [7. longipedicellata](#)
- 3 Leaves 3–5-foliolate:4
- Leaves all simple:7
- 4 Leaves generally 5-foliolate, but with some 3-foliolate leaves; pedicels 1.5–4.5 cm. long, closely arranged in many-flowered inflorescences, bracts lanceolate, 1.5–2 cm. long; leaflets oblong-ob lanceolate, acutely acuminate, gradually narrowed to base, 15–20 cm. long, 5–7 cm. broad [1. pentaphylla](#)
- Leaves 3-foliolate; pedicels 1.5–3 cm. long:5
- 5 Stamens and petals up to 5 cm. long; lateral nerves 6–10 pairs:6
- Stamens 6 cm. long, petals 7–8 cm. long; leaflets with 3–5 pairs of lateral nerves, oblong, 8–16 cm. long, 4–8 cm. broad, long-acuminate [4. macrantha](#)
- 6 Leaflets very shortly and abruptly acuminate, up to 15 cm. long and 6 cm. broad; petals about 8 [2. erecta](#)
- Leaflets gradually acutely long-acuminate, 11–30 cm. long, 5–12 cm. broad; petals about 14 [3. polypetala](#)
- 7 Leaves coriaceous, lateral nerves deeply impressed above, very prominent beneath, markedly looped with a strong intra-marginal nerve, obovate-elliptic, 15–20 cm. long, 5–7 cm. broad; inflorescence very shortly racemose; pedicels about 2 cm. long [5. simplicifolia](#)
- Leaves thinly papery, lateral nerves slightly prominent or slightly impressed above, slightly prominent beneath; looped with a rather weak intra-marginal nerve, oblanceolate to oblong-obovate, 18–25 cm. long, 8–10 cm. broad; inflorescence shortly racemose; pedicels 0.5–2.5 cm. long [6. brachypoda](#)
- 8 Petals shorter than the sepals; sepals 5–6 mm. long; leaves always simple, obovate to oblong-ob lanceolate, acuminate, 8–12 cm. long, 3–5 cm. broad, with about 10 prominently looped lateral nerves; pedicels slender, about 2.5 cm. long [8. duchesnei](#)
- Petals longer than the sepals; sepals at least 1.5 cm. long:9
- 9 Leaves 3-foliolate, sometimes with unifoliolate leaves as well (especially in *R. albersii*):10
- Leaves all simple or unifoliolate:12
- 10 Inflorescences axillary along the shoots as well as terminal; scandent shrubs or lianes:11
- Inflorescences terminal only; tree or erect shrub; leaflets ovate-oblong to elliptic, acuminate, cuneate at base, 7–14 cm. long, 2.5–6 cm. broad, 4–7 pairs of lateral nerves; simple leaves usually present with the 3-foliolate, especially near the inflorescence [11. albersii](#)
- 11 Lateral nerves 4–7 pairs, slightly raised on the upper surface, not very prominent beneath; leaflets oblong-elliptic, up to 20 cm. long and 7 cm. broad, gradually acuminate [9. capparoides](#)
- Lateral nerves 2–4 pairs, impressed above, very prominent beneath; leaflets ovate-rotundate, up to 12 cm. long and 7 cm. broad [10. fragariodora](#)
- 12 Tree or erect shrub with long-petiolate (well over 1 cm.) unifoliolate leaves and terminal many-flowered inflorescence; see above [11. albersii](#)
- Scandent or low shrubs with simple leaves; petiole up to 1 cm. long:13
- 13 Sepals oblong, 1.5 cm. long, 5 mm. broad, acutely long-acuminate; petals about 2.5 cm. long [12. afzelii](#)
- Sepals broadly oblong-ovate, 2–2.5 cm. long, about 1 cm. broad, obtusely mucronate; petals about 5 cm. long; leaves ovate-elliptic, obtuse and shortly mucronate at apex, rounded at base, 7–15 cm. long, 3–7 cm. broad [13. reflexa](#)

1. *Ritchiea pentaphylla* Gilg & Benedict in Engl. Bot. Jahrb. 53: 180 (1915).

APD: *Synonym of Ritchiea erecta* Hook. f.

APD: *Synonym of Ritchiea albersii* Gilg

Erect shrub, flowers white.

S. Nig.: Lagos (Apr., Aug.) Rowland! Moloney 10! Punch 27. Ilaro (May) Millen 102! Abeokuta Barter 3378!

2. *Ritchiea erecta* Hook. f.—Gilg & Benedict l.c. 181. *APD acc*

Erect shrub, calyx green, petals and filaments white.

F. Po: (Nov.) T. Vogel 227! Bokoko (Oct.) Mildbr. 6934.

3. *Ritchiea polypetala* Hook. f. in Bot. Mag. t. 5344 (1862), excl. distrib. Abeokuta; Gilg & Benedict l.c. 180.

APD: Synonym of Ritchiea erecta Hook. f.

Ritchiea glossopetala Gilg in Engl. Bot. Jahrb. 33: 210 (1903); F.W.T.A., ed. 1, 1: 87.

Ritchiea obanensis Hutch. & Dalz. F.W.T.A., ed. 1, 1: 86; Kew Bull. 1928: 25.

Erect shrub.

S. Nig.: Oban Talbot 58! Crosa R. (Dec.) Holland 231! **Br. Cam.:** Victoria (Oct., Nov.) Preuss! Ludwigs 586! **F. Po:** Mann!

[The type of *R. polypetala* Hook. f. is a specimen grown at Kew from material sent by Mann from an unspecified part of West Africa. I suggest it came from Fernando Po where Mann collected herbarium material of what is evidently the same species—R.W.J.K.]

4. *Ritchiea macrantha* Gilg l.c. 211 (1903); Gilg & Benedict l.c. 180. *APD acc*

Erect shrub.

S. Nig.: Cross R. (July) Johnson! **Br. Cam.:** Barombi Preuss 392!

5. *Ritchiea simplicifolia* Oliv. F.T.A. 1: 100 (1868); Gilg & Benedict l.c. 183. *APD acc*

A shrub in forest, 4–6 ft. high.

Br. Cam.: Cameroons R. (Jan.) Mann 2190!

Also in **French Cameroons** and **Spanish Guinea**.

6. *Ritchiea brachypoda* Gilg in Engl. Bot. Jahrb. 33: 213 (1903).

APD: Synonym of Ritchiea erecta Hook. f.

Erect shrub, to 2 ft. high, in dense forest; petals white, stamens pale bluish-green.

Br. Cam.: Barombi, between Mafura and Mambanda (Dec.) Preuss 50! S. Bakundu F.R. (Jan.) Keay FHI 28557!

7. *Ritchiea longipedicellata* Gilg l.c. 211 (1903); Gilg & Benedict l.c. 181; Chev. Fl. Viv. 1: 182.

APD: Synonym of Ritchiea capparoides var. *longipedicellata* (Gilg) DeWolf

Scandent shrub, calyx green, petals and stamens cream; fruit 2–2½ in. long.

Togo: Afern Kersting A. 564. **Dah.:** fide Chev. l.c. **S. Nig.:** Lagos, Ikoyi Plains (Feb.) Dalz. 1150! Ebute Metta (Oct.) Millen 8! Near Abeokuta (Jan.) Irving 153! Rowland! Millson! Russell FHI 25655! Ibadan (Dec.) Meikle 906! Ubulubu, Asaba Div. (Feb.) Thomas 2322!

8. *Ritchiea duchesnei* (De Wild.) Keay in Kew Bull. 1952: 161, t. 2.

APD: Synonym of Maerua duchesnei (De Wild.) F. White

Capparis duchesnei De Wild. in Miss. Laurent 1: 87 (1905).

Capparis afzelii Pax in Engl. Bot. Jahrb. 14: 299 (1891), not of DC. (1824); Gilg & Benedict l.c. 199; F.W.T.A., ed. 1, 1: 85; Chev. Fl. Viv. 1: 170.

A small tree, or shrub, in forest, with smooth red-brown bark and shining leaves; petals white, turning reddish, stamens red; fruit ellipsoid, 1–1½ in. long.

S. L.: Afzelius! Benna (Jan.) Sc. Elliot 5433! **iv. C.:** fide Chev. l.c. **G. C.:** Atrokpe, Krobo (Nov.) Irvine 1703! Ejan, N. Agogo (Jan.) Vigne 1783! **Dah.:** Hollis country, between Masse and Ketou (Feb.) Chev. 23010! **S. Nig.:** Lagos Foster 56! Olokemeji (Nov.) Jones FHI 4937! **Br. Cam.:** Barombi (Sept.) Preuss 545! Staudt 765.

Also from **French Cameroons** to **A.–E. Sudan**, **Uganda** and **Belgian Congo**.

9. **Ritchiea capparoides** (*Andr.*) *Britten* in J. Bot. 55: 279 (1917). *APD acc*

Crateva capparoides *Andr.* Bot. Rep. t. 176 (1801).

Crateva fragrans *Sims* in Bot. Mag. t. 596 (1802).

Ritchiea fragrans (*Sims*) *R. Br.*—F.T.A. 1: 101, partly (excl. syn.); Gilg & Benedict l.c. 176; F.W.T.A., ed. 1, 1: 87; Chev. Fl. Viv. 1: 181.

Scandent shrub or liane to 20 ft. high; calyx bright green, petals pale green, filaments white.

Sen.: Badioure to Bignona (Feb.) Chev. 2509! **Port. G.:** Pussube (Mar.) Esp. Santo 1147! **S. L.:** Bunce Isl. (Mar.) Kirk 31! Rowala (fr. July) Thomas 1206! Njala (Mar.) Deighton 1934! Yoni, Bonthe Isl. (Mar.) Deighton 2467! Newton (fr. May) Deighton 2756! **Lib.:** Monrovia Whyte! Grand Bassa Dinklage 1937. **iv. C.:** fide Chev. l.c. **Togo:** Boto Busse 3628. **Dah.:** Burton! **S. Nig.:** Lagos Foster 72! Otta Barter 3377! **Br. Cam.:** S. Bakundu F.R. (Mar.) Brennan 9429!

Also in **French Cameroons**, **Gabon** and **Kenya**.

10. **Ritchiea fragariodora** *Gilg* in Engl. Bot. Jahrb. 33: 207 (1903); Gilg & Benedict l.c. 176.

APD: *Synonym of Ritchiea capparoides (Andrews) Britten var. capparoides*

Scandent shrub 15–20 ft. high.

S. Nig.: Eket Talbot 3147! Degema Taloot! Calabar (Feb.) Mann 2263!

Also in **French Cameroons** and **Angola**.

11. **Ritchiea albersii** *Gilg* l.c. 208 (1903); Gilg & Benedict l.c. 178. *APD acc*

Ritchiea macrocarpa *Gilg* l.c.; F.W.T.A., ed. 1, 1: 87.

Tree, to 35 ft. high, in **forest**; calyx green, petals pale green, stamens yellow; fruit ovoid, up to 2 1/2 in. long.

S. Nig.: Ikwette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25212! **Br. Cam.:** Buea, 3,000–3,200 ft. (fl. Jan., fr. Apr., May) Lehm巴赫 180! 223! Maitland 188! 716!

Also widespread in eastern Africa.

12. **Ritchiea afzelii** *Gilg* l.c. 212 (1903); Gilg & Benedict l.c. 183; Chev. Fl. Viv. 1: 183. *APD acc*

Shrub with slender erect shoots, to 18 in. high.

Fr. G.: Diaragouela (Feb.) Chev. 477. **S. L.:** Afzelius.

13. **Ritchiea reflexa** (*Thonn.*) *Gilg & Benedict* l.c. 183 (1915); Chev. Fl. Viv. 1: 182. *APD acc*

Capparis reflexa *Thonn.*—F.T.A. 1: 98.

Maerua grandiflora *Pax* (1892).

Ritchiea grandiflora (*Pax*) *Gilg* (1903).

Scandent shrub, flowers cream.

Fr. G.: Kouroussa (Feb.) Chev. 365. **G. C.:** Accra (fl. Jan.–Mar., fr. Apr.) Dalz. 130! Milne-Redhead 5056! Shai Plains (Jan.) Johnson 562! Akroful Cummins 21! Assuantsi (Feb.) Dalz. 8295! Adafo (Nov.) Krause! **Togo:** Lome (Nov.) Warnecke 61! Mildbr. 7508! Akepe Busse 3262. Ho Schröder 202.

8. EUADENIA

Oliv.—F.T.A. 1: 90.

- 1 Racemes short and subcorymbose; pedicels stout, 5–6 cm. long; leaflets subsessile, about 16 cm. long; petals

yellow; fruits unequally torulose, 15–30 cm. long, 6–10 mm. in diam. [1. *eminens*](#)

Racemes elongated; pedicels slender, not more than 3 cm. long; leaflets distinctly petiolulate: [2](#)

- 2** Larger petals up to 6 mm. broad, 3.5–8 cm. long, green, turning red; sepals 7–12 mm. long; leaflets acuminate, long-petiolulate, up to about 15 cm. long, variable in shape; fruit cylindrical, not torulose, about 5 cm. long and 1.8 cm. in diam. [2. *trifoliolata*](#)

Larger petals up to 2 cm. broad, up to 8 cm. long, broadly oblanceolate, yellow with conspicuous red veins; leaflets broadly obovate, long-acuminate, up to 17 cm. long and 7 cm. broad, very long petiolate, but petiolules less than 1 cm. long; fruit not known [3. *pulcherrima*](#)

- 1. *Euadenia eminens* Hook. f. Bot. Mag. t. 6578 (1881); Gilg & Benedict in Engl. Bot. Jahrb. 58: 170 (1915); Chev. Fl. Viv. 1: 183. *APD acc***

***Euadenia major* Hua-Chev. Bot. 32.**

A branching rather soft-wooded shrub, 2–5 ft. high, with strong odour.

S. L.: Smeathmann! Bagroo R. Mann 872! Kukuna, Scarcies R. (Jan.) Sc. Elliot 4758! Waterloo (Oct.) Lane-Poole 299! Mamaka (fr. Nov.) Thomas 4411! Juring (Dec.) Deighton 304! **Lib.:** Grand Bassa Dinklage 1622. Sinoe Basin Whyte! Ganta (Apr.) Harley! **Iv. C.:** fide Chev. l.c. **G. C.:** Adija (May) Chipp 430! Kwahu Plateau (May) Kitson 1181! Amentia Irvine 534!

- 2. *Euadenia trifoliolata* (Schum. & Thonn.) Oliv. F.T.A. 1: 91 (1868), partly; Gilg & Benedict l.c.; Chev. Fl. Viv. 1: 170; Aubrév. Fl. For. C. Iv. 1: 134, t. 47. *APD acc***

***Stroemia trifoliolata* Schum. & Thonn. (1827).**

***Pteropetalum klingii* Pax (1801).**

***Euadenia monticola* Gilg & Benedict l.c.; F.W.T.A., ed. 1, 1: 87.**

Shrub, 6–12 ft. high.

Iv. C.: Banco Aubrév. 457! **G. C.:** Thonning. Johnson 104! Koforidua (July) Vigne 4416! **Togo:** Bismarckburg (June) Kling 63! **S. Nig.:** Lagos (Aug.) Lamborn 23! Foster 196! Rowland! Abeokuta Barter 3386! Epe (Feb.) Millen 169! Sobo Plains (Mar.) Freeman 306! Calabar (Feb.) Mann 2276! Degema Talbot! **Br. Cam.:** Buea (Nov.–Jan.) Diestel 1221 Maitland 315! Cam. Mt., 3,000 ft. (Feb.) Mann 1178! Bonakanda (Dec.) Maitland 1213!

- 3. *Euadenia pulcherrima* Gilg & Benedict l.c. 171 (1915).**

APD: *Synonym of Euadenia eminens Hook. f.*

Shrub, to 6 ft.

Br. Cam.: Likomba (Nov.) Mildbr. 10626!

Also in **French Camerouns**.

9. BUCHHOLZIA

Engl. Bot. Jahrb. 7: 335 (1886); Gilg & Benedict in Engl. Bot. Jahrb. 53: 213 (1915).

- 1** Branchlets stout, glabrous; leaves elongate-obovate or elliptic, shortly acuminate, 18–27 cm. long, 8–10 cm. broad, thinly coriaceous, glabrous; midrib very prominent beneath; lateral nerves about 10, arcuate, looped, prominent beneath; veins very lax; petiole up to 12 cm. long, swollen for about 1 cm. at the apex; racemes axillary, simple or slightly branched, up to 15 cm. long; pedicels 0.5–1 cm. long; bracts small, hook-like; flowers about 1.5 cm. long; sepals broad, 3 mm. long; stamens numerous; fruit ellipsoid, about 9 cm. long, 6 cm. broad, with thick woody endocarp about 8 mm. thick; seeds 2–3, about 2.5 cm. diam. with flattened sides; stipes 1.5 cm. long, stout [coriacea](#)

Buchholzia coriacea* Engl. Bot. Jahrb. 7: 335 (1886); Pax in Engl. Bot. Jahrb. 14: 301, t. 4; Chev. Fl. Viv. 1: 186. *APD acc

***Buchholzia macrophylla* of Chev. Bot. 29, not of Pax.**

***Buchholzia engleri* Gilg (1903).**

Evergreen **understorey tree of forest**, 30–60 ft. high; slash deep red; flowers cream; fruits yellowish when ripe; seeds blackish, spicy-tasted.

Fr. G.: Nzérékoré Jac.-Fel. 1141! **S. L.:** Dodo (planted) (fr. Apr.) Deighton 3914! Kambul Hills Sawyerr FHN 13563! **Iv. C.:** Alepé (Mar.) Chev. 16238! Abidjan (Nov.) Aubrév. 162! **G. C.:** Atroni (Aug.) Vigne 2439! Pamu, Berekun F.R. (Sept.) Vigne 2494! **S. Nig.:** Akure F.R. (Nov.) Keay FHI 25536! Sapoba (June) Kennedy 1661! Eket Talbot 3368! **Br. Cam.:** Johann-Albrechtshöhe Staudt 7641

Also in **French Cameroons** and **Gabon**.

10. BOSCIA

Lam.—F.T.A. 1: 91; Gilg & Benedict in Engl. Bot. Jahrb. 53: 203 (1915).

- 1 Leaves elongate-lanceolate or linear, willow-like, very acute, up to 12 cm. long, 1–1.5 cm. broad, midrib prominent beneath and often straw-coloured, with rather obscure ascending lateral nerves; inflorescence densely racemose, usually leafless, shortly tomentose; fruit smooth and shining, 1–1.25 cm. in diam. [1. *salicifolia*](#)

Leaves shortly lanceolate or oblong-lanceolate, up to 5 cm. long, 1–1.5 cm. broad, mucronate to reflex, very finely and closely reticulate, glabrous; inflorescence accompanied by the leaves, shortly racemose, slightly pubescent, terminating short leafy branchlets; fruit pitted and rugulose, globose, 1–1.25 cm. in diam. 2. *angustifolia*..... [2. *Boscia*](#)

Leaves elliptic to ovate-elliptic, obtuse or mucronate, up to 9 cm., very rarely up to 14 cm. long, 2–4 cm. broad, with about 5–6 lateral nerves raised on both surfaces and prominently looped, distinctly reticulate, glabrous or more usually finely pubescent; racemes accompanied by the leaves, short, crowded, corymbose, thinly pilose; fruit globose, 1–1.5 cm. in diam., warted and sometimes slightly tomentellous [3. *senegalensis*](#)

1. ***Boscia salicifolia* Oliv.** F.T.A. 1: 93 (1868); Gilg & Benedict in Engl. Bot. Jahrb. 53: 211 (1915); Chev. Fl. Viv. 1: 190 (incl. var. *nivea* A. Chev.); Aubrév. Fl. For. Soud.-Guin. 47. **APD acc**

APD: *Synonym of Boscia praecox Hauman*

Savannah tree, up to 40 ft. high with graceful drooping foliage.

Sen.: Kounoun Trochain 1150. **Fr. Sud.:** Gourma Chev. 24456. **Iv. C.:** Bouzoum Aubrév. 2681. **G. C.:** Nebiowalli, Guo Hills (May) Kitson 508! **N. Nig.:** Sokoto (Jan.) Gillman 2! Zurmi (fr. Apr.) Keay FHI 16165! Yola (Feb.) Dalz. 182!

Extending to the Red Sea; widespread in E. Africa, and extending to Bechuanaland.

2. ***Boscia angustifolia* A. Rich.** in Gulll. & Perr. Fl. Seneg. 26, t. 6 (1830); F.T.A. 1: 92; Gilg & Benedict l.c. 210; Chev. l.c. 1: 189; Aubrév. l.c. 49. **APD acc**

***Boscia tenuifolia* A. Chev.** l.c. 190 (fide Aubrév. l.c.).

Shrub or small tree of **savannah**, to 25 ft. high, with glabrous branches; flowers greenish, fragrant.

Sen.: Walo and Bondou Heudelot 361! Tivaouane (Dec.) Chev. 2499! Thies (Dec.) Chev. 2501! **Fr. Sud.:** Koulikoro (Oct.) Chev. 2511. Ouacoro (Oct.) Chev. 2497! **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Sokoto to Birnin Kebbi (Oct.) Dalz. 381! Lema F.R., Argungu (Nov.) Jibrin FHI 5152! Nupe Barter 1730! Jebba (Dec.) Hagerup 749a!

Throughout the **Sudan** to Abyssinia and S. **Arabia**.

3. ***Boscia senegalensis* (Pers.) Lam. ex Poir.**—F.T.A. 1: 92; Gilg & Benedict l.c. 209; Chev. Fl. Viv. 1: 187; Aubrév. l.c. 49. **APD acc**

***Podoria senegalensis* Pers.** (1806).

***Boscia octandra* Hochst. ex Radlk.** (1884); Chev. l.c. 188.

Shrub or small tree of **savannah**.

Sen.: Dakar (Dec.) Vigne 1772! Debeaux 149! And many other localities fide Chev. l.c. **Fr. Sud.:** San (fr. June) Chev. 1071! Djinyin (Aug.) Chev. 2495! And many other localities fide Chev. l.c. **Fr. Nig.:** Zinder (Oct.) Hagerup 574a! Birnin Kebbi (Oct.) Dalz. 381a! Sabon Birni (Dec.) Ryan 64! Sokoto Lely 851! Katagum Dalz. 143! Kukawa (Apr.) E. Vogel 93!

Also in **Mauritania** and extends to Eastern **Sudan** and Abyssinia.

11. COURBONIA

Brongn.—F.T.A. 1: 87; Gilg & Benedict in Engl. Bot. Jahrb. 53: 216 (1915).

- 1 A glaucous glabrous shrub; branches long and slender, leafy, ribbed; leaves lanceolate to elliptic, acutely acuminate, 2–3 cm. long, almost sessile, mostly obscurely 3-nerved; flowers solitary, axillary; pedicel 2 cm. long; sepals united at the base, free part ovate, about 1 cm. long, acute; fruits ovoid or ellipsoid, beaked, 2 cm. long, long-stipitate, smooth [virgata](#)

Courbonia virgata *Brongn.*—F.T.A. 1: 88; Gilg & Benedict in Engl. Bot. Jahrb. 53: 217 (1915); Chev. Fl. Viv. 1: 192.

APD: *Synonym of Maerua pseudopetalosa (Gilg & Gilg-Ben.) DeWolf*

Courbonia pseudopetalosa *Gilg & Benedict* l.c.; F.W.T.A., ed. 1, 1: 89.

A low shrub or undershrub, 1–2 ft. high, with straight branches from a woody rhizome, smelling of dung; flowers greenish-white; stamens white.

Sen.: Ferlo Heudelot 158! **Fr. Sud.:** Gourma (July) Chev. 24332. **G. C.:** Bele Plateau (May) Kitson 789! Bunsuru (May) Vigne 3846! **N. Nig.:** Bornu (Nov.–Feb.) Elliott 131! Talbot 1217! Yola (Jan.) Dalz. 180!

Extends to **Uganda**, A.–E. **Sudan**, Somaliland and Abyssinia.

MORINGACEAE

Trees with gummy bark. Leaves deciduous, alternate, 2–3 times pinnate, pinnae opposite; stipules none, or represented by stipitate glands at the base of the petioles and pinnae. Flowers in axillary panicles, white or red, hermaphrodite, zygomorphic. Calyx-tube short, with 5 unequal spreading or reflexed lobes, the fifth posticous, imbricate. Petals 5, the two upper smaller, the lateral ones ascending, the anticus larger. Disk lining the calyx-tube, with a short free margin. Stamens inserted on the margin of the disk, declinate, 5 perfect, alternating with the same number of antherless stamens or reduced to setae; filaments free; anthers dorsifixed, 1-celled, opening lengthwise by a slit. Ovary stipitate, terete, villous, curved, 1-celled, with 3 parietal placentas; style terminal, slender, tubular, truncate at the apex; ovules numerous, in 2 series on each placenta. Capsule long, beaked, 3–6-angled, torulose, 1-celled, 3-valved. Seeds 3-winged or not; embryo without endosperm, straight.

Natives of India and **Arabia**, but now introduced into the tropics generally.

Easily recognized by the compound-pinnate leaves, zygomorphic flowers, shortly stipitate ovary with parietal placentas, and the long fruit and winged seeds.

MORINGA

Adans.—F.T.A. 1: 101.

- 1 A tree with soft wood and pale bark; leaves 2–3-pinnate; rachis softly pubescent; leaflets opposite, up to about 5 pairs, the terminal one larger, all more or less elliptic, rounded at each end, shortly petiolulate, 1–2 cm. long, glaucous beneath and very slightly pubescent; flowers white, paniculate; calyx-tube campanulate, lobes 5, longer than the tube, finely pubescent; petals unequal, slightly longer than the sepals; fruit 3-angled, elongate-linear, about 1 ft. long; seeds globose, with 3 membranous wings produced beyond the ends [oleifera](#)

Moringa oleifera *Lam.* Encyl. 1: 398 (1785); Pax in E. & P. Pflanzenfam. 17B: 697 (1936). *APD acc*

M. pterygosperma Gaertn. (1791)—F.T.A. 1: 101; F.W.T.A., ed. 1, 1: 90; Chev. Fl. Viv. 1: 194. **Sen.:** Roger! St. Louis Brunner! Djoloff (Feb.) Dubai 275! **Fr. Sud.:**, **Fr. Nig.:** & **Dah.:** fide Chev. l.c. **S. L.:** between Tombo and Kent (May) Deighton 2754! **G. C.:** Yendi and Wa (Feb.) McLeod 813! 821! **N. Nig.:** Bauchi Plateau (Mar.) Lely P. 194! **S. Nig.:** Lagos (Sept.) Punch 20! Dawodu 39! Obu Thomas 63!

Native of India. cultivated all over the tropics.

CRUCIFERAE

Annual or perennial herbs, rarely somewhat shrubby, with watery juice. Indumentum of simple, medifixed or stellate hairs, rarely glandular. Leaves alternate or rarely opposite; stipules absent. Flowers hermaphrodite, mostly actinomorphic, usually racemose, rarely bracteate. Sepals 4, free, imbricate in 2 series, rarely valvate. Petals 4, rarely 0, mostly equal, often long-clawed, imbricate or contorted. Glands mostly present on the torus, often opposite the sepals. Stamens 6, tetradynamous, very rarely numerous or fewer, free or connate in parts; anthers 2– (rarely 1–) celled, opening lengthwise. Ovary sessile or rarely stipitate, usually of 2 united carpels, 1-celled with 1–2 parietal placentas and divided by a spurious membranous septum, or sometimes transversely several- or many-celled; stigmas 2, free or connate; ovules usually many. Fruit elongated (silique) or short (silicule), bivalved or indehiscent, rarely transversely jointed. Seeds without endosperm (very rarely a little endosperm present); embryo usually folded; cotyledons accumbent or incumbent.

A large natural family widely spread throughout the world, but poorly represented in our area.

At once recognized by the herbaceous habit, four sepals and petals, and six stamens, four of which are longer and two shorter (tetradynamous).

- | | | |
|---|---|------------------------------|
| 1 | Indumentum of stellate or medifixed hairs:..... | 2 |
| | Indumentum of simple hairs, or glabrous:..... | 3 |
| 2 | Indumentum of stellate hairs; seeds thick, not winged | 1. Eremobium |
| | Indumentum of appressed medifixed hairs; seeds compressed, broadly winged | 2. Farsetia |
| 3 | Fruits linear, much longer than broad:..... | 4 |
| | Fruits nearly as broad as long, more or less elliptic and winged: | 6 |
| 4 | Fruits with a strongly marked midrib between the sutures | 3. Brassica |
| | Fruits without a distinct midrib between the sutures: | 5 |
| 5 | Seeds usually in 2 series; fruit comparatively short; leaves pinnately divided | 4. Rorippa |
| | Seeds in a single series; fruits rather elongate; leaves pinnately partite or trifoliolate | 5. Cardamine |
| 6 | Fruits small, narrowly winged only towards the apex; leaves much divided into linear segments; seeds subtergird | 6. Lepidium |
| | Fruits fairly large, broadly winged all round; leaves deeply cordate and amplexicaul at the base, entire; seeds flattened | 7. Schouwia |

1. EREMOBIUM

Boiss.—O. E. Schuiz in E. & P. Pflanzenfam. 17B: 570 (1936). *APD acc*

- 1 Annual or perennial herb, woody at the base, prostrate or ascending, forming compact clumps to 30 cm. high; stems and narrowly oblong entire leaves densely white stellate-pubescent; flowers in dense racemes, sepals about 5 mm. long, exceeded by the pink petals; fruits 2–3 cm. long, pubescent, somewhat constricted between the seeds[aegyptiacum](#)

Eremobium aegyptiacum (*Spreng.*) *Hochr.* in Ann. Conserv. Jard. Bot. Genev. 7–8: 159 (1904); Burt & Lewis in Kew Bull. 1949: 287. *APD acc*

Malcolmia aegyptiaca *Spreng.-Chev.* Fl. Viv. 1: 217.

Fr. Nig.: Tabello Petit-Lagrange 55. Agades to Tintaouine Chev. 43484. Tasolé Chev. 43515.

Also in [Mauritania](#), [Sahara](#), [N. Africa](#), [Egypt](#), [Palestine](#) and [Arabia](#).

2. FARESTIA

Turra—F.T.A. 1: 61.

- 1 Petals about 6 mm. long, slightly longer than the 4–5 mm. long pubescent sepals; flowers few in lax racemes;

fruits oblong with sinuate margins up to 2.5 cm. long, rather densely covered with appressed medifixed hairs, 4–5 seeded, beaked with the persistent style; stems rather woody, densely covered with closely appressed medifixed hairs, leaves linear, obtuse, entire, 1-nerved, 4–5 cm. long, up to 5 mm. broad, usually less, covered on both surfaces with long appressed medifixed hairs [1. ramosissima](#)

Petals about 2 cm. long, sepals about 1 cm. long with membranous margins; flowers in elongated racemes; fruits linear with nearly straight margins, distinctly 1-nerved, about 4 cm. long, rather thinly pubescent with appressed hairs, beaked; leaves up to 8 cm. long and 5 cm. broad [2. stenoptera](#)

1. *Farsetia ramosissima* Hochst. ex Fourn.—F.T.A. 1: 63; Chev. Fl. Viv. 1: 222.

APD: *Synonym of Farsetia stylosa R. Br.*

Pale green twiggy herb; flowers white.

Fr. Sud.: Larneb Monod 4033. Goundam (Aug.) Chev. 2554! Timbuktu (July) Hagerup 178! **Fr. Nig.:** several localities fide Chev. l.c. **N. Nig.:** L. Chad: Kalkala Golding 70! Baga (Jan.) Daggash FHI 24965!

Extends to the A.–E. **Sudan**.

2. *Farsetia stenoptera* Hochst. in Flora 31: 176 (1848); F.T.A. 1: 62. *APD acc*

***Farestia grandiflora* Fourn.** in Bull. Soc. Bot. Fr. 11: 55 (1864); F.T.A. 1: 62; Chev. Fl. Viv. 1: 220, incl. var. *apiculata* A. Chev. (petals pure white, oblong-apiculate).

Erect herb, flowers pink.

Fr. Sud.: Ouahigouya (Aug.) Chev. 24736! Yatenga (Aug.) Chev. 24776! **Fr. Nig.:** Adrar Douchi Chev. 43259 (type of var. *apiculata*). Tinkademi Arnaud. Yatakala to Tillabery Rogeon 501.

Extends to the A.–E. **Sudan**.

3. BRASSICA

Linn.—F.T.A. 1: 65; O. E. Schulz in Engl. Pflanzenr. Crucif. 21 (1919).

- 1** Cauline leaves amplexicaul, entire; plant entirely glabrous and glaucous; petals yellow, 7.5–18 mm. long; fruit 3–5 cm. long; roots tuberculate [1. napus var. sahariensis](#)

Cauline leaves sessile or petiolate, not amplexicaul; plants with strong taproot: **2**

- 2** Flowers relatively large, petals obovate, 6.5–12 mm., sepals 3.5–6 mm. long; leaves glabrous or glabrescent: .. **3**

Flowers smaller, petals narrowly oblong-obovate, 5–7 mm., sepals 3 mm. long; leaves and stems bristly pubescent with rigid hairs; basal leaves in a rosette, several times deeply pinnatifid [4. tournefortii](#)

- 3** Basal leaves deeply lobed at the base, coarsely and irregularly dentate, lyrate; upper cauline leaves oblanceolate, entire or nearly so; fruit about 3 cm. long and 2–3.5 mm. broad, 4-ribbed and distinctly nervose, beaked with persistent style [2. juncea](#)

Basal leaves not deeply lobed or only with small lobes on the petiole, both basal and upper leaves irregularly crenate; otherwise similar to above [3. integrifolia](#)

1. *Brassica napus* var. *sahariensis* A. Chev. in Rev. Bot. Appliq. 1932: 829; Fl. Viv. 1: 208. *APD acc*

Fr. Sud.: Timbuktu Chev. 43809; 43838. Gao Chev. 43053.

Cultivated in Sahara and French **Sudan**.

2. *Brassica juncea* (Linn.) Coss. in Bull. Soc. Bot. Fr. 6: 609 (1859); F.T.A. 1: 65; Chev. Fl. Viv. 1: 209. *APD acc*

***Sinapis juncea* Linn.** (1753).

Erect herb to 3 ft. high; flowers yellow.

Fr. G.: Kankan (Mar.) Chev. 592! Faraba (Jan.) Chev. 281. Konianke country (Feb.) Chev. 20825. **S. L.:** Regent (Dec.) Sc. Elliot 3984! Magbile (Dec.) Thomas 5913! 5933! Port Loko (Sept.) Glanville 408!

Introduced from north temperate regions of Old World, now widely cultivated and naturalized in the tropics as Indian Mustard.

3. **Brassica integrifolia** (West) O. E. Schulz in Urb. Symb. Antill. 3: 509 (1903); Chev. Fl. Viv. 1: 210.

APD: *Synonym of Brassica carinata A. Braun*

Sinapis integrifolia West (1793).

Brassica integrifolia var. **chevalieri** Portères in Rev. Bot. Appliq. 1935: 1120, with fig.

Glabrous herb, to 3 ft. high, with pale yellow flowers.

Iv. C.: Man Chev. 34180.

Cultivated and widespread in Asia, Africa and America.

4. **Brassica tournefortii** Gouan—F.T.A. 1: 66; Chev. Fl. Viv. 1: 209. APD acc

Herb to 2 ft. high with small cream flowers.

Sen.: Podor Chev. 25748. **Fr. Nig.:** Air Rogeon in Hb. Chev. 43382.

Also in Sahara, north Africa and east Africa, S. Europe and western Asia.

Brassica oleracea Linn.

Several varieties of Cabbages are cultivated in our area; other species may also occur in cultivation or as aliens.

Brassica campestris Linn.

Several varieties of Turnips are cultivated in our area; other species may also occur in cultivation or as aliens.

Brassica rapa Linn.

Several varieties of Rapes are cultivated in our area; other species may also occur in cultivation or as aliens).

4. RORIPPA

Scop.—Hylander in Bot. Notiser. 1950, 1: 1–13 (1950);

Nasturtium R. Br.—F.T.A. 1: 57.

- 1 Stem very short, plant almost acaulescent with rosette of prostrate, irregularly pinnate leaves up to 20 cm. long; leaflets ovate or orbicular, toothed or sinuate; flowers very small, sepals 1–1.3 mm. long, petals smaller; fruits 4–14 mm. long [1. humifusa](#)

Stem well-developed, to 40 cm. high or more, hollow; leaves pinnate with about 4 pairs of narrowly ovate leaflets, oblique and unequal at base, obtuse at apex, margin irregularly sinuate; sepals 2.5–3 mm. long, petals considerably longer; fruits 1–2 cm. long, seeds in two ranks, the testas with rather coarse aerolation [2. nasturtium-aquaticum](#)

1. **Rorippa humifusa** (Guill. & Perr.) Hiern in Cat. Welw. 1, p. xxvi (1896); Brenan in Kew Bull. 1950: 212.

APD: *Synonym of Rorippa madagascariensis (DC.) Hara*

Nasturtium humifusum Guill. & Perr.—F.T.A. 1: 58; F.W.T.A., ed. 1, 1: 92; Chev. Fl. Viv. 1: 213.

Nasturtium benuense Hutch. & Dalz. F.W.T.A., ed. 1, 1: 92 (1927); Kew Bull. 1928: 26.

Cardamine hirsuta of A. Chev. in Comptes Rendus 1909, 2: 459, not of Linn.

Low annual herb on sandy ground by water.

Sen.: Walo (Nov.–Mar.) Perrottet! Heudelot 195! **Iv. C.:** Sanrou (May) Chev. 21585! Anno (Dec.) Chev. 22538. Comoe valley (Dec.) Chev. 22552. **G. C.:** R. Birrim, Anyinam (Mar.) Irvine 1756! **N. Nig.:** Abinsi (Apr.) Dalz. 746! **S. Nig.:** R. Awaran, Ife (fl. & fr. Jan.) Brenan & Onochie 8983! Idanre (fl. & fr. Jan.) Brenan & Jones 8733!

Also in Belgian Congo, Angola, Uganda and Madagascar.

2. **Rorippa nasturtium-aquaticum** (Linn.) Hayek Sched. Fl. Stir. Exs. 22 (1905); Hylander in Bot. Notiser. 1950, 1: 1–13 (1950). APD acc

Sisymbrium nasturtium-aquaticum Linn. (1753).

Nasturtium officinale R.Br.—F.T.A. 1: 58; Chev. Fl. Viv. 1: 212.

The Common Watercress, introduced to, and naturalized in, certain localities within our area; flowers white.

Fr. Sud.: Timbuktu fide Chev. l.c. **Fr. Nig.:** Agades fide Chev. l.c. **Br. Cam.:** Cam. Mt., below Musake hut 5,500 ft. (Nov., Jan.) Migeod 52! Keay FHI 28581!

[The above description is based on the Cameroons' plant.]

5. CARDAMINE

Linn.—F.T.A. 1: 60; O. E. Schulz in Engl. Bot. Jahrb. 32: 280–623 (1902).

- 1 Leaves trifoliate, long-petiolate, up to 16 cm. long including the petiole; leaflets ovate, acute, coarsely crenate-dentate, with distinct petiolules about 1 cm. long, setulose-pubescent on both surfaces; petals present, 3–5 mm. long; pedicels up to 1 cm. long in fruit; fruits 2·5–4·5 cm. long [1. africana](#)
- Leaves pinnate; fruits 1·2–3 cm. long: **2**
- 2 Petals present, 2·5–3 mm. long; leaves up to about 6 cm. long, leaflets rounded at apex; fruits 1·2–2·5 cm. long, on pedicels up to about 5 mm. long, not congested at the apex of the shoots [2. hirsuta](#)
- Petals absent, sepals 1·2–2·5 mm. long; leaves similar to above; fruits 1·5–3 cm. long, congested, subumbellate at the tips of the shoots [3. trichocarpa](#)

1. *Cardamine africana* *Linn.*—F.T.A. 1: 60; Schulz in Engl. Bot. Jahrb. 32: 414 (1902). *APD acc*

A weak herb, 1–2 ft. high, with white flowers.

Br. Cam.: Cam. Mt., Esele Camp, 7,000 ft. (fr. Feb.) Maitland 1345! Cam. Mt., above Mimbia, 6,200 ft. (fl. & fr. Mar.) Brenan 9352! **F. Po:** 7,500 ft. Mann 1448! Musola to Moka (Jan.) Guinea 1581!

Also in **S. Tomé**, the mountains of east and central tropical Africa, **S. Africa**, **Madagascar**, **India** and **Brazil**.

[Mann's specimen from Fernando Po has been identified as var. *arabica* (DC.) O. E. Schulz l.c. 416 (syn. *C. borbonica* Pers. var. *arabica* DC., syn. *C. africana* Linn. var. *pubescens* Hook. f., name only).]

2. *Cardamine hirsuta* *Linn.*—F.T.A. 1: 61; Schulz l.c. 464. *APD acc*

APD: *Synonym of Cardamine obliqua Hochst. ex A. Rich.*

Small annual, often much-branched or tufted at the base; petals white.

Br. Cam.: Cam. Mt., 8,000–10,000 ft. (Nov.) Mann 2032!. **F. Po:** 7,500–8,500 ft. Mann 1460!

Common in temperate regions and on the mountains of tropical Africa.

3. *Cardamine trichocarpa* *Hochst. ex A. Rich.*—F.T.A. 1: 60; Schulz l.c. 462; Chev. Fl. Viv. 1: 214. *APD acc*

Weakly erect annual herb.

Br. Cam.: Buea, 3,000ft. (fr. Jan., Apr., Nov.) Migeod 228! Maitland 216! Brenan 9586! Cam. Mt., Musake Camp, 5,600 ft. (Jan.) Maitland 1237! Bali, Bamenda (May) Ujor FHI 30397!.

Also in the mountains of tropical Africa and India.

6. LEPIDIUM

Linn.—F.T.A. 1: 68.

- 1 An erect glabrous annual; leaves variable, often deeply pinnatisect, with linear segments; flowers shortly racemose, white, small; fruits compressed, broadly elliptic, emarginate, slightly winged towards the top, 5–6 mm. long, about 4 mm. broad; seeds ellipsoid, smooth, 3 mm. long, brown or red [sativum](#)

Lepidium sativum *Linn.*—F.T.A. 1: 69; Chev. Fl. Viv. 1: 197. *APD acc*

The Common Cress.

Commonly [cultivated in regions away from the coast](#); naturalized in some places.

Fr. Sud.: Goundam Vuillet in Hb. Chev. 25971. **Fr. G.:** Siquiri Chev. 301. **Fr. Nig.:** Agades Chev. 43474. **N. Nig.:** Kano (Feb.) Dalz. 333! Baradau, Bauchi Plateau (fr. May) Lely 87! Abinsi (fr. Feb.) Dalz. 791!

7. SCHOUWIA

DC.—F.T.A. 1: 67.

- 1** A woody glabrous herb, branching from the base; cauline leaves sessile, amplexicaul, oblong-lanceolate, deeply cordate-auriculate at base, acute, 4–8 cm. long, 2–4 cm. broad, papery, distinctly nervose; flowers racemose; sepals oblong, about 1 cm. long, with narrowly membranous margins; petals slightly longer, purplish; fruit compressed, winged, broadly elliptic, 2.5 cm. long, tipped by the persistent acute style about 0.5 cm. long
..... [schimperi](#)

Schouwia schimperi *Jaub. & Spach* in Ann. Sci. Nat. Bot. 3, Sér. 13: 366 (1849); Schulz in Engl. Pflanzenr. Crucif. 54, t. 16 (1923).

APD: *Synonym of Schouwia purpurea (Forssk.) Schweinf.*

Schouwia arabica of F.T.A. 1: 68; Chev. Bot. 24; F.W.T.A., ed. 1, 1: 92; not of (Vahl) DC.

Schouwia purpurea of Chev. Fl. Viv. 1: 200, not of (Forsk.) Schweinf.

Robust annual to 3 ft. high, flowers purplish.

Fr. Sud.: Mossi (July) Chev. 24581! **Fr. Nig.:** several localities fide Chev. l.c.

Also in [Mauritania](#), [central Sahara](#), [eastern Sudan](#), [Egypt](#), [Abyssinia](#) and [Arabia](#).

VIOLACEAE

Herbs, shrubs, or small trees. Leaves alternate or rarely opposite, stipulate. Flowers actinomorphic or zygomorphic, from solitary to paniculate. Sepals 5, imbricate. Petals 5, nearly equal or the lower larger and often clawed, imbricate. Stamens hypogynous, 5, alternate with the petals; anthers 2-celled, opening lengthwise, with the connective produced beyond the cells. Ovary superior, sessile, 1-celled, with usually 3 parietal placentas each with one or more ovules; style usually simple. Fruit an elastic loculicidal capsule, one- or more-seeded. Seeds with fleshy endosperm and central mostly straight embryo.

A widely spread family, the woody members mostly in the tropics, the herbaceous at higher altitudes and in temperate regions.

Recognized by the often zygomorphic flowers, definite stamens with produced connective, and parietal placentation.

- 1** Trees or shrubs; flowers more or less actinomorphic, with subequal petals, or if zygomorphic then lower petal not saccate or spurred at the base: **2**
Herbaceous or suffrutescent; flowers zygomorphic, with lower petal saccate, gibbous or spurred at base: **4**
- 2** Petals subequal; fruit a 3-valved capsule: **3**
Petals unequal, the lower petal hooded at the apex and covering the other broader petals in bud; ovary opening very early, seeds developing in the open, placentas becoming woody and bearing dense clusters of large drupe-like seeds **3. [Gymnorinorea](#)**
- 3** Flowers borne on older branches or main stem; seeds arillate, endosperm sparse; staminal appendages cohering with each other **1. [Allexis](#)**
Flowers terminal or axillary on leafy shoots; seeds not arillate, endosperm copious; stamens free, or connate below the anthers, staminal appendages quite free **2. [Rinorea](#)**
- 4** Lower petal conspicuously larger than the rest and clawed, saccate or gibbous at the base; sepals not produced below the base; seeds often longitudinally striate; stipules entire **4. [Hybanthus](#)**
Lower petal not clawed at the base, spurred or saccate; sepals produced below the base; seeds smooth; stipules foliaceous, divided **5. [Viola](#)**

1. ALLEXIS

Pierre in Bull. Soc. Linn. Paris 1: 25 (1898). *APD acc*

- 1 Small tree, to 7 m. high; leaves oblong, 14–30 cm. long, 4.5–10 cm. broad, acuminate, narrowed at base into winged petiole 2–4 cm. long, 9–15 pairs of lateral nerves; petals entirely reflexed and overlapping the sepals, 5 mm. long; pedicels 5–10 mm. long [obanensis](#)

Allexis obanensis (*Bak. f.*) *Melchior* in Notizbl. Bot. Gart. Berl. 8: 655 (1924). *APD acc*

Alsodeia obanensis *Bak. f.* in Cat. Talb. 6 (1913).

Rinorea obanensis (*Bak. f.*) *De Wild.* in Bull. Jard. Bot. Brux. 6: 179 (1920); F.W.T.A., ed. 1,1: 95.

Petals cream, anthers bright yellow; flowers on old branches.

S. Nig.: Oban Talbot 606!

2. RINOREA

Aubl. Pl. Gui. 1: 235 (1775).

Alsodeia Thouars—F.T.A. 1: 106.

- 1 Leaves spinose-dentate, coriaceous, oblong-ovate to lanceolate, long-acuminate, 12–22 cm. long, 3–9 cm. broad; flowers 3–4 mm. diam. on very short pedicels, sepals ribbed [1. ilicifolia](#)
 Leaf margin not spiny: **2**
- 2 Petals entirely reflexed and overlapping the sepals: **3**
 Petals not reflexed, or only at the tip: **4**
- 3 Ovary pilose; flowers numerous in 5–11 cm. long racemes, pedicels 8–15 mm. long; inflorescence densely short-pilose; leaves oblong, up to 12 cm. long and 3–5 cm. broad, crenulate [2. gracilipes](#)
 Ovary glabrous; flowers several in racemes up to 5 cm. long, pedicels 8–12 mm. long; inflorescence pilose; leaves ovate-elliptic to lanceolate, up to 8 cm. long and 1.5–3 cm. broad, crenulate [3. ardisiiflora](#)
- 4 Leaves auriculate to subauriculate at base: **5**
 Leaves obtuse, acute or cuneate at base: **9**
- 5 Lamina up to 15 cm. long: **6**
 Lamina 15–40 cm. long, oblanceolate: **7**
- 6 Margin of leaf obtusely serrate in upper part only, main lateral nerves 12–16 on each side; bush to 0.5 m. high [4. bussei](#)
 Margin of leaf denticulate from base to apex, main lateral nerves 9–12 on each side; tree to 7 m. high [5. kibbiensis](#)
- 7 Stems, midribs, lateral nerves beneath and inflorescence axis densely pubescent; sepals lanceolate, 5–8 mm. long [6. longisepala](#)
 Stems, midribs, lateral nerves beneath and inflorescence axis glabrous or sparsely pubescent; sepals oblong-ovate, 2–4 mm. long: **8**
- 8 Leaves glandular beneath, markedly auricled and amplexicaul at base; peduncles up to 3 cm. long; sepals about 4 mm. and petals about 6 mm. long [7. ledermannii](#)
 Leaves not glandular beneath, subauriculate, with definite petiole 7–10 mm. long; peduncles 4–7 cm. long; sepals about 2 mm. and petals about 4 mm. long [8. oblanceolata](#)
- 9 Sepals markedly ribbed fanwise: **10**
 Sepals not markedly ribbed, or only midrib prominent: **14**
- 10 Petioles up to 7 mm. long; inflorescences axillary along the shoots, slender, up to 7 cm. long, pubescent; branchlets and leaves sparsely pubescent; leaves obovate to broadly elliptic, 6–13 cm. long, 2.5–6 cm. broad; sepals broadly ovate, 1 mm. long; petals 6–7 mm. long, 2–2.5 mm. broad; ovary glabrous (see fig. 31, 3) [9. convallariiflora](#)
 Petioles more than 7 mm. long; inflorescences at ends of shoots, mainly terminal with subsidiary axillary branches: **11**
- 11 Filaments short but distinct, about 0.5 mm. long: **12**

- Anthers sessile: 13
- 12 Sepals 1.5 mm. long and broad; petals 5 mm. long and 1 mm. broad; appendage of anther ovate, emarginate; pedicels 2–3 mm. long; petioles 1–2 cm. long, lamina lanceolate, 10–15 cm. long, 2.5–5 cm. broad [10. afzelii](#)
- Sepals 2.5–3 mm. long, 2.5–3.5 mm. broad; petals 5–6 mm. long and 3 mm. broad, appendage of anther suborbicular not emarginate; pedicels 5–7 mm. long; petioles 0.8–2.2 cm. long, lamina elliptic, 13–20 cm. long and 6–11.5 cm. broad (see fig. 31, 4) [11. keayi](#)
- 13 Lamina 15–20 cm. long, 4–8 cm. broad; staminal appendage rounded at apex, connective produced into a spoon-shaped process not 1/4 length of anther [12. prasina](#)
- Lamina 15–27 cm. long, 6–10 cm. broad; staminal appendage subacute at apex, connective produced into a filamentous process half the length of the anther [13. crassifolia](#)
- 14 Leaves glandular beneath: 15
- Leaves not glandular beneath: 22
- 15 Ovary puberulous or pilose; inflorescence mainly terminal with occasional subsidiary branches: 16
- Ovary glabrous; inflorescences all or mostly in axils of full-sized leaves, sometimes with a terminal inflorescence in addition: 21
- 16 Ovary puberulous; petioles generally not exceeding 1 cm. long; lamina oblong, narrowing into the acumen: .. 17
- Ovary densely pilose; petioles generally exceeding 1 cm. long: 18
- 17 Extremities and rhachis glabrous; sepals 6 mm. long, 4 mm. broad; staminal tube free at the margin, lobed behind the anthers, appendage produced beyond the anthers and slightly emarginate at the tip [14. johnstonii](#)
- Extremities and rhachis pubescent; sepals 4 mm. long, 2 mm. broad; staminal tube not free, appendage produced beyond the anthers and bifid [15. talbotii](#)
- 18 Branchlets, midrib and nerves beneath and inflorescence long-hirsute: 19
- Branchlets, midrib and nerves beneath more or less glabrous, not bristly pilose; inflorescence densely but rather shortly hirsute: 20
- 19 Anthers sessile, pubescent; sepals 2 mm. long, 1.5 mm. broad; staminal tube free at the margin with long narrow lobes behind the anthers, connective produced into a spoon-shaped process; lamina obovate to oblanceolate, markedly acuminate, cuneate and serrate, 8–18 cm. long, 3–6 cm. broad (see fig. 31, 1) [16. elliotii](#)
- Anthers not sessile, filaments distinct, anthers glabrous or glabrescent; otherwise similar to elliotii [17. djalensis](#)
- 20 Connective not produced beyond the anthers which are crowned with a tuft of hairs; petiole 3–8 cm. long; lamina elliptic-oblanceolate, abruptly long-acuminate, 12–25 cm. long, 4–8 cm. broad; sepals rounded about 1.5 mm. diam.; inflorescence to 20 cm. long [18. longicuspis](#)
- Connective produced, bifid; petiole rather short; lamina oblanceolate to narrowly obovate, cuneate at base, gradually acuminate, 8–12 cm. long, 3–5 cm. broad; sepals ovate, about 2 mm. long; inflorescence 4–7 cm. long [19. arenicola](#)
- 21 Sepals glabrous except for ciliate margin, ovate to rotundate, 2 mm. diam.; inflorescences 4–5 cm. long, glabrous; petiole 2–4 cm. long; lamina elliptic to lanceolate, 15–22 cm. long, 6–8 cm. broad [20. parviflora](#)
- Sepals puberulous, oblong to broadly lanceolate, 3–4 mm. long; inflorescences 3–12 cm. long, puberulous; petiole 2–10 cm. long; lamina oblong, 20–30 cm. long, 8–14 cm. broad [21. kamerunensis](#)
- 22 Inflorescences axillary; petioles up to 7 mm. long; inflorescences pubescent, up to 1 cm. long; flowers about 3 mm. long, congested, bracts persistent; stamens free; branchlets densely pubescent; leaves elliptic, obtuse at base, acuminate, 5–10 cm. long, 2.5–5 cm. broad; stipules linear elongated; ovary minutely tuberculate [22. breviracemosa](#)
- Inflorescences terminal, sometimes with subsidiary axillary branches, to several cm. long; petioles usually well over 7 mm long: 23
- 23 Ovary pilose, pubescent or puberulous: 24
- Ovary glabrous: 30
- 24 Ovary densely pilose: 25
- Ovary sparsely pilose, pubescent or puberulous: 26
- 25 Staminal tube 1.5–2 mm. long; petals 5 mm. long, sepals setose; pedicel 2 mm. long; inflorescence up to 10 cm. long, spiciform; petiole 2–3 cm. long, lamina elliptic-lanceolate, 15–18 cm. long, about 6 cm. broad, glabrous [23. pilosa](#)
- Staminal tube 0.75 mm. long; petals 4 mm. long, sepals pilose; pedicel 1 mm. long; inflorescence up to 20 cm. long, paniculate; petiole 2.5–5 cm. long, thickened at each end, lamina oblong-oblanceolate, 16–20 cm. long, 5–7.5 cm. broad, sparsely pubescent, irregularly reddish-tinted beneath [24. rubrotincta](#)
- 26 Ovary pubescent at first, becoming furfuraceous, fruit furfuraceous: 27

- Ovary and fruit not furfuraceous: 28
- 27 Sepals 3–4 mm., petals 5–6 mm. long; staminal tube 3.5 mm. long; inflorescence 4–22 cm. long, generally laxly paniculate, densely puberulous; petiole 1–4 (rarely to 7) cm. long; lamina elliptic, oblong, or oblanceolate, entire to dentate, 12–30 cm. long, 4–13 cm. broad, midrib sparsely puberulous to glabrous [25. oblongifolia](#)
- Sepals 2 mm., petals 3–4 mm. long; staminal tube 1.5 mm. long; inflorescence a narrow panicle 3–7 cm. long, pubescent, usually hirsute at base; petiole 0.7–1.5 cm. long; lamina obovate-elliptic to oblanceolate, markedly dentate, 8–26 cm. long, 2.5–9 cm. broad; pubescent on midrib and nerves [26. dentata](#)
- 28 Sepals densely hirsute, 3 mm. long; petals 5–6 mm. long, reflexed at tip; staminal tube 0.75 mm. long; inflorescence spiciform, to 10 cm. long, hirsute; petiole 1–6 cm. long; lamina obovate to oblong, 10–20 cm. long, 4–10 cm. broad, midrib and nerves sparsely pubescent to glabrous [27. brachypetala](#)
- Sepals puberulous or glabrous: 29
- 29 Sepals 1.5–2 mm., petals 3–4 mm. long; staminal tube with free margin, ovary sparsely pilose; inflorescence 3–6.5 cm. long; petiole 1–4 cm.; lamina oblanceolate, 7–17 (rarely to 25) cm. long, 2.5–6 cm. broad, with 6–8 pairs of lateral nerves; branchlets sparingly pilose [28. aylmeri](#)
- Sepals 3 mm., petals 5 mm. long; staminal tube without free margin, ovary minutely puberulous; inflorescence 4–12 cm. long; petiole 1–4 (rarely to 7) cm. long, lamina elliptic to oblong 20–30 cm. long, 6–10 cm. broad, with 12–14 pairs of lateral nerves; branchlets glabrous [29. adnata](#)
- 30 Sepals 1–1.5 mm., petals 3 mm. long; inflorescence spiciform, 1.5–6 cm. long; petiole 1–4 cm.; lamina obovate-elliptic to narrowly elliptic, 5–19 cm. long, 2–8 cm. broad, subdentate, glabrous (see Fig. 31, 2) [30. subintegrifolia](#)
- Sepals 2–3 mm., petals 4–6 mm. long: 31
- 31 Sepals densely hirsute, petals reflexed at tip: 32
- Sepals not densely hirsute, mostly puberulous: 33
- 32 Petals 5–6 mm. long; petiole 1–6 cm. long, usually more than 2 cm.; shrub to 1.5 m. high; for other characters see above [27. brachypetala](#)
- Petals 4 mm. long; inflorescence 4–8 cm. long; petiole 1–2 cm. long; lamina obovate-elliptic to obovate-oblanceolate, 7–13 cm. long, 3.5–6 cm. broad, glabrous; tree to 6 m. high [31. poggei](#)
- 33 Petiole 3.5–8 cm. long; lamina oblong, 22–28 cm. long, 9–10 cm. broad, lateral nerves 10–11 pairs, glabrous; sepals 2 mm., petals 5 mm. long; inflorescences about 15 cm. long with several axillary as well as terminal panicles [32. preussii](#)
- Petiole 0.7–2.5 cm. long; lamina up to 18 cm. long and 8 cm. broad: 34
- 34 Inflorescence densely pubescent, spiciform, to 4 cm. long; anthers sessile, staminal tube very short; petiole 1–2 cm.; lamina elliptic, 5–10 cm. long, 3.5–5 cm. broad [33. whytei](#)
- Inflorescence sparsely puberulous to glabrous; filaments distinct, staminal tube 1.5 mm. long: 35
- 35 Staminal appendage lanceolate; petals not ciliate or very sparsely so, 6 mm. long; inflorescence 2.5–5 cm. long on a peduncle about 2 cm. long; petiole 1–2 cm. long; lamina narrowly oblong, 8–18 cm. long, 1.5–6 cm. broad, glabrous; branchlets glabrous, petiole pubescent [34. liberica](#)
- Staminal appendage short, rounded; petals densely ciliate, about 4 mm. long; inflorescence 3.5–8 cm. broad, rather widely paniculate; petiole 0.7–2.5 cm. long; lamina broadly elliptic to obovate, 9–18 cm. long, 2.5–8 cm. broad, pilose on midrib; branchlets and petiole pilose [35. microdon](#)

1. **Rinorea ilicifolia** (Welw. ex Oliv.) O. Ktze. Rev. Gen. Pl. 1: 42 (1891); De Wild. in Bull. Jard. Bot. Brux. 6: 166; Chev. Fl. Viv. 1: 231. *APD acc*

Alsodeia ilicifolia Welw. ex Oliv.—*F.T.A.* 1: 108.

Glabrous shrub or small tree, up to 15 ft.; flowers cream.

Fr. G.: Kouria (Nov.) Chev. 14820! **S. L.:** Sasseni, Scarcies K. (Jan.) Sc. Elliot 4427! Ninia, Talla Hills (Feb.) Sc. Elliot 4868! Kenema (Nov.) Deighton 407! Bumbuna (Jan.) Deighton 3594! **Iv. C.:** Aubrév. 1801! Bouroukrou (Dec.) Chev. 16641! 16741! **G. C.:** W. Afao Hills F.R. (Feb.) Darko 761! Juaso (Feb.) Akpabla 273! **S. Nig.:** Olokemeji (Jan.) Keay FHI 22470! Okomu F.R., Benin (Dec.) Brenan 8491! 8513! Eket Talbot!

Widespread in east tropical Africa and in **Angola**.

2. **Rinorea gracilipes** Engl. Bot. Jahrb. 33: 136 (1902); Exell & Mendonca Consp. Fl. Ang. 1: 75.

APD: *Synonym of Rinorea angustifolia subsp. engleriana* (De Wild. & T. Durand) Grey-Wilson

Shrub or small tree, flowers white.

Br. Cam.: Missellele, Tiko (Jan.) Box 3563!

Also in **French Cameroons**, **Gabon**, **Congo** and **Angola**.

3. **Rinorea ardisiiflora** (Welw. ex Oliv.) O. Ktze. l.c. 42 (1891); Exell & Mendonca l.c. 74.

APD: Synonym of Rinorea angustifolia subsp. ardisiiflora (Oliv.) Grey-Wilson

APD: Synonym of Rinorea angustifolia subsp. engleriana (De Wild. & T. Durand) Grey-Wilson

Alsodeia ardisiiflora Welw. ex Oliv. F.T.A. 1: 108.

Rinorea feliciania A. Chev. Fl. Viv. 1: 229 (1938), French descr. only.

Small tree, flowers white.

Fr. G.: Kindia (Apr.) Jac.-Fel. 72! **G. C.:** Ateiku (Nov.) Vigne 4749!

Also in **French Cameroons**, **Gabon**, **Congo** and **Angola**.

4. **Rinorea bussei** M. Brandt in Engl. Bot. Jahrb. 51: 125 (1913); De Wild. l.c. 155. *APD acc*

A bush 11/2 ft. high, with yellowish flowers.

Togo: Kpeta, 1,950 ft., in shady places (Nov.) Busse 3358.

5. **Rinorea kibbiensis** Chipp in Kew Bull. 1923: 292; Chev. Fl. Viv. 1: 232. *APD acc*

Shrubby tree, to 20 ft. high, with white flowers; common in understorey of forest.

Iv. C.: Mid. Comoé Valley (Dec.) Chev. 22567! 22572! Morenou (Nov.) Chev. 22440! 22454! **G. C.:** Kibbi Hills (Dec.) Johnson 507! Bibiani (Aug.) Vigne 1327! Kwahu Prasu (Feb.) Vigne 1615! **Br. Cam.:** Mayoko (Feb.) Dalz. 8219!

6. **Rinorea longisepala** Engl. Bot. Jahrb. 33: 143 (1902); Brenan in Kew Bull. 1952: 443. *APD acc*

Shrub, to 9 ft. high; sepals green, dull purplish towards the base.

S. Nig.: Oban Talbot 455! Kwa Falls, Calabar (Mar.) Brenan 9229!

Also in **French Cameroons** and **Spanish Guinea**.

7. **Rinorea ledermannii** Engl. Bot. Jahrb. 51: 121 (1913); Brenan l.c. *APD acc*

Straggling much-branched shrub about 5 ft. high; flowers yellow.

Br. Cam.: S. Bakundu F.R. (Mar.) Brenan 9290!

Also in **French Cameroons**.

8. **Rinorea oblanceolata** Chipp l.c. 292 (1923); Chev. Fl. Viv. 1: 232. *APD acc*

Shrub to 6 ft. high; flowers cream or greenish.

S. L.: Gorahun (Nov., Dec.) Deighton 378! 3803! Bandajuma (Nov.) Deighton 5267! **Lib.:** Begwai (Oct.) Bunting 21! Fayapulu (Oct.) Linder 1137! Bumbuma (Oct.) Linder 1322! **Iv. C.:** Lower Cavally, Grabo Chev. 19647; 19652.

9. **Rinorea convallariiflora** M. Brandt in Engl. Bot. Jahrb. 51: 106 (1914).

APD: Synonym of Rinorea convallarioides subsp. occidentalis Grey-Wilson

Rinorea euandra Engl. ex Zenker in De Wild. l.c. 194, name only.

Small tree 20 ft. high; flowers white.

G. C.: near Agogo, Ashanti (fl. & fr. Apr.) Vigne 1080! 1080a! Irvine 962! Amentia (Mar.) Vigne 1874! Birrim Dist. (Mar.) Moor 38!

Also in **French Cameroons**.

10. **Rinorea afzelii** Engl. Bot. Jahrb. 33: 138 (1902); De Wild. l.c. 150, partly. *APD acc*

A shrub.

S. L.: Afzelius. Gola Forest (Dec.) King 128b!

11. *Rinorea keayi* Brenan in Kew Bull. 1950: 336. *APD acc*

Tree 20–25 ft. high; flowers cream.

S. Nig.: below Mt. Koloishe, Obudu, 4,000 ft. (Dec.) Keay & Savory FHI 25023! Ikwette-Balegette path, Obudu, 4,500 ft. (Dec.) Keay & Savory FHI 25206!

12. *Rinorea prasina* (Stapf) Chipp in Kew Bull. 1923: 299. *APD acc*

Alsodeia prasina Stapf in Johnston Lib. 577 (1906); M. Brandt in Engl. Bot. Jahrb. 50, Suppl. 412 as synonym of *R. afzelii* Engl.

Glabrous shrub to 6 ft. high.

Gam.: near Bathurst (fr. Feb.) Johnston 91! **S. L.:** Njala (Oct., Feb.) Deighton 2544! 4704! York Pass (Dec.) Deighton 3336! Bumbuna (Jan.) Deighton 3595! **Lib.:** near Monrovia Whyte! Moylakwelli (Oct.) Linder 1315! **G. C.:** Abiabo, Axim (Nov.) Vigne 1424!

13. *Rinorea crassifolia* (Bak. f.) De Wild. in Bull. Jard. Bot. Brux. 6: 158 (1920). *APD acc*

Alsodeia crassifolia Bak. f. in Cat. Talb. 6 (1913).

A shrub 8–9 ft.; petals dull yellow.

S. Nig.: Oban Talbot 1260!

14. *Rinorea johnstonii* (Stapf) M. Brandt in Engl. Bot. Jahrb. 50, Suppl. 414 (1914); De Wild. l.c. 167; Chev. Fl. Viv. 1: 233. *APD acc*

Alsodeia johnstonii Stapf in Johnston Lib. 577 (1906).

A glabrous shrub with serrulate leaves; sepals dark, white-edged.

Lib.: Sinoe Basin Whyte! Grand Bassa Dinklage 1944! **Iv. C.:** Lower Cavally Chev. 19803; 19832

15. *Rinorea talbotii* (Bak. f.) De Wild. l.c. 188 (1920). *APD acc*

Alsodeia talbotii Bak. f. in Cat. Talb. 7 (1913).

Shrub to 6 ft. high.

S. Nig.: Oban Talbot 478!

Also in **Gabon**.

16. *Rinorea elliotii* Engl. Bot. Jahrb. 33: 144 (1902); De Wild. l.c. 161; Chev. Fl. Viv. 1: 233.

APD: *Synonym of Rinorea welwitschii* (Oliv.) Kuntze subsp. *welwitschii*

Rinorea punctata Chipp in Kew Bull. 1923: 293; F.W.T.A., ed. 1, 1: 95.

Small tree 4–30 ft. high; flowers yellow; **locally abundant in forest undergrowth.**

S. L.: Kofiu Mt. (Jan.) Sc. Elliot 4605! Kambui (Mar.) Lane-Poole 201! **Lib.:** Dinklage 3329! Moylakwelli (Oct.) Linder 1316! **Iv. C.:** several localities fide Chev. l.c. **G. C.:** Anwhiaso F.R. (Nov.) Vigne 189! R. Asenango F.R. (Feb.) Andoh FH 4304! **S. Nig.:** Okomu F.R. (Jan., Feb.) Brenan 8840! 8903! 9088! Sapoba (Mar.) Jones FHI 7448! Kennedy 411! 2193! Eket Talbot!

Also in **Gabon**.

17. *Rinorea djalonensis* A. Chev. ex Hutch. & Dalz. F.W.T.A. ed. 1, 1: 95 (1927); Kew Bull. 1928: 26; Chev. Bot. 34, name only; Chev. Fl. Viv. 1: 234. *APD acc*

Shrub or small tree.

Fr. G.: Dalaba-Diaguissa Plateau (Oct.) Chev. 18741. And several other localities fide Chev. l.c.

18. **Rinorea longicuspis** *Engl.* Bot. Jahrb. 33: 137 (1902); De Wild. l.c. 172.

APD: Synonym of Rinorea welwitschii (Oliv.) Kuntze subsp. welwitschii

Rinorea elliotii of Chev. Fl. Viv. 1: 233, partly.

Small tree to 24 ft. high, with yellow flowers.

Lib.: Boporo (Nov.) Baldwin 10387! **Iv. C.:** Banco Martineau 244! Abidjan Aubrév. 71! 174! 312! **G. C.:** Begoro (young fr. Mar.) Johnson 695! Obuasi (Feb.) Rea 1623!

Also in **French Cameroons**.

19. **Rinorea arenicola** *M. Brandt* in Engl. Bot. Jahrb. 51: 111 (1913); De Wild. l.c. 150.

APD: Synonym of Rinorea welwitschii (Oliv.) Kuntze subsp. welwitschii

A bush or small tree, with yellow flowers.

Lib.: Grand Bassa, among bushes towards the sea front (fl. and young fr. Oct.) Dinklage 1854.

20. **Rinorea parviflora** *Chipp* in Kew Bull. 1923: 295. *APD acc*

A glabrous shrub with almost entire leaves.

S. Nig.: Oban Talbot 1391!

Also in **Gabon**.

21. **Rinorea kamerunensis** *Engl.* Bot. Jahrb. 33: 139 (1902); De Wild. l.c. 167; Brenan in Kew Bull. 1952: 442. *APD acc*

Erect single-stemmed shrub, to 4 ft. high; flowers nodding, sepals yellowish, petals white.

Br. Cam.: between Victoria and Bimbia (Apr.) Preuss 1221! Near Barombi (Apr.) Preuss 143. S. Bakundu F.R. (Mar.) Brenan 9289! 9289a! 9289b!

Also in **French Cameroons**.

22. **Rinorea breviracemosa** *Chipp* in Kew Bull. 1923: 293. *APD acc*

Alsodeia latifolia ? *Thouars*—F.T.A. 1: 107.

Small tree, to 9 ft. high, in marsh **forest**; flowers white.

S. L.: (May) Barter! Aylmer 38! York Pass (fr. June) Sierra Leone Herb. No. 53! **Lib.:** Peahtah Linder 1045! **S. Nig.:** Omo F.R. (Mar.) Jones & Onochie FHI 17221! Oban Talbot 477!

23. **Rinorea pilosa** *Chipp* l.c. 294 (1923). *APD acc*

A shrub.

S. Nig.: Oban Talbot!

24. **Rinorea rubrotincta** *Chipp* l.c. 294 (1923); Chev. Fl. Viv. 1: 236. *APD acc*

Shrub or small tree to 30 ft. high.

Lib.: Begwai (Oct.) Bunting 155! **Iv. C.:** (May) Aubrév. 2112! Soumie (July) Aubrév. 453!

Widespread fide Chev. l.c.

25. **Rinorea oblongifolia** (*C. H. Wright*) *Marquand ex Chipp* l.c. 296 (1923); Chev. Fl. Viv. 1: 240, partly. *APD acc*

Pittosporum oblongifolium *C. H. Wright* in Kew Bull. 1897: 243.

Alsodeia welwitschii *Oliv.* F.T.A. 1: 110, partly.

Rinorea dichroa *Mildbr. & Melchior* in Notizbl. Bot. Gart. Bert. 10: 974, name only.

Tree, to 35 ft. high; petals yellowish.

S. L.: Kambia (Dec.) Sc. Elliot 4195! York Pass (Dec.) Lane-Poole! Bobobo near Gishwahun (Dec.) Deighton 3811! Near Kongohun (fr. Apr.) Deighton 3679! Jau (Oct.) Deighton 5214! **Lib.:** Ganta Harley! **Iv. C.:** Agboville (Nov.) Chev. 22380! **G. C.:** Larte (Oct.) Johnson 805! Ewisa, Saltpond Dist. (Aug.) Chipp 566! Bana Hill, Krobo (Jan.) Irvine 1923! Subiri F.R. (Feb.) Foggie 4939! **S. Nig.:** Old Calabar Thomson 100! Kwa Falls (Mar.) Brenan 9231! Iso Bendiga (Dec.) Keay FHI 28267! **Br. Cam.:** Cameroons R. (Jan.) Mann 737! Likomba (Dec.) Mildbr. 10765!

Also in **French Cameroons**, **Gabon** and **Uganda** and **A.-E. Sudan**.

26. **Rinorea dentata** (*P. Beauv.*) *O. Ktze.* Rev. Gen. Pl. 1: 42 (1891); De Wild. l.c. 159; Chev. Fl. Viv. 1: 239. *APD acc*

Ceranthera dentata *P. Beauv.* Fl. Oware 2: 11 (1808).

Alsodeia dentata (*P. Beauv.*) *Oliv.* F.T.A. 1: 110.

Rinorea bipindensis *Engl.* Bot. Jahrb. 33: 145.

Shrub, or small tree to 25 ft. high; petals yellow.

Lib.: Grand Bassa (Feb.) Dinklage 1785! **G. C.:** Axim (Dec.) Johnson 887! **S. Nig.:** Lagos Rowland! Lamborn 363! Ikirun (Feb.) Millson! Idanre (Jan.) Brenan 8728! Okomu F.R. (fl. & fr. Jan.) Brenan & Jones 8911! 8912! Eket Talbot 3132! **Br. Cam.:** Victoria (Mar.) Maitland 519! Likomba (Nov.) Mildbr. 10733! **F. Po.:** (Dec.) Mann 90! Ureka (Feb.) Guinea 2539!

Also in **Principe** and **French Cameroons**, and extending to **Angola** and **Uganda**.

(See Appendix, p. 25.) [Arborescent specimens from the Cameroons, with congested inflorescences may prove to be a distinct variety or species.—R.W.J.K.]

27. **Rinorea brachypetala** (*Turcz.*) *O. Ktze.* l.c. 42 (1891), partly; De Wild. l.c. 153; Chev. Fl. Viv. 1: 238. *APD acc*

Alsodeia brachypetala *Turcz.*—F.T.A. 1: 109, partly.

Shrub to 5 ft. high.

S. L.: Yonibana (Oct., Nov.) Thomas 4017! 4229! 5164! 5187! **Lib.:** Cook 58; 272; 331. **G. C.:** Subuma F.R. (Nov.) Cansdale 3975! Abetifi Kwahu (Jan.) Irvine 1689! **S. Nig.:** Lagos Moloney! Ilaro (Jan.) Millen 100! Shasha F.R. (Feb., Mar.) Richards 3065! 3097! 3171! Okomu F.R. (fl. & fr. Dec.—Feb.) Brenan 8500! 8855! 8855a! 8855b!

Also in **French Cameroons**, **Congo** and **Angola**.

28. **Rinorea aylmeri** *Chipp* in Kew Bull. 1923: 294; Chev. Fl. Viv. 1: 235. *APD acc*

Shrub, to 5 ft. high, in deep shade, near water; tree 12–15 ft. (fide Linder).

S. L.: Pujehun (Apr.) Aylmer 63! Yonibana (Oct., Nov.) Thomas 5159! 5166! 5279! Kenema (Nov.) Deighton 406! Njala (Oct., Nov.) Deighton 2408! 2538! **Lib.:** Gbanga (Sept.) Linder 606! Ganta Harley! **Iv. C.:** Mt. Nienokoue Chev. 19477.

29. **Rinorea adnata** *Chipp* l.c. 295; Brenan in Kew Bull. 1952: 442. *APD acc*

Shrub, to 7 ft. high, little-branched; flowers pale yellow.

Br. Cam.: S. Bakundu F.R. (Mar.) Brenan 9260!

Also in **French Cameroons**.

30. **Rinorea subintegrifolia** (*P. Beauv.*) *O. Ktze.* l.c. 42 (1891); De Wild. l.c. 187; Chev. Fl. Viv. 1: 239. *APD acc*

Ceranthera subintegrifolia *P. Beauv.* Fl. Oware 2: 11 (1808).

Alsodeia subintegrifolia (*P. Beauv.*) *Oliv.* F.T.A. 1: 109.

Rinorea viridis *Burt Davy*, name only.

Shrub, to 7 ft. high; flowers greenish-white or cream-yellow.

Fr. G.: Rio Nunez Heudelot 694! Kouria Chev. 14745! Bambaya (Feb.) Chev. 20674! **S. L.:** Regent (Dec.) Sc. Elliot 4159! Kambia (Dec.) Sc. Elliot 4385 (partly)! Mabonto (Oct.) Thomas 3492! Kenema (Nov.) Deighton 405! Njala (Oct., Jan.) Deighton 2537! Dalz. 8137! Ro-yak, Scarcies (Jan.) Deighton 4038! **Lib.:** Monrovia Whyte! Ganta Harley! Sodu (Jan.) Bequaert 51! **Iv. C.:** several localities fide Chev. l.c. **G. C.:** Opon Mansi F.R. (Oct.) Darko 53! Abiabo Axim (Nov.) Vigne

1425! **N. Nig.:** Abinsi Dalz. 975! **S. Nig.:** Lagos Lamborn 3661 Okomu F.R. (fl. & fr. Dec.—Jan.) Brenan 8492! 8848! Sapoba (Nov.) Keay FHI 25617–9! Eket Talbot 3373! Calabar Thomson 30! **Br. Cam.:** Victoria (Nov.) Maitland 785! Rio del Rey Johnston! S. Bakundu F.R. (Jan.) Keay FHI 28565!

Also in **French Camerouns**.

31. **Rinorea poggei** *Engl.* Bot. Jahrb. 33: 142 (1902); De Wild. l.c. 181.

APD: Synonym of Rinorea brachypetala (Turcz.) Kuntze var. brachypetala

Tree, to 20 ft. high; flowers cream-yellow.

N. Nig.: Dogon Kurmi, Plateau Prov. (Nov.) Keay FHI 21039! **S. Nig.:** Oshogbo Millson 140! Omo F.R. (Mar.) Jones FHI 16623! Akure F.R. (Oct.) Keay FHI 25483!

Also in **Cameroons, Congo, Uganda** and **Kenya**.

32. **Rinorea preussii** *Engl.* l.c. 140 (1902); De Wild. l.c. 182. *APD acc*

Small tree.

S. Nig.: Udi Kennedy 3124! **Br. Cam.:** Victoria (Mar.) Preuss 1154!

33. **Rinorea whytei** (*Stapf*) *M. Brandt* in Engl. Bot. Jahrb. 50, Suppl. 418 (1914). *APD acc*

Alsodeia whytei *Stapf* l.c. 578. [Of the 3 specimens tentatively referred to this species in Chev. Bot. 35, one is cited as *R. elliotii* and two as *R. rubrotincta* in Chev. Fl. Viv. 1: 234, 236.]

A shrub.

Lib.: near Monrovia Whyte!

34. **Rinorea liberica** *Engl.* l.c. 142 (1902); De Wild. l.c. 172. *APD acc*

Alsodeia liberica (*Engl.*) *Stapf* l.c. 577.

Shrub, with short terminal panicles of small yellowish-brown flowers.

Lib.: Grand Bassa, in forest near the coast (May) Dinklage 1931. Sinoe Basin Whyte!

35. **Rinorea microdon** *M. Brandt* in Engl. Bot. Jahrb. 51: 117 (1913); De Wild. l.c. 176. [Heudelot 724 and various other specimens have been referred to *R. oblongifolia* (C. H. Wright) Marquand ex Chipp by most authors, e.g. Chipp in Kew Bull. 1923: 296 and F.W.T.A., ed. 1, 1: 95; Chev. Fl. Viv. 1: 18.] *APD acc*

Shrub, to 5 ft. high, **by river banks**; flowers greenish-white.

Fr. G.: Farmar 239! Rio Nunez Heudelot 724! **S. L.:** Yonibana (Nov.) Thomas 5105! 5111! 5185! Njala (Oct.–Mar.) Deighton 496! 1853! 2536! 4719! Lunsar (Mar.) Jordan 24! Kambia (Dec.) Deighton 840! Makene (Jan.) Deighton 3591! Mattru, Jong (June) Deighton 4771! **Lib.:** Webbo (Apr.) Dinklage 2661.

3. GYMNOREINOREA

Keay in Kew Bull. 1953: 75.

- 1 Glabrous shrub; leaves oblong to oblong-ob lanceolate, cuneate to obtuse at base, acuminate, 11–23 cm. long, 3–8.5 cm. broad, 7–13 pairs of looping lateral nerves, obscurely crenate, petiole 3–6 mm. long; flowers in axillary 2–3 cm. long cymes; petals about 8 mm. long, the anterior petal hooded at the apex and covering the apices of the other broader petals; capsule dehiscing when very young, so that the seeds develop in the open; the 3 placentas becoming woody, 4–8 mm. long, each bearing 4–10 seeds; mature seeds crowded, subsessile or with funicles up to 2 mm. long, obovoid-ellipsoid or subglobose, about 1 cm. long, drupe-like with leathery outer testa and hard inner testa *abidjanensis*

Gymnorinorea abidjanensis (*Aubrév. & Pellegr.*) *Keay* in Kew Bull. 1953: 76. t. 3.

APD: Synonym of Decorsella paradoxa A. Chev.

Rinorea abidjanensis Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 92: 256 (1946); Aubrév. Fl. For. C. Iv. 3: 26, t. 253 (1936), French descr. only.

Shrub or small tree to 8 ft. high in **dense forest**; flowers yellow, pinkish or reddish; seeds yellow-green in dense clusters.

Lib.: Gbanga (Sept.) Linder 386! Dukwia R. (fr. Feb.) Cooper 157! Zwedru, Tchien (Aug.) Baldwin 7010! Beiden, Boporo (Nov.) Baldwin 10282! Greenville, Sinoe (fr. Mar.) Baldwin 11557! **Iv. C.:** Banco, Abidjan (Aug.) Aubrév. 1517! **G. C.:** Ankasa F.R. (Dec.) Vigne 3185! W. Afao Hills F.R. (Oct.) Darko 35! Afao F.R. Akpabla 898!

4. HYBANTHUS

Jacq.—F.T.A. 1: 105, as *Ionidium* Vent.

- 1** Annual; stems and branches acutely angled; stipules linear, decurrent; leaves sometimes fasciculate, crowded, linear, acute, 1-nerved, 2–5 cm. long, up to 3–4 mm. broad, very remotely denticulate or subentire, glabrous or nearly so; pedicel about as long as the flower in bud; sepals linear-lanceolate, sharply keeled, setose on the keel and margins [1. thesiifolius](#)

Perennial, suffruticose; stems slightly ribbed, glabrous or pubescent; stipules linear, slightly decurrent; leaves scattered, lanceolate or linear-lanceolate, acute, 4–7 cm. long, 0.5–1 cm. broad, remotely denticulate, with distinct lateral nerves; pedicel longer than the flower, 1 cm. or more; sepals not keeled, shortly setulose [2. enneaspermus](#)

- 1. Hybanthus thesiifolius** (Juss. ex Poir.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 97 (1927); Kew Bull. 1928: 26; Chev. Fl. Vtv. 1: 226. *APD acc*

APD: Synonym of Hybanthus enneaspermus (L.) F. Muell. var. enneaspermus

Viola thesiifolia Juss. ex Poir. in Lam. Encyl. 8: 649 (1808).

Ionidium thesiifolium (Juss. ex Poir.) DC., and var. chenopodioides Guill. & Perr.

I. enneaspermum of F.T.A. 1: 106, partly.

Viola guineensis Schum. & Thonn. (1827).

Erect, often much branched; flowers lilac or bluish.

Sen.: (Dec.–Jan.) Roger 146! St. Louis Heudelot! Walo Heudelot! **Fr. Sud.:** Mossi, Ouagadougou (Aug.) Chev. 24714. Macina (Sept.) Chev. 24847. **G. C.:** Accra (Mar.–Oct.) Brown 4091 Deighton 570! Irvine 544! 713!

- 2. Hybanthus enneaspermus** (Linn.) F. v. Muell. Fragm. 10: 81 (1876); Chev. Fl. Viv. 1: 227. *APD acc*

Viola enneasperma Linn. (1753).

Ionidium ennespermus (Linn.) Vent.—F.T.A. 1: 105.

I. dahomensis of Chev. Bot. 83, name only.

I. dahomensis var. maritimum of Chev. Bot. 83, name only.

Viola lanceifolia Schum. & Thonn. (1827).

Erect, simple or often with numerous vertical branches from the base, up to 12–18 in. high; flowers lilac or bluish.

Fr. G.: Pays de Guerzes (Mar.) Chev. 20941! **Lib.:** Nana Kru, Sinoe (Mar.) Baldwin 115861 Zeahtown, Tchien (Aug.) Baldwin 6951! **Iv. C.:** Baoulé (Aug.) Chev. 22256! Widespread fide Chev. l.c. **G. C.:** Accra (Aug.) T. Vogel! Sekondi (Mar.) Deighton 621! Kumasi (Apr.) Vigne 1101! Atrokpe Krobo (Nov.) Irvine 1704! **Togo:** Kpedsu (Jan.) Howes 1080! Kpeve (Mar.) Williams 69! **Dah.:** various localities fide Chev. l.c. **N. Nig.:** Lokoja (July) Dalz. 575! Abinsi (July) Dalz. 729! Anara F.R., Zaria (July) Keay FHI 25963! **S. Nig.:** Lagos (Mar.) Dawodu 366! Dalz. 1041! 1235! Abeokuta Barter 3350! Onitsha Barter 1637! 1807! Oban Talbot 597! Kwa Falls (Mar.) Brenan 9236! **Br. Cam.:** Fang, Bamenda, 3,500 ft. (May) Maitland 1703! F. Po. Ureka (Feb.) Guinea 2498!

Extends throughout tropical and S. Africa, Madagascar and also in tropical Asia and Australia.

5. VIOLA

Linn.—F.T.A. 1: 105.

- 1 Creeping; stems up to 60 cm. long, rooting at the nodes, glabrous; leaves ovate or ovate-orbicular, widely cordate at base, subacute, 1.5–2.3 cm. long, 1–1.5 cm. broad, crenate, more or less sparingly setulose-pubescent on both surfaces, sometimes with dark-coloured scattered linear resinous bodies beneath; petiole shorter than the leaf; stipules foliaceous, deeply divided into lanceolate acute segments, nearly half as long as the petiole; flowers solitary on long slender pedicels bibracteate towards the apex; valves of capsule about 0.5 cm. long [*abyssinica*](#)

***Viola abyssinica* Steud. ex Oliv.** F.T.A. 1: 105 (1868); R. E. Fries in Act. Hort. Berg. 8: 3 (1925). *APD acc*

Creeping or weakly erect herb; corolla very pale mauve to purple.

S. Nig.: Ikwette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25221! **Br. Cam.:** Cam. Mt., 5,200–9,000 ft. (Jan.–Mar.) Mann 1331! Maitland 1013! 1324! Brenan 9358! **F. Po:** 10,000 ft. Mann 297! Between Musola and Moka (Jan.) Guinea 1592!

Widespread in the highlands of tropical Africa.

RESEDACEAE

Annual or perennial herbs with watery juice, rarely woody. Leaves alternate, simple or pinnately divided; stipules small, gland-like. Flowers mostly zygomorphic, hermaphrodite or rarely unisexual, racemose or spicate. Galyx persistent, mostly zygomorphic, 4–7-lobed, imbricate. Petals small and inconspicuous or none, valvate, free or slightly coherent, often laciniate, sometimes with a scale at the base. Disk present, often dilated on the adaxial side. Stamens 3–40, perigynous or on the disk, not covered by the petals in bud; filaments free or united at the base; anthers 2-celled, introrse. Ovary of 2–6 free or connate carpels, closed or gaping at the top, each carpel with a separate stigma; ovules numerous on parietal placentas or at the base of the ovary. Fruit a gaping capsule or baccate. Seeds numerous, kidney- or horse-shoe-shaped; endosperm absent; embryo curved or folded.

A small family represented in our area by only one species; several other species and genera occur in the Sahara North of Lat. 18° N. (see Chev. Fl. Viv. 1: 250).

Recognized by the small flowers with much-divided petals, and parietal ovules.

RESEDA

Linn.—F.T.A. 1: 103.

- 1 Stems herbaceous, woody at the base, thinly villous-pilose; leaves deeply 3-lobed or simple, lobes linear-lanceolate, narrowed at the base, subacute, up to 10 cm. long and 2 cm. broad, thinly pilose; racemes up to 45 cm. long, rather dense-flowered; pedicels short; sepals 6; stamens about 40; fruits oblong, about 1 cm. long, slightly pilose on the sutures; seeds reniform, about 1 mm. long, very minutely and closely warted [*villosa*](#)

***Reseda villosa* Coss.** in Bull. Soc. Bot. Fr. 6: 392 (1859); Chev. Fl. Viv. 1: 250. *APD acc*

***Reseda sudanica* A. Chev.** (1900).

Robust herb, to 21/2 ft. high; flowers white.

Fr. Sud.: Timbuktu, near Gassa wells (Aug.) Chev. 2521. Also in Sahara, Morocco and Algeria.

POLYGALACEAE

Herbs, shrubs, climbers or rarely small trees. Leaves alternate, rarely opposite, simple; stipules none. Flowers hermaphrodite, zygomorphic; pedicels often articulated. Sepals 5, free, imbricate, the two inner larger, often petaloid, wing-like. Petals 3–5, hypogynous, declinate, outer 2 free or united with the lowermost, upper 2 free or minute and scale-like or 0. Stamens 8, rarely 5 or 4, monadelphous beyond

the middle or rarely free, the sheath split above, often adnate to the petals; anthers erect, 1–2-celled, opening by an apical pore, rarely 2-valved or opening nearly to the base. Torus small or rarely expanded into an annular disk within the stamens. Ovary free, 2-celled or rarely 1-celled or 3–5-celled; style simple; ovules solitary in each cell, rarely more, pendulous. Fruit a capsule, samara or drupe. Seeds often pilose, with a conspicuous strophiole; endosperm mostly present; embryo straight.

Fairly abundantly represented in our area.

Conspicuous by their zygomorphic flowers, often brightly coloured and resembling the Papilionaceae, but the ovary consisting of more than one carpel each with one or more pendulous ovules, and often pilose seeds with conspicuous strophiole.

- 1 Petals 5, subequal, united into a tube at the base; fruit drupaceous; stamens 5:2
 Petals 3, the lateral ones free from the abaxial one (keel); shrubs or trees; fruit indehiscent, samaroid, 1-celled, 1-seeded; stamens 83. [Securidaca](#)
 Petals 3, or the remainder minute, the lateral ones united with the abaxial one into a unilateral corolla, the middle petal often crested; usually herbaceous; fruit a compressed 2-celled capsule, dehiscing loculicidally at the edges; stamens 84. [Polygala](#)
 2 Fruit fleshy, yellow or red; seeds very densely villous, with copious fleshy endosperm1. [Carpolobia](#)
 Fruit hard, crustaceous; seeds finely hairy, without endosperm2. [Atroxima](#)

1. CARPOLOBIA

G. Don—F.T.A. 1: 135.

- 1 Keel petal about 16 mm. long, 3–4 mm. broad (i.e. breadth = 1/4 length or less), not much broader than the other petals; outer 3 sepals (2–6 mm. long, 1.5–3.5 mm. broad) smaller than the 2 inner sepals (6–7.5 mm. long, 3–6 mm. broad):2
 Keel petal 10–13 mm. long, 3–5 mm. broad (i.e. breadth = 1/3 length or more), twice as broad as the other petals; outer 3 sepals (2.5–4 mm. long, 2 mm. broad) subequal to the 2 inner sepals (3–4.5 mm. long, 2–3 mm. broad); branchlets and midribs pubescent; leaves very variable in shape and size, ovate, ovate-oblong, oblong, oblong-lanceolate, obovate or almost orbicular, 3.5–13 cm. long, 1.5–6.5 cm. broad, obtuse at base, acuminate at apex; racemes 2–7-flowered3. [lutea](#)
 2 Leaves 2–7.5 cm. long, 1–2.8 cm. broad; branchlets and midribs densely pubescent; lamina variable in shape, ovate, ovate-elliptic, oblong, or narrowly elliptic, obtuse or rounded at base, more or less acuminate, or obtuse at apex, main lateral nerves more or less parallel and rather close; racemes 1–2-flowered1. [alba](#)
 Leaves 5–12.5 cm. long, 2.3–4 cm. broad; branchlets pubescent to glabrescent, midrib sparingly pubescent; lamina oblong to obovate, rounded to cuneate at base, acuminate, main lateral nerves arching and rather distant; racemes 2–5-flowered2. [glabrescens](#)

1. **Carpolobia alba** *G. Don*—F.T.A. 1: 135, partly, including var. *parvifolia* Ollv.; Chev. Fl. Viv. 1: 276. *C. parvifolia* (Oliv.) Stapf in Johnston Lib. 578; F.W.T.A., ed. 1, 1: 99; Chev. Fl. Viv. 1: 276. **APD acc**

Shrub or small tree to 15 ft. high, in forest; flowers white with crimson spot at base of the two uppermost petals.

Fr. G.: Farmar 193! Rio Nunez Heudelot 792! Conakry (Jan.) Dalz. 8071! **S. L.:** Don! Barter 8! Seli R. (Oct.) Thomas 3108! **Lib.:** Monrovia Whyte! Dukwia R. (fr. July) Cooper 101! **Iv. C.:** fide Chev. l.c. **N. Nig.:** Mando, Zaria Prov. (June) Keay FHI 25876! **S. Nig.:** Calabar (fl. & fr. Feb.) Thomson 65! Mann 2297! Oban Talbot 1404! Eket Talbot 3193!

2. **Carpolobia glabrescens** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 99 (1927); Kew Bull. 1928: 26.

APD: *Synonym of Carpolobia alba G. Don*

Carpolobia alba of F.T.A. 1: 35, partly.

A forest shrub, about 10 ft. high; flowers yellowish-white.

Br. Cam.: Johann-Albrechtshöhe Staudt 460! Likomba (Nov.) Mildbr. 10604! **F. Po:** (Dec.) Mann 78!

Also in French Cameroons, Congo and Angola.

3. *Carpolobia lutea* G. Don—F.T.A. 1: 136; Chev. Fl. Viv. 1: 276. *APD acc*

Carpolobia caudata Burtt Davy in Kew Bull. 1932: 257.

Shrub or small tree, to 15 ft. high; petals white with purple marking at base of upper petals, turning orange-yellow; ripe fruits orange.

S. L.: Don! Scarcies R. (Jan.) Sc. Elliot 4654! Njala (Feb.) Deighton 3365! Tikonko, Dama (Jan.) Deighton 3888! **Lib.:** Dukwia R. (Feb., July) Linder 95! Cooper 165! **iv. C.:** Abidjan (Jan.) Aubrév. 179! And other localities fide Chev. l.c. **G. C.:** W. Apollonia (Aug.) Chipp 330! 335! Wassaw F.R. (Feb.) Vigne 255! Kwahu Prasu (Feb.) Vigne 1619! **Togo:** Lome Warnecke 473! **Dah.:** Porto Novo (Jan.) Chev. 22780! **S. Nig.:** Lagos (Aug.–Apr.) Barter 2149! Dalz. 1040! Rowland! Abeokuta (Dec.) Barter 3354! Burtt B. 5! Okomu F.R. (Jan., Feb.) Brenan 9059! 9129! Sapoba Kennedy 424! Eket Talbot Calabar (Feb.) Mann 2298! **Br. Cam.:** S. Bakundu F.R. (Mar.) Brenan & Onochie 9308!

2. ATROXIMA

Stapf in J. Linn. Soc. 37: 85 (1905). *APD acc*

- 1 Leaves rounded to subcordate at base, very closely and prominently reticulate on both surfaces with tertiary nerves not markedly subparallel to the main laterals, oblong-elliptic, subcaudate-acuminate, acumen often oblique, 10–15 cm. long, 4–6 cm. broad; petiole about 5 mm. long; racemes 3–6 cm. long, glabrous or sparsely pubescent *1. liberica*

Leaves mostly cuneate at base, prominently reticulate on both surfaces with tertiary nerves markedly subparallel to the main laterals, elliptic, acumen usually not oblique, 7–12 cm. long, 2.5–5.5 cm. broad; petiole about 8 mm. long; racemes 3–10 cm. long, pubescent *2. afzeliana*

1. *Atroxima liberica* Stapf in J. Linn. Soc. 37: 85 (1905); Stapf in Johnston Lib. 578, t. 246. *APD acc*

Glabrous liane in *swamp forest* (fide Linder); flowers cream, two upper petals with purplish markings.

Lib.: Sinoe Basin Whyte! Moala (Nov.) Linder 1361! Yen R. (Oct.) Linder 989! **G. C.:** Ancobra estuary (fr. Jan.) Akpabla 817! **Br. Cam.:** Barombi Preuss 400!

Also in **French Cameroons** and **Gabon**.

2. *Atroxima afzeliana* (Oliv.) Stapf in J. Linn. Soc. 37: 86 (1905); Chev. Fl. Viv. 1: 277 (excl. syn. A. *liberica* Stapf). *APD acc*

Carpolobia afzeliana Oliv. F.T.A. 1: 136, in obs. (1868).

Carpolobia macrostachya Chodat in Bull. Herb. Boiss. 5: 117 (1897).

Atroxima macrostachya (Chodat) Stapf l.c. 86; F.W.T.A., ed. 1, 1: 99.

Atroxima liberica of Chev. Bot. 44, not of Stapf.

A glabrous shrub or tree with sweeping branches, sometimes scandent, to 25 ft. high; flowers cream or mauve; fruit globose, crustaceous, about 1 in. diam., edible.

Fr. G.: Heudelot! 712. Pita (Dec.) Jac.-Fel. 662! Labé (fl. & fr. Apr.) Chev. 12388! Dalaba (Sept.) Chev. 20283! **S. L.:** Afzelius! Kofiu, Scarcies R. (Jan.) Sc. Elliot 4618. Talla Hills (Feb.) Sc. Elliot 4897! Kabusa (fr. Apr.) Sc. Elliot 5472! Bumbuna (Oct.) Thomas 3425! 3892! Musaia (Dec.) Deighton 4516! **iv. C.:** Bingerville (fr. Feb.) Chev. 17351! Jolly 327! Dyolas (fr. May) Chev. 21571! **S. Nig.:** Olokemeji (Nov.) Jones & Keay FHI 14529!

Also in **French Cameroons**.

3. SECURIDACA

Linn.—F.T.A. 1: 134.

- 1 Branchlets glabrous, or nearly so; leaves broadly elliptic, shortly acuminate, 5–10 cm. long, 3–5.5 cm. broad, glossy above, glabrous beneath; inflorescence branched; fruit about 5–6.5 cm. long, the wing about 1.5–2 cm. broad, with a small second imperfect wing *1. welwitschii*

Branchlets softly pubescent; leaves oblong-lanceolate, rounded at apex, 2–5 cm. long, up to 2 cm. broad, very minutely pubescent beneath; inflorescence a simple raceme; fruit about 5 cm. long, the wing 1.5–2 cm. broad, sometimes with a very small second imperfect wing *2. longepedunculata*

1. *Securidaca welwitschii* Oliv. F.T.A. 1: 135 (1868); Chev. Fl. Viv. 1: 273. *APD acc**Securidaca timboensis* Pobéguin-Chev. Bot. 43.

Scandent shrub or lofty climber up to 80 ft.; flowers white, often pink at the base of the petals, or yellowish.

Fr. G.: Bembaya (Feb.) Chev. 20681! Moli (Nov.) Chev. 34534! **Lib.:** Dinklage 3353! Ganta (fr.Feb.) Baldwin 11013! **S. Nig.:** Sapoba Kennedy 2063! Nun R. (Sept.) Mann 477! Oban Talbot 1474! Br. Cam: Cameroons R. (Jan.) Mann 2223! Buea, 2,500 ft. (fr. Mar.) Maitland 569! Johann-Albrechtshöhe Staudt 524! Mamfe Maitland 1159!

Extends to **Uganda** and **Angola**.

2. *Securidaca longepedunculata* Fres.—F.T.A. 1: 134; Chev. Fl. Viv. 1: 273. *APD acc*

Shrub or small tree up to 20 ft. high, with pale bark; flowers purple, fragrant; **widespread in savannah vegetation.**

Sen.: Cayor Heudelot 407! Sieber 27! **Gam.:** Dawe 45! Sayes 511! North bank of R. Gambia (July) Ozanne 24! **Fr. Sud.:** Sebekoro (Feb.) Dubois 89! **Fr. G.:** Kouroussa (May) Pobéguin 888! **S. L.:** Falaba (Mar.) Sc. Elliot 5140! **iv. C. & Fr. Nig.:** fide Chev. l.c. **G. C.:** Lorha, N.T. (Feb.) McLeod 818! Yendi (Apr.) Vigne 1687! Tamale (Apr.) Williams 118! Afram Plains Irvine 618! **Dah.:** Atacora Mts. (June) Chev. 24148! **N. Nig.:** Sokoto Ryan 26! Nupe Barter 1198! Bauchi Plateau (Jan.) Lely P. 64! **S. Nig.:** Lagos Foster 24! Olokemeji (Apr.) Foster 276!

Widespread in tropical Africa.

4. POLYGALA

Linn.—F.T.A. 1: 125; Chodat Monogr. Polygal. 1 (1891) .1

- 1 Lateral sepals less than 3 mm. long; with 3 principal unbranched nerves; small herbs with linear or acicular leaves up to 1.5 cm. long and 2.5 mm. broad;2
Lateral sepals well over 3 mm. long; larger herbs or undershrubs; lateral sepals generally with branched and anastomosing nerves:4
- 2 Seeds without aril; posterior and anterior sepals subequal; lateral sepals glabrous; stems very slender and rather sparsely branched; leaves up to 1 mm. broad:3
Seeds arillate, pilose; posterior sepal about twice as large as the anterior; lateral sepals oblanceolate to narrowly elliptic, pubescent, about 2.5 mm. long; much-branched leafy herb to 30 cm. high, leaves up to 1.5 cm. long and 2.5 mm. broad3. *myriantha*
- 3 Seeds narrowly oblong-ovoid, 3 times as long as broad, densely pilose with the hairs extended beyond the blunt end of the seed to form a "tail"; plant to 25 cm. high, racemes up to 6 cm. long, laxly flowered; lateral sepals 2–2.5 mm. long, 1–1.25 mm. broad; pedicels about 1/2 as long as flower; capsule oblong-ellipsoid1. *lecardii*
Seeds oblong-orbicular to oblong-ovoid, less than twice as long as broad, rather sparsely clothed with more or less spreading hairs, hairs not extended to form a "tail"; plant to 25 cm. high, racemes up to 5.5 cm. long, densely flowered except towards the base; lateral sepals 1.5–2.2 mm. long, narrowly obovate; pedicels about 1/4 as long as flower; capsule suborbicular; leaves up to 1.5 cm. long, usually much less2. *micrantha*
- 4 Lateral sepals deciduous in fruit:5
Lateral sepals persistent and often membranous in fruit:8
- 5 All the sepals deciduous in fruit:6
Only the lateral sepals deciduous; leaves filiform or acicular:7
- 6 Leaves broadly ovate-orbicular, pilose with long-ciliate margins; lateral sepals about 6 mm. long, anterior sepals united; racemes terminal, up to 15 cm. long, densely flowered; seeds conical, long-pilose4. *bennae*
Leaves elliptic with acuminate apex and cuneate base, sparsely setulose; lateral sepals about 9 mm. long, anterior sepals united; racemes axillary, up to 7 cm. long, densely flowered; seeds conical, short-pilose5. *cabrae*
- 7 Anterior sepals free; stems herbaceous, slender with scattered filiform leaves up to 3 cm. long; inflorescence elongated, slender, simple with scattered flowers; pedicels about 1/2 as long as flower, slender; fruit widely bilobed6. *guineensis*
Anterior sepals connate, stems woody, densely leafy, the leaves mostly in clusters, acicular, up to 5 cm. long; inflorescence dense, mostly branched; pedicels very short and stout; fruits deeply notched7. *acicularis*

- 8 Anterior sepals connate: 9
 Anterior sepals not connate, sepals all free: 12
- 9 Keel-petal not cristate; lateral sepals with conspicuous coloured nerves, distinctly clawed at the base, 4–5 mm. long, about equal to the fruit in length and not completely hiding it; seeds densely long-pilose all over: 10
 Keel-petal cristate, lateral sepals faintly veined, scarcely clawed, longer than the fruit and completely hiding it; stems deeply grooved, glabrous; seeds shortly pilose: 11
- 10 Sparingly branched slender herb; leaves linear, acute, less than 3 mm. broad; racemes up to 20 cm. long, flowers rather distantly spaced [8. *petitiana*](#)
 Much-branched leafy herb; leaves lanceolate, 3–6 mm. broad; racemes up to 12 cm. long, flowers rather crowded [9. *xanthina*](#)
- 11 Lateral sepals 6–8 mm. long; leaves up to 7 cm. long; often with several lateral inflorescences; seeds rather sparingly short-pilose [10. *rarifolia*](#)
 Lateral sepals 3.5–4.5 mm. long; leaves up to 16 mm. long; inflorescence terminal; seeds rather densely short-pilose [11. *atacorensis*](#)
- 12 Flowers in short lateral racemes crowded amongst the leaves, never in terminal racemes; leaves linear to lanceolate, obtuse or subobtuse, shortly pubescent, up to 2.5 cm. long; lateral sepals pubescent; fruits oblong-obovate, ciliate; seeds narrow, long-pilose all over [12. *eriptera*](#)
 Flowers in terminal racemes, sometimes also with axillary racemes: 13
- 13 Flowers in dense, often subcapitate, terminal and often also numerous axillary racemes, shorter than the leaves and exceeded by the upper leaves: 14
 Flowers in elongated racemes much exceeding the upper leaves: 15
- 14 Flowers in dense terminal head-like racemes; plant of sympodial growth so that floriferous secondary branches much exceed the primary terminal raceme; leaves linear to broadly oblanceolate, very variable, up to 7 cm. long and 1 cm. broad; lateral sepals long, becoming whitish in fruit, pubescent; fruits elliptic, glabrous; seeds oblong, long-pilose all over [13. *arenaria*](#)
 Flowers in oblong racemes, plant of monopodial growth with the primary terminal raceme above the numerous short secondary floriferous branches; leaves linear to oblong-linear, attenuate at each end, 2–6 cm. long, 1–6 mm. broad; lateral sepals about 5 mm. long, glabrous; fruit oblong, emarginate, narrowly winged, ciliate; seeds pilose [14. *stanleyana*](#)
- 15 Ovary and fruit glabrous on the margin, the latter narrowly winged: 16
 Ovary and fruit ciliate on the margin, the latter not usually winged; seeds pilose, arillate: 18
- 16 Seeds conical, densely pilose, with the aril completely covered by long hairs; flowers laxly arranged in elongated racemes; lateral sepals 5–5.5 mm. long, 4–4.5 mm. broad, sparsely puberulous; leaves linear-oblanceolate, obtuse, up to 3.5 cm. long, appressed-pubescent [15. *irregularis*](#)
 Seeds oblong, aril not hidden by hairs; flowers densely arranged: 17
- 17 Seeds glabrous except at the tips, 4.5–6 mm. long, aril much reduced; flowers in long, dense racemes; lateral sepals 8–9 mm. long and 7 mm. broad, glabrous; stems softly pubescent; leaves linear, acute, 8–16 cm. long, 0.5–1 cm. broad, midrib very prominent [16. *butyracea*](#)
 Seeds pubescent, with a tuft of bristles from the relatively large aril, about 4.5 mm. long; flowers in short dense racemes; lateral sepals elliptic, glabrous; posterior sepal hirsute; anthers setose; leaves linear, 5–8 cm. long, 0.5–1 cm. broad [17. *pobeguini*](#)
- 18 Ovary and fruit glabrous except on the margin; lateral sepals glabrous or ciliate; leaves well over 3 cm. long: 19
 Ovary and fruit hairy over the surface as well as the margin; lateral sepals pubescent all over; leaves up to 3 cm. long: 22
- 19 Keel-petal very distinctly cristate; pedicels pubescent: 20
 Keel-petal slightly cristate; pedicels glabrous, slender, about 3 mm. long, flowers rather lax in numerous long terminal racemes; lateral sepals 4.5–6 mm. long, glabrous; stems slender, well-branched; leaves linear, 2–10 cm. long, 1.5–4 (rarely to 8) mm. broad [21. *multiflora*](#)
- 20 Leaves linear, 5–20 cm. long, up to 8 mm. broad, usually 4–6 mm.; stems sparingly branched with one to a few stiffly erect narrow racemes; pedicels short, about 1 mm. long, flowers rather crowded: 21
 Leaves lanceolate, 4–9 cm. long, 0.8–2.5 cm. broad; stems sparingly branched with numerous axillary as well as terminal racemes 2–15 cm. long; pedicels slender about 4 mm. long, flowers crowded; lateral sepals 6–8 mm. long and broad, ciliate to glabrescent [20. *persicariifolia*](#)
- 21 Lateral sepals 5–7 mm. long, glabrous, shorter than the shortly crested keel petal [18. *baikiei*](#)
 Lateral sepals 8–10 mm. long, glabrous, longer than the longly crested keel petal [19. *cristata*](#)
- 22 Racemes dense-flowered, flowers contiguous; flowers and axes densely pilose: 23
 Racemes more or less lax, flowers scattered; flowers and axes shortly pubescent; inflorescence simple or

sparingly branched; lateral sepals 4–6 mm. long, 4 mm. broad, pubescent; seeds pilose; leaves linear or linear filiform, up to 1 mm. broad [24. sparsiflora](#)

- 23** Leaves linear or linear-filiform, up to 1 mm. broad; inflorescence with numerous stiffly erect racemes, lateral sepals 4–5 mm. long, 3 mm. broad, densely pilose; seeds densely long-bristly [22. ukirensis](#)

Leaves narrowly linear-lanceolate up to 3 mm. broad; inflorescence with several erect densely flowered racemes; lateral sepals 5–6 mm. long, 4.5–5 mm. broad, pilose; seeds sparingly pubescent except for the "tail" [23. tenuicaulis](#)

1. *Polygala lecardii* Chodat Monogr. Polygal. 222 (1891); Chev. Fl. Viv. 1: 261. *APD acc*

Polygala paludosa of F.T.A. 1: 131, not of St.-Hil.

Polygala clarkeana Chodat in Bull. Herb. Boiss. 4: 235 (1896): F.W.T.A., ed. 1, 1: 101. [Not *P. clarkeana* of Chev. Fl. Viv. 1: 262.]

Polygala pygmaea of Chev. Bot. 41.

Erect annual, up to 1 ft. high; flowers white, pink, blue or purple.

Fr. Sud.: Lecard 150. **Fr. G.:** Jac.-Fel. 618g! **S. L.:** Brown! Freetown (Oct.) Deighton 2056b! (Aug.) Jordan 68! Waterloo Burbridge 1421 (Aug.) Deighton 2056! Bonthe (Oct.) Adames 95! Rokupr (Nov.) Jordan 160!

2. *Polygala micrantha* Guill. & Perr. Fl. Seneg. 1: 39 (1831); F.T.A. 1: 131, partly (excl. Welw. spec.); Chodat Monogr. Polygal. 217; Chev. Fl. Viv. 1: 263.

APD: *Synonym of Polygala fernandesiana Paiva*

APD: *Synonym of Polygala capillaris E. Mey. subsp. capillaris*

Polygala paludosa of Chev. Bot. 41, not of St.-Hil.

Polygala clarkeana of Chev. Fl. Viv. 1: 262, not of Chodat.

Erect annual, up to 1 ft. high; flowers white or mauve.

Sen.: Perrottet! **Fr. G.:** Kouroussa Pobéguin 335! Fouta Djallon (Sept., Oct.) Chev. 18376! Jac.-Fel. 584! **S. L.:** Makali (July) Deighton 4397! **Lib.:** Painesville (Oct.) Harley 1683! **Iv. C.:** Maravne Chev. 21882. **N. Nig.:** Kontagora (Jan.) Meikle 1093! Abinsi (Sept.) Dalz. 786! Sho (Nov.) Keay FHI 21019! Bauchi Plateau, Vom Dent Young 11! **Br. Cam.:** Bamenda (June) Maitland 1397!

3. *Polygala myriantha* Chodat in Engl. Bot. Jahrb. 48: 321 (1912); Exell & Mendonca in Consp. Fl. Ang. 1: 96. *APD acc*

Annual herb, flowers mauve.

Br. Cam.: Bamenda, 3,500 ft. (Apr.) Maitland 1411!

Also in **French Cameroons**, **Belgian Congo**, **Angola**, **Uganda** and **Tanganyika**.

4. *Polygala bennae* Jac.-Fel. in Bull. Mus. Hist. Nat. 10: 440 (1938); Chev. Fl. Viv. 1: 261. Undershrub, 12–15 in. high; flowers pink. *APD acc*

Fr. G.: Benna, 2,500 ft. (Dec.) Jac.-Fel. 2138!

5. *Polygala cabrae* Chodat in Bull. Herb. Boiss. 6: 838 (1898); Exell & Mendonca l.c. 1: 94. *APD acc*

APD: *Synonym of Polygala engleri Chodat*

Straggling perennial with prostrate woody stems and slender leafy branches.

Br. Cam.: Kumba (July) Olorunfemi FHI 30695!

Also in **Cabinda** and **Belgian Congo**.

6. *Polygala guineensis* Willd.—F.T.A. 1: 132; Chodat Monogr. Polygal. 371; Chev. Fl. Viv. 1: 271. *APD acc*

Erect glabrous annual, forking, with striate stems, up to 2 or 3 ft. high; flowers 4–5 mm. long, sepals greenish, corolla lilac to red.

Iv. C.: Baoulé-Nord, Mt. Kangoroma (July) Chev. 22168! **G. C.:** Accra (May, June) Ansell! Dalz. 128! Irvine 459! 17621 Navrongo (Sept.) Vigne 4576! **Togo:** Lome Warnecke 225! **N. Nig.:** Nupe Barter 1556!

7. *Polygala acicularis* *Oliv.* F.T.A. 1: 132 (1868); Chodat l.c. 368; Chev. Fl. Viv. 1: 270; Exell & Mendonca l.c. 104. *APD acc*

A low glabrous shrubby herb, to 3 ft. high, with stout rigid branches; flowers 6–8 mm., whitish to blue-purple.

N. Nig.: Bennett Mts. Barter 567! Lokoja (Sept., Oct.) Parsons 14! Dalz. 89! Bauchi Plateau (July, Aug.) Lely 373! P. 583! R. Benue Talbot!

Also in **A.–E. Sudan**, **Uganda** and **Angola**.

8. *Polygala petitiana* *A. Rich.*—F.T.A. 1: 133; Chodat l.c. 370; Exell & Mendonca l.c. 108; Chev. Fl. Viv. 1: 270. *APD acc*

Polygala volkensii *Gurke* in Engl. Pflannenw. Ost-Afr. C. 234 (1895); F.W.T.A., ed. 1, 1: 101. [Not *P. volkensii* of Chev. Fl. Viv. 1: 271.]

Erect, simple or sparingly branched annual, with long slender stems 2–3 ft. high; corolla blue or purple, lateral sepals green with conspicuous dark veins.

Fr. Sud.: Gourma (July) Chev. 24383! 24503! **N. Nig.:** Sokoto (July) Dalz. 569! Zungeru (Aug.) Dalz. 60! Anara F.R., Zaria (July) Keay FHI 25973! Bauchi Plateau. (June-Aug.) Lely 275! 472! P. 349! P. 713! Keay FHI 20065!

Widespread in east and south tropical Africa.

9. *Polygala xanthina* *Chodat* in Engl. Bot. Jahrb. 48: 325 (1912). *APD acc*

Leafy, much-branched herb, 1 ft. high or more; flowers yellow or pinkish.

N. Nig.: Anara F.R., Zaria (Sept.) Olorunfemi FHI 24402! Vom, Bauchi Plateau Dent Young 12a!

Also in **Katanga**, **Uganda**, **Tanganyika** and **N. Rhodesia**.

10. *Polygala rarifolia* *DC.*—F.T.A. 1: 132; Chodat Monogr. Polygal. 367; Chev. Fl. Viv. 1: 272. *APD acc*

Erect with slender glabrous branches, sometimes reaching 8–9 ft. in height; flowers deep blue.

Fr. G.: Rio Nunez Heudelot 641! Maneah (July) Pobéguin 777! Soudougou (July) Collenette 73! **S. L.:** Afzelius! Don! Heddles Farm (Oct.) Lane-Poole 413! Rowala (July) Thomas 1208! Port Loko (Dec.) Thomas 6668! Bumban, N.P. (Aug.) Deighton 1225! Hill Station (Sept.) Deighton 2163!

11. *Polygala atacorensis* *Jac.-Fel.* in Bull. Soc. Bot. Fr. 99: 66 (1952). *APD acc*

Polygala triquetra *A. Chev.* in Bull. Soc. Bot. Fr. 58, Mém. 8: 138 (1912), not of Presl. (1844).

Polygala volkensii of Chev. Fl. Viv. 1: 271, not of Gürke.

Erect herb, branched from the base, to 15 in. high; flowers blue.

Dah.: Atacora Mts. (June) Chev. 24041!

12. *Polygala erioptera* *DC.*—Chodat l.c. 342; Chev. Fl. Viv. 1: 265. *APD acc*

Polygala triflora of F.T.A. 1: 128, partly, not of Linn.

Erect annual 1–2 ft. high, or diffuse and much-branched, pubescent; flowers about 5 mm. long, pink-tipped.

Sen.: Roger 28! Walo and Kouma Perottet! **Fr. Sud.:** Timbuktu (July) Hagerup 168a! Several localities fide Chev. l.c. **G. C.:** Zuarungu (Sept.) Hughes FH 5332! **N. Nig.:** Sokoto (July) Dalz.! Katagum (Jan.) Dalz. 307! Nguru (June) Onochie FHI 23347! Kukawa (Jan.) E. Vogel 4!

Widespread from Cape Verde Islands, throughout tropical Africa to **Arabia**, Persia and India.

13. *Polygala arenaria* *Willd.* —F.T.A. 1: 128, partly; Chodat l.c. 337; Chev. Fl. Viv. 1: 263. *APD acc*

An annual, erect or diffuse and much-branched, from a few inches to a foot or more in height; lateral petals yellowish, keel-petal pink to purple, widely distributed over the whole area.

Sen.: Talmy! Various localities fide Chev. l.c. **Gam.:** Brown-Lester 31! **Fr. G.:** Kouroussa (Aug.) Pobéguin 372! **Fr. Sud.:** Ouala (Dec.) Chev. 391 Segou (Sept.) Chev. 2531! **S. L.:** Yonibana (Oct.) Thomas 4095! Bogbassa, N.P. (Aug.) Deighton 1267! Musaia (Sept., Dec.) Deighton 4490! 4888! **Iv. C.:** fide Chev. l.c. **G. C.:** Accra (Oct.) Brown 397! Dalz. 135! Zandiregu, N.T. (Nov.) Darko 447! **Togo:** Lome Warnecke 179! Basarl Kersting A. 669! Schröder 108! **Fr. Nig.:** Niamey Hagerup 473! **N. Nig.:** Sokoto (Dec.) Dalz. 385 I Nupe Barter 929! 1555! Bauchi Plateau (Jan., Aug.) Lely P. 66! P. 601! **S. Nig.:** Lagos (Sept.) Punch 28! Onitsha Barter 1804!

Extending to east and south tropical Africa.

14. *Polygala stanleyana* Chodat l.c. 340 (1891); Chev. Fl. Viv. 1: 264; Exell & Mendonca l.c. 102.

APD: Synonym of Polygala albida subsp. stanleyana (Chodat) Paiva

Herb, to 11/2 ft. high; sepals mauve-pink, petals white.

Fr. G.: Fouta Djallon, Dalaba, 3,000–4,000 ft. (Sept.–Oct.) Chev. 18822! **N. Nig.:** Bauchi Plateau, 4,000 ft., Vom Dent Young 10! jos (Aug.) Keay FHI 12699! 20160! **Br. Cam.:** Bamenda, 5,000 ft. (May) Maitland 1441!

Also in **French Camerouns**, **Uganda**, **Congo** and **Angola**.

15. *Polygala irregularis* Boiss. Diag. 1: 8 (1842); F.T.A. 1: 131; Chodat l.c. 392; F.W.T.A., ed. 1, 2: 605.

APD acc

Polygala obtusata Auct. non DC.; F.W.T.A., ed. 1, 1: 101; Chev. Fl. Viv. 1: 269.

Polygala hagerupii Exell in J. Bot. 68: 244 (1930).

Suffrutescent with wiry branches, 11/2–2 ft. high. in sandy places, flowering at all seasons.

Sen.: Thierry 134! Richard! Leprieur! **Fr. Sud.:** Timbuktu (July) Chev. 1280. **Fr. Nig.:** Zinder (Oct.) Hagerup 577!

Also in **central Sahara**, **A.–E. Sudan**, **Egypt** and **Arabia**.

16. *Polygala butyracea* Heckel in Bull. Soc. Geogr. Marseille 13: 222 (1889); Chodat l.c. 333; Oliv. in Hook. Ic. Pl. t. 2301; Chev. Fl. Viv. 1: 266. *APD acc*

Stout herb, with long branches, to 6 ft. or more high, cultivated; annual, or perennial (?); flowers white, pink or yellowish.

Fr. G.: fide Chev. l.c. **S. L.:** Hart! Kitchom (Dec.) Sc. Elliot 4072! Batkanu (Feb.) Glanville 167! Njala (Dec.) Deighton 1799! **G. C.:** Tamale (Nov.) Williams 814! **N. Nig.:** Abinsi Dalz. 726! Yandev (Dec.) Sampson 30a!

17. *Polygala pobeguinii* A. Chev. & Jac.-Fél. in Bull. Mus. Hist. Nat. 10: 442 (1938); Chev. Fl. Viv. 1: 268.

APD: Synonym of Polygala baikiei subsp. pobeguinii (A. Chev. & Jacq.-Fél.) Paiva

Herb, to 2 ft. high; flowers violet-purple.

Fr. G.: Socotro Pobéguin 1868.

18. *Polygala baikiei* Chodat l.c. 334 (1891); Chev. Fl. Viv. 1: 226. *APD acc*

Polygala tenuicaulis var. *longifolia* Oliv. F.T.A. 1: 127.

Erect, to 5 ft. high; flowers deep mauve, pink or red.

Fr. Sud.: Ouagadougou (Aug.) Chev. 24731. **Fr. G.:** several localities fide Chev. l.c. **Iv. C.:** Baoulé Chev. 22182. **G. C.:** Kintampo Kitson! **N. Nig.:** Nupe Barter 504! 782! Kabba (Nov.) Keay FHI 28101! Bauchi Plateau, 3,000–4,500 ft. (Aug.) Dent Young 9! Lely 487! P. 584! Abinsi (Sept.) Dalz. 727! **S. Nig.:** Lagos Colony (Sept.) Millen 37! Punch 27!

19. *Polygala cristata* P. Taylor in Kew Bull. 1953: 78. *APD acc*

Erect to 8 ft. high; flowers mauve to purple.

S. L.: Jigaya (Sept.) Thomas 2564! Musaia (Dec.) Deighton 4487! Gberia Fotumbu (Sept.) Small 289! Warantamba (Oct.) Small 373!

20. *Polygala persicariifolia* DC.—F.T.A. 1: 129; Chev. Fl. Viv. 1: 269. *APD acc*

APD: Synonym of Polygala sphenoptera Fresen. var. sphenoptera

Annual herb, to 31/2 ft. high; lateral sepals and corolla magenta.

Fr. G.: Fouta Djallon, 3,000 ft. (Sept.) Chev. 18658. **S. L.:** Musaia (fr. Dec.) Deighton 4536! **N. Nig.:** Bauchi Plateau, Riyom (Aug.) Keay FHI 20091!

Widespread in tropical Africa and Asia.

21. *Polygala multiflora* Poir.—F.T.A. 1: 127; Chev. Fl. Viv. 1: 267. *APD acc*

APD: Synonym of Polygala senensis Klotzsch

Polygala senegambica Chodat l.c. 334; Chev. Bot. 41 (Incl. var.).

Polygala donii Hook. f. in Fl. Nigrit. 222.

Erect, branched herb to 6 ft. high; flowers blue or purple.

Sen.: Lecard 169. Bondou Heudelot 203. **Gam.:** Hayes 569! Kuntaur (July) Ruxton 56! **Fr. G.:** Kouroussa (July) Pobéguin 334! Macenta (Oct.) Baldwin 9782! And various localities fide Chev. l.c. **Fr. Sud.:** Koulikoro (Oct.) Chev. 2529! **S. L.:** Don! Brown! Leicester Peak (Dec.) Sc. Elliot 3856! Bonthe Isl. (Nov.) Deighton 2290! Dodo (Apr.) Deighton 3906! Jigaya (Nov.) Thomas 2543! Kenema (Oct.) Deighton 5228! **Iv. C.:** Nzi, Baoulé-Nord (Aug.) Chev. 22289! And various other localities fide Chev. l.c. **Togo:** Büttner 214! **N. Nig.:** Bauchi Plateau (Aug.) Dent Young 13! 14! Lely P. 651! **S. Nig.:** Enugu (Nov.) Ujor FHI 23940!

22. *Polygala ukirensis* Gürke in Engl. Bot. Jahrb. 14: 310 (1891).

APD: Synonym of Polygala sparsiflora var. ukirensis (Gürke) Paiva

Erect herb, to 3 ft. high; flowers blue (?) or yellow; **in swamps.**

S. L.: Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 79! **Br. Cam.:** Bafut-Ngemba F.R., 5,000–6,000 ft. (Oct.–Nov.) Lightbody FHI 26276!

Also in **Uganda**, **Kenya**, **Tanganyika** and **N. Rhodesia**.

23. *Polygala tenuicaulis* Hook. f.—F.T.A. 1: 127 (excl. var. longifolia Oliv.); Chodat l.c. 335; Chev. Fl. Viv. 1: 269. *APD acc*

Erect annual, usually branched 1–2 or more ft. high; flowers pink or purplish.

Br. Cam.: Cam. Mt., 7,000–8,000 ft. (Nov.–Feb.) Mann 1282! 1982! Maitland 963! 1010!

24. *Polygala sparsiflora* Oliv. F.T.A. 1: 127 (excl. var. β); Chev. Fl. Viv. 1: 268. *APD acc*

APD: Synonym of Polygala usafuensis Gürke

APD: Synonym of Polygala sparsiflora var. ukirensis (Gürke) Paiva

Polygala djalensis Chev. Bot. 40.

Erect annual, simple or sparingly branched, 2–4 ft. high; flowers greenish-white or pink.

Fr. G.: Fouta Djallon (Sept.) Chev. 18641! **S. L.:** Morson! Waterloo (Oct.) Lane-Poole 407! Mabang, Kolifa (Jan.) Glanville 146!

Also in **Upper Shari**.

VOCHYSIACEAE

Large trees, shrubs or climbers. Leaves opposite or verticillate, rarely alternate, simple; stipules small or absent, or reduced to glands. Flowers hermaphrodite, zygomorphic, racemose or paniculate. Sepals 5, imbricate, the posterior often the largest and gibbous or spurred at the base. Petals 1–5, contorted. Stamens hypogynous or perigynous, only 1 fertile; filaments free; anthers 2-celled, opening lengthwise. Ovary superior, or rarely adnate to the calyx and hence practically inferior, often oblique, 1–3-celled; style 1; ovules 1-many in each cell, axile. Fruit capsular or samaroid; seeds one or more, often winged, sometimes pilose; endosperm absent or rarely present; embryo straight.

A large family of tropical America, with only a single genus in Africa.

ERISMADELPHUS

Mildbr. in Engl. Bot. Jahrb. 49: 549 (1913); Keay & Stafleu in Acta Bot. Neerl. 1: 594 (1953).

- 1 A tall tree, branchlets densely tomentellous; leaves opposite, broadly elliptic, sometimes suborbicular, rounded to cordate at base, obtuse to shortly acuminate at apex, petiole 8–15 mm. long, lamina 8–18 (–25) cm. long, 7–11 cm. broad, coriaceous, with 5–8 pairs of main lateral nerves very prominent beneath, midrib and main nerves puberulous; flowers numerous in subcorymbose terminal panicles, all parts tomentellous; bracts persistent, sessile, reniform-cordate, about 8 mm. long and 9–10 mm. broad; sepals 5, the 2 exterior lateral ones obliquely lanceolate, 7 mm. long and 2–2.5 mm. broad; posterior sepal suborbicular, 4–5 mm. in diam., produced at the base into two blunt superposed spurs; 2 anterior sepals oblong, 6–7 mm. long, 3–3.5 mm. broad; petals 5, subequal, 9–10 mm. long, 4.5–6 mm. broad, obovate-rhomboid with a long claw; ovary adnate to the calyx and hence practically inferior, 1-celled with a single anatropous ovule; fruit with the anterior sepals enlarged into wings up to 6 cm. long and 2–7 cm. broad, the other sepals enlarged but considerably smaller *exsul* var. *platyphyllus*

Erismadelphus exsul var. *platyphyllus* Keay & Stafleu in Acta Bot. Neerl. 1: 598 (1953). *APD acc*

Straight forest tree to 110 ft. high and 10 ft. girth; flowers greyish-green.

S. Nig.: Leopard Town, Calabar (fl. Apr., fr. June) Robson FHI 1027! Oban (fr. Nov.) Gray 6/10! Ikom (fl. & fr. Aug.) Mackay! Catterall 40! Ukon F.R. Kennedy 3128! **Br. Cam.:** Kumba Div. (fl. Apr.) Dundas FHI 8489! Ejiofar FHI 29315!

Also in **Gabon**.

[*E. exsul* Mildbr. var. *exsul*, occurring in the French Cameroons, Gabon and Belgian Congo, has narrower, glabrous leaves, acutely cuneate at the base.]

CRASSULACEAE

Herbs and undershrubs, usually succulent; leaves opposite or alternate, exstipulate. Flowers actinomorphic, hermaphrodite, usually cymose. Sepals free or united into a tube, often 4 or 5. Petals the same number as the sepals, free or variously connate, hypogynous. Stamens as many or twice as many as the petals, if few then alternate with the petals, slightly perigynous; filaments free; anthers 2-celled, introrse, dehiscing longitudinally. Hypogynous scales present within the stamens. Carpels superior, the same number as the petals free or united at the base, 1-celled; ovules many or rarely few, inserted on the adaxial suture; styles short or elongated. Fruit follicular, membranous or leathery, often surrounded by the persistent membranous corolla, opening on the adaxial side. Seeds mostly minute, usually with fleshy endosperm; embryo straight.

Widely distributed in temperate and tropical regions, especially in mountainous districts, rare in South America and Australasia.

Easily recognized by the succulent habit and often opposite leaves, the cymose slightly perigynous flowers, the definite number of stamens, the more or less free carpels and numerous minute seeds.

- 1 Flowers small or medium-sized, axillary or corymbose; petals free or slightly united at the base; stamens the same number as the petals *L. Crassula*
Flowers usually fairly large; petals united beyond the middle into a tube; stamens twice the number of the petals:

-2
- 2 Calyx nearly as long as the corolla, becoming inflated and membranous, about 3 cm. long; flowers in a lax panicle, drooping [2. Bryophyllum](#)
- Calyx much shorter than the corolla, and neither inflated nor becoming membranous; flowers numerous in cymes or racemes; corolla becoming membranous and surrounding the carpels:3
- 3 Leaves opposite, not peltate; inflorescence cymose; sepals 4 [3. Kalanchoe](#)
- Lower leaves peltate, orbicular, alternate; inflorescence a simple raceme, rarely with a few basal branches; sepals 5 [4. Umbilicus](#)

1. CRASSULA

Linn.—F.T.A. 2: 388, incl. Tillaea Linn.

- 1 Flowers very small, axillary; stems slender, usually with very crowded leaves; small or prostrate herbs:.....2
- Flowers medium-sized, in dense terminal corymbose cymes; stems stout, erect; basal leaves linear-lanceolate, acute, sheathing at the base, up to about 10 cm. long and 1 cm. broad, the cauline ovate-lanceolate, with short broad papillae on the margin; cymes up to 10 cm. in diam. [4. alba](#)
- 2 Leaves broadly ovate, subacute, abruptly narrowed into the claw-like base, 1–1.5 cm. long, 6–8 mm. broad; pedicels about 6 mm. long; stems with a longitudinal line of hairs [1. alsinoides](#)
- Leaves lanceolate, acute, about 7 mm. long, broadened towards the base; flowers sessile; stems angular, nearly glabrous [2. pentandra](#)
- Leaves linear-subulate, very acute, 3–4 mm. long; flowers pedicellate on very short axillary branchlets; stems flattened, glabrous [3. pharnaceoides](#)

1. *Crassula alsinoides* (Hook. f.) Engl. in Abb. Preuss. Akad. Wiss. 1891, 2: 231 (1892). *APD acc*

Tillaea alsinoides Hook. f.—F.T.A. 2: 387.

Fleshy prostrate or ascending herb; corolla white.

Br. Cam.: Cam. Mt., 5,800–7,600 ft. (Nov.–Mar.) Migeod 152! Maitland 896! 1065! Brenan 9519! Nchan, Bamenda, 5,000 ft. (June) Maitland 1784! L. Oku, Bamenda, 7,800 ft. (Jan.) Keay FHI 28473!

Also on mountains of east and south tropical Africa.

2. *Crassula pentandra* (Royle ex Edgew.) Schoenl. in E. & P. Pflanzenfam. 3, 2A: 37 (1890).

APD: Synonym of Crassula schimperi Fisch. & C.A. Mey. subsp. schimperi

Tillaea pentandra Royle ex Edgew.—F.T.A. 2: 886.

Tufted herb, a few inches high.

Br. Cam.: Cam. Mt., 8,000 ft. (nov.) Mann 2037!

Also on mountains of E. Africa and **Angola**, and in India.

3. *Crassula pharnaceoides* (Hochst.) Fisch. & Mey. in Ind. Sem. Hort. Petrop. 8: 56 (1841).

APD: Synonym of Crassula alata subsp. pharnaceoides (Fisch. & C.A. Mey.) Wickens & Bywater

Tillaea pharnaceoides Hochst.—F.T.A. 2: 387.

Small herb, a few inches high.

Br. Cam.: Cam. Mt., 9,000 ft. (Nov.) Mann 1991!

Also in **east and south Africa** and **N.W. Himalaya**.

4. *Crassula alba* Forsk. Fl. Aegypt.-Arab. 60 (1775). *APD acc*

APD: Synonym of Crassula vaginata Eckl. & Zeyh. subsp. vaginata

Crassula mannii Hook. f. in J. Linn. Soc. 7: 193; F.W.T.A., ed. 1, 1: 104.

Crassula abyssinica A. Rich.—F.T.A. 1: 388.

Erect herb to 3 ft. high. with stout stem; flowers white.

Br. Cam.: Cam. Mt., 6,000–10,000 ft. (May–Dec.) Mann 1304! 2036! Maitland 644! 827! Mildbr. 10861! Bambulue Hill, Bamenda, 7,000–7,800 ft. (Sept., Oct.) Johnstone 209/31! Savory 549!

Widespread in highlands of tropical Africa.

2. BRYOPHYLLUM

Salisb.—F.T.A. 2: 389.

- 1 A fleshy shrub 60–120 cm. high, branched from the base; leaves opposite, simple or trifoliate, petiolate, obovate to obovate-orbicular, about 10 cm. long and 5–6 cm. broad, coarsely crenate, sometimes the teeth bearing bulbils in their axils, glabrous; flowers drooping in lax panicles; calyx inflated, tubular, 4-lobed, 3 cm. long, greenish-yellow and purplish at the base, lobes triangular, very acute; corolla gamopetalous, tubular, contracted above the base, a little longer than the calyx, 4-lobed, reddish-purple in the upper part; lobes ovate-lanceolate, abruptly acute-acuminate; stamens 8, a little exserted [pinnatum](#)

Bryophyllum pinnatum (Lam.) Oken in Allg. Naturgesch. 3, 3: 1966 (1841); S. Kurz in J. As. Soc. Beng. 40, 2: 52 (1871); Chev. Fl. Viv. 1: 280.

APD: Synonym of Kalanchoe pinnata (Lam.) Pers.

Cotyledon pinnata Lam. Encyl. 2: 141 (1786).

Bryophyllum calycinum Salisb.—F.T.A. 2: 390.

Kalanchoe pinnata (Lam.) Pers. Syn. 1: 446 (1805).

S. L.: Regent (May) Barter! Hill Station (Dec.) Deighton 482! **Lib.:** Monrovia Whyte! **Iv. C.:** fide Chev. l.c. **G. C.:** Aburi (Jan.) Johnson 890! Bushua beach (Apr.) Chipp 182! **Togo:** Lome Warnecke 38! **Dah.:** Dogba Chev. 23290. **S. Nig.:** Idanre (Jan.) Brenan & Keay 8740! Oban Talbot 1510!

Native of Madagascar; introduced to and now naturalized in many parts of tropical Africa, and also in Asia and S. America.

3. KALANCHOE

Adans.—F.T.A. 2: 390.

- 1 Stems, pedicels and calyx quite glabrous; calyx divided to the base, segments linear-lanceolate, acutely acuminate; corolla lobes ovate-lanceolate, acute; leaves distinctly petiolate, lamina more or less elliptic (in our area), margin doubly crenate [1. laciniata](#)
- Stems, pedicels or calyx pubescent or glandular-pilose: [2](#)
- 2 Leaves distinctly petiolate; connate portion of the calyx as long or almost as long as the lobes; inflorescence more or less densely glandular-pilose; stems not angular [2. crenata](#)
- Leaves sessile; connate portion of the calyx much shorter than the lobes; inflorescence sparingly pilose; stems more or less quadrangular [3. lanceolata](#)

1. **Kalanchoe laciniata** (Linn.) DC. Pl. Succ. Hist. t. 100 (1802); R. Hamet in Bull. Herb. Boiss. Sér. 2, 7: 897 (1907); Berger in E. & P. Pflanzenfam. 18A: 406 (1930). *APD acc*

APD: Synonym of Kalanchoe crenata (Andrews) Haw.

Cotyledon laciniata Linn. Sp. Pl. 430 (1753).

Kalanchoe crenata of F.T.A. 2: 394, partly.

Kalanchoe petitiانا of F.W.T.A., ed. 1, 1: 106; Chev. Fl. Viv. 1: 281.

Herb, to 6 ft. high; flowers yellow, orange, or magenta.

S. Nig.: Oban Talbot! Balleghele (Jan.) Rosevear 13/30! **Br. Cam.:** Cam. Mt., 3,000–7,600 ft. (Dec., Jan.) Mann 1315! 2038! Maitland 962! Mba Kokeka Mt., 7,500 ft. (Jan.) Keay FHI 28401!

Widespread in the tropics.

2. *Kalanchoe crenata* (Andr.) Haw. Syn. Pl. Succ. 109 (1812); Berger l.c. 406; F.T.A. 2: 394, partly; Chev. Fl. Viv. 1: 279. *APD acc*

Vereia crenata Andr. Bot. Repos. 1, t. 21 (1798).

Kalanchoe afzeliana Britten in F.T.A. 2: 393.

Kalanchoe coccinea Welw.—F.W.T.A., cd. 1, 1: 106.

Fleshy herb, to 6 ft. high; flowers yellow to red.

Fr. Sud.: Gourma (July) Chev. 24425. **Fr. G.:** Follo (Dec.) Chev. 14823. Mamou (Jan.) Chev. 20358. **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3883! Bintumane Peak (Jan.) T. S. Jones 66! **Iv. C.:** Bingerville (Dec.) Chev. 16565. **G. C.:** Aburi (May) Johnson 31! Ofako, Achimota (Jan.) Irvine 1966! **Dah.:** Porto Novo (Feb.) Chev. 22908! **N. Nig.:** Bauchi Plateau Dent Young 90! W. D. MacGregor 401! Batten-Poole 233! **S. Nig.:** Lagos Rowland! Dalz. 1355! **Br. Cam.:** Mopanya Kalbreyer 158! Buea (Feb.) Maitland 997! Bamenda (Jan.) Migeod 435!

Also in **French Camerouns** and **S. Tomé**.

3. *Kalanchoe lanceolata* (Forsk.) Pers. Syn. 1: 446 (1805); R. Hamet in Bull. Herb. Boiss. Sér. 2, 8: 32 (1908); Berger l.c. 406; Chev. Fl. Viv. 1: 280. *APD acc*

Cotyledon lanceolata Forsk. Fl. Aegypt.-Arab. 89 (1775).

Kalanchoe glandulosa Hochst.—F.T.A. 2: 396.

A herb, to 4 ft. high, amongst rocks; flowers yellow to salmon-pink.

Fr. Sud.: Balani (Jan.) Chev. 149. **G. C.:** Shai Hills (Jan.) Irvine 646! **N. Nig.:** Naraguta (Nov.) Lely 700!

Widespread in tropical Africa.

4. UMBILICUS

DC.—F.T.A. 2: 398, under *Cotyledon*. Linn.

- 1 An erect, simple or slightly branched, glabrous fleshy herb, up to about 30 cm. high; lower leaves peltate, long-petiolate, orbicular, slightly crenate, 3–4 cm. in diameter, the upper ones more or less basifixed and more shortly petiolate; bracts often foliaceous and then larger than the flowers; pedicels "about 3 mm. long; sepals ovate-triangular, acute, about 2 mm. long; corolla ellipsoid, about 7 mm. long [botryoides](#)

Umbilicus botryoides Hochst. ex A. Rich. Tent. Fl. Abyss. 1: 308 (1848). *APD acc*

APD: *Synonym of Umbilicus paniculiformis Wickens*

Cotyledon umbilicus of F.T.A. 2: 398, not of Linn.

Br. Cam.: Cam. Mt., 7,000–10,000 ft. (Nov.–Jan.) Mann 1286! 2035!

Also on the mountains of eastern Africa from Somaliland to **Tanganyika**.

Formerly identified with the western European *U. pendulinus* DC., but differing in its shorter pedicels, short and broad sepals and more globular corolla.

SAXIFRAGACEAE

Herbs, not or slightly succulent. Leaves usually alternate (opposite in *Vahlia*), exstipulate. Flowers actinomorphic, hermaphrodite, rarely solitary. Sepals usually 5, imbricate or valvate. Petals alternate with the sepals or absent, often clawed, perigynous or rarely epigynous. Stamens inserted with the petals, 5–10; filaments free; anthers 2-celled, dehiscing longitudinally. Ovary 1–5-celled, free or adnate to the receptacle; styles usually free; ovules numerous, on axile or parietal placentas or the latter pendulous from the apex of the cells. Fruit a capsule. Seeds usually numerous, small, with endosperm; embryo minute, straight.

Widely distributed in temperate regions, rare in the tropics.

Represented in our area by the single genus *Vahlia*, which is remarkable in the family in having opposite leaves and the placentas pendulous from the top of the ovary. This genus is liable to be mistaken for *Oldenlandia* (Rubiaceae), which has interpetiolar stipules, united petals and axile placentas.

VAHLIA

Thunb.—F.T.A. 2: 383.

Herbs with opposite exstipulate ovate to linear leaves, often glandular. Flowers paired, axillary, subsessile or pedunculate. Sepals 5, valvate. Petals 5, scarcely exceeding the sepals. Stamens 5. Ovary inferior, 1-celled, with 2 pendulous many-ovuled placentas. Capsule dehiscent at the apex.

- 1 Plant very viscous with gland-tipped hairs; leaves ovate or ovate-lanceolate, rarely linear-lanceolate; flowers subsessile, in axillary pairs or solitary; calyx-lobes ovate, about as long as the tube; filaments filiform, ciliate, with a small hairy appendage at the base; styles as long as the calyx-lobes [1. *digyna*](#)

Plant not or slightly viscous; leaves linear; flowers paired on axillary peduncles; calyx-lobes lanceolate or ovate-lanceolate, shorter than the tube at least in fruit; filaments about twice as long as the anthers, not ciliate and not appendaged; styles rather short, stout and divaricate [2. *dichotoma*](#)

1. ***Vahlia digyna* (Retz.) O. Ktze.** in Rev. Gen. Pl. 1: 227 (1891); F.W.T.A., ed. 1, 2: 605. *APD acc APD acc*

APD: *Synonym of Vallisneria spiralis f. aethiopica (Fenzl) T. Durand & Schinz*

***Oldenlandia digyna* Retz.** Obs. 4: 23 (1786).

***Vahlia viscosa* Roxb.** Fl. Ind. 2: 89 (1832); F.T.A. 2: 383; F.W.T.A., ed. 1, 1: 109; Chev. Fl. Viv. 1: 284.

***Vahlia ramosissima* A. DC.** in DC. Prod. 4: 54 (1830).

***Vahlia silenoides* A. DC.** l.c.; Chev. Fl. Viv. 1: 284.

Much-branched herb to 1 ft. high, in sandy river beds and swampy meadows; petals yellow.

Sen.: Walo (Oct.) Perrottet! **Fr. Sud.:** & **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Sokoto (Dec.) Moiser 189! Yola (Dec.) Dalz. 50! Kukawa (Jan.) E. Vogel 5!

Extends eastwards to India.

2. ***Vahlia dichotoma* (Murr.) O. Ktze.** l.c. (1891). *APD acc*

***Heuchera dichotoma* Murr.** in Comm. Gott. 3: 64, t. 1 (1773).

***Vahlia oldenlandioides* Roxb.** l.c. (1832); F.T.A. 2: 384; F.W.T.A., ed. 1, 1: 106; Chev. Fl. Viv. 1: 283.

***Vahlia tomentosa* A. DC.** l.c. 4: 54 (1830).

Much-branched herb in damp fields, etc.; much resembling an *Oldenlandia*. Petals yellow, fading to white or pink.

Sen.: Walo (Oct.) Perrottet! St. Mary Isl. Brunner 145! Dakar Rattray! **Fr. Sud.:** Timbuktu (July) Hagerup 164! And several other localities fide Chev. l.c. **Togo:** Lome Warnecke 153! **Fr. Nig.:** Zinder Hagerup 614! **N. Nig.:** Borgu Barter 725! Sokoto (Oct., Nov.) Data. 441! Moiser 234! 239! 243! Takwara, Bauchi Plateau (May) Lely 106! Bornu (Jan., Apr.) E. Vogel 81! Daggash FHI 24966!

Widespread in dry regions of tropical Africa and Asia.

DROSERACEAE

Herbs, often stemless with rosettes of leaves, the latter usually covered with sticky stipitate glands which entrap insects. Flowers actinomorphic, hermaphrodite, in usually simple circinate cymes. Sepals 5–4, more or less connate at the base, imbricate, persistent. Petals 5, hypogynous, very rarely perigynous, nervose. Stamens 4–20, often 5, hypogynous, free or rarely united at the base; anthers 2-celled, extrorse, opening by longitudinal slits. Ovary free, 1-celled, with parietal or subbasal placentas; ovules many or rarely few; styles 3–5, mostly free. Fruit a loculicidal capsule. Seeds numerous, with fleshy endosperm; embryo straight; cotyledons short.

A small family generally found in swampy or sandy situations in tropical and temperate regions of both hemispheres; not found in rain-forest areas.

Easily recognized by the herbaceous habit and the stipitate-glandular leaves which entrap insects, the smallish fugacious flowers, and the syncarpous ovary with parietal placentas.

DROSEREA

Linn.—F.T.A. 2: 401; Diels in Engl. Pflanzenr. Droserac. (1906).

Herbs with sticky glandular hairs. Sepals and petals 5 (rarely 4–8). Stamens the same number as the petals, and alternating with them. Placentas 3–5.

- 1 Leaves spatulate; pedicels up to 3 mm. long:2
 Leaves linear; pedicels 6–10 mm. long; stems elongated with the leaves evenly spaced, deflexed when old; leaves 2–10 cm. long and 3–4 mm. broad; stipules setiform or obsolete3. *indica*
- 2 Leaves evenly spaced along the elongated (up to 15 cm.) stem; leaves with definite petiole 1.5–3 cm. long, lamina about 2 cm. long and 3–5 mm. broad, old leaves deflexed; stipules broad, pectinate, persistent, scarious; inflorescences 10–30 cm. long; seeds fusiform1. *madagascariensis*
 Leaves in a close whorl on the very short stem; leaves attenuate at the base into the rather flattened petiole, generally rather shorter than above, with relatively broad lamina; stipules small, not conspicuous; inflorescences 5–15 cm. long; seeds minute, ovoid2. *burkeana*

1. *Drosera madagascariensis* DC. Prod. 1: 318 (1824); Diels in Engl. Pflanzenr. Droserac. 98; Chev. Fl. Viv. 1: 287. *APD acc*

Drosera ramentacea of F.T.A. 2: 403, not of Burch.

Flowers pink.

Fr. Sud.: Sikasso (May) Chev. 788. Folo (May) Chev. 842. **Fr. G.:** Labé Pobéguin 2084. **N. Nig.:** Nupe Barter 1332! Kontagora (Nov.) Dalz. 63! Vom Dent Young 89! **Br. Cam.:** Bansa, Bamenda, 6,000 ft (Jan.) Keay FHI 28450!

Widespread in tropical Africa, S. Africa and Madagascar.

2. *Drosera burkeana* Planch.—F.T.A. 2: 402; Diels l.c. 88. *APD acc*

APD: *Synonym of Drosera pilosa* Exell & J. R. Laundon

Flowers pink; in grassland.

Br. Cam.: Bum, Bamenda, 4,000 ft. (May) Maitland 1499! Nchan, 5,000 ft. (May) Maitland 1499 bis!

Widespread in east and south tropical Africa, and in S. Africa

3. *Drosera indica* Linn.—F.T.A. 2: 402; Diels.c. 77; Chev. Fl. Viv. 1: 286. *APD acc*

Flowers pink, mauve or white; the commonest species in W. Africa.

Sen.: Casamance (Jan., Feb.) Chev. 3145; 3146. **Gam.:** Brown-Lester 38! **Fr. Sud.:** Koulikoro (Oct.) Chev. 3148! **Fr. G.:** Kindia (Dec.) Pobéguin 1316! **S. L.:** Waterloo (Oct.) Lane-Poole 401! Brookfields (Oct.) Deighton 147! **Lib.:** Monrovia Baldwin 9197! **Iv. C.:** Baoulé Chev. 22390. Mankono Chev. 21862. **G. C.:** Navrongo (Oct.) Vigne 4605! **N. Nig.:** Nupe Barter 1331! Zungeru (Sept.) Dalz. 62! Zaria, Anara F.R. (Oct.) Keay FHI 5499! Bauchi Plateau (July, Aug.) Lely 531! P. 595!

Widespread in tropical Africa, Asia and Australia.

PODOSTEMACEAE

Aquatic herbs of rocks or stones in swift-flowing water or spray of waterfalls. Plant-body often reduced to a thallus usually attached to the substratum by haptera. Shoots (when present) arising from a thalloid base and bearing simple or deeply divided, alternate, exstipulate or minutely stipulate leaves. Flowers solitary or cymose, bracteate, hypogynous, zygomorphic. Perianth 3-phyllous or rudimentary and then usually of 2 minute more or less subulate tepals in which case the flower is enclosed (and often inverted) within a spathaceous bract (spathella) which ruptures irregularly on emergence of the flower.

Stamens 1–2 (rarely 3 or 4), filaments free or connate at the base; anthers 4-locular, opening lengthwise; staminode inserted between 2 stamens in *Stonesia*; pollen-grains solitary or geminate. Ovary sessile or shortly stipitate, of 2–3 united carpels, 1–3-locular; stigmas 1–3; ovules numerous on axile placentas. Fruit a septicidal capsule. Seeds minute, exalbuminous.

Predominantly tropical; a few species in warm north temperate region.

A remarkable family on account of the unusual habitat with attendant modification in vegetative and floral morphology, the species commonly resembling mosses, hepatics or algae.

- 1 Perianth of 3 equal or subequal tepals; spathella absent; stamen 1; styles 3; capsule opening by 3 valves [1. *Tristicha*](#)
Perianth reduced to 2 minute tepals; flower enclosed in a tough (rarely membranous) spathella which ruptures irregularly at anthesis; stamens usually 1 or 2 (very rarely 3 or 4); styles 2; capsule opening by 2 valves: [2](#)
- 2 Flower erect within the unruptured spathella with the pedicel shorter than the gynoecium: [3](#)
Flower inverted within the unruptured spathella with the pedicel at least as long as the gynoecium: [5](#)
- 3 Capsule ellipsoid, ribbed: [4](#)
Capsule globose, smooth and unribbed [4. *Letestuela*](#)
- 4 Caulescent herbs with stems and leaves dichotomously branched; stigmas subulate [2. *Pohliella*](#)
Acaulous herb with a ribbon-like branched thallus bearing small 1-flowered shoots along each margin; leaves rosulate, simple, subulate; stigmas complanate, elliptic in outline [3. *Butumia*](#)
- 5 Stamens 2, with an interposed subulate staminode; capsule ribs 12–18, those nearest the commissures shortest and not extending throughout the length of the capsule [5. *Stonesia*](#)
Stamens usually 2, sometimes 1 and very rarely 3 or 4; staminode absent; capsule 8–10-ribbed, including the double commissural ribs, all ribs running the length of the capsule [6. *Inversodicraea*](#)

1. TRISTICHA

Thouars—F.T.A. 6, 1: 121; Engl. in E. & P. Pflanzenfam. 18A: 35 (1930).

- 1 A polymorphic herb varying considerably according to habitat and season, with a linear branched thallus closely attached to the substratum, bearing usually small leafy moss-like shoots but the leafy shoots varying greatly in size from about 3 mm. to occasionally over 30 cm. in length; leafy shoots bearing rows (tristichous) of closely set imbricate to more or less distantly arranged leaves; leaves sessile, ovate to narrowly lanceolate at apex, entire at margin, up to 1 mm. in length, membranous, (often obscurely) 1-veined, sometimes prominently keeled; flowers terminal on leafy branchlets, often clustered, pedicels slender, rigid and wiry, up to 1.5 cm. in length; perianth of 3 equal usually more or less connate 1-nerved tepals; stamen 1, filament filiform, anther lobes contiguous, pollen grains 1-celled, trisulcate; ovary 3-locular, styles 3, erect or spreading; ovary 3-celled with many ovules; capsule ellipsoid, 3-valved, valves conspicuously 3-ribbed [trifaria](#)

Tristicha trifaria* (Bory) Spreng. Syst. 1: 22 (1825). *APD acc

***Dufourea trifaria* Bory.**

***Tristicha hypnoides* (St.-Hil.) Spreng.**—F.T.A. 6, 1: 121; Chev. Bot. 539; F.W.T.A., ed. 1, 1: 108; Chev. Fl. Viv. 1: 290, t. 43C.

***Tristicha alternifolia* (Willd.) Thouars-Chev. Fl. Viv. 1: 291.**

Fr. Sud.: Chutes de Billy (Dec.) Chev. 65! R. Senegal Chev. 26018. R. Baoulé Chev. 682. **Fr. G.:** R. Grande Pobéguin 1994. **S. L.:** R. Scarcies, Kambia, Magbema (Dec.) Jordan 753! **Lib.:** Platah, St. Paul R. (Dec.) Baldwin 10601! **Iv. C.:** R. Alépé Chev. 17516. **G. C.:** R. Butre, Sekondi (Jan.) Box 2100! R. Volta, Nangodi (Dec.) Adams & Akpabla 4287! **Fr. Nig.:** R. Niger De Wailly 5031. **N. Nig.:** near Ketsa, Nupe Barter 1093! R. Awon, 5 miles from R. Niger Barter 1530! Abuja (Jan.) Savory UCI 149! Randa Hepburn! **S. Nig.:** R. Ogun (June) Ross 303! Bebi, R. Ata, Obudu (Jan.) Keay & Savory FHI 25280! 25282! 25283! R. Oshin, Ilorin-Jebba Road (Dec.) Meikle 685! **Br. Cam.:** Botanic Gardens, Victoria (Nov.) Rosevear 131/36! Victoria, R. Joke (Mar.) Brenan 9495! R. Metschum, Bamenda, above falls (Jan.) Keay FHI 28537! 28538! 28539! R. Metschum, below falls (Jan.) Keay FHI 28540! **F. Po:** Mann! Near Clarence Barter 2073!

The most widespread species in the family. Widely distributed in tropical Africa, Madagascar and the Mascarene Islands; also in **India** and in **the West Indies, central and tropical S. America**.

2. POHLIELLA

Engl. Bot. Jahrb. 60: 457 (1926).

- 1 A caulescent herb up to 21 cm. high, attached to rocks by a thallus-like base; stems branching; slightly compressed; floating leaves flabellate in outline, much-branched dichotomously with the ultimate segments capillary, up to 3 cm. long and 2 cm. broad, vaginate at the base; spathellae borne on the thallus and also axillary towards the apex of flowering branches, narrowly ellipsoid, about 1 mm. long; flower erect within the spathella; stamen 1, filament ultimately 4.5 mm. long, anther 0.5–0.75 mm. long and 3.5 mm. broad; capsule ellipsoid, about 3.5 mm. long, valves equal, 3-ribbed apart from the marginal ribs[flabellata](#)

Pohliella flabellata *G. Tayl.* in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 53 (1953).

APD: Synonym of Saxicolella flabellata (G. Taylor) C. Cusset

Forming dense masses on rocks below water.

S. Nig.: R. Afi, on Aboabam-Boje path (Dec.) Keay FHI 28240!

3. BUTUMIA

G. Tayl. in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 55 (1953).

- 1 An acaulous plant with a branched ribbon-like thallus; dwarf 1-flowered shoots arising along each margin of the thallus; leaves rosulate, sessile, subulate, slightly amplexicaul at the base, inner leaves subtending the flower minutely stipulate; flower erect within the spathella on short pedicel; stamen 1, filament ultimately about 1.2 mm. long, anther about 0.5 mm. long; ovary ellipsoid, about 3.5 mm. long; stigmas subulate-filiform, about 2 mm. long; capsule ellipsoid, about 3.5 mm. long, valves equal, 3-ribbed apart from the marginal ribs[marginalis](#)

Butumia marginalis *G. Tayl.* in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 55, t. 2 (1953).

APD: Synonym of Saxicolella marginalis (G. Taylor) C. Cusset ex Cheek

Moss-like plant on smooth granite rocks in fast-flowing stream.

S. Nig.: R. Butum, Utanga, 2 miles north of Bagga, Obudu (Dec.) Keay, Savory & Russell FHI 25152!

4. LETESTUELLA

G. Tayl. in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 57 (1953).

- 1 A slender branched herb up to 3.5 cm. high, probably with a thalloid base; leaves narrowly linear, entire or shortly bifid, up to 2 cm. long, vaginate at the base; spathella borne at the ends of branches, with stalk up to 1 cm.; stamens 2, filaments and andropodium together about 1.5 mm. long; pedicel of infructescence about 1 cm. long; capsule globose, smooth and shining, valves equal and unribbed[chevalieri](#)

Letestuella chevalieri *G. Tayl.* in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 59 (1953).

APD: Synonym of Letestuella tisserantii G. Taylor

Leiothylax sphaerocarpa of Chev. *Fl. Viv.* 1: 295, partly (excl. spec. Cameroons), not of Engl.

Fr. Sud.: falls of the Niger (Mar.) Chev. 44058 bis.

5. STONESIA

G. Tayl. in *Bull. Brit. Mus. (Nat. Hist.)*, Bot. Ser. 1: 59 (1953).

- 1 Spathellae borne singly on the thallus and axillary on branched stems, or singly along almost efoliate stems; stigmas filiform, at least 0.3 mm. long:.....2

Spathellae in nodal clusters towards the base of the stems; stigmas short, about 0.1 mm. long [3. fascicularis](#)

- 2 Spathellae monomorphic, ellipsoid both on the thallus and stems, those on the stems more or less closely arranged (singly or 2 to 3 at the nodes) along the lower parts of the stems; stems simple or sparingly branched towards the apex [1. gracilis](#)

Spathellae dimorphic, those on the thallus compressed with a ring-like cartilaginous margin, those on the much-branched stems involuclate [2. heterospathella](#)

1. ***Stonesia gracilis* G. Tayl. in Bull. Brit. Mus. (Nat. Hist.), Bot. Ser. 1: 65, t. 7 (1953). APD acc**

Caulescent herb up to 22 cm. long; stems arising from a thalloid base, slender, simple or occasionally sparingly branched towards the apex; leaves deciduous and at time of flowering only persisting towards the apices of the stems; spathellae about 2 mm. long; flowers within the spathellae about 1.8 mm. long; pedicel about 1.8 mm., ultimately up to 4 mm. long; tepals 0.8 mm. long; filaments 0.5 mm. long; anthers 0.75 mm. long; staminode 0.5 mm. long; andropodium within the spathella about 0.5 mm. but ultimately up to 1 mm. long; ovary 1 mm. long; stigmas about 0.3 mm. long; capsule 14-ribbed, each valve 7-ribbed, the persistent valve slightly inrolled.

Fr. G.: Great Falls, Kindia (Nov.) Abbayes 355/1951!

2. ***Stonesia heterospathella* G. Tayl. l.c. 60, t. 5 (1953). APD acc**

Dicraeia garrettii of Chev. Bot. 539; F.W.T.A., ed. 1, 1: 108, partly (Fr. G. spec.).

Dicraeanthus parmelioides A. Chev. Fl. Viv. 1: 294, t. 43B (1938), French descr. only.

Caulescent herb up to 12 cm. long; stems arising from a thalloid base, elongate and dichotomously branched; leaves lacinate, the upper segments with the small persistent bases of deciduous laciniae; spathellae about 2 mm. long; flower within the spathella 1.5 mm. long; pedicel 1.5 mm. ultimately up to 4 mm. long; tepals 0.5 mm. long; filaments 0.3 mm. long; anthers 0.4 mm. long; staminode 0.3 mm. long; andropodium very short; ovary 1 mm. long; stigmas 0.5 mm. long; capsule subglobose or ellipsoid, 12–18-ribbed, each valve 6–8-ribbed, the persistent valve strongly inrolled.

Fr. G.: Ditinn to Diaguissa (Apr.) Chev. 12842! Great Falls (Dec.) Chev. 20231. Great Falls, Ditinn (Nov.) Abbayes 877/1948! 887/1948! Falls of R. Kinkon, Pita (Nov.) Abbayes 897 bis/1948!

3. ***Stonesia fascicularis* G. Tayl. l.c. 65, t. 6 (1953). APD acc**

Caulescent herb up to 36 cm. long; stems elongated, branched towards the base; leaves up to 15 mm. long, 2–3-bifid; spathellae about 2 mm. long; flower in the spathella about 1.5 mm. long; pedicel about 2 mm. ultimately up to 5 mm. long; tepals 0.6 mm. long; filaments 0.6 mm. long, anthers 0.75 mm. long; staminode about 0.5 mm. long; ovary 1.25 mm. long; stigmas about 0.1 mm. long; capsule 14-ribbed; each valve 7-ribbed, the persistent valve slightly inrolled.

Fr. G.: falls of R. Kinkon, Pita (Nov.) Abbayes 897/1948!

6. INVERSODICRAEA

Engl. Pflanzenw. Afr. 3, 1: 271–275 (1915); E. & P. Pflanzenfam. 18A: 53 (1930).

- 1 Leaves rosulate or polystichous, or deciduous and plant appearing leafless in the fruiting stage:2
 Leaves distichous and some at least persisting to the fruiting stage:8
- 2 Leaves polystichous, sometimes linear and 1–2-bifid, but mostly small, scale-like, cartilaginous and variously lobed or toothed, closely crowded towards the apex of the branches, or deciduous and the plants apparently leafless at maturity; stems usually much-branched, rarely subcaulous and then plants not reaching 2 cm. in height:3
 Leaves rosulate, linear-subulate, persistent; dwarf, subcaulous, unbranched herb with 1–3-flowered shoots arising from a flat thallus [7. tenuifolia](#)
- 3 Plants at maturity more than 2 cm. high; stems repeatedly branched and bare or with scattered scale-like leaves on the lower parts of the plant:4
 Plants at maturity dwarf, usually less than 1 cm. and not exceeding 2 cm.; leaves closely imbricated throughout

- the length of the stem [6. pygmaea](#)
- 4 Branching stems, slender and only slightly compressed and almost leafless below except for a few scattered hair-like bristles; tips of the flowering shoots swollen and strobiliform with closely aggregated linear or linear-lanceolate scale-like entire or 3-dentate leaves surrounding the developing spathe and also with finely and repeatedly dichotomously divided capillary leaves [1. abbayesii](#)
- Branching stems rather stout, often compressed and with scattered scale-like (not bristle-like) leaves; tips of the flowering branches not noticeably swollen; upper leaves broad scale-like, commonly 3-toothed, sometimes with a few 1–3-bifid leaves with linear segments: 5
- 5 Stems strongly compressed, spathe clustered on the tip of the branches, which are often leafless: 6
- Stems at most slightly compressed; spathe 1–3 at or towards the tips of the foliose branches: 7
- 6 Stamens 2; capsule slightly compressed [2. garrettii](#)
- Stamen 1; capsule cylindrical [3. macrothyrsa](#)
- 7 Loosely branched herb up to 13 cm. high with the lower parts of the branches smooth or bearing sparse scale-like leaves; spathe up to 6 mm. long; fruiting pedicels 2 cm. long; capsule 3 mm. long [4. adamesii](#)
- Closely branched herb 3–4 cm. high with the lower parts of the stems somewhat ridged or corrugated with scale-like leaves or persistent bases of leaves; spathe about 1.5 cm. long; fruiting pedicel 1.5 mm. long; capsule 2 mm. long [5. ledermannii](#)
- 8 Leaves linear and entire or 1–2-bifid with narrow segments, up to 1.5 cm. long: 9
- Leaves cymbiform, up to 2 mm. long: 10
- 9 Branched herb up to 3 cm. high; leaves linear, entire; stamens 2; stigmas botuliform, 1 mm. long [8. musciformis](#)
- Unbranched herb, or obscurely branched at the flowering apices, not exceeding 1 cm. in height; leaves 1–2-bifid; stamens (1-) 2(–4); stigmas very short, clavate or flabellate and then lobed [9. variabilis](#)
- 10 Dwarf acaulous herb not exceeding 1 cm. in height; stigmas very short [10. aloides](#)
- Caulescent herb up to 6 cm. high; stem unbranched and naked below; dwarf flowering shoots with closely imbricated leaves, congested into heads or fascicles [11. keayi](#)

1. *Inversodicraea abbayesii* G. Tayl. in Bull. Brit. Mus. (Nat. Hist.), Bot. Ser. 1: 67, t. 8 (1953).

APD: *Synonym of Ledermannia abbayesii* (G. Taylor) C. Cusset

Branched herb up to 30 cm.; scale-like leaves 0.5–1 mm. long, branched capillary leaves up to 3.5 cm. long; spathe up to 3 mm. long; pedicel in spathe 2.75 mm. (eventually up to 7.5 mm.) long; tepals 0.8 mm. long; filaments when single 1.5 mm. long at time of flowering, when 2, filaments 1.25 mm and then andropodium 0.75 mm. long; anthers 1.5 mm. long; ovary 1.5 mm. long; stigmas 0.75 mm.; capsule cylindrical, about 3.5 mm. long.

Fr. G.: falls of R. Kinkon, Pita (Nov.) Abbayes 898/1948!

2. *Inversodicraea garrettii* (C.H. Wright) G. Tayl. l.c. 67 (1953).

APD: *Synonym of Macropodiella garrettii* (C.H. Wright) C. Cusset

Dicraea garrettii C. H. Wright in F.T.A. 6, 1: 126 (1909); F.W.T.A., ed. 1, 1: 108, partly (excl. Fr.G. spec.).

Branched herb up to 10 cm. with horny compressed stems; leaves about 2 mm. long, irregularly lobed or 1–3-bifid, apparently soon deciduous and plant appearing leafless; flowers in terminal fascicles; fruiting pedicel 12 mm. long; filaments 4 mm. long; gynophore 1 mm. long; capsule slightly compressed, 1.75 mm. long; valves with 3 ribs and also marginal ribs.

S. L.: Sherbro (Oct.) Garrett!

3. *Inversodicraea macrothyrsa* G. Tayl. l.c. 67 (1953).

APD: *Synonym of Macropodiella macrothyrsa* (G. Taylor) C. Cusset

Saxicolella macrothyrsa A. Chev. Fl. Viv. 1: 293, t. 43A (1938), French descr. only.

Caulescent herb up to about 20 cm.; stems branched dichotomously, flattened and 2–4 mm. broad; spathe terminal or lateral, in dense unilateral cymes, 3 mm. long, shortly pedunculate; pedicel 6–8

mm. long; stamen 1, filament 3–4 mm. long; anthers 1–5 mm. long; ovary ovoid, 1.5 mm. long; gynophore 0.3 mm. long; capsule 1.5–2 mm. long, valves 3-ribbed.

Fr. G.: Fouta Djallon, in branches of *R. Dindia* Caille in Hb. Chev. 14740.

4. *Inversodicraea adamesii* *G. Tayl.* l.c. 69, t. 9 (1953).

APD: *Synonym of Ledermanniella adamesii (G. Taylor) C. Cusset*

Dichotomously branched herb; spathellae 1–3 at the tips of branches, narrowly obovoid with a tapering base; pedicel flexuose within the spathella, about 7 mm. long, eventually erect and up to 10 mm. long; tepals needle-like, about 1 mm. long; filaments 2 mm. long; andropodium 3 mm. long; anthers 1.25 mm. long; ovary about 2 mm. long, 6-ribbed excepting the inconspicuous commissural ribs; gynophore 0.5 mm, long; capsule valves equal and each 3-ribbed.

Port. G.: Chitale, Saltenho (Feb.) Esp. Santo 2670! **S. L.:** Kambia Bridge (Dec.) Adames 177!

5. *Inversodicraea ledermannii* (*Engl.*) *Engl.* Pflanzenw. Afr. 3, 1: 274 (1915); Chev. Fl. Viv. 1: 297, partly. *APD acc*

Dicraea ledermannii *Engl.* Bot. Jahrb. 43: 381, t. 2, Q-X (1909).

Branched herb with a ribbon-like thallus; leaves scale-like, cartilaginous, 0.5 mm. long.

Iv. C.: foot of Mt. Do, near Gouékangouiné (May) Chev. 21421!

Also in **French Cameroons**.

6. *Inversodicraea pygmaea* *G. Tayl.* l.c. 72, t. 10 (1953).

APD: *Synonym of Ledermanniella taylorii C. Cusset*

Inversodicraea ledermannii of A. Chev. Fl. Viv. 1: 297, partly.

Dwarf herb, up to 11 mm. including the pedicellate infructescence; stems simple or occasionally branched at the base arising from a narrow ribbon-like thallus; leaves linear-oblong, densely imbricated along the length of the stem, 3-toothed at the apex with the middle tooth longest, up to 1 mm. long; spathellae sessile, apical, obovoid, up to 2 mm. long; tepals needle-like, about 0.5 mm. long; stamen 1, filament up to 1.5 mm. long; anthers about 0.5 mm. long; ovary ellipsoid, about 1.25 mm. long, slightly 6-ribbed; gynophore about 0.3 mm. long; stigmas subulate, about 0.3 mm. long; capsule ellipsoid, 1.5 mm. long, valves equal 3-ribbed.

Fr. G.: Great Falls, Kindia (Dec.) Abbayes 353/1951! Chev. 20232!

7. *Inversodicraea tenuifolia*, *G. Tayl.* l.c. 72, t. 11 (1953).

APD: *Synonym of Ledermanniella tenuifolia (G. Taylor) C. Cusset*

Small caulescent herb with a flat basal thallus; leaves sessile, exstipulate, up to 4.5 mm. long; spathellae usually 2–3 produced on the dwarf rosulate shoots, subobovoid, about 2.75 mm. long; flower within the spathella about 8 mm. high; pedicel 2.5 mm. becoming up to 8 mm. long; stamens 2, filaments up to 3 mm. long; anthers 1 mm. long and 0.75 mm. broad; ovary ellipsoid, about 1.75 mm. long, and 0.8 mm, broad, slightly 8-ribbed; gynophore 0.5–0.75 mm. long; capsule ellipsoid, 2 mm. long, valves equal, 3-ribbed excepting the thin marginal commissural ribs.

S. Nig.: R. Afi, on Boje-Aboabam path (Dec.) Keay FHI 28241!

8. *Inversodicraea musciformis* *G. Tayl.* l.c. 75, t. 12 (1953).

APD: *Synonym of Ledermanniella musciformis (G. Taylor) C. Cusset*

Branched caulescent herb; lower leaves scale-like, minute, needle-like or linear; upper leaves linear-subulate, sheathing at the base, exstipulate, up to 14 mm. long; spatheae at the ends of branches, ovoid, about 2.75 mm. long; pedicel 2 mm. becoming up to 8 mm. long; tepals acicular, 0.6 mm. long; stamens 2, filaments about 0.8 mm. long; andropodium about 0.5 mm. long; anthers 0.75 mm. long and 0.7 mm. broad; ovary ellipsoid or obovoid, 1.75 mm. long, slightly 8-ribbed; capsule ellipsoid, 1.75 mm. long, valves equal 3-ribbed excepting the thin marginal commissural ribs.

Br. Cam.: N.W. slopes of Mba Kokeka Mt., Bamenda, 7,500 ft. (Jan.) Keay FHI 28542!

9. *Inversodicraea variabilis* G. Tayl. l.c. 75, t. 13 (1953).

APD: Synonym of Ledermanniella variabilis (G. Taylor) C. Cusset

Dwarf herb with flowering stems from flat thallus; leaves up to 7.5 mm. long; spatheae ellipsoid or subovoid tapering and stipitate at the base, up to 3.25 mm. long; pedicel 3.25 mm. (in fruit 4 mm.) long; tepals about 0.5 mm. long; filaments about 1 mm. long; andropodium up to 1 mm. long; anthers 1 mm. long; ovary about 1.5 mm. long; capsule 1.5 mm. long.

Br. Cam.: R. Mun Aiya, by Ikom-Mamfe road ferry (Jan.) Keay FHI 28688!

10. *Inversodicraea aloides* Engl. l.c. 3, 1: 271, t. 175 (1915).

APD: Synonym of Ledermanniella aloides (Engl.) C. Cusset

Gregarious moss-like plant; spatheae 1.5 mm. long; pedicel up to 3 mm.; stamens 1 or 2; filaments about 1 mm. long; anthers about 1 mm. long; ovary 1 mm. long; capsule 1 mm. long; stigmas shortly ellipsoid.

S. Nig.: R. Butum, (Dec.) Keay FHI 25150! Utanga, R. Butum (Dec.) Keay FHI 25153!

Extends to [Angola](#).

11. *Inversodicraea keayi* G. Tayl. l.c. 78, t. 14 (1953).

APD: Synonym of Ledermanniella keayi (G. Taylor) C. Cusset

Leaves up to 2 mm. long; spatheae solitary at the ends of short congested leafy shoots, about 2.5 mm. long; pedicel 2 mm. (in fruit 3 mm.) long; filaments about 0.5 mm. long; andropodium about 0.5 mm. long; anthers 0.75 mm. long; ovary about 1.5 mm. long; gynophore about 0.5 mm. long; stigmas botuliform, about 0.5 mm. long; capsules 1.5 mm. long.

Br. Cam.: Bango, Bamenda, 5,400 ft. (Jan.) Keay FHI 28457! Near Sagbo, Ndop (Mar.) Adams 11073!

ELATINACEAE

Herbs or low shrubs. Leaves opposite or verticillate, simple; stipules present, paired. Flowers small, actinomorphic, hermaphrodite, axillary, solitary or cymose. Sepals 3–5, free, imbricate. Petals as many, hypogynous, imbricate, persistent. Stamens from as many to twice as many as the petals, free, hypogynous; anthers 2-celled, opening by longitudinal slits. Ovary superior, 3–5-celled; placentation axile; styles 3–5, free; ovules numerous. Fruit a septicidal capsule. Seeds without endosperm, straight or curved; embryo with short cotyledons.

Widely spread in the warmer parts of the world.

Resembling Caryophyllaceae and Lythraceae, but differing from the former by the several-celled ovary and the absence of endosperm, from the latter by the free imbricate sepals and the erect anthers in bud.

- 1 Sepals and petals usually 5, sepals membranous on the margin, acute at apex, usually with a strong median nerve; stamens 5–12; ovary 5-celled (rarely 4), narrowed to the apex into the free styles; capsule subcrustaceous ... [1. Bergia](#)

Sepals, petals and stamens 3 (in our species; sepals and petals 2–4 and stamens up to 8 in other species); sepals membranous, obtuse at apex, without a strong median nerve; ovary 3-celled (more in other species), depressed

at apex, style short; capsule membranous [2. *Elatine*](#)

1. BERGIA

Linn.—F.T.A. 1: 152. *APD acc*

- 1 Shrubby; sepals 4–5 mm. long, acute to acutely acuminate; petals subequal to sepals; leaves pseudo-vericillate, the larger ones elliptic, narrowed into a short petiole, up to 3 cm. long and 1 cm. broad, closely serrate, scabrid-pubescent [1. *suffruticosa*](#)
- Herbaceous; sepals at most 1.5 mm. long; leaves paired; flowers in dense verticillate clusters: [2](#)
- 2 Stems and leaves more or less pubescent, stems slender or wiry, not succulent; leaves varying from oblanceolate to linear-elliptic, sharply and distinctly serrulate or nearly entire, 0.8–2.5 cm. long; stamens 5–12 [2. *ammannioides*](#)
- Stems and leaves glabrous, stems succulent; leaves lanceolate, tapering at each end, 1–5 cm. long, entire; stamens 10 [3. *capensis*](#)

1. *Bergia suffruticosa* (Del.) Fenzl—F.T.A. 1: 153; Chev. Fl. Viv. 1: 300. *APD acc*

Lancretia suffruticosa Del. (1813).

Bergia guineensis Hutch. & Dalz. F.W.T.A., ed. 1, 1: 109 (1927); Kew Bull. 1928: 27.

A heath-like undershrub, often covering large patches of ground; flowers with stamens and ovary often pink, frequented by bees.

Sen.: Roger! Heudelot! **Fr. Sud.:** Niala near Djenne (June) Chev. 1134! Akaka (May) Hagerup 85! Timbuktu (July) Hagerup 165! **iv. C.:** Assikaso (Dec.) Chev. 22577! **Fr. Nig.:** several localities fide Chev. l.c. **N. Nig.:** Sokoto (Mar., Dec.) Moiser 192! 255! Katagum (July) Dalz. 190! Nguru (June) Onochie FHI 23340! Kukawa (Jan.) E. Vogel 14!

Extends from Mauritania to the Red Sea, **Arabia** and India.

2. *Bergia ammannioides* Heyne ex Roth Nov. Pl. Sp. 219 (1821); F.T.A. 1: 152; Chev. Fl. Viv. 1: 301. *APD acc*

Bergia peploides of Guill. & Perr.—F.W.T.A., ed. 1, 1: 109.

Bergia erecta of Guill. & Perr.—F.W.T.A., ed. 1, 1: 109.

Bergia pentandra of Guill. & Perr.—F.W.T.A., ed. 1, 1: 109.

Erect or decumbent herb of moist places and dried-up pools; flowers white or pink.

Sen.: Richard Tol (Dec.) Perrottet! Walo (Feb.–Apr.) Leprieur! Guillemin! Perrottet! **Fr. Sud.:** Gao (Mar.) De Wailly 4985! Timbuktu (June, July) Hagerup 115! 180! **Fr. Nig.:** Maradi to Maroua Chev. 43700.

Widespread in the drier parts of tropical Africa, Asia and Australia.

[Further study of this widespread species may reveal distinct entities, but the forms described by Guillemin and Perrottet do not appear to me to be specifically distinct,—R.W.J.K.]

3. *Bergia capensis* Linn. Mant. Pl. Alt. 241 (1771); Milne-Redhead in Kew Bull. 1948: 450. *APD acc*

Bergia verticillata Willd.—F.T.A. 1: 152.

Aquatic herb with pink succulent stems procumbent and rooting at the nodes or erect.

Gam.: Kuntaur Ruxton 117! **G. C.:** Shai, near Agomeda (June) Irvine 1643a!

Also in **Tanganyika**, **A.–E. Sudan** and **Egypt**, and in **Asia**, but not in S. Africa.

2. ELATINE

Linn.—Niedenzu in Engl. Pflanzenfam. 21: 274 (1925). *APD acc*

- 1 Much-branched aquatic herb, submerged or floating, glabrous; leaves opposite, oblanceolate, obtuse, to 1.5 cm. long; flowers solitary and sessile in the leaf axils, trimerous, with 3 stamens; capsule depressed-globose, about 1 mm. diam. [triandra](#)

Elatine triandra *Schkuhr*—Niedenzu l.c. 276; Chev. Fl. Viv. 1: 299. *APD acc*

Elatine triandra var. **major** *Trochain* in Assoc. Fr. Avanc. Sci. 1936: 343, with fig.

Sen.: Leprieur! Richard Tol (Jan.) Perrottet. Near M'Bane Trochain 2232.

Also in **Europe (north to Finland)**, **N. Africa** and **America**.

[Leprieur's specimen at Kew is too poor for certain identification but is likely to be the same as the others collected in Senegal.—R.W.J.K.]

CARYOPHYLLACEAE

Herbs, annual or perennial; leaves opposite, simple, often connected at the base by a transverse line; stipules absent or if present often scarious. Flowers actinomorphic, mostly hermaphrodite, solitary or in cymes. Sepals free or united into a tube, imbricate, often with membranous margins. Petals as many as the sepals, often small or absent. Stamens up to 10, free from one another or slightly united at the base; anthers 2-celled, dehiscing longitudinally. Ovary superior, sessile or shortly stipitate, 1-celled or imperfectly divided at the base, with free-central placentation; styles free or variously connate; ovules mostly numerous. Capsule opening by valves or apical teeth. Seeds with endosperm and a more or less curved peripheral or excentric embryo.

Widely distributed in the North Temperate Zone, especially in the Mediterranean region; comparatively rare in the tropics and mostly at high elevations.

- 1 Stipules absent; stamens 10 or fewer:2
 Stipules present, rarely inconspicuous; sepals free; stamens 5 or fewer:5
- 2 Sepals free from one another; ovary sessile:3
 Sepals connate in the lower half; stamens 5 or 10; styles 5; ovary sessile; straggling herb with long-pilose branches4. *Uebelinia*
 Sepals connate into a tube; styles 3; stamens 10; ovary stipitate; capsule dehiscing by 3 or 6 teeth or valves; erect herbs5. *Silene*
- 3 Petals bifid:4
 Petals entire; styles 5; capsule opening by valves3. *Sagina*
- 4 Styles 5, opposite the sepals; capsule more or less cylindrical1. *Cerastium*
 Styles 3, alternate with the sepals; capsule globose to oblong2. *Stellaria*
- 5 Stipules small and interpetiolar, divided into subulate segments, not scarious; styles 3, connate below; capsule 3-valved; filaments shortly united at the base6. *Drymaria*
 Stipules large and conspicuous, scarious, not divided:6
- 6 Sepals with a thick green keel and membranous margins7. *Polycarpon*
 Sepals not keeled, uniformly membranous8. *Polycarpaea*

1. CERASTIUM

Linn.—F.T.A. 1: 140.

- 1 Stems weak, with very long internodes, slightly glandular-pilose in the upper parts; leaves up to about 3.5 cm. long; flowers in small terminal few-flowered cymes; sepals scarcely membranous on the margin; capsule a little longer than the sepals1. *indicum*
 Stems rather short, with short internodes, densely glandular-pilose; leaves up to about 1.5 cm. long; flowers numerous, rather crowded in a leafy cyme; sepals with broadly membranous margins; capsule much exceeding the sepals2. *octandrum*

1. **Cerastium indicum** *Wight & Arn.* Prod. Fl. Pen. Ind. Or. 1: 43 (1834); Möschl in Mem. Soc. Brot. 7: 53 (1951), as var. *ruwenzoriense*. *APD acc*

Cerastium africanum (*Hook. f.*) *Oliv.* F.T.A. 1: 141; F.W.T.A., ed. 1, 1: 110.

Weak, sparingly branched herb, 1–2 ft. high; flowers white.

Br. Cam.: Cam. Mt., 7,000–10,000 ft. (Dec.) Mann 1941! Johnston 13! **F. Po:** St. Isabel Peak (Feb.) Guinea 2833!

Also on the mountains of central and E. Africa from Abyssinia to L. Nyasa and Transvaal; and in the **Mascarene Islands**.

2. **Cerastium octandrum** *Hochst. ex A. Rich.* Fl. Abyss. 1: 45 (1847); Möachl l.c. 26 (1951), as var. *humile*. *APD acc*

Cerastium vulgatum of F.T.A. 1: 140, not of Linn.

Cerastium viscosum of F.W.T.A., ed. 1, 1: 110, not of Linn.

Sticky herb, diffuse or ascending; flowers white.

Br. Cam.: Cam. Mt., 7,000–12,000 ft. (Dec.–Jan.) Mann! Maitland 813! 1255! L. Oku, Bamenda, 7,700 ft. (Jan.) Keay FHI 28468!

Widespread on the mountains of central and E. Africa from Abyssinia to **Tanganyika**.

2. STELLARIA

Linn.—F.T.A. 1: 141.

- 1 Sepals acute at apex, without hyaline margins, densely covered with relatively short glandular hairs; flowers few in lax terminal cymes; leaves long-petiolate, petioles not clasping the stem; lamina ovate, very acute to acuminate, with entire or crispate margin, 2–2.5 cm. long, 1–1.5 cm. broad; internodes long; stems drying yellowish *L. mannii*

Sepals rounded to obtuse at apex, with hyaline margins, laxly covered with rather long glandular hairs; flowers solitary from forks of leafy branches or in lax terminal cymes; leaves variable, sessile to long-petiolate, petioles clasping the stem; lamina at the most acute or apiculate at apex; internodes short or long, with softly pubescent line; stems drying pale green *2. media*

1. **Stellaria mannii** *Hook. f.*—F.T.A. 1: 141; Exell Cat. S. Tomé 109.

Diffuse straggling herb to 1 or 2 ft. high; petals white; native.

Br. Cam.: Cam. Mt., 5,500–7,600 ft. (Nov.–Mar.) Mann 1940! Migeod 43! Maitland 1014! Brenan 9518! **F. Po:** Moka (Jan.) Guinea 2239!

Also in **S. Tomé**, **Kenya**, **Tanganyika**, **Nyasaland** and **S. Rhodesia**.

2. **Stellaria media** (*Linn.*) *Vill.*—F.T.A. 1: 141; Chev. Fl. Viv. 1: 304; Exell l.c. 110. *APD acc*

Alsine media *Linn.* (1753).

Diffuse herb; petals white; **introduced**.

Fr. G.: Mali, 4,600 ft. Chev. **Br. Cam.:** Buea, 3,000 ft. (Jan–Mar.) Maitland 192! Brenan 9333! **F. Po:** Moka (Jan.) Tessman 2869; Guinea 2010! 2061!

Cosmopolitan weed, native in north temperate regions of Old World.

3. SAGINA

Linn.—F.T.A. 1: 142.

- 1 A small often tufted herb; leaves linear, acute, up to 2.5 cm. long; pedicels 1 cm. long; sepals ovate-lanceolate, acute, glabrous; petals shorter than sepals *abyssinica*

Sagina abyssinica *Hochst. ex A. Rich.*—F.T.A. 1: 142. *APD acc*

Perennial, forming little cushions; sepals green, petals white.

Br. Cam.: Cam. Mt., 9,000–12,000 ft. (Dec.–Mar.) Mann 1288! 2027! Mildbr. 10899! Maitland 1254! Brenan 9507! Keay FHI 28614! **F. Po:** 8,500 ft. (Apr.) Mann! Guinea 2836!

Also in **Abyssinia** and E. African mountains.

4. UEBELINIA

Hochst.—F.T.A. 1: 140; Th. C. E. Fries in Fedde Rep. 19: 81 (1923).

- 1 Stems hispid; leaves elliptic to orbicular, acute, margin and midrib setulose, narrowed at base to short-winged petiole, 7–15 mm. long, 4–9 mm. broad; flowers axillary; pedicels 1–3 mm. long, reaching 7–13 mm. in fruit; calyx 4–6 mm. long, 10-ribbed, setose, lobes acute; petals 2.5–3.5 mm. long; stamens 10 (or 5); capsule about 4 mm. long, persistent in the calyx [hispidula](#)

Uebelinia hispidula Pax in Engl. Bot. Jahrb. 17: 586 (1893).

APD: Synonym of Lychnis abyssinica (Hochst.) Lidén

Prostrate herb with straggling stems to 18 in. long; petals white.

Br. Cam.: Cam. Mt., 7,000–8,000 ft. (Jan., Sept.) Preuss 971! Maitland 916! L. Oku, Bamenda, 7,800 ft. (Jan.) Keay FHI 28472!

5. SILENE

Linn.—F.T.A. 1: 138.

- 1 Stems and leaves very shortly pubescent, not glandular; leaves narrowly linear, tapered to the apex; flowers in terminal cymose racemes, the pedicels in fruit up to 3 cm. long; calyx with strong coloured nerves, gradually tapered to the base [biafrae](#)

5. Silene biafrae Hook. f.—F.T.A. 1: 139. *APD acc*

Erect perennial herb, 6–30 in. high; calyx green with blackish-purple veins; petals blackish-purple above.

Br. Cam.: Cam. Mt., 9,000–12,000 ft. (Nov.–Mar.) Mann 2034! Maitland 1253! Dalz. 8328! Brenan 9508! Keay FHI 28609!

6. DRYMARIA

Willd.—F.T.A. 1: 143.

- 1 A weak straggling herb, glabrous or nearly so; stems quadrangular; leaves petiolate, opposite, distant, broadly ovate, rounded or subcordate at the base, mucronulate, 1–2.5 cm. long, up to 2 cm. broad, papery, 3–5-nerved; stipules interpetiolar, divided into subulate segments; flowers in terminal few-flowered puberulous cymes; sepals oblong-lanceolate, about 5 mm. long, with a distinct midrib and 2 lateral nerves, becoming dry and membranous in fruit; petals shorter than the sepals, bifid [cordata](#)

Drymaria cordata (Linn.) Willd.—F.T.A. 1: 143; Chev. Fl. Viv. 1: 305. *APD acc*

Holosteum cordatum Linn. (1753).

Slightly viscid herb with white flowers, stems up to 3 ft. long.

Fr. G.: Fouta Djallon (Sept.) Chev. 18682. Dalaba-Diaguissa Plateau (Oct.) Chev. 18716. **S. L.:** Yakala (Sept.) Thomas 2383! Kailahun (Feb.) Deighton 4007! **Iv. C.:** Gouekomna, Upper Sassandra (May) Chev. 21652! **S. Nig.:** Ikwette Plateau, Obudu (Dec.) Keay & Savory FHI 25191! **Br. Cam.:** Cam. Mt., 7,000 ft. (Dec., Jan.) Mann 1319! Bambui, Bamenda (Jan.) Keay FHI 28423! **F. Po:** (Nov., Dec.) Mann 581! Guinea 676!

Widely dispersed in tropics and sub-tropics.

7. POLYCARPON

Linn.—F.T.A. 1: 144.

- 1 A straggling herb sparsely clothed with branched hairs; leaves opposite or verticillate, oblanceolate or sublinear, acute, up to 1.5 cm. long and about 4 mm. broad; stipules scarious, ovate-lanceolate, acute, about 1/4 the length of the leaves; flowers very numerous in paniculate bracteate cymes; sepals with a thick keel and broad membranous margins, minutely ciliolate [prostratum](#)

Polycarpon prostratum (*Forsk.*) *Asch. & Schweinf.* in Ost. Bot. Zeitschr. 39: 128 (1889); Milne-Redhead in Kew Bull. 1948: 451 (q.v. for full synonymy). *APD acc*

Alsine prostrata *Forsk.* (1775).

Polycarpon loeflingii *Benth.* in Benth. & Hook. f. Gen. Pl. 1: 153 (1862); F.T.A. 1: 144; F.W.T.A., ed. 1, 1: 111; Chev. Fl. Viv. 1: 306.

Polycarpon memphiticum (*Del.*) *Fenzl ex Broun & Massey*; Chev. Fl. Viv. 1: 307.

Polycarpon glaucifolium *A. Chev.* Fl. Viv. 1: 306 (1938), French descr. only.

Annual herb on sand banks and mud of river beds.

Sen.: R. Senegal (Apr., May) Leprieux! **Fr. Sud.:** Sienao, San (June) Chev. 1043! Day (Aug.) Chev. 1337! L. Debo (May) Hagerup 152a! Kabara (Sept.) Hagerup 308! **S. L.:** Samaia (May) Thomas 182! Njala (May) Deighton 643! Makump (May) Deighton 1706! **Iv. C.:** Mankono Chev. 21943. **G. C.:** (May) Irvine 1794! **Dah.:** R. Oueme Chev. 23588. **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Katagum (July) Dalz. 191! Abinsi (May) Dalz. 716! Nupe Barter 1713! **S. Nig.:** Aboh Barter 193! R. Oni, Akilla (Apr.) Jones FHI 17248!

Widespread in tropics of Old and New World.

8. POLYCARPAEA

Lam.—F.T.A. 1: 144; Pax in Engl. Bot. Jahrb. 17: 588 (1893).

- 1 Sepals loosely pubescent, 1.5–2 mm. long, silvery; leaves linear about 1–1.5 cm. long, with fine setose points; dwarf annual, very diffuse with very numerous flowers in lax cymes spreading all over the plant .. [1. eriantha](#)
- Sepals glabrous:2
- 2 Leaves obtuse, glabrous, lanceolate, finely punctate, about 1 cm. long and 2–3 mm. broad, rather obscurely 3-nerved; stipules about half as long as the leaves, with long filiform tips; flowers few in densely clustered heads [2. glabrifolia](#)
- Leaves linear with fine setiform tips:3
- 3 Sepals 1–2 mm. long, wholly golden or deep reddish-brown; flowers numerous in lax cymes; leaves linear to acicular 7–15 mm. long, stems densely to sparingly pubescent; plant often perennial, much branched [3. tenuifolia](#)
- Sepals 2 mm. or more long, silvery but sometimes with golden or reddish coloured markings on tips or at base:4
- 4 Flowers in compact many-flowered globose heads, solitary at the ends of the branches; inflorescence branches within each head not apparent; heads 0.8–3 cm. in diam.; sepals silvery, without coloured markings; leaves linear, up to 3 cm. long and 2 cm. broad [4. linearifolia](#)
- Flowers in lax cymes, or in compact corymbs with the inflorescence branches within each corymb quite apparent, or in small few-flowered heads laxly arranged in cymes:5
- 5 Flowers in small (about 5 mm. diam.), few-flowered (5–15) heads, the heads laxly arranged in cymes; sepals wholly silvery, very acute, 2–2.5 mm. long; leaves up to 2 cm. long and linear below, acicular 5–10 mm. long above; stipules with very long points, more than half as long as the leaves; plant erect, little branched [5. stellata](#)
- Flowers in lax cymes or compact corymbs:6
- 6 Flowers in compact corymbs, sometimes head-like but always with the lower inflorescence branches within each corymb quite apparent (contrasting with linearifolia); sepals 3–4 mm. long, very acute, rather jagged at the tips and usually tinged reddish at the tips (in W. African specimens), otherwise silvery; leaves linear, up to 2 cm. long and 1 mm. broad; plant well branched but erect and not diffuse [6. corymbosa var. corymbosa](#)
- Flowers in very numerous lax cymes, much branched and spreading all over the very diffuse richly branched plant (similar in habit to eriantha but sepals glabrous); sepals 2–3 mm. long, acute, silvery with reddish marking at base [6a. corymbosa var. effusa](#)

1. **Polycarpaea eriantha** *Hochst. ex A. Rich.* Fl. Abyss. 1: 303 (1848); Chev. Fl. Viv. 1: 312. *APD acc*

Polycarpaea corymbosa of F.T.A. 1: 146, partly.

Polycarpaea corymbosa var. *eriantha* (*Hochst. ex A. Rich.*) Pax in Engl. Bot. Jahrb. 17: 590.

Polycarpaea stellata of Chev. Bot. 47, not of DC.

Much-branched annual, up to 9 in. high, often much less; petals reddish.

Sen.: Bondou Heudelot 135! **Gam.:** Sounders 90! **Fr. G.:** Kouroussa Pobéguin 459! **Fr. Sud.:** fide Chev. l.c. **G. C.:** Accra (May, Oct.) Ansell! Brown 330! Navrongo, N.T. (Nov.) Vigne 4669! **Fr. Nig.:** (Oct.) Hagerup 492! **N. Nig.:** Sokoto (Sept.–Nov.) Dalz. 440! Moiser 28! Bauchi Plateau (Aug.) Lely P. 593! Fika, Bornu (Oct.) Daggash FHI 24871!

Widely distributed in tropical Africa.

2. *Polycarpaea glabrifolia* DC. Prod. 3: 374 (1828); F.T.A. 1: 146 (excl. distrib. Senegal and Kordofan); Chev. Fl. Viv. 1: 312. *APD acc*

Polycarpaea platyphylla Pax l.c. 591 [not *P. platyphylla* of Chev. Bot. 40].

Herb on seashore above high water.

S. L.: Don! Turtle Isl. (Nov.) Deighton 2313! Messima (Apr.) Adames 34! **Lib.:** Grand Bassa (July) T. Vogel 69! Monrovia (Nov., Dec.) Krause; Linder 1424!

3. *Polycarpaea tenuifolia* (Willd.) DC. l.c. (1828). *APD acc*

Achyranthes tenuifolia Willd. in Sp. Pl., ed. 4, 1: 1196 (1798).

Polycarpaea corymbosa var. *parviflora* Oliv. F.T.A. 1: 145; Pax l.c. 589.

Polycarpaea corymbosa of Chev. Fl. Viv. 1: 309.

Polycarpaea djalensis A. Chev. l.c. 311 (1938), French descr. only.

Polycarpaea hollensis A. Chev. l.c. 311 (1938), French descr. only.

Erect herb, often perennial; with golden or deep reddish-brown sepals.

Fr. G.: Fouta Djal between Timbo and Ditinn (Sept.) Chev. 18398! Kouroussa (July) Pobéguin 323! **Fr. Sud.:** Balani (Oct.) Chev. 2708. **S. L.:** Afzelius! **G. C.:** Mpuasu, Ashanti (Dec.) Vigne 3494! **Dah.:** Hollis country, between Mosse and Ketou (Feb.) Chev. 23007!

Widespread in tropical Africa.

4. *Polycarpaea linearifolia* (DC.) DC. l.c. (1828); F.T.A. 1: 146; Chev. Fl. Viv. 1: 313. *APD acc*

Paronychia linearifolia DC. in Lam. Encyl. 5: 26 (1804).

Erect herb, to 2 ft. high, annual or perennial.

Sen.: Sieber 60! Walo (Sept.) Perrottet! Fouràchaux (Dec.) Leprieur! **Fr. Sud.:** Gao (Nov.) Hagerup 362! And other localities fide Chev. l.c. **iv. C.:** Bouaké (July) Chev. 22122! **G. C.:** Krobo (Nov., Dec.) Johnson 498! Irvine 1706! Takiman, Ashanti (July) Chipp 532! Tamale (Oct.) Williams 405! **Togo:** Sokode-Basari Schröder 113! Lome Warnecke 10! Kpedsu (Dec.) Howes 1037! **Dah.:** Poisson! **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Sokoto (Sept., Oct.) Moiser 103! Dalz. 438! Nupe Barter 554! 1005! Yola (Sept.) Dalz. 48! **S. Nig.:** Abeokuta Irving 65! Ilaro (Jan.) Millen 108! Ubolo, Onitsha (Aug.) Jones FHI 5865! Udi Kitson!

Widespread in tropical Africa.

5. *Polycarpaea stellata* (Willd.) DC. l.c. (1828); F.T.A. 1: 145; Chev. Fl. Viv. 1: 314. *APD acc*

Achyranthes stellata Willd. (1798).

Erect, to 1 ft. high.

Fr. G.: Kankan Brossart in Hb. Chev. 15659. **G. C.:** Accra Thonning! **S. Nig.:** Idah (Sept.) T. Vogel!

6. *Polycarpaea corymbosa* (Linn.) Lam. var. *corymbosa*—Tab. Encycl. 2: 129 (1797); F.T.A. 1: 145, partly. *APD acc*

Achyranthes corymbosa Linn. Sp. Pl. 205 (1753).

Polycarpaea grandiflora (Pax) A. Chev. Fl. Viv. 1: 313.

Erect herb with dense corymbs, to 1 ft. high; sepals often tinged reddish at the tips, petals reddish.

Sen.: Heudelot 225! Perrottet 353! Leprieur! Walo (Sept.) Perrottet! **Fr. G.:** Kouroussa (Oct.) Pobéguin 557! **Fr. Sud.:** Gao (Sept.) Hagerup 338! **Iv. C.:** & **Dah.:** fide Chev. l.c. **Fr. Nig.:** Niamey Hagerup 490! **N. Nig.:** Sokoto (Oct.) Dalz. 439! Anara F.R., Zaria (Nov.) Keay FHI 21676! Bauchi Plateau (Oct.) Lely P. 778! Katagum Dalz. 193! L. Chad Golding 58!

Widespread in warmer parts of Africa, Asia and America.

6a. **Polycarpaea corymbosa var. effusa** *Oliv. F.T.A.* 1: 145, partly (Barter's specimen only); Pax l.c. 590.

APD: Synonym of Polycarpaea eriantha var. effusa (Oliv.) Turrill

Muchbranched annual; similar to *P. eriantha*.

G. C.: Accra (Oct.) Dalz. 105! T. Vogel! Achimota (Sept.) Irvine 135! **N. Nig.:** Lokoja Dalton! Nupe Barter 808

Widely distributed in tropical Africa.

MOLLUGINACEAE

Herbs. Leaves alternate or opposite; stipules none or very small and soon falling off. Flowers actinomorphic, hermaphrodite, solitary or cymose, usually small and inconspicuous. Sepals free or united at the base only, imbricate. Petals small or absent. Stamens hypogynous or slightly perigynous, definite or many; filaments free to connate at the base; anthers 2-celled, opening lengthwise. Ovary syncarpous (except *Gisekia*), usually several-celled; styles or stigmas as many as the cells; ovules curved or inverted. Fruit dry, dehiscent into the cells or by a transverse slit, rarely indehiscent, calyx usually persistent. Seeds with endosperm, the embryo curved.

Mostly weedy plants of dry places.

Distinguished from the Ficoidaceae, with which they were formerly united, by the hypogynous flowers and free sepals.

- | | | |
|---|--|---|
| 1 | Fruit indehiscent:..... | 2 |
| | Fruit a dehiscent 3–5-valved capsule:..... | 3 |
| 2 | Ovary syncarpous, fruit 2-coccos 1. Limeum | |
| | Ovary and fruit apocarpous, with 5 carpels; leaves marked with numerous raphides 2. Gisekia | |
| 3 | Seeds without a strophiole; erect plants, glabrous and often glaucous; radical leaves different from the stem leaves, or all leaves radical 3. Mollugo | |
| | Seeds with a conspicuous strophiole; diffuse or ascending herbs, tomentose or pubescent; no radical leaves 4. Glinus | |

1. LIMEUM

Linn.—*F.T.A.* 2: 595; Schellenb. in *Engl. Bot. Jahrb.* 50, Suppl. 152 (1914).

Semonvillea *Gay*—*F.T.A.* 2: 593.

- | | | |
|---|--|-----------------------------|
| 1 | Fruits not winged, shorter or only slightly longer than the calyx:..... | 2 |
| | Fruits broadly winged, much longer than the calyx; nearly glabrous; leaves alternate, linear or linear-lanceolate, subacute, up to 5 cm. long and 7 mm. broad; flowers few, in pedunculate subcapitate cymes; sepals ovate-lanceolate, petals absent; fruit orbicular, puberulous, separating into 2 broadly winged 1-seeded cocci, about 1 cm. in diam., the wings with radiating forked nerves and a very narrow membranous margin .. 4. pterocarpum | |
| 2 | Plant glabrous; leaves linear, acute, up to 2 cm. long, alternate; flowers in leaf-opposed subsessile or pedunculate clusters; sepals oblong-elliptic, very acute; fruits rugose | 1. diffusum |
| | Plant viscous-pubescent; leaves obovate, spatulate or suborbicular, rounded at apex; mucronate:..... | 3 |
| 3 | Leaves 8–25 mm. long, and about 10 mm. broad, alternate; petals absent; flowers in leaf-opposed cymes terminating short leafy lateral branchlets; sepals broadly elliptic, obtuse; fruits tuberculate | 2. viscosum |
| | Leaves 4–8 mm. long and almost as broad, more or less opposite; petals present; flowers in sessile or subsessile axillary clusters; sepals broadly elliptic, acute; fruits smooth | 3. indicum |

1. **Limeum diffusum** (*Gay*) *Schinz* in *Bull. Herb. Boiss.* 5, App. 3: 69 (1897); Schellenb. in *Engl. Bot.*

Jahrb. 50, Suppl. 158 (1914). *APD acc*

Gaudinia diffusa Gay in Feruss. Bull. Sc. Nat. 18: 412 (1829).

Limeum linifolium of F.T.A. 2: 596, partly; F.W.T.A., ed. 1, 1: 113; Chev. Fl. Viv. 1: 328; not of (Preal) Fenzl in Ann. Wien. Mus. 1: 342 (1836), based on *Dicarpaea linifolia* Presl (1832).

A diffuse glabrous annual.

Sen.: R. Senegal (Oct.) Leprieur! Richard Tol (Sept.) Perrottet! **Fr. Sud.:** Timbuktu (July, Aug.) Chev. 1310; 2715. Goundam (Aug.) Chev. 2518. **Fr. Nig.:** Tiggrouba Le Rumeur 74.

Also in **Mauritania**, and in **Kanem east of L. Chad**.

[*L. linifolia* (Presl) Fenzl is based on a plant said to have been collected in the Cape of Good Hope by Sieber, and is probably the correct name for the S. African plant which is somewhat different.—R.W.J.K.)

2. *Limeum viscosum* (Gay) Fenzl in Nov. Stirp. 87 (1839); F.T.A. 2: 595; Chev. Fl. Viv. 1: 328; Schellenb. l.c. 159. *APD acc*

Gaudinia viscosa Gay l.c.

Limeum kotschy (Moq.) Schellenb. in Engl. Bot. Jahrb. 48: 497 (1912).

Annual, diffuse or ascending, 1 ft. or more high.

Sen.: Sieber 62! Dagana (Sept.) Leprieur! Gandiole Heudelot 475! **Fr. Sud.:** Timbuktu (July) Hagerup 139! 230! 283! **N. Nig.:** Sokoto (Aug.) Dalz. 417!

Extends to the A.–E. **Sudan**; also in Mauritania and the Sahara.

3. *Limeum indicum* Stocks ex T. Anders. in J. Linn. Soc. 5, Suppl. 1: 30 (1861); F.T.A. 2: 596; Schellenb. in Engl. Bot. Jahrb. 50, Suppl. 160; Chev. Fl. Viv. 1: 327.

APD: *Synonym of Limeum obovatum* Vicary

Plant of desert regions.

Fr. Sud.: Gao (Nov.) Hagerup 336! **Fr. Nig.:** Tayane Le Rumeur 45.

Also in **Mauritania**, the **Sahara**, **N.E. Africa**, **Arabia** and **India**.

4. *Limeum pterocarpum* (Gay) Heimerl in E. & P. Pflanzenfam. 3, 1B: 9 (1889); Schellenb. l.c. 161. *APD acc*

Semanvillea pterocarpa Gay l.c.; F.T.A. 2: 594; F.W.T.A., ed. 1, 1: 113; Chev. Fl. Viv. 1: 326.

Erect or diffuse herb, in fields and waste places.

Sen.: Leprieur! Roger! Heudelot! Richard Tol Lelièvre! **Fr. Sud.:** Timbuktu (July) Hagerup 197! S. Macina (Sept.) Chev. 24826! And various other localities fide Chev. l.c. **Fr. Nig.:** Zinder Tilho. Tillabery Rogeon 503. **N. Nig.:** Sokoto (Aug.) Dalz. 415! Nguru (July) Ujor FHI 23905!

Also in **Mauritania**, and extending to A.–E. **Sudan** and southern Africa.

2. GISEKIA

Linn.—F.T.A. 2: 593.

- 1 A rather variable weed, diffuse or decumbent; leaves opposite or subopposite, varying from oblanceolate to linear, subacute or obtuse, up to 4 cm. long and 1 cm. broad, thickly clothed beneath with numerous conspicuous raphides; flowers in sessile or pedunculate often many-flowered cymes at the nodes; pedicels up to 1 cm. long; sepals elliptic-rounded, trinerved, with hyaline margins; petals absent; carpels 5, muricate
..... *pharnacioides*

Gisekia pharnacioides Linn.—F.T.A. 2: 593, incl. vars. *congesta* and *pedunculata* Oliv.; Chev. Fl. Viv. 1: 325. *APD acc*

Gisekia linearifolia Schum. & Thonn. (1827).

Gisekia rubella of Chev. Fl. Viv. 1: 325, not of Hochst. (Hochstetter's type has the pedicels 6–12 mm. long and peduncles at least 5 mm. long; the W. African plants referred to *G. rubella* by Chevalier have very short pedicels, 1–5 mm. long).

The plant is often subject to a blight (*Exobasidium gisekiae* Allesch.) which renders it pink or wine-red in colour.

Sen.: Heudelot 498! Richard! Sieber 63! **Fr. Sud.:** Zamblora (June) Chev. 988! Timbuktu (July) Hagerup 140! 199a! **Iv. C.:** & **Dah.:** fide Chev. l.c. **Togo:** Lome Warnecke 33! **N. Nig.:** Sokoto (Mar.–Sept.) Moiser 101! Dalz. 416! Nupe Barter 1734! Katagum Dalz. 136!

Widespread in tropical and S. Africa, Madagascar and in Asia.

3. MOLLUGO

Linn.—F.T.A. 2: 589; Pax & Hoffmann in Engl. Pflanzenfam. 16C: 226 (1934).

- 1 Cauline leaves absent; leaves all radical, persistent, spatulate-ob lanceolate, up to 6 cm. long and 2 cm. broad; inflorescence laxly cymose-corymbose, the pedicels long and slender; seeds minutely and closely muricate, black or very dark reddish-brown [1. nudicaulis](#)
- Cauline leaves present: **2**
- 2 Flowers in lax terminal and axillary cymes with long slender peduncles and pedicels; radical leaves persistent, spatulate-ob lanceolate, up to 6 cm. long and 1.5 cm. broad; cauline leaves oblanceolate or lanceolate; seeds reddish-brown, minutely muricate [2. pentaphylla](#)
- Flowers subumbellate or in sessile or shortly pedunculate axillary clusters; radical leaves soon disappearing: ... **3**
- 3 Cauline leaves linear-acicular, pseudo-vericillate, obtuse; radical leaves spatulate-obovate, up to 1.5 cm. long; inflorescences subumbellate; seeds smooth, triangular, pale brown [3. cerviana](#)
- Cauline leaves narrowly oblanceolate, 1–1.5 cm. long, 3–4 mm. broad; flowers in sessile or shortly pedunculate clusters; seeds smooth or ridged on the back, dark red or black [4. verticillata](#)

1. *Mollugo nudicaulis* Lam.—F.T.A. 2: 591; Chev. Fl. Viv. 1: 391. *APD acc*

An erect glabrous annual, 3–10 in. high; in waste places; flowers greenish-white.

Sen.: Sieber 13! Galam Heudelot 261! 430! **Fr. Sud.:** San (June) Chev. 1077! Gao (Sept.) Hagerup 334! **S. L.:** Berria (Mar.) Sc. Elliot 5423! Njala (Sept.) Deighton 2119! Rokupr (Feb.) Jordan 382! **Iv. C., Dah. & Fr. Nig.:** fide Chev. l.c. **G. C.:** Accra (June) Dalz. 116! Achimota (Sept.) Irvine 50! Aburi (Mar.) Johnson 958! **Togo:** Lome Warnecke 6! **N. Nig.:** Nupe Barter 1340! Katagum (July) Dalz. 195! Bichikki (May) Lely 181! Yola (July) Dalz. 51! **S. Nig.:** Lagos (Apr.) Dennett 497! Benin (Dec.) Brenan 8636! Calabar (Apr.) Holland 83!

Widespread in tropical Africa and Asia.

2. *Mollugo pentaphylla* Linn.—Pax & Hoffmann in E. & P. Pflanzenfam. 16C: 227 (1934). *APD acc*

Mollugo striata Linn.

An introduced weed

Br. Cam.: Moyuka, Victoria (May) Maitland 1177! Ndifo, Kumba (Apr.) Olorunfemi FHI 30524!

Widespread in Asia, extending to China, Japan and Java.

3. *Mollugo cerviana* (Linn.) Seringe—F.T.A. 2: 591; Chev. Fl. Viv. 1: 320. *APD acc*

Pharnaceum cerviana Linn. (1753).

An erect glaucous annual, often much-branched, 2–6 in. or more high; in sandy places, river-beds, etc.

Sen.: Walo Heudelot! **Gam.:** Sounders 43! **Fr. Sud.:** Bougouni (Apr.) Chev. 683! Timbuktu (Aug.) Hagerup 257! L. Debo (May) Hagerup 153! **Fr. G., Fr. Nig. & Dah.:** fide Chev. l.c. **G. C.:** Accra (May, Nov.) Dalz. 117! Irvine 806! Tamale (Apr.) Dalz. 58! **Togo:** Lome Warnecke 4! **N. Nig.:** Katagum (July) Dalz. 192! Nupe Barter 1726! Yola (Jan.) Dalz. 49!

Widespread in tropical Africa, northwards to N. Africa and Europe, and in Asia and Australia.

4. *Mollugo verticillata* Linn.—F.T.A. 2: 591; Chev. Bot. 301. *APD acc*

Mollugo Hutch. & Dalz. F.W.T.A., ed. 1, 1: 114 (1927); Kew Bull. 1928; 27; Chev. Fl. Viv. 1: 321.

A glabrous annual.

Fr. Sud.: San, banks of R. Bani (June) Chev. 1080! Hann (Aug.) Berhaut 1110! **S. L.:** Yoni (Nov.) Deighton 2287! **Iv. C.:** Attié Chev. 22684.

Widespread in tropical America, also in **Angola**.

4. GLINUS

Linn.—F.T.A. 2: 589 as *Mollugo* Linn. in part.

- 1 Perianth segments more or less densely covered with stellate hairs, mucronate at apex; leaves obovate, slightly apiculate, about 3 cm. long, including petiole, 1 cm. or more broad, densely stellate to almost glabrous; flowers subsessile, or the pedicels shorter than the calyx; seeds granular-verrucose [1. *lotoides*](#)

Perianth segments glabrous, without a mucro; leaves oblanceolate, slightly toothed towards apex, glabrous or nearly so, 2.5–3 cm. long, up to 0.75 cm. broad; flowers on pedicels much longer than the calyx; seeds as above [2. *oppositifolius*](#)

1. ***Glinus lotoides* Linn.** Sp. Pl. 463 (1753); Pax & Hoffmann in E. & P. Pflanzenfam. 16C: 222 (1934); Chev. Fl. Viv. 1: 322. **APD acc**

***Mollugo glinus* A. Rich**—F.T.A. 2: 590.

? ***G. dahomensis* A. Chev.** Fl. Viv. 1: 322 (1938), French descr. only.

A herb of **moist sandy places**; very variable.

Sen.: Roger 66! **Gam.:** Albreda Heudelot 260! **Fr. Sud.:** Zamblora (June) Chev. 991! Mopti, by R. Niger (May) Hagerup 72! Bamba Hagerup 327! **Fr. G.:** Kouroussa (Dec.) Pobéguin 605! **S. L.:** Samaia (May) Thomas 245! Mange (Feb.) Deighton 4978! **Fr. Nig.:** & **Dah.:** fide Chev. l.c. **N. Nig.:** Zurmi (Apr.) Keay FHI 15877! Nupe Barter 828! 1087! 1684! 1723! Jebba (Dec.) Hagerup 699! Takwara (May) Lely 101! Bauchi Plateau (Feb.) Lely P. 144! Abinsi (May) Dalz. 715!

Found in tropics and subtropics generally.

2. ***Glinus oppositifolius* (Linn.) Aug.** DC. in Bull. Herb. Boiss. Sér. 2, 1: 559 (1901); Chev. Fl. Viv. 1: 324. **APD acc**

***Mollugo oppositifolia* Linn.** (1753).

***Mollugo spargula* Linn.**—F.T.A. 2: 590; Chev. Bot. 301.

***Glinus spargula* (Linn.) Steud.**

A herb of **moist sandy places**; greenish flowers.

Sen.: fide Chev. l.c. **Fr. Sud.:** Timbuktu (Aug.) Hagerup 247! And other localities. **S. L.:** Madina (Apr.) Sc. Elliot 5561! Juring (Dec.) Deighton 297! Makump (May) Deighton 1707! **Iv. C.:** fide Chev. l.c. **G. C.:** R. Volta (Mar.) Dalz. 106! R. Pra, Ashanti Irvine 432! Accra (Apr.) Irvine 1589! **Togo:** Lome Warnecke 299! **N. Nig.:** Nupe Barter 1343! **S. Nig.:** Lagos Millen 72! Abeokuta Irving 160! Benin Div. (Jan., Feb.) Brenan 8925! 9169! Port Harcourt (June) Maitland!

Found in tropics and subtropics generally.

Hauman in Fl. Congo Belge 2: 106 (1951) has divided these two wide-ranging and variable weeds into several species and varieties. Some of these forms occur also in our area, but I am following Pax and Hoffmann in E. & P. Pflanzenfam. 16C: 212 (1934) in recognizing only the above two species in this Flora, pending a revision covering the whole of the vast range of the genus. Difficult nomenclature as well as taxonomical problems are involved, and Hauman's treatment is not free from objection.—R.W.J.K.

FICOIDACEAE

Herbs or low shrubs, often fleshy. Leaves alternate or opposite, sometimes very small, stipulate or not. Flowers actinomorphic, usually hermaphrodite. Calyx-tube free or adnate to the ovary; lobes 5–8, imbricate or rarely valvate, herbaceous. Petals numerous or absent, 1— or more-seriate, inserted in the calyx-tube. Stamens perigynous, many or few, rarely 1, free or united at the base into bundles; anthers 2-celled, small, opening lengthwise. Ovary superior or inferior, 1-several-celled; ovules solitary to

many, basal, apical or axile. Fruit a capsule or nut-like and drupaceous, often clasped by the persistent calyx.

Generally found on sandy shores and desert places, mainly in the subtropics; comparatively rare in America.

Recognized by the usually fleshy habit, opposite leaves, small or narrow petals, several-celled ovary with axile placentas, endospermic curved seeds and curved embryo.

- 1 Ovary 3 (—5)-celled; styles 3 (—5); maritime plant [1. *Sesuvium*](#)
 Ovary 1–2-celled; styles 1–2; terrestrial plants [2. *Trianthema*](#)

1. SESUVIUM

Linn.—F.T.A. 2: 585.

- 1 A diffuse succulent glabrous herb with procumbent stems often rooting at the nodes; leaves opposite, succulent, linear-oblongate to obovate, obtuse, up to 4.5 cm. long and 1 cm. broad; flowers axillary, solitary, pedicellate, purplish or rose; calyx deeply 5-lobed, obconic at the base, lobes ovate-lanceolate with a small dorsal horn at the apex and fairly broad membranous margins; petals none; ovary 3-celled, superior; seeds black and nearly smooth [portulacastrum](#)

***Sesuvium portulacastrum* (Linn.) Linn.** Syst. Nat., ed. 10, 2: 1058 (1759); F.T.A. 2: 585; Chev. Fl. Viv. 1: 330. *APD acc*

***Portulaca portulacastrum* Linn.** Sp. Pl. 1: 446 (1753).

Common on the shores of the tropics and subtropics of both hemispheres. "Seaside Purslane."

Sen.: Sieber 19! Boivin! Dakar, Hann beach (May) Baldwin 5754! **S. L.:** Mapotolon, Samu (Mar.) Glanville 251! Turtle Isl. (Nov.) Deighton 2395! **G. C.:** Sekondi (Oct.) Howes 980! Accra (May) Irvine 666!

Also in other W. African coastal districts, but seldom collected. Common on the shores of the tropics and subtropics of both hemispheres (See Appendix, p. 30.)

2. TRIANTHEMA

Linn.—F.T.A. 2: 587.

- 1 Leaves flat, mostly obovate or oblong-obovate: **2**
 Leaves semi-terete, linear, fleshy, 5–10 mm. long, 2–3 mm. broad; flowers 2–3 or more, in axillary glomerules; style 1; cap of fruit discoid, about 1 mm. in diam.; seeds 2, superposed, or solitary [4. *sedifolia*](#)
- 2 Flowers solitary, partly enclosed by the sheathing leaf-base; style 1; cap of fruit dehiscent in one piece 3–4 mm. in diam.; leaves opposite or subopposite, anisophyllous, the larger leaf up to 3.5 cm. long and 1.5–3 cm. broad, distinctly petiolate, the lesser leaf much smaller; stems sparsely pubescent or glabrous [1. *portulacastrum*](#)
- Flowers not enclosed by sheathing leaf-base; styles 2: **3**
- 3 Flowers solitary; seeds numerous; cap of fruit conical, beaked, dehiscent in one piece; leaves opposite or subopposite, elliptic or oblanceolate, obtuse, about 1.5 cm. long and 5–8 mm. broad [2. *polysperma*](#)
- Flowers 2–3 or more in axillary glomerules; seeds few; cap of fruit dehiscent in two pieces; leaves opposite, only slightly anisophyllous, oblong-obovate, up to 5 cm. long and 2.5 cm. broad [3. *pentandra*](#)

1. ***Trianthema portulacastrum* Linn.** Sp. Pl. 223 (1753); Chev. Fl. Viv. 1: 331. *APD acc*

***Trianthema monogyna* Linn.**—F.T.A. 2: 587; Chev. Bot. 300.

Rather fleshy, almost glabrous, prostrate herb; sepals pink; a weed of waste places.

Sen.: & **Fr. Sud.:** fide Chev. l.c. **Gam.:** Genieri (July) Fox 113! **Iv. C.:** Mankono (June) Chev. 21961! **G. C.:** Cape Coast (July) T. Vogel 57! Accra (Feb.) Dalz. 69! Achimota (Aug.) Irvine 870! **Togo:** Lome Warnecke 317! **Fr. Nig.:** Niamey (Oct.) Hagerup 506! **N. Nig.:** Katagum (July) Dalz. 145! **S. Nig.:** Ibadan (Jan.) Jones FHI 4895!

Widespread in tropical Africa, Asia and America.

2. **Trianthema polysperma** *Hochst. ex Oliv.* F.T.A. 2: 588 (1871).

APD: Synonym of Sesuvium hydaspicum (Edgew.) Gonç.

Prostrate herb; calyx green outside, pink or red within.

Fr. Sud.: Timbuktu (Aug.) Hagerup 255!

Also in **A.–E. Sudan.**

3. **Trianthema pentandra** *Linn.*—F.T.A. 2: 588; Chev. Fl. Viv. 1: 332; Melville in Kew Bull. 1952: 263.

APD: Synonym of Zaleya pentandra (L.) C. Jeffrey

Prostrate herb with stout stem; flowers green.

Sen.: Roger 29! **Fr. Sud.:** Mopti (May) Hagerup 75! Timbuktu (July) Chev. 1303! **G. C.:** Accra (May) Irvine 1616! **Fr. Nig.:** fide Chev. l.c. **N. Nig.:** Borgu Barter 744! Katagum (July) Dalz. 146! Gashua (June) Onochie FHI 23368! Kukawa (Feb.) E. Vogel 52! 59! Kalkala Golding 44!

Widespread in the drier parts of Africa, and in **Arabia.**

4. **Trianthema sedifolia** *Visiani*—F.T.A. 2: 588; Chev. Fl. Viv. 1: 333. *APD acc*

Prostrate fleshy herb, forming clumps 1–2 ft. in diam.; flowers reddish-green.

Fr. Sud.: Oualata Jumelle!

Also in the **Sahara** and the dry regions of N.E. Africa.

PORTULACACEAE

Herbs or undershrubs, often, succulent; leaves alternate or opposite, with scarious or setose stipular appendages. Flowers actinomorphic, hermaphrodite, solitary or variously cymose or racemose. Sepals 2, imbricate, free or united at the base. Petals 4–6, imbricate, free or connate at the base, soon falling. Stamens as many as and opposite the petals or more numerous, free; anthers 2-celled. Ovary superior or half-inferior, 1-celled with basal placenta; ovules 1 to many; style usually variously divided. Fruit a capsule dehiscing by valves or by a transverse split (circumscissile), rarely a nut and indehiscent. Seeds globose-reniform; embryo surrounding the copious mealy endosperm.

Widely spread in warmer regions, often occurring as weeds in cultivated places.

Recognized by the succulent habit, 2 sepals, and the basal placentation.

- 1 Ovary superior; capsule opening by valves; seeds radiate-striate; flowers in lax inflorescences [1. Talinum](#)
 Ovary half-inferior; capsule opening by a transverse split (circumscissile); seeds verrucose; flowers solitary or fascicled [2. Portulaca](#)

1. TALINUM

Adans.—F.T.A. 1: 149; von Poellnitz in Fedde Rep. 35: 1–34 (1934).

- 1 Flowers in a loose, forking, few-flowered panicle; leaves obovate-lanceolate, emarginate and mucronate at apex, cuneate into petiole at base, 4–10 cm. long, 1.5–4 cm. broad, rather fleshy and glabrous; sepals ovate, acuminate, with 3 main green nerves, membranous on the margin; petals about twice as long as the sepals; capsule 5–6 mm. long, seeds radiate-striate [1. triangulare](#)
 Flowers in elongate racemes, or racemose panicles, with central axis erect and scarcely branched; leaves entire and apiculate at apex; otherwise similar to above [2. portulacifolium](#)

1. **Talinum triangulare** (*Jacq.*) *Willd.*-von Poellnitz in Fedde Rep. 35: 15 (1934); Chev. Fl. Viv. 1: 340.

APD acc

Portulaca triangularis *Jacq.* (1760).

Talinum crassicaule (*Jacq.*) *Willd.* (err. crassifolium)—F.T.A. 1: 150.

Erect herb with fleshy leaves, woody below; flowers pink, rarely white; capsule straw-coloured; **a naturalized weed, sometimes cultivated.**

Sen.: Dakar Chev. 33842. **S. L.:** Regent (Apr.) Sc. Elliot 5790! Bendu, Jemmi (Apr.) Deighton 1726! **Iv. C.:** Assikasso (Dec.) Chev. 22577! **G. C.:** Aburi (Oct.) Johnson 235! Howes 1158! 1159! **Dah.:** Cotonou (Mar.) Debeaux 341! Abomey (Feb.) Chev. 23155! **S. Nig.:** Lagos (Apr.) Moloney! Abeokuta Barter 3406! **Br. Cam.:** Ambas Bay (Apr.) Hutch. & Metcalfe 137!

Introduced from tropical America and the West Indies.

2. **Talinum portulacifolium** (*Forsk.*) *Asch. & Schweinf.* in Bull. Herb. Boiss. 4, App. 2: 172 (1899). **APD acc**

Orygia portulacifolia *Forsk.* (1775).

Portulaca cuneifolia *Vahl* (1790).

Talinum cuneifolium *Willd.*—*F.T.A.* 1: 150; von Poellnitz l.c. 14.

Stout perennial herb, woody below, to 3 ft. high; flowers pink, rare in our area.

Sen.: (July-Aug.) Heudelot 461! Dakar (Sept., Oct.) Ezanno 66! Chev. 25259! 33836! 33842! **Togo:** Sodo Doering 137. **Nig.:** fide von Poellnitz l.c. Also from the Cameroons throughout Africa, from Abyssinia to the Cape, and in Arabia and India.

2. **PORTULACA**

Linn.—*F.T.A.* 1: 148; von Poellnitz in Fedde Rep. 37: 240–320 (1934).

- 1 Stipules minute or obsolete; leaves flat, spathulate-oblongate, rounded at apex; flowers yellow [1. *oleracea*](#)
- Stipules thread-like and more or less persistent: **2**
- 2 Stipular setae confined or almost confined to around the flowers; leaves terete and succulent [2. *foliosa*](#)
- Stipular setae equally distributed along the branches: **3**
- 3 Leaves linear; flowers large, white or yellow to rose-red [3. *grandiflora*](#)
- Leaves lanceolate or ovate-lanceolate to obovate; flowers smallish, yellow [4. *quadrifida*](#)

1. **Portulaca oleracea** *Linn.*—*F.T.A.* 1: 148; von Poellnitz in Fedde Rep. 37: 258 (1934); Chev. Fl. Viv. 1: 337. **APD acc**

Common annual ruderal, with spreading or prostrate succulent branches; flowers bright yellow.

Sen.: Thies (Nov.) Chev. 2719. **Fr. Sud.:** Timbuktu (July) Hagerup 262! **S. L.:** Panbembu (July) Thomas 748! Kumrabai (Dec.) Thomas 6845! **Lib.:** Harley 94! **Iv. C.:** Beriby, on roast (Aug.) Chev. 20016. **G. C.:** Aburi (Oct.) Johnson 279! Accra (Mar.) Deighton 620! Achimota (May) Irvine 1615! **Dah.:** Agouagon (May) Chev. 23482. **N. Nig.:** Sokoto (Mar.) Moiser! Liruwen-Kano Hills Carpenter! Bauchi Plateau (July) Lely P. 511! **S. Nig.:** Lagos Dawodu 2! Ibadan (Apr.) Meikle 1446! Onitsha (May) Onochie FHI 7520! **F. Po:** T. Vogel 50!

Very widespread in sandy waste places in warm climates.

2. **Portulaca foliosa** *Ker-Gawl.*—*F.T.A.* 1: 148; von Poellnitz l.c. 304; Chev. Fl. Viv. 1: 339. **APD acc**

Portulaca prolifera *Schum. & Thonn.*—Chev. l.c. 340.

An erect or decumbent herb, often woody below; flowers yellow, solitary or in small heads.

Sen., Fr. Sud., Fr. G., Iv. C. & Dah.: several localities fide Chev. l.c. **Fr. Sud.:** San (June) Lean 45! **G. C.:** N.T. (June) Sounders 10! Prampram (May) Irvine 1434! Achimota (Aug.) Irvine 855! **N. Nig.:** Nupe Barter 138! Jebba Isl. (Mar.) Meikle 1288! Lokoja (Mar.) Parsons 16! Shaw 39! Yola (Jan.) Dalz. 212! Idah (Sept.) T. Vogel 73! **S. Nig.:** Nun R. (Aug.) T. Vogel 32!

Widespread in tropical Africa.

3. **Portulaca grandiflora** *Hook.* in Bot. Mag. t. 2885 (1829); von Poellnitz l.c. 264. **APD acc**

Stem diffuse with long pale hairs at the nodes; leaves terete; **a weed around houses.**

G. C.: Accra (Mar.) Deighton 618! **N. Nig.:** Abinsi (July) Dalz. 747! Native of S. America.

4. *Portulaca quadrifida* Linn.—F.T.A. 1: 149; von Poellnitz l.c. 275; Chev. Fl. Viv. 1: 339. *APD acc*

A prostrate or decumbent herb with pinkish stems and fleshy leaves very variable in shape and size, conspicuously woolly at the nodes; flowers yellow. A common ruderal, But in Sierra Leone only seen in a few towns.

Sen.: fide Chev. l.c. **Fr. Sud.:** Timbuktu (Aug.) Hagerup 263! **S. L.:** Tiloma, near Jene (Dec.) Deighton 3896! **Lib.:** Gletown, Tchien (July) Baldwin 6902! **G. C.:** Accra (Mar.) Deighton 619! Mrenya, Ashanti (Apr.) Irvine 510! **Dah.:** fide Chev. l.c. **N. Nig.:** Ikoja Barter! Katagum Dalz. 297! **S. Nig.:** Ibadan (Jan., Apr.) Brenan 9608! Meikle 1111!

Waste places in warm countries.

POLYGONACEAE

Herbs, shrubs or climbers, rarely trees: leaves alternate, with the base of the petiole often dilated into a membranous sheath (ochrea). Flowers hermaphrodite, polygamous or dioecious, actinomorphic, small and inconspicuous. Sepals 3–6, imbricate, often enlarged and becoming membranous in fruit. Petals absent. Stamens usually 6–9, rarely more; filaments free or united at the base; anthers 2-celled, opening lengthwise. Disk annular or central. Ovary superior, sessile, 1-celled; styles 2–4, usually free; ovule solitary, basal, sessile or stalked. Fruit an indehiscent trigonous or 2-sided nut. Seeds with abundant mealy endosperm and often excentric embryo.

A cosmopolitan family.

Recognized by the alternate simple leaves with sheathing ochrea stipules, small apetalous flowers, often persistent enlarged sepals, 1-celled 1-ovuled ovary, and endospermic seeds.

- 1 Flowers unisexual; the male in lax panicles, with 20–30 stamens, inserted on a central disk; inner female sepals enlarged, enclosing the fruit and becoming pyramidal and trigonous; dioecious tree or shrub [1. *Symmeria*](#)
Flowers hermaphrodite or polygamous; stamens 5–8; inner sepals not as above: **2**
- 2 Liane with tendrils; leaves without a membranous sheath; pedicels with a broad wing on each side, elongating in fruit [2. *Afrobrunnichia*](#)
Herbs, erect or scandent, without tendrils; leaves with a membranous sheath (ochrea); pedicels not winged: **3**
- 3 Sepals unequal, the inner much enlarged and membranous in fruit; ochrea not bristly; leaves often cordate in our species: **4**
Sepals subequal; flowers 5– (rarely 4–) merous; fruits enclosed by the sepals; ochrea often with long bristles at apex; leaves never cordate in our species [5. *Polygonum*](#)
- 4 Flowers 3-merous; fruits without marginal setae, enclosed by the enlarged sepals [3. *Rumex*](#)
Flowers 5-merous; fruits with long barbed setae on the angles, longer than the enlarged sepals [4. *Harpagocarpus*](#)

Besides the above indigenous genera, *Antigonon leptopus* Hook. & Arn., a native of Mexico, is often met with; it is widely cultivated as an ornamental and is known as "Corallita."

1. SYMMERIA

Benth.—F.T.A. 6, 1: 118.

- 1 A dioecious tree or shrub; leaves almost amplexicaul, elliptic, more or less cordate at base, rounded at apex, 15–20 cm. long, 6–9 cm. broad, with about 12 lateral nerves, reticulate on both surfaces; petiole 1.5 cm. long, winged on the upper side, the wings overlapping; male inflorescence minutely rusty puberulous, up to about 20 cm. long, female inflorescence much smaller; fruits enclosed by the enlarged trigonous calyx, about 1.5 cm. long and 0.8 cm. broad [paniculata](#)

***Symmeria paniculata* Benth.**—F.T.A. 6, 1: 118. *APD acc*

Small tree or shrub, to 20 ft. high, with wide trunk; fruiting sepals yellow; by river banks.

Sen.: Heudelot 334! **Fr. G.:** Pobéguin! **S. L.:** Limba (Apr.) Sc. Elliot 5573! Kambia (Jan.) Sc. Elliot 4467! Laminaiya (fr. Apr.) Thomas 140! Njala (fr. Mar.–Apr.) Deighton 1907! Small 21!

Also in [British Guiana](#), [Brazil](#) and [Venezuela](#).

2. AFROBRUNNICHIA

Hutch. & Dalz. F.W.T.A., ed. 1, 1: 118 (1927); Kew Bull. 1928: 28. *APD acc*

- 1 A woody climber by special tendriform lateral branchlets; branches terete or more or less ribbed and striate, glabrous; leaves elliptic, caudate-acuminate, rounded or shortly cuneate at base, 6–10 cm. long, up to 6 cm. broad, glabrous; petiole 1–1.5 cm. long; pedicels broadly winged on each side, elongating in fruit up to 7 cm. long and 1.3 cm. broad; fruits narrowly ovoid, about 1.5 cm. long including the persistent almost closed calyx-lobes [erecta](#)

Afrobrunnichia erecta (*Asch.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 118 (1927); Kew Bull. 1928: 28. *APD acc*

Brunnichia erecta *Asch.*—F.T.A. 6, 1: 119.

B. africana var. *glabra* *Dammer*—F.T.A. 6, 1: 119; Chev. Bot. 538.

B. africana of Stapf in Johnston Lib. 644, not of Welw.

Forest liane, to 50 ft. high; calyx green, petals pink, fruits reddish-brown.

S. L.: near Giawahun (fr. Apr.) Deighton 3663! Vaama, Barri (Dec.) Deighton 3718! Jama (fr. Mar.) Deighton 4722! **Lib.:** Kakatown Whyte! Moylakwelli (Oct.) Linder 1272! Gbanga (fr. Dec.) Baldwin 10551! **iv. C.:** fide Chev. l.c. **G. C.:** Axim Burton! Bompata (fr. Dec.) Dalz. 112! R. Birrim, Oda (Jan.) Darko 501! Bobiri F. R. (fr. Jan.) Andoh FH 5461! **S. Nig.:** Ijan, Lagos (fr. Jan.) Millen 140! Okomu F.R. (fr. Feb.) Brenan 9030! Oban Talbot! Aboabam (Dec.) Keay FHI 28174!

Also in [French Cameroons](#), [Gabon](#) and [Belgian Congo](#).

3. RUMEX

Linn.—F.T.A. 6, 1: 114

- 1 Leaves hastate, more or less triangular, acuminate, 6–15 cm. long, up to 15 cm. broad; flowers in large much-branched panicles; persistent perianth segments entire, membranous, reticulate [1. abyssinicus](#)
- Leaves lanceolate, more or less narrowed at base, never hastate, up to 30 cm. long and 5 cm. broad; persistent perianth segments with pectinate hooked teeth [2. bequaerti](#)

1. *Rumex abyssinicus* *Jacq.*—F.T.A. 6, 1: 114. *APD acc*

Herb with stout perennial rootstock, 1 in. diam.; stems annual, up to several feet high.

N. Nig.: Bauchi Plateau (May) Lely P. 251! Hephama to Ropp (fl. & fr. July) Lely 367! **Br. Cam.:** Buea (fr. Jan.) Maitland 297! Cam. Mt., 4,000–7,600 ft. (fl. & fr. Nov.–Jan.) Mann 1217! 1978! Maitland 968! 1289! Bamenda, 5,500 ft. (fr. Jan.) Migeod 404!

Widespread in East, Central and South tropical Africa, and in Madagascar.

2. *Rumex bequaerti* *De Wild.* Pl. Bequaert. 5: 2 (1929); Robyns in Fl. Congo Belge 1: 400.

APD: *Synonym of Rumex nepalensis Spreng.*

Rumex nepalensis of F.T.A. 6, 1: 117 and F.W.T.A., ed. 1, 1: 120, not of Spreng.

Perennial herb, with stems 3–6 ft. high.

Br. Cam.: Cam. Mt., 5,800–9,000 ft. (fl. & fr. Nov.–Jan.) Mann 1235! 1990! Maitland 825! 967! 1276! Bamenda, 5,000 ft. (fl. & fr. Jan.–Mar.) Maitland 1614! Migeod 307!

Widespread in East, Central and South tropical Africa, and in Madagascar and S. Africa.

4. HARPAGOCARPUS

Hutch. & Dandy in Kew Bull. 1926: 363.

- 1 Scandent or weakly erect herb; leaves sagittate, the lower ones ovate-triangular up to 8 cm. long and 3 cm. broad, the upper linear-lanceolate; petiole slender, up to 5 cm. long; flowers in slender terminal and axillary racemes up to 15 cm. long; flowers 1 or 2 together; sepals 5, obovate, unequal, up to 3.5 mm. long and 2.5 mm. broad; ovary and fruit trigonous, fruit about 8 mm. long, with 2 mm. long setae on the angles, setae barbed at the tip with several backwards-directed barbs arranged in a radiate manner[snowdenii](#)

Harpagocarpus snowdenii *Hutch. & Dandy* in Kew Bull. 1926: 363, with fig.

APD: Synonym of Fagopyrum snowdenii (Hutch. & Dandy) S. P. Hong

Fagopyrum ciliatum *Jac.-Fel.* in Bull. Mus. Hist. Nat. 18: 409 (1946).

A "Rumex-like" plant, weakly erect or scandent, to 3 ft. high; flowers green; fruits with red or purple barbed setae.

Br. Cam.: Bamenda Prov.: Lakom, 6,000 ft. (Apr.) Maitland 1491! Basenako, 5,000 ft. (June) Maitland 1503! Ndu, 6,400 ft. (Jan.) Keay FHI 28441!

Also in **French Cameroons**, **Belgian Congo**, **Uganda** and **Tanganyika**.

5. POLYGONUM

Linn.—F.T.A. 6, 1: 103; A. N. Steward in Contrib. Gray Herb. Harv. 88 (1930).

- 1 Flowers arranged in axillary clusters or small heads; stems more or less prostrate:2
Flowers arranged in spike-like racemes or panicles:3
- 2 Leaves oblong or linear-oblong, subsessile, acute, 5–10 mm. long, 2–3 mm. broad, with revolute margins; ochrea more or less lacerate, white; flowers solitary or in axillary clusters; nutlet smooth and shining[1. plebeium](#)
Leaves ovate, about 1.5–2 cm. long and 1–1.5 cm. broad, narrowed into a winged petiole; ochrea entire, brownish; flowers in pedunculate clusters; nutlets closely pitted[2. nepalense](#)
- 3 Ochrea with a spreading or recurved herbaceous ciliate limb, long-pilose on the outside; leaves linear-lanceolate, up to 10 cm. long and 2 cm. broad, pubescent on nerves beneath or glabrous; racemes densely flowered[3. limbatum](#)
Ochrea without a spreading limb:4
- 4 Racemes very short, not more than 2 cm. long, borne on a dichotomously branched, glandular-pubescent rhachis; stems with recurved hairs or glabrous; ochrea membranous, glabrous except for the shortly ciliate apex; leaves lanceolate, cuneate at base, acute at apex, up to 15 cm. long and 2.5 cm. broad . [4. strigosum var. pedunculare](#)
Racemes elongated, much exceeding 2 cm. long:5
- 5 Leaves densely pilose, or woolly beneath:6
Leaves glabrous or rather sparingly pubescent beneath:7
- 6 Leaves white and woolly beneath with the hairs closely matted together; leaves lanceolate, 10–30 cm. long, 2–5 cm. broad, narrowed at base into a 2–4 cm. long petiole, acutely acuminate at apex; cilia at apex of ochrea absent or very small and weak[5. lanigerum var. africanum](#)
Leaves silky-pilose beneath, the hairs not closely matted together; leaves linear-lanceolate to lanceolate, 8–25 cm. long, 1–5 cm. broad, petiole up to 1 cm. long; cilia at apex of ochrea very long and conspicuous[6. pulchrum](#)
- 7 Ochrea without, or with very small and few, cilia at apex, 3–4 cm. long; leaves elongate ovate-lanceolate, about 15–20 cm. long and 3–5 cm. broad, long-cuneate at base, long-acuminate at apex, glandular-punctate on both surfaces, glutinous, more or less shortly appressed pubescent especially on midrib and nerves, margins ciliate[7. senegalense](#)
Ochrea with distinct long cilia at apex; leaves not glandular punctate and glutinous:8
- 8 Leaves glabrous beneath except on the margin and midrib, linear-lanceolate, up to 15 cm. long and 1.5 cm. broad, rather abruptly narrowed into the short petiole; inflorescence lax and slender, flowers not densely crowded; nutlets trigonous[8. salicifolium](#)
Leaves pubescent beneath; inflorescence with rather dense clusters of flowers; nutlets usually lenticular:9
- 9 Peduncles glabrous or glabrescent; leaves lanceolate to ovate-lanceolate, 6–18 cm. long, 2–5 cm. broad,

appressed pubescent beneath with crisped hairs [9. nyikense](#)

Peduncles appressed pubescent; leaves linear-lanceolate to lanceolate 8–18 cm. long, 1–3.5 cm. broad, appressed pubescent beneath with straight hairs [10. acuminatum](#)

1. *Polygonum plebeium* R.Br.—F.T.A. 6, 1: 105; Chev. Bot. 537. *APD acc*

Much-branched prostrate herb of **dry regions**; flowers pinkish-red or white; a very variable species.

Sen.: Roger 16! **Fr. Sud.:** Sikasso (Apr.) Chev. 749! Mopti Hagerup 701. Diafarabé (May) Lean 24! **N. Nig.:** Katsina (Apr.) Meikle 1365!

Widely distributed in the drier parts of Africa and tropical Asia; and in Australia.

2. *Polygonum nepalense* Meisn. Monogr. Polygon. 84 (1826); Steward in Contrib. Gray Herb. Harv. 88: 74 (1930).

APD: Synonym of Persicaria nepalensis (Meisn.) H. Gross

***Polygonum punctatum* var. *alatum* Buch.-Ham. ex D. Don** (1825).

***Polygonum alatum* (Buch.-Ham. ex D. Don) Spreng.** (1827); F.T.A. 6, 1: 104; F.W.T.A., ed. 1, 1: 120.

Annual, **by streams in forest**; flowers white.

F. Po: 7,500 ft. (Apr.) Mann 1449! Moka (Jan.) Exell 772!

Also in **central** and **east tropical Africa**, **Madagascar** and **eastern Asia**.

3. *Polygonum limbatum* Meisn.—F.T.A. 6, 1: 108; Chev. Bot. 537.

APD: Synonym of Persicaria limbata (Meisn.) H. Hara

Perennial, 3–4 ft. long, more or less ascending; **in swamps and ditches**.

Fr. Sud.: Sébi to Mopti (Aug.) Chev. 3459. **Fr. Nig.:** Zinder (Oct.) Hagerup 580! **N. Nig.:** Suri, Sokoto (July) Bakare FHI 5181! Katagum (Sept.) Dalz. 149! Komadugu Waube, Bornu (Dec.) Elliott 140!

Widespread in tropical Africa, and in **Egypt** and India.

4. *Polygonum strigosum* var. *pedunculare* (Wall. ex Meisn.) Steward l.c. 91 (1930).

APD: Synonym of Persicaria glomerata (Dammer) S. Ortíz & Paiva

***Polygonum pedunculare* Wall. ex Meisn.**—F.T.A. 6, 1: 107; F.W.T.A., ed. 1, 1: 120; Chev. Bot. 537.

Annual herb, erect or semidecumbent.

Fr. G.: Dalaba, Diaguissa, 3,500–4,000 ft. (Oct.) Chev. 18798. **N. Nig.:** Bauchi Plateau (Sept.) Lely P. 734!

Widespread in tropical Africa, Asia and Australia.

5. *Polygonum lanigerum* var. *africanum* Meisn. in DC. Prod. 14: 117 (1856).

APD: Synonym of Persicaria senegalensis f. albotomentosa (R.A. Graham) K. L. Wilson

Polygonum lanigerum of F.T.A. 6, 1: 109; F.W.T.A., ed. 1, 1: 120; Chev. Bot. 537.

Stout perennial, 5–6 ft. long; aquatic.

Gam.: Ingram! **Fr. Sud.:** Mopti (May) Hagerup 71! Diafarabé (Sept.) Lean 99! Berra (Nov.) De Wailly 4863! **Fr. G.:** Kankan (Mar.) Chev. 591! R. Niger, Dantilia Sc. Elliot 5265! **S. L.:** R. Waanje, Dama (Jan.) Adames 8! **Iv. C.:** fide Chev. l.c. **G. C.:** R. Afram (Jan.) Irvine 610! Tamale (Nov.) Williams 400! **N. Nig.:** Sokoto (Oct.) Moiser 119! Lely 106! Bauchi Plateau (Jan., June) Lely 323! P. 133! L. Chad. (Dec.) Elliott 156! Talbot 1498! **S. Nig.:** Olokemeji (Dec.) Latilo FHI 14654! Aboh Barter 175!

Throughout tropical and S. Africa; the species also occurs in N. Australia.

The Asiatic plant previously referred to *P. lanigerum* is regarded by Steward (l.c. 46) as *P. lapathifolium* Linn. var. *lanatum* (Roxb.) Steward. *S. Ortíz & Paiva*

APD: Synonym of Persicaria lapathifolia (L.) Delarbre

Perennial with long rhizome; stems 4–5 ft. long; in swamps and by rivers.

S. L.: Kambia (Dec.) Deighton 902! Fawkaw, Great Scarcies (Apr.) Glanville 256! Messima (Apr.) Adames 32! Rokupr (Apr.) Adames 178! **G. C.:** Essiama Fishlock 89! **Togo:** Kpedsu (Feb.) Howes 1126! **Dah.:** fide Chev. l.c. **S. Nig.:** Lagos Moloney! Nun R. (Sept.) Mann 493! Okomu F. R. (Dec.) Brenan 8586!

Widespread in tropical Africa and Asia.

7. Polygonum senegalense Meisn.—F.T.A. 6, 1; 111; Chev. Bot. 537.

APD: Synonym of Persicaria senegalensis (Meisn.) Soják

Polygonum glabrum of F.T.A. 6, 1: 113; F.W.T.A., ed. 1, 1: 120; Chev. Bot. 537; not of Willd.

Perennial, erect or semi-decumbent, 3–9 ft. high, in riverbeds, swamps, etc.; flowers pink and white.

Sen.: Roger 21! Döllinger! **Gam.:** Pirie 43! **Fr. Sud.:** Fafa Hagerup 426! **G. C.:** Aburi (Sept.) Johnson 1080! **Fr. Nig.:** Niamey to Gao Ryff! **N. Nig.:** Sokoto (Nov.) Moiser 223! Katagum (July) Dalz. 150! Bauchi Plateau (May) Lely 226! R. Kaduna, Bida (Mar.) Meikle 1327! **S. Nig.:** Badagry (Dec.) Don! R. Ogun, Lagos Millen 136!

Throughout tropical Africa and in Egypt.

[P. glabrum Willd. of Asia is very similar but has absolutely glabrous leaves with eciliate margins.] (See Appendix, P. 32.)

8. Polygonum salicifolium Brouss. ex Willd. Enum. Pl. Hort. Berol. 428 (1809).

APD: Synonym of Persicaria decipiens (R. Br.) K. L. Wilson

Polygonum serrulatum lag. (1816)—F.T.A. 6, 1: 107; F.W.T.A., ed. 1, 1: 120; Chev. Bot. 537.

Polygonum barbatum of Chev. Bot. 536, not of Linn.

Annual, 3–4 ft. long, erect or semi-decumbent; flowers pink and white; in marshy places.

Sen.: Roger! Döllinger! **Gam.:** Kuntaur Ruxton 95! **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Kouroussa (July) Pobéguin 343! **S. L.:** Kambia (Dec.) Sc. Elliot 4352! Deighton 843! Port Loko (Dec.) Thomas 5838! Rokupr (Mar.) Adames 163! **Lib.:** R. Cess, Tchian (Aug.) Baldwin 9007! Vonjama (Oct.) Baldwin 9866! **Iv. C.:** fide Chev. l.c. **G. C.:** E. Ancobra (Jan.) Irvine 1082! **Togo:** Kpandu Robertson 41! **N. Nig.:** Sokoto (Sept.) Moiser! Nupe Barter 1551! Ilorin (Aug.) Thornton! Bauchi Plateau (Jan., May, July) Lely 365! 430! P. 132! P. 260! **S. Nig.:** Lagos Rowland! Akinjare, Owo (Apr.) Jones FHI 3121! **Br. Cam.:** Amba Bay (Feb.) Mann 762! Bali, Bamenda (May) Ujor FHI 30387!

Widespread in the tropics and S. Europe.

9. Polygonum nyikense Bak. in Kew Bull. 1897: 280.

APD: Synonym of Persicaria setosula (A. Rich.) K. L. Wilson

Polygonum acuminatum of F.T.A. 6, 1: 112, partly.

Perennial herb, decumbent below, to 3 ft. high.

Br. Cam.: Cam. Mt., 4,400 ft. (Apr.) Maitland 1115! **F. Po:** Guinea 1600! Moka (Jan.) Exell 793!

Widespread in central and east Africa, extending to Nyasaland.

[An unmatched specimen from Bamenda (Tamajong FHI 23458) is near this, but has distinctive long narrow inflorescences; further material may show this to be a distinct species.]

10. Polygonum acuminatum H.B. & K.—F.T.A. 6, 1: 112.

APD: Synonym of Persicaria madagascariensis (Meisn.) S. Ortiz & Paiva

Polygonum barbatum of F.T.A. 6, 1: 109, partly, not of Linn.

Perennial, erect or semi-decumbent, 3–4 ft. high; in moist places.

S. L.: Falaba (Mar.) Sc. Elliot 4454! R. Scarcies (Jan.) Sc. Elliot 4498! R. Bum-Kittam, Gbap (Sept.) Fisher 1767! Laminaiya (Apr.) Thomas 139! **G. C.:** Tamale (Nov.) Williams 403! **N. Nig.:** Nupe Barter 874! S. Kano (Dec.) Thornehill

147! Bauchi Plateau (May, July) Lely 200! P. 371! L. Chad Talbot 695! Yola (Mar.) Dalz. 209! **S. Nig.:** Olokemeji (Aug.) Foster 338! Onitsha (Feb.) Jones FHI 720!

Widespread in tropical and S. Africa and in tropical America.

The field worker should look out for possible hybrids which sometimes occur in this genus.

Polygonum baldschuanicum Regel

A native of central Asia, is sometimes cultivated in our area.

ILLECEBRACEAE

Herbs, rarely subshrubs. Leaves mostly opposite, small, simple, often connate at the base, mostly entire; stipules scarious, simple or connate, rarely absent. Flowers small, herbaceous, green or white, often with scarious bracts, mostly hermaphrodite, actinomorphic. Calyx herbaceous or leathery, persistent, 4–5-lobed or parted, lobes imbricate. Petals absent or sometimes replaced by small staminodes. Stamens the same number as and opposite the calyx-lobes, rarely fewer or more, mostly perigynous; filaments free or connate at the base into a ring; anthers 2-celled, opening lengthwise. Ovary free, sessile, 1-celled; style 1, terminal, or styles 2–3; ovule 1, rarely 2, erect or pendulous from a basal funicle. Fruit a utricle or nut, mostly indehiscent, 1-seeded, included by the calyx. Seed with copious or small endosperm; embryo annular to straight.

CORRIGIOLA

Linn.—F.T.A. 6, 1: 12.

Perianth herbaceous 5-partite, segments oblong, obtuse. Stamens 5, perigynous, alternating with 5 scale-like staminodes. Ovary ovoid; style very short; stigmas 3; ovule 1, amphitropous, suspended from a basal funicle. Fruit an indehiscent crustaceous nutlet enclosed in the persistent perianth. Seed subglobose, pendulous; embryo annular.

- 1 Annual or biennial, stems 3–6 cm. long, close to the ground, forming a clump 6–12 cm. diam.; leaves alternate, closely arranged, oblong, 2–2.5 mm. long, 1 mm. broad, narrowed at base into a petiole scarcely 0.5 mm. long; stipules scarious, very small; flowers in congested cymes in the axils of the upper leaves, about 0.7 mm. diam.; borne on pedicels 0.3–0.5 mm. long; fruit about 1 mm. diam. [russelliana](#)

Corrigiola russelliana A. Chev. in Bull. Mus. Hist. Nat. Sér. 2, 4: 1008 (1932); Pax & Hoffmann in E. & P. Pflanzenfam. 16C: 299 (1934); Chev. Fl. Viv. 1: 316.

APD: *Synonym of Corrigiola litoralis L. var. litoralis*

Sen.: R. Diorbivol Trochain 2914. **Fr. Sud.:** Niala, Djenne (fl. & young fr. June) Chev. 1131. R. Bani, Djenne Chev. 42945; s.n.!

PHYTOLACCACEAE

Herbs, shrubs or trees. Leaves alternate, entire; stipules absent or minute. Flowers hermaphrodite or unisexual, actinomorphic or nearly so, hypogynous, in simple or compound terminal or axillary racemes. Perianth simple, herbaceous or coriaceous. Sepals free or some connate, imbricate, equal or unequal. Petals absent. Stamens 3 to many, often inserted on a hypogynous disk; filaments free or slightly connate at the base; anthers 2-celled, cells parallel and dehiscing longitudinally. Ovary superior, composed of 1 or several carpels either free or variously connate; style almost none or short; ovule solitary in each carpel, basal. Fruit of 1 or many carpels, fleshy or dry. Seed erect, with the large embryo in the periphery and enclosing the endosperm.

- 1 Liane, dioecious; sepals equal; carpels usually 5, connate at base; fruit fleshy, usually 5-lobed [1. Phytolacca](#)
Erect herb, flowers hermaphrodite; sepals unequal, the lower one the largest; carpel 1; fruit dry [2. Hilleria](#)

***Petiveria alliacea* Linn.**

A herb from the West Indies and tropical America, occurs at Lagos and Olokemeji in Nigeria as a casual.

1. PHYTOLACCA

Linn.—F.T.A. 6, 1: 96.

- 1** Dioecious liane; older branches marked with prominent callous leaf-scars; leaves elliptic or ovate-elliptic, shortly cuneate or rounded at base, acute or acuminate at apex, 4–15 cm. long, 2–10 cm. broad, thinly papery, glabrous, petiole 1–5 cm. long; racemes Blender up to 40 cm. long, pedicels 2–12 mm. long; male flowers with about 15 stamens up to 5 mm. long; female flowers with short rudimentary stamens, carpels usually 5, connate at base; fruits usually 5-lobed, about 5 mm. diam. [dodecandra](#)

Phytolacca dodecandra *L'Hérit.*—F.T.A. 6, 1: 97; H. Walt. in Engl. Pflanzenr. Phytolacc. 42; Chev. Bot. 536. *APD acc*

Scandent shrub or liane, to 50 ft. high; male flowers white or yellowish-green, in numerous conspicuous racemes; ripe fruits red.

Fr. G.: Labé Pobéguin 2041! **S. L.:** Talla Hills (Feb.) Sc. Elliot 4827! **Iv. C.:** Haut-Cavally (May) Chev. 21392. **G. C.:** Larte (Jan.) Johnson 178! **S. Nig.:** Lagos Millen 62! Ibadan (fr. Mar.) Meikle 1271! Ife (Dec.) Keay FHI 22461! Benin (Nov.) Ejiofor FHI 24650! Degema Talbot 3800! **Br. Cam.:** Lakom, Bamenda (Mar.) Johnstone 98/31!

Widespread in tropical and S. Africa, and in **Madagascar**.

Two incomplete specimens which may prove to be two other species of *Phytolacca* have been collected at Gama, Sierra Leone (Deighton 4384) and at Buea, British Cameroons (Maitland 547).

The plant recorded as *P. octandra* Linn. in F.T.A. 6, 1: 98 is *Sphenoclea zeylanica* Gaertn.

2. HILLERIA

Vell.—F.T.A. 6, 1: 95, as *Mohlana* Mart.

- 1** Herb up to 1 m. high; leaves ovate-elliptic, obtuse or subacute at the base, acutely acuminate, up to 15 cm. long and 6 cm. broad, entire, with numerous short lines of crystals resembling appressed hairs on the lower surface; lateral nerves about 6 on each side; petiole long, with setulose hairs on the upper side; racemes slender, up to about 12 cm. long; fruit ellipsoid-globose, about 2 mm. in diam., reticulate, glabrous [latifolia](#)

Hillieria latifolia (*Lam.*) *H. Walt.* in Engl. Pflanzenr. Phytolacc. 81, t. 25 (1909). *APD acc*

Rivina latifolia *Lam.* (1791).

Mohlana nemoralis *Mart.*—F.T.A. 6, 1: 95; Chev. Bot. 535.

M. guineensis *Moq.*—Chev. Bot. 535.

Perennial herb, often woody below; corolla white in a yellow or pinkish raceme; fruits yellow or orange, then deep purplish-black. **Naturalized in cultivated ground and along forest paths near villages in the forest regions.**

Lib.: Webo Dist. (July) Baldwin 6236! 6603! **Iv. C.:** fide Chev. l.c. **G. C.:** Kumasi Cummins 54! Aburi (Apr.) Brown 324! Achimota (Aug.) Irvine 12! **Togo:** Lome Warnecke 427! **S. Nig.:** Lagos Millen 92! Olokemeji (Apr.–July) Foster 283! MacGregor 296! Sapoba (May) Kennedy 1413! Oban Talbot 661! **Br. Cam.:** Amba Bay (Feb.) Mann 775! Kumba (Apr.) Hutch. & Metcalfe 160!

A native of S. America, naturalized in many parts of tropical Africa and Mascarene Islands.

CHENOPODIACEAE

Mostly annual or perennial herbs, sometimes shrubs, rarely small trees, often halophytic and with tendency to fleshiness. Leaves alternate, rarely opposite, simple, without stipules, entire or not, but characteristically never regularly serrate; sometimes the leaves reduced to scales. Flowers small to

minute, mostly green to grey, solitary and axillary, or more often variously clustered, usually regular, hermaphrodite or unisexual. Calyx (1–) 2–5-lobed, lobes more or less united below, imbricate or almost valvate, persistent after flowering, or variously modified in fruit. Petals absent. Stamens as many as or fewer than sepals, and opposite them. Ovary normally free and superior, one-celled. Stigmas 2 (–5). Ovule solitary, campylotropous, on a long or short almost always basal funicle. Fruit usually utricular, indehiscent, rarely circumscissile, often included in and falling with the calyx. Embryo peripheral, curved, annular or spiral, surrounding the endosperm, which may be absent.

Mostly weeds, or desert or maritime plants.

Often with fleshy leaves or apparently jointed fleshy stems; flowers usually very small and inconspicuous; embryo curved, usually surrounding the endosperm. Material of most of the West African genera is inadequate or lacking at Kew. Dried specimens of the fleshy genera should be supplemented by portions of the flowering branches in spirit, and by careful notes on habit and colour of the plants.

- 1 Leaves with flat and fairly large blade, distinctly petiolate, glandular or mealy on the surface ... [1. *Chenopodium*](#)
 Leaves small, linear, cylindrical, short and triangular or globose, or else the stem and branches appearing jointed, the leaves apparently absent: [2](#)
- 2 Stem and branches not appearing as if built up of succulent jointed sections: [3](#)
 Stem and branches apparently built up of succulent green to reddish jointed sections which ultimately shrivel and fall away, each joint derived from the connate sheathing bases of a pair of opposite leaves whose lamina is absent: [5](#)
- 3 Leaves cylindrical or subcylindrical; calyx not winged in fruit, flowers not in dense spikes [2. *Suaeda*](#)
 Leaves triangular to subglobose, short: [4](#)
- 4 Calyx with spreading membranous wings in fruit; plant more or less pubescent, at least on youngest shoots [3. *Salsola*](#)
 Calyx not winged in fruit; plant glabrous [4. *Halopeplis*](#)
- 5 Seeds glabrous; flowers in each group of three not fused with each other, more or less tubular, their calyces not conspicuously flattened at apex; embryo comma-shaped, along one side of the seed; endosperm copious, latera [5. *Arthrocnemum*](#)
 Seeds shortly hairy; flowers in each group of three more or less connate, their calyces flattened at apex; embryo folded like a closed U, filling the seed; endosperm absent or almost so [6. *Salicornia*](#)

1. CHENOPODIUM

Linn.—F.T.A. 6, 1: 77.

- 1 Plant more or less mealy, at least on young parts, with grey or whitish vesicular hairs, not aromatic, other sorts of hair and also glands absent; ripe seeds black when ripe, 1.2–1.5 mm. diam., acutely keeled [1. *murale*](#)
 Plant variably pubescent, and with yellow to amber glands, strongly aromatic, vesicular hairs absent; ripe seeds red-brown to blackish, 0.5–1.25 mm. diam., bluntly keeled [2. *ambrosioides*](#)

1. *Chenopodium murale* *Linn.*—F.T.A. 6, 1: 78; Trochain Contilb. Étude Vég. Sénégal 367 (1940). *APD acc*

Annual normally much-branched herb up to 3 ft. high, with mostly rhombic-ovate leaves and minute greenish flowers in divaricately branched leafy cymes.

Sen.: fide Trochain l.c.

Widespread both in the tropics and in temperate countries.

2. *Chenopodium ambrosioides* *Linn.*—F.T.A. 6, 1: 79.

Annual, sometimes perennial herb to 4 ft. high, with mostly lanceolate leaves and an ample panicle with small sessile flower-clusters arranged spicately along the ultimate branches.

Sen.: Cayor Poisson! *G. C.*: Aduamoa, Kwahu (Jan.) Irvine 1725! *S. Nig.*: Olokemeji (Feb.) Dodd 412! *Br. Cam.*: Buea (Oct.) Maitland 113!

Native of S. America, now widespread as a weed, except in cold countries.

Imperfectly known species.

Chenopodium sp.

Apparently herbaceous, glabrous except for yellowish-white vesicular hairs, especially on young parts; leaves narrowly elliptic in outline, sinuate-lobate, about 1.5–3 cm. long; flowers in small axillary clusters, only female known; sepals 4, vesicular-hairy, bluntly keeled near apex; seed vertical 1 mm. in diameter, somewhat compressed laterally.

Br. Cam.: Nchan, Bamenda, "about cultivation" (Apr.) Maitland 1512!

This is no previously known species of *Chenopodium*; more material, especially to show the other sex, is much needed.

2. SUAEDA

Forsk. ex Scop. Introd. Hist. Nat. 333 (1777); F.T.A. 6, 1: 91.

- 1 Shrubby perennial; leaves obtuse at apex, abruptly contracted at base; stigmas 3; seeds mostly vertical[1. *fruticosa*](#)

Annual; leaves tapering and acute at apex, not abruptly contracted at base, stigmas 2; seeds horizontal[2. *maritima*](#)

1. **Suaeda fruticosa** *Forsk. ex J. F. Gmel.* Syst. Nat., ed. 13, 2: 503 (1791); *Forsk. Fl. Aegypt.-Arab.* 70 (1775), nomen illegitimum; *Trochain Contrib. Étude Vég. Sénégal* 116, 384 (1940); *Clapham, Tutin & Warburg Fl. Brit. Isl.* 360 (1952).

APD: *Synonym of Suaeda vermiculata Forssk. ex J.F. Gmel.*

Erect or ascending, up to 4 ft.; leaves succulent, 4–11 (–18) mm. long, about 1 mm. wide, almost cylindrical; flowers axillary, sessile, one to few together.

Sen.: St. Louis Gandiole region, by lagoons near the shore fide *Trochain l.c.*

Coasts of Europe (including Britain) and the Mediterranean region, extending to Asia, Australia and N. America; in Africa southwards to S. Africa.

2. **Suaeda maritima** (*Linn.*) *Dumort* Fl. Belg. 22 (1827); *Trochain l.c.* 114, 384, t. 4, photo 366 (1940); *Clapham, Tutin & Warburg l.c.* 359 (1952). *APD acc*

Chenopodium maritimum *Linn.* Sp. Pl. 221 (1753).

Prostrate to erect, up to about 2 ft. high; leaves often wider than in *S. fruticosa*, otherwise the two species rather similar.

Sen.: L. Retba fide *Trochain l.c.*

Widespread along sea coasts.

3. SALSOLA

Linn.—F.T.A. 6, 1: 87.

- 1 Branchlets slender with distinct internodes, pubescent at first, becoming glabrous; leaves alternate, very small, triangular or ovoid, pubescent or glabrous, thinner at the margin; flowers crowded on short lateral branchlets, all forming a straggly panicle; calyx-segments with a spreading membranous wing on the back in fruit[1. *baryosma*](#)

Branchlets rather stout, closely hairy; leaves opposite, crowded, broadly triangular, thick, densely and softly tomentose; flowers forming spikes at the ends of the branchlets; calyx-segments as above[2. *tetrandra*](#)

1. **Salsola baryosma** (*Schult.*) *Dandy* in F. W. Andr. Fl. Pl. A.–E. Sudan 1: 111 (1950).

APD: Synonym of Caroxylon imbricatum (Forssk.) Akhani & Roalson

Chenopodium baryosmon Schult. Syst. 6: 269 (1820).

Salsola foetida Del. ex Spreng. Syst. 1: 925 (1825), not of Pall. ex Vest in Schult. Syst. 6: 238 (1820).

Salsola vermiculata var. *microphylla* of F.T.A. 6, 1: 88, not of Moq.

Salsola brevifolia of F.W.T.A., ed. 1, 1: 123, not of Desf.

A much-branched undershrub 1–4 ft. high.

Sen.: Sor Isl. Roger! **Fr. Sud.:** Oualata region Jumelle!

Also in **N. Africa**, and extending eastwards to India.

2. *Salsola tetrandra* Forsk. Fl. Aegypt.-Arab. 58 (1775); Trochain Contrib. Étude Vég. Sénégal 119, 382 t. 5, photo 355 (1940).

APD: Synonym of Caroxylon tetrandrum (Forssk.) Akhani & Roalson

Salsola tetragona Del.—F.W.T.A., ed. 1, 1: 123.

Sen.: delta of the river inland almost as far as Richard Tol fide Trochain l.c.

Also in **N. Africa** and **E. Mediterranean**.

4. HALOPEPLIS

Bunge ex Ungern-Sternb.—F.T.A. 6, 1: 84.

- 1 An annual much-branched herb 3–15 (–22) cm. high; leaves small, fleshy, semiglobose, clasping, shorter than internodes; flowers in dense ovoid to cylindrical spikes 0.3–2 cm. long, 2–3 mm. wide, the spikes numerous, lateral, alternate, divaricate, towards ends of branches [amplexicaulis](#)

Halopeplis amplexicaulis (Vahl) Ungern-Sternb. ex Boiss. Fl. Or. 4: 934 (1876); Trochain Contrib. Étude Vég. Sénégal 116, 374 (1940). *APD acc*

Salicornia amplexicaulis Vahl Symb. Bot. 2: 1 (1791).

Sen.: Gandiole, in a salt-marsh with *Arthrocnemum glaucum*, fide Trochain l.c.

Also in the Mediterranean region, from Sardinia, Italy and Sicily to **Egypt**; in S. Africa, presumably Introduced.

5. ARTHROCNUM

Moq.—F.T.A. 6, 1: 85. *APD acc*

- 1 Shrubby perennial about 0.6–1 m. high, very much branched; inflorescence of dense, sometimes branched, spikes 1.5–17 cm. long and 4–5 mm. in diameter, terminal on stems and branches, or both terminal and lateral and often aggregated; spikes composed of imbricate annular bracts, each subtending two groups of three flowers which are more or less sunken in the spike; seeds glabrous, papillose, deep red-brown [glaucum](#)

Arthrocnemum glaucum (Del.) Ungern-Sternb. in Atti Congr. Int. Bot. Firenze 283 (1876); A. Chev. in Rev. Bot. Appliq. 2: 747 (1922); Trochain Contrib. Étude Vég. Sénégal, 116, 365, t. 5, photo 299 (1940); A. Chev. in Rev. Bot. Appliq. 27: 294 (1947).

APD: Synonym of Arthrocnemum macrostachyum (Moric.) K. Koch

Salicornia glauca Del. in Descr. Egypt., Hist. Nat. 2: 49 (1813).

Arthrocnemum pachystachyum A. Chev. in Rev. Bot. Appliq. 2: 747 (1922), not of (Bunge ex Ungern-Sternb.) A. Chev. (see Trochain l.c. 115).

Salicornia indica of F.W.T.A., ed. 1, 1: 123, not of Willd. (see Trochain l.c. 115).

Arthrocnemum indicum auct. fide A. Chev. in Rev. Bot. Appliq. 27: 294 (1947), not of (Willd.) Moq.

Very similar in appearance to *Salicornia fruticosa*.

Sen.: St. Louis (May-June) Chev. 3524; 3525. St. Louis Gandiole region fide Trochain l.c. 116. L. Retba, N. of Rufisque fide Trochain l.c. 114.

Widely distributed on seashores in the Northern Hemisphere.

6. SALICORNIA

Linn.—F.T.A. 6, 1: 86.

The identity of *S. europaea* Linn. recorded from L. Tanma by Trochain, Contrib. Étude Vég. Sénégal 114, 382, t. 4, photo 359 (1940), requires checking. Indeed Chevalier does not at all explain how *S. praecox* and *S. senegalensis* differ from the polymorphic *S. europaea*.

- 1 Shrubby perennial up to about 1 m. high; each group of three fruits after falling leaving three cavities side by side in the spike [1. fruticosa](#)
- Herbaceous annuals up to about 0.45 m. high; each group of three fruits after falling leaving three cavities in the spike arranged more or less in a triangle: [2](#)
- 2 Plant robust, 30–45 cm. high, much-branched, pyramidal in outline; flowering spikes 15–25 mm. long, with about 10–13 joints [2. senegalensis](#)
- Plant more slender, 10–20 cm. high, much-branched above, ovoid in outline: [3](#)
- 3 Flowering spikes short, 6–15 (–20) mm. long, with 4–8 joints [3. praecox var. praecox](#)
- Flowering spikes long, 30–40 mm., with 15–20 joints [3a. praecox var. longispicata](#)

1. *Salicornia fruticosa* (Linn.) Linn. Sp. Pl., ed. 2: 5 (1762).

APD: *Synonym of Arthrocnemum fruticosum* (L.) Moq.

APD: *Synonym of Sarcocornia fruticosa* (L.) A.J. Scott

Salicornia europaea var. *fruticosa* Linn. Sp. Pl., ed. 1: 3 (1753)

? *S. arabica* of A. Chev. in Rev. Bot. Appliq. 27: 294 (1947), not of Linn.

Very similar in appearance to *Arthrocnemum glaucum*.

Sen.: saline tracts near mouth of R. Senegal fide Chev. l.c.

Widely distributed along sea coasts.

2. *Salicornia senegalensis* A. Chev. in Rev. Bot. Appliq. 27: 292, t. 12A (1947). *APD acc*

Sen.: (July–Aug.) Jaeger. Hann, Dakar Chev.

3. *Salicornia praecox* A. Chev. var. *praecox*—l.c. 27: 292 t. 12B (1947). *APD acc*

Sen.: Hann, Dakar (Feb.) Chev.

Growing mixed with the last.

3a. *Salicornia praecox* var. *longispicata* A. Chev. l.c. 27: 294, t. 12B, 1 (1947). *APD acc*

Sen.: L. Tanma (Dec.) Chev. 3452.

AMARANTHACEAE

Annual or perennial herbs, rarely undershrubs or climbers; leaves alternate or opposite, simple, exstipulate. Flowers actinomorphic, usually hermaphrodite, small, in spikes, heads or racemes, with often scarious bracts and bracteoles, the latter sometimes hooked. Sepals 3–5, free or nearly so, imbricate, more or less dry and membranous. Petals absent. Stamens mostly 5, opposite the sepals, hypogynous; filaments united at the base into a short tube, often with staminodes between; anthers 1- or 2-celled, opening by longitudinal slits. Ovary superior, 1-celled; style short or long; stigma capitate

or 2–3-fid; ovules solitary or rarely several, on basal funicles. Fruit dehiscing by a lid or indehiscent. Seeds globose, compressed or ellipsoid, smooth; embryo annular, surrounding the copious endosperm.

Mainly in the tropics and subtropics, often occurring as weeds or escapes from cultivation.

Recognized by the herbaceous habit, the alternate or opposite leaves without stipules, the small inconspicuous often scarious flowers without petals, the definite stamens shortly connate at the base, the 1-celled ovary, and annular embryo with endosperm.

- 1 Leaves alternate; 2
 Leaves opposite; 6
- 2 Flowers glabrous or nearly so; staminodes absent; 3
 Flowers accompanied by numerous soft woolly hairs; staminodes present or absent: 5
- 3 Ovules several; fruit with several seeds [1. Celosia](#)
 Ovule solitary; 4
- 4 Cymules with 2 or more fertile flowers, not accompanied by reduced sterile flowers [2. Amaranthus](#)
 Cymules with only 1 fertile flower accompanied by two sterile flowers reduced to scales [3. Digera](#)
- 5 Stamines present; fertile stamens 4–5 [4. Aerva](#)
 Staminodes absent; fertile stamens 1–2; leaves sometimes opposite [6. Nothosaerva](#)
- 6 Inflorescences with long hooked spines on the sterile flowers: 7
 Inflorescences without hooked spines: 8
- 7 Stamines present [6. Cyathula](#)
 Staminodes absent [7. Pupalia](#)
- 8 Anthers 2-celled: 9
 Anthers 1-celled: 14
- 9 Flowers 2 or more together in a cymule subtended by a bract, 1–2 flowers fertile, the rest sterile: 10
 Flowers solitary in the axis of each bract: 11
- 10 Sterile flowers developing long feathery filaments up to 2 cm. long, fertile flowers 2 in each cymule; flowers in large panicles of slender spikes; large climbing herb or liane [8. Sericostachys](#)
 Sterile flowers without long filaments, fertile flower solitary in each cymule; flowers in dense cylindrical spikes; undershrub (C. pobeguinii) [6. Cyathula](#)
- 11 Flowers in terminal spikes; staminodes present: 12
 Flowers in very numerous axillary spikes 5–15 mm. long; staminodes absent; leaves sometimes alternate (see above) [5. Nothosaerva](#)
- 12 Leaves sessile or subsessile; flowers not becoming reflexed in fruit [9. Pandiaka](#)
 Leaves petiolate; flowers reflexed in fruit: 13
- 13 Bracteoles consisting of a long spine with a membranous wing on either side at its base; perianth-segments subequal; mostly terrestrial [10. Achyranthes](#)
 Bracteoles ovate-orbicular, not spiny; perianth-segments very unequal; stout aquatic herb [11. Centrostachys](#)
- 14 Spikes pedunculate, terminal, or terminating short lateral branchlets: 15
 Spikes sessile, axillary [14. Alternanthera](#)
- 15 Glabrous, succulent, maritime plant [12. Philoxerus](#)
 Hairy, non-succulent, terrestrial plant [13. Gomphrena](#)

1. CELOSIA

Linn.—F.T.A. 6, 1: 16; Schinz in E. & P. Pflanzenfam. 16C: 29 (1934).

- 1 Perianth-segments 6–10 mm. long, linear-lanceolate; style 3–7 mm. long, very shortly 2–3-fid; spikes simple, continuous, very dense-flowered; leaves linear to linear-lanceolate [1. argentea](#)
 Perianth-segments 2–5 mm. long, oblong to oblong-elliptic; style up to 1 mm. long; spikes compound and often interrupted, with short lateral clusters of flowers; leaves more or less ovate: 2
- 2 Seeds with very shallow reticulation, very glossy, flattened; inflorescence lax, flower-clusters rarely over 1 cm. broad; bracteoles and perianth-segments whitish, the latter 2–3 mm. long; style less than 0.5 mm. long, 3-fid [2.](#)

trigyna

- Seeds rather deeply reticulate, not glossy and not flattened:3
- 3 Inflorescence elongated and pedunculate:4
- Inflorescence globose, sessile or subsessile, mostly axillary *6. globosa*
- 4 Inflorescence crowded, 5–20 mm. broad; perianth-segments 3–5 mm. long; style 3-fid, rarely 2-fid:5
- Inflorescence lax, with a long rhachis and rather widely spaced, few-flowered glomerules, up to 5 mm. broad; bracteoles and perianth-segments brownish when dry, the latter 2–3 mm. long; style usually 2-fid *5. leptostachya*
- 5 Bracteoles and perianth-segments white or pale-yellowish, the latter 3–5 mm. long; large straggling plant to 3 m. high *3. laxa*
- Bracteoles and perianth-segments brownish, the latter 3 mm. long; herb up to 1 m. high *4. bonnivairii*

1. *Celosia argentea* Linn.—F.T.A. 6,1: 17. *APD acc*

Erect branched annual, 2–6 ft. high; flowering spike silvery-white, often pink-tinged. **Probably introduced and naturalized; often cultivated.**

S. L.: Njala (Feb.) Deighton 1872! Newton (Aug.) Deighton 2204! **Lib.:** Kakatown Whyte! **G. C.:** Aburi (Nov.) Brown 373! **Dah.:** Le Testu 130! **N. Nig.:** Nupe Barter 154! Ilorin (Mar.) Lamb 38! Biu (Sept.) Noble 29! Yola (Oct.) State 90! **S. Nig.:** Lagos Dawodu 61! Benin City Dennett 16!

Widespread in tropical Africa and Asia.

[The name *C. argentea* forma *cristata* (Linn.) Schinz (syn. *C. cristata* Linn.) has been applied to the frequent and varied taclated forms, some of which have yellow or red flowers and are cultivated.]

2. *Celosia trigyna* Linn.—F.T.A. 6, 1: 19; Chev. Bot. 527. *APD acc*

Laxly erect annual herb, decumbent below, 6–24 in. high, or straggling up a support to about 4 ft.; flowers white with pink stamens. **A frequent weed in waste places in savannah and forest regions.**

Sen.: Heudelot 120! Roger! **Gam.:** Pirie 56! **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Kouroussa (July) Pobéguin 338! **S. L.:** N'tunga, Samu (Dec.) Sc. Elliot 4331! Kambia (Dec.) Deighton 879! Mussia (Dec.) Deighton 4459! **Lib.:** Ganta (May, Oct.) Harley! **G. C.:** Accra (Oct.) Ansell! Irvine 830! Aburi (June) Brown 311! Tono, Navrongo (Nov.) Darko 449! **Togo:** Lome Warnecke 27! Kpeve (Mar.) Williams 46! **Fr. Nig.:** Niamey (Oct.) Hagerup 471! **N. Nig.:** Katagum Dalz. 155! Bauchi Plateau (July) Lely P. 372! Maiduguri (Nov.) Elliott 123! **S. Nig.:** Idanre (Jan.) Brenan 8723! **F. Po:** T. Vogel 180!

Widespread in Africa; also in **Arabia** and Madagascar.

3. *Celosia laxa* Schum. & Thonn.—F.T.A. 6, 1: 18; Chev. Bot. 527.

APD: **Synonym of *Celosia trigyna* L.**

APD: **Synonym of *Celosia isertii* C. C. Towns.**

A straggling herb, climbing in **low forest-regrowth**, to 10 ft. high; flowers white; **rare in savannah.**

Sen.: Heudelot 570! **Gam.:** Brown-Lester 17! **Fr. G.:** Nzérékoré (Oct.) Baldwin 9703! **S. L.:** Kambia (Dec.) Sc. Elliot 4227! Deighton 841! Njala (Dec.) Deighton 1769! Musaia (Dec.) Deighton 4557! **Lib.:** Grand Bassa (Apr.) T. Vogel 82! Gbanga (Sept.) Linder 747! Peahtah (Oct.) Linder 950! **Iv. C.:** Bingerville (Dec.) Chev. 16099! **G. C.:** Aburi (Oct.) Johnson 472! Kwahu (Jan.) Irvine 1686! **S. Nig.:** Lagos (May, Aug.) Barter 2145! Dalz. 1252! Olokemeji (Nov.) Obaseki FHI 23838! **Br. Cam.:** Rio del Rey Johnston! Mimbria (Apr.) Hutch. & Metcalfe 96! Buea (Jan., June) Maitland 38! 211! Tiko (Jan.) Dunlap 172! **F. Po:** (Dec.) Mann 80! T. Vogel 158!

Extends to A.–E. **Sudan, Belgian Congo, Angola** and Rhodesia.

4. *Celosia bonnivairii* Schinz in Vierteljahrschr. Nat. Gesell. Zurich 76: 133 (1931); Hauman in Fl. Congo Belge 2: 21 (1951). *APD acc*

APD: **Synonym of *Celosia pseudovirgata* Schinz**

Forest herb with brownish flower spikes; sometimes rooting at the nodes.

S. Nig.: Okomu F.R. (Jan.) Brenan 8839! **Br. Cam.:** Cam. Mt. (Apr.) Maitland 1082! Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30351! **F. Po:** Moka (Jan.) Guinea 2190!

Also in **Belgian Congo**.

5. *Celosia leptostachya* Benth.—F.T.A. 6, 1: 23. *APD acc*

Weakly erect herb, 1–2 ft. high, or straggling, sometimes rooting at the nodes; flower spikes white, becoming brownish.

S. L.: Freetown (Aug.) Deighton 2067! Mamunta (Nov.) Deighton 4930! **S. Nig.:** Lagos (May) Dalz. 1253! Ibadan (Nov.) Newberry 159! Owo (Mar.) Jones FHI 3081! Ibuzo (Nov.) Thomas 2007! **F. Po:** (June) Barter! (Nov.) T. Vogel 141! Mt. Balea (Dec.) Guinea 340!

Also in **French Cameroons** and **Belgian Congo**.

6. *Celosia globosa* Schinz l.c. 76: 137 (1931). *APD acc*

Erect or straggling herb, branches to 30 in. long; flowers brownish-yellow.

S. Nig.: Oban Talbot 1283! **Br. Cam.:** Kumba Dist. (July) Olorunfemi FHI 30697!

Also in **Belgian Congo** and **Uganda**.

2. AMARANTHUS

Linn.—F.T.A. 6, 1: 30; Thellung in Asch. & Grabner Synopsis 5, 1: 225–356 (1914). *APD acc*

- 1 Plant with a pair of axillary spines; female perianth-segments 5, with sharp spiny tips; spikes elongated, mostly paniculate at the ends of the branches, often with globose clusters of flowers in the leaf-axils; fruit a circumscissile capsule [1. spinosus](#)
Plant without axillary spines: **2**
- 2 Fruit a circumscissile capsule: **3**
Fruit not circumscissile, indehiscent or tardily dehiscent into irregular pieces: **6**
- 3 Female perianth-segments 5: **4**
Female perianth-segments 3: **5**
- 4 Fruit and bracteoles longer than the oblong female perianth-segments; inflorescence terminal and axillary, often richly branched; leaves narrowly cuneate at base [2. hybridus subsp. cruentus](#)
Fruit shorter than the subequal bracteoles and linear-spathulate female perianth-segments; inflorescence terminal and axillary; leaves rhomboid-ovate, broadly triangular at base [3. dubius](#)
- 5 Perianth-segments 1–1.5 mm. long, shortly pointed; flower clusters up to 5 mm. diam., all axillary; leaves very variable in shape, from linear to obovate, blade up to 4 cm. long and 2 cm. broad, usually much less [4. graecizans](#)
Perianth-segments 2–3 mm. long, longly aristate; flower clusters 5–15 mm. diam., many axillary, but with an elongated spike of clusters, usually with the clusters separated; leaves ovate, up to 10 cm. long, petiole 2–6 cm. long [5. tricolor](#)
- 6 Fruit warted, 1–2 mm. long; flowers in slender spike-like racemes, terminal and axillary [6. viridis](#)
Fruit more or less smooth, 2–2.5 mm. long; flowers in axillary clusters and in terminal clusters which unite in a large thick pseudo-spike [7. lividus](#)

1. *Amaranthus spinosus* Linn.—F.T.A. 6, 1: 32; Thellung in Asch. & Grabner Synopsis 5, 1: 267 (1914); Chev. Bot. 528. *APD acc*

Erect annual herb, 1–3 ft. high; **a common weed**.

Sen.: Heudelot 735! **Gam.:** Kuntaur Ruxton! **Fr. Sud.:** fide Chev. l.c. **S. L.:** Freetown (June, Dec.) T. Vogel 13! Deighton 479! Sherbro Sc. Elliot 5834! Njala (Nov.) Deighton 1501! Kenema (Jan.) Thomas 7676! **Lib.:** Kakatown Whyte! Gbanga (Sept.) Linder 815! **Iv. C.:** fide Chev. l.c. **G. C.:** Aburi Brown 411! Sekodumese (Jan.) Kitson! Pong Tamale (July) Williams 826! **Togo:** Lome Warnecke 292! **Fr. Nig.:** Hagerup 513! **Dah.:** fide Chev. l.c. **N. Nig.:** Takwara (May) Lely 102! Vom Dent Young 216! **S. Nig.:** Lagos Moloney! Idanre (Jan.) Brenan 8724! Oban Talbot 601! **Br. Cam.:** Buea (Apr., July) Maitland 43! Hutch. & Metcalfe 117! **F. Po:** (Nov., Dec.) Mann 32! T. Vogel!

Widespread in warm countries.

2. **Amaranthus hybridus subsp. cruentus** (Linn.) Thell. l.c. 243 (1914).

APD: Synonym of Amaranthus cruentus L.

Amaranthus caudatus of F.T.A. 6, 1: 31, partly, and of F.W.T.A., ed. 1, 1: 125, not of Linn.; Chev. Bot. 527.

Most of the specimens from our area are the var. paniculatus (Linn.) Thell.

Erect branched annual herb, 1–5 ft. high; flowers green or reddish; **commonly found cultivated or as a weed.**

Fr. Sud.: Moriquèniéba (Mar.) Chev. 654! **Fr. G.:** Kouroussa (Aug.) Pobéguin 392! **S. L.:** Sherbro Sc. Elliot 5761! Layah, Scarcies Sc. Elliot 4653! Pendembu (July) Thomas 851! Njala (Apr., May) Deighton 695! 1886! **iv. C.:** fide Chev. l.c. **G. C.:** Agogo, Akim (Jan.) Irvine 638! Asuansi, (Feb.) Williams 9! **N. Nig.:** R. Niger T. Vogel 129! Lokoja (Aug.) Elliott 197! Katagum (Oct.) Dalz. 156! Yola (Aug.) Dalz. 203! **S. Nig.:** R. Ogbesse, Owo (Apr.) Jones FHI 3101!

Throughout tropical Africa, and in S. Europe, America and Asia.

3. **Amaranthus dubius** Mart. ex Thell.—Thell. l.c. 265. *APD acc*

Annual herb, 1–3 ft. high; **cultivated and as a weed.**

S. L.: Freetown (Dec.) Deighton 477! Njala (Apr.) Deighton 1887! Kambia (Sept.) Glanville 406! **S. Nig.:** Ibadan (Oct.) Newberry 142!

Widespread in tropical Africa and America.

4. **Amaranthus graecizans** Linn. Sp. Pl. 990 (1753); Chev. Bot. 528. *APD acc*

Amaranthus angustifolius Lam. (1783)-Thell. l.c. 298.

Amaranthus blitum of F.T.A. 6, 1: 35, partly, and of F.W.T.A., ed. 1, 1: 125, partly.

Amaranthus sylvestris of Chev. Bot. 528.

Amaranthus oleraceus of F.W.T.A., ed. 1, 1: 126, partly, not of Linn.

A variable weed, up to 2 ft. high.

Fr. Sud.: Lom (June) Chev. 1022! Timbuktu Hagerup 138! 171a! **G. C.:** Accra T. Vogel 21! **Togo:** Lome Warnecke 363! **N. Nig.:** Nupe Barter 1716! 1727! Kano (Dec.) Hagerup 652! Mamu (May) Lely 166! Katagum (Jan., July) Dalz. 160! 303! Near L. Chad (Jan.) E. Vogel 31! Golding 48!

Widespread in Africa, Europe and Asia.

Many variants are recognized and A. W. Kloos has named the following at Kew: T. Vogel 21, Barter 1727 & Dalz. 303 as *A. angustifolius* Lam. subsp. *aschersonianus* Thell. var. *pseudangustifolius* Thell.; Barter 1716 as subsp. *aschersonianus* Thell. var. *pseudo-silvester* Thell.; Hagerup 652 & Dalz. 160 as var. *silvester* (Desf.) Thell.; the remaining specimens as var. *angustifolius* (=subsp. *graecizans* (Linn.) Thell.).

5. **Amaranthus tricolor** Linn.—F.T.A. 6, 1: 32; Thell. l.c. 272. *APD acc*

Erect herb, 2–6 ft. high; leaves, stems and flowers green or red; **a cultivated spinach.**

S. L.: Freetown (Dec.) Deighton 3350!

Widespread in Africa, Asia and S. Europe.

The only record from our area has been named by A. W. Kloos as var. *tristis* (Linn.) Thell. forma *inamoenus* (Willd.) Thell.

6. **Amaranthus viridis** Linn.—F.T.A. 6, 1: 33.

APD: Synonym of Amaranthus blitum subsp. emarginatus (Salzm. ex Uline & Bray) Carretero & al.

Amaranthus gracilis Desf.-Thell. l.c. 335.

Amaranthus oleraceus of F.T.A. 6, 1: 34, partly, and of F.W.T.A., ed. 1, 1: 125, partly, not of Linn.

Annual, erect herb, 1–3 ft. high; flowers yellowish-green, **a very common weed**; used as spinach.

Sen.: Farmar 3! 24! Dakar (May) Baldwin 5700! **S. L.:** Thomas 9630! Freetown (Dec.) Deighton 478! **G. C.:** Achimota (Nov., Dec.) Irvine 798! 1515! **Togo:** Lome Warnecke 295! **N. Nig.:** Nupe Barter 1055! Sokoto (Nov.) Moiser 66! Kano

(Dec.) Hagerup 651! Vom Dent Young 215! Katagum (July) Dalz. 157! 158! 159! **S. Nig.:** Idanre (Jan.) Brenan 8722! Aguku Thomas 771! 1093!

Widespread in warm countries.

7. *Amaranthus lividus* Linn.-Thell. l.c. 319.

APD: *Synonym of Amaranthus blitum L. var. blitum*

Amaranthus blitum of F.T.A. 6, 1: 35, partly, and of F.W.T.A., ed. 1, 1: 125, partly.

A variable species, occurring as a weed, and also cultivated. The Kew specimens have been referred to varieties by A. W. Kloos as shown below.

S. Nig.: Onitsha Barter 539 (var. *polygonoides* (Zoll.) Thell. forma *integrifolius* Thell.)! Aguku Thomas 580 (var. *ascendens* (Loisel.) Thell.)! Ibuzo (Nov.) Thomas 2016 (var. *polygonoides* (Zoll.) Thell.)!

Widespread in Africa, Asia, America and S. Europe.

For full synonymy and a key to the intraspecific variants reference must be made to Thellung in Asch. & Grabner, *Synopsis* 5, 1: 225–356 (1914). Reference should also be made to Hauman's treatment in *Fl. Congo Belge* 2: 26 (1951). I am much indebted to A. W. Kloos of Utrecht, who has identified most of the specimens of this genus at Kew.—R.W.J.K.

3. DIGERA

Forsk.—F.T.A. 6, 1: 29.

- 1 Much-branched herb; stem and leaves sparingly pilose with weak hairs, or nearly glabrous; leaves lanceolate or ovate, cuneate at base, 4–7 cm. long, 1–3.5 cm. broad, petiole 1–2.5 cm. long; spikes axillary, 2.5–10 cm. long, on peduncles 2.5–8 cm. long; flowers crowded, each fertile flower accompanied by two sterile scale-like flowers; perianth-segments elliptic, 4–5 mm. long [alternifolia](#)

Digera alternifolia (Linn.) Asch. in Schweint. Beitr. Fl. Aeth. 180 (1867); Schinz in E. & P. Pflanzenfam. 16C: 41 (1933).

APD: *Synonym of Digera muricata (L.) Mart. subsp. muricata*

APD: *Synonym of Pupalia micrantha Hauman*

Achyranthes alternifolia Linn. (1767).

Digera arvensis Forsk.—F.T.A. 6, 1: 29.

Straggling herb, 1–5 ft. high; flowers pale green; **a weed.**

S. Nig.: Awba Hills F.R. (Oct.) Jones FHI 7077!

Widespread in central and east Africa, and in **Arabia**, **Madagascar** and **Asia**.

4. AERVA

Forsk.—F.T.A. 6, 1: 37. *APD acc*

- 1 Inflorescence a terminal panicle of dense leafless long cylindrical spikes; stems densely covered with stellate hairs; leaves lanceolate, 2–7 cm. long, 1–2 cm. broad, sometimes almost linear, lanate beneath [1. javanica](#)
- Inflorescence short and small, mostly axillary; stem and leaves with simple hairs, or glabrescent; leaves ovate-elliptic, 1.5–5 cm. long, 1–3 cm. broad [2. lanata](#)

1. **Aerva javanica** (Burm. f.) Juss. ex Schult. Syst. Veg. 5: 565 (1819); Chev. Bot. 529. *APD acc*

Iresine javanica and *I. persica* Burm. f. (1768).

Aerva persica (Burm. f.) Merrill (1921).

Aerva tomentosa Forsk. (1775)—F.T.A. 6, 1: 37; F.W.T.A., ed. 1, 1: 125.

Erect or suberect undershrub, hoary-white, 2–4 ft. high; [in arid localities](#).

Sen.: Richard Tol (Feb.) Döllinger 11! **Fr. Sud.:** El Oualadji (July) Chev. 1174! Timbuktu (June, July) Chev. 1286! Hagerup 101! 236! Agadem (Dec.) E. Vogel! **Fr. Nig.:** Niamey (Oct.) Hagerup 541a! **S. Nig.:** Sokoto (Feb., Nov.) Lely 838! Katagum (July) Dalz. 151! Maiduguri (July) Ujor FHI 23902! Kukawa E. Vogel 15! L. Chad (Jan.) Daggash FHI 24964!

Extends from Mauritania through Africa to [Arabia](#) and India. Absent from Java.

2. *Aerva lanata* (Linn.) Juss. ex Schult.—F.T.A. 6, 1: 39; Chev. Bot. 530. *APD acc*

Achyranthes lanata Linn. (1753).

Straggling herb, to 3 ft. high, flowers white; [in moister localities than the above](#).

S. L.: Talla (Feb.) Sc. Elliot 4865! Binkolo (Aug.) Thomas 1830! **Lib.:** Peahtah (Oct.) Linder 1094! **Iv. C.:** fide Chev. l.c. **G. C.:** Kumasi (Jan., Feb.) Darko 525! Krobo (Dec.) Johnson 518! Asuansi (Mar.) Irvine 1575! **Togo:** Lome Warnecke 14! **S. Nig.:** Lagos (Mar.) Dennett 482! Millen 165! Ibadan (June) Jones FHI 4355! Oban Talbot!

Widespread in tropical Africa and Asia including Malaysia.

5. NOTHOSAERVA

Wight-Schinz in E. & P. Pflanzenfam. 16C: 52 (1934).

- 1 Annual herb; stem glabrous; leaves opposite or alternate, elliptic or oblong-lanceolate, 2–5 cm. long, 0.5–2 cm. broad, thin and glabrous; spikes very numerous, axillary, often in clusters, 5–15 mm. long and scarcely 2 mm. broad; perianth-segments about 1.25 mm. long, villous outside [brachiata](#)

Nothosaerva brachiata (Linn.) Wight Icon. 6: 1 (1853); Schinz in E. & P. Pflanzenfam. 16C: 52 (1934). *APD acc*

Achyranthes brachiata Linn. (1767).

Aerva brachiata (Linn.) Mart.—F.T.A. 6, 1: 40; F.W.T.A., ed, 1, 1: 125.

Erect or straggling, branched herb, to 2 ft. high; flowers white.

Sen.: Heudelot 239! **N. Nig.:** Kukawa (Jan.) E. Vogel 7!

Also in [Ubangi-Shari-Chad](#), [A.–E. Sudan](#), [Angola](#), [Mascarene Islands](#) and [India](#).

6. CYATHULA

Blume—F.T.A. 6, 1: 42.

- 1 Sterile flowers with long hooked spines: 2
Sterile flowers without hooked spines; flowers in dense cylindrical spikes; cymules composed of one fertile flower with densely villous perianth-segments, and 2–6 short densely villous sterile flowers; leaves subsessile, elliptic, rounded at base, obtuse at apex, about 5 cm. long and 2.5 cm. broad; densely villous on both surfaces [6. pobeguinii](#)
- 2 Flowers in slender, elongated, spike-like racemes, up to 6 mm. broad, usually interrupted towards the base; perianth-segments less than 4 mm. long: 3
Flowers in dense cylindrical spikes, 1.2–2 cm. broad; or in globose heads 2–3 cm. diam.; perianth-segments 5–6 mm. long: 5
- 3 Cymules (flower-clusters) subglobose or ovoid, with 2–3 fertile flowers; perianth-segments 2–3 mm. long; bracts long-acuminate; leaves elliptic or rhomboid, shortly cuneate at base: 4
Cymules ovoid-lanceolate, with one fertile flower; perianth-segments 4 mm. long; bracts acute; leaves elliptic or obovate, long-cuneate at base, 3–18 cm. long, 1.5–9 cm. broad [3. achyranthoides](#)
- 4 Cymules subsessile or with pedicels up to 1 mm. long; fruiting cymules deflexed and touching the rhachis, hooked-spines narrowly radiating fan-wise; much-branched more or less erect herbs, with relatively stout stem up to 3 mm. diam.; stem and leaves rather densely pilose with long, weak hairs; leaves 2–8 cm. long, 1.5–4 cm. broad [1. prostrata](#)

Cymules with pedicels 1–2 mm. long; fruiting cymules patent, not touching the rhachis, hooked spines widely radiating; slender herb with prostrate stem scarcely more than 1 mm. diam., rooting at the nodes, and with sparingly branched erect shoots; stem and leaves sparingly and shortly pilose; leaves 2–5 cm. long, 1–3 cm. broad [2. *pedicellata*](#)

- 5 Flowers in cylindrical spikes up to 18 cm. long; bracts broadly ovate, about 6 mm. long and 4 mm. broad, shining, persistent; stems with long reflexed hairs; leaves elliptic to ovate-elliptic, acute, 5–7 cm. long, 2.5–3.5 cm. broad, pilose [4. *cylindrica* var. *mannii*](#)

Flowers in globose heads, 2–3 cm. diam.; bracts lanceolate, 5–6 mm. long and 1.5 mm. broad; stems pilose, densely so when young, with weak spreading hairs; leaves ovate to elliptic, acute, 5–10 cm. long, 2.5–7 cm. broad, densely appressed pilose [5. *uncinulata*](#)

1. *Cyathula prostrata* (Linn.) Blume—F.T.A. 6, 1: 43; Chev. Bot. 529. *APD acc*

Achyranthes prostrata Linn. (1762).

Pupalia atropurpurea of Chev. Bot. 529, not of Moq. (fide Hutch. & Dalz.).

More or less erect, much-branched weed, 1–3 ft. high; leaves green, sometimes tinged with red; flowers green, often galled; [in waste places and forest margins](#).

Gam.: Genieri (Feb.) Fox 90! **Fr. Sud.:** Timbuktu (July) Chev. 1300! **Fr. G.:** fide Chev. l.c. **S. L.:** Sherbro Sc. Elliot 5844! Njala (Sept.) Deighton 2108! Musaia (Apr.) Deighton 5458! **Lib.:** Kakatown Whyte! Monrovia (Oct., Nov.) Cooper 3! 25! **Iv. C.:** fide Chev. l.c. **G. C.:** Kumasi Cummins 123! Oda, C. P. (Aug.) Howes 965! Asuansi (Feb.) Williams 22! **Togo:** Lome Warnecke 180! **N. Nig.:** Lokoja (Oct.) Dalz. 202! Bauchi Plateau (Sept.) Lely P. 745! Abinsi Dalz. 789! **S. Nig.:** Lagos (May) Dalz. 1251! Sapoba Kennedy 2708! Enugu (Feb.) Jones FHI 656! Oban Talbot! **Br. Cam.:** Likomba (Dec.) Mildbr. 10789! **F. Po.:** (Oct.–Nov.) T. Vogel 33! Mann 39!

Widespread in tropical Africa and Asia, and in [Australia](#) and [central America](#).

2. *Cyathula pedicellata* C. B. Clarke in F.T.A. 6, 1: 46 (1909).

APD: *Synonym of Cyathula prostrata* var. *pedicellata* (C.B. Clarke) Cavaco

Cyathula prostrata of F.W.T.A., ed. 1, 1: 127, partly.

Cyathula prostrata forma *pedicellata* (C.B.Cl.) Hauman in Fl. Congo Belge 2: 64.

Slender forest herb with prostrate stems rooting at nodes. erect shoots to 1 ft. high; leaves deep green above purple beneath; flowers and fruits greenish-red, often galled; [in closed forest](#).

S. L.: Lalahun, Gaura (Dec.) King 107b! **G. C.:** Begoro Dist. (Mar.) Irvine 1817! Manso, Akim (Dec.) Irvine 2097! **S. Nig.:** Okomu F.R. (Jan.) Brenan 8850! **F. Po.:** Mt. Balea (Dec.) Guinea 493!

Also in [Belgian Congo](#), [Uganda](#) and [Tanganyika](#).

3. *Cyathula achyranthoides* (H. B. & K.) Moq. in DC. Prod. 13, 2: 326 (1849); Chev. Bot. 529. *APD acc*

Desmochaeta achyranthoides H. B. & K. (1818).

Cyathula geminata (Thonn.) Moq.—F.T.A. 6, 1: 44.

Robust, much-branched herb, to 3 or 6 ft. high; leaves and flowers green; [in forests, swamps and waste places](#).

Fr. Sud.: fide Chev. l.c. **S. L.:** Mamaka (Nov.) Thomas 4537! Batkanu (Jan.) Deighton 2847! **Iv. C.:** fide Chev. l.c. **G. C.:** Nsawam (Aug.) Deighton 3394! **N. Nig.:** Lokoja Barter! **S. Nig.:** Akilla (Feb.) W. D. MacGregor 499! Okomu F.R. (Jan.) Brenan 8851! **F. Po.:** (Nov.) T. Vogel 253!

Also in [Belgian Congo](#) and [Uganda](#), and in [central tropical America](#) and [south tropical America](#).

4. *Cyathula cylindrica* var. *mannii* (Bak.) Suesseng. in Mitt. Bot. Staats. Münch. 6: 188 (1953).

APD: *Synonym of Cyathula cylindrica* Moq. var. *cylindrica*

Cyathula mannii Bak.—F.T.A. 6, 1: 46; F.W.T.A., ed. 1, 1: 127.

Scandent herb, stems to 10 ft. long; calyx green, corolla white.

Br. Cam.: Cam. Mt., 5,000–7,000 ft. (Dec., Jan.) Mann 2007! Dunlap 34! Mildbr. 10812! Maitland 261! **F. Po.:** 10,000 ft. Mann 296!

The species is widespread in east, central and south Africa and in [Madagascar](#).

5. *Cyathula uncinulata* (Schrad.) Schinz in De Wild. Pl. Bequaert. 5: 386 (1932). *APD acc*

Achyranthes uncinulata Schrad. (1833).

Cyathula globulifera Moq.—F.T.A. 6, 1: 44.

Climbing herb; stems to 16 ft. high; flowers pale greenish-yellow.

Br. Cam.: Bamenda, 4,800 ft. (Feb.) Migeod 477!

Widespread in east, central and south tropical Africa, and in [Madagascar](#).

6. *Cyathula pobeguinii* Jac.-Fel. in Bull. Soc. Bot. Fr. 96: 196 (1949). *APD acc*

Hairy undershrub, branches decumbent below, erect above.

Fr. G.: Dabola Pobéguin 987. Mali, 4,500 ft. Jac.-Fel. 2017.

***Cyathula fernando-poensis* Suesseng. & Friedrich** in Mitt. Bot. Staats. Münch. 6: 188 (1953). *APD acc*

F. Po: El Pico, 7,000 ft. (Dec.) Boughey 123; 124.

Since going to press this new species has been described.

7. PUPALIA

Juss.—F.T.A. 6, 1: 47.

- 1** A herb; branches very shortly and softly pubescent; leaves ovate, petiolate, abruptly cuneate at base, acute at apex, about 4–6 cm. long and 2–3.5 cm. broad, velvety-pubescent when young; lateral nerves distinct; inflorescence pedunculate, usually interrupted, especially in fruit; partial inflorescence sessile, armed with strong hooks [lappacea](#)

***Pupalia lappacea* (Linn.) Juss.**—F.T.A. 6, 1: 47; Chev. Bot. 529. *APD acc*

Achyranthes lappacea Linn. (1753).

A weed, 2–4 ft. high, sometimes woody below, with greenish flowers, yellow or red stamens, and burr fruits.

Sen.: Heudelot 486! Roger 78! **Gam.:** Ingram! **Fr. Sud.:** Bamba (Sept.) Hagerup 323! **S. L.:** (Mar.) Deighton 553! **G. C.:** Cape Coast Castle (July) T. Vogel 26! Dunquah Cummins 19! **Dah.:** Cotonou (Apr.) Debeaux 162! **N. Nig.:** Sokoto (Oct.) Moiser 124! Katagum Dalz. 153! Kukawa (Feb.) E. Vogel 61! **S. Nig.:** Olokemeji Foster 300! Igbatoro, Owo (May) Jones FHI 3588! Aboh Barter 474!

Widespread in Africa, Madagascar and [Arabia](#), extending through tropical Asia to New Guinea.

8. SERICOSTACHYS

Gilg & Lopr.—F.T.A. 6, 1: 70.

- 1** Liane, or climbing herb; stem and leaves glabrous or sparingly pubescent; leaves elliptic or obovate, cuneate at base, long-acuminate, 6–10 cm. long, 3–6 cm. broad, petiole 1–2 cm. long; flowers in large terminal panicle with tomentose rhachis; each cluster with one fertile and 2–3 sterile flowers, the latter developing feathery white filaments, about 2 cm. long when plant is in fruit; perianth-segments 4–5 mm. long [scandens](#)

***Sericostachys scandens* Gilg & Lopr.**—F.T.A. 6, 1: 71. *APD acc*

Forest liane, very striking in fruit with its large feathery white panicles.

S. Nig.: Sapoba (fr. Mar.) Jones FHI 7444! **Br. Cam.:** Buea Collier FHI 1757! **F. Po:** Musola (Jan.) Guinea 1118!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**.

9. PANDIAKA

(*Moq.*) *Hook. f.*—F.T.A. 6, 1: 67; Suessenguth & Overknott in Bot. Archiv. 41: 80 (1940).

- 1 Leaves lanceolate or ovate-lanceolate, sessile, subacute, up to 7 cm. long and 3 cm. broad; whole plant long-pilose; flower heads subtended by foliaceous, ovate bracts, about 1 cm. long [1. *involucrata*](#)
 Leaves linear, subsessile acute, up to 8 cm. long and 8 mm. broad; whole plant sparingly pubescent; flower heads subtended by linear, leaf-like bracts, up to 5 cm. long [2. *heudelotii*](#)

1. **Pandiaka involucrata** (*Moq.*) *Hook. f.*—F.T.A. 6, 1: 67; Suesseng. & Overknott in Bot. Archiv. 41: 80 (1940), incl. var. *megastachya* Suesseng. *APD acc*

Achyranthes involucrata *Moq.* in DC. Prod. 13, 2: 310 (1849).

A hairy, erect, branched herb, 2–4 ft. high; flower heads white; in savannah, especially dry hills and rocky places.

Gam.: (July) Brooks 17! **G. C.:** Dukwesein, Ashanti (Dec.) Chipp 609! Sekodumasi (Oct.) Vigne 3408! **Togo:** Kpedsu (Dec.) Howes 1032! **Dah.:** Burton! **Fr. Nig.:** Niamey (Oct.) Hagerup 497! **N. Nig.:** Pandiaki (Sept.) Ansell! Nupe Barter 944! Bauchi Plateau (May–Sept.) Lely 239! 581! P. 389! And many other localities. **S. Nig.:** Lagos Rowland! beokuta Irving! Opi, Nsukka (Aug.) Jones FHI 5868!

Also in **French Camerouns** and **Ubangi-Shari-Chad**.

2. **Pandiaka heudelotii** (*Moq.*) *Hook. f.*—F.T.A. 6, 1: 58; Suesseng. & Overknott l.c. 81, incl. var. *spicata* and var. *subglobosa* Suesseng.

APD: *Synonym of Pandiaka angustifolia (Vahl) Hepper*

Achyranthes heudelotii *Moq.*; Chev. Bot. 530.

Achyranthes angustifolia *Benth.*, not of Vahl; Chev. Bot. 530.

Achyranthes benthami *Lopr.*

Pandiaka benthami (*Lopr.*) *Schinz*; Suesseng. & Overknott l.c.

A long-branched herb, 2–3 ft. high; tips of calyx and bracteole often reddish.

Sen.: Bakel Heudelot 280. **Gam.:** Hayes 585! **Fr. Sud.:** Amango (Sept.) Hagerup 385! **Fr. G.:** Scaetta 3143! **S. L.:** Makunde (Apr.) Sc. Elliot 5699! Rowala (July) Thomas 1077! **G. C.:** Accra Brown 390! Irvine 542! **Togo:** Lome Warnecke 182! **N. Nig.:** R. Niger T. Vogel 98! Nupe Barter 1724! Bauchi Plateau (Aug.) Lely 557! P. 641! Katagum Dalz. 154! **S. Nig.:** Aguku Thomas 624! Jesse (Sept.) Butler-Cole 7!

Also in **Ubangi-Shari-Chad**, **Congo**, **Angola** and **A.–E. Sudan**.

10. ACHYRANTHES

Linn.—F.T.A. 6, 1: 62. *APD acc*

- 1 Perennial herb with short woody stems; stem and leaves shortly and sparingly pubescent; leaves linear to lanceolate, 3–8 cm. long, 5–12 mm. broad; spikes slender, up to 15 cm. long; flowers about 4 mm. long, becoming well separated from each other towards base of spike in fruit [1. *talbotii*](#)

Annual herbs or perennials with well-branched woody stems; leaves ovate-lanceolate, ovate or broadly elliptic: 2

- 2 Leaves broadly elliptic, 8–26 cm. long, 3–10 cm. broad, sparingly pubescent or glabrescent; bracts as long or nearly as long as the perianth; basal wings of bracteole inserted on the thick base of the spine, otherwise free from it; spike remaining rather dense towards the base [2. *bidentata*](#)

Leaves more or less ovate or ovate-lanceolate, generally not exceeding 10 cm. long and 5 cm. broad, long silky pilose to almost glabrous; bracts 1/2–2/3 as long as the perianth; basal wings of bracteoles adnate throughout their length to the spine; spike elongating and leaving the flowers well separated towards the base ... [3. *aspera*](#)

1. **Achyranthes talbotii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 127 (1927); Kew Bull. 1928: 29. *APD acc*

Perennial herb with short woody stems to 18 in. high, on rocks by streams; flowers green with crimson stamens. Keay FHI 28264 has lanceolate leaves 2·5–4 cm. long, 10–12 mm. broad, obtuse at apex, and is the type of var. *ogojensis* Suesseng. in Mitt. Bot. Staats. Münch. 4: 102 (1952).

S. Nig.: Oban Talbot! British Obokum (Dec.) Keay FHI 28264! **Br. Cam.:** R., Joke (Mar.) Brenan 9497!

2. *Achyranthes bidentata* Blume—F.T.A. 6, 1: 64. *APD acc*

APD: *Synonym of Achyranthes aspera var. pubescens (Moq.) C. C. Towns.*

An erect **forest** herb, 2–4 ft. high; leaves comparatively large, turning black-green on drying; flowers glistening green.

S. Nig.: Idanre Hills (Jan.) Brenan 8726! Oban Talbot! **Br. Cam.:** Johann-Albrechtshöhe Staudt 546! **F. Po:** Mann!

Widespread in the wetter parts of tropical Africa and Asia.

3. *Achyranthes aspera* Linn.—F.T.A. 6, 1: 63. *APD acc*

A common weed of waste places, very variable; much-branched, 1–6 ft. high, sometimes subscandent, sometimes woody; flowers green or pinkish.

Sen.: Sieber 57! Brunner 3! **Fr. Sud.:** Timbuktu Hagerup 284! **S. L.:** Njala (Dec.) Deighton 2584! Hangha (Jan.) Thomas 7781! Musaia (Feb.) Deighton 4202! **G. C.:** Abetifi, Kwahu (Jan.) Irvine 1670! Kumasi Cummins 175! **N. Nig.:** Sokoto (Nov.) Moiser 14! Bauchi Plateau (Sept.) Lely P. 742! **S. Nig.:** Lagos Millen 101! Aguku Thomas 1383! **Br. Cam.:** Cam. Mt., 4,000–9,000 ft. (Jan., Apr., Dec.) Mann 1307! 1977! Bambui, Bamenda (Jan.) Keay FHI 28335! Ndu, Bamenda (Jan.) Keay FHI 28439!

Throughout-the hotter parts of the world.

Achyranthes nodosa Vahl—F.T.A. 6, 1: 65.

We have not seen a specimen of this, which was collected by Isert at Whydah in Dahomey. It was supposed by Bentham to be a species of *Pandiaka*. Imperfectly known species.

11. CENTROSTACHYS

Wall.—Schinz in E. & P. Pflanzenfam. 16C: 62 (1934).

- 1 Aquatic herb, with stout, conspicuously grooved, floating stems; leaves lanceolate to ovate, cuneate at base, acute at apex, 7–18 cm. long, 2–6 cm. broad, pilose beneath with appressed white hairs when young; spikes 10–30 cm. long, flowers not very acutely reflexed in fruit; bracts and bracteoles ovate-orbicular, 3–4 mm. long; perianth-segments unequal, 5–8 mm. long, the outer longest one terminating in a firm, slightly recurved, subulate tip [aquatica](#)

Centrostachys aquatica (R. Br.) Wall.—Schinz in E. & P. Pflanzenfam. 16C: 62 (1934). *APD acc*

Achyranthes aquatica R. Br.—F.T.A. 6, 1: 64; F.W.T.A., ed. 1, 1: 127; Chev. Bot. 530.

Stout herb in marshy places; stems up to 6 ft. long, rooting at the lower nodes.

Sen.: Kaédi (Dec.) Chev. 3446. **N. Nig.:** Katagum (Oct.) Dalz. 152!

Widespread in tropical Africa and Asia.

12. PHILOXERUS

R. Br.—F.T.A. 6, 1: 74.

- 1 A decumbent, glabrous, rather succulent herb; leaves linear, slightly broader towards the apex, abruptly acute, amplexicaul at the base, up to 5 cm. long and 0·5 cm. broad, fleshy; spikes sessile, ovoid to cylindrical, up to 2·5 cm. long, sometimes clustered; bracts white, ovate-acute, about 3 mm. long, 1-nerved [vermicularis](#)

Philoxerus vermicularis (Linn.) P. Beauv. Fl. Oware 2: 65, t. 98 (1818); Milne-Redhead in Kew Bull. 1948: 452.

APD: Synonym of Blutaparon vermiculare (L.) Mears var. *vermiculare*

Gomphrena vermicularis Linn. (1753).

Philoxerus vermiculatus Sm.—F.T.A. 6, 1: 75.

Iresine vermicularis (Linn.) Moq.-Chev. Bot. 531.

Decumbent herb with woody root; flowers silvery-white; a coastal sand-binder.

Sen.: Perrottet 482! Richard Tol (May) Döllinger 59! Dakar (Jan.–May) Hagerup 779! Baldwin 5746! Niayes (Dec.) Chev. 3448! **Gam.:** Genieri (Feb.) Fox 67! **Fr. G.:** Conakry Rattray! **S. L.:** Kalangba, Little Scarcies (Apr.) Glanville. 257! Aberdeen (July) Small 119! Turtle Isl. (Nov.) Deighton 2396! **Iv. C.:** fide Chev. l.c. **G. C.:** Sekondi (Dec.) Johnson 977! Accra (Jan., May, Nov.) Brown 376! Irvine 1963! **Togo:** Lome Warnecke 50! **S. Nig.:** Lagos (Apr.) Dalz. 1359! Brass Barter 1874! Nun R. (Aug.) T. Vogel 59! **Br. Cam.:** Amba Bay (Apr.) Hutch. & Metcalfe 136!

Coasts of W. Africa from Senegal to **Angola**, and on eastern coasts of central America.

13. GOMPHRENA

Linn.—F.T.A. 6, 1: 75.

- 1 A hairy annual up to 1 m. high; stems and branches contracted at the nodes; leaves obovate-oblongate, shortly petiolate, very acute, about 5–8 cm. long and up to 3 cm. broad, pilose with long weak hairs; spikes subglobose or rarely shortly cylindrical, up to 4.5 cm. long and 2 cm. broad, with an involucre of 2–3 foliaceous leaves, the bracts and flowers persisting, pink or yellow, the former with slightly toothed margins [globosa](#)

Gomphrena globosa Linn.—F.T.A. 6, 1: 75. *APD acc*

A native of S. America, cultivated as an ornamental, also subsontaneous.

S. L.: Njala (Feb.) Deighton 1875! **N. Nig.:** Sokoto (Nov.) Moiser 31! **S. Nig.:** Brass Barter 116! Old Calabar (Apr.) Holland 121! Oban Talbot 662!

Widespread in the tropics.

G. celosioides Mart., also a native of S. America, is common as a weed in eastern Africa as far west as Katanga; it is not yet recorded from our area. See Milne-Redhead in Kew Bull. 1944: 23 (1947).

14. ALTERNANTHERA

Forsk.—F.T.A. 6, 1: 72. *APD acc*

Telanthera R. Br.—F.T.A. 6, 1: 72.

- 1 Plant maritime with fleshy stem and leaves; stems rooting at nodes; leaves oblanceolate to obovate, mucronate, narrowed to base, 3–5 cm. long, 1.5–3 cm. broad; flower-clusters axillary, ovoid, up to 1.5 cm. long; perianth-segments unequal, the two outer longer segments about 6 mm. long, strongly 3-nerved; stamens 5, longer than the gynaecium; anthers linear; fruit not, or only slightly, flattened [1. maritima](#)
Plant not maritime, stem and leaves not fleshy; stamens 3, not longer than the gynaecium; anthers ovate; fruit flattened and winged: [2](#)
- 2 Perianth-segments ending in a hard, sharp spine; segments unequal, the two outer larger ones about 5 mm. long, 3-nerved; leaves obovate or rounded-obovate, mucronate, entire, 2–4 cm. long, 1–2 cm. broad, pustulate and sparingly pubescent on the nerves [2. repens](#)
Perianth-segments acute but not ending in a hard spine; segments equal: [3](#)
- 3 Perianth-segments 4 mm. long, very acute, completely hiding the mature fruit; leaves linear-lanceolate, acute or subacute, obscurely undulate, up to 7 cm. long and 1 cm. broad, glabrous or nearly so [3. nodiflora](#)
Perianth-segments 2–2.5 mm. long, not very acute, not hiding the mature fruit; leaves oblanceolate or elliptic, up to 8 cm. long and 2 cm. broad, but often much smaller, glabrous or nearly so and often pustulate [4. sessilis](#)

1. **Alternanthera maritima** (Mart.) St.-Hil.—Schinz in E. & P. Pflanzentam. 16C: 74 (1934); Chev. Bot.

530.

*APD: Synonym of Alternanthera littoralis var. maritima (Mart.) Pedersen**Bucholzia maritima* Mart. (1826).*Telanthera maritima* (Mart.) Moq.—F.T.A. 6, 1: 72; F.W.T.A., ed. 1, 1: 128.

Coastal plant, with long creeping stems, up to 20 ft. long; flowers silvery-white on erect shoots.

Sen.: Döllinger 51! Dakar (Jan.) Chev. 3449! **Gam.:** Hayes 504! **S. L.:** Turtle Isl. (Nov.) Deighton 2344! Mano Salija (Nov.) Deighton 276! **Lib.:** Grand Bassa (July) T. Vogel 4! **Iv. C.:** fide Chev. l.c. **G. C.:** Burton! Labadi beach, Accra (Jan.) Irvine 1951! **S. Nig.:** Lagos Moloney! Nun R. (Sept.) T. Vogel 20! Mann 472! Eket Talbot 3095!West coast of Africa from Senegal to **Angola**, and on eastern coast of S. America.**2. Alternanthera repens (Linn.) Link.** Enum. Pl. Berol. 1: 154 (1821); Schinz l.c. 73.*APD: Synonym of Alternanthera pungens Kunth**APD: Synonym of Alternanthera sessilis (L.) R. Br. ex DC.**Achyranthes repens* Linn. (1753).*Alternanthera echinata* Sm.—F.T.A. 6, 1: 74; Chev. Bot. 530.Creeping herb, with white flowers; **a common weed on dry ground.****Sen.:** & **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Kouroussa (June) Pobéguin 296! **G. C.:** Cape Coast Castle (July) T. Vogel 37! Accra (Mar.) Deighton 585! Aburi Brown 470! Mampon Rattray 21! **Togo:** Lome Warnecke 279! **Dah.:** Le Testu 193! **N. Nig.:** Nupe Barter 852! 1708! Sokoto Lely 143! Kano (Nov.) Hagerup 621! **S. Nig.:** between Ibadan and Abeokuta (Mar.) Schlechter 13033! Shasha F.R. (May) Tamajong FHI 16937!Widespread in Africa, extending to S.W. Asia; and in **central America**.**3. Alternanthera nodiflora R. Br.**—F.T.A. 6, 1: 73. *APD acc**Alternanthera sessilis var. nodiflora (R. Br.) O. Ktze.*—Chev. Bot. 531.

Decumbent herb, often with woody rootstock; flowers white.

Sen.: Heudelot 130! Dakar (May) Baldwin 5716! **Gam.:** Genieri (Feb.) Fox 89! **Fr. Sud.:** Bellamy! **Fr. G.:** fide Chev. l.c. **N. Nig.:** Sokoto (Dec.) Moiser 253! Kano (Dec.) Hagerup 665! Nguru (June) Onochie FHI 23342! R. Benue (Sept.) Talbot!Widespread in tropical Africa; also in **India**, **Malaya** and **Australia**.**4. Alternanthera sessilis (Linn.) R. Br. ex Roth**—Schinz l.c. 72; Chev. Bot. 531. *APD acc**Gomphrena sessilis* Linn. (1753).*Alternanthera achyranthoides* Forsk.—F.T.A. 6, 1: 73.

A common and variable weed with silvery-white flowers; prostrate and much-branched in dry situations, but with erect shoots to 18 in. high from a creeping and rooting stem in moist situations.

Sen.: Roger 19! Niayes (Dec.) Chev. 3451! **Gam.:** Kuntaur Ruxton 26! **Fr. Sud.:** Kabara (Sept.) Hagerup 298! Djenné (June) Chev. 1111! **Fr. G.:** fide Chev. l.c. **S. L.:** Njala (Sept.) Deighton 2077! Musaia (Mar.) Sc. Elliot 5103! Tambia (Dec.) Sc. Elliot 4204! Rokupr (Mar.) Deighton 5368! **Iv. C.:** fide Chev. l.c. **G. C.:** Aburi (June) Brown 316! Accra (Apr., July) Irvine 733! 1587! **Dah.:** Whydah Isert! **N. Nig.:** Bauchi Plateau (July, Aug.) Lely 29! P. 367! Keay FHI 12721! **S. Nig.:** R. Niger Barter 126! 872! Idanre (Jan.) Brenan 8721! 8745! Onitsha (May) Onochie FHI 7519! **Br. Cam.:** Buea (Oct.) Maitland 89! Bamenda (Feb.) Migeod 497! **F. Po.:** (Nov.) T. Vogel 204!

Widespread in the warmer parts of the world.

Alternanthera bettzickiana (Regel) Nicholson*Telanthera bettzickiana* Regel

Is commonly grown in gardens as an ornamental edging plant.

BASELLACEAE

Twining with slender stems and rather fleshy alternate entire petiolate leaves; stipules absent. Flowers hermaphrodite, actinomorphic, in spikes, racemes or panicles; bracts small; bracteoles 2, often united to the base of the calyx. Sepals 5, often coloured, almost free or united into a 5-lobed tube, imbricate, persistent in fruit. Petals absent. Stamens 5, inserted opposite and at the base of the sepals; filaments free, short; anthers with 2 parallel cells opening longitudinally. Ovary superior, 1-celled, with a solitary basal shortly stalked ovule; style terminal, often deeply divided into 3 stigmas. Fruit indehiscent, surrounded by the persistent often fleshy calyx. Seed solitary, almost spherical, with a membranous testa; endosperm copious, surrounded by the spirally twisted embryo.

A small family, mostly in tropical South America, the genus *Basella* African and Asiatic, and often cultivated.

BASELLA

Linn.—F.T.A. 6, 1: 94. *APD acc*

Leaves alternate, entire. Spikes simple or branched, slender; bracts small; bracteoles 2, united into a two-lipped cup adnate to the calyx. Flowers small, hermaphrodite; sepals 5, united into a fleshy tube, the lobes incurved over the fruit; stamens 5, inserted near the top of the calyx-tube; ovary ovoid.

- 1 Twiner, glabrous, with slender somewhat fleshy branches; leaves broadly ovate, petiolate, widely cordate at the base, usually acutely acuminate, up to 10 cm. long and 7 cm. broad, with 4–5 pairs of lateral nerves; spikes axillary, simple and slender or shorter and branched; bracts broadly ovate, submembranous, acute, about half the length of the flower; fruit enclosed by the persistent succulent calyx, broadly ovoid, almost 0.5 cm. long[alba](#)

***Basella alba* Linn.**—F.T.A. 6, 1: 94; Chev. Bot. 535. *APD acc*

***Basella rubra* Linn.**—Chev. Bot. 535.

A climber, cultivated in vegetable gardens; sometimes subsponaneous.

S. L.: Kukuna, Scarcies Sc. Elliot 4664! Masasa Glanville 45! **IV. C.:** Bouaké (July) Chev. 22126. **Togo:** Sokode Kersting A. 684! **Dah.:** Djougou (June) Chev. 23901. **S. Nig.:** Lagos Dalz. 1030! Ologbo, Benin Kennedy 2152! **Br. Cam.:** Cam. Mt., 1,000 ft. (Dec.) Mann 1250!

Also in other parts of **tropical Africa**, **Asia** and the **West Indies**.

GERANIACEAE

Annual herbs or undershrubs, rarely arborescent; leaves alternate or opposite, mostly lobate, dissected or compound; stipules often paired. Flowers often handsome, hermaphrodite, actinomorphic or slightly zygomorphic, axillary, solitary to subumbellate. Sepals persistent, 4–5, free or connate to the middle, imbricate or rarely valvate, the dorsal one sometimes spurred. Petals 5, rarely 4, very rarely absent, hypogynous or subperigynous, imbricate, rarely contorted. Stamens 2–3 times the number of the sepals, sometimes a few without anthers; filaments mostly more or less connate at the base; anthers 2-celled, opening lengthwise. Ovary 3–5-lobed; ovules 1–2 in each cell, superposed, pendulous, rarely more than 2. Fruit lobed; lobes 1-seeded, rarely more-seeded, often beaked, opening from the base upwards. Seeds pendulous, with thin or no (rarely copious) endosperm and mostly curved or folded embryo.

A cosmopolitan family, numerous in temperate and subtropical regions.

Leaves stipulate; petals mostly imbricate; fruits often with long beaks and deeply lobed at the base.

- 1 Stamens 15, united into 5 bundles; leaves (in our species) ovate or lanceolate, denticulate[1. Monsonia](#)
 Stamens 10, free or slightly connate at the base; leaves (in our species) digitately divided[2. Geranium](#)

1. MONSONIA

Linn.—F.T.A. 1: 289.

- 1 Flowers solitary; peduncle about 2 cm. long, with a pair of 1 cm. long subulate bracts subtending the 1–2 cm. long pedicel which becomes sharply bent in fruit; sepals abruptly caudate-acuminate, silky-pilose; fruits 7–9 cm. long; leaves ovate, 2–3 cm. long, 1.5–2 cm. broad, cordate at base, acute at apex, repand-denticulate, 7–9-nerved at base, slightly pubescent beneath on the nerves; petiole about 1½ times as long as lamina; stipules interpetiolar, subulate, about 8 mm. long [1. *senegalensis*](#)

Flowers 2–6, umbellate on a slender straight peduncle 7–10 cm. long, with several bracts about 3 mm. long subtending the pedicels which do not bend back in fruit; sepals mucronate, silky; fruits 4 cm. long; leaves ovate-lanceolate, about 1.7 cm. long and 1 cm. broad, rounded at base, subacute at apex, crenate with prominent lateral nerves, villous on both surfaces; petiole and stipules similar to above [2. *nivea*](#)

1. ***Monsonia senegalensis* Guill. & Par.**—F.T.A. 1: 290; R. Knuth in Engl. Pflanzenr. Geraniac. 301 (1912). *APD acc*

Herb of dry regions, woody at base; flowers pink.

Sen.: Perrottet 136! Richard Tol Leievre. **Fr. Nig.:** Amango (Sept.) Hagerup 381! **N. Nig.:** Katagum Dalz. 60!

Across to Abyssinia, **Egypt** and western India; also in **S.W. Africa**, **Ngamiland** and **Transvaal**.

2. ***Monsonia nivea* (Decne.) Decne. ex Webb** Fragm. Fl. Aethiop. 59 (1854); R. Knuth l.c. 293; Chev. Bot. 98. *APD acc*

***Erodium niveum* Decne.** (1835).

Hoary herb with long woody underground stem; flowers pink.

Fr. Sud.: Bilma (Feb.) Chev. 28642. Also in Mauritania, N. Africa, Egypt, Arabia and Palestine.

2. GERANIUM

Linn.—F.T.A. 1: 290.

- 1 Weak straggling perennial; stems densely pilose with simple hairs or glabrescent; pedicels 10–35 mm. long; petals uniformly pink or mauve; carpels smooth, when ripe ejecting the seed [1. *simense*](#)

More or less erect annual; stems rather densely pilose with both glandular and simple hairs; pedicels 2–20 mm. long; petals pink or mauve with a deep purplish basal area; carpels with transverse ridges, when ripe falling off with the seed enclosed [2. *ocellatum*](#)

1. ***Geranium simense* Hochst. ex A. Rich.**—F.T.A. 1: 291, incl. vars. *glabrior* Oliv. and *repens* Oliv.

APD: *Synonym of Geranium arabicum subsp. latistipulatum (Hochst. ex A. Rich.) Kokwaro*

A diffusely branched herb up to 8 ft. high with scrambling habit; leaves digitately divided to below the middle; petals pink or mauve.

S. Nig.: Sonkwala, 5,200 ft. (fr. Dec.) Keay & Savory FHI 25256! **Br. Cam.:** Cam. Mt., 5,000–9,000 ft. (fl. Nov.–Mar., fr. Jan.–Apr.) Mann 1323! 1966! Maitland 1234! Mildbr. 10873! Preuss 648! Brenan 9370! Bamenda, 5,500–8,000 ft. (fl. & fr. Jan.) Migeod 334! Keay FHI 28352! Nchan, Bamenda, 5,000 ft. (fl. & fr. May) Maitland 1730! **F. Po:** 8,500 ft. (fl. & fr. Dec.) Mann 619! Mioko (fl. & fr. Jan.) Guinea 1871!

Widespread on the mountains of tropical Africa and **Arabia**.

2. ***Geranium ocellatum* Cambess.**—R. Knuth in Engl. Pflanzenr. Geraniac. 62 (1912).

APD: *Synonym of Geranium mascatense Boiss.*

***Geranium favosum* var. *sublaeve* Oliv.** F.T.A. 1: 292.

***Geranium ocellatum* var. *camerunense* R. Knuth** l.c. 63.

***Geranium ocellatum* var. *sublaeve* (Oliv.) Milne-Redhead** in Kew Bull. 1948: 453.

***Geranium brevipes* Hutch. & Dalz.** F.W.T.A., ed. 1,1: 138; Kew Bull. 1928: 30.

A more or less erect annual up to 4 ft. high; leaves digitately divided below the middle; flowers pink or mauve with a darker centre.

Br. Cam.: Cam. Mt., 6,000–9,000 ft. (fl. & fr. Nov.–Mar.) Mann 1261! Maitland 811! Mildbr. 10872! Brenan 9554! Ndu, Bamenda, 6,400 ft. (fl. & fr. Jan.) Keay FHI 28437!

Widespread on the mountains of tropical Africa and eastwards to western Himalayas.

OXALIDACEAE

Herbaceous or suffrutescent, rarely arborescent. Leaves alternate, digitately or pinnately compound, sometimes simple by suppression of the leaflets; leaflets spirally coiled when young, usually closing at night; stipules absent. Flowers hermaphrodite, actinomorphic, sometimes of two kinds, some perfect and others minute and apetalous, solitary or subumbellate, rarely racemose or cymose. Calyx 5-fid or 5-partite, imbricate. Petals 5, shortly clawed, free or shortly connate at the base, contorted. Stamens 10, hypogynous, connate at the base, sometimes 5 of them without anthers; anthers 2-celled, opening lengthwise. Ovary 5-celled, superior; styles 5, free, persistent; stigmas capitate or shortly divided; ovules 1 or more, axile. Fruit mostly a capsule. Seeds often with an elastic epidermis; endosperm fleshy, copious; embryo straight.

A small family but rich in species, very numerous in the drier parts of South Africa.

Leaves sometimes sensitive; petals contorted; stamens double the number of the petals; styles free.

- 1 Leaves trifoliate; valves of the fruit persisting around the central axis; leaflets obcordate; leaves not sensitive to touch [1. *Oxalis*](#)
- Leaves pinnate; valves of the fruit finally spreading; leaflets not obcordate; leaves sensitive to touch [2. *Biophytum*](#)

Averrhoa carambola Linn.

5–10 leaflets, flowers on leafy shoots, fruit acutely angled, the Carambola is occasionally cultivated for its fruits.

A. bilimbi Linn.

10–20 or more leaflets, flowers on older wood, fruit obtusely angled, the Blimbing, is occasionally cultivated for its fruits.

1. OXALIS

Linn.—F.T.A. 1: 295.

- 1 Plant with well-developed prostrate or ascending stems; petiole 1–8 cm. long, leaflets deeply obcordate, 5–12 mm. long and broad; peduncles 1–7 cm. long, 1–5-flowered; sepals about 4 mm. long; corolla 8–10 mm. long, yellow; fruit tomentellous, 1.5–2 cm. long [1. *corniculata*](#)
- Plant acaulous, with the rootstock surrounded by brown bulbils about 4 mm. long; petiole 15–25 cm. long, leaflets broadly orbicular-obcordate, 1.5–4 cm. long and broad; peduncles 15–30 cm. long, 5–12-flowered; sepals 5–7 mm. long; corolla 12–25 mm. long, pink [2. *corymbosa*](#)

1. *Oxalis corniculata* Linn.—F.T.A. 1: 206; Chev. Bot. 98; R. Knuth in Engl. Pflanzenr. Oxalidac. 146 (1930). *APD acc*

A variable, diffuse, slender herb, with the leaves green or reddish-brown; flowers yellow; a weed of waste ground, common in most places, but rare in Sierra Leone (fide Deighton, 1941).

Fr. G.: Kissi (Feb.) Chev. 20762. **S. L.:** Hill Station (May) Deighton 3969! **Lib.:** Dinklage 2604. **Iv. C.:** between Tabou and Beriby (Aug.) Chev. 19979. **G. C.:** Kumasi (Jan.) Dalz. 63! Mampong Scarp (Apr.) Dalz. 53! Aburi (Mar.) Deighton 615! **Togo:** Büttner 98. **N. Nig.:** Bauchi Plateau (Apr., July) Lely 354! P. 250! **S. Nig.:** Sapoba Kennedy 2368! Oban Talbot 446! **Br. Cam.:** Cam. Mt., 3,000–7,600 ft. (all year) Mann 2020! Brenan 9376! Maitland 1012! Kumba (Mar.) Brenan 9460! Bamenda (Jan.) Migeod 292! **F. Po:** 8,500 ft. (Dec.) Mann 620!

Cosmopolitan.

2. *Oxalis corymbosa* DC. Prod. 1; 696 (1824).

APD: *Synonym of Oxalis debilis Kunth*

Oxalis martiana Zucc. in Denkschr. Akad. Muench. 9: 144 (1824; in the same work Zuccarini also cites *O. corymbosa* DC. with page reference); R. Knuth l.c. 250.

An ornamental plant, often cultivated, but naturalized around Aburi and Buea; flowers pink. Fruits apparently not produced; reproduction by bulbils.

G. C.: Aburi (Mar.) Deighton 614! Br. Cam.: Buea (Jan., Oct.) Deistel 150; Maitland 255! Dundas FHI 20353!

Native of America; introduced to many parts of the world.

2. BIOPHYTUM

DC.-R. Knuth in Engl. Pflanzenr. Oxalidac. 391–417 (1930); F.T.A. 1: 297, under *Oxalis* Linn.

- 1 Stem unbranched; median leaflets exceeding 5 mm. long:.....2
Stem branched (except in juvenile stage), woody, perennial; leaves 3–9 cm. long, with 7–20 pairs of leaflets; median leaflets oblong to suborbicular, rounded at apex, 2–4 mm. long, 2–3 mm. broad, margins ciliate, lateral nerves faint beneath; sepals 4–5 mm. long; peduncle 4–6 cm. long [4. zenkeri](#)
- 2 Sepals 2–2.5 mm. long; leaflets membranous, translucent, 6–11 pairs with the apical pair 10–14 mm. long, 5–6 mm. broad and considerably larger than the others, which decrease in size to the base; leaves 3–6 cm. long; peduncles 2–7 cm. long [1. abyssinicum](#)
Sepals 4–5 mm, long; leaflets subrigid and opaque:.....3
- 3 Annual; leaves 2–6 cm. long, with 3–8 pairs of leaflets; median leaflets rectangular-ovate, rounded at apex, 5–8 mm. long and 3–4 mm. broad; nerves prominent beneath, rhachis pubescent, leaflets glabrous or sparsely pubescent; peduncles up to 4 cm. long, or inflorescence sessile [2. petersianum](#)
Perennial; leaves 7–10 cm. long, with 10–20 pairs of leaflets; median leaflets obliquely rectangular, acute at apex, 8–10 mm. long, 2.5–3 mm. broad, basal leaflets smaller; lateral nerves numerous, closely parallel and rather prominent beneath, rhachis pubescent, leaflets glabrous; peduncles up to 1 cm. long, or inflorescence sessile [3. talbotii](#)

1. *Biophytum abyssinicum* Steud. ex A. Rich. Fl. Abyss. 1; 122 (1847); R. Knuth in Engl. Pflanzenr. Oxalidac. 395 (1930). APD acc

Oxalis abyssinicum (Steud. ex A. Rich.) Walp.—F.T.A. 1: 297.

Slender annual; corolla yellow at base, mauve at tips.

N. Nig.: Bauchi Plateau (July) Lely P. 545! Mandara Mts. (Aug., Dec.) E. Vogel 47! Royer 147!

Also in [Abyssinia](#), [E. Africa](#), [Nyasaland](#) and [Angola](#).

2. *Biophytum petersianum* Klotzsch in Peters Naturwiss. Reis. Mossamb. Bot. 81, t. 15 (1861).

APD: *Synonym of Biophytum umbraculum Welw.*

Oxalis apodoscias Turcz. (1863).

Biophytum apodoscias (Turcz.) Edgew. & Hook. f. (1874); F.W.T.A., ed. 1, 1: 140; Chev. Bot. 98.

Oxalis sessilis Buch.-Ham. ex Baill. (1886).

Biophytum sessile R. Knuth l.c. 406 (1930).

Oxalis sensitiva of F.T.A. 1: 297, partly, not of Linn.

Stems slender, short or up to 1 ft. high; leaves (as in other species) in a terminal crown, sensitive to weather and to touch; flowers yellow, orange or red. [A common weed](#).

Sen.: Bondou Heudelot 149! Fr. Sud.: Bamako (Jan.) Chev. 203! Fr. G.: Kouroussa (Aug.) Pobéguin 396! S. L.: Bumbuna (Oct.) Thomas 3833! Kambia (Dec.) Deighton 852! Makump, N.P. (Aug.) Deighton 1377! Iv. C.: fide Chev. l.c. G. C.: Kumawo, Ashanti (June) Chipp 466! Togo: fide Knuth l.c. N. Nig.: Nupe Barter 728! Naraguta (June) Lely 277! S. Nig.:

Lagos (Nov.) Dawodu 34! Millen 14! Abeokuta Irving! **Br. Cam.:** Cameroons R. (Jan.) Mann 936! Buea (Jan., Apr.) Maitland 1290!

Widespread in tropical and subtropical Africa and Asia, and in **New Guinea**.

3. **Biophytum talbotii** (*Bak. f.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 140 (1927); Knuth l.c. 406 (1930). *APD acc*

Oxalis talbotii *Bak. f.* in Cat. Talb. 16 (1913).

Biophytum kamerunense *Engl. & Knuth ex Engl.* Pflanzenw. Afr. 3, 1: 717 (1915), in obs.

Perennial herb with woody stem, up to 1 ft. high; flowers pink; on earthbanks of shaded forest streams.

Lib.: Peterstown (Nov.) Bunting 103! Grand Bassa Dinklage 1611. **S. Nig.:** Calabar Thomson 24! Oban Talbot 1409! Afi River F.R. (May, Dec.) Jones FHI 18930! Keay FHI 28192!

Also in **French Cameroons**.

4. **Biophytum zenkeri** *Guillaumin* in Notulae Syst. 1: 26 (1906); Knuth l.c. 408. *APD acc*

Perennial with stout woody stems, to 1 ft. high, becoming well-branched; flowers yellow; in rock crevices in river beds in forest.

S. Nig.: Oban Talbot 429! Kwa Falls, Calabar (Mar.) Brenan 9240! **Br. Cam.:** Rio del Rey Johnston! R. Ndian (Apr.) Dunlap!

Also in **French Cameroons, Gabon, Congo** and **Angola**.

R. Knuth l.c. 393, gives the following record for *B. sensitivum* (Linn.) DC.: "Sierra Leone: Felsen des Morro do Bango, Buchner 561." This specimen evidently came from Angola and not from Sierra Leone, and the species is not otherwise recorded from our area. It is widespread in east and south tropical Africa and in Asia.

BALSAMINACEAE

Succulent herbs; leaves alternate or opposite, simple, penninerved; stipules absent. Flowers zygomorphic, hermaphrodite, brightly coloured, solitary to subumbellate. Sepals 3, rarely 5, coloured, imbricate, unequal, the lowermost hollowed out into a spur. Petals 3, the upper one outside, usually erect, concave, the lateral ones often 2-lobed. Stamens 5; filaments short and broad; anthers 2-celled, connate around the ovary. Ovary superior, 5-celled, with axile placentas; stigmas 1–5, more or less sessile; ovules numerous. Fruit a succulent capsule, opening elastically into 5 twisted valves. Seeds without endosperm and with straight embryo.

Mostly Asiatic, several in Africa, a few in Europe and North America.

Recognized by the zygomorphic brightly coloured flowers with spurred lower sepal and connate anthers.

IMPATIENS

Linn.—F.T.A. 1: 298; Warburg in Engl. Bot. Jahrb. 22: 46–53 (1895); Gilg in Engl. Bot. Jahrb. 43: 97–128 (1909).

- 1 Flowers on simple pedicels in the axils of the leaves, sometimes two together:2
Flowers subumbellate, or racemose, on a common peduncle:..... 11
- 2 Lip broadly saccate, abruptly narrowed into the spur which is bent back on to the lip:3
Lip gradually tapered into the straight or curved spur; spur not bent back on to the lip, but sometimes very shortly reflexed at the tip:.....4
- 3 Lip broadly tubular-campanulate, about 3 cm. long (from receptacle to mouth of spur); spur reflexed, about 1.5 cm. long, straight; lateral sepals lanceolate, entire; pedicels about 4 cm. long; leaves alternate, elliptic-lanceolate, acute at each end, long-petiolate, 10–15 cm. long, 3–5 cm. broad, glabrous or pubescent, crenate, teeth with subulate points almost in the crenatures, becoming larger towards the base and on the petiole[L. niamniamensis](#)
Lip obliquely campanulate, triangular when pressed, 1–1.5 cm. long (from receptacle to mouth of spur) and 2–

- 2.5 cm. broad; spur 8–12 mm. long; wings 3–4 cm. long; lateral sepals ovate, each with denticulations and a pair of appendages; leaves alternate or subopposite, ovate or elliptic-lanceolate, acute at each end, 8–15 cm. long, 3–8.5 cm. broad, petiole 3–8 cm. long [2. zenkeri](#)
- 4** Spur 2 cm. or more long, longer than the limb of the flower: **5**
 Spur not, or scarcely, exceeding 1 cm. long, as long as or shorter than the limb of the flower: **9**
- 5** Petiole short, not exceeding 3 cm.: **6**
 Petiole 3–7 cm. long; leaves glabrous, 14–18 cm. long, 3–4 cm. broad; flowers glabrous: **8**
- 6** Spur 3–4 cm. long; leaves serrate or serrulate, 8–15 cm. long, 2–3.5 cm. broad; seeds warty, glabrous: **7**
 Spur 2 cm. long; leaves crenate, lanceolate, 9 cm. long, 2 cm. broad; seeds smooth, sparsely pilose; flowers, stem and leaves glabrous [4. jacquesii](#)
- 7** Spur, stem and lower leaf-surface glabrous; leaves lanceolate [3. irvingii var. irvingii](#)
 Spur pubescent especially in the upper wide part; stem and lower surface of leaves rusty pubescent; leaves elliptic-lanceolate [3a. irvingii var. setifera](#)
- 8** Spur 6–7 cm. long; lamina of leaves broadest in the middle; seeds ellipsoidal, with vermicular hairs .. [5. bennae](#)
 Spur 3.5–4.7 cm. long; lamina of leaves broadest in the upper third; seeds narrowly ellipsoidal, glabrous or finely glandular-pubescent [6. nzoana](#)
- 9** Spur, lip and stem, especially in the upper part, more or less densely pilose: **10**
 Spur, lip and stem glabrous; midrib and nerves beneath glabrous to sparingly pilose; lip 3–5 mm. long and about 1 cm. broad; wings about 2 cm. long with a broad blade, and long narrow basal portion bearing a small lateral lobe; lip and spur more or less distinctly mottled or barred [9. mannii](#)
- 10** Stems erect, to 1 m. high, not rooting at the nodes; leaves 4–12 cm. long, 2–5 cm. broad; lip about 8 mm. long and 1 cm. broad; wings about 2.5 cm. long [7. burtoni](#)
 Stems prostrate, rooting freely at the nodes; leaves 3–5 cm. long, 1.5–2 cm. broad; lip about 4 mm. long; wings about 1 cm. long [8. deistelii](#)
- 11** Lip elongate-conic or trumpet-shaped, gradually narrowed into the relatively short, stout and more or less reflexed spur: **12**
 Lip short, suddenly narrowed into the long slender spur; spur not reflexed: **14**
- 12** Leaves opposite or whorled, petioles and nerves of the leaves rusty pubescent; lamina elliptic or ovate-elliptic, cuneate at base, acutely acuminate, 8–16 cm. long, 3–6 cm. broad, deeply crenate with subulate teeth; lip elongate-conic, gradually narrowed into a short spur with a swollen tip, longitudinally grooved, spur and lip together 2–2.5 cm. long; wings scarcely longer than mouth of lip [10. sakeriana](#)
 Leaves alternate, glabrous: **13**
- 13** Wings narrow, linear, adjacent close to the mouth of the lip, overlapping in front; lip with a steeply inclined mouth, elongate-conical, 2.5–3.5 cm. long, with a short, thick, abruptly reflexed spur; inflorescence racemose; leaves ovate-elliptic, rounded at base, acutely acuminate, 8–12 cm. long, 4–5 cm. broad, crenate, with teeth becoming cilia towards the base [11. hians](#)
 Wings large, 3–4 cm. long and 1.5–2 cm. broad; lip obliquely trumpet-shaped, about 1 cm. long and 1.5 cm. broad, suddenly contracted into a short slender incurved spur; peduncle 10–20 cm. long; pedicels about 2 cm. long, subumbellate; leaves ovate, abruptly cuneate at base, acutely acuminate at apex, 8–15 cm. long, 5–9 cm. broad, coarsely crenate with subulate teeth [12. macroptera](#)
- 14** Bracts crowded, imbricate, boat-shaped, about 6 mm. long; flowers with pedicels 1–1.8 cm. long, borne close together and hence subumbellate at the end of the 8–15 cm. long peduncle; leaves alternate, ovate-elliptic, setulose-crenate, 4–10 cm. long, 2.5–5 cm. broad [13. filicornu](#)
 Bracts separate, not crowded, up to 4 mm. long; flowers racemose or subcorymbose: **15**
- 15** Spur up to 1.5 cm. long; wings up to 1 cm. long; pedicels up to 1.5 cm. long; leaves alternate to subverticillate: **16**
 Spur exceeding 1.5 cm. long; wings exceeding 1 cm. long; pedicels exceeding 1.5 cm. long: **17**
- 16** Leaves deeply crenate, long-ciliate at base, oblong-ovate, 3–10 cm. long, 1–3 cm. broad, petiole 2–6 cm. long; inflorescence 7–9 cm. long, flowers subumbellate near the apex of the peduncle; pedicels 5–15 mm. long; bracts about 1 mm. long; wings about 7 mm. long; spur about 5 mm. long [14. preussii](#)
 Leaves serrulate with setae, becoming sparsely setose on the margin near the base, ovate, acuminate, 4–11 cm. long, 2–5 cm. broad, petiole 2–2.5 cm. long; inflorescence 8–12 cm. long, racemose; pedicels 10–15 mm. long; bracts 3 mm. long; wings 8–10 mm. long, deeply lobed; spur 10–13 mm. long [15. sp. A](#)
- 17** Inflorescence with numerous flowers densely arranged along an axis 1.5–3 cm. long at the end of a peduncle 5–12 cm. long; pedicels 1.5–2.5 cm. long; bracts 3–4 mm. long, deciduous; wings 1–1.5 cm. long; spur 1.5–2.5 cm. long; leaves alternate or opposite or verticillate, ovate, obliquely subacute at base, acuminate, margin serrate or crenate, with setae in the crenatures, 5–17 cm. long, 2.5–7 cm. broad, petiole 2–12 cm. long [16. kamerunensis](#)

Inflorescence lax, with 6–9 flowers arranged along an axis 3–8 cm. long at the end of a peduncle 8–16 cm. long; pedicels 2–2.7 cm. long; bracts 2–3 mm. long, persistent; wings about 1.5 cm. long; spur 2.5–4.5 cm. long; leaves sparsely pubescent, ovate-lanceolate, 7–12 cm. long, 4–5 cm. broad, crenate-serrate; petiole 1–4 cm. long [17. obanensis](#)

1. **Impatiens niamniamensis** *Gilg* in Engl. Bot. Jahrb. 43: 104 (1909); G. M. Schulze in Notizbl. Bot. Gart. Berl. 12: 733 (1935). *APD acc*

Impatiens bicolor *Hook. f.* (1862), not of Royle (1839); F.T.A. 1: 299.

Impatiens dichroa *Hook. f. ex Gilg* l.c. (1909), not of Hook. f. (1908); F.W.T.A., ed. 1, 1: 142.

Herb 1–3 ft. high, stem stout below; the spurred sepal forming a long, dark purple, crimson or red sac, other parts of flower greenish-white.

Br. Cam.: Cam. Mt., 3,500–5,500 ft. (Jan.–Apr.) Mann 1248! Dunlap 24! Sundas FHI 20384! Brenan 9360! Maitland 274!
F. Po: Clarence Peak, 4,500 ft. (Dec.) Mann 574! Moka (Feb.) Exell 854! Musola (Jan.) Guinea 1798!

Extends through the **Belgian Congo** to **Kenya**, **Uganda** and A.–E. **Sudan**.

2. **Impatiens zenkeri** *Warb.* in Engl. Bot. Jahrb. 22: 51 (1895).

APD: Synonym of Impatiens mackeyana subsp. zenkeri (Warb.) Grey-Wilson

Erect herb, to 3 ft. high; flowers white with pink and yellow markings.

Br. Cam.: Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30394! R. Metschum waterfalls, Bamenda (Jan.) Keay FHI 28523!

Also in **French Cameroons**.

[Keay FHI 28523 differs somewhat from typical *I. zenkeri* but appears to be connected by intermediate forms.]

3. **Impatiens irvingii** *var. irvingii*—F.T.A. 1: 300 (1868); Gilg l.c. 111; Chev. Bot. 99. *APD acc*

Erect herb, 2–4 ft. high, half-aquatic; flowers uniformly red or pink; leaves peculiarly greyish tinted beneath.

Fr. G.: B. Diminkon, Benna (Dec.) Jac.-Fel. 2150! **S. L.:** Don! Kaballa (Sept.) Thomas 2333! Fundenbaia (Oct.) Thomas 2854! **Iv. C.:** fide Chev. l.c. **G. C.:** Sampa, Ashanti (Dec.) Vigne FH 3485! **Dah.:** Avrancou Lagoon (Jan.) Chev. 22746. **N. Nig.:** Nupe Yates! **S. Nig.:** Lagos Millen 97! Abeokuta Irving! R. Ado, Ilaro (Jan.) Millen 123! Sapoba (Nov.) Keay FHI 21505! Obu Thomas 423! **Br. Cam.:** Buea (Feb.) Dalz. 8217!

3a. **Impatiens irvingii** *var. setifera* *A. Chev.* in Bull. Soc. Bot. Fr. 58, Mém. 8: 143 (1912). *APD acc*

Impatiens villosocalcarata *Warb. & Gilg ex Gilg* in Engl. Bot. Jahrb. 43: 115 (1909); F.W.T.A., ed. 1, 1: 142.

Similar to above, but with a varying amount of rusty pubescence, and often with somewhat broader leaves.

Fr. G.: Konanké country (Feb.) Chev. 20810! Macenta (Mar.) Jac.-Fel. 1556! Nzérékoré (Oct.) Baldwin 9709! **S. L.:** Afzelius! Samu (Dec.) Sc. Elliot 4300! **Lib.:** Dinklage 3365! Ganta (Apr.–Nov.) Harley! **Iv. C.:** Dyola country (May) Chev. 21541. **N. Nig.:** Ilorin Prov. Clarke 15! **S. Nig.:** Lagos Rowland! Brass Barter 102! Angiama Barter 2135!

[There are various forms intermediate between the extreme hairy forms of *var. setifera* and the glabrous *var. irvingii* and I have included these in the *var. setifera*. *I. irvingii* Hook. f. (sensu lato) extends to A.–E. Sudan, Tanganyika and Nyasaland.]

4. **Impatiens jacquesii** *Keay* in Kew Bull. 1953: 287.

APD: Synonym of Impatiens hochstetteri subsp. jacquesii (Keay) Grey-Wilson

Impatiens jaegeri *Pellegr. & Jac.-Fel.* in Bull. Soc. Bot. Fr. 96: 168 (1950), not of Gilg (1909).

Impatiens petrophila *Gilg & Ledermann* in Engl. Pflanzenw. Afr. 5, 1; 62 (1925), name only.

Erect annual, to about 1 ft high; flowers pink.

Fr. G.: Benna Jac.-Fel. 1746. Bilima Jac.-Fel. 1828. Mali, Mt. Loura Jac.-Fel. 2000. **S. L.:** Loma Mts., 3,200–6,900 ft. Jaeger 229; 1182; 1320; 1332; 1428; 1451; 1557; 2019.

Also in **French Cameroons**.

5. *Impatiens bennae* Jac.-Fel. in Bull. Soc. Bot. Fr. 96; 170 (1950).

APD: *Synonym of Impatiens nzoana subsp. bennae* (Jacq.-Fél.) Grey-Wilson

Erect branched herb, to 21/2 ft. high, entirely glabrous.

Fr. G.: Benna Jac.-Fel. 1769.

6. *Impatiens nzoana* A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 143 (1912). APD acc

A glabrous herb, simple or branched, up to 2 ft.; flowers pale rose; in rocky streams.

Iv. C.: source of R. Nuon, Nzo (Apr.) Chev. 21113!

7. *Impatiens burtoni* Hook. f.—F.T.A. 1: 299. APD acc

Erect or ascending herb, 2 ft. high; flowers pink, with green spur veined with purple, throat orange.

Br. Cam.: Cam. Mt., 2,500–5,700 ft. (Dec.–Apr.) Mann 1247! 1952! Preuss 574! Brenan 9337! Dunlap 18! Bamenda, 5,500–5,800 ft. (Jan.) Migeod 395! Keay FHI 28425!

[*I. eminii* Warb. of Belgian Congo, Uganda and Tanganyika is very close and possibly not specifically distinct.]

8. *Impatiens deistelii* Gilg in Engl. Bot. Jahrb. 43: 108 (1909).

APD: *Synonym of Impatiens mannii* Hook. f.

Prostrate herb, rooting at the nodes; flowers pale rose.

Br. Cam.: Cam. Mt., Buea (June) Deistel 659; 669!

9. *Impatiens mannii* Hook. f.—F.T.A. 1: 300; Gilg l.c. 107. APD acc

Impatiens affinis Warb. in Engl. Bot. Jahrb. 22: 52 (1895); Gilg l.c. 111; F.W.T.A., ed. 1, 1: 142.

Straggling herb 2–3 ft. high; petals white with pink tinge, spur yellow-green at tip, purplish above with more or less distinct transverse bars on the lip.

Br. Cam.: Cam. Mt., 2,500–6,000 ft. (Sept.–Apr.) Mann 1258! 1953! 1954! Preuss 583! 878b! Dalz. 8341! Brenan 9338! F. Po: 2,000–4,000 ft. (Apr., Dec.) Mann 585! s.n.! Moka (Jan.) Exell 774! Musola (Mar.) Guinea 1356!

[Gilg suggested that *I. affinis* is a hybrid between *I. burtoni* and *I. mannii*, but it appears to me to be only a pubescent form of *mannii*; the indumentum character is not correlated with the barring of the spur and lip as suggested by Hutch. & Dalz.—R.W.J.K.]

10. *Impatiens sakeriana* Hook. f.—F.T.A. 1: 301; Gilg l.c. 102. APD acc

Stout erect herb, to 9 ft. high, stems straggling at the ends; flowers deep red, with yellow standard petal marked with two deep crimson blotches.

Br. Cam.: Cam. Mt., 5,000–7,500 ft. (Nov.–Apr.) Mann 1256! 1970! Maitland 500! 891! Brenan 9356! 9366a! Bamenda, 7,500 ft. (Jan.) Migeod 385! Near L. Bambulue, Bamenda (Jan.) Keay FHI 28361! F. Po: St. Isabel Peak, 8,000 ft. (Nov.) Guinea 2719!

Also in French Cameroons.

11. *Impatiens hians* Hook. f.—F.T.A. 1: 301; Gilg l.c. 117. APD acc

Erect herb, to 2 ft; flowers dark red and greenish.

Br. Cam.: Buea, Preuss 881; 962! Deistel F. Po: 1,300–2,000 ft. (Dec.) Mann 309! 686!

Also in French Cameroons and Belgian Congo.

12. *Impatiens macroptera* Hook. f.—F.T.A. 1: 301; Gilg l.c. 115. APD acc

APD: *Synonym of Impatiens pseudomacroptera* Grey-Wilson

Erect herb, 2–4 ft. high; flowers green and white or purplish.

S. Nig.: Oban Talbot 1272! Ikom Rosevear 73/29! **Br. Cam.:** R. Limbe, Victoria (Nov.) Preuss 1352! Boana to Buea (Aug.) Preuss 946. Banti to Babesong Conrau 7. **F. Po:** 4,000–5,000 ft. (Apr.) Mann 386! 1451!

Also in **French Cameroons** and **Spanish Guinea**.

13. *Impatiens filicornu* Hook. f.—F.T.A. 1: 302; Gilg l.c. 124. *APD acc*

Impatiens baumannii Warb. l.c. 53 (1895).

Slender, glabrous herb, to 2 ft. high; flowers light purple.

Togo: Misahöhe (Mar.) Baumann 95. **Br. Cam.:** Johann-Albrechtshöhe (Mar.) Staudt 869. **F. Po:** 4,000–5,000 ft. (Dec.) Mann 573! Moka (Feb.) Exell 860! Musola (Jan.) Guinea 1781! St. Isabel Peak, 6,400 ft. (Feb.) Guinea 2620!

Also in **French Cameroons**, **Spanish Guinea** and **Belgian Congo**.

14. *Impatiens preussii* Warb. in Engl. Bot. Jahrb. 22: 50 (1895); Gilg l.c. 103.

APD: *Synonym of Impatiens palpebrata* Hook. f.

A slender, generally unbranched, herb, creeping at the base; flowers small, rose.

Br. Cam.: Buea, 3,300–3,750 ft. (Jan.) Preuss 692.

Also in **French Cameroons**.

15. *Impatiens* sp. A. *APD acc*

Erect herb, to 18 in. high; flowers magenta-purple.

S. Nig.: Sonkwa, Mt. Koloishe, 5,000 ft. (Dec.) Savory & Keay FHI 25066!

Possibly a new species, related to *I. kamerunensis* Warb.

16. *Impatiens kamerunensis* Warb. l.c. 51 (1895); Gilg l.c. 103. *APD acc*

Impatiens pleistantha Gilg l.c. 124 (1909).

Erect herb, to 3 ft. high; flowers pink or deep mauve.

Br. Cam.: Buea, 3,300–3,750 ft. (Dec.–Apr.) Preuss 590! Deistel 149! Migeod 250! Dundas FHI 15332! Cam. Mt., above Mimbia, 4,400 ft. (Apr.) Brenan 9362! R. Ndian, Ikaasa (May) Rudatis 9. Banti to Babesong (Nov.) Conrau 9. Bangwe (May) Conrau 138. Above Widdekum, Bamenda (Jan.) Keay FHI 28325! Mt. Mba Kokeka, Bamenda, 7,500 ft. (Jan.) Keay FHI 28402! **F. Po:** Musola (Mar.) Guinea 1414! Mildbr. 7048.

Also in **French Cameroons**.

[This appears to be a variable species but more adequate material is needed to decide whether or not several taxa are involved. Rosevear 72/29 from Ogofa District, S. Nigeria and Vigne 1016 from Tano-Offin F.R., Gold Coast may well be this species also.]

17. *Impatiens obanensis* keay in Kew Bull. 1953: 287. *APD acc*

Impatiens talbotii Bak. f. in Cat. Talb. 17 (1913); F.W.T.A., ed. 1,1: 142; not of Hook. f. (1906).

Erect herb, to 18 in. high; flowers rose pink to white.

Togo: Misahöhe (Nov.) Mildbr. 7207! **S. Nig.:** Oban Talbot 430! British Obokum (May, Dec.) Keay FHI 28280! 28285!

1. *Impatiens* sp. B.

Fr. G.: Loffa Forest, Macenta Adam 3454!

Imperfectly known species .

2. *I.* sp. C.

Br. Cam.: Bamenda (Jan.) Migeod 412!

Imperfectly known species .

3. *Impatiens* sp. D.

Br. Cam.: Bamenda Lightbody FHI 26256!

Imperfectly known species .

4. *Impatiens* sp. E.

N. Nig.: Bauchi Plateau Savory UCI 6!

Imperfectly known species .

LYTHRACEAE

Herbs, shrubs or trees; leaves opposite or verticillate, rarely alternate; stipules absent or very small. Flowers usually actinomorphic, hermaphrodite, solitary to paniculate. Sepals united into a tube, valvate, sometimes with appendages between the lobes. Petals present or absent, inserted towards the top of the calyx-tube, crumpled in the bud. Stamens usually 4 or 8, or rarely more, inserted below the petals; filaments usually inflexed in bud; anthers 2-celled, opening lengthwise. Ovary superior, sessile or shortly stipitate, completely or incompletely 2–6-celled (rarely 1-celled); style simple, variable in length; ovules numerous, on an axile placenta sometimes not extending to the top of the ovary. Fruit usually capsular, opening by a transverse slit, by valves, or irregularly. Seeds numerous, without endosperm; embryo straight.

Mainly in the tropics.

Recognized by the opposite exstipulate simple leaves, tubular calyx with valvate lobes, crumpled petals, insertion of the stamens, superior ovary, and numerous seeds without endosperm.

- 1 Shrubs or trees:2
- Herbs or suffrutices, never spiny:3
- 2 Calyx tubular, 10–12 mm. long; petals very small; capsule valvate; racemes axillary, 1–6-flowered; branchlets not spiny1. *Woodfordia*
- Calyx not tubular, 3–5 mm. long; petals well-developed; capsule indehiscent or tardily bursting irregularly; inflorescence a lax leafy terminal panicle; branchlets often spiny2. *Lawsonia*
- 3 Flowers solitary or subsolitary, sessile or subsessile in leaf axils; fruit a septicidal capsule3. *Rotala*
- Flowers in cymes, or umbels, or crowded into bracteate heads:4
- 4 Septae of ovary interrupted above the placenta which is not, therefore, continuous with the style; fruit a circumscissile capsule; flowers pedicellate in cymes; petals not corrugated in bud, or absent4. *Ammannia*
- Septae of ovary complete, the placenta consequently continuous with the style; fruit at length opening by valves; flowers in bracteate heads or umbels; petals corrugated in bud, or absent5. *Nesaea*

Lagerstroemia indica Linn.

A native of Asia, is frequently cultivated as ornamental shrubs and trees.

Lagerstroemia speciosa (Linn.) Pers. APD acc

Lagerstroemia flos-reginae Retz.

A native of Asia, is frequently cultivated as ornamental shrubs and trees.

1. WOODFORDIA

Salisb.—F.T.A. 2: 481.

- 1 Much-branched shrub; stem and leaves with small black glands; leaves opposite, ovate-lanceolate or lanceolate, rounded or subcordate at base; subsessile, acuminate, 3–10.5 cm. long, 0.6–3.5 cm. broad; racemes 1–6-flowered, axillary; calyx tubular 10–12 mm. long, constricted above the base, lobes triangular; petals very

small; stamens exserted [uniflora](#)

Woodfordia uniflora (A. Rich.) Koehne in Engl. Bot. Jahrb. 1: 334 (1881); Engl. Pflanzenr. Lythrac. 80 (1903); Aubrév. Fl. For. Soud.-Guin. 62. *Grislea uniflora* A. Rich. (1847). *APD acc*

Woodfordia floribunda of F.T.A. 2: 481, not of Salisb.

Shrub, to 10 ft. high; flowers bright red.

N. Nig.: Pankshin (Dec.) W. D. MacGregor 432!

Also in **French Cameroons**, and widespread in E. Africa from Abyssinia to **Uganda**.

2. LAWSONIA

Linn.—F.T.A. 2: 482.

- 1 A shrub or small tree, the older branchlets often indurated and spinescent; leaves opposite, elliptic to oblanceolate, acute at each end, up to about 4 cm. long and 2 cm. broad, glabrous, with the midrib impressed above; panicle many-flowered, with leafy bracts; flowers 4-merous, creamy-white, sweet-scented; pedicels about 2 mm. long; petals crumpled in bud; stamens 4–8; fruit globose, about 0.5 cm. diameter, with persistent style [inermis](#)

Lawsonia inermis *Linn.*—Koehne in Engl. Pflanzenr. Lythrac. 270, t. 59. *APD acc*

Lawsonia alba *Lam.*—F.T.A. 2: 483; Chev. Bot. 281.

Flowers creamy-white, sweet scented; widely cultivated as a dye-plant (Henna).

Sen.: fide Chev. l.c. **Fr. Sud.:** Sikasso Chev. 3004! Koulikoro (Sept.) Chev. 24991! **S. L.:** Barter! Waterloo (May) Deighton 2745! R. Scarcies, Kitchom (Dec.) Sc. Elliot 4314! **Lib.:** Farmar 344! **G. C.:** Aburi (Nov., Dec.) Johnson 892! 1097! **Dah.:** fide Chev. l.c. **Fr. Nig.:** Zinder Hagerup 587! **N. Nig.:** Borgu Barter 804! **S. Nig.:** Foster 147!

Throughout tropical Africa, Asia and Australia.

3. ROTALA

Linn.—F.T.A. 2: 466; Koehne in Engl. Pflanzenr. Lythrac. 24 (1903).

- 1 Leaves mostly in threes, linear, narrow at base, up to 13 mm. long and 0.5–1 mm. broad; stamens 2–3 [1. mexicana](#)
Leaves in pairs, mostly oblong to elliptic, broad at base, over 2 mm. broad; sometimes with ovate-lanceolate upper leaves and linear leaves towards base of stem (see No. 6): [2](#)
- 2 Calyx with subulate appendages between the lobes; leaves lanceolate-oblong, rounded at apex, 5–10 mm. long, 2–4 mm. broad; stamens 2–3 [2. decussata](#)
Calyx without appendages between the lobes: [3](#)
- 3 Stamens the same number as the sepals, usually 4; leaves oblong-elliptic, cordate at base, rounded at apex, 3–10 mm. long, 2–6 mm. broad [3. tenella](#)
Stamens 2: [4](#)
- 4 Petals 4; capsule oblong, about 3 mm. long; leaves ovate-lanceolate, subcordate at base, 4–8 mm. long, 2–4 mm. broad [4. elatinoides](#)
Petals absent; capsule globose: [5](#)
- 5 Leaves oblong, cordate or subcordate at base, 3–9 mm. long, 1.5–4 mm. broad [5. stagnina](#)
Upper leaves ovate-lanceolate, obtuse at base, 2–3 mm. long, about 1 mm. broad, lower leaves linear about 5 mm. long and 0.5 mm. broad [6. sp. nr. dinteri](#)

1. **Rotala mexicana** *Cham. & Schlechtd.*—Koehne in Engl. Pflanzenr. Lythrac. 29. *APD acc*

Rotala verticillaris of F.T.A. 2: 467, not of Linn.

Annual, prostrate, rooting and branched at base, 1–4 in. long; petals absent or early falling off.

N. Nig.: Nupe Barter 898!

World-wide in the tropics.

2. **Rotala decussata** *Hiern* in F.T.A. 2: 467, excl. syn. (1871); Koehne l.c. 34; Chev. Bot. 279.

APD: *Synonym of Rotala welwitschii Exell*

? **R. decussata** *DC.*

Much-branched annual, 2–9 in. long; petals 4 or 0; in [wet places by streams, etc.](#)

IV. C.: Nzi valley (Aug.) Chev. 22245, **Togo:** Lome Warnecke 229! **N. Nig.:** Lokoja (Nov.) Dalz. 210!

Also in [Angola](#).

3. **Rotala tenella** (*Guill. & Perr.*) *Hiern* in F.T.A. 2: 467 (1871); Koehne l.c. 39. *APD acc*

Ammannia tenella *Guill. & Perr.*

Stems creeping at base, with erect branches, pink; petals 4, white, soon falling off.

Sen.: Walo (Sept., Oct.) Perrottet 333! **Fr. Sud.:** Bura (Sept.) Hagerup 406! Dogo (May) Davey 133! **Fr. G.:** Toumanea Pobéguin 1897! **S. L.:** Talla Hills (Feb.) Sc. Elliot 4852! Kambia (Nov.) Jordan 377! Bonthe Isl. (Nov.) Deighton 2285!

Also in [A.–E. Sudan](#), [Belgian Congo](#) and [Transvaal](#).

4. **Rotala elatinoides** (*DC.*) *Hiern* in F.T.A. 2: 466 (1871); Koehne l.c. 39; Chev. Bot. 279. *APD acc*

Ammannia elatinoides *DC.*

Annual, creeping with ascending branches 2–4 in. high; petals 4, white or violet.

Sen.: Leprieur! Walo (Sept.–Feb.) Perrottet 332! M'bidjem Thierry 214! **Fr. Sud.:** Dogo (May) Davey 132!

5. **Rotala stagnina** *Hiern* in F.T.A. 2: 467 (1871); Koehne l.c. 39. *APD acc*

Stems reddish, often much-branched, to 6 in. long; fruits red.

N. Nig.: Kontagora (Jan.) Meikle 1040! Anara F.R. (Sept., Oct.) Keay FHI 20130a! FHI 24400! **Br. Cam.:** Wum, Bamenda (Apr.) Maitland 1594!

Also in [A.–E. Sudan](#) and [Abyssinia](#).

[Hinds 5013 from Lawra, Gold Coast is very close to this species, but differs in its shorter style.]

6. **Rotala sp. nr. dinteri** *Koehne ex Schinz*–l.c. 37. *APD acc*

Erect, to 3 in. high, stems red, leaves green, flowers white, fruits red; [in wet flushes on rocks](#).

N. Nig.: Anara F.R. (Oct.) Keay FHI 20130!

[*R. dinteri* Koehne ex Schinz is a S. African species and has a rather shorter style than the Nigerian plant.]

4. AMMANNIA

Linn.—F.T.A. 2: 476; Koehne in Engl. Pflanzenr. Lythrac. 42 (1903). *APD acc*

- 1 Style 1/3 mm. or more long, filiform; leaves all markedly auriculate at base; petals always present:**2**
Style very short, not up to 1/3 mm. long; leaves attenuate to truncate or subcordate, rarely some auriculate; petals present or absent:.....**3**
- 2 Style almost twice as long as ovary; capsule 2.5–3 mm. diam.; stamens 4–8; cymes lax, with filiform peduncles 6–18 mm. long [1. auriculata](#)
Style shorter than ovary; capsule about 1.5 mm. diam.; stamens 4; cymes congested, with peduncles 1.5–3 mm. long [2. priureana](#)
- 3 Leaves all markedly cuneate at base; calyx without appendages between the lobes in fruit; petals absent**3.**
[baccifera](#)

Leaves mostly truncate or subcordate, the lower leaves sometimes cuneate, calyx with small appendages between the lobes in fruit; petals 0–4:4

4 Stamens 84. *gracilis*

Stamens 45. *senegalensis*

1. ***Ammannia auriculata* Willd.**—Koehne in Engl. Pflanzenr. Lythrac. 46 (1903). *APD acc*

Ammannia auriculata var. *auriculata* Koehne l.c.

Ammannia senegalensis of F.T.A. 2: 477 and of F.W.T.A., ed. 1, 1: 144, partly.

Erect herb, 1–2 ft. high; flowers pink; in marshy places.

Sen.: fide Koehne l.c. **Fr. Sud.:** Sarédina (May) Davey 136! **S. L.:** Kambia (Dec., Jan.) Sc. Elliot 4446! Deighton 864! **N. Nig.:** Sokoto (Oct.) Dalz. 418! Lely 119! Birnin Gwari (fr. Dec.) Meikle 1586! Jebba (Dec.) Hagerup 696! Bauchi Plateau (Oct.) Lely P. 788! Tangale (Oct.) Lely 661! Abinsi Dalz.!

Also in **Egypt, N.E. and E. tropical Africa.**

2. ***Ammannia priureana* Guill. & Perr.**—Koehne l.c. 48. *APD acc*

Ammannia senegalensis of F.T.A. 2: 477 and of F.W.T.A., ed. 1, 1: 144, partly.

Ammannia auriculata var. *arenaria* (H. B. & K.) Koehne l.c. 46.

Erect herb, to 2 ft. high; flowers mauve; in marshy places.

Sen.: Leprieur; Perrottet 331! s.n.! Talmy! **Gam.:** Boteler! Dawe 32! **S. L.:** Falaba (Mar.) Sc. Elliot 5096! **Togo:** Lome Warnecke 300! **N. Nig.:** Sokoto (Nov.) Maiser 225! Minna (fr. Dec.) Meikle 1585! Anara F.R. (Mar.) Olorunfemi FHI 24421! **S. Nig.:** Ikirun (Feb.) Millson! Obudu (Dec.) Keay & Savory FHI 25003!

Also in **tropical E. Africa.**

3. ***Ammannia baccifera* Linn.**—Koehne l.c. 53; F.T.A. 2: 478. *APD acc*

Ammannia baccifera subsp. *baccifera*—Koehne l.c. 54.

Ammannia aegyptiaca of F.W.T.A., ed. 1, 1: 144, not of Willd.

Ammannia salicifolia of F.T.A. 2: 478, partly, not of Monti.

Ammannia attenuata Hochst. ex A. Rich.—Koehne l.c. 53.

Ammannia senegalensis of F.W.T.A., ed. 1, 1: 144, partly.

Erect herb, to 2 ft. high; flowers mauve; at edges of pools.

G. C.: Dukwesein, N. Agogo (Dec.) Chipp 615! **N. Nig.:** Yola (Jan.) Dalz. 176! **S. Nig.:** Awba Hills (Dec.) Jones FHI 5981! Cross R., Obokum (Jan.) Holland 260!

Widespread in tropical Africa, Asia and Australia.

4. ***Ammannia gracilis* Guill. & Perr.**—Koehne l.c. 52. *APD acc*

Ammannia diffusa of F.T.A. 2: 479, not of Willd.; Chev. Bot. 280.

A. filiformis of Chev. Bot. 280, not of DC. (fide Hutch. & Dalz.).

Stem prostrate, rooting at the base, with slender branches, about 1 ft. high; petals purple-violet to reddish-white.

Sen.: R. Casamance (Apr.) Perrottet 335! **Fr. Sud.:** Nafadié (Jan.) Chev. 154. Folo (May) Chev. 840. **Fr. G.:** Kollangui (Mar.) Chev. 15077.

Also in **Ubangi-Shari-Chad.**

[Chevalier's specimens cited here were all seen by Hutchinson, but have not been seen for this revision.]

5. ***Ammannia senegalensis* Lam.**—Koehne l.c. 52; F.W.T.A., ed. 1, 1: 144, in part only. *APD acc*

Ammannia senegalensis var. *filiformis* (DC.) Hiern—F.T.A. 2: 477.

Ammannia salsuginosa Guill. & Perr.—F.T.A. 2: 477.

Erect or procumbent herb, to 1 ft. high; in marshy places.

Sen.: M'bidjem Thierry 212! 213! 216! Walo (Sept.–Nov.) Perrottet 334! Heudelot! **Fr. Sud.:** Sarédina (May) Davey 98! **S. L.:** Sc. Elliot! **N. Nig.:** Kadara, Katagum (Jan.) Dalz. 310!

Also in [N.E. Africa](#).

5. NESAEA

Commers. ex H. B. & K.—F.T.A. 2: 470; Koehne in Engl. Pflanzenr. Lythrac. 221 (1903).

- 1 Flowers not congested into bracteate heads:.....[2](#)
- Flowers numerous and congested into heads subtended by leafy bracts:[5](#)
- 2 Stems thick and spongy, often rooting from the lower nodes, neither angular nor winged; leaves obovate-oblong-lanceolate, narrowed to base, rounded at apex, 10–40 mm. long, 5–20 mm. broad, glabrous; peduncles up to 15 mm. long; petals present[1. crassicaulis](#)
- Stems wiry, often angular or winged:.....[3](#)
- 3 Calyx less than 2 mm. long, appendages between the lobes conspicuous; petals absent; leaves lanceolate to oblong-lanceolate, 7–27 mm. long, 3–7 mm. broad; peduncle 2–3 mm. long[2. aspera](#)
- Calyx 3–4 mm. long, appendages absent or very minute; petals present, relatively large:.....[4](#)
- 4 Peduncle less than 5 mm. long; stamens 12–14; leaves linear-lanceolate, 10–65 mm. long, 1.5–5 mm. broad ..[3. dodecandra](#)
- Peduncle 12–25 mm. long; stamens 20–30; leaves ovate to lanceolate, 20–55 mm. long, 5–12 mm. broad[4. mossiensis](#)
- 5 Leaves distinctly cordate at base, sessile, ovate to lanceolate, 5–20 mm. long, 6–10 mm. broad; plant erect; flowers about 5 in each head, subtended by 2 large bracts acute at apex[5. cordata](#)
- Leaves not cordate at base:.....[6](#)
- 6 Leaves oblong-lanceolate, 8–22 mm. long, 2–5 mm. broad; stems more or less erect; flowers 3–7 in each head, subtended by 2 large bracts acute at apex[6. erecta](#)
- Leaves oblong-elliptic to oblong-lanceolate, 10–37 mm. long, 4–22 mm. broad; stems long and mostly decumbent; flowers numerous in each head, subtended by two large bracts, obtuse or rounded at apex[7. radicans](#)

1. *Nesaea crassicaulis* (Guill. & Perr.) Koehne in Engl. Bot. Jahrb. 3: 324 (1882); Engl. Pflanzenr. Lythrac. 225 (1903). *APD acc*

Ammannia crassicaulis Guill. & Perr.—F.T.A. 2: 479; F.W.T.A., ed. 1, 1: 144; Chev. Bot. 279.

Stem erect or ascending, up to 1 ft. long; flowers purple-violet; [in marshes and streams](#).

Sen.: Cayor (Mar.–May) Perrottet 337! M'bidjem (Dec.) Chev. 16769! **Fr. Sud.:** Bilma (Dec.) E. Vogel!

Also in [Angola](#), [Zanzibar](#) and [Madagascar](#).

2. *Nesaea aspera* (Guill. & perr.) Koehne in Engl. Bot. Jahrb. 3: 327 (1882); Pflanzenr. 226. *APD acc*

Ammannia aspera Guill. & Perr.—F.T.A. 2: 480; F.W.T.A., ed. 1, 1: 144.

Erect or ascending, branched near the base, 3–6 in. high; [in damp places](#).

Sen.: near Cape Verde (Mar.) Perrottet 338!

Also in [Angola](#).

3. *Nesaea dodecandra* (DC.) Koehne in Engl. Bot. Jahrb. 3: 334 (1882); Pflanzenr. 234. *APD acc*

Ammannia dodecandra DC. (1826).

Nesaea candollei Guill. & Perr. (1830–33)—F.T.A. 2: 473; Chev. Bot. 280.

Erect, branched herb, 1–2 ft. high; [in inundated meadows, etc.](#)

Sen.: Richard Tol (Sept-Dec.) Perrottet 58! 129! 339! Heudelot!

4. *Nesaea mossiensis* A. Chev. in Bull. Soc. Bot. fr. 58 Mém. 8: 171 (1912); Chev. Bot. 280.

APD: *Synonym of Nesaea angustifolia* A. Fern. & Diniz

APD: Synonym of Nesaea icosandra Kotschy & Peyr.

Undershrub or suffrutex, erect shoots to 2 ft. high, sparingly branched; petals and stamens bright scarlet; [in inundated meadows etc.](#)

Fr. Sud.: Mossi Prov. (July) Chev. 24540! **Fr. G.:** Maclaud! Kollangui (Mar.) Chev. 12194! Diaguissa (Apr.) Chev. 13549! Kouroussa (Mar.) Pobéguin 196! **N. Nig.:** Maska, Katsina (June) Hubbard T. 138! Keay FHI 25888! Kakangi (July) Keay FHI 25929.

[This species is very close to *N. icosandra* Kotschy & Peyr. (see F.T.A. 2: 471) from Ubangi and A.–E. Sudan and may prove conspecific when better known.]

5. Nesaea cordata Hiern in F.T.A. 2: 476 (1871); Koehne in Engl. Pflanzenr. Lythrac. 232; Chev. Bot. 280. *APD acc*

Erect annual, to 8 in. high; flowers pink or red; [in damp places.](#)

Fr. Sud.: Bamako (Nov.) Waterlot 1464! **Iv. C.:** Toumodi (Aug.) Chev. 22389! **N. Nig.:** Borgu Barter 763! Lokoja (Oct.) Dalz. 194!

Widespread in tropical and S. Africa.

6. Nesaea erecta Guill. & Perr.—F.T.A. 2: 474; Koehne l.c. 231; Chev. Bot. 280. *APD acc*

Annual, 2–10 in. high, much-branched; flowers purple.

Sen.: Casamance Heudelot 565! St. Louis (Oct.) Leprieur 9! Cayor (Mar.) Perrottet 342! 343! **Gam.:** Ingram! **Fr. Sud.:** Koulikoro (Oct.) Chev. 15762. Bamako (Nov.) Waterlot 1442! **N. Nig.:** Anchau (Nov.) Keay FHI 21671!

Widespread in tropical Africa and Madagascar.

7. Nesaea radicans Guill. & Perr.—F.T.A. 2: 474; Koehne l.c. 231; Chev. Bot. 280. Sterna up to 4 ft. long. *APD acc*

Sen.: Farmar 58! Talmy! Cayor (Oct.–Mar.) Perrottet 341! Niayes (Dec.) Chev. 15768! M'bidjem (Dec.) Chev. 15769! **Gam.:** Brown-Letter 11! 32!

Also in [Angola](#), [E. Africa](#) and [Madagascar](#).

ONAGRACEAE

Herbs, sometimes shrubs, very rarely trees. Leaves alternate, opposite or rarely whorled, simple; petiole not inflated in middle. Stipules absent or small. Flowers solitary and axillary, sometimes aggregated into racemes, or panicles, normally hermaphrodite, regular or rarely irregular. Sepals valvate, mostly 4, sometimes 5, rarely 2, 3, 6 or 7. Petals free, as many as sepals, contorted or imbricate, rarely absent. Stamens as many or twice as many as sepals, very rarely fewer. Ovary inferior, mostly 4-celled, rarely 1–7-celled. Style simple. Ovules axile, one to many per cell. Fruit a capsule, rarely a nut or a berry. Seeds without endosperm.

Mostly in the Northern Hemisphere.

Recognized by the inferior ovary, valvate sepals, definite number of stamens, and seeds without endosperm.

- 1 Seeds with an apical tuft of silky hairs; sepals caducous after flowering; petals (in our species) white to cream, often tinged pink later [1. Epilobium](#)
- Seeds without any hairs; sepals persistent after flowering; petals (in our species) yellow [1. Jussiaea](#)

1. EPILOBIUM

Linn.—F.T.A. 2: 486.

- 1 Stem appressed grey-puberulous; leaves lanceolate to oblong-linear, cuneate to narrowly rounded at base, obtuse or subacute at apex, 2–8 cm. long, 3–14 mm. broad, petiole usually 1.5–4.5 mm. long, margins and veins usually appressed-grey-puberulous; flowers nodding; sepals 4.5–7.5 mm. long; petals 6–11.5 mm. long, 3–4.5

(–7) mm. broad, elliptic or narrowly obovate-elliptic; style 3·5–7 mm. long; stigma variable in shape, usually oblong to ellipsoid, more rarely obovoid, entire or nearly so, 2–3·5 mm. long, 0·7–1·5 mm. broad; capsule 3–8 cm. long; pedicels 1·3–4·5 cm. long [salignum](#)

Epilobium salignum *Hauskn.* in Oesterr. Bot. Zeitschr. 29: 90 (1879); Hauskn. Monogr. Epilobium 236 (1884); Brenan in F.T.E.A. Onagr. 5, t. 1 (1953). *APD acc*

Epilobium neriophyllum *Hauskn.*

Herbaceous or thinly woody, to 5 ft. high, often branched above; flowers white or cream, often pink-tinged later.

Br. Cam.: Bango, Bamenda (Oct.) Tamajong FHI 28474!

Also in **French Cameroons**, **eastern Africa** and **southern Africa**, and in **Madagascar**.

2. JUSSIAEA

APD: Synonym of Ludwigia L.

Linn.—F.T.A. 2: 488; Munz in Darwiniana 4: 179–284 (1942); Brenan in Kew Bull. 1953: 163.

Ludwigia *Linn.*—F.T.A. 2: 490; F.W.T.A., ed. 1, 1: 146.

- 1 Floating roots absent from the nodes: **2**
Floating, white or pink, spongy, inflated roots produced from the nodes; see above [14. repens var. diffusa](#)
- 2 Seeds in 2 or more longitudinal rows from the base to the apex of each cell of the capsule, free (i.e. not enclosed in or surrounded by endocarp); sepals mostly 3–4, if 5 then capsule almost always 12 mm. long or less: **3**
Seeds in a single row in each cell, or in a single row in the lower part and in 2 or more rows in the shorter upper part of the capsule; sepals 4–5: **11**
- 3 Raphe much narrower than the body of the seed: **4**
Seeds each with an enlarged raphe almost as large as the body of the seed: **9**
- 4 Stamens 8 (–10): **5**
Stamens 3–4 (–5): **7**
- 5 Plant always pubescent or pilose; seeds 0·75–0·8 mm. long; capsule often 2–4 cm. long; petals 6–16 mm. long [1. stenorrhapha](#)
Plant glabrous (at least in African specimens); seeds 0·3–0·5 mm. long, 0·2–0·3 mm. broad; capsule not exceeding 2 cm. long: **6**
- 6 Leaves with petiole 3–15 mm. long; stems strongly angled; sepals 3–6 mm. long; petals 4–5 mm. long [2. erecta](#)
Leaves sessile or subsessile; stems narrowly winged; sepals 7–10 mm. long; petals 8–12 mm. long [3. decurrens](#)
- 7 Sepals 4–5; capsule not, or scarcely, tapering to the apex and there 2–4 mm. diam.; plant usually erect; leaves lanceolate to linear, 1·5–9 cm. long, 1·5–15 mm. broad [4. perennis](#)
Sepals 3 (–4); capsule normally tapering to the apex and there less than 2 mm. diam.; plant usually prostrate; leaves obovate to oblanceolate: **8**
- 8 Ovary and stem (under x 20 lens) puberulous; seeds pale brown; leaves mostly shortly obovate; capsule often shorter and more oblong than in senegalensis [5. pulvinaris](#)
Ovary and stem (under x 20 lens) glabrous or nearly so; seeds red-purple or red-brown; leaves usually oblanceolate [6. senegalensis](#)
- 9 Leaves mostly lanceolate to linear-lanceolate, those subtending flowers 2–10 mm. broad, gradually tapering towards the apex, not parallel-sided; more or less spreading-hairy, sometimes densely so, on stems, leaves and young shoots, or sometimes the spreading hairs on young shoots only [7a. suffruticosa var. brevisepala](#)
Leaves linear, those subtending flowers 1–2 (–3) mm. broad, more or less parallel-sided: **10**
- 10 Leaves and stem puberulous, appearing subglabrous, sometimes with a few spreading hairs on young parts only [7b. suffruticosa var. linearis](#)
Leaves and stem more or less plentifully clothed with long spreading hairs .. [7c. suffruticosa var. piloso-linearis](#)
- 11 Capsule mostly with a slightly enlarged cylindrical apical portion in which the seeds are free and in 2 or more rows in each cell; seeds in lower, longer portion in a single row in each cell, almost pendulous and each

- enclosed in a piece of endocarp; sepals 4, 2–3.5 mm. long; petals about 3 mm. long; stamens 8; ovary minutely puberulous (x 20 lens essential) [9. linifolia](#)
- Capsule mostly not enlarged towards the apex, always with the seeds in a single row throughout each cell: **12**
- 12** Seeds free (i.e. not enclosed in or surrounded by endocarp), pendulous; sepals 6–8 mm. long, 1.2–1.5 mm. broad at base; capsule 4–4.5 cm. long, 1–5 mm. diam.; pedicels 8–14 mm. long [8. gracilis](#)
- Seeds each enclosed in or surrounded by a piece of endocarp, horizontal (except in repens): **13**
- 13** Sepals 3–14 mm. long; petals 5–24 mm. long; stamens 8–10 (–14); capsule 2.5–4 mm. diam. (except in africana): **14**
- Sepals 1.75–3 mm. long; petals 1.5–3.5 mm. long; stamens 4 (–5); capsule 1–2 mm. diam.; ovary and stem glabrous [13. abyssinica](#)
- 14** Capsule 2.5–4 mm. diam.; sepals of ten 5 or more; petals of ten more than 5 mm. long: **15**
- Capsule 1.5–2.5 mm. diam., puberulous; sepals 4, 3–4.5 mm. long; petals about 5 mm. long; pedicels 3–8 mm. long [12. africana](#)
- 15** Sepals 5–14 mm. long: **16**
- Sepals 3–5 mm. long; plant more or less densely spreading pilose; leaves usually elliptic with 10–25 lateral nerves on each side of midrib; capsule densely hairy; seeds horizontal [11. affinis](#)
- 16** Leaves with 11–20 lateral nerves on each side of midrib; capsule marked on outside with little bumps 0.5 mm. apart corresponding to the seeds inside; seeds horizontal, each surrounded by, but free within, a horseshoe-shaped piece of endocarp, the actual seed 0.8–1 mm. long [10. leptocarpa](#)
- Leaves with 6–12 lateral nerves on each side of midrib; capsule marked on outside with little bumps 1.5–2 mm. apart corresponding to the seeds inside; seeds pendulous, each enclosed by and firmly attached to its piece of endocarp, the actual seeds 1–1.5 mm. long; plant creeping or floating [14. repens var. diffusa](#)

1. *Jussiaea stenorraphe* Brenan in Kew Bull. 1953: 164; Brenan in F.T.E.A. Onagr. 10, t. 2, 1, t. 3 (1953).

APD: Synonym of Ludwigia stenorraphe (Brenan) H. Hara subsp. stenorraphe

Jussiaea villosa of F.W.T.A., ed. 1, 1: 146, partly.

Jussiaea suffruticosa **Linn.** var. *stenosperma* **Berhaut** in Bull. Soc. Bot. Fr. 99: 323 (1953).

Shrubby, or less often herbaceous, 3–10 ft. high; sepals often turning bright red within after the petals fall.

Fr. Sud.: Nafadié (Jan.) Chev. 159! **Fr. G.:** Kouroussa (Dec.) Pobéguin 601! **G. C.:** Birrifwa, N.W. Dist. (Feb.) Kitson! **Togo:** Kpedsu (Dec.) Howes 1043! **Dah.:** fide Berhaut l.c. **N. Nig.:** Zaria (Dec.) Meikle 834! Anara F.R. (Mar.) Olorunfemi FHI 24424! Kaduna (Nov.) Keay FHI 28113! Bauchi Plateau (Sept., Oct.) Lely 574! P. 846! Lokoja Barter! Yola (Oct.) Shaw 96! **S. Nig.:** Eruwa Rowland!

Widespread in tropical Africa, with three other variants in E. Africa.

2. *Jussiaea erecta* Linn. Sp. Pl. 388 (1753); Munz in Darwiniana 4: 195 (1942); Berhaut l.c. 322 (1953); Brenan in F.T.E.A. Onagr. 12, t. 2, 2 (1953).

APD: Synonym of Ludwigia erecta (L.) H. Hara

Jussiaea acuminata **Sw.**, not of F.W.T.A., ed. 1, 1: 146.

Jussiaea altissima **Perr. ex DC.** Prod. 4: 55 (1828); Guill. & Perr. Fl. Seneg. 1: 293 (1833).

Jussiaea linifolia of F.W.T.A., ed. 1, 1: 146 (excl. Brown-Lester 10).

Sen.: Perrottet! Farman 41! **Fr. Sud.:** Timbuktu (July) Chev. 1276! 1277! Hagerup 163c! **S. L.:** Laminaiya (Apr.) Thomas 142! Mange, Bure (Jan.) Deighton 1036! **Fr. Nig.:** Daddara (Dec.) Meikle 818! **N. Nig.:** R. Niger Barter 823! **S. Nig.:** Ibadan (Apr.) Meikle 1420! R. Ogbesse, Akinjare (Apr.) Jones FHI 3099! R. Shasha, Etemi (May) Tamajong FHI 16781! R. Osse, Iguoriakhi (Jan.) Brenan 8928!

Widespread in tropical Africa, Madagascar, Mascarene Islands, and in tropical America.

3. *Jussiaea decurrens* (Walt.) DC. Prod. 3: 56 (1828); Munz l.c. 198.

APD: Synonym of Ludwigia decurrens Walter

Ludwigia decurrens **Walt.**

Erect annual herb.

Gam.: Sounders 5! **S. Nig.:** R. Waiya, Ikom (Dec.) Keay FHI 28289! Atan Eki, Itu (Jan.) Jones FHI 5039! Cross R., Ikot Okpora (Apr.) Akpata FHI 3934!

Native of tropical and subtropical America.

4. **Jussiaea perennis** (Linn.) Brenan in Kew Bull. 1953: 163; Brenan in F.T.E.A. Onagr. 13, t. 2, 4 (1953).

APD: *Synonym of Ludwigia perennis* L.

Ludwigia perennis Linn.

Ludwigia parviflora Roxb.—F.T.A. 2: 490; Trochain in Bull. Soc. Bot. Fr. 82: 144 (1935).

Isnardia multiflora Guill. & Perr. Fl. Seneg. 1: 295.

Annual herb; capsules 12 mm. long or less.

Sen.: Perrottet 320. Richard Tol Leprieur! Walo (Jan.) Perrottet! Bakel (Sept., Oct.) Heudelot 328.

Also in **Chad**, **A.-E. Sudan**, **E. Africa** and **Madagascar**; widespread in tropical Asia, the Philippines and New Caledonia; possibly in Australia.

5. **Jussiaea pulvinaris** (Gilg) Brenan l.c. 163 (1953).

APD: *Synonym of Ludwigia senegalensis* (DC.) Troch.

Ludwigia pulvinaris Gilg—F.W.T.A., ed. 1, 1: 146; Trochain l.c. 144 (1936).

Small prostrate herb.

Fr. Sud.: Tiguibéri (Jan.) Chev. 295! Island in R. Niger, between Bourem and Bamba (Mar.) Leclercq 42321; Chev. 42947.

Fr. G.: Kouria (Oct.) Caille 15027. **S. L.:** Njala (Mar.) Deighton 3370!

Also in **Belgian Congo** (?), **Rhodesia** and **Angola**.

6. **Jussiaea senegalensis** (DC.) Brenan l.c. 164 (1953).

APD: *Synonym of Ludwigia senegalensis* (DC.) Troch.

Prieurea senegalensis DC.

Jussiaea prieurea Guill. & Perr.

Ludwigia prieurea (Guill. & Perr.) Trochain l.c. 142–3 (1935).

Ludwigia senegalensis (DC.) Trochain Contrib. Vég. Sénégal 378 (1940).

Small prostrate herb.

Sen.: Leprieur! Dangana Leprieur. Matam (Nov.) Trochain 992. **Fr. Sud.:** Koulikoro (Oct.) Chev. 15774. Dogo (May)

Davey 128! **S. L.:** Mange, Bure (Dec.) Jordan 723!

Also in **A.-E. Sudan**.

7. **Jussiaea suffruticosa** Linn. Sp. Pl. 388 (1753); Munz l.c. 235.

APD: *Synonym of Ludwigia octovalvis* (Jacq.) P.H. Raven

Jussiaea villosa Lam.

- 7a. **Jussiaea suffruticosa** var. **breviseipala** Brenan in Kew Bull. 1953: 168; Brenan in F.T.E.A. Onagr. 14, t. 2, 5 (1953).

APD: *Synonym of Ludwigia octovalvis* (Jacq.) P.H. Raven

Jussiaea villosa Lam. of F.W.T.A., ed. 1, 1: 146, partly.

Herb, to 4 ft. high; sepals 3.5–6 mm. long, 1.5–3.25 mm. broad; petals 5–8 mm. long, 3–4.5 mm. broad.

Gam.: Wallikunda (Aug.) Macluskie! **S. L.:** Mahera (Nov.) Deighton 5683! Njala (Oct.) Deighton 2808! Baoma (Apr.) Deighton 3167! Yonibana (Oct., Nov.) Thomas 4059! 4741! **Lib.:** Bushrod Isl. (Dec.) Barker 1101! **G.C.:** Kumasi (Dec.) Darko 481! **N. Nig.:** Sokoto (Sept., Nov.) Moiser 43! Birnin Gwari (Apr.) Meikle 1381! Naraguta Lely 28! **S. Nig.:** Lagos Millen 106! Ibadan (Jan., Mar.) Meikle 945! Keay FHI 25693! Oke-Opin, Ilorin (Dec.) Ajayi FHI 19279! Oban Talbot! **Br. Cam.:** R. Cameroon (Jan.) Mann 2227! Victoria (June) Maitland 55! Wum, Bamenda (Apr.) Maitland 1593!

Widespread in tropical Africa.

7b. *Jussiaea suffruticosa* var. *linearis* (Willd.) Oliv. ex O. Ktze. Rev. Gen. Pl. 1: 251 (1891); Brenan in F.T.E.A. Onagr. 15 (1953).

APD: Synonym of Ludwigia octovalvis (Jacq.) P.H. Raven

***Jussiaea linearis* Willd.;** Berhaut l.c. 323 (1953).

***Jussiaea villosa* Lam.**—F.W.T.A., ed. 1, 1: 146, partly.

Herb to 4 ft. high; sepals 3–5 mm. long, 1–2 mm. broad; petals 3–4 mm. long, 2–2.5 mm.

Sen.: M'bidjem Thierry 80! Dakar (May) Baldwin 5749! **Gam.:** Ruxton 24! **Fr. Sud.:** Nafadié (Jan.) Chev. 158! **Fr. G.:** Pobéguin 446! Ditinn (Apr.) Chev. 12946! **Lib.:** Grand Bassa T. Vogel 5! **G. C.:** Aboma F.R. (Nov.) Vigne 3448! Accra (May) Irvine 697! **Fr. Nig.:** Niamey Hagerup 531! **N. Nig.:** Lokoja (Sept.) Parsons L. 15! Lemme (May) Lely 93! Abinsi (Nov.) Dalz. 766! 767! **S. Nig.:** Olokemeji (June) Jones & Keay FHI 18820!

Widespread in tropical Africa, and in Madagascar.

7c. *Jussiaea suffruticosa* var. *piloso-linearis* Brenan in Kew Bull. 1953: 169; Brenan in F.T.E.A. Onagr. 15 (1953).

APD: Synonym of Ludwigia octovalvis (Jacq.) P.H. Raven

***Jussiaea villosa* Lam.**—F.W.T.A., ed. 1, 1: 146, partly.

Herb, similar to var. *linearis*, but more or less densely pilose.

Togo: Baumann 246! **S. Nig.:** Abeokuta Irving 71! R. Ogbesse, Akinjare (Apr.) Jones FHI 3110!

Also in **Belgian Congo** and **Kenya**.

8. *Jussiaea gracilis* Brenan in Kew Bull. 1953: 170.

APD: Synonym of Ludwigia brenanii H. Hara

Herb, from a few to 30 in. high; petals pale yellow.

Togo: Kpandu Robertson 66!

9. *Jussiaea linifolia* Vahl Eclog. Amer. 2: 82 (1798); Munz l.c. 250; F.W.T.A., ed. 1, 1: 146, partly (Brown-Lester 10 only); Berhaut in Bull. Soc. Bot. Fr. 99: 321 (1953).

APD: Synonym of Ludwigia hyssopifolia (G. Don) Exell

Jussiaea acuminata of F.W.T.A., ed. 1, 1: 146, partly, not of Sw.

Erect herb, much branched, to 2 ft. high, rarely more.

Sen.: fide Berhaut l.c. **Gam.:** Brown-BokuprLester 10! Pirie 47! **S. L.:** Barter! Mange, Bure (Jan.) Deighton 1035! Diamain (Apr.) Adames 37! Port Loko (Dec.) Thomas 6513! Yonibana (Oct., Nov.) Thomas 4209! 4244! **Lib.:** Monrovia (Nov.) Dinklage 3250! Duport (Nov.) Linder 1488! Bumbuma (Oct.) Linder 1320! **G. C.:** Sekondi (Oct.) Howes 987! Pra R. Irvine 433! Aboma F.R. (Nov.) Vigne 3447! **S. Nig.:** Lagos Millen 149! Okomu F.R. (Feb.) Brenan 9192! Idah (Sept.) T. Vogel 72! Onitsha (Feb.) Jones FHI 521! Cross R. Johnston!

Also in **Ubangi**, **French Cameroons**, **Gabon**, **Belgian Congo**, **S. Tomé**, and widespread in the tropics.

10. *Jussiaea leptocarpa* Nutt. Gen. N. Amer. Pl. 1: 279 (1818); Munz l.c. 254; Berhaut l.c. 321 (1953); Brenan in F.T.E.A. Onagr. 16, t 2, 6 (1953).

APD: Synonym of Ludwigia leptocarpa (Nutt.) H. Hara

Jussiaea pilosa H. B. & K.; F.W.T.A., ed. 1, 1: 146, partly.

Herb, sometimes slightly woody, to 6 ft. high; with numerous, sometimes dense, spreading hairs, especially on young parts.

Sen.: fide Berhaut l.c. **S. L.:** Diamain (Apr.) Adames 38! Rokupr (Apr.) Adames 164! **N. Nig.:** Barter 1554! Daura (Apr.) Meikle 1362! Baga Seyoram, L. Chad (Jan.) Davey FHI 27134! **S. Nig.:** Lagos (June) Dalz. 1255! Okomu F.R. (Dec.) Brenan 8588! Sapoba (Mar., Aug.) Jones FHI 732! 4959! Cross R., Itu (Jan.) Jones FHI 6195! **Br. Cam.:** Johann-Albrechtshöhe Staudt 829!

Widespread in tropical Africa and in tropical and subtropical America.

11. Jussiaea affinis DC. Prod. 3: 53 (1828); Munz l.c. 259.

APD: Synonym of Ludwigia affinis (DC.) H. Hara

Jussiaea pilosa of F.W.T.A., ed. 1, 1: 146, partly (Sc. Elliot 4368 and Thomas 7626 only).

Herbaceous, or shrubby, to 4 ft. high or more.

S. L.: Samu (Dec.) Sc. Elliot 4368! Port Loko (Dec.) Thomas 6525! 6548! Kenema (Jan.) Thomas 7522! 7626! **Lib.:** Nyaake, Webo (June) Baldwin 6173! Brewerville (June) Barker 1324! **Iv. C.:** Man (Jan.) Schnell 4021!

Native of tropical America.

12. Jussiaea africana Brenan in Kew Bull. 1953: 171.

APD: Synonym of Ludwigia africana (Brenan) H. Hara

Habit uncertain, probably herbaceous, at least 1 1/2 ft. high; flowers often several together on short lateral branchlets, often aggregated into a leafy panicle.

S. L.: Burbridge 540!

Also in **French Cameroons** and **Spanish Guinea**.

13. Jussiaea abyssinica (A. Rich.) Dandy & Brenan in F. W. Andr. Fl. Pl. A.–E. Sudan 1: 145 (1950); Brenan in F.T.E.A. Onagr. 18, t. 2, 7, t. 4 (1953).

APD: Synonym of Ludwigia abyssinica A. Rich.

Ludwigia abyssinica A. Rich.

Jussiaea acuminata of F.W.T.A., ed. 1, 1: 146, partly.

Herb or weak shrub, straggling or erect, to 10 ft. high, much branched; flowers characteristically appearing as though in axillary clusters.

Fr. G.: Kouria Chev. 15012! Nzérékoré (Oct.) Baldwin 9734! **S. L.:** Port Loko (Dec.) Thomas 5849! 6522! Yonibana (Nov.) Thomas 4779! 4939! Magbille (Dec.) Thomas 5886! Yetaya (Sept.) Thomas 2292! **Lib.:** Kakatown Whyte! Gbanga (Sept.) Linder 507! Zeahtown, Tchien (Aug.) Baldwin 6953! **G. C.:** Kwahu (Jan.) Irvine 1733! R. Kakum, Assuansi (Mar.) Irvine 1548! Kumasi (Feb.) Darko 521! **N. Nig.:** Anara F.R. (Oct.) Keay FHI 20123! Lokoja (Mar.) Shaw 20! Bauchi Plateau (Jan., Sept.) Lely 568! P. 131! **S. Nig.:** Lagos Millen 52! MacGregor 103! Enugu Jones FHI 708! **Br. Cam.:** Rio del Rey Johnston! Lakom, Bamenda (May) Maitland 1448!

Widespread in tropical Africa, also in **Natal**, **Zululand** and **Madagascar**.

14. Jussiaea repens Linn. Sp. Pl. 388 (1753); Munz l.c. 270. *APD acc*

Jussiaea repens var. diffusa (Forsk.) Brenan in Kew Bull. 1953: 171; Brenan in F.T.E.A. Onagr. 19, t. 2, 8 (1953).

APD: Synonym of Ludwigia adscendens subsp. diffusa (Forssk.) P.H. Raven

Jussiaea diffusa Forsk.—F.T.A. 2: 488; F.W.T.A., ed. 1, 1: 146.

Jussiaea stolonifera Guill. & Perr. Fl. Seneg. 1: 292 (1833).

Jussiaea pilosa of F.W.T.A., ed. 1, 1: 146, partly (Chev. 1273; 1275).

Jussiaea repens of Berhaut in Bull. Soc. Bot. Fr. 99: 321 (1953).

Herb creeping and rooting at nodes, or more often floating in water.

Sen.: Perrottet! **Gam.:** Hayes 5321 **Fr. Sud.:** Mopti (May) Hagerup 76! Timbuktu (July) Chev. 1273! 1275! **S. L.:** Gbap (Apr., June) Adames 23! 51! **G. C.:** Botchiano Irvine 1030! Accra to Prampram (Apr.) Irvine 2841! **Dah.:** Le Testu 225! **Fr. Nig.:** Mayatiki (May) Lean 33! **N. Nig.:** Sokoto (Mar.) Dalz. 521! Bauchi Plateau (May, July) Lely 172! P. 149! P. 560! Katagum (Jan.) Dalz. 302! Odeko, Kabba Prov. Jones FHI 2843! **S. Nig.:** Lagos (Oct.) Moloney!

Widespread in the Near East and Africa; the typical plant is widespread in tropical Asia, and other varieties are in America.

TRAPACEAE

Aquatic floating herbs. Leaves alternate, floating, resented, only present at the upper nodes; stipules small, scarious, cleft to base and thus apparently more than two per leaf; petiole spongy and more or less inflated about the middle; lamina rhombic to deltoid. Adventitious roots (?) submerged, paired but not opposite, one from either side of leaf-scar, chlorophyllose and thus leaf-like, pinnatisect into many filiform segments. Flowers solitary from upper axils, pedunculate, hermaphrodite, regular. Sepals, petals and stamens 4, latter perigynous. Petals white. Ovary half-inferior, bilocular; ovules pendulous, one per loculus. Fruit a one-seeded, top-shaped drupe; pericarp soon disappearing; endocarp very hard, variously 2–4-horned, the horns derived from the persistent sepals.

Clearly related to and probably derived from Onagraceae, but so distinct in its morphology that it is better as a separate family. The germination is very remarkable, one cotyledon only being exposed, the other remaining within the pyrene (endocarp)-see Hegi, Ill. Fl. Mitteleuropa 5, 2: 889 (1925) for illustration. The family has only the following genus.

TRAPA

Linn.—F.T.A. 2: 491.

- 1 Annual; leaves with lamina often broader than long, 1.5–4.5 cm. long, 1.5–7 cm. broad, toothed in upper part, glabrous above, beneath varying from almost glabrous to densely hairy all over; sepals about 4–7 mm. long; petals white, obovate-oblong to obovate, about 8–16 mm. long; fruit 2–4-horned, the horns very variable in shape, size and direction [natans](#)

Trapa natans *Linn.* Sp. Pl. 120 (1753); Hegi Ill. Fl. Mitteleuropa 5, 2: 884 (1925); Brenan in F.T.E.A. Trapac. (1953). *APD acc*

Trapa natans var. *bispinosa* (*Roxb.*) *Makino* in Inuma, Somoku-Dzusetzu, ed. 3, 1: 137 (1907). *APD acc*

Trapa bispinosa *Roxb.*—F.T.A. 2: 491; F.W.T.A., ed. 1, 1: 146 (probably).

Fruits always 2-horned, horns from upper angles, sharp, reflexedly barbed below points, erecto-patent to almost horizontal, straight or slightly curved.

Port. G.: Bafata by R. Geba (fr. June) Esp. Santo 2263! **N. Nig.:** Yola, in pools (Mar.) Dalz. 67!

The solitary W. African specimen placed under *T. bispinosa* *Roxb.* in the F.W.T.A., ed. 1, 1: 146, Dalz. 67, lacks fruits so its identification is uncertain, but it is probably var. *bispinosa*. I consider *T. bispinosa* *Roxb.* best regarded as *T. natans* var. *bispinosa* (*Roxb.*) *Makino*. The aggregate species has a very wide discontinuous range through Europe, Asia and Africa; it is naturalized in N. America and Australia; more widespread in Tertiary times than to-day.

HALORAGACEAE

Herbs or undershrubs, often aquatic; leaves alternate, opposite or verticillate, sometimes very large, the submersed ones often much divided; stipules absent. Flowers hermaphrodite or unisexual, solitary to paniculate or corymbose, often very small. Calyx-tube adnate to the ovary; lobes 2–4 or absent. Petals 3–4 or absent, valvate or slightly imbricate. Stamens 2–8, rarely 1, large; anther basifixed, 2-celled,

opening lengthwise. Ovary inferior, 1–4-celled; styles 1–4; ovules as many as the styles, pendulous from the apex of the cells. Fruit small, a nut or drupe, sometimes winged, indehiscent or rarely breaking up into cocci. Seeds pendulous, with copious endosperm and straight fairly large (rarely small) embryo.

A small family, widely spread and usually found in damp or boggy places. Only two species represented in our area.

LAUREMBERGIA

Berg.—Schindler in Engl. Pflanzenr. Halorrh. 61 (1905); F.T.A. 2: 405 as *Serpicula* Linn.

- 1 Stem and leaves pubescent, especially when young, or glabrous; flowers minute, up to about 11 in each leaf axil; leaves alternate or opposite, linear or linear-oblongate, entire, or very minutely serrate towards the apex, 10–13 mm. long and 1 mm. broad [1. engleri](#)

Stem and leaves densely white-villous all over; flowers up to 7 in each leaf-axil; leaves opposite, oblong or obovate, with one tooth on each margin near the apex, or tricuspidate, about 12 mm. long and 4 mm. broad [2. villosa](#)

1. *Laurembergia engleri* Schindler in Engl. Pflanzenr. Halorrh. 73, fig. 21 (1905).

APD: Synonym of Laurembergia repens subsp. brachypoda (Welw. ex Hiern) Oberm.

Creeping herb in marshy ground; stems reddish, flowers greenish-yellow or brownish.

G. C.: Atwabo, W.P. (Feb.) Irvine 2296! (possibly distinct?). **N. Nig.:** Nupe Barter 1665! Bida (Mar.) Meikle 1326!

Also in **A.–E. Sudan.**

2. *Laurembergia villosa* Schindler l.c. (1905).

APD: Synonym of Laurembergia repens subsp. brachypoda (Welw. ex Hiern) Oberm.

A minute undershrub in damp ground.

Sen.: M'boro Perrottet 742; Leprieur.

Mildbraed in Wiss. Ergebn. 1910–11, 2: 189 (1922) records also Tessmann 2890 from Moka, Fernando Po, which he identifies as *L. cf. tetrandra* (Schott) Kanitz, a species of N. Africa and S. America (see Schindler l.c. 74).

THYMELAEACEAE

Trees, shrubs or rarely herbs; leaves opposite or alternate, entire, often small and ericoid; stipules absent. Flowers actinomorphic, usually hermaphrodite, sometimes capitate. Calyx tubular, more or less cylindric, sometimes long and slender; lobes 4–5, imbricate. Petals present or absent, sometimes very small, mostly inserted at the mouth of the calyx-tube. Stamens as many or twice as many as the calyx-lobes, inserted in the calyx-tube; anthers 2-celled, opening lengthwise. Disk hypogynous or absent. Ovary superior, 1–2-celled; ovule solitary in each cell, pendulous; style simple; stigma entire. Fruit a nut, drupe or pyrene, usually enclosed in the base of the calyx-tube. Seeds with or without endosperm; embryo straight.

Mainly South African, Mediterranean and Australian.

Recognized by the woody habit, absence of stipules, actinomorphic tubular often coloured calyx, and reduced or absent petals.

- 1 Petals large and conspicuous, mostly as long as the calyx-lobes and often deeply divided; leaves very oblique, acuminate; flowers solitary, or 2–4 together, in leaf-axils [1. Dicranolepis](#)
- Petals absent, or very small and scale-like: **2**
- 2 Flowers not capitate, in axillary clusters, umbels or racemes: **3**
- Flowers capitate, surrounded by an involucre of bracts: **6**
- 3 Calyx divided nearly to the base; petals present, scale-like in pairs opposite the sepals [2. Octolepis](#)
- Calyx tubular: **4**

- 4 Petals present, fused into a ring at the mouth of the calyx-tube[3. *Synaptolepis*](#)
 Petals absent:[5](#)
- 5 Inflorescence pedunculate; ovary 2-celled; calyx-tube rather broad and cylindrical, with very short, broad lobes[4. *Peddiea*](#)
 Inflorescence not pedunculate; ovary 1-celled; calyx-tube slender, with linear lobes[5. *Craterosiphon*](#)
- 6 Calyx-lobes 4; calyx-tube glabrous, or shortly and sparingly pubescent:[7](#)
 Calyx-lobes 5; calyx-tube densely long-villous; petals present, rarely absent; stamens shortly exerted from the calyx-tube[8. *Lasiosiphon*](#)
- 7 Petals present, sometimes very small; stamens slightly exerted from the calyx-tube[6. *Gnidia*](#)
 Petals absent; stamens included in the calyx-tube[7. *Arthrosolen*](#)

1. DICRANOLEPIS

Planch.—F.T.A. 6, 1: 238; Staner in Bull. Jard. Bot. Brux. 13: 326 (1935).

- 1 Calyx with stalked glands; calyx-tube 4–5 cm. long, calyx-lobes about 1 cm. long; petals 15–18 mm. long; stigma club-shaped; leaves obliquely oblong-ovate, caudate-acuminate, 10–20 cm. long, 4.5–7.5 cm. broad [1. *glandulosa*](#)
 Calyx without stalked glands; calyx-tube generally less than 4 cm. long; leaves generally less than 12 cm. long: [2](#)
- 2 Calyx glabrous outside or only sparsely pubescent; petals shorter than calyx-lobes:[3](#)
 Calyx densely hairy outside:[4](#)
- 3 Calyx-tube 8–10 mm. long, calyx-lobes 5–6 mm. long; stigma discoid or capitate; leaves obliquely oblong or ovate, caudate-acuminate, 5–12 cm. long, 3–5.5 cm. broad[2. *buchholzii*](#)
 Calyx-tube 20–32 mm. long, calyx-lobes 6–10 mm. long; stigma club-shaped or capitate; flowers solitary, or 2–4 together; leaves obliquely rhomboid-elliptic, caudate-acuminate, 2–9 cm. long, 1–3.5 cm. broad[3. *disticha*](#)
- 4 Stigma discoid or capitate:[5](#)
 Stigma club-shaped:[6](#)
- 5 Petals longer than calyx-lobes; calyx-tube 30–40 mm. long, calyx-lobes 12–14 mm. long; petals 15–22 mm. long; anthers well exerted; bracteoles subulate; leaves obliquely rhomboid, caudate-acuminate, 5–8 cm. long, 1.5–3.5 cm. broad[4. *grandiflora*](#)
 Petals shorter than calyx-lobes; calyx-tube 15–25 mm. long, calyx-lobes 8–12 mm. long; petals 6–10 mm. long; anthers only just exerted; bracteoles ovate or ovate-lanceolate; leaves obliquely elongate-rhomboid, caudate-acuminate, 5–10 cm. long, 1.5–3 cm. broad[5. *vestita*](#)
- 6 Leaves fairly large, about 8–10 cm. long and 2–4 cm. broad; petals much exceeding the calyx-lobes; calyx-tube 25–30 mm. long, calyx-lobes striate about 10 mm. long; petals 16–20 mm. long[6. *persei*](#)
 Leaves smaller, up to 7 cm. long and 2.5 cm. broad; calyx-lobes and petals subequal:[7](#)
- 7 Segments of the petals entire; calyx-tube very slender, 25–27 mm. long, calyx-lobes and petals about 8 mm. long; leaves very obliquely rhomboid-lanceolate, 2.5–3.5 cm. long, about 1 cm. broad[7. *polygaloides*](#)
 Segments of the petals more or less toothed; leaves obliquely ovate; 4–7 cm. long, 1.5–2.5 cm. broad:[8](#)
- 8 Calyx-tube 25–30 mm. long, glabrous inside[8. *laciniata*](#)
 Calyx-tube about 20 mm. long, pubescent inside[9. *pubescens*](#)

1. *Dicranolepis glandulosa* H. H. W. Pearson in F.T.A. 6, 1: 242 (1910). *APD acc*

Shrub or treelet, with horizontal branches; flowers white.

Br. Cam.: Bibundi (Nov.) Mildbr. 10652!

Also in **French Cameroons**.

2. *Dicranolepis buchholzii* Engl. & Gilg—F.T.A. 6, 1: 241. *APD acc*

Low shrub or treelet, 3 ft. high.

Br. Cam.: R. Mungo Buchholz. Likomba (Nov.) Mildbr. 10691! Johann-Albrechtshöhe Staudt 803!

3. *Dicranolepis disticha* Planch.—F.T.A. 6, 1: 243; Chev. Bot. 545; Staner in Bull. Jard. Bot. Brux. 13:

329 (1935). *APD acc**Dicranolepis mannii* Baill.—F.T.A. 6, 1: 242; F.W.T.A., ed. 1, 1: 148.*Dicranolepis stenosphon* H. H. W. Pearson in F.T.A. 6, 1: 240; F.W.T.A., ed. 1, 1: 148.

Shrub or treelet, 3–10 ft. high; calyx pale green outside; inside of calyx-lobes, and petals, stamens and style white, becoming cream.

Fr. G.: fide Chev. l.c. **S. L.:** Afzelius! Don! Unwin & Smythe 17! Njala (Oct.–Jan.) Dalz. 8058! Deighton 1413! 2404! Yonibana (Nov.) Thomas 4876! **Lib.:** Gbanga (Sept.) Linder 661! **Iv. C.:** fide Chev. l.c. **S. Nig.:** Okomu F.R. (fl. Dec.–Jan., fr. Feb.) Brenan 8567! 8836! 9060! Owhy (Dec.) Holland 179! Eket Talbot 3314! Oban Talbot 2312! **Br. Cam.:** R. Cameroon (Jan.) Mann 2199! **F. Po.:** (Jan.) Mann 217!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

4. *Dicranolepis grandiflora* Engl.—F.T.A. 6, 1: 240. *APD acc**Dicranolepis talbotiorum* S. Moore.

Shrub or treelet, to 16 ft. high. with horizontally spreading branches and large, erect, white flowers; fruit orange.

G. C.: Okroase (Dec.) Johnson 457! S. Scarp F.R. (Dec.) Moor 1150! **Togo:** Oboghan Hill Hughes FH 2984! **S. Nig.:** Lagos Punch! Okomu F.R. (Dec.) Brenan 8448! Sapoba (Nov.) Meikle & Keay 556! Kennedy 2745! Degema Talbot 3693! Oban Talbot 1273! **Br. Cam.:** Johann-Albrechtshöhe Staudt 473! **F. Po.:** (Dec.) Mann 23!

5. *Dicranolepis vestita* Engl.—F.T.A. 6, 1: 241. *APD acc*

Shrub or treelet, to 10 ft. high; calyx green outside with white indumentum; petals and calyx-lobes within cream; fruits apricot-yellow, long-beaked.

S. Nig.: Oban Talbot 1273a! 1280! R. Ata, Sonkwala, 4,000 ft. (Dec.) Savory & Keay FHI 25059! **Br. Cam.:** Cam. Mt., 2,000–4,500 ft. (fl. Dec.–Feb., fr. May) Mann 1214! 2161! Maitland 667! 1313! Deistel 278! **F. Po.:** Mann! Moka (Jan.) Guinea 2082!

6. *Dicranolepis persei* Cummins—F.T.A. 6, 1: 242; Chev. Bot. 545. *APD acc*

Shrub 4–6 ft., or up to 15 ft. high; flowers white.

Iv. C.: fide Chev. l.c. **G. C.:** Kumasi (Apr.) Cummins 186! Vigne 1115! Juaso (Dec.) Dalz. 111! Kwahu Plateau (Apr.) Kitson 1042! Akim (Feb.) Glover 10! Ankasa F.R. (Dec.) Vigne 3170! (See Appendix, P. 42.)

7. *Dicranolepis polygaloides* Gilg ex H. H. W. Pearson in F.T.A. 6, 1: 243 (1910). *APD acc*

Shrub; flowers white.

Br. Cam.: R. Mungo Schlechter 12889! S. Bakossi F.R. (May) Olorunfemi FHI 30562!

Also in **French Cameroons**.

8. *Dicranolepis laciniata* Gilg—F.T.A. 6, 1: 243. *APD acc*

Shrub with white flowers.

Lib.: Harley! Nikabuzu to Zigida (Mar.) Bequaert 130! **Togo:** Misahöhe Baumann 481!

9. *Dicranolepis pubescens* H. H. W. Pearson in F.T.A. 6, 1: 243 (1910). *APD acc*

Shrub, with young branches densely pubescent, later glabrous.

Fr. G.: Kassa, near the Sierra Leone boundary Sc. Elliot 5066!

2. OCTOLEPIS

Oliv.—F.T.A. 6, 1: 252.

- 1 Sepals 5; leaves rather narrowly oblong-elliptic, more or less gradually triangular-acuminate, very shortly cuneate at base; lateral nerves about 6–7 pairs, prominently looped [1. *decalepis*](#)
- Sepals 4; leaves rather broadly obovate or obovate-elliptic, rather abruptly caudate-acuminate, gradually narrowed from above the middle to the base; lateral nerves 8–14 pairs [2. *casearia*](#)

1. ***Octolepis decalepis* Gilg**—F.T.A. 6, 1: 253; Chev. Bot. 646; Staner in Bull. Jard. Bot. Brux. 13: 325 (1935).

APD: *Synonym of Octolepis casearia Oliv. var. casearia*

A low shrub with glabrous grey-brown branches; flowers white; [by river banks in inundated forest](#).

Lib.: Grand Bassa (Sept.–Oct.) Dinklage 2044! R. Farmington (Dec.) Bequaert 8! **Iv.C.:** Guidéko (May) Chev. 16387!

Also in [Belgian Congo](#).

2. ***Octolepis casearia* Oliv.**—F.T.A. 6, 1: 254. *APD acc*

***Octolepis dinklagei* Gilg** —F.T.A. 6, 1: 253–4.

***Octolepis macrophylla* Gilg** —F.T.A. 6, 1: 253–4.

Shrub or treelet, 6–10 ft. high; flowers white; fruits green, nodding, dehiscent with shining black, pubescent seeds.

S. Nig.: R. Calabar, near Calabar (Feb.) Mann 2306! Brenan 9228! **Br. Cam.:** S. Bakundu F.R.. (fl. & fr. Mar.) Brenan 9270! 9321! Johann-Albrechtshöhe Staudt 838.

Also in [French Camerouns](#) and [Spanish Guinea](#).

3. SYNAPTOLEPIS

Oliv.—F.T.A. 6, 1: 245.

- 1 A low glabrous shrub; branches sparingly leafy, purplish; leaves elliptic-obovate, shortly cuneate at base, often widely refuse at apex, up to 6 cm. long and 2.5 cm. broad, with a thick recurved margin, tawny beneath, with numerous raised lateral nerves; calyx-tube 15–18 mm. long, gradually expanded to about 1.5 mm. diam. at the mouth, calyx-lobes oblong-ovate, about 2 mm. long and 1 mm. broad; petals scale-like and ciliate; stamens in two whorls, the lower included in the calyx-tube, the upper just exceeding the petals; fruit ovoid about 15 mm. long, enclosed in the persistent calyx-tube, and capped by the slender upper style-like portion of the calyx-tube and lobes [retusa](#)

***Synaptolepis retusa* H. H. W. Pearson** in F.T.A. 6, 1: 247 (1910); Chev. Bot. 546. *APD acc*

Suffrutex, with stout woody stock, and erect shoots to 18 in. high; stem and leaves pale glaucous green; flowers pale green with golden anthers; [on dry stony soil in savannah](#).

Fr. G.: Farmar! Pobéguin 2109! Dougoura Chev. 338! Kollangui (Mar.) Chev. 12211! Labé (Mar.) Chev. 12368! **Dah.:** Atacora Mts. Chev. 24034! **N. Nig.:** Utachu to Madengyen, Kontagora (Jan.) Meikle 1068!

4. PEDDIEA

Harv.—F.T.A. 6, 1: 248.

- 1 Flowers 10–16 mm. long; peduncle 6–40 mm. long; pedicels about as long as the flowers; leaves oblanceolate, rather obtusely acuminate, 6–15 cm. long, lateral nerves rather ascending [1. *fischeri*](#)
- Flowers 5–6 mm. long; peduncle about 10 mm. long; pedicels longer than the flowers; leaves lanceolate-elliptic, acute at each end, 5–9 cm. long, lateral nerves spreading [2. *parviflora*](#)

1. ***Peddiea fischeri* Engl.**—F.T.A. 6, 1: 249; Staner in Bull. Jard. Bot. Brux. 13: 337 (1935). *APD acc*

***Peddiea longiflora* Gilg**—F.T.A. 6, 1: 249; F.W.T.A., ed. 1, 1: 149.

***Peddiea zenkeri* Gilg**—F.T.A. 6, 1: 252.

Peddiea parviflora of Chev. Bot. 546, not of Hook. f.

Shrub or small tree; flowers white to yellowish green; [used in live fences in Bamenda](#).

Fr. G.: Fouta Djallon (Mar.) Chev. 18041! Dalaba-Diaguissa Plateau (Oct.) Chev. 18791! Foot of Mt. Nimba (fl. & fr. Sept.) Schnell 3636! **Togo:** Assuma (Oct.) Büttner 287! Bismarckburg (Sept.) Büttner 220. Konkola (July) Büttner 481. **Br. Cam.:** Bamenda; Babungo (Dec.) Ledermann 1970. Bali (May) Ujor FHI 30390!

2. *Peddiea parviflora* Hook. f.—F.T.A. 6, 1: 251.

APD: Synonym of Peddiea africana Harv.

A tree, 15–20 ft. high; flowers greenish-white.

F. Po: 5,000 ft. (Nov.) Mann 567!

5. CRATEROSIPHON

Engl. & Gilg—F.T.A. 6, 1: 248.

- 1 A glabrous climbing shrub; leaves often subopposite, oblong-elliptic, shortly cuneate at base, obtusely acuminate, 6–9 cm. long, 2.5–4 cm. broad, with numerous lateral nerves spreading almost at right angles; petiole 5–6 mm. long; flowers 3–6 in the leaf-axils, subsessile; stamens included in the calyx-tube .. [scandens](#)

Craterosiphon scandens Engl. & Gilg—F.T.A. 6, 1: 248. *APD acc*

Craterosiphon djalensis of Chev. Bot. 546, name only.

Forest climber, twigs purplish-brown with conspicuous lenticels; flowers greenish-yellow.

Fr. G.: Fouta Djallon (Oct.) Chev. 20183! **S. Nig.:** Enugu (Aug.) Jones FHI 762! Calabar Thomson 73! **Br. Cam.:** Buea, 3,900–5,000 ft. (May) Maitland! 657! Preuss 878!

Also in **French Cameroons** and **Uganda**.

6. GNIDIA

Linn.—F.T.A. 6, 1: 216.

- 1 Calyx glabrous in the upper part; stems short and unbranched from an erect woody rhizome; leaves oblanceolate, obtuse, up to 2.5 cm. long and 8 mm. broad [1. macrorrhiza](#)
Calyx pubescent in the upper part; stems elongated, branched; leaves narrowly lanceolate, acute, about 1.2 cm. long [2. schweinfurthii](#)

1. *Gnidia macrorrhiza* Gilg—F.T.A. 6, 1: 218.

APD: Synonym of Gnidia involucrata Steud. ex A. Rich.

Gnidia mittuorum Gilg—F.T.A. 6, 1: 218; F.W.T.A., ed. 1, 1: 151; Chev. Bot. 545.

Perennial herb with woody stock and erect unbranched shoots 6–12 in. high, with glaucous leaves often tinged crimson; flowers yellow to red-brown; [appearing in savannah after bush fires](#).

Fr. Sud.: Couroula (Apr.) Chev. 738. **N. Nig.:** S.E. Sokoto Prov. (Feb.) Lely 846! Zaria Prov. (Feb.) Dalz. 387! Anara F.R., Zaria (Mar.–May) Keay FHI 25782! Vom Dent Young 221!

Widespread in tropical Africa.

2. *Gnidia schweinfurthii* Gilg—F.T.A. 6, 1: 219.

APD: Synonym of Gnidia involucrata Steud. ex A. Rich.

Perennial herb with branched stems to 2 ft. high; bracts red, flowers yellow.

N. Nig.: Zaria Prov. (Feb.) Dalz. 406! Vom (Jan.) Dent Young 222! Naraguta (Jan.) Lely 76! P. 127!

Extends to A.–E. [Sudan](#).

7. ARTHROSOLEN

C. A. Mey.—F.T.A. 6, 1: 234.

APD: Synonym of Gnidia L.

- 1 Involucral bracts ovate, acutely acuminate, shorter than the flowers; leaves linear-acicular, with hard acute tips, 1·5–2 cm. long; heads with numerous flowers; calyx shortly pubescent[1. *chrysanthus*](#)
- Involucral bracts obovate, rounded at apex, as long as or longer than the flowers; leaves linear, obtuse, up to 2·5 cm. long; heads with few (about 12) flowers; calyx more or less villous[2. *foliosus*](#)

1. *Arthrosolen chrysanthus* Solms-Laub.—F.T.A. 6, 1: 234.

APD: Synonym of Gnidia chrysantha Gilg

Perennial herb with woody stock and erect, sparingly branched shoots, up to 18 in. high; flowers bright yellow; [in savannah](#).

Fr. G.: Kébeya (June) Pobéguin 716! **N. Nig.:** Kontagora (Nov.) Dalz. 106! Zaria (May) Keay FHI 25810! Katagum Dalz. 427! Lokoja Baikie! Naraguta (Apr.) Lely 79! P. 249! Biu (May) Noble 52!

Widespread in tropical Africa.

2. *Arthrosolen foliosus* H. H. W. Pearson in F.T.A. 6, 1: 237 (1910); Chev. Bot. 544.

APD: Synonym of Gnidia foliosa (H. Pearson) Engl.

Flowering stems stout, woody, up to 3 ft. high; [a willow-like plant of rocky river banks](#); flowers yellow; flowering in dry season, submerged during rainy season.

Fr. Sud.: near Bamako (Jan.) Chev. 256! **S. L.:** R. Seli, Bumbuna Dawe 516! R. Seli, Makump (Jan.) Glanville 136! Batkanu (Jan.) Deighton 2848! **Iv. C.:** Mt. Momy, Gouro (Apr.) Chev. 21374!

8. LASIOSIPHON

APD: Synonym of Gnidia L.

Fres.—F.T.A. 6, 1: 227.

- 1 A tree, up to 15 m. high, much-branched; older branchlets marked by the scars of the fallen leaves; leaves oblanceolate, very acute, 5–8 cm. long, the margin recurved at base, glabrous; flower-heads subsessile, large, about 5 cm. in diam., surrounded by large ovate glabrescent to softly tomentellous bracts; calyx-tube tomentose and with a dense tuft of long silky golden hairs at the base; petals spathulate[1. *glaucus*](#)
- Stems dwarf, more or less simple and arising from woody rhizomes, glabrous or pubescent; leaves lanceolate, obtuse or subacute, 3–4 cm. long, glabrous or pubescent; flower-heads on long peduncles, about 3 cm. in diam., with lanceolate pubescent or glabrous bracts; calyx-tube silky-pilose, with longer whitish hairs towards the base; petals membranous, often emarginate or lobed[2. *kraussianus*](#)

1. *Lasiosiphon glaucus* Fres.—F.T.A. 6, 1: 230.

APD: Synonym of Gnidia glauca (Fresen.) Gilg

Tree of [montane open woodland](#); flowers pale yellow, in numerous balls.

Br. Cam.: Cam. Mt., 6,000–7,500 ft. (Nov.–Jan.) Mann 1201! 2171! Maitland 292! 801! Mildbr. 10822! Above Bamenda (Dec.–Jan.) Migeod 337! Tamajong FHI 22215!

Widespread on the mountains of central and E. Africa.

2. *Lasiosiphon kraussianus* (Meisn.) Burt-Davy *Man. Fl. Pl. Transvaal* 1: 207 (1926).

APD: Synonym of *Gnidia kraussiana* Meisn. var. *kraussiana*

Gnidia kraussiana Meisn. (1843); Chev. Bot. 545.

Lasiosiphon kraussii Meisn. (1857); F.T.A. 6, 1: 231.

Lasiosiphon kerstingii H. H. W. Pearson in F.T.A. 6, 1: 233.

Lasiosiphon guineensis of Chev. Bot. 545, name only.

Perennial herb, with flowering shoots appearing after bush fires; flowers yellow; frequent in savannah woodland, especially in N. Nigeria.

Fr. Sud.: Tabacco (Jan.) Chev. 121. **Fr. G.:** Labé (Apr.) Chev. 12282! 12327! **G. C.:** Tumu, N.T. (Apr.) Vigne 3782!

Togo: Kirikiri (Jan.) Kersting 36! **N. Nig.:** many localities, including: Sokoto Ryan 3! Katagum Dalz. 382! Zaria (Feb.–May) Hill 44! Keay FHI 25760! Nupe Barter 1668! Bauchi Plateau (Jan.–Mar.) Hill 32! Lely 11! 13! P. 23!

Widespread in tropical and S. Africa.

NYCTAGINACEAE

Herbs, shrubs or trees. Leaves alternate or opposite, simple; stipules absent. Flowers actinomorphic, hermaphrodite or unisexual, usually cymose, sometimes surrounded by brightly coloured bracts, the latter occasionally simulating a calyx. Calyx tubular, often petaloid, valvate or folded in the bud. Petals absent. Stamens 1 to many, hypogynous, free or connate at the base, involute in bud; anthers 2-celled, opening lengthwise. Ovary superior, 1-celled; style slender; ovule solitary, erect and inverted. Fruit indehiscent, enclosed in the persistent base of the calyx, often glandular. Seeds with copious or scanty endosperm and straight or curved embryo.

Mainly in tropical America, a few in the tropics and subtropics of the Old World.

Recognized by the absence of stipules, regular apetalous flowers with tubular perianth, superior 1-celled ovary and indehiscent often glandular fruit.

- 1 Bracts small and free, not resembling a calyx:2
Bracts connate and forming a calyx-like involucre; flowers hermaphrodite; fruits not glandular4. *Mirabilis*
- 2 A spiny shrub; flowers polygamo-dioecious; fruits on long pedicels, clothed with rows of numerous sticky gland-tipped tubercles1. *Pisonia*
Not spiny; herbaceous; flowers hermaphrodite:3
- 3 Perennial plants with climbing or scrambling stems; flowers in umbels or verticels; fruits clavate, obscurely ribbed, with large, scattered mucilaginous glands2. *Commicarpus*
Annual or perennial diffuse herbs, flowers in capitula or lax cymes; fruits narrowly obovoid with 3–5 prominent ribs, smooth or minutely and densely glandular3. *Boerhavia*

Bougainvillea Comm. ex Juss.

Species of *Bougainvillea* from S. America, are cultivated in our area.

1. PISONIA

Linn.—F.T.A. 6, 1: 8.

- 1 Climbing shrub, armed with stout sharp axillary curved spines; leaves broadly elliptic-subacute at the base, obtuse at the apex, 6–9 cm. long, 3–5 cm. broad, finely tomentellous beneath when young, at length glabrous; flowers unisexual, cymose; calyx tomentellous; stamens exserted; fruits on long pedicels, clothed with rows of numerous hard sticky gland-tipped tubercles, tomentellous between the rows*aculeata*

Pisonia aculeata Linn.—F.T.A. 6, 1: 8. *APD acc*

Scandent shrub, to 30 ft. high; flowers cream. Local, and possibly introduced.

G. C.: Akropong (Oct.) Johnson 806! Swedru (Sept.) Dalz. 101! Bobiri F.R. (fr. Jan.) Andoh FH 5456! **S. Nig.:** Ilaro to Ajilite Millen 162! Ibadan North F.R. (Nov.) Chizea FHI 2396!

Widespread in the tropics.

2. COMMICARPUS

Standl. in Contrib. U.S. Nat. Herb. 12: 373 (1909).

- 1 Flowers minute (scarcely 5 mm. long, including ovary), pink; inflorescences verticillate, axillary; fruits 5–8 mm. long [1. verticillatus](#)
 Flowers larger (10–15 mm. long, including ovary), white; inflorescences irregularly branched, verticillate or umbellate; fruits about 10 mm. long [2. plumbagineus](#)

1. *Commicarpus verticillatus* (Poir.) Standl. in Contrib. U.S. Nat. Herb. 18: 101 (1916).

APD: *Synonym of Commicarpus helenae* (Schult.) Meikle var. *helenae*

APD: *Synonym of Commicarpus plumbagineus* (Cav.) Standl. var. *plumbagineus*

Boerhavia verticillata Poir. in Dict. Sc. Nat. 5: 56 (1804); F.T.A. 6, 1: 6; Chev. Bot. 526; F.W.T.A., ed. 1, 1: 153.

Stems scandent, glabrous.

Sen.: Sor Isl. (Aug.) Roger 81! Leprieur! **Fr. Sud.:** Timbuktu (July) Hagerup 233!

Generally distributed in tropical Africa; also in **Egypt**, **Arabia**, India, Pakistan and Atlantic Islands.

2. *Commicarpus plumbagineus* (Cav.) Standl. l.c. 18; 101 (1918). *APD acc*

Boerhavia plumbaginea Cav. Icon. Pl. 2: 7, t. 112 (1793); F.T.A. 6, 1: 6, partly; Chev. Bot. 526; F.W.T.A., ed. 1, 1: 153.

Stems tall, climbing or sprawling.

Sen.: Cayor (Feb.) Döllinger 44! M'bidjem (Aug.) Thierry 71! Leprieur! **N. Nig.:** Katagum (Oct.) Dalz. 196!

Throughout tropical Africa and S. Africa; also in **Spain**, **N. Africa** and **Orient**.

3. BOERHAVIA

Linn. Sp. Pl. 3 (1753); Sprague in Kew Bull. 1928: 348.

- 1 Fruits eglandular, not glutinous; inflorescences erect and much-branched, leafless [1. erecta](#)
 Fruits glandular and more or less glutinous, inflorescences diffuse, cymose or axillary: [2](#)
 2 Stems prostrate or procumbent; leaves small, usually less than 2.5 cm. long; flowers minute, less than 1 mm. diam., pink or white, in short-stalked axillary clusters [2. repens](#)
 Stems erect or ascending; leaves usually more than 2.5 cm. long; flowers more than 1 mm. diam.; ultimately forming lax, much-branched cymes: [3](#)
 3 Capitula 2–4-flowered; inflorescence diffuse, much-branched, leafless; flowers rich magenta or crimson; stems usually glabrous; young leaves fringed with long, brown, septate hairs [3. diffusa](#)
 Capitula 4–12-flowered; inflorescence irregularly branched, often leafy; flowers pink or mauve; stems pubescent or hirsute, usually more or less viscid above: [4](#)
 4 Stems thinly pubescent or puberulous, leaves ultimately glabrous or subglabrous [4. coccinea var. a](#)
 Stems and leaves hirsute or densely pubescent, viscid [4a. coccinea var. viscosa](#)

1. *Boerhavia erecta* Linn. Sp. Pl. 3 (1753); Heimerl in E. & P. Pflanzenfam. 16C: 118 (1934). *APD acc*

G. C.: Paliba, N.T. (Dec.) Adams & Akpabla 4102!

A widespread weed in the tropics of the Old and New Worlds.

2. *Boerhavia repens* Linn. l.c. 3 (1753); F.T.A. 6, 1: 4, excl. vars.; Chev. Bot. 526. *APD acc*

Sen.: Bakel (July) Leprieur! **Fr. Sud.:** Timbuktu (June) Hagerup 122 (partly)! **N. Nig.:** Katagum (Oct.) Dalz. 148! R. Benue Talbot 48a! Mamu (May) Lely 167! Bauchi Plateau (July) Lely P. 356!

Widespread in the drier parts of the tropics.

3. *Boerhavia diffusa* Linn. l.c. 3 (1753); F.W.T.A., ed. 1, 1: 153, partly. *APD acc*

Boerhavia repens var. *diffusa* (Linn.) Hook. f.—F.T.A. 6, 1: 5, partly.

Boerhavia adscendens Willd. Sp. Pl. 1: 19; F.T.A. 6, 1: 4.

Sen.: M'bidjem (Aug.) Leprieur 71! **S. L.:** Freetown (Dec.) Deighton 527! **Lib.:** Gbanga (Sept.) Linder 380! Sinkor (July) Barker 1379! **G. C.:** Aburi (Nov.) Johnson 1103! Axim (Mar.) Chipp 413! **Togo:** near Lome Warnecke 367! Kpeve (Mar.) Williams 47! **N. Nig.:** Stirling Hill Ansell! T. Vogel! Nupe Barter 660! Sokoto (Nov.) Moiser 23! 92! Matyoro (Oct.) Thornewill 140! **S. Nig.:** Nun R. (Sept.) Mann 478! Lagos Millen 27! Awka Thomas 7 bis! Agulu Thomas 309!

A common pantropical weed.

4. *luffa*

Mill. Gard. Dict. No. 4 (1768) var. α. APD acc

Boerhavia diffusa of F.W.T.A., ed. 1, 1: 153, partly, not of Linn.

Boerhavia repens var. *diffusa* (Linn.) Hook. f.—F.T.A. 6, 1: 5, partly.

The W. African specimens differ from typical *coccinea* in the close pubescence of the stems and the pink (not crimson) flowers.

Sen.: Farmer 128! Richard Tol (Jan.) Döllinger 24! **Gam.:** Pirie 53! Saunders 126! **Fr. Sud.:** Kouroussa (Feb.) Chev. 393! **S. L.:** Scarcies (Jan.) Sc. Elliot 4721! Freetown (Oct.) Deighton 2145! Batkanu (Jan.) Deighton 2859! **Lib.:** Monrovia (Dec.) Dinklage 3300! **G. C.:** Williams 515! Half Assinie (July) Chipp 272! **N. Nig.:** T. Vogel! Nupe Barter 862! Katagum (Aug.) Dalz. 147! Sokoto (Nov.) Lely 136! Baradau (May) Lely 86! Kontagora (Jan.) Meikle 1077! Gidan Mudi, Zaria (July) Keay FHI 25939! **S. Nig.:** Abeokuta Irving 136! Oshogbo (Apr.) Moloney 79! Lagos Colony Punch 61! 62! Ibadan (Dec.) Meikle 918! Keay FHI 25694!

A common pantropical weed.

4a. *Boerhavia coccinea* var. *viscosa* (Lag. & Rodr.) R. M. Mosc. in Cat. Fl. Doming. 1: 180 (1943).

APD: Synonym of Boerhavia coccinea Mill. var. coccinea

Boerhavia viscosa Lag. & Rodr. in An. Cienc. Nat. 4: 256 (1801); F.W.T.A., ed. 1, 1: 153.

Boerhavia repens var. *viscosa* Choisy—F.T.A. 6, 1: 5.

Fr. Sud.: Timbuktu (July) Hagerup 176! Amango (Sept.) Hagerup 395! **N. Nig.:** Sokoto (Aug.) Dalz. 386! Fodama (Dec.) Moiser 202!

Also in **E. Africa**, **Arabia** and **tropical America**.

4. MIRABILIS

Linn.—F.T.A. 6, 1: 1.

- 1 Erect herb; leaves ovate-triangular, acutely acuminate, more or less truncate at the base, up to 10 cm. long and 6 cm. broad, conspicuously marked with cystolith; petiole rather long and slender; flowers cymose, few; bracts calyx-like, connate in the lower part, puberulous; calyx petaloid, long-tubular with an expanded 5-lobed limb, tube 4 cm. long, glabrescent; fruit about as long as the involucre, black when dry, ribbed, glabrous[jalapa](#)

Mirabilis jalapa Linn.—F.T.A. 6, 1: 2. *APD acc*

Flowers purple, magenta, yellow or white, opening in late afternoon; widely cultivated as an ornamental, now established in many parts.

S. L.: Thomas 9662! **G. C.:** Cummins! **S. Nig.:** Lagos Punch 19! Ibadan (Sept.) Latilo FHI 13516!

A native of Peru.

PROTEACEAE

Trees or shrubs. Leaves alternate, rarely opposite, simple or much divided; stipules absent. Flowers (in our species) in a bracteate capitulum or elongated spike. Calyx petaloid, tetramerous, valvate, tubular in bud, one segment soon splitting away from the others and releasing the style, three segments remaining united. Stamens 4; anthers opposite the calyx-lobes, subsessile, 2-celled, opening lengthwise.

Hypogynous scales often present. Ovary superior, 1-celled; style long, simple; ovule 1 (in our species), subpendulous. Fruit a nut, densely bearded, crowned by the persistent style. Seed without endosperm.

Mainly confined to South Africa and Australia.

A distinct family with the flowers in our species in large bracteate heads or elongated spikes.

- 1 Flowers in an elongated spike without an involucre [1. *Faurea*](#)
 Flowers in a head surrounded by numerous bracts [2. *Protea*](#)

1. FAUREA

Harv.—F.T.A. 6, 1: 207.

- 1 Tree, with catkin-like spikes of flowers; leaves broadly lanceolate, acute at each end, 12–18 cm. long, 3–8 cm. broad, with numerous lateral nerves prominent on both surfaces, branched or looped near the margin, sparingly pubescent, shining on the upper surface; petiole 5–10 mm. long; flowers about 15 mm. long, curved before opening; calyx petaloid, softly pubescent [speciosa](#)

***Faurea speciosa* Welw.**—F.T.A. 6, 1: 211; Engl. Pflanzenw. Afr. 3, 1: 65; Hauman in Fl. Congo Belge 1: 232; Aubrév. Fl. For. Soud.-Guin. 68.

*APD: Synonym of *Faurea rochetiana* (A. Rich.) Chiov. ex Pic. Serm.*

Faurea saligna of F.T.A. 6, 1: 209, partly (Dalz. 393), of F.W.T.A., ed. 1, 1: 153, and of Chev. Fl. Viv. 1: 353, not of Harv.

Savannah tree, to 30 ft. high; flower spikes reddish; rare.

Togo: Sokode-Basari, fide Engl. l.c. **Dah.:** Kouandé Chev. **N. Nig.:** Zaria (Feb.) Dalz. 393! Anara F.R., Zaria Keay FHI 5495! Naraguta Lely 730! Bauchi (Jan.) Lely P. 15!

Widespread in tropical Africa.

2. PROTEA

R.Br.—F.T.A. 6, 1: 194.

- 1 Branchlets and leaves densely pilose or tomentose, especially when young; inner bracts appressed silky-pilose outside; perianth tube and limb pilose: [2](#)
 Branchlets and leaves glabrous, or very nearly so: [3](#)
 2 Leaves elliptic, oblong-elliptic to elliptic-lanceolate, shortly cuneate at base, obtuse at apex, 12–23 cm. long, 5–12 cm. broad [1. *elliottii* var. *elliottii*](#)
 Leaves lanceolate, gradually narrowed at each end, 10–15 cm. long, 2.5–5.5 cm. broad [1a. *elliottii* var. *angustifolia*](#)
 3 Perianth and bracts (except for the ciliate margins) glabrous; leaves elliptic-lanceolate to rhomboid, upper leaves sometimes lanceolate [2. *mediensis*](#)
 Perianth long-pilose or shaggy; bracts appressed silky-pilose outside: [4](#)
 4 Perianth limb 1.5–2.5 cm. long, very shaggy-villous; leaves elliptic to ovate-lanceolate, obtuse, 10–15 cm. long, 3–6 cm. broad [3. *angolensis*](#)
 Perianth limb 1–1.3 cm. long, pilose, except for the glabrous middle lobe; leaves lanceolate, subacute, 7–15 cm. long, 1.5–5 cm. broad [4. *argyrophaea*](#)

1. **Protea elliottii** *C. H. Wright* var. **elliottii**—F.T.A. 6, 1: 205; Chev. Fl. Viv. 1: 352. *APD acc*

Protea bismarckii *Engl.*, name only.

A shrub, up to about 10 ft.; leaf-blades often disposed vertically; flowers white, strongly odorous; chiefly in lowland savannah.

Fr. G.: & **Iv. C.:** fide Chev. l.c. **G. C.:** Bole, N.T. (Apr.) McLeod 847! Jemma, Ashanti (July) Chipp 528! Wenchi (Oct.) Vigne 2530! **Togo:** Sokode (Apr.) Kersting 82! Bo Gebirge Kersting A. 638! **Dah.:** fide Chev. l.c. **N. Nig.:** Zungeru (Sept.) Elliott 9! Kontagora (Jan.) Dalz. 69! **S. Nig.:** Eruwa Foster 117! Onitsha Talbot! Enugu (Feb.) Jones FHI 712.

Also in **French Cameroons**.

1a. **Protea elliottii** var. **angustifolia** *Keay* in Kew Bull. 1953: 287.

APD: Synonym of Protea madiensis Oliv. subsp. madiensis

Shrub, 3 ft. high; flowers white, with crimson bracts; in mountain grassland.

Br. Cam.: above L. Oku, Bamenda, 7,500 ft. (Jan.) Keay FHI 28501!

Also in **French Cameroons**.

2. **Protea madiensis** *Oliv.*—F.T.A. 6, 1: 204; Chev. Fl. Viv. 1: 349. *APD acc*

Shrub, or tree, to 10 ft. high; flowers white, with the bracts rose-pink outside.

S. Nig.: Enugu (Sept.–Nov.) Rosevear 4/28! Smith 4! Mt. Koloishe, Obudu, 5,000 ft. (Dec.) Keay & Savory FHI 25077!

Widespread in east, central and south tropical Africa.

3. **Protea angolensis** *Welw.*—F.T.A. 6, 1: 205; Chev. Fl. Viv. 1: 350. *APD acc*

APD: Synonym of Protea madiensis subsp. occidentalis (Beard) Chisumpa & Brummitt

Shrub, or tree, in savannah.

Fr. G.: & **Iv. C.:** fide Chev. l.c. **G. C.:** Zau (Aug.) Dalz. 175! **Togo:** R. Daka, Bubadia (May) Krause! **Dah.:** fide Chev. l.c. Widespread in east, central and south tropical Africa.

4. **Protea argyrophaea** *Hutch.* in Kew Bull. 1922: 398.

APD: Synonym of Protea madiensis Oliv. subsp. madiensis

Shrub, to 4 ft. high; flowers white with silvery bracts.

N. Nig.: Bauchi Plateau, 3,000–5,000 ft. (June–Aug.) Lely 381! P. 394! P. 673! Kennedy FHI 7259!

DILLENIACEAE

Shrubs or undershrubs, often climbing, rarely trees or herbs; leaves alternate, simple, entire or dentate (rarely divided); stipules very rare, and then adnate to the petiole and early deciduous. Inflorescence various. Flowers yellow or white, hermaphrodite or polygamous, rarely dioecious. Sepals 5, rarely fewer, imbricate, persistent. Petals 5 or fewer, imbricate, fugacious. Stamens hypogynous, numerous, rarely 10 or fewer, free or variously united at the base. Carpels 1 or many, generally free; ovules 1 to many in each carpel. Fruits dehiscent by one or both sutures. Seeds 1 or few, with an aril; endosperm copious, with minute embryo.

Tropics generally and in Australia.

Recognized by the alternate strongly penninerved exstipulate simple leaves, persistent imbricate sepals, usually numerous stamens, divergent anther-cells, mostly free and few carpels, and arillate seeds.

Dillenia indica *Linn.*

"fruit" composed of fleshy sepals.

A native of tropical Asia, is cultivated in Sierra Leone, Gold Coast and Nigeria.

TETRACERA

Linn.—F.T.A. 1: 12. APD acc

Climbing shrubs, rarely trees. Leaves simple, entire or denticulate. Panicles terminal, spreading, rarely few-flowered. Flowers yellow, white, or calyx green. Sepals spreading. Filaments dilated above; anthers 2-celled. Carpels 3–5 (rarely 1–2), acuminate, coriaceous when mature, shining; ovules indefinite in two series. Seeds 1–5; aril lacinate, scarlet.

- 1 Outer surface of sepals glabrous or shortly pubescent:2
- Outer and inner surfaces of sepals densely sericeous, 5–6 mm. long; carpels sericeous when young:7
- 2 Sepals densely sericeous within; carpels pilose when young, sometimes sparsely so; fruiting carpels striate; flowers numerous, mostly clustered towards the tips of the branches of the lax panicles; inner sepals 4–5 mm. long; leaves oblong to elliptic, 4–11 cm. long, 2–5.5 cm. broad, dentate in the upper half, finely scabrid above [1. *potatoria*](#)
- Sepals not densely sericeous within, glabrous or nearly so:3
- 3 Carpels densely sericeous when young, strigose when mature; inner sepals about 10 mm. long and 7 mm. broad; leaves obovate-oblong, 7–13 cm. long, 4–7 cm. broad, margin entire, smooth on both surfaces, finely pubescent on midrib and nerves beneath [2. *dinklagei*](#)
- Carpels glabrous when young, rarely sparsely pubescent:4
- 4 Sepals 6–8 mm. long:5
- Sepals 4–4.5 mm. long:6
- 5 Leaves oblong to oblong-obovate, 6–16 cm. long, 3.5–9 cm. broad, margin entire or slightly undulate towards the apex, very shortly scabrid on both surfaces, sparsely pubescent on midrib and nerves beneath, or glabrescent [3. *alnifolia*](#)
- Leaves narrowly elliptic to oblong-lanceolate, gradually acute at each end, 8–12 cm. long, 2.5–4.5 cm. broad, margin entire, glabrous [4. *djalonica*](#)
- 6 Petiole winged, together with the midrib and nerves beneath covered with long stiff spreading hairs; leaves obovate-oblong to oblong-lanceolate, 7–18 cm. long, 3.5–6.5 cm. broad, margin more or less entire; sepals very sparsely pubescent outside [5. *podotricha*](#)
- Petiole not winged, together with the midrib and nerves beneath pilose; leaves oblong-elliptic to obovate, 6–12 cm. long, 3–6 cm. broad, margin serrate in upper third; lateral nerves markedly impressed above; sepals rather densely pubescent outside; fruiting carpels smooth [6. *leiocarpa*](#)
- 7 Petioles not winged, 1–2 cm. long; lamina oblong-elliptic, 6–8 cm. long, 3–4.5 cm. broad, denticulate towards the apex, scabrid above and beneath, pubescent on midrib and nerves beneath [7. *affinis*](#)
- Petiole winged; lamina oblong-elliptic to obovate, 6–12 cm. long, 3–6 cm. broad, denticulate towards the apex, scabrid above, pilose beneath [8. *eriantha*](#)

1. ***Tetracera potatoria* Afzel. ex G. Don** Gen. Syst, 1: 69 (1831); Gilg in Engl. Bot. Jahrb. 38: 198 (1902); Chev. Fl. Viv. 1: 64. *APD acc*

APD: Synonym of Tetracera stuhlmanniana Gilg

Tetracera obtusata Planch. ex Oliv. F.T.A. 1: 12.

Tetracera leiocarpa Stapf in J. Linn. Soc. 38: 81 (1905), partly (flowering spec.); F.W.T.A., ed. 1, 1: 155, partly.

Tetracera eriantha (Oliv.) Hutch. in Kew Bull. 1923: 81, partly (Talbot 1320).

Scandent shrub or liane, to 30 ft. high; flowers white, sweet scented.

Sen.: Bignona, Casamance (Feb.) Chev. 2540! Etesse 50! **Port G.:** Pussubé, Bissau (Mar.) Esp. Santo 1482! **Fr. G.:** Rio Nunez Heudelot 643! Conakry (Feb.) Chev. 12059! Debeaux 329! Macenta (Oct.) Baldwin 9758! Pita (Nov.) Pobéguin 2178! **S. L.:** Afzelius! Don! Freetown (Feb.) Johnston 2! Kenema (fr. Jan.) Thomas 7546! Njala (Nov.) Deighton 1510! Yonimamila (Dec.) King 15b! **Lib.:** Kakatown Whyte (partly)! Gongon (Nov.) Bunting 56! Vonjama (Oct.) Baldwin 9933! **Togo:** Lome Warnecke 448! Kpandu Robertson 75! **Dah.:** Dogba (Sept.) Le Testu 289! **S. Nig.:** Lagos Millen 94! Abeokuta Irving! Agbede, Kukuruku (Nov.) Keay FHI 28080! Onitsha (fr. Feb.) Jones FHI 7432! Oban Talbot 1320!

Also in **Ubangi, Belgian Congo, Uganda** and **A.–E. Sudan**.

2. ***Tetracera dinklagei* Gilg** in Engl. Bot. Jahrb. 33: 201 (1902); Stapf in Johnston Lib. 574; Chev. Fl.

Viv. 1: 67.

APD: Synonym of Tetracera alnifolia subsp. dinklagei (Gilg) Kubitzki

Large climber; flowers large, white; fruits brown.

Lib.: Grand Bassa (fl. Sept., fr. Oct.) Dinklage 1752; 1837! 2049!

3. **Tetracera alnifolia Willd.**—F.T.A. 1: 12; Gilg l.c. 199; Chev. Fl. Viv. 1: 65. *APD acc*

Tetracera leiocarpa of Chev. Fl. Viv. 1: 64, partly, not of Stapf.

Tetracera podotricha of Chev. Fl. Viv. 1: 65, partly, not of Gilg.

Large liane, flowers white; frequent on the sea coast, in mangrove swamps, and also inland.

Sen.: Fogny, Casamance (Feb.) Chev. 2541! **Gam.:** Albreda Perottet! Bathurst (Feb.) Johnston 90! **Fr. Sud.:** Fantiéla (Apr.) Chev. 743! **Port. G.:** Bijimata, Bissau (Feb.) Esp. Santo 1765! **Fr. G.:** Maclaud 23! Tristao Isl. Paroisse 67! Kouroussa (Nov.) Pobéguin 589! **S. L.:** Afzelius! Near Freetown (fl. Aug. fr. Dec.) Smythe 58! Lane-Poole 34! Port Loko (fr. Dec.) Thomas 6527! Falaba (Mar.) Sc. Elliot 5136! Sulima (Feb.) Deighton 4597! **Lib.:** Kakatown Whyte! Grand Bassa (Aug.) Dinklage 1704! Gbanga (fr. Sept.) Linder 485! Zorzor, Vonjama (Oct.) Baldwin 10023! **Iv. C.:** Tabou (Aug.) Chev. 20048! Bingerville (Jan.) Jolly 264! Baoulé (Oct.) Pobéguin 188! **G. C.:** Axim (Aug.) Vigne 4783! Lante Hills (Nov.) Johnson 809! **Togo:** Büttner 313! Alavanyo St. C. Thompson 3657! **Dah.:** Cotonou (fr. Mar.) Debeaux 349! Ouidah (fr. Apr.) Chev. 2344! [**N. Nig.:** Bauchi Plateau (Jan.) Lely P. 57! Ropp (Dec.) W. D. MacGregor 404!—possibly a distinct species.] **S. Nig.:** Aboh Ansell! Niger delta (fr. Aug.) T. Vogel 4! Barter 2099! Mann 463! Bonny (Feb.) Kalbreyer! Calabar (fr. Mar.) Brenan 9218! **Br. Cam.:** near Debundscha (Jan.) Keay FHI 28659! **F. Po:** Mann! Ureka (Feb.) Guinea 2442!

Also in **French Cameroons**, **Ubangi**, **Gabon**, **Principe** and **Angola**.

4. **Tetracera djalonica A. Chev. ex Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 156 (1927); Chev. Bot. 4, name only.

APD: Synonym of Tetracera alnifolia Willd. subsp. alnifolia

Fr. G.: between Mamou and Dalaba (fr. Dec.) Chev. 20247!

5. **Tetracera podotricha Gilg** l. c. 200 (1902).

APD: Synonym of Tetracera alnifolia Willd. subsp. alnifolia

Forest liane, with distinctive long hairs on petiole.

S. Nig.: Lagos Moloney! Onitsha Inyang FHI 15457! Eket Talbot! Calabar McLeod! Oban Talbot! **Br. Cam.:** Kalbreyer 46!

Also in **French Cameroons**, **Congo** and **Angola**.

[Of the specimens from our area cited as this species by Chev. Fl. Viv. 1: 67, one is *T. patatoria* Afzel. ex G. Don, one is *T. alnifolia* Willd. and the others are sterile and cannot be named certainly.]

6. **Tetracera leiocarpa Stapf** in J. Linn. Soc. 33: 81 (1904), partly (fruiting spec.) . *APD acc*

Tetracera guineensis A. Chev. Fl. Viv. 1: 71, t. 13 (1938), French descr. only.

Scandent shrub, to 25 ft. high, with smooth shining fruits.

Fr. G.: Mamou to Dalaba (Dec.) Chev. 20248! Dalaba-Diaguissa (Oct.) Chev. 18705! Kouria (Nov.) Chev. 14873! Teliko (Oct.) Pobéguin 1442! **Lib.:** Kakatown Whyte (partly)! Dukwia R., Monrovia (fr. Oct., Nov.) Cooper 45! **Iv. C.:** Mt. Gbon, Dyolas (fr. May) Fleury in Hb. Chev. 21408!

7. **Tetracera affinis Hutch.** in Kew Bull. 1923: 180; Chev. Fl. Viv. 1: 69. *APD acc*

Scrambling shrub, to 40 ft. high; flowers white.

Iv. C.: Dabou (Sept.) Chev. 17253! Bériby to Tabou (Aug.) Chev. 20039! Ono (Nov.) Hedin! **G. C.:** Akwapim Hills (Oct.) Johnson 796! Abetifi, Kwahu (Nov.) Irvine 1722!

8. **Tetracera eriantha (Oliv.) Hutch.** l. c. 181 (1923); Chev. Fl. Viv. 1: 69. *APD acc*

Tetracera obtusata var. *eriantha* Oliv. F.T.A. 1: 12 (1868).

Scandent shrub or liane, to 30 ft. high; flowers white.

S. Nig.: Onitsha (Nov.) Onochie FHI 21642! Oban Talbot 1320! Bendiga Afi, Ikom (Dec.) Keay FHI 28273! **F. Po:** (Dec.) Mann 79!

Tetracera calothyrsa Gilg & Lederm. ex Engl. Pflanzenw. Afr. 3, 2: 477 (1921).

Br. Cam.: Bali, Bamenda—no specimens cited.

Imperfectly known species.

PITTOSPORACEAE

Trees or shrubs. Leaves alternate, simple; stipules absent. Flowers actinomorphic, hermaphrodite. Sepals 5, imbricate, free or nearly so. Petals 5, longer than the sepals, imbricate, free or united at the base. Stamens 5, hypogynous, free, alternate with the petals; anthers 2-celled, opening lengthwise. Ovary 1-celled with parietal placentas or 2–5-celled and the placentas meeting in the middle, superior, sessile or shortly stipitate; style simple, terminal; ovules numerous. Fruit a loculicidal capsule with the placentas in the middle of the valves, or indehiscent. Seeds with hard endosperm and minute embryo.

Mostly an Australian family.

Recognized by the woody habit, definite stamens, usually parietal placentas, mostly 2-valved capsule, and seeds with copious endosperm and minute embryo.

PITTOSPORUM

Banks ex Soland.—F.T.A. 1: 124.

Shrubs or small trees; leaves often undulate on the margin. Sepals free or slightly connate. Petals sometimes coherent at the base. Ovary usually imperfectly 2–5-celled. Capsule mostly 2-valved with the placentas in the middle of the valves. Seeds smooth, scarlet or black, mostly covered by sticky resin.

- 1 Petals about 4 mm. long; sepals scarcely 1–5 mm. long, rather expanded and connate at base; flower-buds club-shaped; valves of ripe fruits thin, concave in transverse section, reflexed; seeds usually 4, basifixed; leaves always quite glabrous [1. mannii](#)
- Petals at least 5 mm., mostly 6–7 mm. long; sepals at least 2 mm. long; flower-buds egg-shaped; valves of ripe fruits flat or slightly gibbous along the middle, horizontally spreading; seeds mostly more than 4, superposed; leaves sometimes hairy viridiflorum [2](#)
- 2 Leaves, at least when young, more or less crisped-hairy beneath; sepals always free from each other [2. viridiflorum subsp. feddeanum](#)
- Leaves quite glabrous or rarely slightly appressed pubescent along the midrib when young; sepals sometimes connivent at base [3. viridiflorum subsp. dalzielii](#)

1. *Pittosporum mannii* Hoot. f.—F.T.A. 1: 124; Cuf. in Fedde Rep. 55: 81 (1952).

APD: Synonym of Pittosporum viridiflorum Sims

A tree or large shrub, up to 30 ft. high; corolla yellowish-white; seeds scarlet.

Br. Cam.: Cam. Mt., 4,000–8,000 ft. (fl. & fr. Dec.–Apr.) Mann 1202! 2186! Maitland 656! Preus 827! Brenan 9398! Bamenda Prov., 3,000–7,000 ft. (fl. Apr., fr. June–Oct.) Johnstone 19! 315! Maitland 1381! 1597! **F. Po:** Clarence Peak, 8,500 ft. (Dec., Apr.) Mann 386! 640!

Also in **French Cameroons**.

2. *Pittosporum viridiflorum* subsp. *feddeanum* (Pax) Cuf. l.c. 66 (1952).

APD: Synonym of Pittosporum viridiflorum Sims

Pittosporum feddeanum Pax in Engl. Bot. Jahrb. 39: 622 (1907).

Shrub or small tree, up to 20 ft. high; corolla whitish; seeds tan to scarlet.

N. Nig.: Niell's Valley, Jos (fr. Nov.) Keay & Onochie FHI 21744!

[Further material of this plant, so far known only in fruit, is required to confirm its identity; the subspecies is otherwise known only in Abyssinia.]

3. *Pittosporum viridiflorum* subsp. *dalzielii* (Hutch.) Cuf. l. c. 65 (1952).

APD: *Synonym of Pittosporum viridiflorum Sims*

Pittosporum dalzielii Hutch. F.W.T.A., ed. 1, 1: 157 (1927); Kew Bull. 1928: 30; Chev. Fl. Viv. 1: 345; Chev. in Bull. Soc. Bot. Fr. 93: 206 (1946).

Pittosporum mannii of Chev. Fl. Viv. 1: 347, partly.

Shrub or small tree; corolla whitish-yellow; seeds scarlet.

Fr. G.: Fouta Djallon, 4,200 ft. (fr. Nov.) Chev. 34466! **Iv. C.:** Orodougou, Sassandra Valley (June) Chev. 21815! 21836! Bondoukou (fr. Aug.) Aubrév. 1604! **N. Nig.:** R. Koriga (fr. Feb.) Dalz. 417! Kachia to Kaduna (fr. Feb.) Meikle 1207! Bauchi Plateau (Jan.) Lely P. 48! **S. Nig.:** Obudu, 3,000 ft. (fl. & fr. Dec.) Keay & Savory FHI 25042! 25129!

Also in **French Cameroons**, **Ubangi-Shari** and perhaps in Abyssinia.

Pittosporum undulatum Andr.

Is cultivated in Sierra Leone.

BIXACEAE

Shrubs or small trees with coloured juice. Leaves alternate, simple, palminerved, stipulate. Flowers hermaphrodite, medium-sized, showy, paniculate. Sepals 5, imbricate, deciduous, with a large fleshy gland at the base outside. Petals 5, large, imbricate, without a scale at the base. Disk none. Stamens numerous, hypogynous; filaments free; anthers horse-shoe-shaped, opening by short slits at the top. Ovary superior, 1-celled, with 2 parietal placentas; ovules numerous; style slender, recurved in bud; stigma 2-lobed. Fruit a densely echinate-setose or smooth capsule, 2-valved; valves thick, with the placentas in the middle. Seeds obovoid; testa rather fleshy, red; endosperm copious; embryo large; cotyledons broad, incurved at the apex.

A family now restricted to the single genus *Bixa*.

With numerous stamens and horseshoe-shaped anthers, parietal placentas, and 2-valved capsule.

BIXA

Linn.—F.T.A. 1: 113.

Characters of the family.

- 1 Branches and rhachis of the inflorescence covered with small rusty scales; leaves slightly cordate at the base, acutely acuminate, entire, up to 20 cm. long and about 12 cm. broad; flowers about 2.5 cm. long, pinkish-white, in terminal panicles; fruit narrowly ovoid, pointed, about 4 cm. long, densely covered with stiff slender bristles; opening into 2 divergent valves; seeds covered with a red pulp *orellana*

Bixa orellana Linn.—F.T.A. 1: 114; Chev. Bot. 36. *APD acc*

An introduced shrub; sometimes subsontaneous.

Fr. G.: Farana (Jan.) Chev. 20551! **S. L.:** Barter! Samu Country Sc. Elliot 4328! Njala (fr. Dec.) Deighton 1859! **Lib.:** Buchanan, Grand Bassa (fr. Mar.) Baldwin 11203! **G. C.:** Obuasi (fr. Jan.) Soward 652! Jema, Ashanti (Jan.) Brown FH 2161! **S. Nig.:** Sapoba Kennedy 1742! Onitsha Barter 1309! Awka Thomas! **F. Po:** Mann 267!

Widely cultivated in the tropics; a native of tropical America.

COCHLOSPERMACEAE

Trees, shrubs, or rhizomatous subshrubs, with coloured juice. Leaves alternate, palmatilobed, stipulate. Flowers hermaphrodite, showy, paniculate or racemose. Sepals 5, imbricate, deciduous. Petals 5, imbricate or subcontorted, alternate with the sepals. Stamens numerous, the filaments free, equal or some longer than the others; anthers 2-celled, linear, opening by terminal short often confluent pore-like slits. Ovary 1-celled, with parietal placentas projecting into the cell, or perfectly 3-celled; ovules numerous; style simple, with minutely denticulate stigma. Fruit a 3–5-valved capsule. Seeds glabrous or covered with woolly hairs, straight or cochleate-reniform; endosperm copious; embryo conforming to the shape of the seed, large; cotyledons broad.

A small family of two genera formerly included under Bixaceae.

Note the anthers opening by pores and the usually hairy seeds on parietal placentas.

COCHLOSPERMUM

Kunth—F.T.A. 1: 112.

Intermediate forms, which may well be hybrids, are found in places where the two species grow together.

Low shrubs. Leaves palmately lobed, variable. Sepals 5, unequal. Petals 5, large, imbricate. Stamens numerous, with linear anthers on slender equal filaments. Ovary with 3–5 parietal placentas; style slender. Fruit an obovoid often hairy capsule; endocarp rather membranous. Seeds covered with long cottony hairs.

- 1 Long cottony hairs closely adhering to the seed; flowers usually borne near the ground while plant is leafless, and sometimes also near apex of leafy shoots; leafy shoots seldom exceeding 75 cm. high; leaves usually deeply lobed with acute lobes, sometimes with lobes narrowly lanceolate, lobes usually serrate; lower surface of mature leaves glabrescent or pubescent [1. tinctorium](#)

Long cottony hairs loosely attached to membranous outer testa which is easily separable from the hard shining inner testa; flowers usually borne at the apex of leafy shoots 1–2.5 m. high; leaves seldom deeply lobed, lobes rounded, usually broadly oblong, seldom markedly serrate; lower surface of mature leaves more or less densely woolly [2. planchoni](#)

1. **Cochlospermum tinctorium** A. Rich. in Guill. & Perr. Fl. Seneg. 99, t. 21 (1831); F.T.A. 1: 113, partly (excl. syn. C. planchoni Hook. f.); Mildbr. in Engl. Bot. Jahrb. 58: 236 (1923); Pilger in E. & P. Pflanzenfam. 21: 317, t. 141 (1925); F.W.T.A., ed. 1, 1: 158, partly. *APD acc*

Cochlospermum niloticum Oliv. F.T.A. 1: 113 (1868); Trans. Linn. Soc. 29: 30 (1872); Mildbr. l.c. 237; F.W.T.A., ed. 1, 1: 158.

Suffrutex, flowers bright yellow, normally appearing near the ground after the annual bush-fires and before the leafy shoots appear.

Sen.: Perrottet 98! Between Niaral and N'Denout, N'Boro (Apr.) Leprieur! **Gam.:** (July) Ozanne! Brooks 1! Dawe 52! **Fr. Sud.:** Boulouli (Dec.) Chev. 94! Bamako (Apr.) Hagerup 37! **Fr. G.:** Timbo Farmar 276! Kourousaa (Mar.) Pobéguin 187! 286! **S. L.:** Moria, Scarcies (Feb.) Sc. Elliot 4793! **G. C.:** Baisan to Pudo (May) Kitson! Kologu, Navrongo (Apr.) Vigne 3768! Kayoro (Oct.) Vigne 4666! **Togo:** Losso, N. Sokode (Feb.) Kersting 556. **Dah.:** Atacora Mts. Chev. 24026! **N. Nig.:** Thornewill 28! Maigana Vigo! Zaria (May) Keay FHI 25753! 25763! Anara F.R. (Mar.) Olorunfemi FHI 24418!

Also in **French Cameroons**, **A.–E. Sudan** and **Uganda**.

2. **Cochlospermum planchoni** Hook. f. in Fl. Nigrit. 268 (1849); Mildbr. l.c. 235; Pilger l.c. t. 140. *APD acc*

Cochlospermum tinctorium of F.T.A. 1: 113 and of F.W.T.A., ed. 1, 1: 158, partly, not of A. Rich.

Flowers bright yellow, normally appearing towards the end of the rainy season, near the apex of leafy shoots 3–8 ft. high.

Fr. Sud.: Bamako (Aug., Sept.) Waterlot 1287! 13701 **Fr. G.:** Kouroussa (Oct.) Pobéguin 560! Timbo (Aug.) Maclaud 261! **S. L.:** Musaia (fr. Feb.) Deighton 4231! Wallia, Scarcies (fr. Feb.) Sc. Elliot 4259! Buyabuya (fl. & fr. Feb.) Sc. Elliot 4132! Falaba (Sept., Oct.) Deighton 5166! Small 434! Warantamba (Oct.) Small 342! Tundembaea (Oct.) Thomas 2876! **Iv. C.:** Scaetta 3277! Toura (May) Chev. 21700! Baoulé (Oct.) Pobéguin 167! **G. C.:** Wanki, Ashanti (June) Chipp 484!

Dukwesein, Ashanti (fl. & fr. Dec.) Chipp 616! Yeji (July) Pomeroy 1252! Tamale (Sept.) Williams 388! **Togo:** Lome Warnecke 474! Kpedsu (Jan.) Howes 1077! Kpeve (Mar.) Williams 90! Sokode (July) Kersting A. 165! Dan.: Sagou (Nov.) Poisson 25! **N. Nig.:** R. Niger (Sept.) T. Vogel 121! Baikie! Nupe Barter 1691! Zungeru (Nov.) Dalz. 132! Elliott 170! Lokoja Migeod 89! Isanlu, Kabba (Nov.) Keay FHI 28098! Mokwa (Nov.) Mutch FHI 27971! Makurdi (Oct.) Binga FHI 8080! **S. Nig.:** Lagos Colony Punch 50! Phillips 67! Dawodu 202! Ilaro (Jan.) Millen 115! Ado Rowland! Olokemeji (Oct., Nov.) Foster 137! Onochie FHI 8157!

Also in **French Camerouns.**

Cochlospermum gossypium (Linn.) DC.

A native of tropical Asia, is cultivated in several parts of our area.

FLACOURTIACEAE

Trees or shrubs. Leaves simple, alternate; stipules often soon falling off. Flowers hermaphrodite or unisexual, often dioecious or polygamous, variously arranged. Sepals sometimes not distinguishable from the petals, imbricate or open in bud. Petals sometimes not arranged regularly in relation to the sepals, large, small or absent, with or without an opposite scale inside the base, imbricate. Stamens numerous, rarely few, hypogynous, free; anthers 2-celled, often short, opening lengthwise by slits. Ovary 1-celled, with one or more parietal placentas, or rarely the placentas meeting in the middle; ovules 2 or more on each placenta; styles or stigmas as many as the placentas. Fruit indehiscent, mostly a berry or drupe, very rarely a capsule, sometimes large. Seeds with fleshy endosperm and medium-sized embryo; cotyledons often broad.

Mainly in the tropics and subtropics

Formerly included in the Bixaceae, but differing by their straight anthers opening lengthwise by slits, and by the frequently unisexual flowers.

- 1 Inflorescence not adnate to the midrib of the leaf:2
 Inflorescence adnate to the midrib of the leaf, the latter large and elongate-oblongate [10. Phyllobotryum](#)
- 2 Perianth spiral or without differentiation into sepals and petals:3
 Perianth cyclic, differentiated into sepals and petals or the latter absent:5
- 3 Inner perianth with scales adnate to the inner surface:4
 Inner perianth without scales [3. Camptostylus](#)
- 4 Stamens numerous, with long, sometimes pointed anthers; style 1 [1. Dasylepis](#)
 Stamens 5; styles 3 [2. Scottellia](#)
- 5 Petals present:6
 Petals absent:8
- 6 Shrubs or small trees, armed with stout straight or recurved spines; petioles short [4. Oncoba](#)
 Unarmed trees and shrubs; petioles often elongated:7
- 7 Flowers large, in short axillary inflorescences; stigma crenate or branched; seeds small, numerous; leaves scaly or thinly hairy [5. Caloncoba](#)
 Flowers small, in long axillary inflorescences; stigma undivided or slightly lobed; seeds few or often only 1 at maturity; leaves not scaly [6. Lindackeria](#)
- 8 Sepals imbricate; styles more or less spreading; seeds glabrous:9
 Sepals scarcely imbricate; styles erect or suberect; seeds often villous; stamens numerous; dioecious [9. Dovyalis](#)
- 9 Flowers dioecious in short racemes or glomerules; fruit a berry; stamens numerous [7. Flacourtia](#)
 Flowers hermaphrodite or polygamous in lax terminal panicles; fruit a capsule; stamens 5–6 [8. Ophiobotrys](#)

1. DASYLEPIS

Oliv.—F.T.A. 1: 123.

- 1 Pedicels 6–10 mm. long; flowers racemose, laxly arranged; leaves elliptic, shortly cuneate at base, obtusely acuminate, 12–20 cm. long, 6–9 cm. broad, distantly serrate, closely reticulate [1. racemosa](#)

- Pedicles up to 3 mm. long, or flowers subsessile; flowers crowded, more or less spicate, or racemose with short pedicels:[2](#)
- [2](#) Ovary and fruit densely long-pilose; pedicels up to 3 mm. long; leaves elongate-elliptic to elliptic-lanceolate, cuneate at base, long-acuminate, 12–25 cm. long, 4.5–6.5 cm. broad, distantly serrate, closely reticulate[2. sereti](#)
- Ovary and fruit glabrous or shortly pubescent on the angles only:.....[3](#)
- [3](#) Outer perianth segments, 8–9 mm. long; flowers on short stout pedicels; leaves thickly coriaceous, oblong-elliptic, rounded or broadly cuneate at base, abruptly and shortly acuminate, 12–20 cm. long, 6–9 cm. broad, subentire or slightly denticulate towards the apex, prominently reticulate on both surfaces, the midrib sharply prominent beneath; petiole 1.5–2 cm. long, slightly tumid in the upper half; fruits quadrangular with smaller intermediate ridges[3. blackii](#)
- Outer perianth segments 4–5 mm. long; leaves thin, or thinly coriaceous, with serrulate or dentate margins:[4](#)
- [4](#) Flowers with distinct pedicels 2–3 mm. long; leaves oblong-elliptic, shortly cuneate, gradually acuminate, 12–18 cm. long, 5–7 cm. broad, thinly coriaceous, serrulate; petiole 1–1.6 cm. long, tumid at apex [4. brevipedicellata](#)
- Flowers subsessile; leaves oblong-elliptic, rounded at base, rather long and broadly acuminate, about 12 cm. long, 4–5 cm. broad, thin, dentate; petiole 5 mm. long[5. assinensis](#)

1. *Dasylepis racemosa* Oliv.—F.T.A. 1: 123. *APD acc*

Tree, with spreading crown, to 45 ft. high; flowers yellowish.

S. Nig.: Ikwette Plateau, 5,500 ft. (Dec.) Keay & Savory FHI 25184! **Br. Cam.:** Cam. Mt., 2,000–5,000 ft. (fl. Dec., Jan., fr. Apr.) Mann 2149! Maitland 839! 1127! Dunlap 9! Bamenda, 5,000 ft. (Dec.) Johnstone 262/31!

2. *Dasylepis sereti* De Wild. in Bull. Jard. Bot. Brux. 3: 268 (1911). *APD acc*

***Dasylepis lasiocarpa* Gilg** in Mildbr. Wiss. Ergebn. 1907–8, 2: 566 (1913).

Br. Cam.: Kumba Div. Rosevear 9!

Also in **French Cameroons** and **Belgian Congo**.

3. *Dasylepis blackii* (Oliv.) Chipp in Kew Bull. 1923: 265. *APD acc*

***Pyramidocarpus blackii* Oliv.—F.T.A. 2: 495.**

A tree, 25 ft. high; flower buds red, corolla white.

S. Nig.: Oban Talbot 1274! **Br. Cam.:** S. Bakundu F.R. (Apr.) Ejiofor FHI 29317!

Also in **Gabon** and **Spanish Guinea**.

4. *Dasylepis brevipedicellata* Chipp l.c. 265 (1923).

APD: Synonym of Dasylepis racemosa Oliv.

A glabrous shrub, or tree.

G. C.: Mim, Ashanti (Apr.) Thompson 52! Ofin Headwater F.R. (Apr.) Andoh FH 4174! Afram Headwaters F.R. (Apr.) Andoh FH 4735!

5. *Dasylepis assinensis* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 159 (1927); Kew Bull. 1928: 30; Chev. Bot. 39, name only.

APD: Synonym of Dasylepis blackii (Oliv.) Chipp

A shrub or tree (?).

Iv. C.: Assinie (Apr.) Chev. 17872!

2. SCOTTELLIA

Oliv. in Hook. Ic. Pl. t. 2265 (1893).

- 1 Leaves broadly elliptic to ovate-elliptic, very rarely obovate-elliptic; obtuse to subcordate at base; usually well over 8 cm. long; inflorescence axes stout, 1–1.5 mm. diam. when mature, 8–20 cm. long:2
 Leaves obovate to obovate-elliptic, cuneate or rarely obtuse at base, shortly and broadly acuminate, margin more or less entire in the lower 2/3, undulate-serrate in the upper 1/3, 5–16 cm. long (crown leaves rarely exceeding 8 cm.), 2.5–5 cm. broad; inflorescence axes slender, 4–9 cm. long, pedicels 3–9 mm. long; fruits 5–6 mm. diam.4. [coriacea](#)
- 2 Leaves subcordate to rounded at base, margin entire, abruptly and obtusely acuminate, 8–21 cm. long, 5–12 cm. broad; pedicels 5–11 mm. long; fruits 6–8 mm. diam.1. [leonensis](#)
 Leaves obtuse to rounded at base, margin undulate-serrate at least in part:3
- 3 Pedicels 4–9 mm. long; fruits 8–14 mm. diam.; leaves broadly-elliptic to ovate-elliptic, rarely obovate-elliptic, obtuse at apex or obtusely acuminate, margin undulate-serrate in the upper 2/3, 7–18 cm. long, 3–9 cm. broad; a spreading, waterside tree2. [mimfiensis](#)
 Pedicels 2–4 mm. long; fruits 3–5 mm. diam.; leaves broadly elliptic, shortly and broadly acuminate, margin undulate from the base, 6–18 cm. long, 4–11 cm. broad; a tall tree with straight bole and compact crown3. [chevalieri](#)

1. **Scottellia leonensis** Oliv. in Hook. Ic. Pl. t. 2265 (1893). *APD acc*

Scottellia macropus Gilg & Dinkl. in Engl. Bot. Jahrb. 40: 445 (1908).

Tree to 40 ft. high (to 175 ft. fide Linder) in [swamp forest at edge of water](#); flowers white, strongly

S. L.: Luseniya, Samu Sc. Elliot 4065! Hangha (Sept.) Aylmer 605! Gegbwema (fr. Dec.) Deighton 3821! Kamakwie (fr. Feb.) Deighton 4181! Kegga (nov.) Adames 104! **Lib.:** Gbanga (Oct.) Linder 1194! Grand Bassa Dinklage 2089!

2. **Scottellia mimfiensis** Gilg in Engl. Bot. Jahrb. 40: 448 (1908).

APD: Synonym of Scottellia orientalis Gilg

APD: Synonym of Scottellia klaineana Pierre

Scottellia of Kennedy For. Fl. S. Nig. 30.

Spreading tree in [swamp forest](#) at edge of water, to 30 ft. high (to 100 ft. in French Cameroons); flowers cream.

S. Nig.: R. Jamieson, Sapoba (Nov.–Jan.) Kennedy 2041! A. F. Ross 235! Keay FHI 24689! Brenan 8937! Meikle & Keay 526!

Also in [French Cameroons](#).

3. **Scottellia chevalieri** Chipp in Kew Bull. 1923: 265; Aubrév. Fl. For. C. iv. 3: 6, t. 245, 1–2.

APD: Synonym of Scottellia klaineana Pierre

Scottellia kamerunensis of Chev. Vég. Util. 5: 148, not of Gilg.

[Forest](#) tree, to 150 ft. high and 5 ft. girth, with small buttresses, straight clear bole and compact crown; flowers white, ripe seeds red.

IV. C.: Kapiécrou (Jan.) Chev. 16182! Sassandra Port (May) Chev. 17920! Rasso Aubrév. 143! **G. C.:** Tafo (Nov.) Darko 156! Jimira F.R. (July) Vigne 3012! Ntakem (July) Vigne 183!

4. **Scottellia coriacea** A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 160 (1927); Kew Bull. 1928: 31; Chev. Bot. 39, name only.

APD: Synonym of Scottellia klaineana Pierre

Scottellia kamerunensis Gilg l.c. 40: 447 (1908), partly; F.W.T.A., ed. 1, 1: 160 (excl. descr. in key); Aubrév. l.c. 8, t. 245, 3–5.

[Forest](#) tree, to 100 ft. high and 5 ft. girth (rarely more), with straight bole with slight flutings near base, and small compact crown; flowers white or yellowish, ripe seeds red.

S. L.: Taiama (Mar.) Deighton 3374! **Lib.:** Dukwia R. (fr. Sept., Dec.) Cooper 292! 369! **IV. C.:** Mudjika (Oct.) Aubrév. 1691! Alépe (fr. Mar.) Chev. 16231! Mid. Sassandra to Mid. Cavally (fr. June) Chev. 19196! **G. C.:** Birrim F.R. (Apr.)

Vigne 2883! Esuboni F.R. (Oct.) Jumah FH 5465! **S. Nig.**: Oni, Ondo Sankey 16! Omo F.R. (May) Jones FHI 16949! 17226! Sapoba (fl. Apr.–July, fr. May–Aug.) Kennedy 1273! 1674! Oban Talbot!

Also in **French Cameroons** and **Gabon**. **Gilg** in E. & P. Pflanzenfam. 21: 398 (1925).

APD: *Synonym of Oncoba mannii Oliv.*

Oncoba mannii *Oliv.* F.T.A. 1: 117 (1868).

Caloncoba mannii (*Oliv.*) **Gilg** in Engl. Bot. Jahrb. 40: 462 (1908); F.W.T.A., ed. 1, 1: 161.

A tree up to 50 ft. high with hard red wood; flowers white.

S. Nig.: Calabar R. (Feb.) Mann 2257! Oban Talbot 1492! 1725! **Br. Cam.**: Amba Bay (Feb.) Mann 11! Victoria (Feb.) Maitland 371! S. Bakundu F.R. (Mar.) Brenan 9478! **F. Po.**: (Jan.) Mann 155!

Also in **French Cameroons**, **Gabon** and **Angola**.

2. *Camplostylus ovalis* (*Oliv.*) *Chipp* in Kew Bull. 1923: 266.

APD: *Synonym of Oncoba ovalis Oliv.*

Oncoba ovalis *Oliv.* F.T.A. 1: 118 (1868).

A tree 25–30 ft. high.

Br. Cam.: Cam. Mt., 3,000–4,000 ft. (fl. Dec., fr. Feb.) Mann 1196! Deistel 282! Maitland 1225!

Keay FHI 28248, from Afi River F.R., Nigeria, appears to represent a new species related to *C. ovalis* (*Oliv.*) Chipp, but more and better material is required.

4. ONCOBA

Forsk.—F.T.A. 1: 114, partly; **Gilg** in Engl. Bot. Jahrb. 40: 454 (1908).

- 1 Young shoots and leaves pubescent or hairy, with spines more or less recurved and 1.5 cm. long; leaves elliptic, ovate to obovate, shortly acuminate, crenate-serrate, 5–10 cm. long, 3.5–6 cm. broad; petioles up to 5 mm. long; flowers on short lateral shoots, about 5 cm. diam.; calyx finally falling away; anthers not apiculate; stigma with about 6 radiate lobes; fruit globose, 5 cm. diam., smooth [1. brachyanthera](#)

A glabrous shrub or tree with straight spines several cm. long; leaves elliptic, shortly acuminate, serrulate or crenate-serrate, up to 9 cm. long and 5 cm. broad; petioles up to 1 cm. long; flowers white, fragrant, 5 cm. in diam., terminal or lateral on short axillary shoots; calyx usually persistent; anthers apiculate; fruit as above [2. spinosa](#)

1. *Oncoba brachyanthera* *Oliv.* F.T.A. 1: 116 (1868); Chev. Bot. 37; Aubrév. Fl. For. C. Iv. 3: 10. *APD acc*

A shrub or tree, up to 30 ft. high, with handsome white sweet-scented flowers somewhat resembling the wild rose.

S. L.: Bagroo R. (fl. & fr. Apr.) Mann 829! Kabusa, Limba (Apr.) Sc. Elliot 5477! Freetown Burbridge 526! **Lib.**: Sinoe Basin Whyte! Ganta (May) Harley 1170! Yratoke, Webo (July) Baldwin 6246! **Iv. C.**: fide Chev. l.c. **G. C.**: Volta River F.R. (Mar.) Vigne 4357! **Togo**: Togo Plateau (Apr.) Beveridge 2948! **S. Nig.**: Owo F.R. (Apr.) Jones FHI 3500! 3505! Degema Talbot!

Also in **Gabon**.

2. *Oncoba spinosa* *Forsk.*—F.T.A. 1: 115; Chev. Bot. 37; Aubrév. l.c. 8. *APD acc*

A shrub, or tree up to 40 ft. high, with thorny stem and branches; flowers as above; fruit hard and glossy.

Sen.: Perrottet. **Gam.**: Saunders 44! Whitfield! Fr. Sud., & **Fr. G.**: fide Chev. l.c. **S. L.**: Mann 916! Makorogbo, Biriwa (Apr.) Glanville 206! **Iv. C.**: Bobo-Dioulasso Aubrév. 1826! **G. C.**: Cape Coast Brass! Achimota (May) Irvine 1449! Dawa Matakole (Jan.) Thomas D. 68! Yipala (Feb.) Kitson 852! Kulpawn R., Bantala (Apr.) Kitson 838! **Togo**: Kersting 590! Lome Warnecke 97! Kratchi Anderson 6! **Dah.**: fide Chev. l.c. **N. Nig.**: Nupe Barter 884! Zaria (June) Lamb 55! Abinsi

Dalz. 758! **S. Nig.:** Lagos (Feb., May) Dalz. 1349! Foster 77! Abeokuta Barter 3396! Ado Rock Rowland! Akpaka F.R. (Apr.) Chesters 135! Oban Talbot 444! 1730! **Br. Cam.:** Victoria (Apr.) Maitland 615! Cam. Mt., 2,300–2,800 ft. (Apr.) Maitland 1109! Deistel 90!

Widespread in tropical Africa and **Arabia**. (See Appendix, P. 47.)

5. CALONCOBA

Gilg in Engl. Bot. Jahrb. 40: 458 (1908).

- 1 Fruits echinate:2
Fruits not echinate:3
- 2 Flowers small, borne among and just below the leaves; sepals 6–8 mm. long; petals 8–10 mm. long; pedicels 1–2 cm. long; petiole 2–3 cm. long; leaves oblong-elliptic, rounded to broadly cuneate, abruptly acuminate, 10–30 cm. long, 4–10 cm. broad [1. echinata](#)
Flowers large, borne on leafless woody stems; sepals 1.5–2 cm. long; petals 3–3.5 cm. long; pedicels 2–3 cm. long; petiole 5–22 cm. long; leaves ovate, rounded to subcordate at base, acutely caudate-acuminate, 12–36 cm. long, 6–20 cm. broad [2. welwitschii](#)
- 3 Stamens up to 1 cm. long, filaments as long as or only a little longer than the anthers; sepals about 1 cm. long; petals about 3 cm. long; pedicels 2.5–7 cm. long; fruit with longitudinal undulate ridges; petiole 1.5–3 cm. long; leaves ovate-oblong, obtuse at base; shortly acuminate, 10–18 cm. long, 4–8 cm. broad [3. lophocarpa](#)
Stamens 3 cm. or more long, filaments much longer than the anthers; fruit smooth or grooved:4
- 4 Petioles 2–3 cm. long; leaves obovate-oblong, broadly cuneate, abruptly and shortly acuminate, 12–30 cm. long, 4.5–9 cm. broad; sepals about 3 cm. long and 2 cm. broad; petals about 6 cm. long and 2.5 cm. broad; pedicels about 4 cm. long; fruit ellipsoid, tapered at each end, beaked at apex, 5–7.5 cm. long [4. brevipes](#)
Petioles 3–14 cm. long; fruits rounded at the base:5
- 5 Branches almost defoliated at flowering; leaves ovate to broadly elliptic, broadly cuneate, acuminate, 8–18 cm. long, 4–12 cm. broad, rather thin; sepals about 2 cm. long, not deciduous; petals about 5 cm. long; pedicels 1.5–2.5 cm. long; fruit 3.5–4.5 cm. long, flattened at apex, sometimes apiculate [5. gilgiana](#)
Branches leafy at flowering; leaves elliptic to lanceolate, rounded to broadly cuneate at base, longly and sharply acuminate, 11–25 cm. long, 4–8 cm. broad, coriaceous, becoming glaucous above; sepals about 2 cm. long, early caducous; petals 3–6 cm. long; pedicels 3–11 cm. long; fruit broadly ovoid, shortly acuminate, 5–6 cm. long [6. glauca](#)

1. *Caloncoba echinata* (Oliv.) *Gilg* in Engl. Bot. Jahrb. 40: 464 (1908).

APD: *Synonym of Oncoba echinata Oliv.*

***Oncoba echinata* Oliv.** F.T.A. 1: 118 (1868); Chev. Bot. 37; Aubrév. Fl. For. C. Iv. 3: 10.

Forest tree, to 20 ft. high; flowers white; fruit orange or reddish when ripe; seeds black.

Fr. G.: Kouria Chev. 14930! **S. L.:** Bagroo R. (fr. Apr.) Mann 805! Bafodeya, Limba (fr. Apr.) Sc. Elliot 5576! Njala (July, Sept.) Deighton 1741! 2114! Kenema (fr. Jan., May) Thomas 7463! Small 71! **Lib.:** Dukwia R. (fl. July, fr. Nov.) Linder 75! Cooper 122! Gbanga (Sept.) Linder 646! **Iv. C.:** Abidjan Aubrév. 74! Tano R. (July) Chipp 306! **G. C.:** Essiama Cummins! Amuni (July) Vigne 1267! Manso (fr. Aug.) Howes 954! Ampunyase (Aug.) Andoh FH 4239! 4243! Bobiri F.R. (fr. Feb.) Foggie FH 4966!

2. *Caloncoba welwitschii* (Oliv.) *Gilg* l.c. 462 (1908).

APD: *Synonym of Oncoba welwitschii Oliv.*

***Oncoba welwitschii* Oliv.** F.T.A. 1: 117 (1868).

Forest shrub or tree, to 30 ft. high; flowers white.

Br. Cam.: Preuss 36! Kumba (fr. Apr.) Ejiofor FHI 14019!

Also in **French Cameroons**, **Gabon**, **Congo** and **Angola**.

3. *Caloncoba lophocarpa* (Oliv.) *Gilg* l.c. 462 (1908).

APD: Synonym of Oncoba lophocarpa Oliv.

Oncoba lophocarpa Oliv. F.T.A. 1: 117 (1868).

Forest tree, 30–40 ft. high; petals white, stamens yellow.

Br. Cam.: Cam. Mt., near Buea, 2,000–5,000 ft. (Dec., Jan.) Mann 1195! 2162! Maitland 209! Keay FHI 28648!

4. *Caloncoba brevipes* (Stapf) Gilg l.c. 459 (1908); Aubrév. Fl. For. C. Iv. 3: 10.

APD: Synonym of Oncoba brevipes Stapf

Oncoba brevipes Stapf in J. Linn. Soc. 37: 84 (1905).

Forest tree, to 50 ft. high; flowers white.

S. L.: Damawulo, Tunkia (fl. & fr. Dec.) Deighton 3830! Jau, Tunkia (Oct.) Dieghton 5219! Kenema to Zimmi (Nov.) King 287! Jura (fr. Nov.) Migeod! **Lib.:** Monrovia Whyte! Gbanga (Sept.) Linder 719! Suah Koko Linder 385! Dukwia R. (fl. Oct., fr. Feb., May, Oct.) Cooper 89! 173! 470! Ganta (Sept.) Harley! **Iv. C.:** fide Aubrév. l.c.

5. *Caloncoba gilgiana* (Sprague) Gilg l.c. 460 (1908); Aubrév. l.c. 12.

APD: Synonym of Oncoba gilgiana Sprague

Oncoba gilgiana Sprague in Bull. Herb. Boiss. 5: 1164 (1905).

Caloncoba glauca of Chev. Bot. 38, not of Gilg.

Shrub or tree, to 20 ft. high, with thorny stem; flowers white; especially in fringing forest.

S. L.: Buyabuya, R. Scarcies Sc. Elliot 4764! Borbana (Mar.) Glanville 176! Njala (fr. May) Deighton 2645! Kenema (fr. Apr.) Deighton 4292! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Koforidua (Mar.) Johnson 907! Kibbi (Dec.) Johnson 520! Nsawam to Swedru King-Church 932! Kunso, Ashanti (Feb.) Chipp 109! Obuasi (Jan.) Soward 647! **Togo:** Lome (Mar.) Warnecke 84! Kpeve (Mar.) Williams 72! **S. Nig.:** Lagos (Dec.) Barter 20186! Moloney 17! Millen 46! Dalz. 1085!

6. *Caloncoba glauca* (P. Beauv.) Gilg l.c. 459 (1908).

APD: Synonym of Oncoba glauca (P. Beauv.) Planch.

Ventenatia glauca P. Beauv. (1805).

Oncoba glauca (P. Beauv.) Hook. f.—F.T.A. 1: 117.

Caloncoba dusenii Gilg l.c.; F.W.T.A., ed. 1, 1: 161.

Tree, to 40 ft. high; petals white, stamens orange; fruit edible.

N. Nig.: Ibaji-Ojuku F.R., Kabba (Feb.) Taylor L. 7! **S. Nig.:** Ajilite Millen! Benin (Nov.) Kennedy! Omo F.R. (Apr.) Jones FHI 17282! Awka Thomas 116! Insofan (Jan.) Holland 210! 247! Calabar (Sept.) Unwin 40! Oban Talbot 1262! **Br. Cam.:** Amba Bay (fl. & fr. Feb.) Mann 18! Mamfe (Jan.) Maitland 1157! Batibo, Bamenda (Jan.) Russell FHI 28414! **F. Po:** (Nov.) T. Vogel 115! 224! Mann 258!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

6. LINDACKERIA

C. Presl Rel. Haenk. 2: 89, t. 65 (1835).

- 1 Leaves oblong-elliptic to ovate, truncate, rounded or narrowed at base, shortly acuminate, margin irregularly dentate or almost entire, 15–22 cm. long, 7–12 cm. broad; main lateral nerves 6–10 pairs; petioles 3–16 cm. long; inflorescence 5–10 cm. long, flowers in fascicles of 5 or solitary; sepals 3, about 5 mm. long; petals 6–10, up to 5–10 mm. long; ovary hairy, becoming echinate in fruit [dentata](#)

Lindackeria dentata (Oliv.) Gilg in Engl. Bot. Jahrb. 40: 465 (1908); Chev. in Rev. Bot. Appliq. 27: 2 (1947), incl. var. *salicifolia* A. Chev.

APD: Synonym of Oncoba dentata Oliv.

Oncoba dentata Oliv. F.T.A. 1: 119.

Lindackeria caillei A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 162 (1927); Chev. l.c. 27: 4 (1947); Chev. Bot. 38, name only.

A shrub, or tree to 50 ft. high; flowers white; fruits orange.

Fr. G.: Ditinn (Apr.) Chev. 12172! Nzo Chev. 21040! **S. L.:** Laoma (Jan.) Aylmer 586! Limba country (Apr.) Sc. Elliot 5488! 5632! Njala (Aug.) Deighton 1828! Kangama (fl. Apr., fr. July) Deighton 3194! 5119! **Iv. C.:** Abidjan (fr. July) Aubrév. 62! Banco Aubrév. 411! Mt. Tonkui Aubrév. 995! **G. C.:** Kwahu (Apr.) Johnson 656! Aburi (Apr.) Johnson 1100! Kumasi (Mar.) Vigne 1651! Apedwa, Kibbi (fr. Aug.) Miles 579! **S. Nig.:** Lagos Foster 70! Ibadan (Apr.) Meikle 1391! Onitsha Barter 1655! Eket Talbot! Oban Talbot 1425! Calabar (Feb.) Mann 2267! **Br. Cam.:** near Buea (fl. Jan.–Apr., fr. Sept.) Mann 1177! Maitland 189! 753! Fontuka, Bamenda (fr. June) Maitland 1548!

Extends through Cameroons and Congo to A.–E. **Sudan** and **Angola**.

7. FLACOURTIA

L'Hérit.—F.T.A. 1: 120.

- 1 Leaves more or less oval, generally rounded at the apex, but sometimes obtuse, venation reticulate *L. flavescens*
Leaves oblong, apex acute, veins markedly parallel to each other between the nerves *L. vogelii*

1. *Flacourtia flavescens* Willd.—F.T.A. 1: 121 (excl. syn. *F. vogelii* Hook. f.); Chev. Bot. 38; Aubrév. Fl. For. Soud.-Guin. 72.

APD: *Synonym of Flacourtia indica (Burm. f.) Merr.*

A shrub or small tree with thorny stem, up to 30 ft. high; berry red or purple, edible, the Niger Plum. **Mainly in savannah regions by rocks and in fringing forest.**

Sen.: Heudelot 349! **Fr. Sud.:** Bamako (Apr.) Hagerup 42! **Iv. C.:** Bobo-Dioulasso (June) Aubrév. 1892! Koualé (fr. May) Chev. 21743! Mt. Kamoueniboka (July) Chev. 22020! **G. C.:** Abokobi (Feb.) Irvine 1991! Achimota (fr. June) Milne-Redhead 5095! Lawra (May) Vigne 4509! Pong to Nakaw (Mar.) Kitson 873! **Togo:** Lome Warnecke 320! **Dah.:** Burton! **N. Nig.:** Nupe Barter 1687 Anara F.R. (May) Keay FHI 25781! **S. Nig.:** Abeokuta Barter! Oyo (Feb.) Keay FHI 22479!

Also in **Ubangi-Shari**, **French Cameroons** and **Angola**.

2. *Flacourtia vogelii* Hook. f. in Fl. Nigrit. 220 (1849); Aubrév. l.c. 72. *APD acc*

Flacourtia flavescens of F.T.A. 1: 121, partly.

A shrub or small tree, up to 30 ft. high; similar to above, but **apparently mainly in forest.**

S. L.: Rokupr (Feb., June) Deighton 5361! Jordan 445! Musaia (young fr. July) Deighton 4803! Njala (Mar.) Deighton 2621! **S. Nig.:** Abo Barter 162! Ibo country T. Vogel 34! **Br. Cam.:** Likomba Mildbr. 10762!

Also in **Ubangi-Shari**.

Flacourtia indica (Burm. f.) Merr.

Flacourtia ramontchii L'Hérit.

Is sometimes cultivated in our area; it is widespread in east and south tropical Africa.

8. OPHIOBOTRYS

Gilg in Engl. Bot. Jahrb. 40: 514 (1908).

- 1 A tree; young branches puberulous; leaves elliptic, shortly cuneate at base, obliquely acuminate at apex, 7–14 cm. long, 2.5–5.5 cm. broad, entire, glabrous; lateral nerves about 4 pairs, prominently looped; petiole about 1 cm. long; panicle with slender long branches, tomentellous; flowers subsessile; sepals obovate, 2 mm. long, glabrous; stamens 5–6, alternate with the sepals; disk-glands large and hairy; ovary tomentose; capsule 1.5 cm. long *zenkeri*

Ophiobotrys zenkeri Gilg in Engl. Bot. Jahrb. 40: 516, t. 2 (1908); Aubrév. Fl. For. C. Iv. 3: 8, t. 246. *APD acc*

Forest tree, to 100 ft. high, with buttresses and clear bole up to 5 ft. in girth; flowers whitish or pinkish-white.

IV. C.: Agboville-Abengourou (fl. June, fr. Aug.) Aubrév. 1390! **G. C.:** E. Akim (June) Johnson 737! 739! Kwahu Prasu (June) Vigne 1753! **S. Nig.:** Ikom (July) Catterall 9! 43! 92! **Br. Cam.:** Victoria (Feb., June) Maitland 425! 715! Okunde, Kumba (June) Rosevear 58/31!

Also in **French Cameroons** and **Gabon**.

9. DOVYALIS

E. Mey. ex Arn. in Hook. Journ. Bot. 3: 251 (1841); Gilg in Engl. Bot. Jahrb. 40: 504 (1908).

- 1 Leaves oblong-elliptic, shortly and gradually acuminate, obtusely rounded at base, about 6 cm. long and 2.5 cm. broad, pubescent on the nerves and petiole; spines 1.5 cm. long, straight; male flowers in axillary fascicles; fruits more or less globose, fleshy, about 3 cm. diam., with reflexed sepals at the base [1. afzelii](#)

Leaves ovate-elliptic, acutely and fairly long-caudate-acuminate, mostly rather broadly rounded at base, up to 9 cm. long and 5 cm. broad, minutely puberulous on the nerves; spines up to 2 cm. long; male flowers in axillary fascicles, hoary-pubescent [2. zenkeri](#)

1. *Dovyalis afzelii* Gilg in Engl. Bot. Jahrb. 40: 507 (1908).

APD: Synonym of Dovyalis zenkeri Gilg

A shrub or spiny tree.

S. L.: Afzelius. Near Regent (fr. Dec.) Sc. Elliot 4008! MacDonald Town (fr. Dec.) Deighton 3351! Njala (fl. Sept., Dec., fr. Dec.) Deighton 2562! 3024! Rokupr (May) Jordan 268!

2. *Dovyalis zenkeri* Gilg l.c. (1908). *APD acc*

A shrub or small tree, 12–18 ft. high, more or less densely spiny.

S. Nig.: Oban, Talbot 1261!

Also in **French Cameroons**.

A revision of the W. African species of this genus has not been undertaken for this edition, but it is clearly necessary. The plants are dioecious and specimens should be collected from both male and female shrubs, and should include mature fruits and show the range of variation in leaf-shape. In addition to the above species, I have seen the following, which may or may not prove to be distinct: -

1. *Dovyalis* sp. A.

Fr. G.: Macenta (Oct.) Baldwin 9845! **S. L.:** Rokupr (May) Jordan 270!

Imperfectly known species.

2. *Dovyalis* sp. B.

S. L.: Binkolo (Aug.) Thomas 1791! 1810! Magbile (Dec.) Thomas 6060! 6093! Giema, Dama (Jan.) Deighton 3895!

Imperfectly known species.

3. *Dovyalis* sp. C.

G. C.: Ampunyase (Feb.) Andoh FH 4136! **S. Nig.:** Olokemeji (fl. & young fr. Sept.) Jones FHI 20261!

Imperfectly known species.

10. PHYLLOBOTRYUM

APD: Synonym of Phyllobotryon Müll. Arg.

Muell. Arg. in Flora 47: 534 (1864).

- 1 Leaves clustered at apex of stem, elongate-oblongate, gradually narrowed to the scarcely petiolate base, cuspidate-acuminate, up to 1 m. long and 17 cm. broad, crenulate-serrate, with numerous spreading lateral nerves, glabrous; stipules lanceolate, about 2·5 cm. long; inflorescence completely adnate to the upper surface of the midrib, up to 3/4 of its length; flowers about 12 mm. diam., clustered, shortly pedicellate; sepals shortly ciliate; capsule ovoid, beaked, wrinkled, about 18 mm. long and 12 mm. diam., dehiscent by 3 valves, with about 5 white seeds [soyauxianum](#)

Phyllobotryum soyauxianum *Baill. in Bull. Soc. Linn. Paris 1: 287 (1881).*

APD: Synonym of Phyllobotryon spathulatum Müll. Arg.

Phyllobotryum zenkeri *Gilg in Engl. Bot. Jahrb. 40: 500 (1908).*

Phyllobotryum spathulatum of *Cat. Talb. 121*, not of *Muell. Arg.*

Sparingly branched erect shrub or small tree, to 12 ft. high; leaves closely clustered at the ends of the branches, reddish when young; sepals and petals mauve, stamens cream, ovary light red, style deep purple-red; fruits red.

S. Nig.: Oban Talbot 24! 26! Obutong, Oban (Mar.) Onochie FHI 7714! **Br. Cam.:** Johann-Albrechtshöhe (fl. & fr. Mar.) Staudt 865! S. Bakundu F.R. (fl. & fr. Mar., fr. June) Brenan 9306! Olorunfemi FHI 30648! R. Bombe, Ndifo, Kumba (fr. Apr.) Ejiofor FHI 29368!

Also in **French Camerouns.**

DIONCOPHYLLACEAE

Scandent shrubs or lianes. Leaves simple, alternate, exstipulate, elongate, with numerous close parallel nerves, sometimes hooked at the apex, or some leaves very narrow and linear bearing stalked glands. Inflorescences cymose, more or less supra-axillary. Flowers hermaphrodite, actinomorphic. Sepals 5, free or connate at the base in a short tube, valvate. Petals 5, free, contorted, caducous. Disk absent. Stamens hypogynous, 10 or 25–30, free or slightly connate, straight; anthers 2-celled, elongate-linear or shortly ellipsoid. Ovary superior, unilocular, of 2–5 carpels, early loculicidally dehiscent, each valve with a median parietal placenta; ovules anatropous, few; styles 2–5, free or subconnate at the base, filiform or plumose-laciniate. Fruits capsular, but opening when very young, with 2–5 open spreading valves. Seeds few, large, disciform, broadly winged, with a stout peltately attached funicle articulated at apex, hanging from the open valves of the fruit; seeds developing in the open from a very early stage; embryo large, discoid-obconical, axile; radicle very short, opposite the hilum; endosperm copious, cap-shaped, surrounding most of the embryo.

A West African family of three genera, previously included in the Flacourtiaceae.

Recognized by the large, disciform, winged seeds, with peltately attached funicle, developing in the open, and by the elongate leaves often hooked at the apex or heteromorphous.

- 1 Styles 2, filiform, unbranched; valves of "capsule" 2, suborbicular, small; stamens 10, nearly as long as the large, delicate petals; sepals large, elongate-elliptic, closed in bud; inflorescences rather dense-flowered, conspicuously bracteate; seed-body large (4·5–5·5 cm. diam.), with a relatively narrow non-shining wing; petioles stout, not articulate; leaves often hooked at apex [1. Habropetalum](#)
- Styles 5 (sometimes 3?), much branched above; valves of "capsule" 4–5, elliptic to oblanceolate-spathulate; stamens 10, much shorter than the relatively small, thick, subcoriaceous petals; sepals small, deltoid, open in bud; inflorescences lax, few-flowered, bracts small and inconspicuous; seed-body small (1·2–1·4 cm. diam.), with a very broad shining wing; petioles slender, articulated, base persistent; leaves trimorphic (hook-bearing on the long shoots, simple on the short shoots in their axils and occasionally on the young plants reduced to the midrib which bears numerous long-stipitate glands) [2. Triphyophyllum](#)

1. HABROPETALUM

Airy Shaw in Kew Bull. 1951: 334 (1952).

- 1 Stems finely striate, with conspicuous rusty furfuraceous indumentum; leaves elongate-oblong, cuneate at base, obtuse at apex, 12–45 cm. long, 2.5–5.5 cm. broad, midrib produced at apex and often bearing a pair of hooks; cymes axillary and terminal, bracts elliptic, up to 2 cm. long, sepals elongate-elliptic, 10–13 mm. long; petals spatulate-obovate, about 1.5 cm. long; filaments about 12 mm. long; styles 2, filiform with capitate stigmas; ovary obovoid; "capsule" 2-valved, the open valves suborbicular, about 8 mm. diam.; seeds 1–2 per valve; funicle 2–3.5 cm. long; seed body 4.5–5.5 cm. diam., 2–3 cm. thick, surrounded by the spreading or more or less reflexed 1–2.5 cm. wide wing [dawei](#)

Habropetalum dawei (*Hutch. & Dalz.*) *Airy Shaw* in Kew Bull. 1951: 336, t. 1 & 2 (1952). *APD acc*

Dioncophyllum dawei *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 165 (1927); Kew Bull. 1928: 31; Pellegr. in Bull. Soc. Bot. Fr. 80: 234, 236 (1933).

Shrub, often scandent, in [sandy coastal scrub](#); petals white, caducous.

S. L.: Mosente, Pujehun (fl. Dec., fr. Mar.) Deighton 5283! 5323! Mano Bonjema, Pujehun (fl. & fr. Feb.) Dawe 466! s.n.! Adames 1! Juring (Dec.) Deighton 332!

2. TRIPHYOPHYLLUM

Airy Shaw in Kew Bull. 1951: 341 (1952).

- 1 Stems terete, glabrous; leaves of three kinds: (1) on long shoots, narrowly oblong-elliptic, cuneate at base, obtuse at apex, 6–16 cm. long, 1.5–3 cm. broad, midrib produced at apex to form a pair of hooks, (2) on short shoots, oblong-oblancheolate, 20–35 cm. long, 1–5 cm. broad, not hooked, (3) on sterile shoots, often reduced to the midrib which bears numerous long-stipitate glands; cymes few-flowered, axillary; sepals deltoid, about 2 mm. long; petals obovate, about 13 mm. long; filaments very short; styles 5 (sometimes 3?), much branched above; "capsule" 4–5 valved, the open valves elliptic-lanceolate, 18–27 mm. long, 7 mm. broad; usually only 1 seed developing on each valve; funicle up to 5.5 cm. long; seed body 12–14 mm. diam., surrounded by the broad wing 4.5–7 cm. diam. [peltatum](#)

Triphyophyllum peltatum (*Hutch. & Dalz.*) *Airy Shaw* in Kew Bull. 1951: 342, t. 4 & 5 (1952). *APD acc*

Dioncophyllum peltatum *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 165 (1927); Kew Bull. 1928: 31; Pellegr. in Bull. Soc. Bot. Fr. 80: 234, 236 (1933).

Ouratea glomerata of Chev. Bot. 108, and of F.W.T.A., ed. 1, 1: 195.

Scandent shrub or liane of [high forest](#); flowers white.

S. L.: Makene, Bombali (Feb.) Deighton 5325! Matotaka, Tonkolili Thomas 1287a! Newton (Feb.) Deighton 5001! Moyamba Deighton 1919! 1919a! Bagroo R. Mann 813! Kenema (Jan.) Thomas 7674! Pihalla, Pujehun Dawe! Zimi, Makpele (May) Deighton 3726! **Lib.:** R. Mano, Grand Cape Mount (Dec.) Baldwin 10809! Salala Dist. Baldwin 14045! 14178! Dukwia R. (Feb.) Cooper 303! **Iv. C.:** Tai Forest Miége! Cavally Basin Chev. 19518!

SAMYDACEAE

Trees or shrubs. Leaves simple, alternate, often pellucid-dotted or lined; stipules small, deciduous or absent. Flowers hermaphrodite, actinomorphic, perigynous. Sepals united in the lower part, imbricate or valvate, persistent. Petals the same number or more than the sepals or absent, often persistent. Disk-glands alternate with the stamens. Stamens definite or indefinite in number, in one or more rows, sometimes in bundles opposite the petals; staminodes often present; filaments free or connate at the base; anthers 2-celled, short, opening lengthwise. Ovary free or adnate to the calyx-tube, sessile, 1-celled with 3–5 parietal placentas often towards the top of the cell; style simple or 3–5 distinct styles; ovules few or numerous. Fruit capsular or indehiscent. Seeds with fleshy copious endosperm and fairly large embryo.

Mainly a tropical family.

Very similar to the Flacourtiaceae, with which they have often been united; distinguished from that family by the constantly hermaphrodite perigynous flowers which are mainly provided with persistent petals.

- 1 Petals present; ovary partly adnate to the calyx-tube: **2**
 Petals absent; ovary free; staminodes alternate with the fertile stamens; stipules minute [4. Casearia](#)

- 2 Petals twice as many as the sepals; stamens very numerous; filaments pilose; stipules present[1. Dissomeria](#)
 Petals the same number as the sepals; stamens few or many; filaments not pilose:[3](#)
- 3 Petals persistent, becoming dry, spreading and often enlarged in fruit, not hooded; stamens singly or in bundles opposite the petals; stipules present[2. Homalium](#)
 Petals not enlarged in fruit, often connivent, hooded, with indexed margins; stamens alternate with and opposite the petals; stipules absent[3. Byrsanthus](#)

1. DISSOMERIA

Benth.—F.T.A. 2: 496.

- 1 Branchlets pubescent when young, at length marked by numerous lenticels; leaves elliptic to obovate-elliptic, obtusely cuneate at base, obtuse or shortly acuminate, 6–11 cm. long, 3–6 cm. broad, glabrous except in the axils of the nerves, crenate with gland-tipped teeth; lateral nerves 5–7 pairs, prominent beneath; petiole about 4 mm. long; stipules 5–6 mm. long, caducous; spikes axillary, about as long as the leaves; flowers crowded; sepals ciliate.; petals softly pubescent outside; filaments plumose[crenata](#)

Dissomeria crenata Hook. f. ex Benth.—F.T.A. 2: 496; Aubrév. Fl. For. C. Iv. 3: 15. *APD acc*

Shrub or tree, to 40 ft. high; **mainly in streamside forests in the savannah regions**; flowers white.

Fr. G.: R. Niger, Farana (Mar.) Sc. Elliot 5313! **S. L.:** Sugar Loaf Mt. (Apr.) Sc. Elliot 5768! Makunde, Limba (Apr.) Sc. Elliot 5706! Mano Smythe! **Iv. C.:** R. FéréDougouba, Toubia Aubrév. 1249! **G. C.:** between Ejura and Yeji (Apr.) Dalz. 52! Afram Plains (May) Kitson 1120! Prang (Jan., Apr.) Kitson 905! Vigne 1550! Zillimbaw Kwom (May) Kitson 518! 519! 755! **N. Nig.:** Lokoja (Sept.) Ansell 1! Koton Karifi Swamp F.R. (July) Johnstone 3313!

2. HOMALIUM

Jacq.—F.T.A. 2: 497.

- 1 Stamens in bundles of 2–4 by each petal; leaves up to 10 cm. long and 4 cm. broad, more or less obovate, with 4–6 pairs of lateral nerves[1. angustifolium](#)
 Stamens solitary by each petal; leaves usually exceeding 10 cm. long and 4 cm. broad:[2](#)
- 2 Petals 5–15 mm. long in fruit:[3](#)
 Petals up to 3 mm. long in fruit; inflorescence much-branched:[12](#)
- 3 Inflorescence with long slender spreading hairs, up to 25 cm. long, branched; leaves with long pilose hairs beneath, especially on the midrib, often glabrescent, ovate-elliptic, acute to obtuse at base, acuminate, 8–18 cm. long, 3–10 cm. broad; petals 8–10 mm. long in fruit[2. smythei](#)
 Inflorescence shortly pubescent or tomentose; leaves tomentellous, shortly pubescent or glabrous beneath:[4](#)
- 4 Leaves more or less permanently pubescent or tomentellous beneath on lamina as well as on the midrib and nerves; lateral nerves 12–15, very prominent and more or less parallel beneath:[5](#)
 Leaves glabrous, or sparingly pubescent on the midrib and nerves but not on the lamina beneath:[7](#)
- 5 Inflorescence axillary, simple, up to 15 cm. long; leaves broadly elliptic, obtuse to rounded at base ...[3. dalzielii](#)
 Inflorescence terminal, much-branched, 20–35 cm. long; leaves broadly elliptic, rounded to subcordate at base: [6](#)
- 6 Lamina finely and sparingly tomentellous between the nerves beneath[4. neurophyllum](#)
 Lamina densely tomentellous all over the undersurface[5. patoklaense](#)
- 7 Leaves cordate at base, 12–30 cm. long, 5–14 cm. broad, very coriaceous, with strong tertiary nerves; stipules very early caducous; inflorescence terminal, much-branched, up to 40 cm. long; petals up to 12 mm. long in fruit[6. letestui](#)
 Leaves not cordate at base:[8](#)
- 8 Leaves with minute glandular scales beneath, ovate-elliptic to oblong-elliptic, cuneate at base, sometimes unequally so, obtuse to acuminate at apex, 6–12 cm. long, 3–6 cm. broad; inflorescence simple, axillary, up to 20 cm. long, stout; flowers in clusters, pedicels persistent; petals 5 mm. long in fruit[7. viridiflorum](#)
 Leaves without scales beneath:[9](#)
- 9 Inflorescence axillary, simple, or appearing compound by the fall or non-development of the leaves; leaves 8–20

- cm. long, 5–10 cm. broad: **10**
- Inflorescence truly compound; leaves 4–13 cm. long, 2.5–6 cm. broad: **11**
- 10** Petals in fruit 6–8 mm. long; leaves cuneate at base, usually coarsely (rarely obscurely) crenate, drying greyish-brown [8. aylmeri](#)
- Petals in fruit 10–15 mm. long; leaves rounded or obtuse at base, rather obscurely crenate, drying reddish-brown [9. macropterum](#)
- 11** Inflorescence axillary, up to 15 cm. long, densely brownish pubescent; pedicels 2 mm. long, articulated near the apex; stipules minute and early caducous; leaves gradually acuminate; mature fruit unknown ... [10. aubrevillei](#)
- Inflorescence terminal, 11–25 cm. long, greyish puberulous; pedicels 3 mm. long, articulated 1 mm. from the base; stipules linear, 4–5 mm. long, persistent; leaves abruptly acuminate; petals up to 8 mm. long in fruit . [11. angustistipulatum](#)
- 12** Flowers in dense clusters along the axes; stamens up to 2 mm. long; stipules foliaceous, reniform, often persistent; leaves obtuse to cordate at base: **13**
- Flowers not in dense clusters, pedicels 2 mm. long, distinct, or 2–4 flowers together; stamens 5–6 mm. long; stipules subulate, very early caducous; leaves cuneate at base, glabrous; mature fruit unknown . [10. aubrevillei](#)
- 13** Leaves permanently and softly pubescent beneath; branchlets densely pubescent [12. molle](#)
- Leaves glabrous beneath; branchlets sparingly pubescent: **14**
- 14** Leaves obtuse to rounded at base, petiole 5–15 mm. long; stipules up to 8 mm. diam., usually early caducous [13. africanum](#)
- Leaves cordate to subcordate at base, petiole 2–5 mm. long; stipules 10–25 mm. diam., usually persistent [14. sarcopetalum](#)

1. Homalium angustifolium Sm.—F.T.A. 2: 498. *APD acc*

Small tree to 15 ft. high, with slender trunk, or straggling and shrub-like; **in riverain forest; flowers greenish-white.**

Fr. G.: Conakry Maclaud! **S. L.:** Smeathmann! Bawbaw Lane-Poole 434! Colonial Reserve (Jan.) Macdonald 7! Talla Hills (fr. Feb.) Sc. Elliot 4874! 5016! Sugar Loaf Mt. (Dec.) Sc. Elliot 4022! Tombo (Dec.) Deighton 3315! Nganyama (Sept.–Oct.) Deighton 4025! 5190!

2. Homalium smythei Hutch. & Dalz. F.W.T.A., ed. 1, 1: 166 (1927); Kew Bull. 1928: 213. *APD acc*

Homalium djalonis A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 166 (1927); Kew Bull. 1928: 212; Chev. Bot. 283, name only.

Homalium alnifolium Hutch. & Dalz. l.c., partly.

Tree, to 30 ft. high; inflorescences drooping; flowers cream or greenish; wood very hard.

Fr. G.: Diaguissa Plateau (Apr.) Chev. 12692! Dalaba (Apr.) Caille in Hb. Chev. 18220! **S. L.:** Smythe 55! Pujehun (Feb.) Aylmer 7! Bunabu (Mar.) Lane-Poole 16! Panguma (Mar.) Lane-Poole 19! Mano (Mar.) Deighton 1923! Jaiama (fr. Mar.) Edwardson 70! Kwaoma (Apr.) Deighton 3681! **Lib.:** Dukwia R. (fl. Mar., fr. May) Cooper 324! 469!

3. Homalium dalzielii Hutch. F.W.T.A., ed. 1, 1: 166 (1927); Kew Bull. 1928: 211. *APD acc*

A tree, up to 40 ft. high.

Dah.: Porto Novo (Mar.) Chev. 23331! **S. Nig.:** Lagos (Dec., Jan.) Millen 42! Dalz. 1259! 1356!

4. Homalium neurophyllum Hoyle in Kew Bull. 1932: 265.

APD: Synonym of Homalium stipulaceum Welw. ex Mast.

Homalium dananensis Aubrév. & Pellegr. in Aubrév. Fl. For. C. Iv. 3: 20, t. 250 (1936), French descr. only.

A **forest** tree, to 75 ft. high or more; wood very hard.

Iv. C.: Danané (Mar.) Aubrév. 1121! **G. C.:** Ofinso (fr. June) Vigne 1181! Ainyam (fr. June) Vigne 179! S. Scarp F.R., Moor FH 2348!

5. Homalium patoklaense Aubrév. & Pellegr. in Aubrév. Fl. For. C. Iv. 3: 18, t. 249 (1936).

APD: Synonym of Homalium lastoursvillense Pellegr.

A medium-sized tree.

Iv. C.: Patokla (May) Aubrév. 1302!

6. **Homalium letestui** *Pellegr.* in Bull. Mus. Hist. Nat. 27: 193 (1921). *APD acc*

Homalium dolichophyllum *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 579 (1921); F.W.T.A., ed. 1, 1: 166; Hutch. & Dalz. in Kew Bull. 1928: 212; Aubrév. l.c. 3: 18, t. 251.

Homalium africanum of Gilg in Engl. Bot. Jahrb. 40: 488 and of Chev. Bot. 283, not of (Hook. f.) Benth.

Forest tree, to 100 ft. high; leaves glossy, with midrib and nerves reddish-purple beneath when young; flowers whitish at first, petals becoming wine-red and finally cream-coloured in fruit; wood very hard.

Fr. G.: Rio Nunez Heudelot 810! Kouroussa (Jan.) Pobéguin 640! **S. L.:** Talla Hills (Apr.) Sc. Elliot 5532! Bandajuma (Feb.) Lane-Poole 150! Njala (Mar.) Deighton 2868! Batkanu (Feb.) Deighton 3495! **Lib.:** Jabrocca (fr. Dec.) Baldwin 10877! **Iv. C.:** Assinie (Apr.) Chev. 16316! Tai Aubrév. 1208! **G. C.:** Winnebah (fl. & fr. Feb.) Dalz. 8302! Prestea (Oct.) Vigne 163! Kumasi Vigne 1040! **S. Nig.:** Lapai (Feb.) Yates 35! **S. Nig.:** Shasha F.R. Lancaster 12! Okomu F.R. (fr. Feb.) Brenan 9113! Sapoba Kennedy 1666! 2089! Onitsha Unwin 70! Oban Talbot 1514! **Br. Cam.:** Victoria (fl. & tr. Jan., Feb.) Preuss 1379! Maitland 176! 178! S. Bakundu F.R. (fr. Feb.) Ejiofor FHI 14078! **F. Po.:** (Jan.) Mann 232!

Also in **French Camerouns** and **Gabon**.

7. **Homalium viridiflorum** *Exell* in J. Bot. 67, Suppl. Polypet. 1: 189 (1929). *APD acc*

A **forest** tree, to about 100 ft. high; flowers green.

S. Nig.: Cross R., Ikom (Aug.) Catterall 41! Maekay 10!

Also in **Cabinda**.

8. **Homalium aylmeri** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 166 (1927); Kew Bull. 1928: 213.

APD: Synonym of Homalium longistylum Mast.

Homalium sp. aff. aylmeri of Aubrév. Fl. For. C. Iv. 3: 20, t. 250.

Homalium alnifolium *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 166 (1927) and Kew Bull. 1928: 212, partly, not of Thwaites & F. Muell. (1861).

Medium-sized **forest** tree, to 90 ft. high; flowers white; slash and wood very hard.

S. L.: Pujehun (Feb.) Lane-Poole 141! Njala (Jan.) Deighton 2826! 2942! Kasewe (Jan.) King 156! **Iv. C.:** Abidjan Aubrév. 25! 31! Banco (Feb.) Aubrév. 890! **S. Nig.:** Sapoba (fr. Apr.) Kennedy 1082! 1670! Onyeagocha FHI 7129! Degema Talbot 3791!

[There appears to be a pubescent form of this species.]

9. **Homalium macropterum** *Gilg* in Engl. Bot. Jahrb. 40: 489 (1908).

APD: Synonym of Homalium longistylum Mast.

Forest tree, to 50 ft. high; wood very hard.

S. Nig.: Cross R., Ikom (fr. Sept.) Catterall 42!

Also in **Ubangi**, **French Camerouns** and **Cabinda**.

10. **Homalium aubrevillei** *Keay* in Kew Bull. 1953: 79.

APD: Synonym of Homalium smythei Hutch. & Dalziel

Homalium longistylum of Aubrév. Fl. For. C. Iv. 3: 22, t. 251 (1936), not of Mast.

Iv. C.: Mt. Nimba (Mar.) Aubrév. 1130! Necaounié Aubrév. 1311!

11. **Homalium angustistipulatum** *Keay* l.c. 80 (1953).

APD: Synonym of Homalium dewevrei De Wild. & T. Durand

G. C.: Essiama, Fishlock 12!

12. **Homalium molle** *Stapf* in J. Linn. Soc. 27: 100 (1905); Gilg l.c. 493; Chev. Bot. 283; Aubrév. l.c. 3: 18, t. 249.

APD: Synonym of Homalium africanum (Hook. f.) Benth.

Spreading tree of **swamp forest by streams**, to 60 ft. high; flowers white or very pale green.

Fr. G.: Boké (Mar.) Pobéguin 2013! Beyla (Feb.) Chev. 20856! Konanké (Feb.) Chev. 20834! Kindia Jac.-Fel. 83! **S. L.:** Bagroo R. (Apr.) Mann 881! Charlotte Falls (Mar.) Dalz. 925! York Pass (July) Lane-Poole 275! Port Loko (Apr.) Sc. Elliot 5866! **Lib.:** Sinoe Basin Whyte! Monrovia Whyte! Barclayville (Mar.) Baldwin 11129! **Iv. C.:** Makougnie (Jan.) Chev. 16167! Banco (May, Aug.) Serv. For. 1195! Aubrév. 1480! **G. C.:** Nkroful (Nov.) Vigne 1420! Essiama (Feb.) Irvine 2322! **S. Nig.:** Okomu F.R. (Feb.) Brenan 9087! Sapoba (Nov.) Kennedy 1780! Keay FHI 28078!

Also in **Gabon**.

13. **Homalium africanum** (*Hook. f.*) *Benth.*—*F.T.A.* 2: 497, partly; Chev. Bot. 283. *APD acc*

Blackwellia africana *Hook. f.* in Fl. Nigrit. 361 (1849).

Forest tree in swamps and creeks, to 70 ft. high, flowers yellowish-green.

S. L.: Don! Pujehun (Mar., Apr.) Aylmer 22! Deighton 1657! Njala (Apr.) Deighton 2889! Limba (Apr.) Sc. Elliot 5572! **Lib.:** Grand Kola R. (Mar.) Baldwin 11211! **S. Nig.:** Lagos (Jan.) Barter 2165! Dalz. 1274! Atigere (fr. Feb.) Millen 146! Shasha F.R. (Apr., May) Ross 263! Richards 3321! Sapoba (May) Kennedy 1691! Calabar Williams 15! Oban Talbot 484!

Also in **French Cameroons**.

14. **Homalium sarcopetalum** *Pierre* in Bull. Soc. Linn. Paris n.s. 1: 119 (1899).

APD: Synonym of Homalium africanum (Hook. f.) Benth.

S. Nig.: Oban Talbot 1390! s.n.! **F. Po:** Ureka (Feb.) Guinea 2407!

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

1. **Homalium skirlii** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 579 (1921).

Inadequately described; no specimen cited.

Br. Cam.: Victoria.

Imperfectly known species.

2. **Homalium sp. A.**

Forest tree, 50 ft. high; flowers white, scented, in long spikes; fruits unknown.

Fr. G.: Boké Chillou! **G. C.:** Tano-Ofin F.R. (Jan.) Vigne 1006!

Possibly near *H. macropterum* Gilg. Imperfectly known species.

3. **Homalium sp. B.**

Forest tree, up to 4 ft. girth; mature flowers and fruits unknown.

S. Nig.: Ikom Catterall 66!

Possibly near *H. aubrevillei* Keay. Imperfectly known species.

4. **Homalium sp. C.**

Small **forest** tree, up to 5 ft. girth; fruits unknown.

S. Nig.: Ikom Catterall 69!

Imperfectly known species.

3. BYRSANTHUS*Guill.*—F.T.A. 2: 498.

- 1 Leaves lanceolate-elliptic to ovate-elliptic, obtuse or rounded at each end, 10–12 cm. long, 4–7 cm. broad, coriaceous, obscurely crenate, glabrous, shining, laxly reticulate on both surfaces; lateral nerves 7–8 pairs, prominent on each side; petiole 5–8 mm. long; flowers paniculate; rhachis with numerous clusters of small hairs; calyx-lobes triangular, reflexed, about 2.5 mm. long, like the slightly larger petals covered with a short grey indumentum [brownii](#)

Byrsanthus brownii *Guill.*—F.T.A. 2: 499. *APD acc***Byrsanthus epigynus** *Mast.*—F.T.A. 2: 499, partly.**Symmeria paniculata** of Sc. Elliot in J. Linn. Soc. 30: 95, partly, not of Benth.Small tree or shrub in [riverain forest](#), with rugose branches; flowers fragrant.

Gam.: Whitfield! Baraconda (Feb.–Mar.) Heudelot 335! **Fr. G.:** Kiritia (June) Maclaud 296! Kittiar (May) Pobéguin 2078! Kissosso (July) Pobéguin 785! **S. L.:** Sellakuri, Little Scarcies R. (Mar.) Sc. Elliot 5074b! Madina, Limba (Apr.) Sc. Elliot 5662! Pujehun (Apr.) Aylmer 65! Tonkoli, R. Taia Dawe 507! Njala (June) Deighton 1755! Messima, R. Waanje (Apr.) Adames 30! Tulimba, Gbenti Creek (Mar.) Adames 158!

4. CASEARIA*Jacq.*—F.T.A. 2: 493.

- 1 Flower-clusters shortly pedunculate; branchlets shortly pubescent; leaves oblong, rounded and slightly oblique at base, shortly acuminate, 10–16 cm. long, 3–6 cm. broad, slightly serrulate, slightly pubescent on the nerves when young; lateral nerves about 10 pairs; petiole about 5 mm. long; sepals glabrous; staminodes pubescent [1. stipitata](#)
- Flower-clusters sessile: **2**
- 2 Leaf-blade unequal-sided at base: **3**
- Leaf-blade more or less equal-sided at base: **4**
- 3 One half of leaf-blade inserted much lower than the other; branches glabrous; leaves oblong-lanceolate, acuminate, 10–12 cm. long, 3–3.5 cm. broad, crenate, glabrous; lateral nerves about 7 pairs; petiole 5–8 mm. long; sepals glabrous; staminodes villous [2. inaequalis](#)
- One half of leaf-blade not inserted above the other; leaves obovate, cuneate on one side at base, shortly and abruptly acuminate at apex, 7–10 cm. long, 3.5–5.5 cm. broad; lateral nerves about 6 pairs; flowers not seen; fruits oblong-ellipsoid, 4 cm. long, with the persistent reflexed calyx at the base [3. dinklagei](#)
- 4 Flowers distinctly pedicellate; sepals glabrous; leaves oblong-elliptic to obovate-elliptic, rounded or shortly cuneate at the base, shortly acuminate, 9–18 cm. long, 3.5–7 cm. broad, with the lateral nerves prominent only beneath, the tertiary nerves numerous and subparallel beneath [4. barteri](#)
- Flowers nearly sessile; sepals pubescent; leaves obovate or obovate-elliptic, cuneate at base, very shortly and obtusely acuminate, 7–9 cm. long, 4–5 cm. broad, the lateral nerves prominent on both sides, the tertiary nerves few and laxly reticulate beneath [5. bridelioides](#)

1. Casearia stipitata *Mast.*—F.T.A. 2: 493. *APD acc*

A tree, about 20 ft. high.

S. Nig.: Aboh Barter 322!

2. Casearia inaequalis *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 168 (1927); Kew Bull. 1928: 213; Aubrév. Fl. For. C. Iv. 3: 22; Aubrév. Fl. For. Soud.-Guin. 74. *APD acc*

A medium-sized tree, with yellow, ridged fruit.

S. L.: Bandajuma (May) Aylmer 73! **Lib.:** Mecca, Boporo (fr. nov.) Baldwin 10430! **Iv. C.:** Tafiré Aubrév. 909! **S. Nig.:** Degema Talbot!

3. Casearia dinklagei *Gilg* in Engl. Bot. Jahrb. 40: 511 (1908); Kennedy For. Fl. S. Nig. 34.

APD: Synonym of Casearia prismatocarpa Mast.

Casearia barteri of Aubrév. l.c. 22, t. 252, not of Mast.

Shrub or tree, to 60 ft. high, with yellow fleshy ridged fruit.

S. L.: York (fr. Dec.) Deighton 3340! **Lib.:** Dukwia R. (Apr.) Cooper 408! Grand Bassa (fr. May) Dinklage 1908 **IV. C.:** Bingerville Aubrév. 1493! **S. Nig.:** Sapoba Kennedy 1578!

[These specimens are only provisionally referred to this species, as the type has not been available for study.]

4. *Casearia barteri* Mast. in F.T.A. 2: 494 (1871). *APD acc*

Casearia bule Gilg l.c. 513.

A shrub or tree, up to 50 ft. high; mainly in swamp forest.

G. C.: Axim (fr. Feb.) Irvine 2272! (?). **S. Nig.:** Okomu F.R. (Jan.) A. F. Ross 243! Sapoba Kennedy 2044! Onitsha Barter 1635! Degema Talbot! Oban Talbot 1630! **Br. Cam.:** Ambas Bay (Jan.) Mann 714! Johann-Albrechtshöhe (Jan.) Staudt 799! Victoria (Mar., May) Winkler.

Also in **French Cameroons** and **Gabon**.

5. *Casearia bridelioides* Mildbr. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 168 (1927); Kew Bull. 1928: 213; Kennedy For. Fl. S. Nig. 34.

APD: Synonym of Keayodendron bridelioides Leandri

APD: Synonym of Keayodendron bridelioides Leandri

A tall tree to 120 ft. high; straight hole without buttresses, 60–80 ft. to first branch; girth of mature trees 6–9 ft.; in swamp forest; flower pale green; fruits orange.

G. C.: Ofin Headwaters F.R. (Oct.) Vigne 3122. **S. Nig.:** R. Oni Sankey 17! Akilla (fr. Apr., May) Kennedy 2002. Shasha F.R. (fl. & fr. Feb.–Apr.) Richards 3046! 3374! Ross 69!

Also in **French Cameroons**.

FRANKENIACEAE

Herbs or shrublets; leaves opposite, exstipulate, often small and ericoid. Flowers actinomorphic, hermaphrodite, solitary or cymose, small. Sepals 4–6, persistent, connate, induplicate-valvate. Petals as many as the sepals, free, clawed, with a scale-like appendage on the inside, imbricate. Stamens usually 6, hypogynous, free or shortly connate at the base; anthers 2-celled, didymous, dehiscing longitudinally. Ovary superior, sessile, 1-celled, with 2–4 parietal placentas; ovules numerous; style simple, filiform. Capsule enclosed in the persistent calyx, opening by valves. Seeds with endosperm; embryo straight, axile.

Widely dispersed on maritime shores.

FRANKENIA

Linn.—F.T.A. 1: 136.

Characters of the family.

- 1 Leaves flat, obovate to almost orbicular, petiolate, about 3–5 mm. long, setulose-pubescent; flowers terminal; calyx 3–4 mm. long *pulverulenta*

Frankenia pulverulenta Linn.—F.T.A. 1: 136; Guill. & Perr. Fl. Seneg. 40. *APD acc*

A diffuse much-branched herb a few inches high, with opposite leaves, often covering the ground.

Sen.: Sieber 16! Sor Isl. (Oct.–Dec.) Perrottet! Also at M'bidjem and Dakar.

Maritime shores of the warmer parts of the Old World.

TAMARICACEAE

Shrubs or trees, with slender branches and small scale-like alternate leaves; stipules absent. Flowers very small, actinomorphic, usually hermaphrodite, in slender catkin-like spikes or racemes. Sepals 4–6, imbricate, free. Petals as many as the sepals, free. Disk present. Stamens hypogynous, 5–10, free or connate at the base; anthers 2-celled, opening by longitudinal slits. Ovary superior, 1-celled, with parietal or basal placentas; styles 3–4, free or united at the base; ovules numerous, ascending. Fruit a capsule. Seeds with or without endosperm, with a tuft of hairs at the apex or all round; embryo straight.

Temperate regions of Europe, N. Africa and Asia; mostly maritime shores.

Recognized by the scale-like leaves, minute flowers, definite stamens, disk, and the parietal or basal placentation.

TAMARIX

Linn.—F.T.A. 1: 151.

Stamens free or connate at the very base; anthers extrorse. Seeds with a crest of long hairs at the apex.

- 1 A shrub or small tree; branchlets slender; leaves alternate, ovate-triangular, very acute, about 2 mm. long, distinctly gland-dotted, otherwise glabrous; flowers very small in slender catkin-like racemes; bracts shorter than the flowers [senegalensis](#)

Tamarix senegalensis DC. Prod. 3: 96 (1828); Niedenzu in E. & P. Pflanzenfam. 21: 287 (1925). *APD acc*

Tamarix gallica of F.T.A. 1: 151, not of Linn.; Chev. Bot. 49; Aubrév. Fl. For. Soud.-Guin. 76, t. 11.

A twiggy shrub or small tree, [of maritime and dry inland sandy situations](#).

Sen.: M'bidjem Thierry 28! Sor Isl. Brunner! **Lib.:** Santa Maria (Oct.) Dinklage 3180! **Fr. Nig.:** Manga fide Aubrév. l.c. **N. Nig.:** Bornu Kerr!

Also in [Cape Verde Islands](#), [Mauritania](#), [Central Sahara](#) and [N.E. Africa](#).

PASSIFLORACEAE

Herbaceous climbers bearing tendrils, or erect trees or shrubs. Leaves alternate, entire or lobed, often with a glandular petiole; stipules usually small and deciduous. Flowers hermaphrodite or unisexual. Sepals 5, imbricate, persistent, free or partially united. Petals 5, rarely absent, free or shortly united, imbricate. Corona of one or more rows of thread-like processes or scales, or annular. Stamens 5 or more, hypogynous or perigynous, shortly united or in bundles, sometimes springing from the gynophore; anthers 2-celled, opening lengthwise. Ovary superior, 1-celled, with 3 or rarely 4–5 parietal placentas; ovules usually numerous; styles free or united; stigmas often capitate. Fruit a capsule or berry, indehiscent or loculicidally 3-valved. Seeds with pitted testa, surrounded by a pulpy aril; endosperm fleshy; embryo large, straight.

Almost exclusively tropical and subtropical.

Recognized by the usually climbing habit (the African representatives, however, are mainly trees and shrubs), alternate stipulate leaves often with a pair of glands at the base, the flowers provided with a corona, the superior 1-celled ovary with parietal placentas, and pitted seeds.

- 1 Flowers hermaphrodite; corona conspicuous:2
Flowers unisexual; corona small and inconspicuous; tendrils present; leaves glandular at the base [7. Adenia](#)
- 2 Styles free to the base or nearly so:3
Styles united; stigma capitate:6
- 3 Tendrils present; stamens 4–5, filaments partly adnate to a long gynophore; fruit stipitate; climber [1. Passiflora](#)

- Tendrils absent; trees or shrubs:4
- 4 Stamens numerous; flowers large and conspicuous, axillary [2. *Smeathmannia*](#)
- Stamens 5; flowers rather small:5
- 5 Flowers solitary or fasciculate in the leaf-axils or from the axils of the fallen leaves; leaves not glandular at the base [3. *Paropsia*](#)
- Flowers in terminal panicles; leaves with a pair of large glands at the base [4. *Androsiphonia*](#)
- 6 Fertile stamens numerous; flowers sessile, surrounded by numerous imbricate bracts; no tendrils [5. *Barteria*](#)
- Fertile stamens 5, inserted on a gynophore; flowers pedicellate, not conspicuously bracteate; tendrils present [6. *Crossostemma*](#)

1. PASSIFLORA

Linn.-Benth. & Hook. f. Gen. Pl. 1: 810.

- 1 A slender twiner with softly hispid branches; leaves digitately trilobed, widely cordate at base, acute at apex of the lobes, 5–10 cm. long and broad, thin, ciliate; tendrils axillary, not branched; flowers axillary, solitary, about 5 cm. in diam.; pedicel usually a little longer than the often ciliate petiole; bracts pinnatisect, with numerous gland-tipped cilia, about 2 cm. long, at length larger in fruit; petals white; corona multistriate, bluish-purple; fruit ovoid, up to 4 cm. long, glabrous, surrounded by the persistent calyx [foetida](#)

Passiflora foetida* Linn.—F.T.A. 2: 520; Chev. Bot. 284. *APD acc

Rank-scented; fruit yellow when ripe, edible, **naturalized in waste places.**

Sen.: Dakar (May) Baldwin 5748! **Gam.:** Ingram! **Fr. G.:** Conakry (Feb.) Chev. 12124! **S. L.:** Samu (Dec.) Sc. Elliot 4084! Njala (Feb.) Deighton 1931! Kenema (Nov.) Deighton 412! Ronietta (fr. Nov.) Thomas 5513! **Lib.:** Sinoe Basin Whyte! Dukwia R. (fl. & fr. Oct., Nov.) Cooper 12! Ganta Harley! **Iv. C.:** Prolo (Aug.) Chev. 19874. **G. C.:** Cape Coast Cummins 22! Accra Plains (Apr.–Aug.) Brown 331! Bally 17! Ajena, R. Volta (Mar.) A. S. Thomas 159! Prampram (Jan.) N. F. Robertson 46! **N. Nig.:** Jebba (Dec.) Hagerup 676! **S. Nig.:** Lagos MacGregor 346! Ibadan (fl. & fr. Sept.) Latilo FHI 21014! Eket Talbot 3084! **Br. Cam.:** Victoria (Feb.) Maitland 400! **F. Po:** (June) Mann 420!

A native of tropical America.

***Passiflora edulis* Sims**

A native of tropical America, is cultivated for its fruits.

***Passiflora laurifolia* Linn.**

A native of tropical America, is cultivated for its fruits.

***Passiflora quadrangularis* Linn.**

A native of tropical America, is cultivated for its fruits.

2. SMEATHMANNIA

Soland. ex R.Br.—F.T.A. 2: 506.

- 1 Ovary villose; persistent calyx as long or longer than the fruit; branches more or less tomentose; leaves pubescent beneath, broadly elliptic to obovate, rounded at base, rounded and shortly acuminate at apex, 6–20 cm. (usually about 8 cm.) long, 4–7 cm. broad, undulately glandular-toothed [1. *pubescens*](#)
- Ovary glabrous; persistent calyx much shorter than the fruit; branches and leaves glabrous or nearly so:2
- 2 Leaves cuneate at base, obovate to oblong-elliptic, very acutely acuminate, 7–12 cm. long, 3–5 cm. broad [2. *laevigata* var. *laevigata*](#)
- Leaves rounded at base, oblong-elliptic, shortly acuminate, 7–15 cm. long, 4–6 cm. broad [2a. *laevigata* var. *nigerica*](#)

1. ***Smeathmannia pubescens* Soland. ex R.Br.—F.T.A. 2: 506; Chev. Bot. 285, incl. vars. *cordifolia* and *parviflora*; Aubrév. Fl. For. C. Iv. 3: 29, t. 254. *APD acc***

***Smeathmannia rosea* of Lemaire.**

***Smeathmannia emarginata* of Lemaire.**

A shrub or small tree, to 30 ft. high; flowers white, fragrant; fruit white or reddish, crustaceous.

Fr. G.: Scaëtta 3307! **S. L.:** Whitfield! Smeathmann! R. Bagroo (Apr.) Mann 867! Kambia, R. Scarcies (Jan.) Sc. Elliot 4387a! Njala (Sept.) Deighton 74! Yetaya (Sept.) Thomas 2283! 2436! **Lib.:** Kakatown Whyte! Dukwia R. (May-Oct.) Cooper 442! Linder 97! Zorzor (Mar.) Bequaert 146! **Iv. C.:** Rasso Aubrév. 145! **G. C.:** R. Tano (Sept.) Chipp 338! 378! Cape Coast Brass! Axim (Dec.) Johnson 888! Ejura (Aug.) Chipp 758! **S. Nig.:** Lagos (Dec.) Millen 71! 116! Abeokuta Irving! Onitsha Barter 201! Degema Talbot 3615!

Also in **French Camerouns** and **Ubangi-Shari-Chad**.

2. **Smeathmannia laevigata Soland. ex R.Br. var. laevigata**—F.T.A. 2: 507; Chev. Bot. 284; Aubrév. l.c. *APD acc*

A shrub to 9 ft. high; often by rivers; flowers smaller than in the preceding.

Gam.: Garrett! Whitfield! **Sen.:** Perrottet 345! **Fr. G.:** Rio Nunez Heudelot! Conakry (Jan.) Dalz. 8139! Upper Niger (Apr.) Chev. 13336! **S. L.:** Afzelius! T. Vogel 149! Freetown (Oct., Jan.) Johnston 45! Dalz. 8140! Regent (Dec.) Sc. Elliot 3912! Scarcies R. (Jan.) Sc. Elliot 4414! Bagroo R. (Mar.) Mann 791! Magbile (Dec.) Thomas 5876! Mange, Bure (Feb.) Deighton 4977! **Lib.:** Monrovia (June) Baldwin 5912! Whyte! Duport (Nov.) Linder 1505! 1507!

2a. **Smeathmannia laevigata var. nigerica A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 171 (1927); Chev. Bot. 285.**

APD: Synonym of Smeathmannia laevigata Sol. ex R. Br.

A shrub or tree up to about 30 ft. high; flowers white; fruit ivory-white.

Sen.: Sedhiou (Feb.) Chev. 2999. **Fr. Sud.:** Sangarala (Feb.) Chev. 345! **Fr. G.:** Pobéguin 222! Kankan (Mar.) Chev. 568. Kouroussa Chev. 15713. **S. L.:** Kenema (June) Aylmer 87!

It seems very probable that this variety is only one of the results of hybridization between the two species, as suggested from a study of numerous specimens collected in Sierra Leone by Thomas (Nos. 7098 and 7022). Another combination of characters is also shown by Thomas' specimens (Nos. 5064, etc.), which have the narrow-based leaves of typical *S. laevigata* and the villous ovary of *S. pubescens*.

3. PAROPSIA

Noronha—F.T.A. 2: 505.

- 1 Branches rusty-pubescent; leaves oblong-elliptic, rounded or slightly cuneate at base, acuminate, 5–16 cm. long, 2–6 cm. broad, repand-dentate, thin, pubescent on the nerves, finely reticulate; flowers fasciculate on long inflorescences; pedicels densely pilose, about 8 mm. long; sepals spatulate-oblongate, subobtusate, about 1 cm. long; petals slightly longer than the sepals, glabrous [guineensis](#)

Paropsia guineensis Oliv.—F.T.A. 2: 505. *APD acc*

Paropsia pritzellii Gilg in Engl. Bot. Jahrb. 40: 471 (1908).

Tree, to 60 ft. high and 5 ft. girth; flowering when leafless, or nearly so.

S. Nig.: Olokemeji F.R. (Mar.) A. F. Ross 105! Okomu F.R. (fl. Mar., fr. May) A. F. Ross 194! Sapoba Kennedy 2345! 2127! Calabar Thomson 31! Oban Talbot 1623!

Also in **French Camerouns**, **Cabinda** and **Uganda**.

4. ANDROSIPHONIA

Stapf in J. Linn. Soc. 37: 101 (1905). *APD acc*

- 1 A shrub; leaves oblong-elliptic, acuminate, subacute and often with two large black glands on each side at the base, 12–25 cm. long, 4–7 cm. broad, denticulate, slightly puberulous when young, distinctly reticulate on both surfaces; lateral nerves about 6–8 pairs; flowers greyish-green in a terminal panicle; bracts leafy, conspicuously glandular; sepals tomentellous; petals about the same length [adenostegia](#)

Androsiphonia adenostegia *Stapf* in J. Linn. Soc. 37: 101 (1905); Chev. Bot. 288. *APD acc*

A shrub or small tree, to 12 ft. high; flowers greyish-green; fruits orange when ripe.

S. L.: Guma (Jan.) Smythe 216! Jombohun (Jan.) Deighton 3882! Faiama (fl. & fr. Jan.) Deighton 3867! 3868! Gola Forest (Dec.) King 95b! **Lib.:** Monrovia Whyte! Kakatown Whyte! Dukwia R. (fl. & fr. Feb., Mar.) Cooper 211! 276! Little Kola R. (fr. Mar.) Baldwin 11185! Piatah, Salala (Dec.) Baldwin 10596! Boporo Dist. (fl. & fr. Dec.) Baldwin 10624! 10704! 10830! **Iv. C.:** Haut-Nuon (Apr.) Chev. 21194.

5. BARTERIA*Hook. f.*—F.T.A. 2: 510. *APD acc*

Maitland 1578 from Ekwe-ngong and Ujor FHI 30375 from Bali, both in Bamenda, British Cameroons, may represent a new species, but more and better material is required.

- 1 Flowers solitary or up to 3 in the leaf-axils and inserted approximately at the same level; bracts acute; branchlets solid except for hollow spindle-shaped swellings here and there; leaves spirally arranged, oblanceolate to oblong, 10–22 cm. long, 4–8 cm. broad, with a narrow petiole *I. nigrifolia*

Flowers 4 or more arranged in the form of a long horseshoe on the stem around the base of the decurrent leaf; bracts rounded at apex; branchlets hollow throughout and cylindrical; leaves distichous, oblong or slightly obovate-oblong, 20–42 cm. long, 6–19 cm. broad, with a very broad petiole and decurrent lamina. *2. fistulosa*

1. Barteria nigrifolia *Hook. f.*—F.T.A. 2: 510. *APD acc*

Barteria braunii *Engl.* (1892).

A tree, 10–20 ft. high, rarely to 45 ft.; branchlets with spindle-shaped swellings occupied by stinging ants; flowers white, sweet-scented, with a large mushroom-shaped yellow stigma; fruit ovoid, yellowish, with compressed pitted seeds. **Often found in the coastal districts.**

S. Nig.: Lagos (Jan-Mar.) Dalz. 1061! Akassa Barter 2119! R. Bonny (Oct.) Mann 507! Udi (Mar.) Kitson! Enugu (Feb.) Jones FHI 654! Agulu Thomas 152! Oban Talbot! Calabar Thomson 32! **F. Po:** Bokoko Mildbr. 6838.

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Cabinda**.

2. Barteria fistulosa *Mast.* in F.T.A. 2: 511 (1871). *APD acc*

A tree to 40 ft. high, **in gaps in rain forest**; branches becoming hollow and cylindrical, inhabited by large stinging ants.

S. Nig.: Okomu F.R. Ross 127! Benin (May) Baldwin 12011! Kennedy 223! 2171! Oban Talbot 471! **Br. Cam.:** Victoria (Apr.) Maitland 616! Johann-Albrechtshöhe Staudt 9451! Barombi (Feb.) Preuss 31! **F. Po:** Mann 268!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

6. CROSSOSTEMMA*Benth.*—F.T.A. 2: 511.

- 1 Climber; branchlets glabrous; leaves oblong-elliptic, obtuse or slightly cuneate at base, acutely acuminate, 7–11 cm. long, 3–5 cm. broad, strongly reticulate on both surfaces; lateral nerves much-branched, about 5 pairs; tendrils axillary with the few-flowered inflorescence; pedicels jointed in the middle; flowers yellow; sepals and petals subequal, closely marked with darker spots, about 1 cm. long; fruit ellipsoid, acute at each end, 6-sided, about 8 cm. long, valves boat-shaped with the placentas down the middle; seeds ovate, smooth, about 1 cm. long *laurifolium*

Crossostemma laurifolium *Planch. ex Benth.*—F.T.A. 2: 511; Chev. Bot. 285. *APD acc*

Forest climber, with white flowers and yellow or orange fruits.

Fr. G.: fide Chev. l.c. **S. L.:** Rotomba Isl. (Mar.) Kirk 13! Kambui Hills Lane-Poole 461! Mamaha (Nov.) Thomas 4381! Makali (fr. Feb.) Deighton 4078! **Lib.:** Dukwia R. Cooper 161! Zigida, Vonjama (fr. Oct.) Baldwin 10014! Mecca, Boporo

(Nov.) Baldwin 10410! Sanokwele Dist. (fr. Sept.) Baldwin 9302! 9374! 9466! Belefanaï, Gbanga (fr. Dec.) Baldwin 10546! **iv. C.:** fide Chev. l.c. **G. C.:** Axim Burton & Cameron! Atuna, Ashanti Vigne 3503! Pamu-Berekum F.R. Vigne 2492! Cape Coast Brass!

7. ADENIA

Forsk.—F.T.A. 2: 512, as *Modecca* Lam. and *Ophiocaulon* Hook. f. *APD acc*

- 1 Leaves with a pair of separate glands at the top of the petiole; sepals united about half-way up:2
 Leaves with the glands at the apex of the petiole consolidated and forming a peltate base; sepals united about half-way up:6
 Leaves with a single often spatulate gland at the top of the petiole; sepals free to the base or at most united for one third their length:7
- 2 Peduncles very short, not more than 0.5 cm. long:3
 Peduncles longer, over 2 cm. long:4
- 3 Leaves oblong or oblong-elliptic, subacute at base, acute at apex, 6–8 cm. long, 2.5–4 cm. broad, entire, laxly reticulate beneath, glabrous; petiole biglandular at the top, up to 1.5 cm. long; male flowers about 2 cm. long 1. tenuispira
 Leaves widely cordate at base; other characters as below4. lobata
- 4 Leaves acute to rounded at base:5
 Leaves widely cordate or truncate at base, entire or repand-lobate, rarely deeply lobed, ovate, acuminate, 10–15 cm. long, 6–10 cm. broad, thin, glabrous, sub-5-nerved from the base; stems tuberculate; petiole half the length of the leaf, with 2 broad semilunar fleshy glands at the top; male flowers about 1.5–2.5 cm. long; calyx campanulate, lobes lanceolate, acute; petals lacinate4. lobata
- 5 Pedicels articulated about half-way up; male flowers about 1.5 cm. long; leaves oblong or ovate-oblong, acutely acuminate, subobtusate at base, 8–10 cm. long, 3.5–4.5 cm. broad, entire, glabrous, laxly venose; petiole 1.5–2 cm. long, biglandular at the top2. oblongifolia
 Pedicels articulated nearly at the apex; male flowers about 1 cm. long; leaves ovate to ovate-elliptic, rounded at base, gradually acuminate, 10–13 cm. long, 4–6 cm. broad, entire, glabrous, very laxly venose; petiole 1.5–2 cm. long, with two large glands at the top3. mannii
- 6 Inflorescence long-pedunculate; leaves 3-lobed to beyond the middle, 10–13 cm. long, glabrous, membranous, 5-nerved from the base; petiole 4–6 cm. long; peduncle 15 cm. long or more; male flowers about 2 cm. long; petals linear5. aspidophylla
 Inflorescence sessile; leaves 3–5-lobed to about the middle, thin, lobes rounded at the apex, glabrous, glaucous, about 5–8 cm. long; petiole about as long as the leaf, the glands at the apex connate and forming the peltate base; male flowers shortly pedicellate, 5 cm. long; female much shorter with linear calyx-lobes; fruits ellipsoid, 3–4 cm. long, distinctly nerved6. venenata
- 7 Leaves ovate-oblong, acutely acuminate, much longer than broad, slightly cordate at base, 5–9 cm. long, 2.5–4.5 cm. broad, glabrous, conspicuously black-spotted on the upper surface; male sepals free to the base, with small fleshy warts on the outside7. cynanchifolia
 Leaves very broadly ovate, truncate or widely cordate at base, about as broad or broader than long:8
- 8 Sepals free to the base; leaves conspicuously spotted:9
 Sepals connate for one third; leaves broadly ovate, widely and shallowly cordate, obtusely and shortly acuminate, 6–10 cm. long, 5.5–9 cm. broad, entire, minutely dotted on the upper surface when young, otherwise glabrous10. dinklagei
- 9 Inflorescence several-flowered, with a fairly long peduncle; leaves more or less rhomboid, averaging about 7 cm. broad, entire or slightly lobed; capsule 6-angled, ovoid, 2 cm. long; seeds black, coarsely pitted8. cissampeloides
 Inflorescence few-flowered and shortly pedunculate; leaves small, averaging about 4 cm. broad, mostly repand-lobate9. gracilis

1. *Adenia tenuispira* (Stapf) Engl. Pflanzenw. Afr. 3, 2: 603 (1921); Hutch. & Dalz. in Kew Bull. 1928: 214.

APD: *Synonym of Adenia lobata* (Jacq.) Engl. subsp. *lobata*

Modecca tenuispira Stapf in J. Linn. Soc. 37: 102 (1905).

M. nigricans of Chev. Bot. 287.

A dioecious glabrous climber with long fine tendrils and greenish flowers.

Lib.: Cook 346. SinoPflanzenfame Basin Whyte! **iv. C.:** Bouroukrou (Jan.) Chev. 17002. Aboisso (Mar.) Chev. 17812. **G. C.:** Assuantsi (Mar.) Irvine 1576!

2. **Adenia oblongifolia** *Harms* in Engl. Bot. Jahrb. 26: 236 (1899). *APD acc*

A slender glabrous twiner.

Br. Cam.: Johann-Albrechtshöhe (Feb.) Staudt 621.

Also In **French Cameroons**.

3. **Adenia mannii** (*Mast.*) *Engl.* Bot. Jahrb. 14: 375 (1891).

APD: *Synonym of Adenia lobata* (*Jacq.*) *Engl.*

Modecca mannii *Mast.* in F.T.A. 2: 516 (1871); Chev. Bot. 286.

A glabrous climber, with pale green flowers.

S. L.: Peri, Gaura (Oct.) Deighton 5241! **iv. C.:** Lower Cavally (Aug.) Chev. 19860. Upper Cavally (Apr.) Chev. 21347. **S. Nig.:** Oban Talbot! **Br. Cam.:** Amba Bay (Feb.) Mann 17!

4. **Adenia lobata** (*Jacq.*) *Engl.* l.c. (1891). *APD acc*

Modecca lobata *Jacq.*—F.T.A. 2: 516; Chev. Bot. 286.

M. caricifolia of Chev. Bot. 286.

M. incisa of Chev. Bot. 286.

Kolbia elegans *P. Beauv.* Fl. Owar. 2: 91, t. 120.

A tall woody climber, the older stems sometimes an inch or more in diameter and tubercled; leaves variable in shape; flowers greenish-yellow, sweet-scented; fruits yellow.

Sen.: Carabane (Jan.) Chev. 3000. **Fr. G.:** Labé (Apr.) Chev. 12290. Diaguissa (Mar.) Chev. 12642. **S. L.:** Bagroo R. (Apr.) Mann 837! Falaba (Mar.) Sc. Elliot 4463! Njala (July, Aug.) Deighton 770! 1827! Rokupr (Sept.) Jordan 355! Matotoka (July) Thomas 1268! **Lib.:** Monrovia Whyte! Grand Bassa (July) T. Vogel 115! **iv. C.:** several localities fide Chev. l.c. **G. C.:** Aininam, Obuasi (fr. Nov.) Chipp 590! Aburi Road (Feb.) Dalz. 8259! Accra Plains (Feb.) Johnson 608! **Dah.:** several localities fide Chev. l.c. **N. Nig.:** Jebba Barter 1308! **S. Nig.:** Lagos Rowland! Oban Talbot 1619! Calabar Thomson 92! **Br. Cam.:** Victoria (Apr.) Maitland 618! Banga, Kumba (Apr.) Ejiofor FHI 29337! **F. Po:** Mann.

Also in **Principe**, **S. Tomé** and **Annohon Islands**, and from French Cameroons to **Angola**.

5. **Adenia aspidophylla** *Harms* in Engl. Bot. Jahrb. 26: 235 (1899).

APD: *Synonym of Adenia staudtii* *Harms*

A glabrous climber.

Br. Cam.: Johann-Albrechtshöhe (Mar.) Staudt 884.

6. **Adenia venenata** *Forsk.* Fl. Aegypt.-Arab. 77 (1775). *APD acc*

Modecca abyssinica *Hochst.*—F.T.A. 2: 514.

A sub-arborescent climber, twining, with glabrous glaucous stems.

N. Nig.: near Verre Hills, Yola (Feb.) Dalz. 190!

Also in **Eastern Sudan** and **Abyssinia**.

7. **Adenia cynanchifolia** (*Benth.*) *Harms* in E. & P. Pflanzenfam. Nachtr. 255 (1897). *APD acc*

Modecca cynanchifolia *Benth.* in Fl. Nigrit. 366 (1849).

Ophiocaulon cynanchifolius (*Benth.*) *Mast.* in F.T.A. 2: 519.

A climber with slender, terete branches.

F. Po: (Nov.) T. Vogel 196!

8. *Adenia cissampeloides* (Planch. ex Benth.) Harms l.c. 255 (1897). *APD acc*

Modecca cissampeloides Planch. ex Benth. in Fl. Nigrit. 365 (1849).
Ophiocaulon cissampeloides (Planch. ex Benth.) Mast. in F.T.A. 2: 518.
O. tropaeoloides of Chev. Bot. 287.
O. rowlandii Bak. (1895).

A climber, with terete ashen branches; leaves often marbled above, pale beneath; petals greenish-yellow; **common in forest regrowth and margins.**

Fr. G.: Fouta Djallon (Apr.) Chev. 12903. Timbo (May) Chev. 13603. **S. L.:** Freetown (Aug.) Sc. Elliot 5921! Deighton 2050! Falaba (Mar.) Sc. Elliot 5420! Jigaya (fr. Sept.) Thomas 2695! Musaia (Apr.) Deighton 5376! **Lib.:** Peahtah (Oct.) Linder 1074! **iv. C.:** several localities fide Chev. l.c. **G. C.:** Sefwi-Bekwai (fl. & fr. Aug.) Vigne 1315! Obuasi (fr. Nov.) Chipp 588! Bunsu, Tafo (May) N. F. Robertson 117! **N. Nig.:** Nupe Barter 1663! Anara F.R. (May) Keay FHI 22969! Abinsi Dalz. 737! **S. Nig.:** Lagos Millen 33! Abeokuta Rowland! R. Nun Mann 497! **Br. Cam.:** Buea (fr. May) Maitland 679! **F. Po:** T. Vogel 162! Mann 413!

Extends to Spanish Guinea and Central Africa.

9. *Adenia gracilis* Harms in Engl. Bot. Jahrb. 26: 236 (1899).

APD: *Synonym of Adenia cissampeloides* (Planch. ex Hook.) Harms

A climber of the same habit as the preceding, with smaller flowers and leaves.

S. L.: Bo (fr. Jan.) Thomas 7457! **Lib.:** Gbanga (Sept.) Linder 546! Gbau, Sanokwele (Sept.) Baldwin 9441! Mecca, Boporo (Nov.) Baldwin 10421! **G. C.:** R. Ancobra, Axim (Feb.) Irvine 2149! **S. Nig.:** Oban Talbot 469! **Br. Cam.:** Buea (Jan.) Maitland 228!

10. *Adenia dinklagei* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 174 (1927); Kew Bull. 1928: 214. *APD acc*

A climber with white stems.

Lib.: Cook 170. Grand Bassa Dinklage 2109!

Adenia triloba Engl. Pflanzenw. Afr. 3, 2: 602 (1925).

Description inadequate; no specimen cited.

Togo: Siafi Mt.

Imperfectly known species.

CUCURBITACEAE

Herbs or rarely undershrubs with watery juice, often scabrid; stems scandent or prostrate; tendrils mostly present, spirally coiled. Flowers monoecious or dioecious, very rarely hermaphrodite, actinomorphic. Male flower: calyx tubular, lobes imbricate or open; corolla polypetalous or gamopetalous, lobes imbricate or induplicate-valvate; stamens free or variously united, mostly 3, rarely 1–5, one anther always 1-celled, the others 2-celled, cells straight or often curved, flexuous or conduplicate, connective often produced. Female flower: calyx-tube adnate to the ovary and often produced beyond it; staminodes usually not present; ovary inferior or very rarely free; placentas often 3, parietal but often meeting in the middle; ovules numerous, rarely few, arranged towards the walls of the ovary; style simple or rarely 3 free styles; stigmas thick. Seeds various, often flattened, without endosperm.

Mainly a tropical family.

Of scandent habit and often with spirally coiled tendrils; flowers always unisexual; anthers often twisted; ovary inferior, with parietal placentas.

Several incomplete specimens which cannot at present be identified are also known from our area and may represent genera not included in the key.

- 1 Petiole with a pair of glands on each side at the top, or on each side of the decurrent leaf-base:2

Petiole without glands at the top:	4
2 Ovary 1-celled with intrusive placentas; fruit much exceeding 5 cm. long; petals free; glands on the petiole:.....	3
Ovary 3–4-celled with axile placentas; fruit ellipsoid, up to 1.5 cm. long; petals united; glands on the decurrent base of the leaf	3. Cayaponia
3 Dioecious; male flowers racemose, female solitary; petals entire; fruits globose or oblong-ellipsoid, up to about 12 cm. long	1. Adenopus
Monoecious; male and female flowers solitary; petals denticulate; fruits large, of variable shape ...	2. Lagenaria
4 Petals free:	5
Petals united in the lower part:	9
5 Tendrils simple; leaves digitately lobed; male inflorescence racemose or subfasciculate; petals linear or filiform; anthers longitudinally conduplicate; root tuberous	4. Trochomeria
Tendrils branched; petals not linear; male flowers racemose:	6
6 Petals covered by the calyx in bud; fruit dry when ripe, with a fibrous endocarp containing the seeds	5. Luffa
Petals exposed in bud:	7
7 Receptacle tubular, about 1.5 cm. long; petals obovate about 2 cm. long, much overlapping in bud; leaves coriaceous	6. Cogniauxia
Receptacle patelliform, very short; petals oblong, up to 8 mm. long; leaves membranous:	8
8 Anther cells conduplicate, connective not produced; leaves usually lobed, 10–25 cm. long and broad	7. Bambekea
Anther cells straight, connective produced to form a spur; leaves entire, up to about 12 cm. long and 9 cm. broad	8. Gerrardanthus
9 Anthers straight or curved, not flexuous:	10
Anther cells flexuous or conduplicate:	13
10 Bract foliaceous and fimbriate at the base of the inflorescence in the axils of the leaves, resembling a stipule; leaves deeply lobed nearly to the base; tendrils simple; male flowers few on a common peduncle, female solitary; fruit small, few seeded	9. Ctenolepis
Bracts minute or absent:	11
11 Style inserted on an annular or cup-shaped disk; anthers often sessile; fruits usually not beaked (not known in Oreosyce):	12
Style without a disk at the base; connective of anther produced at the apex; anthers not sessile; fruit beaked ..	12. Kedrostis
12 Connective of anther mostly produced at the apex; filaments distinct or anthers subsessile; receptacle shortly campanulate	10. Melothria
Connective not produced; anthers sessile; receptacle tubular	11. Oreosyce
13 Calyx and pedicels of male flowers broadly winged; petiole with a large leathery gland within the base; female sepals linear-spathulate, abruptly reflexed over the top of the fruit	13. Dimorphochlamys
Calyx and pedicels not winged; gland rarely present within the base of the petiole:	14
14 Corolla segments pectinate; fruit large with several very prominent ribs; seeds large and thick; leaves divided to the base; tendrils branched; flowers dioecious	14. Telfairia
Corolla segments entire or at most dentate; fruit not or scarcely ribbed:	15
15 Filaments free, or anthers sessile:	16
Filaments united into a column; anthers united; corolla campanulate; leaves pustulate-scabrid	24. Coccinia
16 Male receptacle with 2–3 incurved scales inside; peduncles often with large foliaceous bracts, connective not produced at the apex	15. Momordica
Male receptacle without scales inside:	17
17 Corolla lobed nearly to the base:	18
Corolla shortly lobed to about or above the middle; anthers united, filaments free:	23
18 Connective of anthers produced at the apex; anthers on free filaments; tendrils simple	16. Cucumis
Connective of anthers not produced:	19
19 Leaves deeply pinnately partite or pinnatifid; tendrils branched; flowers monoecious; male receptacle short, widely campanulate	17. Colocynthis
Leaves digitately or palmately lobed, or entire:	20
20 Anthers free:	21

- Anthers united, filaments free; male receptacle long, funnel-shaped, globose at the base; monoecious; tendrils branched [21. *Peponium*](#)
- 21** Filaments very short, anthers subsessile in the campanulate receptacle; male flowers clustered at the apex of a common peduncle, the female solitary in the same axil; tendrils simple [18. *Cucumeropsis*](#)
- Filaments well developed: **22**
- 22** Dioecious; male flowers in racemes, female solitary; tendrils simple [19. *Physedra*](#)
- Monoecious; male and female flowers fasciculate in the leaf axils; tendrils branched [20. *Bryonopsis*](#)
- 23** Ovary densely setose with stiff jointed hairs; staminodes absent; dioecious; tendrils simple ... [22. *Raphidiocystis*](#)
- Ovary not densely setose; staminodes present; monoecious; tendrils branched [23. *Cucurbita*](#)

***Cyclanthera explodens* Naud.**

A native of tropical America, it has been collected at Buea, British Cameroons (Dalz. 8221), where it is probably introduced.

***Sphaerosicyos sphaericus* (E. Mey.) Hook. f.**

Cogniaux and Harms in Engl. Pflanzenr. Cucurbit. 2: 99 (1924) record this species from Loko, R. Benue, Nigeria (Gürich 43). This species is widespread in East and Southern Africa, but is not at present known in our area, apart from this record. Specimens of *Sphaerosicyos* and *Adenopus* may easily be confused so the record of the former in Nigeria is open to some doubt.

1. ADENOPUS

Benth.—F.T.A. 2: 527. *APD acc*

- 1** Calyx-tube of male flower 4–5 cm. long: **2**
- Calyx-tube of male flower 2–3 cm. long, very shortly puberulous, lobes without glands; stems glabrous or sparsely pubescent; leaves scabrid above: **3**
- 2** Calyx-tube of male flower very shortly puberulous, lobes 3 mm. long with hardened glands on the margin; stems glabrous; leaves glabrous, trilobed or obscurely 5-lobed, more or less truncate at base, denticulate, 7–10 cm. long, about 7 cm. broad, 3-nerved at base; tendrils simple [1. *guineensis*](#)
- Calyx-tube of male flower densely rufous-pilose, lobes without glands; stems pubescent; leaves scabrid above, pubescent beneath, obscurely 3- or 5-lobed, widely cordate at base, denticulate, 8–16 cm. long, 6–14 cm. broad, 5-nerved at base; tendrils branched, but usually with one of the branches poorly developed [2. *rufus*](#)
- 3** Leaves mostly distinctly 5-lobed, markedly undulate-dentate, 8–17 cm. long and broad; tendrils branched [3. *breviflorus*](#)
- Leaves not lobed, denticulate, ovate to lanceolate-ovate, 7–12 cm. long, 4–7 cm. broad; tendrils simple [4. *ledermannii*](#)

1. *Adenopus guineensis* (G. Don) Exell in J. Bot. 72: 42 (1934).

*APD: Synonym of *Lagenaria guineensis* (G. Don) C. Jeffrey*

Bryonia guineensis G. Don (1834).

Adenopus longiflorus Benth. (1849)—F.T.A. 2: 528; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 225; Chev. Bot. 289; F.W.T.A., ed. 1, 1: 179.

Herbaceous climber in regrowth bush, with white, faintly fragrant flowers, apparently opening in the evening; female flowers and fruits not known.

S. L.: Don! T. Vogel! Roruks (July) Deighton 3261! Joru, Gaura (Oct.) Deighton 5192! **lv. C.:** Middle Cavally (July) Chev. 19372. Upper Cavally (May) Chev. 21394.

2. *Adenopus rufus* Gilg in Engl. Bot. Jahrb. 34: 346 (1904); Cogn. & Harms l.c. 227.

*APD: Synonym of *Lagenaria rufa* (Gilg) C. Jeffrey*

Herbaceous climber in regrowth bush; flowers white or yellowish; fruit subglobose, about 4 in. diam., dark green with small orange and large cream oval blotches.

S. L.: Gbesebu, Kamagai (Aug.) Deighton 5561! R. Jong, Matru (Sept.) Adames 4363! Panguma Deighton 4881!

Also in **French Camerouns**.

3. **Adenopus breviflorus Benth.**—F.T.A. 2: 528; Cogn. & Harms l.c. 229; Chev. Bot. 289.

APD: Synonym of Lagenaria breviflora (Benth.) Roberty

Lagenaria angolensis Naud.—Chev. Bot. 289.

Luffa angolensis of Chev. Bot. 291.

A perennial, climbing high over trees; flowers fragrant, white with dark veins, closed by day; fruit oblong-ellipsoid, about 4 in. long, dark green with large and small oval cream blotches.

Sen.: Kounoum Leprieur; Perrottet. **Fr. G.:** Kouria (Aug.) Chev. 14653! Ditinn (Apr.) Chev. 13529! **S. L.:** T. Vogel! **Iv. C.:** Middle Cavally (July) Chev. 19328; 19358. **G. C.:** Aburi (July) Johnson 127! **Dah.:** Hollis country (Feb.) Chev. 22946! **N. Nig.:** Borgu Barter 710! Katsina Ala (fl. & fr. Dec.) Dalz. 735! Lemme (May) Lely 150! **S. Nig.:** Lagos Millen 213! Rowland! R. Ogun, Lagos Millen 146! Ibadan (fr. Dec.) Meikle 896! Aguku Thomas 617!

Also in **Principe**, **S. Tomé** and widespread in tropical Africa generally.

4. **Adenopus ledermannii Harms** in Engl. Pflanzenr. Cucurbit. 2: 230 (1924).

APD: Synonym of Lagenaria breviflora (Benth.) Roberty

A slender climber; leaves bright green, flowers greenish-white.

Br. Cam.: Likomba (Nov.) Mildbr. 10732! Johann-Albrechtshöhe Staudt 560 (?).

Also in **French Camerouns**.

2. LAGENARIA

Seringe—F.T.A. 2: 529.

- 1 A climbing herb; branches more or less densely pilose with jointed hairs; leaves with two small pore-like glands at the base, widely ovate with a broad sinus at the base, up to 20 cm. broad, denticulate, sometimes caudate-acuminate, softly tomentellous beneath with spicular hairs; tendrils branched; male flowers solitary on elongated pedicels; calyx-tube campanulate, about 1.5 cm. long, pubescent, lobes triangular; petals white, free, obovate, mucronate, denticulate, about 4 cm. long and 3 cm. broad, pilose within the base; ovary villous; fruits very variable in size and shape [siceraria](#)

Lagenaria siceraria (Molina) Standl. in Publ. Field Mus. Nat. Hist. Chicago Bot. Ser. 3: 435 (1930).

APD acc

Cucurbita siceraria Molina (1782).

Lagenaria vulgaris Ser. (1825)—F.T.A. 2: 529; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 201; Chev. Bot. 290; F.W.T.A., ed. 1, 1: 176.

The Calabash, Bottle-Gourd or White Pumpkin.

Sen.: Brunner! **Fr. Sud.:** Sarankoro (Feb.) Chev. 360. **S. L.:** Roroks (July) Deighton 1329! Sendugu (June) Thomas 570! Binkolo (Aug.) Thomas 1792! **Lib.:** Cape Palmas Dinklage. **Iv. C.:** N. Baoulé (July, Aug.) Chev. 22113; 22237. **G. C.:** Brown 416! Achimota (Aug.) Irvine 865! **Togo:** Lome Warnecke 352! **N. Nig.:** Sokoto Lely 153! Katagum Dalz. 120! 121! 122! **S. Nig.:** Ado (fr. Mar.) Cons. of Forests 478! Obu Thomas 517!

Cultivated and subsontaneous in the tropics of both hemispheres.

3. CAYAPONIA

Manso—F.T.A. 2: 568, as *Trianosperma* Mart.

- 1 A slender climber, 5–7 m. high; branches scabrid; tendrils mostly simple; leaves triangular-ovate, shallowly 3-lobed, 3-nerved and with a sessile gland on each side of the decurrent base, shortly dentate, acute, 5–8 cm.

long, scabrid; petiole slender, twining, 1/2-1/3 as long as the leaf; male flowers axillary, solitary or fasciculate; fruit shortly stalked, ellipsoid, 1-5 cm. long, pericarp brittle, smooth [africana](#)

Cayaponia africana (*Hook. f.*) *Exell* in Cat. S. Tomé 186 (1944). *APD acc*

Trianosperma africana *Hook. f.* in F.T.A. 2: 568 (1871).

Cayaponia latebrosa *Cogn.* in DC. Monogr. 3: 776 (1881), partly; F.W.T.A., ed. 1, 1: 177.

Gam.: Albreda Perrottet. **G. C.:** Akim Oda (fr. Dec.) Akpabla 82! **S. Nig.:** Lagos Millen 60! Dawodu 264! **Br. Cam.:** Cam. Mt., 1,000 ft. (Dec.) Mann 1253!

Also in **S. Tomé**.

4. TROCHOMERIA

Hook. f.—F.T.A. 2: 524.

This genus has not been revised for this edition. It is at present extremely difficult to assess the range of variation which may be expected to occur in a species. Carefully collected specimens are much needed, and it is particularly important that the specimens should show the range of variation on individual plants and that each individual should be numbered separately.

- 1 Leaves slightly setulose mainly on the nerves beneath, digitately 5-lobed nearly to the base, lobes acute, coarsely dentate with few teeth; male flowers few, in very long-stalked racemes; pedicels slender, elongated, glabrous; calyx-teeth minute, recurved; petals filiform, 4-5 cm. long [1. macroura](#)

Leaves rather densely scabrid-setose more or less all over the lower surface, digitately 3-7-lobed almost to the base, lobes linear to narrowly ovate, acute, entire, or rarely the leaves with broad triangular lobes or teeth; male and female flowers sub-fasciculate; pedicels comparatively short; calyx-teeth minute; petals up to 5 cm. long, broadened towards the base [2. dalzielii](#)

1. **Trochomeria macroura** *Hook. f.* in F.T.A. 2: 525 (1871); *Cogn. & Harms* in Engl. Pflanzenr. Cucurbit. 2: 189; *Chev. Bot.* 289.

APD: Synonym of Trochomeria macrocarpa (Sond.) Hook. f. subsp. macrocarpa

A "climber in open country among low trees."

Fr. Sud.: Kodjar, Gourma (July) *Chev.* 24387. **Dah.:** Agouagou (May) *Chev.* 23517. **N. Nig.:** Nupe Barter 1524!

Also in **Ubangi-Shari-Chad**.

2. **Trochomeria dalzielii** *Bak. f. ex Hutch.* F.W.T.A., ed. 1, 1: 177 (1927); *Kew Bull.* 1928: 214.

APD: Synonym of Trochomeria macrocarpa (Sond.) Hook. f. subsp. macrocarpa

A climber on grass-stems and low shrubs; arising after grass-fires form a fleshy yam-like root; flowers green or brownish-tinged.

N. Nig.: Kontagora (Dec.) Dalz. 280! Nupe Barter! Katagum Dalz. 374! Abinsi Dalz. 736! Kyana (Feb.) Hepburn 6! Mada Hills (June) Hepburn 70! Jira (May) Lely 126!

Trochomeria atacorensis *A. Chev. Bot.* 288, name only.

Fr. Sud.: Gourma (July) *Chev.* 24397! **Dah.:** Atacora Mts. (June) *Chev.* 14000.

Imperfectly known species. Possibly a form of *T. dalzielii*.

5. LUFFA

Mill.—F.T.A. 2: 530.

- 1 Fruits 2-2.5 cm. long, covered with stout barbed bristles; petals 1-1.2 cm. long [1. echinata](#)

Fruits 15-50 cm. long, smooth; petals 2-3 cm. long: [2](#)

- 2 Fruits not ridged; seeds smooth, narrowly winged; leaves often deeply digitately lobed, about 7-nerved at the base, scabrid, lobes denticulate; petiole pubescent [2. aegyptiaca](#)
- Fruits with up to 10 sharp longitudinal ridges; seeds rugose, not winged; leaves more or less as above, but paler and not so deeply lobed [acutangula](#)

1. *Luffa echinata* *Roxb.*—F.T.A. 2: 531; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 73. *APD acc*

Trailing or climbing herb; flowers yellow.

N. Nig.: Kaza, Bornu (Nov.) Davey FHI 27115!

Also in **A.–E. Sudan**, **Abyssinia**, **Natal** and **tropical Asia**.

2. *Luffa aegyptiaca* *Mill.*—F.T.A. 2: 530; Chev. Bot. 291.

APD: *Synonym of Luffa cylindrica M. Roem.*

Luffa cylindrica *M. J. Roem.*—Cogn. & Harms l.c. 2: 62; F.W.T.A., ed. 1, 1: 177; Chev. Bot. 291.

The Loofah Gourd; an annual climber with yellow flowers.

Cultivated, and commonly naturalized.

Sen.: Talmy! Heudelot 217. **Fr. Sud.:** & **Fr. G.:** fide Chev. l.c. **S. L.:** Kambia (Jan.) Sc. Elliot 4444! Njala (Sept.) Deighton 2243! **Lib.:** Sinoe Basin Whyte! Ganta (May) Harley! **iv. C.:** fide Chev. l.c. **G. C.:** Accra Moloney 5! **N. Nig.:** Jebba Barter! Katagum Dalz. 130! **S. Nig.:** Lagos Dawodu 369! R. Niger, Ibo country (Aug.) T. Vogel 41! Aguku Thomas 768! **F. Po.:** (Nov.) T. Vogel 78!

Common throughout the tropics.

Luffa acutangula *Roxb.*—F.T.A. 2: 530; Holl. 2: 331; Cogn. & Harms l.c. 68.

Like the preceding.

An Asiatic species which is probably only rarely cultivated in tropical Africa.

Holland and Dalziel both record it from our area. The fruit of the only specimen (Sc. Elliot 4641) cited in F.W.T.A., ed. 1, 1: 177 is *L. aegyptiaca*, while the leaves are those of a *Cucurbita* and of an unidentifiable *Luffa*.

Doubtfully recorded species.

6. COGNIAUXIA

Baill. in Bull. Soc. Linn. Paris 1: 423 (1884).

- 1 A climber; branches puberulous; leaves broadly ovate, deeply cordate, with a wide sinus, acutely acuminate, entire or slightly lobulate-toothed, 15–20 cm. long and broad, thinly coriaceous, very conspicuously and closely reticulate beneath, with prominent looped nerves; petiole not glandular, 4–6 cm. long; tendrils bifurcate; male flowers corymbose-racemose on long axillary peduncles; bracts linear; calyx-tube narrowed towards the apex, up to 1.5 cm. long, puberulous; sepals short, triangular, with subulate points; petals conspicuous in bud, obovate, mucronate, 3–4 cm. long, entire, nervose, finely puberulous; female flowers not seen [podolaena](#)

Cogniauxia podolaena *Baill.* in Bull. Soc. Linn. Paris 1: 424 (1884); Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 197. *APD acc*

Luffa batesi *C. H. Wright* in Hook. Ic. Pl. t. 2490 (1896). Climbing plant up to 20 ft. long; flowers yellow.

Br. Cam.: Cameroons R. (Jan.) Mann 719! Barombi Preuss 158.

Also in **French Cameroons**, **Spanish Guinea**, **Belgian Congo** and **North Angola**.

7. BAMBEKEA

Cogn. in Bull. Jard. Bot. Brux. 5: 115 (1916). *APD acc*

- 1 Dioecious climbing herb, glabrous; leaves broadly ovate-cordate, subentire to deeply 5-lobed, 10–25 cm. long and broad, lobes acutely acuminate, petiole 6–15 cm. long; tendrils branched; male inflorescence a 10–20-flowered raceme, 4–13 cm. long, pedicels spreading, 2–4 mm. long; receptacle saucer-shaped, sepals lanceolate about 3 mm. long; petals about 8 mm. long and 5 mm. broad; female flowers in racemes 5–12 cm. long with pedicels 3–7 mm. long; ovary glabrous [racemosa](#)

Bambekea racemosa Cogn. in Bull. Jard. Bot. Brux. 5: 116 (1916); Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 173, t. 20. *APD acc*

Stems intensely green; flowers yellow or orange.

S. Nig.: Okomu F.R. (Feb.) Brenan 9041! 9139! Sapoba Kennedy 2634! **Br. Cam.:** Barombi Preuss 295.

Also in **French Cameroons** and **Belgian Congo**.

8. GERRARDANTHUS

Harv.—F.T.A. 2: 519, as *Atheranthera* Mast.

- 1 A slender climber, with spirally coiled axillary tendrils; branches glabrous, grooved; leaves ovate-rounded, widely cordate at base, acutely caudate-acuminate, 9–12 cm. long, 7–9 cm. broad, very thin, entire, digitately 5-nerved; petioles up to half as long as the leaves, slender; tendrils exceeding the leaves, very slender; sepals oblong-ovate, rounded at apex, about 2 mm. long, thin, nervose outside; petals unequal, about 1 cm. long [zenkeri](#)

Gerrardanthus zenkeri Harms & Gilg ex Cogn. in Engl. Pflanzenr. Cucurbit. 1: 21 (1916).

APD: *Synonym of Gerrardanthus paniculatus (Mast.) Cogn.*

Gerrardanthus nigericus Hutch. & Dalz. F.W.T.A., ed. 1, 1: 178 (1927); Kew Bull. 1928: 215.

Petals pale yellow; fruit subcylindrical, 3-sided at apex, about 3 in. long, green, with reddish-brown seeds.

G. C.: Kumasi Cummins 146! **S. Nig.:** Oban Talbot 1454! Degema Talbot 3628!

Also in **French Cameroons**.

9. CTENOLEPIS

Hook. f. ex Naud.—F.T.A. 2: 557.

Blastania Kotschy & Peyr.—F.W.T.A., ed. 1, 1: 178.

- 1 Slender twiner; stems slightly scabrid, ribbed; leaves digitately 3–5-partite, up to about 7 cm. long, thin, lobes sharply toothed, scabrid-pubescent; petiole pubescent; bract foliaceous and resembling a stipule at the base of the inflorescence, ovate-orbicular, narrowed to the base, fimbriate, about 1 cm. long; male flowers few and very small on a common axillary peduncle up to 2 cm. long, female solitary, subsessile or shortly pedicellate; fruit few-seeded, globose, smooth, 1–1.5 cm. in diam. [cerasiformis](#)

Ctenolepis cerasiformis (Stocks) Naud.—F.T.A. 2: 258. *APD acc*

Zehneria cerasiformis Stocks (1852).

Blastania fimbriatipula Kotschy & Peyr. (1867)–Cogn. in Engl. Pflanzenr. Cucurbit. 1: 133; F.W.T.A., ed. 1, 1: 178.

Flowers creamy-white; fruit scarlet, cherry-like.

Sen.: Farmar 123! Waco Perrottet. Dagana Leprieur. **Fr. Sud.:** Bara (Sept.) Hagerup 369! **N. Nig.:** Katagum Dalz. 118!

Extends to Eastern **Sudan**, Abyssinia, **Angola**, East and South Africa; also in **Arabia** and **India**.

10. MELOTHRIA

APD: Synonym of Zehneria Endl.

Linn.—F.T.A. 2: 562.

- 1 Male flowers (where known) more or less umbellate, or racemose, on common axillary peduncles; female flowers and fruits shortly pedicellate; stamens with well-developed filaments; dioecious:2
Male flowers solitary or in axillary fascicles; anthers subsessile; monoecious:7
- 2 Leaves truncate at base, repand-dentate, acutely acuminate, 5–6 cm. long, 3–4 cm. broad at base, shortly hispid on the nerves beneath; petiole setulose; fruit not known [1. mannii](#)
Leaves deeply cordate at base:3
- 3 Fruits smooth; male flowers 2–8 together borne at the apex of a filiform, 5–20 mm. long peduncle:.....4
Fruits shallowly pitted; leaves scabrid above, shortly pilose beneath:6
- 4 Stems and under-surface of leaves glabrous or sparsely pubescent:.....5
Stems and under-surface of leaves hirsute; leaves scarcely lobed, 5–7 cm. long, 4–7 cm. broad, petiole 5–8 cm. long [2b. minutiflora var. hirtella](#)
- 5 Leaves pentagonal-ovate with two short lateral lobes, 6–8 cm. long, 5–6 cm. broad, petiole 4–5 cm. long2.
[minutiflora var. minutiflora](#)
Leaves as above, but 1.5–3 cm. long, 12–23 mm. broad, petiole 1.5–3 cm. long .. [2a. minutiflora var. parvifolia](#)
- 6 Leaves with subentire margin, shortly 5-lobed, pentagonal in outline, widely cordate, 4–6 cm. long3.
[fernandensis](#)
Leaves with markedly dentate margin, ovate or 3–5-lobed, cordate at base, 3–7 cm. long, 2–5 cm. broad4.
[punctata](#)
- 7 Female flowers and fruits sessile or nearly so; fruits globose, almost 1 cm. in diam., sparingly setulose; stems very scabrid; leaves shortly and subhastately lobed, deeply cordate at base, subacute at apex, up to 12 cm. long, denticulate or subentire, mostly very scabrid [5. maderaspatana](#)
Female flowers and fruits on slender pedicels; stems glabrous or sparsely pubescent, not scabrid:.....8
- 8 Fruits globose; leaves not or hardly lobed:.....9
Fruits ovoid or fusiform, acute at apex; leaves mostly triangular-hastate with divergent lobes, often deeply lobed: 10
- 9 Leaves broadly triangular, truncate or nearly so at base with the basal lobes acute, apex acute, margin denticulate, 3–7 cm. long and broad [6. capillacea](#)
Leaves ovate-cordate, cordate at base with rounded basal lobes, apex obtuse, margin entire or subentire, 4–6 cm. long and broad [7. cordifolia](#)
- 10 Fruit ovoid, 15–16 mm. long, 7–8 mm. broad; seed marginate [8. deltoidea](#)
Fruit spindle-shaped, 20–30 mm. long, 7–10 mm. broad; seed not marginate [9. tridactyla](#)

1. **Melothria mannii** *Cogn.* in DC. Monogr. 3: 617 (1881); Engl. Pflanzenr. Cucurbit. 1: 119.

APD: Synonym of Zehneria scabra (L. f.) Sond. subsp. scabra

Zehneria deltoidea *Hook. f.* in F.T.A. 2: 560 (1871), not of Miq.

A slender climber, 12–15 ft.; female flowers not known.

Br. Cam.: Cam. Mt., 4,500 ft. (Feb.) Mann 1277!

2. **Melothria minutiflora** *Cogn. var. minutiflora*—DC. Monogr. 3: 611 (1881); Engl. Pflanzenr. Cucurbit. 1: 110, partly (excl. t. 23). *APD acc*

Zehneria micrantha *Hook. f.* in F.T.A. 2: 560 (1871), not of F. v. Muell.

A very slender climber, 8–10 ft.

Br. Cam.: Cam. Mt., 7,000 ft. (Dec.) Mann 2010!

Also in **French Cameroons**.

2a. **Melothria minutiflora var. parvifolia** *Cogn.* in Engl. Pflanzenr. Cucurbit. 1: 111 (1916). *APD acc*

Br. Cam.: Cam. Mt., 8,000 ft. Preuss 929.

2b. **Melothria minutiflora** var. **hirtella** Cogn. l.c. (1916). *APD acc*

Br. Cam.: Cam. Mt., Buea, 3,000 ft. Preuss 958!

3. **Melothria fernandensis** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 179 (1927); Kew Bull. 1928: 215.

APD: Synonym of Zehneria scabra (L. f.) Sond. subsp. scabra

Melothria scrobiculata of Cogn. l.c. 104, partly.

A climber, 20 ft.; female flowers white, turning yellow; male flowers not known.

F. Po: 3,000 ft. (Dec.) Mann 628!

4. **Melothria punctata** (Thunb.) Cogn. in DC. Monogr. 3: 615 (1881); Engl. Pflanzenr. Cucurbit. 1: 117, t. 26.

APD: Synonym of Zehneria scabra (L. f.) Sond. subsp. scabra

Bryonia punctata Thunb. (1794).

A slender climber.

Br. Cam.: Bamenda (fl. & fr. Feb.) Migeod 476! Ledermann.

Widespread in tropical and S. Africa; also in **Madagascar** and **Java**.

5. **Melothria maderaspatana** (Linn.) Cogn. in DC. Monogr. 3: 623 (1881); Engl. Pflanzenr. Cucurbit. 1: 126, t. 29.

APD: Synonym of Cucumis maderaspatanus L.

Cucumis maderaspatanus Linn. (1753).

Mukia scabrella (Linn. f.) Arn.—F.T.A. 2: 561; Chev. Bot. 296.

A prostrate or scandent annual, scabrid, with small white almost prickly hairs; flowers white or yellow; berry red; a common weed.

Sen.: Dakar (fl. & fr. May) Baldwin 5708! **Gam.:** Ingram! Brown-Lester! Cape St. Mary (fr. Jan.) Dalz. 8126! **Fr. Sud.:** & **Fr. G.:** fide Chev. l.c. **S. L.:** Kambia, R. Scarcies (fr. Dec.) Sc. Elliot 4360! Njala (Nov.) Deighton 3988! Musaia (fl. & fr. July) Deighton 4799! Yetaya (fl. & fr. Sept.) Thomas 2293! 2397! **Iv. C.:** Toura (May) Chev. 21638. Nzi (Aug.) Chev. 22290. **Togo:** Lome Warnecke 345! Kpedsu (fl. & fr. Jan.) Howes 1090! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 496! **N. Nig.:** Nupe Barter 1076! 1520! Kaduna (fl. & fr. Dec.) Meikle 769! Jos (fl. & fr. Sept.) Lely 579! Katagum Dalz. 124! **S. Nig.:** Lagos MacGregor 56! Ibadan (Nov.) Newberry 167!

Widespread in tropical Africa and Asia; also in **Australia**.

6. **Melothria capillacea** (Schum. & Thonn.) Cogn. in DC. Monogr. 3: 600 (1881); Engl. Pflanzenr. Cucurbit. 1: 99, t. 22.

APD: Synonym of Zehneria capillacea (Schumach.) C. Jeffrey

Bryonia capillacea Schum. & Thonn. (1827).

Melothria triangularis Benth.—F.T.A. 2: 562.

Melothria deltoidea of F.T.A. 2: 563, of Chev. Bot. 296 and of F.W.T.A., ed. 1, 1: 178, not of (Schum. & Thonn.) Benth.

A very slender climber; flowers white; ripe berry reddish.

S. L.: Baiama, Barri (fl. & fr. Dec.) Deighton 3797! Suba, Nongoba Bullom (Oct.) Jordan 593! Njala (fl. & fr. Aug.) Deighton 3226! **Lib.:** Gbanga (fr. Sept.) Linder 703! **Iv. C.:** Nzi Valley (Aug.) Chev. 22236! **G. C.:** Kumasi Cummins 153! Pokoase, nr. Accra (fr. Apr.) Irvine 1591! **Togo:** Lome Warnecke 280! **Dah.:** Zagnanado (Feb.) Chev. 22977. **S. Nig.:** Lagos Rowland! R. Ogun Millen 135! Ibadan (Jan.) Meikle 964! Brass Barter 1843! Aboh Barter 1522! T. Vogel 45! R. Nun Barter 2130! **F. Po:** (June, Nov.) T. Vogel 203! Mann 418!

Widespread in central and E. Africa.

7. *Melothria cordifolia* Hook. f. in F.T.A. 2: 563 (1871); Cogn. in Engl. Pflanzenr. Cucurbit. 1: 102.

APD: *Synonym of Neoachmandra gillettii* (De Wild.) W.J. de Wilde & Duyfjes

A slender climber.

Lib.: Cape Palmas Dinklage 2386.

Also in Gabon and S. Tomé.

8. *Melothria deltoidea* Benth. in Hook. Fl. Nigrit. 368 (1849), excl. spec. Vogel; Cogn. l.c. 94, t. 21 excl. spec. Vogel 45 and Barter 1522.

APD: *Synonym of Zehneria thwaitesii* (Schweinf.) C. Jeffrey

APD: *Synonym of Zehneria thwaitesii* (Schweinf.) C. Jeffrey

Bryonia deltoidea Schum. & Thonn. (1827).

Slender climber; flowers pale yellow turning orange; fruit reddish when ripe.

Sen.: fide Cogn. l.c. S. L.: Maswari (fl. & fr. Nov.) Deighton 5645! G. C.: Thonning. Odumase, Krobo Irvine 1023! Togo: Lome Warnecke 303. Bismarckburg Büttner 163. N. Nig.: Zaria (fl. & fr. Dec.) Milne-Redhead 5006! 5008! Bauchi Plateau (fl. & fr. July) Lely P. 393!

Also in French Cameroons, Gabon, Belgian Congo and Mozambique.

9. *Melothria tridactyla* Hook. f. in F.T.A. 2: 562 (1871); Cogn. l.c. 96; Chev. Bot. 296.

APD: *Synonym of Zehneria thwaitesii* (Schweinf.) C. Jeffrey

Melothria gourmaensis of Chev. Bot. 296.

A rather slender climber; flowers very small, yellow; fruit reddish when ripe.

Sen.: Bondou Heudelot 198. Fr. Sud.: Souloula (Mar.) Chev. 671. Gourma (July) Chev. 24536. S. L.: Pendembu (fr. July) Thomas 803! Kamakwie (Mar.) Deighton 4600! Lib.: Gbanga (Sept.) Linder 733! G. C.: Achimota (fr. Oct.) Milne-Redhead 5163! N. Nig.: Katagum (Oct.) Dalz. 127! S. Nig.: Lagos Colony (Sept.) Foster 342!

Extends to Angola, E. Africa and Mascarene Islands.

Melothria sp.

Slender herbaceous climber; male flowers white in racemes 3–7 cm. long; female flowers white in shortly pedunculate umbels.

S. Nig.: Akure F.R. (Oct.) Keay FHI 25457! Okomu F.R. (Dec.) Brenan 8509!

Evidently the same as Zenker 3682 from Bipinde, French Cameroons, cited by Cogniaux in Engl. Pflanzenr. Cucurbit 1: 111 as *M. minutiflora* Cogn., and the same as Cogniaux's plate (l.c. t. 23), but distinct from the type and description. Imperfectly known species.

11. OREOSYCE

Hook. f.—F.T.A. 2: 548.

- 1 A slender climber, 3–4 m. high; tendrils slender, simple; leaves ovate, rather narrowly cordate at the base, very acute, 5–7 cm. long, slightly lobulate and acutely dentate, setose-scabrid with bulbous-based hairs; petiole slender, often longer than the leaf; flowers monoecious, about 3–4 in the leaf-axils, shortly pedicellate, small; male calyx-tube setulose, 5 mm. long, with subulate lobes 2–3 mm. long; corollalobes setulose outside; ovary densely hispid [africana](#)

Oreosyce africana Hook. f. in F.T.A. 2: 548 (1871); Cogn. in Engl. Pflanzenr. Cucurbit. 1: 68. Petals yellow.

APD: Synonym of Cucumis oreosyce H. Schaefer.

Br. Cam.: Cam. Mt., 7,000 ft. (Dec.–Mar.) Mann 1285! 2025! Richards & Brenan 9527! **F. Po:** Mann! El Pico, 5,000 ft. (Dec.) Boughey 176!

12. KEDROSTIS

Medic.—F.T.A. 2: 563, as *Rhynchocarpa* Schrad.

- 1** A slender twiner; stems weakly pilose; leaves ovate or ovate-triangular, deeply cordate at base, subacute at apex, up to 10 cm. long and 6 cm. broad, sinuate-dentate, scabrid-pubescent; petiole about 1/3 as long as the leaf; flowers axillary, the males pedicellate on a short common peduncle, the female solitary and subsessile; fruits about 1.5 cm. long, ovoid-ellipsoid, beaked by the persistent style, long-pilose*foetidissima*

Kedrostis foetidissima (Jacq.) Cogn. in DC, Monogr. 3: 634 (1881); Engl. Pflanzenr. Cucurbit. 1: 140.
APD acc

Trichosanthes foetidissima Jacq. (1788).

Rhynchocarpa foetida Schrad.—F.T.A. 2: 564; Chev. Bot. 297.

A climber, up to 8 ft. high, with an unpleasant smell; flowers small, yellowish; fruit scarlet or crimson when ripe.

Sen.: Perrottet. Walo (Apr.) Leprieur! Richard Tol Lelievre. **Fr. Sud.:** Macina (Sept.) Chev. 24824! Gao (Feb., Sept.) De Wailly 4955! 5217! **G. C.:** Achimota (fr. July) Milne-Redhead 5115! **Fr. Nig.:** Zinder (fl. & fr. Nov.) Hagerup 615! **N. Nig.:** Katagum (Sept.) Dalz. 116!

Extends to Abyssinia and Somaliland, East and South Africa and **Angola**.

[Dalziel 128 from Katagum, Nigeria, cited in Edition 1 as this species, has very much longer fruits and appears to be a species of *Toxanthera* Hook. f. Further material is required to identify this plant with certainty.]

13. DIMORPHOCHLAMYS

Hook. f.—F.T.A. 2: 549.

- 1** A slender climber 4–5 m. high; branches glabrous; leaves ovate to ovate-orbicular widely and shortly cordate at base, acutely acuminate, 10–13 cm. long, denticulate, closely reticulate, scabrid; petiole with a large leathery gland in the axil, slightly twining, about 1.5 cm. long, becoming verrucose; male flowers several on a short peduncle; bracts imbricate; pedicels short and with broad decurrent wings from the calyx; calyx-lobes ovate, subacute, about 4 mm. long; corolla campanulate, tube 1.5 cm. long, lobes ovate, about 1 cm. long; fruit spherical, about 6–7 cm. in diam., crowned by the reflexed appressed long-spathulate persistent calyx-lobes*mannii*

Dimorphochlamys mannii Hook. f. in F.T.A. 2: 550 (1871); Hoot. Ic. Pl. t. 1322; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 170, t. 19; Chev. Bot. 293.

APD: Synonym of Momordica cabrae (Cogn.) C. Jeffrey

Flowers white; ripe fruits orange with pale yellow spots, dark green with pale spots when unripe, rough in texture.

Iv. C.: Bingerville Chev. 15242. Bouroukrou Chev. 16960. Haute-Sassandra Chev. 21582; 21617. **G. C.** Atewa Range (Feb.) Vigne 4437! **S. Nig.:** Lagos Dawodu 30! Ibadan South F.R. (fr. Feb.) Keay & Meikle FHI 25664! Calabar (Feb.) Mann 2312! Thomson 34! **Br. Cam.:** Amba Bay Mann! **F. Po:** (fr. Jan., Nov.) T. Vogel 61! Mann 161!

Also in **French Cameroons**, **Spanish Guinea**, **Cabinda** and **Belgian Congo**.

14. TELFAIRIA

Hook. f.—F.T.A. 2: 523.

- 1 A dioecious climber; branches puberulous when young; leaves pedately 3–5-foliolate; leaflets shortly stalked, obliquely elliptic or ovate, shortly acuminate, up to 15 cm. long and 10 cm. broad, dentate in the upper 2/3, very slightly scabrid beneath, 3-nerved from the base; tendrils branched, spirally coiled above the fork; male racemes about 15 cm. long, flowering in the upper half; bracts subrhomboid, petiolate, leafy; pedicels about 0.5 cm. long; calyx-lobes tomentellous, crenate; corolla lobes obovate, about 2 cm. long, pectinate in the upper part, puberulous outside, nervose, glandular inside[occidentalis](#)

Telfairia occidentalis Hook. f. in F.T.A. 2: 524 (1871); Cogn. in Engl. Pflanzenr. Cucurbit. 1: 267; Chev. Bot. 288. *APD acc*

A perennial climber, attaining 100 ft. in length; corolla creamy-white with a red-purple eye; fruit pale glaucous green, about 2 ft. long and 10 in. diam. with broad ridges; seeds over 1 in. across; [often cultivated](#).

S. L.: (May) Barter! Freetown Welwitsch 823. Njala (Sept.) Deighton 1763! **Iv. C.:** Indénié (Dec.) Chev. 22628. **Dah.:** Zagnanado (Feb.) Chev. 23089! **S. Nig.:** Lagos Colony Moloney 13! Millen 16! 198! Abeokuta (Feb.) Irving! Sapoba Kennedy 1732! Ezi (Feb.) Thomas 2355! Obuampa (Jan.) Thomas 2222! Calabar (Feb.) Mann 2324! **F. Po:** (Jan.) Mann 233!

15. MOMORDICA

Linn.—F.T.A. 2: 534.

- 1 Leaves 3–5-foliolate; flowers subtended by a leafy bract, male subumbellate, female solitary on a long peduncle:2
- Leaves simple, entire, angled or lobed:3
- 2 Bract of male inflorescence large, suborbicular, more or less toothed, 2–4 cm. diam.; peduncle 4–7 cm. long; pedicels densely villose; sepals lanceolate, long-acuminate, 7–8 mm. long; leaflets elliptic or obovate, rounded or acute at base, rather distantly mucronate-dentate, glabrous or nearly so; tendrils simple or branched[1. cissoides](#)
- Bract of male inflorescence small, coriaceous; peduncle 12–13 cm. long; pedicels glabrous; sepals ovate, subrotundate at apex, 2.5 mm. long; leaflets elliptic or ovate-oblong, cuneate at base with setose teeth on the margin, minutely scabrid; tendrils simple[2. gilgiana](#)
- 3 Male flowers solitary, with a conspicuous bract on the peduncle:4
- Male flowers several, more or less corymbose or umbellate:5
- 4 Bract closely subtending the flower; leaves lobed up to about the middle, lobes coarsely lobulate-dentate; fruits becoming smooth with age, warted when young[3. balsamina](#)
- Bract below or near the middle of the peduncle; leaves usually lobed to beyond the middle; lobes more or less sinuate; fruits muricate when young, at length with irregular lines of warts[4. charantia](#)
- 5 Male peduncle with a large broadly ovate-cordate bract at the apex, 1.5–2.5 cm. long, 2–2.5 cm. broad; sepals lanceolate, much larger than the receptacle; branches glandular-puberulous, grooved; leaves broadly ovate to 3- (or rarely 5-) lobed, margin often coarsely and acutely dentate, rarely subentire, cordate with a decurrent base, scabrid-puberulous on both surfaces; tendrils unequally branched[5. angustisepala](#)
- Male peduncle with a small (less than 1 cm. long) obovate or lanceolate bract, or ebracteate:6
- 6 Male sepals acute; leaves ovate-cordate, not lobed, deeply cordate at base, acuminate, minutely and remotely denticulate, sparsely and minutely scabrid on both surfaces:7
- Male sepals rounded at apex; male flowers numerous, racemose or subcorymbose; leaves broadly ovate-cordate, not lobed, deeply cordate at base with the lamina decurrent on the petiole, acute at apex, repand-dentate or denticulate, 8–15 cm. long, 6–12 cm. broad, scabrid-puberulous or pubescent beneath[8. foetida](#)
- 7 Male flowers 3–4, subtended by a leafy obovate bract, 6–10 mm. long, attenuate at base; leaves 5–7.5 cm. long, 3–5 cm. broad[6. cordata](#)
- Male flowers numerous, racemose or subcorymbose; bracts minute or absent; leaves 8–16 cm. long, 5–13 cm. broad[7. multiflora](#)

1. **Momordica cissoides** Planch. ex Benth.—F.T.A. 2: 535; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 1 (1924); Chev. Bot. 290. *APD acc*

A tall graceful climber; flowers white, with a large black-purple spot at the base of each petal; fruit fleshy, 11/2 in. long, prickly, orange-yellow, with red seeds.

Fr. G.: Fouta Djallon (Apr.) Chev. 13466. **S. L.:** Sc. Elliot 5896! Pendembu (July) Thomas 708! Rowala (fl. & fr. July) Thomas 1070! 1191! Mabonto (July) Deighton 3268! Kasasa, Tonko Limba (Sept.) Adames 190! **Lib.:** Gbanga (Sept.) Linder 443! 700! Flumpa, Sanokwele (Sept.) Baldwin 9357! Ganta (fr. Sept.) Baldwin 9273! **Iv. C.:** several localities fide Chev. l.c. **G. C.:** Kumasi Cummins 147! Aburi (June) Johnson 973! Brown 333! Achimota (fl. & fr. Apr.) Milne-Redhead 5066! Afram Plains (May) Kitson 1090! **Togo:** Lome Warnecke 342! **Dah.:** Sakété (Jan.) Chev. 22811! **N. Nig.:** Lokoja (Sept., Oct.) Barter! T. Vogel Dalz. 78! Mongu (July) Lely 441! **S. Nig.:** Lagos Millen 18! 134! Abeokuta Barter 3395! Ibo country (Aug.) T. Vogel 33a! Degema Talbot! **Br. Cam.:** Victoria (Feb.) Maitland 421! Barombi Preuss 155. Belo, Bamenda (Apr.) Maitland 1501! **F. Po.:** (May, Nov., Dec.) T. Vogel 157! Barter! Mann 82!

Extends to **Angola** and A.–E. **Sudan**.

[Specimens from the western part of our area are more slender and have smaller bracts; they may prove to be distinct.—R.W.J.K.]

2. **Momordica gilgiana** *Cogn.* in Bull. Jard. Bot. Brux. 4: 221 (1914); *Cogn. & Harms* l.c. 16. *APD acc*

Momordica cognauxiana *Gilg* (1904), not of De Wild. (1903); F.W.T.A., ed. 1, 1: 181.

A twining herb with grooved stems and forked tendrils.

Br. Cam.: Buea Deistel 486. Also in **French Cameroons**.

3. **Momordica balsamina** *Linn.*—F.T.A. 2: 537; *Cogn. & Harms* l.c. 28; Chev. Bot. 290. *APD acc*

A climber, wild, and often planted and growing over native huts; flowers yellow (sometimes white) with a dark centre; fruit orange-yellow, beaked, 1–2½ in. long, bursting and exposing red-brown seeds; **in drier regions**.

Sen.: Tivaouane (Dec.) Chev. 2991! Sousoun (May, June) Chev. 3501; 3503. **Fr. Sud.:** Timbuktu (fl. & fr. June, July) Hagerup 99! 229! Chev. 1255! **N. Nig.:** Katagum (fl. & fr. Sept.) Dalz. 131! Karasuwa, Nguru (fl. & fr. June) Onochie FHI 23355!

Common in the drier parts of the tropics.

4. **Momordica charantia** *Linn.*—F.T.A. 2: 537; *Cogn. & Harms* l.c. 24; Chev. Bot. 290. *APD acc*

Climber, flowers yellow; fruit ripening orange, 2–3 in. long, bursting in 3 valves to expose the carmine red seeds; **extending into moister regions**.

Sen.: Farmar 32! **Gam.:** Boteler! **Fr. Sud.:** Féréibo (Aug.) Chev. 2992. Djenné (Sept.) Chev. 2993. **S. L.:** Falaba (Apr.) Sc. Elliot 5446! Njala (fl. & fr. May) Deighton 1902! Ronietta (fl. & fr. Nov.) Thomas 5316! 5568! Sendugu (June) Thomas 596! **Lib.:** Du R. (July) Linder 116! Palipo, Webo (July) Baldwin 6600! Ganta (Sept.) Harley! **Iv. C.:** Bingerville (Dec.) Chev. 16024. Guidéko (June) Chev. 19001. **G. C.:** Kumasi Cummins 214! Asuansi (Feb.) Williams 17! Labadi (fr. Sept.) Milne-Redhead 5140! **Dah.:** Cotonou (Apr.) Debeaux 166! **N. Nig.:** Nupe Barter 733! Yates 12a! Naraguta (Aug.) Lely 505! Kukawa (fl. & fr. Jan.) E. Vogel 24! **S. Nig.:** Lagos Rowland! Punch! Akinjare, Owo (fl. & fr. Mar.) Jones FHI 3076! Ibuzo (Nov.) Thomas 2012! **Br. Cam.:** Mimbria (fl. & fr. Apr.) Hutch. 99! **F. Po.:** (Dec.) Mann 58!

Widespread in the warmer parts of the world.

5. **Momordica angustisepala** *Harms* in Engl. Bot. Jahrb. 58: 239 (1923); *Cogn. & Harms* l.c. 41. *APD acc*

Momordica bracteata *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 181 (1927); Kew Bull. 1928: 215.

A climber; calyx black, corolla cream; stem used as a sponge; sometimes cultivated; fruit not known.

G. C.: Irvine 635! Owabi (Apr.) Andoh FH 4186! **S. Nig.:** Ibadan (July) Jones FHI 18837! Ohe, Benin (Apr.) Chizea FHI 8286! Asaba (Dec.) Chizea FHI 8251! Eket Talbot 3133!

Also in **French Cameroons**.

6. **Momordica cordata** *Cogn.* in Engl. Bot. Jahrb. 21: 208 (1895); *Cogn. & Harms* l.c. 39.

APD: *Synonym of Momordica multiflora* Hook. f. *var. multiflora*

A glabrous, slender climber.

Br. Cam.: Victoria (Mar.) Preuss 1203.

7. **Momordica multiflora** Hook. f. in F.T.A. 2: 540 (1871); Cogn. & Harms l.c. 47. *APD acc*

A slender climber; flowers yellow.

F. Po: (Nov.) T. Vogel 173!

Also in **Gabon** and **Angola**.

[Cogn. & Harms l.c. 50 also record *M. gabonii* Cogn. from the British Cameroons (Victoria Preuss 1204; Barombi Preuss 156; Johann-Albrechtshöhe Staudt 788). I have not been able to see these specimens, but specimens from other areas cited as *M. gabonii* Cogn. (1881) by Cogn. & Harms do not appear distinct from the type of *M. multiflora* Hook. f. (1871), so it seems possible that the specimens from the British Cameroons do in fact belong to the latter species.—R.W.J.K.]

8. **Momordica foetida** Schum. & Thonn.-Cogn. & Harms l.c. 41, t. 4. *APD acc*

Momordica morkorra A. Rich.—F.T.A. 2: 538; Chev. Bot. 291.

Momordica mannii Hook. f. in F.T.A. 2: 539; Cogn. & Harms l.c. 43; F.W.T.A., ed. 1, 1: 182.

A climber from a stout perennial root; calyx blackish-green; corolla white, sometimes yellowish; fruit about 3 in. long, yellow or pale orange when ripe, covered with soft prickles, bursting and exposing seeds in a red pulp.

S. L.: Bumba (Sept.) Thomas 1956! **Lib.:** Gbanga (Sept.) Linder 468! **Iv. C.:** Soubré (June) Chev. 19146! Baoulé-Nord (July) Chev. 22024. **G. C.:** Asuansi (Feb.) Williams 28! Ankobra Junction (fr. Jan.) Kitson 1018! Bobiri F.R. (Oct.) Andoh FH 4917! **Togo:** Bismarckburg Büttner 656. **N. Nig.:** Bauchi Plateau (fl. & fr. July) Lely 423! P. 363! **S. Nig.:** Lagos Rowland! Ibadan (fl. & fr. June) Tamajong FHI 23272! **Br. Cam.:** Amba Bay (Feb.) Mann 766! Cam. Mt., 4,000–5,500 ft. (fl. & fr. Apr., Nov.) Dundas FHI 20378! Migeod 66! Barombi Preuss 378. **F. Po:** (Nov.–Jan.) T. Vogel 33! 170! Mann 170! 627!

Widespread in tropical Africa.

16. CUCUMIS

Linn.—F.T.A. 2: 542.

Several of the specimens cited lack fruits and their identification must therefore be regarded as provisional. Fruits are a crucial character in this genus and should always be collected.

- 1 Stems and branches setose with long stiff jointed bristles; leaves not or rarely divided beyond the middle:2
Stems and branches more or less shortly scabrid; leaves often divided below the middle:4
- 2 Fruits smooth or at most green-lined or hairy; a ground-trailer; leaves broadly ovate, widely cordate at base, 5-lobed to about 1/3 their length or hardly lobed, denticulate, up to about 10 cm. long, scabrid; petiole nearly as long as the leaf; flowers monoecious, the male few in the leaf-axils, the female solitary; young fruits villous 1. melo var. agrestis
Fruits echinate or tuberculate:3
- 3 Fruits with very numerous dense slender bristles; leaves rounded, obscurely toothed or the lobes subentire, scabrid; fruit broadly ovoid, 10–12 cm. long, stalk not more than about 1 cm. long 2. dipsaceus
Fruits with fewer stout scattered tubercles; leaves acute, sharply dentate, bristly-setose on both surfaces; fruit 10–12 cm. long, stalk 4–5 cm. long 3. metuliferus
- 4 Fruits with stout short tubercles, oblong-ellipsoid, 6–8 cm. long; leaves thick, rarely divided beyond the middle, the lobes not again divided, canescent, very harshly scabrid 4. pustulatus
Fruits with rather slender or short soft bristles; leaves divided nearly to the base, the lobes often lobulate:5
- 5 Plants green, laxly scabrid; fruits with long slender bristles, oblong-ellipsoid, about 4 cm. long 5. ficifolius
Plants canescent, densely scabrid; fruits with very short bristles, usually more or less globose, 3–4 cm. long ... 6. prophetarum

1. **Cucumis melo var. agrestis** Naud.—F.T.A. 2: 546; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 120 (1924); Chev. Bot. 292. *APD acc*

Fruit globose, obovoid or oblong, longitudinally striped with green.

Gam.: Kuntaur Ruxton 34! **Fr. Sud.:** Djenné (Sept.) Chev. 2982! **G. C.:** Achimota Irvine 778! 1819! Tamale (fl. & fr. Feb.) Williams 485! **Dah.:** Cotonou (Jan., Apr.) Debeaux 191! Chev. 22685! **N. Nig.:** Borgu Barter 748! Sokoto Dalz. 349! Katagum (fl. & fr. Sept.) Dalz. 117! **S. Nig.:** Obu Thomas 575!

Widespread in the tropics.

2. **Cucumis dipsaceus** *Ehrenb. ex Spach*—F.T.A. 2: 543; Cogn. & Harms l.c. 147; Chev. Bot. 292. *APD acc*

APD: *Synonym of Cucumis melo L. subsp. melo*

A slender annual climber with pale green stem.

Gam.: Ingram! Genieri (July) Fox 176! **Fr. Sud.:** Kabara (Aug.) Hagerup 286! **Iv. C.:** Bingerville Chev. 15241.

Widespread in the drier parts of tropical Africa.

3. **Cucumis metuliferus** *E. Mey. ex Naud.*—F.T.A. 2: 543; Cogn. & Harms l.c. 146; Chev. Bot. 292. *APD acc*

A yellow-flowered annual climber, with foliage like that of the cucumber; fruit pendulous, scarlet when ripe, with stout spines.

Fr. G.: Fouta Djallon (Sept.) Chev. 18605. **N. Nig.:** Borgu Barter 1527! Lokoja (Oct.) Parsons 46! Zaria (fr. Dec.) Meikle 855! Katagum (Oct.) Dalz. 125!

Extends to **Angola**, Abyssinia, East and South Africa.

4. **Cucumis pustulatus** *Hook. f.* in F.T.A. 2: 544 (1871); Cogn. & Harms l.c. 141; Chev. Bot. 293.

APD: *Synonym of Cucumis ficifolius A. Rich.*

A ground-trailer from a perennial base; flowers yellow; fruit uniformly grey-green in colour.

Fr. Sud.: Gourma (July) Chev. 24472! **N. Nig.:** Katagum (Oct.) Dalz. 129! Kukawa (fl. & fr. Jan.) E. Vogel 40!

Extends to Eastern **Sudan**, Abyssinia, Somaliland, **Tanganyika** and S.W. Africa.

5. **Cucumis ficifolius** *A. Rich.*—Cogn. & Harms l.c. 138. *APD acc*

APD: *Synonym of Cucumis prophetarum L. subsp. prophetarum*

APD: *Synonym of Cucumis meeusei C. Jeffrey*

Cucumis figarei *Del. ex Naud.*—F.T.A. 2: 543.

A ground-trailer from a perennial base; flowers yellow.

Sen.: Boivin 428. Cape Verde Waura 406. **N. Nig.:** Sokoto Dalz. 348!

Extends to Eastern **Sudan**, Abyssinia and **Arabia**; also in **Angola**.

6. **Cucumis prophetarum** *Linn.*—F.T.A. 2: 545; Cogn. & Harms l.c. 140; Chev. Bot. 292.

APD: *Synonym of Corallocarpus boehmii (Cogn.) C. Jeffrey*

A ground-trailer from a perennial base; flowers yellow; fruit somewhat resembling a gooseberry, with longitudinal coloured stripes.

Fr. Sud.: Timbuktu (June, Sept.) Chev. 1252! Hagerup 114! **N. Nig.:** Katagum (fl. & fr. July) Dalz. 123!

Extends to Abyssinia, Somaliland, **Arabia** and India; also to **Angola** and **E. Africa**.

Cucumis sativus *Linn.*

The Cucumber is widely cultivated.

17. COLOCYNTHIS

APD: Synonym of Citrullus Schrad.

Mill. Gard. Dict. Abridg., ed. 4 (1754).

Citrullus Schrad. (1836)—F.T.A. 2: 548.

- 1 Stems villous with soft woolly hairs; leaves thin, glabrous or pilose, at most only slightly scabrid, more or less triangular in outline, pinnately partite, denticulate, usually about 15 cm. long [1. citrullus](#)
 Stems scabrid with short hairs; leaves thicker, roughly scabrid, more or less ovate in outline, deeply and variously divided, about 10 cm. long or less [2. vulgaris](#)

1. Colocynthis citrullus (Linn.) O. Ktze. *Rev. Gen. Pl.* 1: 256 (1891).

APD: Synonym of Citrullus lanatus (Thunb.) Matsum. & Nakai

Cucurbita citrullus Linn. (1753).

Citrullus vulgaris Schrad. (1836)—F.T.A. 2: 549; Chev. Bot. 293; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 103; F.W.T.A., ed. 1, 1: 183.

The Water Melon.

Sen.: Heudelot 541. **Gam.:** Ingram! Kuntaur Ruxton 22! 64! **Fr. Sud.:** Timbuktu (June) Hagerup 133! **S. L.:** Roruks (July) Deighton 1328! **iv. C.:** fide Chev. l.c. **G. C.:** Irvine 799! Atuabo, W.P. (Jan.) Dept. Agric.! **Togo:** Lome Warnecke 354! **Dah.:** Cotonou (Jan., Mar.) Debeaux 172! Chev. 22701! **Fr. Nig.:** Niamey (Oct.) Hagerup 518! **N. Nig.:** Nupe Barter 1521! Katagum Dalz. 126! **S. Nig.:** Agulu Thomas 207! Calabar Johnson!

Native of tropical and S. Africa; cultivated in all warm regions.

2. Colocynthis vulgaris Schrad. *Index Semin. Hort. Götting.* 2 (1833).

APD: Synonym of Citrullus colocynthis (L.) Schrad.

Cucumis colocynthis Linn. (1753).

Citrullus colocynthis (Linn.) Schrad. (1838)—F.T.A. 2: 548; Chev. Bot. 293; Cogn. & Harms l.c. 2: 109; F.W.T.A., ed. 1, 1: 183.

Prostrate or climbing herb; fruit globose, about 2 1/2 in. diam., intensely bitter.

Fr. Sud.: Timbuktu (July) Chev. 1253. L. Faguibine (Aug.) Chev. 2979! Ras-el-Ma (Aug.) Chev. 2978.

Cultivated in the Mediterranean region, the Sahara and other dry parts of tropical Africa and western Asia.

18. CUCUMEROPSIS

Naud.—F.T.A. 2: 533, incl. *Cladosicyos* Hook. f.

- 1 Leaves smooth or nearly so on the lower surface, with a broad sinus and distant lobes at the base, 3–5-angled or more or less lobed, up to 15 cm. long and broad, acute, remotely denticulate; male flowers umbellate on a distinct long peduncle; fruit about 30 cm. long, 10 cm. in diam. [1. edulis](#)
 Leaves scabrid, thicker, with very narrow sinus and almost contiguous lobes at the base, often shortly lobed, about 12 cm. long, repand-denticulate; male flowers capitate on a rather short peduncle 3–4 cm. long; fruit about 8–6 cm. long [2. mannii](#)

1. Cucumeropsis edulis (Hook. f.) Cogn. in DC. Monogr. 3: 518 (1881); Engl. Pflanzenr. Cucurbit. 1: 249, t. 58.

APD: Synonym of Cucumeropsis mannii Naudin

Cladosicyos edulis Hook. f. in F.T.A. 2: 534 (1871).

Cucumeropsis mannii of Chev. Bot. 293, not of Naud.

Momordica procera of Chev. Bot. 291, name only.

A strong climber; flowers yellow; fruit smooth, edible.

S. L.: Daniel. Matru (Nov.) Deighton 2379! **Lib.:** Peáhtah (Oct.) Linder 1060! **Iv. C.:** Bouaké (July) Chev. 21123! Tébo (July) Chev. 19424! Bouroukrou (Jan.) Chev. 16795. Agboville (Nov.) Chev. 22387. **Dah.:** Abomey Chev. **N. Nig.:** Barter 1752! Abinsi Dalz. 738! **S. Nig.:** Lagos Dawodu 307! Aboh Barter 483! Aguku Thomas 672!

Also in **French Cameroons**, **Belgian Congo**, **Spanish Guinea** and **Angola**.

2. **Cucumeropsis mannii** *Naud.*—F.T.A. 2: 534; Cogn. in Engl. Pflanzenr. Cucurbit. 1: 249. *APD acc*

Like the preceding.

S. Nig.: Calabar Mann (Hort. Paris)!

Also in **Gabon**.

19. PHYSEDRA

Hook. f.—F.T.A. 2: 552.

- 1 Petiole pilose with long jointed hairs; nerves and veins pilose beneath; leaves digitately 6–7-lobed almost to the base, lobes more or less lanceolate, acutely acuminate, the middle one up to 17 cm. long; male flowers racemose on axillary peduncles, pedicels 5–15 mm. long; calyx lobes subulate 4–5 mm. long; corolla deeply lobed, nervose, lobes ovate, acute up to 5 cm. long and 3 cm. broad *1. eglandulosa*

Petiole, and nerves and veins beneath, glabrous; leaves digitately 3–5-lobed to well beyond the middle or rarely a few quite entire, lobes long-tailed-acuminate, the middle one up to 14 cm. long, basal lobes almost contiguous; male flowers racemose on axillary peduncles, pedicels slender, 1.5–2 cm. long; calyx lobes subulate, up to 1 mm. long; corolla lobed almost to base, lobes lanceolate, up to 2 cm. long and 5 mm. broad *2. longipes*

1. **Physedra eglandulosa** (*Hook. f.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 183 (1927); Kew Bull. 1928: 216.

APD: Synonym of Ruthalicia eglandulosa (Hook. f.) C. Jeffrey

Adenopus eglandulosus *Hook. f.* in F.T.A. 2: 529 (1871); Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 231.

Physedra elegans *Harms & Gilg*, partly, as to male specimens.

Physedra macrantha *Gilg* (1904).

Physedra djaloni of Chev. Bot. 294–5

Physedra ivorensis of Chev. Bot. 294–5

Physedra sylvatica of Chev. Bot. 294–5

Cephalandra ivorensis of Chev. Bot. 294–5

C. sylvatica, of Chev. Bot. 294–5.

A climber, up to 20 ft. or so; flowers yellow with purplish markings; fruit spherical, about 2 in. diam., bright red with yellow spots.

Fr. Sud.: Timbuktu Chev. **Fr. G.:** Kouria (July) Chev. 14942. **S. L.:** Morson! Port Loko (Sept.) Addison! Njala (fl. July, fr. Oct.) Deighton 1962! 2801! Mano (July) Deighton 2521! Bonthe (July) Adames 59! **Lib.:** Monrovia (July) Linder 34! Gbanga (Sept.) Linder 604! Brewerville (Sept.) Barker 1060! Fishtown (Oct.) Dinklage 1846. **Iv. C.:** Scaëtta 3305! Bouroukrou (Jan.) Chev. 16585! 16658! **G. C.:** Akwapim (Dec.) Johnson 514! Ogogo, Ashanti (May) Williams 270! Kwahu Plateau (May) Kitson 1187! **Togo:** Misahöhe (Apr.) Baumann 495. **N. Nig.:** Yates 40! **S. Nig.:** Lagos Moloney! Ajebandele (Apr.) Tamajong FHI 16935!

2. **Physedra longipes** *Hook. f.* in F.T.A. 2: 553 (1871); Cogn. in DC. Monogr. 3: 525; Chev. Bot. 294, partly.

APD: Synonym of Ruthalicia longipes (Hook. f.) C. Jeffrey

A climber; corolla light orange yellow; fruit spherical, about 2 in. diam., brilliant scarlet when ripe.

Lib.: Gbanga (Sept.) Linder 469! Ganta (Sept.) Harley! Kondessu, Boporo Baldwin 10664! **Iv. C.:** Bouroukrou (Jan.) Chev. 16996! Tépos (Aug.) Chev. 19761. **G. C.:** Kumasi (July, Aug.) Vigne 3061! Andoh FH 4235! Begoro, Akim (Apr.) Irvine 1182! **Dah.:** Porto Novo (Jan.) Chev. **S. Nig.:** Sapoba (fr. Nov.) Kennedy 2630! Meikle 610! **F. Po:** (Nov.) T. Vogel 223!

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

20. BRYONOPSIS*Arn.*—F.T.A. 2: 556.

- 1 Slender, much-branched, leafy twiner, glabrous or nearly so; leaves very membranous, pedately lobed, 8–12 cm. diam., scabrid above, petiole 3–6 cm. long; male and female flowers in axillary fascicles, sometimes both sexes together; calyx lobes subulate, corolla about 1 cm. long; ovary glabrous; fruit globose 14–17 mm. diam., with longitudinal pale stripes [*laciniosa*](#)

Bryonopsis laciniosa (Linn.) Naud.—F.T.A. 2: 185; Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 160, t. 16 *Bryonia lociniosa* Linn. (1753).

APD: *Synonym of Diplocyclos palmatus* (L.) C. Jeffrey

Flowers yellow; ripe fruits red with silvery white stripes.

F. Po: Mildbr. 7026.

Also in **S. Tomé**, and widely distributed in tropical Africa, Asia and Australasia.

21. PEPONIUM

Engl. in E. & P. Pflanzenfam. Nachtr. 318 (1897).

Peponia Naud. (1866), not of Grev. (1863)—F.T.A. 2: 526.

- 1 A monoecious climber; branches villous with jointed many-celled hairs; leaves digitately 5-lobed to about the middle, 5–10 cm. in diam., widely cordate at base, pilose on both surfaces, lobes ovate, sharply dentate; petiole 1.5–2 cm. long, pilose; tendrils branched, coiled above the fork; male peduncles 1–3-flowered, with conspicuous obovate bracts; calyx-lobes subulate, about 1 cm. long; corolla gamopetalous, deeply lobed, puberulous on both sides, lobes ovate-oblong, up to 3 cm. long, acute, entire, nervose; fruits ellipsoid, 7–8 cm. long, about 5 cm. thick, at length almost glabrous [*vogelii*](#)

Peponium vogelii (Hook. f.) Engl. in E. & P. Pflanzenfam. Nachtr. 318 (1897); Cogn. & Harms in Engl. Pflanzenr. Cucurbit. 2: 214. *APD acc*

Peponia vogelii Hook. f. in F.T.A. 2: 526 (1871); Chev. Bot. 289.

Flowers white or pale sulphur-yellow.

Dah.: Abomey (Feb.) Chev. 23163. **S. Nig.**: Lagos Barter 2169! MacGregor 336! **F. Po**: (Oct.) T. Vogel 8!

Also in **Belgian Congo**, **Tanganyika** and **Natal**.

22. RAPHIDIOCYSTIS

Hook. f.—F.T.A. 2: 553.

- 1 Sepals pinnatifid, segments subulate; branches glabrous; leaves more or less pentagonal in outline, deeply cordate at base with two short lateral lobes, acutely acuminate, 10–12 cm. long, slightly scabrid; petioles about 1/2 as long as the leaves, slender, with golden-brown setae on the upper surface; male and female flowers 2–3 in the leaf-axils; male flowers shortly pedicellate, female with pedicels 2–7 cm. long; ovary densely covered with stiff setae; fruit ellipsoid, about 3 cm. long, densely setose, on short or long, slender peduncles [*1. mannii*](#)
Sepals entire; branches pubescent; petioles only scabrid; otherwise similar to above [*2. caillei*](#)

1. **Raphidiocystis mannii** Hook. f. in F.T.A. 2: 554 (1871); Cogn. in DC. Monogr. 3: 527. *APD acc*

Female flowers yellow; male flowers dull orange; fruits densely covered with rich-golden-brown stiff setae.

S. Nig.: Usonigbe F.R. (Jan.) Richards 3901! Sapoba (Nov.) Ujor FHI 23932! **Br. Cam.**: Victoria (fl. Feb., fr. Oct.) Maitland 373! 763! Buea to Mayuko (Feb.) Dalz. 8211! **F. Po**: 2,000 ft. (fl. & fr. Dec.) Mann 636!

Also in **French Camerouns**.

2. *Raphidiocystis caillei* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 180 (1927); Kew Bull. 1928: 215.

APD: *Synonym of *Raphidiocystis chrysocoma* (Schumach.) C. Jeffrey*

Raphidiocystis mannii of Chev. Bot. 295, not of Hook. f.

Fr. G.: Kouria (Aug.) Caille in Hb. Chev. 15006! Bilima (Sept.) Caille in Hb. Chev. 15063! Nzérékoné to Macenta (fr. Oct.) Baldwin 9742! **S. L.:** Mano (fl. & fr. Jan.) Deighton 2446! Gbeseou, Njala (fr. Feb.) Deighton 4709! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 633! R. Cess, Tchien (fl. & fr. Aug.) Baldwin 9009!

23. CUCURBITA

Linn.—F.T.A. 2: 555.

- 1** Leaves distinctly lobed; petioles and nerves of the leaves beneath clothed with rigid setae; calyx-tube distinct, with linear not foliaceous lobes; fruit mostly ellipsoid or obovoid and longer than broad, variously ribbed, smooth or verrucose, mostly with a coloured reticulation outside; seeds with thickened margins [1. *pepo*](#)

Leaves often scarcely lobed; petioles and nerves beneath at most roughly scabrid; calyx-tube short with linear or linear-lanceolate but not foliaceous lobes; fruit often very large and depressed, globose, grooved; seeds scarcely thickened on the margin [2. *maxima*](#)

1. *Cucurbita pepo* Linn.—F.T.A. 2: 556; Cogn. in DC. Monogr. 3: 545. *APD acc*

A large prostrate annual, with more or less angular stems; flowers rich yellow.

The Pumpkin, Vegetable Marrow, etc.

S. L.: Njala (July) Deighton 2782! Pendembu (July) Thomas 728! **G. C.:** Achimota Irvine 547! **N. Nig.:** Nupe Barter 1526! Katagum (Sept.) Dalz. 119! **S. Nig.:** Obu Thomas 362!

Cultivated in all tropical and subtropical countries.

2. *Cucurbita maxima* Duchesne—F.T.A. 2: 555; Cogn. l.c. 544; Chev. Bot. 296. *APD acc*

Annual, like the preceding, with more or less terete stems. The Squash Gourd, Melon Pumpkin, etc.

Fr. Sud.: Mande Chev. 2986. **iv. C.:** Bouaké (July) Chev. 22137.

Cultivated in all hot countries.

24. COCCINIA

Wight & Arn.—Cogn. in DC. Monogr. 3: 528.

***Cephalandra* Schrad.**—F.T.A. 2: 550.

- 1** Flowers (male and female) solitary; calyx and corolla glabrous outside; leaves very variable, pentagonal and shortly lobed to deeply 3–5-lobed, 5–10 cm. diam.; fruit ellipsoid, about 5 cm. long and 2.5 cm. broad [1. *grandis*](#)

Flowers (male and female) racemose; calyx and corolla minutely puberulous outside; leaves very variable, more or less deeply 3–5-lobed, 10–16 cm. diam.; fruit ellipsoid, about 4 cm. long and 2 cm. broad [2. *barteri*](#)

1. *Coccinia grandis* (Linn.) J. O. Voigt Hort. Suburb. Calc. 59 (1845). *APD acc*

***Bryonia grandis* Linn.** (1767).

***Cephalandra indica* Naud.**—F.T.A. 2: 550; Chev. Bot. 295.

***Coccinia cordifolia* Cogn.** in DC. Monogr. 3: 529, partly; F.W.T.A., ed. 1, 1: 184, partly.

***Coccinia moghadd* (Forsk.) Asch.-Cogn.** in DC. Monogr. 3: 531.

Cephalandra quinqueloba of Chev. Bot. 295, not of Schrad.

Physedra gracilis of Chev. Bot. 294.

Sen.: Richard Tol Lelièvre. Sor Isl. Heudelot 528! **N. Nig.:** Lokoja Barter! Katagum (June, July, Nov.) Dalz. 113! 114! 115!

Widespread in tropical Africa; also in [Arabia](#) and abundant in India.

2. *Coccinia barteri* (Hook. f.) Keay in Kew Bull. 1953: 82. *APD acc*

Staphylosyce barteri Hook. f.—*F.T.A.* 2: 555.

Phyzedra barteri (Hook. f.) Cogn. in DC. Monogr. 3: 525; F.W.T.A., ed. 1, 1: 183.

Phyzedra elegans Harms & Gilg, partly (female specimen).

Phyzedra heterophylla of Chev. Bot. 294, partly, not of Hook. f.

A climber, 15–20 ft. high; flowers yellow.

S. L.: Falaba (Mar.) Sc. Elliot 5182! 5402! Yonibana (Oct., Nov.) Thomas 4280! 4979! Njala (fr. Nov.) Deighton 2410! Romeni, Kasse (Oct.) Jordan 359! **iv. C.:** Toura country (May) Chev. 21636! Indenié (Dec.) Chev. 22628 bis! **Togo:** Bismarckburg (Aug.) Büttner 704. **N. Nig.:** Nupe Barter 1525! **S. Nig.:** Foster 350! Gambari Group F.R. (Aug.) Keay FHI 16234! Okomu F.R. (Feb.) Brenan 9198! Oban Talbot 1419! **Br. Cam.:** Victoria (Feb.) Dalz. 8230! **F. Po:** Mann 199! 1166!

Also in [French Camerouns](#) and [Upper Congo](#).

1. *Coccinia* sp. A.

Slender climber; leaves deeply 3-lobed; male flowers racemose; calyx and corolla glabrous; sepals long, subulate, reflexed; female flowers and fruits not known.

S. L.: Moyamba (Aug.) Deighton 2217! Bumban (Aug.) Deighton 1221! Jigaya (Sept.) Thomas 2844! **Lib.:** Du R. (July) Linder 121!

Imperfectly known species.

2. *Coccinia* sp. B.

Herbaceous climber; leaves more or less deeply 3-lobed; male flowers racemose, calyx and corolla glabrous; sepals flattened, erect; fruit cylindrical "8-in. long and 1/2-in. diam."; female flowers not known.

G. C.: Nsuta (fl. & fr. May) Vigne 1735! **S. Nig.:** Grace Camp, Omo F.R. (May) Tamajong FHI 16938! A specimen from Liberia (Linder 576) may also belong here.

Imperfectly known species.

3. *Coccinia* sp. C.

Climbing or trailing herb; flowers apricot coloured.

N. Nig.: Jos Hill 53! Fiskin Mata (Apr.) Lely 105! Bichikki (May) Lely 175!

Imperfectly known species.

4. *Coccinia* sp. D.

Herbaceous climber; male flowers racemose.

S. Nig.: Ibadan Forest (Dec.) Punch 46!

Imperfectly known species.

BEGONIACEAE

Herbs or undershrubs, mostly succulent. Leaves alternate, simple, often unequal-sided or oblique; stipules free, deciduous. Flowers monoecious, actinomorphic or asymmetric, mostly in axillary cymes, showy. Male flower: sepals 2, opposite, rarely 5, valvate; petals imbricate or absent; stamens numerous, filaments free or connate, anthers 2-celled, continuous with the filament, opening lengthwise. Female flower: perianth more or less as in the male; staminodes absent or very small; ovary inferior, 2–4- (rarely 1-) celled, mostly angled or winged; styles 2–5, free or connate; stigmas often twisted, papillose all over; ovules very numerous, on axile projecting simple or lobed placentas. Fruit a capsule or berry. Seeds minute and very numerous, with reticulate testa, scanty or no endosperm and straight embryo.

A well-marked, mainly tropical family.

Herbaceous, mostly epiphytic, with stipulate often oblique leaves, unisexual flowers, inferior ovary and often winged fruit.

BEGONIA

Linn.—F.T.A. 2: 569. APD acc

- 1 Leaves peltate; stems short, nodes crowded: 2
 - Leaves not peltate: 9
- 2 Leaves bullate, with bristles on the upper surface: 3
 - Leaves not bullate, usually glabrous above: 5
- 3 Ovary densely pilose; leaves obliquely ovate-elliptic, very obtusely acuminate 7–12 cm. long, 5–7 cm. broad, serrulate and ciliate, with numerous radiating nerves; petiole 4–5 cm. long, densely setose; bracts broad, pectinate-ciliate; male pedicels up to 1.5 cm. long; stamens about 30 [1. lacunosa](#)
 - Ovary glabrous: 4
- 4 Petiole densely long-setose, 6–15 cm. long; leaves obliquely ovate-elliptic, 10–13 cm. long, 6–8 cm. broad; bracts broad, pectinate-ciliate [2. staudtii var. dispersipilosa](#)
 - Petiole glabrous, or nearly so, 4–11 cm. long; leaves obliquely ovate-elliptic, acuminate, 8–11 cm. long, 5–7 cm. broad; bracts small, pectinate-ciliate [3. ficicola](#)
- 5 Ovary and fruit not winged: 6
 - Ovary and fruit winged: 8
- 6 Leaves obovate, somewhat narrowed towards base, doubly crenate; peduncle shorter than the petioles; stigma deeply 2-cleft: 7
 - Leaves obliquely ovate, 10–20 cm. long, 4–10 cm. broad, sinuate-denticulate, slightly ciliate towards the tips; peduncle and petioles long; stigma not 2-cleft [6. scapigera](#)
- 7 Leaves not ciliate, subtruncate at base, oblong-elliptic, 6–13 cm. long, 3–7 cm. broad, prominently nervose beneath; female peduncle about 2 cm. long in young fruit, slender [4. schlechteri](#)
 - Leaves distinctly ciliate, rounded at base, broadly elliptic, 12–15 cm. long, 8–10 cm. broad; female peduncle stout; bracts persistent, ciliate [5. laporteifolia](#)
- 8 Body of fruit about as broad as long, up to 1 cm. long and broad, wings short triangular; leaves obliquely ovate, 8–13 cm. long, 4–6 cm. broad, obtuse at apex [7. cilio-bracteata](#)
 - Body of fruit much longer than broad, 1.5–2 cm. long, wings long and broadest at or above the middle; leaves ovate to suborbicular, acuminate or rounded at apex, up to 14 cm. long and 11 cm. broad [8. quadrialata](#)
- 9 Leaves digitately 3- or more-lobed: 10
 - Leaves not lobed: 11
- 10 Leaves mostly regularly 5-lobed, 10–16 cm. diam.; inflorescence shortly cymose, few-flowered; fruit ellipsoid, not winged [9. oxyloba](#)
 - Leaves irregularly 2–3-lobed, 3–5 cm. long, 2–4 cm. diam.; flowers 2–3 together; fruit fusiform, narrowly winged [10. prismatocarpa](#)
- 11 Stems short, nodes crowded, petioles long, leaves in a rosette: 12
 - Stems long; internodes long, or if short then leaves not in a rosette: 14
- 12 Leaves glabrous above: 13
 - Leaves long-setose above, obliquely ovate, triangular acuminate, 5–7 cm. long, 4–6 cm. broad; petiole 3–12 cm. long; ovary fusiform, narrowly winged [12. pseudoviola](#)
- 13 Body of fruit about as broad as long, up to 1 cm. long and broad, wings short and triangular; for other characters see above [7. cilio-bracteata](#)
 - Body of fruit much longer than broad, about 1.5 cm. long, wings long and broadest at or above the middle; leaves obliquely ovate, obtusely acuminate at apex, cordate at base, 7–11 cm. long, 6–9 cm. broad [11. salisburyana](#)
- 14 Flowers in heads subtended by and partially enclosed in 2 large bracts forming a conical cup; leaves scaly beneath: 15
 - Flowers not in heads subtended by 2 large cupular bracts: 16
- 15 Leaves very obliquely ovate with the 1–6 cm. long petiole apparently on one side of the lamina, acutely acuminate, not cordate, 12–18 cm. long, 6–11 cm. broad [13. poculifera](#)

- Leaves broadly ovate-orbicular, subequally cordate at base, abruptly caudate-acuminate, 15–20 cm. diam.; petiole 12–20 cm. long [14. ampla](#)
- Leaves subobliquely elliptic, rounded at base, obtuse or subacute at apex, 9–16 cm. long, 3–6 cm. broad; petiole 1–3 cm. long [15. rhopalocarpa](#)
- 16** Flowers with 2 sepals (perianth segments): **17**
- Flowers with 3–6 sepals (perianth segments), usually with 4: **19**
- 17** Petiole short, less than 3 cm. long, leaves more or less elliptic; fruits broadly winged: **18**
- Petiole 4–12 cm. long; leaves more or less ovate-triangular, 3–5 cm. long, 2–4 cm. broad; fruit narrowly winged [10. prismatocarpa](#)
- 18** Petiole less than 5 mm. long, leaves unequally sided at base, 7–12 cm. long, 2.5–5 cm. broad, denticulate [16. sessilifolia](#)
- Petiole 1–2.5 cm. long, leaves obliquely cordate at base, 8–13 cm. long, 4–7 cm. broad, slightly dentate [17. macrocarpa](#)
- 19** Fruit not fusiform, up to 1.5 cm. long, with 3 or 6 triangular wings; leaves very obliquely ovate, cordate at base, acuminate at apex, margin rather coarsely and doubly serrate, up to 17 cm. long and 9 cm. broad; petiole with a ring of setose hairs at the top: **20**
- Fruit fusiform, exceeding 1.5 cm. long, not winged, or with 3 narrow subequal wings; mostly scandent perennial herbs with long stout stems: **21**
- 20** Fruit with 3 wings, one 1–2.5 cm. long and triangular, the other two much shorter; body of fruit 1–1.5 cm. long; annual plant [18. rostrata](#)
- Fruit with 6 wings, 3 shortly triangular and about 3 mm. wide, the other 3 narrower, body of fruit about 6 mm. long [19. annobonensis](#)
- 21** Leaves linear-lanceolate, cuneate or obtuse at base, gradually acutely acuminate at apex, 5–10 cm. long, 7–17 mm. broad, entire, glabrous; ovary glabrous; fruit fusiform, sometimes narrowly winged [20. polygonoides](#)
- Leaves mostly ovate, or ovate-lanceolate, rarely lanceolate, exceeding 2 cm. broad, usually rounded or cordate at base at least on one side, often hairy beneath, margin often notched; ovary glabrous or hairy: **22**
- 22** Ovary and fruit 3-winged, glabrous; styles 3; leaves oblong-ovate, obliquely cordate at the base, 9–11 cm. long, 3–4 cm. broad, margin denticulate, lamina rather thin [21. fusialata](#)
- Ovary and fruit not winged, usually hairy, often densely so: **23**
- 23** Leaves lanceolate, 9–18 cm. long, 2–3.5 cm. broad, margin irregularly serrate, petiole up to 1 cm. long [22. furfuracea](#)
- Leaves ovate or ovate-lanceolate, exceeding 3.5 cm. broad: **24**
- 24** Leaves not cordate at base, petiole often very long; flowers and leaves often clustered towards the end of the creeping and rooting stem: **25**
- Leaves cordate at base; flowers and leaves not clustered towards the end of the stems: **26**
- 25** Male flowers densely clustered; leaves oblong-elliptic, acuminate, 16–23 cm. long, 4–11 cm. broad, petiole 4–25 cm. long [23. squamulosa](#)
- Male flowers in lax cymes; leaves oblong-elliptic, obtuse at apex, 8–20 cm. long, 4.5–9 cm. broad, petiole 2.5–12 cm. long [24. fissicarpa](#)
- 26** Styles 2–3: **27**
- Styles 4; outer sepals 14–17 mm. long, 4–7 mm. broad; female flowers usually 3 together on a common peduncle about 1 cm. long; fruit 3–3.5 cm. long; leaves ovate to oblong-ovate, gradually and acutely acuminate, cordate at base, often more or less obliquely so, 9–18 cm. long, 4–8 cm. broad, petiole 1–4 cm. long [27. mannii](#)
- 27** Outer sepals 8–11 mm. long, 5–6 mm. broad; male peduncle and pedicels very short; female flowers usually solitary, ovary densely hairy; fruit about 3.5 cm. long; leaves ovate to oblong-ovate, obliquely cordate at base, 7–13 cm. long, 3–6 cm. broad, petiole 2–4 cm. long [25. oxyanthera](#)
- Outer sepals 5–8 mm. long, 3–4 mm. broad; male peduncle and pedicels well developed; female flowers usually 3 together; fruit 2–3 cm. long; leaves ovate to oblong-ovate, obliquely cordate at base, 8–14 cm. long, 3–7 cm. broad, petiole 3–8 cm. long [26. eminii](#)

1. *Begonia lacunosa* Warb. in Engl. Bot. Jahrb. 22: 42 (1895); Engl. Pflanzenw. Afr. 3, 2: 617 (1921).
APD acc

APD: Synonym of Begonia susaniae Sosef

A creeping herb; flowers white, pink at base.

S. Nig.: Oban Talbot! **Br. Cam.:** Barombi Preuss 183!

2. *Begonia staudtii* var. *dispersipilosa* *Irmsch.* in Engl. Bot. Jahrb. 76: 214 (1954).

APD: Synonym of Begonia staudtii Gilg

Leaves pale green, bullate; flowers bright yellow.

S. Nig.: Bende (Apr.) Carpenter 50a! British Obokum waterfall (Dec.) Keay FHI 28279!

Typical *B. staudtii* occurs in French Cameroons.

3. *Begonia ficicola* *Irmsch.* l.c. 213 (1954).

APD: Synonym of Begonia microsperma Warb.

Flowers yellow except for outside of one sepal, which is reddish-yellow.

Br. Cam.: Ekumbe Ndene waterfall, R. Meme (Dec.) Dundas FHI 2035!

4. *Begonia schlechteri* *Gilg* in Engl. Bot. Jahrb. 34: 93 (1904); Engl. l.c. 617.

APD: Synonym of Begonia laportefolia Warb.

A low herb with short stem, creeping and ascending, and numerous fibrous roots.

Br. Cam.: between Mafura and Mundame (Jan.) Schlechter 12915!

5. *Begonia laportefolia* *Warb.* l.c. 22: 41 (1895); Engl. l.c. 618. *APD acc*

A creeping herb; flowers white, pink at base.

Br. Cam.: Barombi Preuss 157; 563!

Also in **French Cameroons**.

6. *Begonia scapigera* *Hook. f.* in F.T.A. 2; 572 (1871); Engl. l.c. 618. *APD acc*

APD: Synonym of Begonia pulcherrima Sosef

Stemless, with a creeping woody rootstock; flowers borne on long leafless scape.

Br. Cam.: Rio del Rey Johnston! Buea Preuss 952! Cam. Mt., 4,000 ft. (Dec.) Mann 1946!

7. *Begonia cilio-bracteata* *Warb.* l.c. 22: 40 (1895); Engl. l.c. 616 (as *B. ciliato-bracteata* Warb.). *APD acc*

APD: Synonym of Begonia hirsutula Hook. f.

Herb with short creeping stem; leaves sometimes peltate; inflorescences shorter than petioles; sepals white, one with red markings inside.

G. C.: Prestea (July) Vigne 1263 (partly)! Mamiri F.R. (Apr.) Andoh FH 5020! **Br. Cam.:** Mungo Ndaw to Ntale, Kumba (Oct.) Dundas FHI 15325!

Also in **French Cameroons** and **Spanish Guinea**.

8. *Begonia quadrialata* *Warb.* l.c. 22: 43 (1895); Engl. l.c. 617. *APD acc*

APD: Synonym of Begonia mildbraedii Gilg

APD: Synonym of Begonia atroglandulosa subsp. tshelaensis Sosef

APD: Synonym of Begonia quadrialata subsp. nimbaensis Sosef

APD: Synonym of Begonia quadrialata var. pilosa Sosef

APD: Synonym of Begonia zairensis Sosef var. zairensis

Begonia whytei Stapf (1905); Engl. l.c.; Chev. Bot. 299.

Begonia calabarica Stapf (1906); Engl. l.c.; F.W.T.A., ed. 1, 1: 187.

Begonia modesta Stapf (1908); F.W.T.A., ed. 1, 1: 187.

Herb with short stem; petiole and peduncles pink; leaves pale green, rather darker above, with pink or reddish margin; upper sepal orange-red outside, yellow streaked orange-red within, lower sepal yellow sometimes slightly tinged red; **in forest, by streams.**

Fr. G.: foot of Mt. Nzo (Mar.) Chev. 21082. **S. L.:** Kenema (Jan.) Bowden! Gola Forest (Jan.) King 117b! **Lib.:** Gola Forest (May) Bunting! Sinoe Basin Whyte! Duo, Sinoe (Mar.) Baldwin 11351! Vonjama (Nov.) Baldwin 10024! **Iv. C.:** foot of Mt. Noubra (Apr.) Chev. 21126! **G. C.:** Ancobra R. (Dec.) Johnson 980! Near Tarkwa (Apr.) Chipp 197! Brumase (Jan.) Irvine 1080! Near Prestea (Sept.) Vigne 3073! **S. Nig.:** Enugu (Feb.) Jones FHI 710! Afi River F.R. (May, Dec.) Jones FHI 5809! Keay FHI 28188! Near Calabar (Dec.) Burt B.1! **Br. Cam.:** Barombi (Apr.–June) Preuss 119; 185; 186; 319.

Also in **French Camerouns.**

9. *Begonia oxyloba* Welw. ex Hook. f. in F.T.A. 2: 573 (1871); Engl. l.c. 614; Chev. Bot. 298. *APD acc*

Begonia conraui Gilg (1904).

Begonia togoensis Gilg (1904).

Begonia sassandrensis A. Chev. (1912).

More or less erect succulent herb, 1–2 ft. high, with long woody rootstock, older plants straggling; stems tinged pink; leaves purplish beneath; flowers pale pink with darker veins; fruits green with pink veins and white spots.

Fr. G.: Macenta (Oct.) Baldwin 9807! And fide Chev. l.c. **S. L.:** near Freetown (Aug.) Kelsall! **Lib.:** Sanokwele (Sept.) Baldwin 9544! **Iv. C.:** Mt. Do, Dyolas (May) Chev. 21417! And other localities fide Chev. l.c. **G. C.:** Begoro (Dec.) Johnson 819! Fwirem, Ashanti (May) Chipp 456! Pamu-Berekum F.R. (Sept.) Vigne 2495! **Togo:** Amedzoive (fl. & fr. July) Baumann 419. **S. Nig.:** Idanre (Oct.) Keay FHI 22675! **Br. Cam.:** Cam. Mt., 4,000 ft. (Jan., Feb., Nov.) Mann 1274! Dunlap 17! Preuss 995! **F. Po:** 3,000 ft. (Dec.) Mann 562!

Extends to **Uganda, Tanganyika** and **Angola.**

10. *Begonia prismatocarpa* Hook.—F.T.A. 2: 573; Engl. l.c. 618; Chev. Bot. 298. *APD acc*

Begonia petraea A. Chev. (1912).

A slender dwarf plant; stem branched, creeping and rooting; flowers yellow or pinkish-white; an epiphyte on trees, on rocks, etc.

Iv. C.: Grabo (July) Chev. 19596. **Br. Cam.:** Basosi, Kumba (Oct.) Dundas FHI 15329! **F. Po:** 3,000ft. (Aug., Dec.) Barter 2047! Mann 563! Ureka (Aug.) Thorold TF 79a! Musola (Jan.) Guinea 1410!

11. *Begonia salisburyana* Irmsch. l.c. 215 (1954). *APD acc*

Acaulescent herb; leaves very pale green, petioles dull red-purple; one sepal yellow, the other red with yellowish streaks.

S. Nig.: Okomu F.R. (fl. & fr. Dec.) Brenan 8432! 8531! Richards 3126! 3346! Ross 236!

12. *Begonia pseudoviola* Gilg in Engl. Bot. Jahrb. 34: 88 (1904); Engl. l.c. 616. *APD acc*

An almost stemless herb, petioles and under surface of leaves crimson, upper surface dark green; flowers yellow with crimson markings.

Br. Cam.: Widedekum (Jan.) Keay FHI 28342! Banti to Babesong (Nov.) Conrau 10.

13. *Begonia poculifera* Hook. f. in F.T.A. 2: 574 (1871); Engl. l.c. 614. *APD acc*

An epiphyte with stout climbing stem several feet in length; bracts green, sepals white with red veins at base.

S. Nig.: Oban Talbot 589! 590! Ikvette Plateau, Obudu (Dec.) Keay & Savory FHI 25244! **Br. Cam.:** Preuss 883! Cam. Mt., 4,000–7,000 ft. (Mar., Apr., Nov., Dec.) Mann 1276! Maitland 898! Brenan 9388! **F. Po:** 2,000 ft. (Nov.) Mann 561! L. Moka, 6,000 ft. (Jan.) Exell 800! 801!

14. **Begonia ampla** Hook. f. in F.T.A. 2: 574 (1871); Engl. l.c. 614. Exell Cat. S. Tomé 187. *APD acc*

An epiphyte with stout woody stem; inflorescence with 2 large green bracts forming a cup enclosing the flowers; sepals white or pinkish, with red lines.

Br. Cam.: Kumba—Mamfe Road (July) Tamajong FHI 23451! Basosi, Kumba (Oct.) Dundas FHI 15327! Barombi Preuss 447! **F. Po:** 1,000–2,000 ft. Mann 314!

Also in **French Cameroons**, **Principe**, **S. Tomé**, **Annobon** and **Uganda**.

15. **Begonia rhopalocarpa** Warb. in Engl. Bot. Jahrb. 22: 40 (1895); Engl. l.c. 614.

APD: Synonym of Begonia loranthoides subsp. rhopalocarpa (Warb.) J. J. de Wilde

Epiphyte with long stem.

Br. Cam.: Bibundi (July) Dusen 89.

Also in **French Cameroons** and **Belgian Congo**.

16. **Begonia sessilifolia** Hook. f. in F.T.A. 2: 577 (1871); Engl. l.c. 616. *APD acc*

Stem slender, simple or branched, 1–2 ft., flowers white.

F. Po: 1,000–2,000 ft. (Nov.) Mann 564! Balacha to Ureka (Feb.) Guinea 2294!

Also in **French Cameroons**.

17. **Begonia macrocarpa** Warb. l.c. 22: 43 (1895); Engl. l.c. 616. *APD acc*

Begonia pseudoimpatiens Gilg (1904).

Begonia simii Stapf (1905).

Begonia gouroana A. Chev. (1912)—F.W.T.A., ed. 1, 1: 188.

An erect succulent herb creeping at the base, stem often red-purple; sepals white with red base, or pink to purple.

Fr. G.: Konanké country (Feb.) Chev. 20817! **S. L.:** Makomba (Feb.) Deighton 4080! Kulafaga to Bendugu (Sept.) Deighton 5144! **Lib.:** Sinoe Basin Whyte! Kakatown Whyte! Vonjama (Oct.) Baldwin 10034! Sanokwele (Sept.) Baldwin 9532! Gletown (July) Baldwin 6751! **Iv. C.:** Oua to Gouro, Upper Cavally (Apr.) Chev. 21348! **G. C.:** Tarkwa (Dec.) Johnson 981! Begoro (Apr.) Irvine 1191! **S. Nig.:** Shasha F.R. (May) Richards 3498! Nikrowa (Dec.) Brenan 8399! Afi River F.R. (May) Jones FHI 5808! **Br. Cam.:** Barombi (May) Preuss 200. Bakebe, Mamfe (Sept.) Eyeku FHI 22314! Banti to Babesong (Nov.) Conrau 5.

Also in **French Cameroons**.

18. **Begonia rostrata** Welw. ex Hook. f. in F.T.A. 2: 578 (1871); Engl. l.c. 615; Chev. Bot. 298. *APD acc*

Begonia Warb. ex A. Chev. (1912); Chev. Bot. 297; F.W.T.A., ed. 1, 1: 188.

Begonia elliotii Gilg ex Engl. l.c. 620.

Fleshy annual; variable in size according to habitat, from a few inches to 3 ft. high; stem and petiole tinged pink, leaves pale green with white or pink marking; flowers white or pale pink.

Fr. Sud.: Koulikoro (Oct.) Chev. 2997! **Fr. G.:** Macenta (Oct.) Baldwin 9852! Ditinn (Sept.) Chev 18537. **S. L.:** Regent (fr. Dec.) Sc. Elliot 3983! Rokupr (Oct.) Jordan 141! Roruks (Aug.) Deighton 5339! **Lib.:** Mt. Bobei, Sanokwele (Sept.) Baldwin 9608! **Iv. C.:** Toura country (May) Chev. 21599! **G. C.:** Kwahu (fl. & fr. Nov.) Brown 779! **Togo:** Misahöhe Pass (fl. & fr. Oct.) A. S. Thomas K. 11! **N. Nig.:** Patti Lokoja (fl. & fr. Nov.) Dalz. 193! Birnin Gwari (fr. Dec.) Meikle 1587! Mada Hills Hepburn 84! **S. Nig.:** Idanre Hills (fl. & fr. Oct.) Keay FHI 25500!

Also in **Angola**.

19. **Begonia annobonensis** A.DC.—F.T.A. 2: 578; Engl. l.c. 618; Exell Cat. S. Tomé 187. *APD acc*

Begonia quintasii C.DC.—F.W.T.A., ed. 1, 1: 188.

Erect epiphyte, sepals white tinged pink, ovary white with red wings.

Br. Cam.: Rio del Rey Johnston! Victoria (Sept.) Dundas FHI 15319!

Also in **Principe**, **S. Tomé** and **Annobon**.

20. *Begonia polygonoides* Hook. f. in F.T.A. 2: 571 (1871); Engl. l.c. 618; Chev. Bot. 298. *APD acc*

Begonia epilobioides Warb. (1895).

Begonia rhipsaloides A. Chev. (1912)—F.W.T.A., ed. 1, 1: 187.

Epiphyte with long flexuous pendant stems.

Fr. G.: Macenta (Oct.) Baldwin 9851! **Lib.:** Zuie, Boporo (Nov.) Baldwin 10261! **Iv. C.:** Dyola country Chev. 21183. **S. Nig.:** Oban Talbot 1740! Calabar Thomson 74! **Br. Cam.:** Dusen.

Also in **French Cameroons** and **Belgian Congo**.

21. *Begonia fusialata* Warb. l.c. 22: 37 (1895); Engl. l.c. 620. *APD acc*

Sub-epiphyte creeping over logs, etc. **in forest**, often rooting at the nodes; flowers pink; fruit red.

G. C.: Mt. Ejuanema, 2,500 ft. (fl. & fr. Apt.) N. F. Robertson 116! **S. Nig.:** Essuasu (Dec.) Miles 5! **Br. Cam.:** Dusen 71.

Also in **French Cameroons**.

22. *Begonia furfuracea* Hook. f. in F.T.A. 2: 571 (1871); Engl. l.c. 618. *APD acc*

Epiphyte, 3 ft. high; flowers white and red.

F. Po: 1,300 ft. Mann 304!

23. *Begonia squamulosa* Hook. f. in F.T.A. 2: 579 (1871); Engl. l.c. 620. *APD acc*

Begonia longipetiolata Gilg l.c. 92 (1904); F.W.T.A., ed. 1, 1: 188.

S. Nig.: Oban Talbot 1741! **Br. Cam.:** Cam. Mt., Kalbreyer 155!

Also in **French Cameroons** and **Spanish Guinea**.

24. *Begonia fissicarpa* Irmsch. l.c. 212 (1954). *APD acc*

Begonia rubro-marginata of F.W.T.A., ed. 1, 1: 188, not of Gilg.

S. L.: Deighton 709! Makunde, Limba (Apr.) Sc. Elliot 5721! Falaba (Apr.) Aylmer 49! **Lib.:** Mt. Barclay (May) Bunting 27! Kulo, Sinoe (fl. S fr. Mar.) Baldwin 11417! **G. C.:** (Feb.) Johnson 129!

25. *Begonia oxyanthera* Warb. l.c. 22:35 (1895). *APD acc*

A climbing shrub with stems reaching 20–30 ft.; flowers red and white.

Br. Cam.: Buea (Mar.) Preuss 867! Bafut-Ngemba F.R., Bamenda (Apr.) Ujor FHI 30010!

Also in **French Cameroons**.

26. *Begonia eminii* Warb. in Engl. Pflanzenw. Ost-Afr. C: 282 (1895); Engl. l.c. 620. *APD acc*

Begonia preussii Warb. in Engl. Bot. Jahrb. 22: 36 (1895); F.W.T.A., ed. 1, 1: 188.

Begonia macrostyla Warb. l.c. 37.

Begonia warburgii Gilg in Engl. Bot. Jahrb. 34: 94 (1904).

Begonia alepensis A. Chev. (1912)—F.W.T.A., ed. 1, 1: 188.

Begonia cavallyensis A. Chev. (1912)—F.W.T.A., ed. 1, 1: 188.

A branched, scrambling epiphyte; rooting at nodes; flowers pinkish or red; fruit scarlet, rarely white.

Lib.: Vonjama (Oct.) Baldwin 9906! **Iv. C.:** R. Me, Alépe (Mar.) Chev. 17482. Mt. Do (May) Chev. 21422. **G. C.:** Anyinam (Oct.) Fishlock 60! Kibbi Hills (Dec.) Johnson 508! Kwahu Prasu (Feb.) Vigne 1600! **S. Nig.:** Oban Talbot! Afi River F.R. (May) Jones FHI 5835! **Br. Cam.:** Mopanya Kalbreyer 96! Buea (Sept., Nov.) Preuss 960! Migeod 221! Elephant Lake, Barombi Preuss 111! **F. Po:** Moka (Feb.) Exell 858!

Widespread in the forests of tropical Africa.

27. **Begonia mannii** *Hook.* Bot. Mag. t. 5434 (1864); F.T.A. 2: 570. *APD acc*

Begonia excelsa *Hook. f.* in F.T.A. 2: 571 (1871); F.W.T.A., ed. 1, 1: 187.

Begonia epiphytica *Hook. f.* l.c. 580 (1871); F.W.T.A., ed. 1, 1: 188. Scrambling epiphyte.

S. L.: Daru, Tunkia (Oct.) Fisher 83! **S. Nig.:** Shasha F.R. (Apr.) Ross 3336! Usonigbe F.R. (Nov.) Keay FHI 25623! Aboabam (fl. & fr. Dec.) Keay FHI 28178! Oban Talbot 460! 1541! Old Calabar (fl. A fr. Feb.) Mann 2317! Thomson 23! **Br. Cam.:** Cam. Mt., 4,000 ft. (fl. & fr. Feb.) Mann 1275! **F. Po:** 1,000–2,000 ft. (Dec.) Mann 311! 565!

Also in **French Cameroons**.

This species, authentic material of which I have not seen, has been recorded from our area. Most of these species belong to Sect. Fusibegonia, the key to which in Engl. Pflanzenw. Afr. 3, 2: 618 (1921) is most unsatisfactory.

1. **Begonia microsperma** *Warb.* in Engl. Bot. Jahrb. 22: 42 (1895). *APD acc*

Cameroons—without locality Dusen 79.

2. **Begonia dusenii** *Warb.* l.c. 44 (1895).

APD: *Synonym of Begonia quadrialata subsp. dusenii (Warb.) Sosef*

Cameroons—without locality Dusen 90.

3. **Begonia jussiaecarpa** *Warb.* l.c. 33 (1895).

APD: *Synonym of Begonia oxyanthera Warb.*

Br. Cam.: Cam. Mt., 4,500 ft. Dusen 427.

4. **Begonia sessilantha** *Warb.* l.c. 34 (1895).

APD: *Synonym of Begonia preussii Warb.*

Br. Cam.: Victoria to Bimbia (May) Preuss 1261.

5. **Begonia macrura** *Gilg* in Engl. Bot. Jahrb. 34: 92 (1904).

APD: *Synonym of Begonia longipetiolata Gilg*

Br. Cam.: Mafura to Mundame (Jan.) Schlechter 12918.

Also in **French Cameroons**.

6. **Begonia rubromarginata** *Gilg* l.c. 34: 95 (1904). *APD acc*

Br. Cam.: Bangwa Conrau 80.

7. **Begonia gilgii** *Engl.* Pflanzenw. Afr. 3, 2: 616 (1921); Mildbr. Wiss. Ergebn. 2: 188 (1922).

APD: *Synonym of Begonia sessilifolia Hook. f.*

F. Po: Mildbr. 6287.

8. **Begonia gladiifolia** *Engl.* l.c. 619 (1921); Mildbr. l.c. 188.

APD: *Synonym of Begonia longipetiolata Gilg*

F. Po: Peak of St. Isabel, 1,900–2,600 ft. Mildbr. 6394.

9. **Begonia hookeriana** *Gilg ex Engl.* l.c. 617 (1921).

APD: *Synonym of Begonia ciliobracteata Warb.*

Br. Cam.: Cam. Mt. Dusen.

10. **Begonia** sp. Mildbr. l.c. 188, as *B. macropoda* Gilg (?), sterile. *APD acc APD acc*

F. Po: Mildbr. 6290.

CARICACEAE

Small trees or shrubs with a terminal cluster of leaves and milky juice; leaves alternate, often variously digitately lobed or foliolate; stipules absent; flowers hermaphrodite and unisexual, racemose; male flower: calyx 5-lobed, small; petals united into a slender tube; lobes contorted or valvate; stamens 10, inserted on the corolla; filaments free or connate at the base; anthers 2-celled, opening lengthwise; rudimentary ovary present or absent; female flower: calyx of the male; petals at first connivent, at length free; no staminodes; ovary superior, sessile, 1-celled or spuriously 5-celled, with parietal placentas; ovules numerous; style short or absent; fruit a pulpy berry; seeds with fleshy endosperm and straight embryo.

A small family, mainly of tropical America, with only one genus in Africa.

Carica papaya Linn.

The Pawpaw, is very widely cultivated in our area and is sometimes subsontaneous.

CYLICOMORPHA

Urb. in Engl. Bot. Jahrb. 30: 115 (1901).

Trees with very soft wood and copious milky juice, stem prickly; leaves in a cluster at the top of the stem, palmately lobed, petioles long; inflorescences axillary; male flowers numerous, paniculate; female flowers solitary or in short few-flowered inflorescences; stamens connate into a tube at the base; corolla lobes alternating with the calyx teeth; fruit a 5-gonous berry.

- 1 Straight tree with hollow stem; leaves and stem glabrous; petioles 12–45 cm. long; lamina deeply 5-lobed, 7–9-nerved at base, 20–46 cm. diam., lobes more or less obovate, acuminate, 6–10 cm. broad, basal lobes oblique and sometimes themselves lobed; male flowers densely puberulous, in puberulous panicles made up of several 3–9-flowered cymes; calyx of male flower campanulate, 5–6 mm. long, 4.5–5 mm. diam., subtruncate at apex and remote from the corolla tube; corolla 4.5–5 cm. long, with lobes about 1.5 cm. long; female flowers not known; fruit ovoid, 5-gonous, 3–4.5 cm. long, about 2 cm. diam.; seeds numerous, ellipsoid, about 5 mm. long, with ruminant markings[solmsii](#)

Cylicomorpha solmsii (*Urb.*) *Urb.* in Engl. Bot. Jahrb. 30: 115 (1901). *APD acc*

Jacartia? *solmsii* *Urb.* in Engl. Bot. Jahrb. 15: 158 (1892).

Tree, to 80 ft. high, resembling the Pawpaw but with short sharp conical prickles on the stem; flowers yellow or cream; fruit yellow.

Br. Cam.: Buea Road (Jan.) Maitland 1281! Bulifambo, Buea (Mar.) Maitland 574! Elephant Lake, Kumba (Sept.) Preuss 489! Tingo, by R. Ife, Wum (fr. July) Ujor FHI 30469!

CACTACEAE

Succulent herbs and shrubs of diverse habit, often very spiny, and usually with much reduced leaves. Flowers hermaphrodite, actinomorphic, often handsome, but very small in the African species (*Rhipsalis*). Calyx-tube adnate to the ovary and often produced beyond; lobes few to many, or reduced to minute teeth. Petals 6 or more. Stamens numerous, free or adnate to the base of the petals. Ovary inferior, 1-celled, with parietal many- or rarely few-ovuled placentas; stigma usually radiate. Fruit baccate, many-seeded. Seeds mostly without endosperm.

Exclusively an American family except for *Rhipsalis*.

Recognized by the habit and epigynous flowers. Besides *Rhipsalis* some species of *Opuntia* are naturalized in the coast regions.

RHIPSALIS

Gaertn.—F.T.A. 2: 581.

Calyx-teeth very short, 3 or more. Petals 6–10, spreading, oblong. Stamens about 20. Ovary inferior, glabrous. Seeds without endosperm.

- 1 An epiphytic shrub or on rocks; branches cylindrical, fleshy, articulated and sometimes rooting at the nodes, dichotomously branched or subverticillate, glabrous; leaves scale-like, soon falling off; flowers white, small, sessile; calyx minute; berries yellowish-white like mistletoe, with viscous pulp and black shining seeds [cassutha](#)

***Rhipsalis cassutha* Gaertn.**—F.T.A. 2: 581, including var. *tenuior* Oliv.

APD: Synonym of Rhipsalis baccifera (J.S. Muell.) Stearn subsp. baccifera

Rhipsalis guineensis of Chev. Bot. 299.

S. L.: Benduma, Mongeri Deighton 2222! Keyeima (Mar.) Deighton 3222! **iv. C.:** various localities fide Chev. l.c. **G. C.:** Koforedua (fr. Apr.) Vigne 4379! **S. Nig.:** Uregin (July) Unwin 116! Akure F.R. Jones FHI 19530! Sapoba Kennedy 1365! **Br. Cam.:** Nyasaso, Tombel Thorold 73! **F. Po:** Mann 1419.

Widely distributed in the tropics.

OCHNACEAE

Trees or shrubs with watery juice, rarely herbs. Leaves alternate, simple, very rarely pinnate, often with numerous pinnate nerves; stipules present, sometimes lacinate. Flowers hermaphrodite, actinomorphic, mostly racemose or paniculate. Sepals 4–5, rarely 10, free, imbricate or rarely contorted. Petals free, 4–10, subsessile, contorted or imbricate. Stamens few to many, free; staminodes sometimes present, subulate or petaloid, sometimes connate into a tube; filaments persistent; anthers linear, basifixed, opening lengthwise or by terminal pores. Ovary entire to deeply lobed, 1–10-celled; ovules 1 to many, axile or parietal or attached to the intrusive placentas; style simple or divided at the apex. Fruiting carpels often becoming quite separate on the enlarged torus and drupaceous, or elongated capsular and septicidal. Seeds 1 to many, with or without endosperm; embryo usually straight.

Mostly a tropical family.

With stipulate leaves usually with prominent numerous lateral nerves; ovary usually very deeply lobed with a simple style; fruiting carpels often quite separate on the enlarged torus; calyx persistent in fruit.

- 1 Trees, shrubs or undershrubs, without pectinate stipules; staminodes absent: **2**
Herbs with persistent pectinate stipules; stamens 5, accompanied by staminodes in two rows, the inner petaloid, the outer filiform; ovary entire with parietal placentation; fruit a 3-valved septicidal capsule [5. Sauvagesia](#)
- 2 Fruiting carpels becoming separate, black and drupaceous, on an enlarged torus; sepals persistent and often red or pink in fruit: **3**
Fruit a nut or capsule: **4**
- 3 Stamens numerous; filaments often as long as or longer than the anthers, the latter dehiscing longitudinally or by pore-like slits [1. Ochna](#)
Stamens 10; filaments much shorter than the anthers, the latter opening by apical pores [2. Ouratea](#)
- 4 Sepals unequally enlarged and wing-like in fruit, the latter a nut; ovary 1-celled with a basal placenta; stamens numerous [3. Lophira](#)
Sepals caducous after flowering; fruit a dehiscent capsule with numerous winged seeds; ovary 5-celled with axile placentation; stamens 5 [4. Fleurydora](#)

1. OCHNA

Linn.—F.T.A. 1: 316.

- 1 Inflorescence (leafless part above bud-scale scars) branched, composed of few-flowered cymes on the central axis; anthers opening by pores; leaves elliptic to oblanceolate, acuminate at apex, 5–12 cm. long, 1·5–4·5 cm. broad [1. membranacea](#)
- Inflorescence simple, racemose or fasciculate; anthers opening by pores or longitudinal slits: **2**
- 2 Inflorescence racemose with the axis more than 1·5 cm. long; anthers opening by longitudinal slits: **3**
- Inflorescence fasciculate, or racemose with the axis less than 1·5 cm. long, often only 1–3 mm.: **4**
- 3 Pedicels articulated at the very base, or within 2 mm. from the base, leaving very short "pegs" on the axis after falling; style divided at the apex [2. mannii](#)
- Pedicels articulated 2–6 mm. from the base, leaving long "pegs" on the axis after falling [3. multiflora](#)
- 4 Sepals in fruit 2–3 cm. long; carpels ellipsoid, about 1 cm. long; flowers solitary or paired; leaves elliptic-lanceolate, acutely acuminate, 12–18 cm. long, 3–6 cm. broad; lateral nerves not very numerous, rather distant, equally prominent on both surfaces [4. kibbiensis](#)
- Sepals in fruit less than 1·5 cm. long: **5**
- 5 Pedicels articulated more than 2 mm. from the base; anthers opening by pores; leaves oblong-elliptic to ovate, 1·5–4 cm. long, 1–2 cm. broad [5. ovata](#)
- Pedicels articulated less than 2 mm. from the base; anthers opening by longitudinal slits; leaves much exceeding 4 cm. long: **6**
- 6 Branchlets dark brown with conspicuous lenticels; leaves elliptic to oblanceolate, acute at apex or shortly and obtusely acuminate, 6–12 cm. long, 2–3·5 cm. broad; flowers white [6. afzelii](#)
- Branchlets grey or pale brown with exfoliating bark; leaves obovate to oblanceolate, rounded or emarginate at apex; flowers yellow: **7**
- 7 Small tree; leaves 8–15 cm. long, 3–7 cm. broad; pedicels 2·5–3 cm. long in fruit [7. schweinfurthiana](#)
- Low shrub; leaves 4–10 cm. long, 1·2–3·5 cm. broad; pedicels 1·2–2·5 cm. long in fruit [8. rhizomatosa](#)

1. **Ochna membranacea** *Oliv.* F.T.A. 1: 316 (1868); Gilg in Engl. Bot. Jahrb. 33: 234 (1903). *APD acc*

Porochna membranacea (*Oliv.*) *Van Tiegh.* in Journ. de Bot. 16: 124 (1902).

Diporochna membranacea (*Oliv.*) *Van Tiegh.* in Ann. Sci. Nat. 8, 16: 390 (1902).

D. oliveri *Van Tiegh.* l.c. 390 (1902).

Ouratea elegans of Chev. Bot. 108, partly.

Ouratea elegans of Hutch. & Dalz. F.W.T.A., ed. 1, 1: 190 and in Kew Bull. 1928: 216, partly, not *Monelasma elegans* Van Tiegh. l.c. 329 (1902).

Ochna smythei *Hutch. & Dalz. F.W.T.A.*, ed. 1, 1: 190; Kew Bull. 1928: 216.

Ochna barteri of F.W.T.A., ed. 1, 1: 190, partly, not *Ochnella barteri* Van Tiegh. in Journ. de Bot. 16: 122 (1902).

A glabrous shrub or small tree, to 24 ft. high; flowers yellow; fruits black, surrounded by red sepals.

Fr. G.: Los Isl. (May) Pobéguin 1179! 1180! **S. L.:** Sugar Loaf Mt. (May) Barter! Heirakohun Smythe 124! Kambia (May) Jordan 442! **Iv. C.:** Mt. Pon (Mar.) Aubrév. 1063! Mt. Do, Dyolas (May) Chev. 21426! **G. C.:** Achimota (fl. & fr. Apr., May) Howes 1167! Irvine 276! 1608! Ijang F.R. (fr. Apr.) Williams 278! **Togo:** Lome Warnecke 83! **Dah.:** Atacora Mts. (June) Chev. 24165. **N. Nig.:** Idah Barter 1643! **S. Nig.:** Eggua F.R. (Apr.) Akinlade FHI 15016! Olokemeji (May) A. F. Ross 165! Udi (fr. Mar.) Chesters 2! **Br. Cam.:** Fang, Bamenda (Apr.) Maitland 1477!

Also in **Ubangi-Shari** and **Belgian Congo**.

2. **Ochna mannii** *Van Tiegh.* in Journ. de Bot. 16: 121 (1902); Chev. Bot. 106.

APD: *Synonym of Ochna multiflora DC.*

Ochna multiflora of F.T.A. 1: 317, partly.

A shrub about 12 ft. high.

Dah.: Cotonou (Mar.) Chev. 23368! **S. Nig.:** Nun R. (Sept.) Mann 490!

3. **Ochna multiflora** *DC.*—F.T.A. 1: 317 (excl. spec. Mann); Gilg l.c. 233. *APD acc*

Ochna palisotii of Van Tiegh. in Ann. Sci. Nat. 8, 16: 384–385 (1902).

Ochna fragrans of Van Tiegh. in Ann. Sci. Nat. 8, 16: 384–385 (1902).

Ochna tenuipes of Van Tiegh. in Ann. Sci. Nat. 8, 16: 384–385 (1902).

A glabrous shrub or small tree, flowering in mass about Feb.–Mar.; petals fugacious; calyx wine-red in fruit; **often near water**.

Gam.: Perrottet 100! **Fr. G.:** Rio Pungo Heudelot 903! **S. L.:** Smeathmann! Gbabai (fr. Sept.) Glanville 433! Waterloo (fr. May) Deighton 2665! Falaba (Mar.) Aylmer 16! Gbap (Mar., Apr.) Adames 18! 26! Mano Bonjema (fr. Apr.) Deighton 3713! **Lib.:** Monrovia Whyte! Grand Bassa (Apr.) Dinklage 1647! R. Cess (fl. & fr. Mar.) Baldwin 11253! 11279! **S. Nig.:** Lagos (Feb., Mar.) Moloney! Dalz. 1036! Epe (Feb.) Millen 159! Oni Sankey 13! Oware Beauvois! Braas (fr. Apr.) King-Church 15! Calabar (fr. Apr.) Holland 23!

Extends to Congo.

4. **Ochna kibbiensis** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 191 (1927); Kew Bull. 1928: 216. *APD acc*

A shrub or small tree with large, brilliant red calyx in fruit.

G. C.: Kibbi Hills (fr. Dec.) Johnson 266! Adjapoma, Kibbi (fr. Mar.) Glover! Kumasi Brown 2261! Kwahu Plateau (Apr.) Kitson 1041! **S. Nig.:** Osun F.R. (fr. May) Ejiofor FHI 26125! Owenna F.R. (fr. Apr.) A. F. A. Lamb 223/37! Owo F.R. (fr. May) Jones FHI 3564! Obubra Dist. Rosevear 32/29!

5. **Ochna ovata** *F. Hoffm.* Beitr. Fl. Centr. Ost-Afr. 19 (1889). *APD acc*

Low shrub, with copper-coloured young leaves and bright yellow flowers; **often on rocky hills**.

G. C.: Shai Hills (fr. Mar.) Irvine 945! 2730!

Also in **Uganda**, **Kenya** and **Tanganyika**.

6. **Ochna afzelii** *R. Br. ex Oliv.* F.T.A. 1: 319 (1868); Gilg l.c. 239; Aubrév. Fl. For. Soud.-Guin. 77. *APD acc*

Ochna alba of Chev. Bot. 106, partly (Chev. 12647; 12668) and of F.W.T.A., ed. 1, 1: 191, partly, not *Ochnella alba* Van Tiegh. in Journ. de Bot. 16: 123 (1902) and in Ann. Sci. Nat. 8, 16: 346 (1902).

Ochnella barteri *Van Tiegh.* in Journ. de Bot. 16: 122 (1902).

Polyochnella barteri (*Van Tiegh.*) *Van Tiegh.* in Ann. Sci. Nat. 8, 16: 348 (1902).

Ochna barteri (*Van Tiegh.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 190, partly (excl. spec. & descr.).

Shrub or small tree, sometimes up to 40 ft. high; branchlets markedly lenticellate; flowers white with yellow anthers, usually produced before the leaves are fully developed, sepals turning greenish and finally pink or red; seeds black on the red torus. **Mainly in relatively protected areas of savannah woodland and in forest margins.**

Fr. G.: Fouta Djallon (Mar., Apr.) Chev. 12647! 12668! Timbo Pobéguin 1533! **S. L.:** Afzelius! Sulimania (fr. Mar.) Sc. Elliot 5350! Waterloo (fr. May) Deighton 2646! **iv. C.:** Bondoukou Aubrév. 774! Ferké Aubrév. 1813! **Togo:** Batilo Kersting 611a! Atakpame Mildbr. 7462! **Dah.:** Ketou (Feb.) Aubrév. 23d! **N. Nig.:** Patti Lokoja (fl. & fr. Apr.) Elliott 44! 57! Idah Barter 1641! Bassa (fr. June) Elliott 244! Anara F.R. (fr. May) Keay FHI 22962! Bauchi Plateau (fl. & fr. Aug.) Lely P. 217! **S. Nig.:** Onitsha (Apr.) Duruh FHI 15467! Udi (May) Jones FHI 799! Kennedy 3147! **Br. Cam.:** Fonfuka, Bamenda (fr. Apr.) Maitland 1484!

Also in **Ubangi-Shari**, **French Cameroons**, **A.–E. Sudan** and **Uganda**.

7. **Ochna schweinfurthiana** *F. Hoffm.* Beitr. Fl. Centr. Ost-Afr. 20 (1889); Gilg l.c. 240; Aubrév. Fl. For. Soud.-Guin. 77, partly. *APD acc*

Ochnella alba *Van Tiegh.* in Journ. de Bot. 16: 123 (1902).

Ochna alba (*Van Tiegh.*) *A. Chev.* Bot. 106, partly (Chev. 555 only). Savannah tree, to 12 ft. high.

Fr. Sud.: Bambanatoumba (Mar.) Chev. 555! **G. C.:** Salaga (May) Krause! Bujan to Sekaii (Apr.) Kitson 521! **Togo:** Agoniegebirge Baumann 473! **N. Nig.:** Sokoto (fl. Feb., fr. Mar.) Lely 845! Zaria Keay FHI 25724! Bauchi Plateau (fl. Feb., fr. May) Lely P. 173! Kennedy FHI 7233! **S. Nig.:** Lagos Colony Rowland!

Widespread in tropical Africa.

8. **Ochna rhizomatosa** (*Van Tiegh.*) *Keay* in Kew Bull. 1953: 82. *APD acc*

Ochnella rhizomatosa *Van Tiegh.* in Journ. de Bot. 16: 123 (1902); Ann. Sci. Nat. 8, 16: 345 (1902).

Ochnella tenuis *Van Tiegh.* l.c.

Ochna alba of Chev. Bot. 106, partly (Chev. 610; 24023; 24024), not *Ochnella alba* Van Tiegh.

Ochna multiflora of Chev. Bot. 106, not of DC.

Ochna hillii Hutch. in Kew Bull. 1921: 245; F.W.T.A., ed. 1, 1: 191.

Ochna schweinfurthiana of Aubrév. l.c. 77, partly.

A low shrub, to 4 ft. high; branchlets slender; usually leafless when in flower.

Fr. Sud.: Koba (Mar.) Chev. 610! Koumantou (Apr.) Chev. 721! **Fr. G.:** Sankaran (Mar.) Pobéguin 832! **G. C.:** Kulmasa, Bole (fr. Apr.) McLeod 842! **Dah.:** Mt. Atacora (June) Chev. 24023! 24024! **N. Nig.:** Barter 3431! Sokoto (Apr.) Ryan 25! 55! Zaria (fl. & fr. Feb.) Dalz. 380! Milne-Redhead 5035! Kontagora (Jan.) Dalz. 97! Jos (Mar.) Hill 2!

2. OURATEA

Aubl.—Gil in Engl. Bot. Jahrb. 33: 248 (1903).

Gomphia Schreb.—F.T.A. 1: 319.

- 1 Leaves sessile or subsessile, often very large, elongate-oblongate or elongate-obovate, gradually narrowed to a cordate or subcordate base (see Fig. 88, A), or if cuneate, then densely crowded at the top of the stem: **2**
 Leaves mostly distinctly petiolate and obtuse or cuneate, rarely rounded, at the base: **8**
- 2 Peduncle of inflorescence flattened, 15–30 cm. long below the first flower; inflorescences axillary; leaves up to about 60 cm. long and 16 cm. broad, crowded at the top of the stem: **3**
 Peduncle not flattened, less than 15 cm. long; inflorescence compound, or at least the pedicels in clusters on the main axis of the raceme: **4**
- 3 Peduncle and inflorescence axis continuous, unbranched, without leafy bracts; pedicels solitary, rarely clustered, articulated at the base; leaves cordate or sub-cordate at base, very shortly petiolate [1. *elongata*](#)
 Peduncle with 2–3 leafy bracts immediately below the 1–3 racemes; pedicels clustered, articulated 1–3 mm. from the base; leafy bracts 6–20 cm. long, 2–8 cm. broad, cordate or subcordate at base; leaves cuneate at base, sessile (see Fig. 89) [2. *subcordata*](#)
- 4 Inflorescence a dense raceme, usually unbranched, with clusters of flowers on the main axis: **5**
 Inflorescence a lax terminal panicle, with usually well-developed long lateral branches; leaves cordate and amplexicaul at base, sessile or nearly so: **7**
- 5 Flowers in short subcorymbose racemes, 3–4 cm. long, each raceme subtended by two leafy bracts at the top of a 2–4 cm. long woody peduncle; racemes axillary in the uppermost leaves; leafy bracts cordate or subcordate at base; leaves up to about 40 cm. long and 12 cm. broad, cuneate at base, very shortly petiolate [3. *duparquetiana*](#)
 Flowers in an oblong terminal raceme: **6**
- 6 Peduncle 7–15 cm. long, flowering axis 4–16 cm. long; pedicels densely clustered in groups of 5 or more, the clusters somewhat separated; buds obtuse; sepals in fruit 12–16 mm. long, 5–6 mm. broad, obtuse, fleshy, nervose; leaves up to about 55 cm. long and 15 cm. broad, cordate or subauriculate at base, subsessile [4. *mannii*](#)
 Peduncle 1–3 cm. long, flowering axis 5.5–6 cm. long; flowers dense, but pedicels in clusters of only 2 or 3; buds acute; sepals in fruit about 7 mm. long and 2 mm. broad, acute, chartaceous, not strongly nervose; leaves up to about 27 cm. long and 8 cm. broad (in only specimen seen), subcordate at base, subsessile [5. *oliveri*](#)
- 7 Sepals obtuse, 10–12 mm. long and 5–6 mm. broad in fruit, coriaceous; pedicels about 1 mm. diam.; leaving stout "pegs"; leaves up to 30 cm. long and 9 cm. broad [6. *amplectens*](#)
 Sepals acute, about 5 mm. long and 2 mm. broad in fruit, chartaceous; pedicels about 0.5 mm. diam., leaving slender, usually short "pegs"; leaves up to 25 cm. long and 7 cm. broad [7. *schoenleiniana*](#)
- 8 Lateral nerves of the leaves not very numerous, rather distant and quite distinct from the tertiary nerves (see Fig. 88, B): **9**
 Lateral nerves of the leaves very numerous and close, more or less parallel (see Fig. 88C): **27**
- 9 Flowers in pairs, axillary, or at leafless nodes, towards the end of the shoot but below the uppermost buds and leaves; leaves with long, stiff setae on the margin, acutely acuminate: **10**
 Flowers in terminal racemes or panicles, leaf-margins without stiff setae: **11**
- 10 Leaves 6–13 cm. long, 2–5 cm. broad [8. *morsonii*](#)
 Leaves 12–22 cm. long, 3.5–7.5 cm. broad [9. *axillaris*](#)
- 11 Inflorescence a laxly branched panicle; stipules and scale-like bracteoles caducous or persistent: **12**
 Inflorescence a simple raceme, rarely slightly branched at the base; stipules and bracteoles persistent: **23**
- 12 Leaves conspicuously and rather closely spinulose-serrate, lamina elongate-elliptic to oblong-oblongate, 10–30 cm. long, 2.5–10 cm. broad; stipules caducous; pedicels usually 3–6 together; sepals 5–8 mm. long [10. *flava*](#)
 Leaves subentire or serrulate, not spinulose; stipules caducous or persistent: **13**

- 13** Leaves very large, elongate-elliptic, 20–40 cm. long, 5–9 cm. broad, minutely denticulate in the upper half or two-thirds; stipules caducous; inflorescence widely paniculate, as long as or longer than the leaves [11. *calantha*](#)
 Leaves smaller, up to 20 cm. long, rarely more, stipules caducous or persistent:..... **14**
- 14** Flowers very small, probably not more than 5 mm. long; inflorescence branched from the base; pedicels very short, articulated at the base [12. *micrantha*](#)
 Flowers larger; pedicel 5–15 mm. long:..... **15**
- 15** Inflorescence ample, with long branches, exceeding the leaves, or if shorter then pedicels only 1–3 together; stipules caducous or persistent: **16**
 Inflorescence usually shorter than the leaves, pedicels usually 3 or more together; stipules and bracteoles broadly triangular, early caducous, leaving a conspicuous scar as wide as the stem or rhachis; leaves narrowly elliptic to broadly oblanceolate: **22**
- 16** Stipules persistent; inflorescence often with a cluster of scale-like bracteoles at the base: **17**
 Stipules early caducous: **21**
- 17** Stipules subulate or long-triangular, 2.5–8 mm. long, leaves acutely acuminate: **18**
 Stipules shortly triangular, about 1–1.5 mm. long, aristate; leaves acute, lateral nerves and midrib prominent above [17. *squamosa*](#)
- 18** Leaves abruptly acuminate, 8–23 cm. long, 4–8 cm. broad; inflorescence with long branches, pedicels 1–5 in isolated clusters: **19**
 Leaves gradually acuminate, oblong-elliptic, 8–18 cm. long, 2–6 cm. broad:..... **20**
- 19** Leaves obovate to obovate-elliptic, narrowed to a cuneate base; bracteoles at base of inflorescence numerous and up to 15 mm. long [13. *nigroviolacea*](#)
 Leaves oblong to obovate-oblong, broad and rounded or obtuse at the base; bracteole at base of inflorescence few and up to 5 mm. long [14. *macrobotrys*](#)
- 20** Leaves subcoriaceous, tertiary nerves distinct; inflorescence with long branches; pedicels 1–6 in isolated clusters [15. *turnerae*](#)
 Leaves membranous, tertiary nerves obscure; inflorescence with short lateral branches, lax; pedicels solitary or paired, not clustered, borne at right angles to the axis [16. *leroyana*](#)
- 21** Leaves thinly papery, narrowly oblong-lanceolate, long-cuneate at base, acutely pointed at apex, 6–15 cm. long, 1.5–3.5 cm. broad, midrib rounded and raised above [18. *reticulata*](#)
 Leaves coriaceous, oblong-lanceolate, cuneate to rounded at base, acute at apex, 7–22 cm. long, 3–7 cm. broad, midrib flattened and scarcely raised above [19. *latepaniculata*](#)
- 22** Leaves coriaceous, midrib flattened and only slightly prominent beneath, margin entire or subserrulate, 8–18 cm. long, 2–5.5 cm. broad, shining on both surfaces [20. *vogelii*](#)
 Leaves papery, midrib rounded and prominent beneath, margin serrulate, sometimes markedly so, 8–24 cm. long, 2–8 cm. broad, surfaces more or less matt [21. *monticola*](#)
- 23** Flowers lax; stipules and bracteoles triangular, 1–3 mm. long:..... **24**
 Flowers dense; stipules and bracteoles lanceolate, 3–8 mm. long:..... **25**
- 24** Leaves narrowly elliptic-lanceolate, acute at each end, 4–6 cm. long, 6–12 mm. broad [22. *dusenii*](#)
 Leaves broadly elliptic-lanceolate to elliptic, cuneate at base, acute to obtuse at apex, 7–17 cm. long, 2–5.5 cm. broad [23. *glaberrima*](#)
- 25** Peduncle less than 4 cm. long, much shorter than the leaves: **26**
 Peduncle 9–11 cm. long, about half as long as the leaves; leaves oblanceolate, cuneate at base, acutely acuminate, 12–26 cm. long, 3–7 cm. broad, lateral nerves 15–22 on each side of the midrib, equally prominent on each surface [26. *ambacensis*](#)
- 26** Lateral nerves 8–11 on each side of the midrib, slightly prominent above, but usually sunken in grooves of the lamina and thus appearing impressed; leaves obovate-elliptic, cuneate at base, acuminate at apex, 8–16 cm. long, 2–6 cm. broad [24. *sulcata*](#)
 Lateral nerves 12–20 on each side of the midrib, very prominent on the upper surface and not sunken in grooves of the lamina, impressed beneath; leaves narrowly elliptic, acute at each end, 9–20 cm. long, 2.5–6.5 cm. broad [25. *congesta*](#)
- 27** Leaves coriaceous, elongate-obovate, 10–20 cm. long, 4–8 cm. broad:..... **28**
 Leaves thin, lanceolate-elliptic, oblong-elliptic, or oblong, or slightly obovate; not more than 12 cm. long and 5 cm. broad:..... **30**
- 28** Pedicels articulated at the base or almost at the base; inflorescence much shorter than the leaves . [27. *calophylla*](#)
 Pedicels articulated well above the base:..... **29**

- 29** Inflorescence rather stout, nearly as long as the subtending leaf; pedicels not more than 1 cm. in fruit[28](#).
[calophylloides](#)
- Inflorescence very slender, longer than the subtending leaf; pedicels already over .1 cm. in flower[29](#).
[stenorrhachis](#)
- 30** Pedicels articulated at the base or almost at the base:..... **31**
Pedicels articulated well above the base; inflorescence long-pedunculate, several-flowered; leaves oblong to oblong-elliptic [34. myrioneura](#)
- 31** Petiole 5–6 mm. long; bracts at the base of the inflorescence caducous[30. staudtii](#)
Petiole very short, about 1–2 mm. long; bracts at the base of the inflorescence persistent: **32**
- 32** Pedicels 14–22 mm. long in flower; inflorescence 1–3-flowered, shortly pedunculate; leaves linear-lanceolate, gradually acuminate, 10–12 cm. long, up to 2.5 cm. broad [31. pauciflora](#)
Pedicels 15 mm. long or less in flower:..... **33**
- 33** Leaves linear-lanceolate, acute, but hardly acuminate, up to 8 cm. long and 2.5 cm. broad[32. acutissima](#)
Leaves oblanceolate-elliptic, rather abruptly acuminate, 7–10 cm. long, 3–3.5 cm. broad[33. affinis](#)

1. *Ouratea elongata* (Oliv.) Engl. Bot. Jahrb. 17: 80 (1893); Gilg in Engl. Bot. Jahrb. 33: 258 (1903).

APD: Synonym of Campylospermum elongatum (Oliv.) Tiegh.

Gomphia elongata Oliv. F.T.A. 1: 321 (1868).

Sparingly branched shrub or small tree, to 20 ft. high; inflorescence pendulous, peduncle and sepals green, petals bright yellow; fruiting calyx and carpels red.

S. Nig.: Omo F.R. (Feb.) Jones FHI 14735! Okomu F.R. (fl. Dec., fr. Feb.) Brenan 8425! 9177! Akure F.R. (fr. Oct.) Adekunle FHI 24225! Afi River F.R. (Dec.) Keay FHI 28194! Oban Talbot 423! 1371! **Br. Cam.:** Tiko (Jan.) Dunlap 92! S. Bakundu F.R. (fr. Mar.) Brenan 9271! Barombi (Jan., Apr.) Preuss 100; Staudt 555. **F. Po:** (Dec.) Mann 77!

Also in **Ubangi, French Cameroons, Gabon** and **Belgian Congo**.

2. *Ouratea subcordata* (Stapf) Engl. Pflanzenw. Afr. 3, 2: 489 (1921); Hutch. & Dalz. in Kew Bull. 1928; 217; Aubrév. Fl. For. C. Iv. 2: 278.

APD: Synonym of Campylospermum subcordatum (Stapf) Farron

Gomphia subcordata Stapf in Johnston Lib. 585, t. 247 (1906).

Ouratea mannii of Chev. Bot. 108, not of Engl.

Unbranched, or sparingly branched, shrub 3–8 ft. high; inflorescence pendulous, consisting of a long flattened peduncle bearing at the top 2–3 leafy bracts which subtend the racemes which apparently arise successively from the same peduncle; petals bright yellow, sepals and inflorescence axis red in fruit, carpels dark purple.

S. L.: Laoma (Nov.) Smythe 11! Kenema (Oct.) Deighton 5205! Lalahun, Gaura (fr. Dec.) King 87b! **Lib.:** Kakatown Whyte! Dukwia R. (fl. Oct., Nov., fr. Feb.) Cooper 30! 166! Begwai (Sept.) Bunting 134! Gbanga (Sept.) Linder 614! Ganta (fr. Feb.) Baldwin 11024! Karmadhun, Kolahun (Nov.) Baldwin 10224! Tawata, Boporo (fr. Nov.) Baldwin 10293! **Iv. C.:** Mid. Sassandra to Mid. Cavally (June) Chev. 19209! Azaguie (Sept.) Chev. 22278! Yapo (Dec.) Aubrév. 602!

3. *Ouratea duparquetiana* (Baill.) Gilg in Engl. Bot. Jahrb. 33: 258 (1903).

APD: Synonym of Campylospermum duparquetianum (Baill.) Tiegh.

Gomphia duparquetiana Baill. (1868).

Ouratea corymbosa Engl. Bot. Jahrb. 17: 80 (1893); Chev. Bot. 107.

Ouratea cameronii Hutch. & Dalz. F.W.T.A., ed. 1, 1: 193 (1927); Kew Bull. 1928: 217.

Shrub, 2–7 ft. high; flowers yellow-red.

Lib.: Zwedru, Tchien (Aug.) Baldwin 7008! Diebla, Webo (July) Baldwin 6292! Jabroke, Webo (July) Baldwin 6493! **Iv. C.:** Guidéko (May) Chev. 16364! 16441! Attié (Feb.) Chev. 17411! Soubéré (Mar.) Chev. 17795! Mid. Sassandra to Mid. Cavally (July) Chev. 19229! **G. C.:** Axim Burton & Cameron! Bawdia (Dec.) Vigne 3154!

Also in **Gabon**.

4. **Ouratea mannii** (Oliv.) Engl. Bot. Jahrb. 17: 80 (1893); Gilg in Engl. Bot. Jahrb. 33: 258 (excl. var. brachypoda).

APD: *Synonym of Campylospermum mannii* (Oliv.) Tiegh.

Gomphia mannii Oliv. F.T.A. 1: 321 (excl. var. brachypoda).

Erect shrub, to 10 ft. high; flowers yellow.

S. Nig.: Oban Talbot 1745! Aboabam, Ikom (Dec.) Keay FHI 28229! **Br. Cam.:** Kumba Div. (Feb., Mar.) Jeme FHI 1957! Lobe FHI 14090! Ejiofor FHI 14077! **F. Po:** (Dec.) Mann 24!

5. **Ouratea oliveri** (Van Tiegh.) Keay in Kew Bull. 1953: 81.

APD: *Synonym of Campylospermum oliveri* (Tiegh.) Farron

Notocampylum oliveri Van Tiegh. in Ann. Sci. Nat. 16: 311 (1902).

Gomphia mannii var. **brachypoda** Oliv. F.T.A. 1: 321 (1868).

Ouratea mannii var. **brachypoda** (Oliv.) Gilg l.c. 33: 258 (1903).

Shrub, 3–4 ft. high; flowers yellow; in marshy situations.

S. Nig.: Calabar Thomson 15! **Br. Cam.:** Tinto (fr. May) Conrau 109.

6. **Ouratea amplexens** (Stapf) Engl. Pflanzenw. Afr. 3, 2: 488 (1921); Hutch. & Dalz. in Kew Bull. 1928: 217.

APD: *Synonym of Campylospermum amplexens* (Stapf) Farron

Gomphia amplexens Stapf in Johnston Lib. 585 (1906).

Tree to 20 ft. high, petals yellow, fruiting sepals deep red.

Lib.: Kakatown Whyte! Dukwia R. (fl. Oct., fr. Feb.) Cooper 84! 155! Tawata, Boporo (Nov.) Baldwin 10304! Begwai (Sept.) Bunting 107! Cape Mount (fr. Dec.) Dinklage 2948! **G. C.:** Abiabo, Axim (fl. & fr. Nov.) Vigne 1429! Simpa (fr. Feb.) Vigne 3226!

7. **Ouratea schoenleiniana** (Klotzsch) Gilg in Engl. Bot. Jahrb. 33: 264 (1903); Chev. Bot. 108; Aubrév. l.c. 2: 278.

Gomphia schoenleiniana Klotzsch in Schoenl. Nachl. 238, t. 4 (1857).

A shrub, up to 12 ft. high.

Fr. G.: Farana (Jan.) Chev. 20614! **S. L.:** Bumbuna (Oct.) Thomas 3118! 3817! Mabonto (Oct.) Thomas 3494! **Lib.:** Cape Palmas Schoenlein. Kakatown Whyte! Vonjama (Oct.) Baldwin 9918! Boporo Dist. (fr. Dec.) Baldwin 10285! 10702! Farmington R. (Dec.) Bequaert 5! St. Paul R. (Oct.) Linder 1009! Gbau, Sanokwele (Sept.) Baldwin 9418! Monrovia (Aug., Sept.) Dinklage 2869! Baldwin 8005! **Iv. C.:** Man (Mar.) Aubrév. 1057! Grabo (July) Chev. 19628! San Pedro (fl. Sept., fr. Nov.) Thoiré 63! 101! **G. C.:** Axim (Feb.) Irvine 2209! Subiri F.R. (Sept.) Andoh FH 5573!

8. **Ouratea morsonii** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 193 (1927); Kew Bull. 1928: 217.

APD: *Synonym of Idertia morsonii* (Hutch. & Dalziel) Farron

Gomphia axillaris Oliv. F.T.A. 1: 322, partly.

Shrub, to 20 ft. high, in forest; sepals red in fruit; carpels black.

S. L.: Morson! **Lib.:** Ganta Harley 1183! **Iv. C.:** Man (Mar.) Aubrév. 1088! Danané (fr. Mar.) Aubrév. 1114! Guldéko (fr. May) Chev. 16383!

9. **Ouratea axillaris** (Oliv.) Engl. Bot. Jahrb. 17: 79 (1893).

APD: *Synonym of Idertia axillaris* (Oliv.) Farron

Gomphia axillaris Oliv. F.T.A. 1: 322 (1868), partly.

Shrub, to 12 ft. high; in forest.

Br. Cam.: S. Bakundu F.R. (fr. Apr.) Olorunfemi FHI 30519!

Also in **Gabon**.

10. Ouratea flava (*Schum. & Thonn.*) *Hutch. & Dalz. ex Stapf* in Bot. Mag. t. 9023 (1924).

APD: Synonym of Campylospermum flavum (Schumach. & Thonn.) Farron

Gomphia flava *Schum. & Thonn.* (1827).

G. reticulata of F.T.A. 1: 320, partly.

Monelasmum acutum of Van Tiegh. in Ann. Sci. Nat. 16: 331–333 (1902).

M. viride of Van Tiegh. in Ann. Sci. Nat. 16: 331–333 (1902).

M. thoiriei of Van Tiegh. in Ann. Sci. Nat. 16: 331–333 (1902).

M. Chevalieri of Van Tiegh. in Ann. Sci. Nat. 16: 331–333 (1902).

M. pungens of Van Tiegh. in Ann. Sci. Nat. 16: 331–333 (1902).

Ouratea spinuloso-serrata *Gilg* in Engl. Bot. Jahrb. 33: 265 (1903); Chev. Bot. 109.

Ouratea ashantiensis *De Wild.* Pl. Bequaert. 4: 441 (1928).

Ouratea newiensis *De Wild.* l.c. 501 (1929).

Ouratea talbotii *De Wild.* l.c. 514 (1929).

Shrub or straggling tree, to 15 ft. high, petals yellow; sepals orange or red in fruit, carpels black when ripe.

Fr. Sud.: Diaragonéa (Feb.) Chev. 471! **Fr. G.:** Farmar 227! Labaya Paroisse 79! Kouroussa Pobéguin! Koulikoro (Feb.) Chev. 20650! **S. L.:** Whitfield! Njala (Jan.) Deighton 494! Magbile (Dec.) Thomas 6085! **Lib.:** Gola Forest (fr. Apr.) Bunting! Webo Dist. (fl. & fr. June, July) Baldwin 6036! 6335! Kakatown Whyte! Du R. (July) Linder 100! Bolahun (Feb.) Bequaert 60! **iv. C.:** Zegbe Pobéguin 36! San Pedro Thoiré 204! Abijan Aubrév. 201! **G. C.:** Hb. Vahl! Farmar 388! Cape Coast Brass! Aburi Hills (fr. Nov.) Johnson 450! Obuasi (Apr.–June) King-Church 870! Andoh FH 4211! Akumadi (Apr.) Kitson! **Togo:** Misahöhe (Nov.) Mildbr. 7389! Amedzofwe (Feb.) Irvine 166! **Dah.:** Adja Ouére (Dec.) Le Testu 253! Porto Novo (Feb.) Chev. 22912. **N. Nig.:** Abinsi (Apr.) Dalz. 781! **S. Nig.:** Lagos Rowland! Millen 200! Ibadan (Dec., Jan.) Schlechter 13022! Meikle 907! 978! Idanre (Jan.) Brenan & Keay 8656! Sapoba Kennedy 2066! Dundas FHI 27241! Newi (Jan.) Kitson! Oban Talbot Calabar (Mar.) Holland 91! Thomson 50! **Br. Cam.:** Buea (Jan.) Maitland 298! Bali to Bamoa (Feb.) Migeod 501! **F. Po:** T. Vogel 223! Mann 271!

Also in **French Cameroons** and **Ubangi**.

11. Ouratea calantha *Gilg* l.c. 259 (1903).

APD: Synonym of Campylospermum calanthum (Gilg) Farron

Ouratea vogelii of F.T.A. 1: 321, partly.

Monelasmum zenkeri *Van Tiegh.*, not *Ouratea zenkeri*, Engl.

Shrub, to 20 ft. high; petals yellow; sepals yellow at first, then brilliant red and fleshy in fruit; in swamp forest by rivers.

S. Nig.: Okomu F.R. (Feb.) Brenan 9187! Sapoba (fl. June, fr. Nov.) Kennedy 2823! Meikle & Keay 550! Asaba Leslie 31! Brass Barter 1832!

Also in **French Cameroons**.

12. Ouratea micrantha (*Hook. f.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 198 (1927). *APD acc*

Gomphia micrantha *Hook. f.* in J. Linn. Soc. 6: 8 (1862).

G. reticulata var. **micrantha** (*Hook. f.*) *Oliv.* F.T.A. 1: 321.

A shrub 15 ft. high.

F. Po: Clarence Peak, 5,000 ft. (Nov.) Mann 508!

13. Ouratea nigroviolacea *Gilg ex De. Wild.* Pl. Bequaert. 4: 503 (1929).

APD: Synonym of Campylospermum calanthum (Gilg) Farron

Slender shrub or small tree, to 16 ft. high; inflorescences pendulous, petals bright yellow.

S. Nig.: Okomu F.R. (Feb.) Brenan 9025! Oban Talbot 1282! Afi River F.R. (Dec.) Keay FHI 28181! Eket Talbot! **Br. Cam.:** S. Bakundu F.R. (Mar., Apr.) Brenan 9303! Ejiofor FHI 29339!

Also in **French Camerouns** and **Angola**.

14. Ouratea macrobotrys Gilg l.c. 268 (1903).

APD: Synonym of Campylospermum laxiflorum (De Wild. & T. Durand) Tiegh.

Monelasmum sulcatum Van Tiegh. l.c. 334 (1902).

Br. Cam.: Abonando, Mamfe (Mar.) Rudatis 8! Babali Rudatis 32. Ndeche, Widekum (Apr.) Lobe Babute 33/38!

Also in **French Camerouns** and **Gabon**.

15. Ouratea turnerae (Hook. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 193 (1927); Kew Bull. 1928: 217.

APD: Synonym of Campylospermum reticulatum var. turnerae (Hook. f.) Farron

Gomphia turnerae Hook. f.—F.T.A. 1: 321, as var. of *G. reticulata*.

Ouratea excavata of Chev. Bot. 108, partly, not *Exomicrum excavatum* Van Tiegh.

Tree or shrub to 20 ft.

Fr. G.: Benty (June) Jac.-Fel. 1710! Los Isl. (Feb.) Chev. 12092! **S. L.:** Turner! T. Vogel! 104! 134! Leicester Peak (Dec.) Sc. Elliot 3834! Freetown (Feb.) Jones FHI 12225! Mamaha (Nov.) Thomas 4573! Njala (July-Sept.) Deighton 5558! 5568! 5592! **Lib.:** Duport (Nov.) Linder 1486! 1500! Monrovia (Feb., June) Dinklage 2969! Baldwin 5901! Truo (Mar.) Baldwin 11389! **Iv. C.:** Obiosso (Mar.) Chev. 17763! **G. C.:** Atabuka (Nov.) McAinsh 16!

16. Ouratea leroyana (Van Tiegh.) Keay in Kew Bull. 1953: 81. *APD acc*

Monelasmum leroyanum Van Tiegh. in Ann. Sci. Nat. 16: 330 (1902).

Slender shrub or small tree to 6 ft. high.

S. Nig.: Okomu F.R. (Jan.–Mar.) Richards 3265! Brenan 8921! 8994! 9094! Usonigbe F.R. (fr. Oct.) Ujor FHI 15286! Oban Talbot 421! Calabar Thomson 95!

Also in **French Camerouns**, **Gabon** and **French Congo**.

17. Ouratea squamosa (DC.) Engl. in Mart. Fl. Bras. 12, 2: 318 (1876); Chev. Bot. 109.

APD: Synonym of Campylospermum squamosum (DC.) Farron

Gomphia squamosa DC. in Ann. Mus. Paris 17: 418 (1818).

Monelasmum heudelotii of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. djallonense of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. discolor of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. persistens of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. paroissei of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. flexuosum of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. maclaudii of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. konakrense of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

M. spiciforme of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

Exomicrum djallonense of Van Tiegh. in Ann. Sci. Nat. 16: 329–340 (1902).

Ouratea spiciformis (Van Tiegh.) A. Chev. Bot. 109.

Ouratea vogelii of F.W.T.A., ed. 1, 1: 191, partly.

Ouratea reticulata of F.W.T.A., ed. 1, 1: 191, partly, not of (P. Beauv.) Engl.

Straggling shrub or small tree; flowers bright yellow; leaves variable in shape.

Fr. Sud.: Monqueniéba (Mar.) Chev. 551! Dinguiray Vuillet! **Port. G.:** Bissau (fl. & fr. Mar.) Esp. Santo 1900! **Fr. G.:** Paroisse 149! Conakry (Mar.) Debeaux 309! Maclaud! Bogoutigny Paroisse 43! Fouta Djalon Heudelot 745! 945! Paroisse 211! Kouroussa (Mar.) Pobéguin 827! Mamou (Jan.) Chev. 20366! Kouria Chev. 18196! **S. L.:** Smeathmann! Morson! T. Vogel 86! Barter! Sherbro Sc. Elliot 5811! Regent (Dec.) Sc. Elliot 4010! Freetown (Mar.) Deighton 2970! Bintumane Peak, 4,200 ft. (Jan.) T. S. Jones 118! **Lib.:** Monrovia (Feb.) Whyte! Baldwin 11086! Ganta (May) Harley! Mt. Wolagwisi, Pandamai (Mar.) Bequaert 107! Dukwia R. (Feb., Aug.) Cooper 182! Linder 285! **Iv. C.:** Petit Lahon (Jan.) Pobéguin 28! Mt. Tonkui (Mar.) Aubrév. 107!

18. Ouratea reticulata (P. Beauv.) Engl. Bot. Jahrb. 17: 79 (1893); Gilg l.c. 266, partly.

APD: Synonym of Campylospermum reticulatum (P. Beauv.) Farron var. reticulatum

Gomphia reticulata P. Beauv. Fl. Oware 2: 22, t. 72; F.T.A. 1: 320, partly.

Monelasmum elegans Van Tiegh. in Ann. Sci. Nat. 16: 329 (1902).

Ouratea elegans (Van Tiegh.) A. Chev. Bot. 108, partly (excl. spec.).

Ochna elegans (Van Tiegh.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 190, partly (excl. spec. & descr.).

Shrub; flowers yellow.

Fr. G.: Macenta (Mar.) Adam 4166! **Lib.:** Bobei Mt., Sanokwele (Sept.) Baldwin 9584! **iv. C.:** Banco Martineau 236! Abidjan Aubrév. 22! **G. C.:** Bonsadu (May) Vigne 1980! Pompo Headwater F.R. (fr. May) Jackson 2251! Subiri F.R., Benso (Sept.) Andoh FH 5574! **S. Nig.:** Oware Beauvois! Oban Talbot! **Br. Cam.:** Victoria (Mar.) Kalbreyer 97!

Also in **Gabon**.

19. **Ouratea latepaniculata** De Wild. Rev. Zoolog. Afric. 7, Suppl. Bot. 56 (1920); Pl. Bequaert. 4: 483 (1929).

APD: Synonym of Campylospermum dybowskii Tiegh.

Br. Cam.: Kumba (fr. Apr.) Hutch. & Metcalfe 151!

Also in **Belgian Congo**.

20. **Ouratea vogelii** (Hook. f.) Engl. ex Gilg in E. & P. Pflanzenfam. 3, 6: 141 (1893); Gilg l.c. 271.

APD: Synonym of Campylospermum vogelii (Hook. f.) Farron var. vogelii

Gomphia vogelii Hook. f.—F.T.A. 1: 321, partly.

Monelasmum pobéguinii Van Tiegh. in Ann. Sci. Nat. 8, 16: 331 (1902).

Ouratea pobeguini (Van Tiegh.) A. Chev. Bot. 108, partly (excl. spec.).

M. jollyanum Van Tiegh. in Ann. Sci. Nat. 9, 5: 168 (1907).

Shrub, to 8 ft. high.

Fr. G.: Fouta Djallon Heudelot 745 (partly)! **S. L.:** S. Prov. (Mar.) Dawe 443! Yoni, Bonthe Isl. (Mar.) Deighton 2473! **Lib.:** Grand Bassa (July) T. Vogel 53! Sinoe Basin Whyte! **iv. C.:** Jolly! Aubrév. 1350! Grand Lahon (Nov.) Pobéguin 14! Mt. Nimba (Mar.) Aubrév. 1140! **G. C.:** Burton & Cameron! Adamoa (Apr.) Beveridge 4197!

21. **Ouratea monticola** Gilg in Engl. Bot. Jahrb. 33: 272 (1903).

APD: Synonym of Campylospermum monticolum (Gilg) Cheek

Monelasmum nanense Van Tiegh. in Ann. Sci. Nat. 9, 5: 168 (1907).

Small tree, to 30 ft. high; panicles rigid, not drooping; sepals, petals and ovary yellow.

S. Nig.: Mt. Koloishe, Obudu, 4,000–4,800 ft. (Dec.) Keay & Savory FHI 25058! 25279! **Br. Cam.:** Buea (Dec.–Feb.) Preuss 760; 829; Deistel 283! S. Bakundu F.R. (Mar., Apr.) Brenan 9440! Olorunfemi FHI 30501!

Also in **Ubangi-Shari**.

22. **Ouratea dusenii** Gilg l.c. 260 (1903).

APD: Synonym of Campylospermum glomeratum (Tiegh.) Bissiengou

Erect leafy shrub, on rocks in rivers.

Br. Cam.: R. Ndian, Kumba (Mar.) Smith 79/36!

23. **Ouratea glaberrima** (P. Beauv.) Engl. ex Gilg in E. & P. Pflanzenfam. 3, 6: 142 (1893); Gilg l.c. 263.

APD: Synonym of Campylospermum glaberrimum (P. Beauv.) Farron

Gomphia glaberrima P. Beauv. Fl. Oware 2: 22 t. 71; F.T.A. 1: 322.

Notocampylum decrescens of Van Tiegh. in Ann. Sci. Nat. 8, 16: 312 (1902).

N. Chevalieri of Van Tiegh. in Ann. Sci. Nat. 8, 16: 312 (1902).

N. nigricans of Van Tiegh. in Ann. Sci. Nat. 8, 16; 312 (1902).

Ouratea decrescens (Van Tiegh.) A. Chev. Bot. 107.

Monelasmum glaucum Van Tiegh. l.c. 332.

Ouratea insculpta Gilg l.c. 263.

Ouratea kitsoni De Wild. l.c. 479.

Ouratea reticulata of F.W.T.A., ed. 1, 1: 193, partly.

Erect shrub or small tree; in forest by streams.

Fr. Sud.: Fincolo (Apr.) Chev. 770! Soukouraba (May) Chev. 880! 881! **S. L.:** Makumni (June) Thomas 509! Bunduna (Jan.) Deighton 3600! **Lib.:** Loffa R., Jenne (Jan.) Bequaert 30! Mano R., Gola Forest (Dec.) Baldwin 10695! **Iv. C.:** Farnar! Grand Lahon (Dec.) Pobéguin 227! **G. C.:** Kintampo (Mar.) Dalz. 43! Tano R. (Dec.) Brent 36! **Togo:** Sokode (Mar.) Schröder 23. **Dah.:** Poisson! **N. Nig.:** Allowa, Zaria Prov. (Feb.) Dalz. 428! R. Niger, Jemata (Dec.) Elliott 221! Gudi (Mar.) Thornehill 45! Idda Barter 1642! **S. Nig.:** Lagos Barter 2205! Rowland! Foster 22! 50! 87! Dalz. 1035! Eba Isl. (Mar.) Ross 101! Olokemeji (Nov.) Tamajong FHI 14340! Oware Beauvois! Okomu F.R. (Feb.) Brenan 9186! Nzam, Onitsha (Feb.) Jones FHI 527! Amaika, Engiba Kitson!

[The specimens cited above from Sierra Leone and Liberia may perhaps be found to represent a distinct species.]

24. **Ouratea sulcata** (Van Tiegh.) Keay in Kew Bull. 1953: 81.

APD: Synonym of Campylospermum sulcatum (Tiegh.) Farron

Exomicrum sulcatum Van Tiegh. in Ann. Sci. Nat. 8, 16: 340 (1902).

Ouratea oliveriana Gilg l.c. 261 (1903).

Ouratea pobeguini of Chev. Bot. 108, partly; Exell & Mendonca in Consp. Fl. Angol. 1: 296 (1951), partly, not *Monelasmum pobeguini* Van Tiegh.

Erect shrub or small tree to 10 ft. high.

Iv. C.: Guidéko (June) Chev. 19059! **G. C.:** Pra Assum F.R. (Mar.) Andoh FH 4838! Ofin Headwaters (Apr.) Vigne 1911! **S. Nig.:** Shasha F.R. (Feb.–Apr.) Ross 57! 238! Richards 3210! 3330! Okomu F.R. (Dec.) Brenan 8612! Sapoba Kennedy 172a! Asaba (Mar.) Irvine 3610! Cross R. Johnston 1 Oban Talbot 1746! **Br. Cam.:** Rio del Rey Johnston! Johann-Albrechtshöhe (Apr.) Staudt 606! S. Bakundu F.R. (Mar.) Brenan 9268!

Also in **French Cameroons** and **Cabinda**.

25. **Ouratea congesta** (Oliv.) Engl. ex Gilg in E. & P. Pflanzenfam. 3, 6: 142 (1893); Gilg l.c. 261.

APD: Synonym of Campylospermum congestum (Oliv.) Farron

Gomphia congesta Oliv. F.T.A. 1: 322 (1868), partly.

Forest shrub, to 6 ft. high; inflorescence erect.

S. L.: Hb. Brown! Lane-Poole 177! Kenema (Jan.) Thomas 7730! Gorahun (Nov.) Deighton 453! Bobobu, Giewahun (Dec.) Deighton 3812! **Lib.:** Kakatown Whyte! Dukwia R. (Feb.) Cooper 162! Gbanga (Sept.) Linder 624! Nikabuzu to Zigida (Mar.) Bequaert 122! **G. C.:** Tano R., Datano (Sept.) Chipp 384!

26. **Ouratea ambacensis** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 193 (1927); Kew Bull. 1928: 218.

APD: Synonym of Campylospermum zenkeri (Engl. ex Tiegh.) Farron

Exomicrum oliveri Van Tiegh. in Ann. Sci. Nat. 8, 16: 338 (1902).

Gomphia congesta Oliv. F.T.A. 1: 322, partly.

Br. Cam.: Ambas Bay (Feb.) Mann 12! Tiko (Jan.) Dunlap 171! Victoria Preuss 1193. Likomba (Oct.) Mildbr. 10520!

27. **Ouratea calophylla** (Hook. f.) Engl. Bot. Jahrb. 17: 79 (1893); Gilg l.c. 257.

APD: Synonym of Rhabdophyllum calophyllum (Hook. f.) Tiegh.

Gomphia calophylla Hook. f. in Fl. Nigrit. 274, partly; F.T.A. 1: 320, partly.

Rhabdophyllum preussii Van Tiegh. l.c. 322 (1902).

A glabrous shrub or small tree, up to 50 ft. high, with coriaceous leaves.

S. L.: Don! **Lib.:** Dukwia R. (Feb.) Cooper 184! 243! Monrovia (fr. Feb.) Baldwin 11066! **G. C.:** Anibll Andoh FH 3248! Axim (fr. Feb.) Irvine 2212! **S. Nig.:** Ikom Catterall 17! Bendiga Ayuk, Ikom (fr. Dec.) Keay FHI 28168! Oban Talbot! **Br. Cam.:** Barombi Preuss 462! 1255! Masaka to Mufako, Kumba (fr. June) Olorunfemi FHI 30635!

Also in **French Cameroons**.

28. **Ouratea calophylloides** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 193 (1927); Kew Bull. 1928: 218. *APD acc*

Gomphia calophylla *Hook. f.* in Fl. Nigrit. 274, partly (Fernando Po spec.).

Like the preceding.

F. Po: (Nov.) T. Vogel 104!

29. **Ouratea stenorrhachis** *Gilg* l.c. 254 (1903).

APD: Synonym of Rhabdophyllum affine (Hook. f.) Tiegh.

A glabrous shrub or tree with brown branches.

Br. Cam.: Bangwe (June) Conrau 194.

30. **Ouratea staudtii** (*Van Tiegh.*) *Keay* in Kew Bull. 1953: 82.

APD: Synonym of Rhabdophyllum arnoldianum var. staudtii (Tiegh.) Farron

Rhabdophyllum staudtii *Van Tiegh.* l.c. 322 (1902).

Rhabdophyllum barteri *Van Tiegh.* l.c. 322 (1902).

Ouratea barteri *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 193 (1927).

Gomphia affinis of F.T.A. 1: 320, partly.

Riverside shrub, to 12 ft. high; sepals and petals greenish-yellow, turning pink.

S. Nig.: Eba Isl. (Jan.) Thornewill 258! Sapoba (fl. & fr. Nov.) Kennedy 2264! A. F. Ross 229! Keay FHI 28072! Brass Barter 13! 1876!

Also in **French Cameroons**.

31. **Ouratea pauciflora** *Gilg* in Engl. Bot. Jahrb. 33: 256 (1903).

APD: Synonym of Rhabdophyllum affine (Hook. f.) Tiegh.

Rhabdophyllum pauciflorum *Van Tiegh.* l.c. 324 (1902).

Shrub or small tree.

S. Nig.: Okomu F.R. (Feb.) Brenan 9050! Sapoba Kennedy 1590! **Br. Cam.:** Likomba (Oct.–Dec.) Mildbr. 10532! 10597! 10742! Johann-Albrechtshöhe (Jan.) Staudt. 567!

32. **Ouratea acutissima** *Gilg* l.c. 255 (1903).

APD: Synonym of Rhabdophyllum affine (Hook. f.) Tiegh.

A shrub or tree.

S. L.: Afzelius. R. Scarcies Sc. Elliot 5916! Batkanu (Feb., Apr.) Thomas 24! 52! Glanville 171!

33. **Ouratea affinis** (*Hook. f.*) *Engl.* Bot. Jahrb. 17: 79 (1893); *Gilg* l.c. 257; *Chev.* Bot. 107.

APD: Synonym of Rhabdophyllum affine (Hook. f.) Tiegh. subsp. affine

Gomphia affinis *Hook. f.* in Fl. Nigrit. 274; F.T.A. 1: 320, partly.

A shrub, 12–15 ft.

Iv. C.: fide Chev. l.c. **G. C.:** Ancobra R. (Mar.) Irvine 2385! **S. Nig.:** Jones FHI 7406! R. Ogun, Abeokuta (Jan.) Burt B. 12! **F. Po:** (Jan.) Mann 171! Clarence (Oct.) T. Vogel 29!

34. *Ouratea myrioneura* Gilg l.c. 256 (1903).

APD: Synonym of *Rhabdophyllum affine* (Hook. f.) Tiegh.

A small tree with dark-green leaves.

S. L.: T. Vogel 134! **Lib.:** Dukwia R. Cooper! **G. C.:** Kumasi Cummins 224! Axim (Feb.) Irvine 2167! Anaji (Feb.) Williams 33! **N. Nig.:** Idah Barter! **S. Nig.:** Lagos Dodd 422! Ibadan (fr. Feb., Apr.) Brenan & Keay 8980! Meikle 1426! R. Osse, Iguoriakhi (fr. Jan.) Brenan 8926! Awka Thomas 909! Agulu Thomas 168! Umuahia Oseni FHI 8305! **Br. Cam.:** Fonfuka, Bamenda (fr. May) Maitland 1364!

Also in **French Cameroons**.

1. *Ouratea* sp. A (Sect. *Reticulatae*)

S. Nig.: Sapoba Kennedy 886!

Imperfectly known species.

2. *Ouratea* sp. B (Sect. *Calophyllae*)

S. Nig.: Oban Talbot!

Imperfectly known species.

3. *Ouratea* sp. C (Sect. *Calophyllae*)

Br. Cam.: Victoria (Apr.) Brenan 9589!

Imperfectly known species.

4. *Rhabdophyllum nutans* Van Tiegh. in Ann. Sci. Nat. 8, 16: 322 (1903).

Br. Cam.: Barombi Preuss 296.

Imperfectly known species.

3. LOPHIRA

Banks ex Gaertn. f.—F.T.A. 1: 173, under Dipterocarpaceae.

- 1 Savannah tree; crown leaves narrowly oblong or oblanceolate, 4–7 times as long as broad; petiole 1.5–6.5 cm. long; leaves of coppice, saplings and regrowth shoots narrowly oblong or oblanceolate, always distinctly petiolate *l. lanceolata*.

Rain forest tree; crown leaves oblong-obovate, 2–4 times as long as broad; petiole 0.5–2.5 cm. long; leaves of coppice, saplings and regrowth shoots broadly oblanceolate, sessile or subsessile *2. alata*

1. *Lophira lanceolata* Van Tiegh. ex Keay in Kew Bull. 1953: 488 (1954); Van Tiegh. in Journ. de Bot. 15: 187 (1901), provisional name only. *APD acc*

Lophira spatulata Van Tiegh. l.c. (1901), partly (Barter 1167), provisional name only.

Lophira africana of G. Don Gen. Syst. 1: 814 (1831), partly (descr. only).

Lophira alata of F.T.A. 1: 173, partly; Chev. Bot. 56; F.W.T.A., ed. 1, 1: 195, partly; Chalk and Burtt Davy For. Trees and Timbers Brit. Emp. 2: 76; Aubrév. Fl. For. C.Iv. 2: 269; Fl. For. Soud.-Guin. 80, t. 13; not of Banks ex Gaertn. f.

Savannah tree, to 40 ft. high; usually with gnarled trunk; petals white.

Sen.: Casamance Chev. 2729! **Gam.:** Albreda (Mar.) Perrottet 99! Kombo Prov. Dawe 1! McCarthy Isl. (Jan.) Dalz. 8030! **Fr. Sud.:** Keniegué (fr. Jan.) Chev. 275! **Port. G.:** Brene, Bissau (Jan.) Esp. Santo 1718! **Fr. G.:** Pobéguin 132! Rio Nunez Heudelot! Kebali Maclaud 443! **S. L.:** Afzelius! Don! Surinnia (Apr.) Sc. Elliot 4644! Likuru (Feb.) Sc. Elliot 4973! Mabang (Feb.) Lane-Poole 21! Fintonia (Feb.) Deighton 5315! **iv. C.:** Dyolas Chev. 21443. **G. C.:** Dukwesein (Dec.) Chipp 602! Ejura (fr. Aug.) Chipp 747! 763! **Togo:** Baumann 358! Kete-Krachi Vigne 1533. **Dah.:** Poisson! Le Testu 273! **N. Nig.:** Nupe Barter 1167! Kontagora (Jan.) Dalz. 66! Anara F.R. (Oct.) Keay FHI 21112! Bauchi Plateau (fl. Jan., fr. June) Lely P. 6! Kennedy FHI 7253! **S. Nig.:** Olokemeji (Dec.) A. F. Ross 34! Awba Hills (Dec.) Jones & Keay FHI 4894!

Also in **French Cameroons**, **Ubangi-Shari**, **A.–E. Sudan** and **Uganda**.

2. *Lophira alata* Banks ex Gaertn. f. in Gaertn. Fruct. 3: 52, t. 188 (1805); F.T.A. 1: 173, partly; F.W.T.A., ed. 1, 1: 195, partly. *APD acc*

Lophira africana Banks ex G. Don in Loud. Hort. Brit. 200 (1830), illegitimate name; G. Don Gen. Syst. 1: 814 (1831), excl. descr.; L. simplex G. Don. l.c. (1831).

Lophira barteri of Van Tiegh. l.c. 186–7 (1901).

Lophira macrophylla of Van Tiegh. l.c. 186–7 (1901).

Lophira tholloni of Van Tiegh. l.c. 186–7 (1901).

Lophira spatulata (partly, Mann 708) of Van Tiegh. l.c. 186–7 (1901).

Lophira procera A. Chev. Vég. Util. 5: 154 (1909); Chev. Bot. 56; Aubrév. Fl. For. C. Iv. 2: 272, t. 223.

Lophira alata var. *procera* (A. Chev.) Burt Davy in Chalk & Burt Davy l.c. 2: 78, t. 16 (1933).

Large rain forest tree, to 180 ft. high and 20 ft. girth; petals white.

S. L.: Smeathmann! Waterloo Smythe 103! **Lib.:** Gola Forest Baldwin 10746! R. Loffa, Boporo Baldwin 10673a! Dukwia R. Cooper 79! **Iv. C.:** Yapo Chev. 22323! Bouroukrou Chev. 16120. **G. C.:** Ancobra R. (Dec.) Johnson 924! Popokyere, Tarquah Chipp 196! **S. Nig.:** Lagos Colony (Feb.) Punch! Omo F.R. Jones FHI 17421! Brass Barter 35! 2085! Oban Talbot 1301! **Br. Cam.:** Ambas Bay (Jan.) Mann 708! Victoria (Dec.) Maitland 793! Likomba (Nov.) Mildbr. 10711!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

4. FLEURYDORA

A. Chev. in Bull. Mus. Hist. Nat. 5: 158 (1933). *APD acc*

- 1 Stem and leaves glabrous; leaves clustered at the extremities of the branches, obovate, cuneate at base, retuse at apex, 5–12 cm. long, 3–7 cm. broad, entire, with very numerous, parallel, secondary nerves; panicles 15–30 cm. long, terminal; pedicels 10–12 mm. long; sepals 5, ovate, 10–12 mm. long, caducous after flowering; petals obovate, much larger than the sepals; stamens 5, subsessile, anthers opening by pores; ovary ovoid, 5-celled; capsule ellipsoid, with numerous winged seeds *felicis*

Fleurydora felicis A. Chev. in Bull. Mus. Hist. Nat. 5: 158, t. 1 (1933); Fl. Viv. 1: 247–249, t. 39; Aubrév. Fl. For. Soud.-Guin. 58, t. 7. *APD acc*

Erect shrub, or small tree, 12–22 ft. high; on cliffs and rocky places; petals yellow.

Fr. G.: Kindia, 1,600–2,000 ft. Jac.-Fel. 34! Boké (Apr.) Chillou! Telimele (Oct.) Pobéguin 2202!

5. SAUVAGESIA

Linn.—F.T.A. 1: 111, under Violaceae.

- 1 A low, decumbent or erect glabrous herb; leaves oblanceolate, acute, narrowed to the base, about 2 cm. long, with conspicuous parallel nerves raised on the upper surface, serrulate on the margin; stipules paired, persistent, pectinate, about 5 mm. long; flowers solitary, axillary, white to pink, the pedicels becoming decurved in fruit and subarticulated towards the base; capsule enclosed by the persistent green sepals .. *erecta*

Sauvagesia erecta Linn.—F.T.A. 1: 111; Chev. Fl. Viv. 1: 242. *APD acc*

A weed of rice swamps and other moist places.

Sen.: Leprieur! M'boro Perrottet! **Gam.:** Dawe 37! **Fr. Sud.:** Sikasso (May) Chev. 790. Port G.: Antula, Bissau (Nov.) Esp. Santo 1412! **Fr. G.:** Kindia (May) Chev. 13165! Kissi (Feb.) Chev. 20764! **S. L.:** T. Vogel! Samu (Dec.) Sc. Elliot 4379! Njala (Sept.) Deighton 2105! Luti (Feb.) Deighton 4981! **Lib.:** Monrovia (Aug.) Whyte! Baldwin 9190! Banga (Oct.) Linder 1192! Duport (Nov.) Linder 1466! **Iv. C.:** N. Baoulé (July) Chev. 22224. **G. C.:** Essiama (Feb.) Irvine 2316! Atwabo Fishlock 57! **Togo:** Baumann 265! **Dah.:** Atacora Mts. Chev. 24191. **N. Nig.:** Nupe Barter 1733! Abinsi (June) Dalz. 753! **S. Nig.:** Lagos (May) Dalz. 1271! Sapoba (Nov.–Jan.) Kennedy 1785! Brenan 8940! Udi (Nov.) Keay FHI 22720! Eket Talbot 3011! **Br. Cam.:** Abonando, Mamfe (Mar.) Rudatis 7!

Widespread in tropical Africa, Madagascar and America.

ANCISTROCLADACEAE

Scandent shrubs with hook-like branchlets. Leaves alternate, simple, entire, leathery; indumentum absent; stipules inconspicuous or caducous. Flowers hermaphrodite, actinomorphic, small, soon falling off, in terminal panicles, the branches of which are recurved. Calyx-tube at first short, at length adnate to the base of the ovary, with imbricate lobes; tube adnate to the fruit, with spreading wing-like unequal lobes. Petals 5, unequal, contorted, slightly connate at the base. Stamens perigynous, 5 or 10; anther-cells slightly unequal, with a shortly produced connective. Ovary 1-celled; ovule solitary; style thick and fleshy, with 3 stigmas. Fruit turbinate, surrounded by the wing-like calyx-lobes, with a leathery indehiscent pericarp. Seed subglobose; testa intruding between the folds of the embryo; cotyledons strikingly folded.

A small family with a discontinuous distribution, i.e. the tropical West African rainforest, [Kenya](#) and Indo-Malaya.

Distinguished by the hooked branches, accrescent calyx and remarkable seeds.

ANCISTROCLADUS

Wall.—F.T.A. 1: 174. *APD acc*

- 1 Inflorescence very short and congested, 1–2 cm. long; fruit obconic, 1.5 cm. long, with short, thick, erect wings; leaves oblong-oblancheolate to spatulate-oblancheolate, 13–30 cm. long, 5–12 cm. broad; leaf-margin at base revolute [1. abbreviatus](#)
- Inflorescence loosely cymose, with elongate branches: **2**
- 2 Leaves small, elliptic, 6–8 cm. long, 3–4 cm. broad, abruptly contracted at base into a "pseudo-petiole"; leaf-margin at base revolute; fruit unknown [2. uncinatus](#)
- Leaves large, oblancheolate, 10–30 cm. long, gradually narrowed to base: **3**
- 3 Leaf-margin at base involute (i.e. inrolled on upper surface); venation less strongly reticulate; lamina 4.5–8 cm. broad; fruit subglobose, under 1 cm. long, with 3 long spatulate (up to 4.5 cm.) and 2 shorter obovate-oblong, thin, spreading wings [3. guineensis](#)
- Leaf-margin at base revolute (i.e. inrolled on lower surface); venation more strongly reticulate; fruit unknown: **4**
- 4 Leaves contracted at base into narrow "pseudo-petiole"; venation very lax, lateral nerves about 7–8 pairs; intramarginal nerve absent; lamina 5.5–11.5 cm. broad; inflorescence-branches relatively short and slender; flowers small, crowded towards the tips [4. barteri](#)
- Leaves uniformly narrowed to base, without "pseudo-petiole"; venation crowded, lateral nerves about 20 pairs; intramarginal nerve distinct; lamina 3–7 cm. broad; inflorescence-branches very long and rather thick; flowers relatively large, arranged rather distantly along most of the length of the branches [5. pachyrrhachis](#)

1. **Ancistrocladus abbreviatus** *Airy Shaw* in Kew Bull. 1949: 67; Kew Bull. 1950: 148. *APD acc*

Ancistrocladus barteri *Sc. Elliot* in J. Linn. Soc. 30: 73 (1894), partly (Sc. Elliot 4797; Barter 1699).

Ancistrocladus barteri *Van Tiegh.* in Journ. de Bot. 17: 154 (1903).

Ancistrella barteri *Van Tiegh.* l.c. 155 (1903).

Ancistrocladus barteri of F.W.T.A., ed. 1, 1: 196, partly (Sc. Elliot 4797).

Ancistrocladus guineensis of F.W.T.A., ed. 1, 1: 196, partly (Barter 1699).

Large liane, [in swamp forest near rivers](#); flowers variously reported to be green, white, yellowish or pinkish.

S. L.: Kora, Scarcies (fl. & fr. Feb.) Sc. Elliot 4797! Magbile (Dec.) Thomas 6268! Njala (fl. & fr. Dec., Jan.) Deighton 1852! 2589! **Lib.:** Peahtah, Upper St. Paul's R. (Oct., Dec.) Linder 1110! Baldwin 10603! Ganta Baldwin 13223! **G. C.:** R. Densu, Manhia (Nov.) Akpabla 219! **S. Nig.:** Onitsha (Feb.) Barter 1699! Jones FHI 621!

2. **Ancistrocladus uncinatus** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 196 (1927); Kew Bull. 1928: 218.

APD: *Synonym of Ancistrocladus guineensis Oliv.*

A scandent shrub.

S. Nig.: Eket Talbot 3108!

3. **Ancistrocladus guineensis** Oliv. F.T.A. 1: 175 (1868); Airy Shaw in Kew Bull. 1949: 68, partly (excl. Barter 1699; excl. syn. *A. barteri* Van Tiegh. and *Ancistrella barteri* Van Tiegh.; excl. spec. ex Sierra Leone); Kew Bull. 1950: 149. *APD acc*

Forest liane with reddish stems; sepals in fruit madder-red, then brown when dry.

S. Nig.: Etemi, Omo F.R. (fr. Mar.) Jones & Onochie FHI 16605! 16757! Fowa, Omo F.R. (fr. Mar.) Jones & Onochie FHI 16641! 17026! Sapoba Keay FHI 28061! Calabar (Feb.) Mann 2234!

4. **Ancistrocladus barteri** Sc. Elliot in J. Linn. Soc. 30: 73 (1894), partly (Sc. Elliot 4860); Airy Shaw in Kew Bull. 1950: 148 (excl. syn. *A. barteri* Van Tiegh. and *Ancistrella barteri* Van Tiegh.). *APD acc*

Ancistrocladus guineensis of Airy Shaw in Kew Bull. 1949: 68, partly (spec. ex Sierra Leone), not of Oliv.

Forest liane, flowers greenish-white.

S. L.: N.W. boundary of hills facing sea (Dec.) Sc. Elliot 3841! Mt. Gonkwi, Talla (Feb.) Sc. Elliot 4860! Benduhum, Tunkia (Dec.) Deighton 3813! Kwaoma Deighton, 3885! **Lib.:** Ganta Baldwin 11016! Kitema, Sanokwele Baldwin 14068! Genna Tanyehun Baldwin 10756!

5. **Ancistrocladus pachyrrhachis** Airy Shaw in Kew Bull. 1950: 149. Scandent shrub, about 10 ft. high.

APD: Synonym of Ancistrocladus barteri Scott-Elliot

Lib.: Monrovia, sandy area (Jan., May) Baldwin 5839! 10984!

DIPTEROCARPACEAE

Trees with resinous wood. Leaves alternate, entire, penninerved; indumentum often of two kinds, of stellate hairs or rarely of peltate scales; stipules mostly small and deciduous, sometimes very large and enclosing the young bud, rarely persistent, leaving an annular scar after falling away. Flowers hermaphrodite, actinomorphic, fragrant, in axillary panicles. Calyx-tube short or well developed, free or adnate to the ovary; lobes 5, imbricate or valvate, mostly greatly enlarged, wing-like, and ascending in fruit and then strongly nervose, rarely small and reflexed or spreading. Petals 5, much contorted, free or slightly connate at the base, often hairy and inconspicuous. Stamens rarely definite, hypogynous or subperigynous; filaments short, often dilated at the base; anthers 2-celled, opening lengthwise; connective mucronate or aristate or club-shaped. Ovary inserted on the broad torus or slightly immersed in it, 3-celled; style subulate or variously thickened, entire or 3-lobed; ovules 2 in each cell. Fruit free from or included in the enlarged calyx-tube, rarely closely adnate to it, indehiscent, usually 1-seeded. Seeds without endosperm; cotyledons thick and equal or variously contorted.

A family mostly found in Indo-Malaya, very rare in Africa.

Distinguished mainly by the enlarged wing-like calyx-lobes in fruit.

MONOTES

A. DC. Prod. 16, 2: 623 (1868).

Calyx-lobes 5. Petals 5, hairy. Stamens numerous; anthers with produced connective. Calyx-lobes equally enlarged in fruit.

- 1 A shrub or small tree; branchlets pubescent; leaves elliptic or oblong-elliptic, slightly cordate at the base, rounded and emarginate at the apex, 7–12 cm. long, 4–7 cm. broad, glabrescent above and finely reticulate, softly tomentose beneath, with about 14–16 pairs of prominent lateral nerves; petiole 1.5–2.5 cm. long; flowers greenish, in short axillary cymes, the whole inflorescence densely and softly tomentose; fruit ovoid-globose, about 1.5 cm. in diam., pilose, surrounded by the dry reticulate obovate-oblong accrescent calyx-lobes about 4 cm. long[kerstingii](#)

Monotes kerstingii Gilg in Engl.Bot.Jahrb. 41: 288 (1908); Chev. Bot. 56; Aubrév. Fl. For. Soud.-Guin.

84, t. 13; Bancroft in Kew Bull. 1934: 233; Bancroft in Bull. Soc. Brot. 13: 326–368 (1938–39).

APD acc

APD: Synonym of Monotes lutambensis Verdc.

Curaipa? africana Oliv. F.T.A. 1: 172 (1868).

Monotes caloneurus Gilg, partly-Hutch, in Kew Bull. 1921: 358.

Savannah tree, to 50 ft. high, but usually only about 10–20 ft. high; flowers yellow, wings of fruit pink.

Fr. Sud.: Kita Dubois 207! **Fr. G.:** Kouroussa (Dec.) Pobéguin 597! **Iv. C.:** Ferkéssédougou, and Batié to Kampti, fide Aubrev. l.c. **G. C.:** Bosomoa F. R. (May) Vigne 3000! Kintampo (fl. & fr. Nov.) Andoh FH 5425! Prang (June) Vigne 3907! **Togo:** Sokode-Basari (fl. & fr. May, Oct.) Kersting 2! **Dah.:** fide Bancroft l.c. **N. Nig.:** Baikie! Sokoto Prov. (June) Dalz. 532! Matyoro (Oct.) Thornevill 134! Naraguta (Aug.) Lely 517! P. 674!

Also in **French Cameroons**, **Ubangi-Shari** and **A.–E. Sudan**.

MYRTACEAE

Trees or shrubs. Leaves simple, mostly entire, opposite or rarely alternate, glandular-punctate; stipules 0 or rarely very small. Flowers mostly actinomorphic, hermaphrodite or polygamous by abortion. Calyx-tube more or less adnate to the ovary; lobes 3 or more, imbricate or valvate or irregularly split. Petals 4–5, rarely 6 or 0, inserted on the margin of the disk lining the calyx-tube, imbricate or connivent in a mass. Stamens numerous, rarely few, inserted on the margin of the disk, 1- or more-seriate, indexed in bud or twice folded or straight; filaments free or connate at the base into a short tube or in bundles opposite the petals; anthers small, 2-celled, opening lengthwise by slits or rarely by apical pores, the connective often tipped by a gland. Ovary inferior, syncarpous, 1- to many-celled, with mostly axile, rarely parietal placentas; ovules rarely solitary or few. Fruit inferior, loculicidally dehiscent or indehiscent. Seeds with no (or very little) endosperm; embryo straight, incurved, circular or spiral.

- 1 Flowers solitary or fasciculate, axillary; sepals distinct; petals falling off separately [1. *Eugenia*](#)
 Flowers in terminal cymes; calyx more or less truncate; petals more or less calyprate and falling off together [2. *Syzygium*](#)

Psidium guajava Linn.

The Guava has been introduced and is widely cultivated.

Melaleuca leucadendron Linn.

Has been introduced and is widely cultivated.

Eucalyptus

Various species have been introduced and are widely cultivated.

1. EUGENIA

Linn.—F.T.A. 2: 436.

- 1 Stems short and simple from an underground rhizome, puberulous; leaves elliptic-lanceolate, obtuse at apex, subacute at base, 7–10 cm. long, 3–4.5 cm. broad, closely gland-dotted, puberulous beneath; flowers axillary, solitary, pedicels 2–3 cm. long [1. *subherbacea*](#)
 Stems much-branched; shrubs or trees: [2](#)
 2 Leaves narrowly lanceolate, 2–4 cm. long, 2–4 mm. broad; internodes very short; flowers few, almost sessile in the axils of the upper leaves [2. *dusenii*](#)
 Leaves not narrowly lanceolate, at least 5 mm. broad, usually much more: [3](#)
 3 Leaves cordate at base, more or less ovate: [4](#)
 Leaves rounded to acute at base: [5](#)
 4 Pedicels about 15 mm. long; branchlets glabrous; leaves shortly acuminate, 4–5 cm. long [3. *uniflora*](#)

- Pedicels very short, up to 4 mm. long; branchlets softly pubescent; leaves not acuminate, 2.5–4 cm. long[4. *nigerina*](#)
- 5** Calyx-lobes 6–8 mm. long and broad, suborbicular; flower buds just before opening 6–9 mm. in diam.; pedicels 5–20 mm. long:**6**
- Calyx-lobes less than 4 mm. long and broad; flower-buds just before opening less than 5 mm. in diam.:**7**
- 6** Leaves thickly coriaceous, elliptic-obovate, shortly acuminate, 5–8 cm. long, 2–4.5 cm. broad, with 4–5 pairs of lateral nerves slightly prominent on both surfaces; pedicels stout, nearly 2 cm. long, solitary or paired in each axil, bracteoles broadly ovate, 2 mm. long; calyx-lobes coriaceous, 7–8 mm. diam., like the pedicels sparingly pubescent [5. *calycina*](#)
- Leaves thin, elliptic, more or less distinctly acuminate or long-acuminate, 6–10 cm. long, 2.5–3.5 cm. broad, with 10–13 pairs of lateral nerves rather obscure on each surface; pedicels 5–15 mm. long, often clustered towards the ends of the shoots; calyx-lobes thin, 6–7 mm. diam., like the pedicels densely rusty-tomentose [6. *elliottii*](#)
- 7** Leaves rounded or very obtuse at apex, not acuminate:**8**
- Leaves more or less distinctly acuminate: **11**
- 8** Pedicels 5–35 mm. long, fasciculate:**9**
- Pedicels less than 4 mm. long; flowers in very short racemes with the central bracteate axis up to 4 mm. long, mostly borne below the leafy parts of the shoots; leaves elliptic, obtuse at each end, 6–10 cm. long, 3–5.5 cm. broad [10. *gilgii*](#)
- 9** Pedicels up to 2 cm. long: **10**
- Pedicels 3–4.5 cm. long; branchlets, petioles and midrib beneath shortly white pilose when young; leaves subsessile, oblong, 8–13 cm. long, 4–5 cm. broad; lateral nerves 6–7 on each side of the midrib, prominent, forming a distinct intramarginal nerve [9. *togoensis*](#)
- 10** Branchlets pubescent; pedicels solitary or paired, slender, up to 1.5–2 cm. long; leaves thin, elliptic, up to 6 cm. long and 3 cm. broad, closely dotted beneath [7. *kerstingii*](#)
- Branchlets glabrous; pedicels up to 1 cm. long, several in each cluster; leaves thickly coriaceous, elliptic or ovate-elliptic, up to 9 cm. long and 5 mm. broad, closely dotted beneath [8. *coronata*](#)
- 11** Ovary glabrous; pedicels glabrous or shortly and rather sparsely pubescent: **12**
- Ovary and pedicels densely pilose: **17**
- 12** Pedicels 4 mm. or more long: **13**
- Pedicels less than 4 mm. long: **15**
- 13** Leaves 2–8 cm. long, 1–4 cm. broad; elliptic-lanceolate: **14**
- Leaves 7–12 cm. long, 3–6 cm. broad, oblong-elliptic; young shoots pubescent, woody branchlets with scaly bark; pedicels 4–6 mm. long [13. *pobeguinii*](#)
- 14** Pedicels 4–6 mm. long; stems glabrous or very shortly puberulous [11. *salacioides*](#)
- Pedicels 8–15 mm. long; stems densely rusty-pubescent [12. *leonensis*](#)
- 15** Leaves with a very strong marginal nerve about 5 mm. from each margin, almost as prominent as the midrib; leaves elliptic or obovate-elliptic, long-cuneate at base, gradually acuminate, 12–16 cm. long, 6–8 cm. broad, petiole 8–12 mm. long [14. *talbotii*](#)
- Leaves with the lateral nerves looped near the margin, but with the loops much less prominent than the midrib; leaves oblong-elliptic, very shortly cuneate at base, obtuse and gradually acuminate, 8–12 cm. long, 3–4.5 cm. broad: **16**
- 16** Leaves rather long-petiolate; branchlets glabrous [15. *whytei*](#)
- Leaves subsessile; branchlets shortly pilose [16. *afzelii*](#)
- 17** Leaves up to 10 cm. long and 4 cm. broad; flowers subsessile; calyx-lobes more or less densely pubescent: ... **18**
- Leaves more than 10 cm. long and 4 cm. broad; minutely pubescent beneath; calyx-lobes glabrous: **19**
- 18** Leaves narrowly oblong-elliptic, rather gradually acuminate, 5–10 cm. long, 2–4 cm. broad, lateral nerves about 8–10 pairs; flowers several in each axil [17. *obanensis*](#)
- Leaves ovate, long-acuminate or subcaudate, 5–6 cm. long (including the approx. 1 cm. long acumen), 2.5–3 cm. broad; lateral nerves about 5–6 pairs; flowers apparently solitary [18. *buchholzii*](#)
- 19** Pedicels 4–10 mm. long: **20**
- Pedicels very short, not more than 2 mm. long; leaves oblong-elliptic, rounded or shortly cuneate at the base, 10–20 cm. long, 4–7 cm. broad, firmly chartaceous, with about 10 pairs of lateral nerves; branchlets rusty-tomentellous [22. *calophylloides*](#)
- 20** Leaves broadly elliptic, very obtusely and shortly acuminate, with about 10 or more straight nerves which loop and form a nearly straight marginal nerve, 9–15 cm. long, up to 9 cm. broad [19. *fernandopoana*](#)

Leaves elongate-elliptic, with nerves as above, subcoriaceous, 9–15 cm. long, 4–5.5 cm. broad, obtuse at base; fruits depressed-globose, over 1 cm. broad[20. memecyloides](#)
 Leaves oblong-lanceolate, with about 6 ascending nerves widely looped and not forming a definite marginal nerve[21. kalbreyeri](#)

1. **Eugenia subherbacea** A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8D: 170 (1912). *APD acc*

Eugenia herbacea A. Chev. in Bull. Soc. Bot. Fr. 55, Mém. 8B: 36 (1908), not of Berg (1859).

A plant of the dry bush, throwing up annual stems after burning; flowers fairly large, white, fragrant; fruit succulent.

G. C.: Salaga (Apr.) Dalz. 12! Wabila (Feb.) Kitson! **Togo:** Yendi (Apr.) Akpabla 513!

Also in **Ubangi-Shari-Chad**.

2. **Eugenia dusenii** Engl. in Notizbl. Bot. Gart. Bert. 2: 289 (1899). *APD acc*

Small shrub, on rocks by waterfall, flowers white.

Br. Cam.: Dusen. Ndian waterfall, Kumba (Mar.) Smith 84/36!

3. **Eugenia uniflora** Linn. Sp. Pl. 1: 470 (1753). *APD acc*

Eugenia michelii Lam.—F.T.A. 2: 437; Chev. Bot. 267.

A shrub or small tree; fruit ridged, with smooth red skin.

Introduced from Brazil and cultivated in gardens as the "Pitanga Cherry."

4. **Eugenia nigerina** A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 199 (1927); Kew Bull. 1928: 219; Aubrév. Fl. For. Soud.-Guin. 85; Chev. Bot. 268, name only. *APD acc*

A shrub, up to 20 ft. or more, often in clumps; flowers white, fragrant.

Fr. Sud.: Dialiba to Langana (Jan.) Chev. 260! San (June) Chev. 1075. Koulikoro (Oct.) Chev. 3010. **Iv. C.:** dunes of R. Comoé, Bettié (Mar.) Chev. 17556. Tienfalla Aubrév. 3073.

5. **Eugenia calycina** Benth.—F.T.A. 2: 437.

APD: Synonym of Eugenia liberiana Amshoff

A shrub with coriaceous leaves and fairly large, white flowers 1 in. or more across; fruits globose, about 3/4 in. diam., crowned by the large persistent calyx; in coastal vegetation.

S. L.: Yoni, Bonthe Isl. Deighton 2463! **Lib.:** Monrovia (fl. Jan-Mar., fr. Aug.) Whyte! Baldwin 12533! Sinoe Basin Whyte! Grand Bassa (July) T. Vogel 85! Sinkor (July) Barker 1383!

6. **Eugenia elliotii** Engl. & v. Brehm. in Engl. Bot. Jahrb. 54: 331 (1917); Aubrév. Fl. For. Soud.-Guin. 87. *APD acc*

Eugenia djalonensis A. Chev. Bot. 267, name only.

A shrub or small tree; young branches rusty-tomentose; flowers fairly large, white.

Fr. G.: Ditinn to Diaguissa (Apr.) Chev. 12853! Dalaba (Mar.) Dalz. 8388! Rio Pongo Heudelot 901! **S. L.:** Mt. Gonkwi, Talla Hills (Feb.) Sc. Elliot 4832! Rokupr, Magbema (Mar.) Jordan 419! Nyungeru Thomas 7269!

7. **Eugenia kerstingii** Engl. & v. Brehm. l.c. 333 (1917). *APD acc*

Eugenia coronata of F.T.A. 2: 437; of F.W.T.A., ed. 1, 1: 199, partly (Barter 876); of Aubrév. l.c. 85, 87, partly (Nigerian spec.); not of Schum. & Thonn.

A shrub, 10–12 ft., with shining leaves and white flowers.

Togo: Sokodé-Basari plateau on rocky open ground (May) Kersting 742. **N. Nig.:** Wuru, Borgu Barter 876! Nupe Barter 1318! Abinsi (Mar.) Dalz. 765! Yola (Dec.) Dalz. 83! **S. Nig.:** Umueze, Onitsha (Feb.) Jones FHI 5021!

8. *Eugenia coronata* Schum. & Thonn. Beskr. Guin. Pl. 230 (1827); Aubrév. l.c. 85, 87, partly (Dalz. 8276). *APD acc*

Eugenia myrtooides G. Don (1832).

Eugenia littorea Engl. & v. Brehm. l.c. 335.

A shrub or small tree, up to 20 ft. high, in savannah and fringing forest of the coastal plains; flowers white; fruits ovoid, about 1/2 in. long, green, turning black when ripe.

G. C.: Axim. (Feb.) Irvine 2304! Cape Coast to Elmina (Mar.) Dalz. 8276! Accra (Aug.) Don! Dalz. 123! Achimota Irvine 1007! Prang (Jan.) Vigne 1555! Aframsu, Kwahu (Dec.) Chipp 593! **Togo:** Lome (Apr.) Warnecke 119! 378!

9. *Eugenia togoensis* Engl. in Notizbl. Bot. Gart. Berl. 2: 288 (1899). *APD acc*

A shrub, pale-pilose on young branchlets and petioles; in savannah.

Togo: near Bismarckburg (Feb.) Buettner 413.

10. *Eugenia gilgii* Engl. & v. Brehm. l.c. 334 (1817). *APD acc*

Shrub, or small tree, to 25 ft. high, on edge of forest in montane area.

Br. Cam.: Lakom, Bamenda, 6,000 ft. (fr. Apr.) Maitland 1486! 1661! Belo, Bamenda, 4,500 ft. (Apr.) Maitland 1705! [Identified from description-type not seen.]

Also in **French Cameroons**.

11. *Eugenia salacioides* Laws. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 200 (1927) and in Kew Bull. 1928: 219, partly (Mann 842 only).

APD: *Synonym of Eugenia leonensis* Engl. & Brehmer

Eugenia salicifolia Laws. in F.T.A. 2: 437, not of DC. or Berg.

A shrub or small tree; flowers white.

S. L.: Bagroo R. (Apr.) Mann 842! Njala (Apr.) Deighton 2633! **Lib.:** Du R. (July) Linder 186!

12. *Eugenia leonensis* Engl. & v. Brehm. l.c. 329 (1917); Aubrév. l.c. 87. *APD acc*

Eugenia salacioides Laws. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 200 (1927) and in Kew Bull. 1928: 219, partly (excl. Mann 842).

Eugenia rupestris Engl. & v. Brehm l.c. 330; F.W.T.A., ed. 1, 1: 199.

Eugenia coronata (incl. var. *macrophylla*) of A. Chev. Bot. 266, 267, not of Schum. & Thonn.

Eugenia coronata of F.W.T.A., ed. 1, 1: 199, partly (French Guinea spec.).

A shrub, with small white flowers; often on rocky hills; stunted and with very small leaves, resembling the European Box, in exposed sites.

Fr. G.: Kindia Chev. 13205! Labé (Apr.) Chev. 12345! **S. L.:** Afzelius! Sugar Loaf Mt. (Dec.–Apr.) Barter! Sc. Elliot 3963! 5770; Dalz. 933! Limba country (Apr.) Sc. Elliot 5542! 5476! 5483! 5622! Falaba (Mar.) Sc. Elliot 5156! Konnoh country Burbridge 503! Dodo (Apr.) Deighton 3903! Mano to Kailahun (Apr.) Deighton 3149! **Lib.:** Peahtah (Oct.) Linder 1113! **Iv. C.:** Mt. Dou Aubrév. 1068. **G. C.:** Kumasi Vigne 1933!

13. *Eugenia pobeguinii* Aubrév. Fl. For. C. Iv. 3: 66, t. 266B (1936), French descr. only; Aubrév. Fl. For. Soud.-Guin. 87. *APD acc*

Eugenia calophylloides of F.W.T.A., ed. 1, 1: 200, partly (Pobéguin 819).

Eugenia whytei of Chev. Bot. 269, partly; F.W.T.A., ed. 1, 1: 199 partly (French Guinea spec.).

Shrub or small tree, on mountains; flowers white.

Fr. G.: Kouroussa (Sept.) Pobéguin 819! **S. L.:** Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 136! **Iv. C.:** Mt. Dou Aubrév. 1062.

14. *Eugenia talbotii* Keay in Kew Bull. 1953: 288. *APD acc*

Memecylon bakerianum Hutch. & Dalz. F.W.T.A., ed. 1, 1: 215 (1927) and in Kew Bull. 1928: 222, not of Cogn. (1891).

Memecylon machairacme of Bak. f. in Cat. Talb. 128, not of Gilg.

A shrub.

S. Nig.: Oban Talbot 203!

15. **Eugenia whytei** *Sprague* in J. Linn. Soc. 37: 98 (1905); Stapt in Johnston Lib. 604; Chev. Bot. 269, partly (Ivory Coast spec.); Aubrév. Fl. For. C. Iv. 66, t. 266A. *APD acc*

A glabrous shrub or small tree, **by seashore, or in forest.**

S. L.: Boma (Apr.) Deighton 3705! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! Beach at mouth of Junk K. (Feb.) Cooper 188! **Iv. C.:** Cavally estuary (Aug.) Chev. 19903; 19999.

16. **Eugenia afzelii** *Engl.* in Notizbl. Bot. Gart. Berl. 2: 290 (1899). *APD acc*

A shrub with slender pilose branchlets; leaves smooth above.

S. L.: Afzelius.

17. **Eugenia obanensis** *Bak. f.* in Cat. Talb. 30 (1913). *APD acc*

Eugenia buchholzii of F.W.T.A., ed. 1, 1: 200, partly (Talbot 1722).

Shrub, young parts with pale pinkish indumentum; flowers white.

G. C.: Assuansi (Mar.) Irvine 1565! Adeibeba, Kumasi (Jan.) Darko 512! **S. Nig.:** Lagos (Feb.) Barter 2192! Moloney 26! Dalz. 1397! Ibadan (Jan.) Meikle 940! Mt. Orosun, Idanre (Jan.) Brenan & Keay 8683! Umuahia (Mar.) Cousens FHI 3832! Awgu (Nov.) Jones FHI 4823! Eket Talbot 3234! Oban Talbot 1651! 1722! **F. Po:** Mann 263!

18. **Eugenia buchholzii** *Engl.* in Notizbl. Bot. Gart. Berl. 2: 291 (1899). *APD acc*

A shrub; branchlets, petioles and flowers densely rusty-pilose; fruit subglobose.

Br. Cam.: Mungo (young fr. Apr.) Buchholz.

19. **Eugenia fernandopoana** *Engl. & v. Brehm.* l.c. 337 (1917). *APD acc*

A shrub or tree; up to 25–30 ft., with slender branchlets; fruits subglobose on pedicels of 1/2 in.

F. Po: Mann 1439! On the beach Mann 269! Bokoko (Oct.) Mildbr. 6921.

20. **Eugenia memecyloides** *Benth.*—F.T.A. 2: 437; Chev. Bot. 267; Aubrév. Fl. For. C. Iv. 3: 66. *APD acc*

A shrub, apparently with simple straight stems from the ground, about 4 ft. long; leaves coriaceous.

Lib.: Grand Bassa (fr. July) T. Vogel 96! R. Cess (Mar.) Baldwin 11274!

21. **Eugenia kalbreyeri** *Engl. & v. Brehm.* l.c. 337 (1917). *APD acc*

Eugenia dawei *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 200 (1927); Kew Bull. 1928: 219.

Shrub, 10 ft. high; flowers white, **in open spaces.**

S. L.: Mata Kahun (Mar.) Dawe 454! Njala (Feb.) Deighton 2618! Naiawama, Njala (Apr.) Deighton 3734! Segbwema (Apr.) Deighton 3666! **Br. Cam.:** Mapanya, 2,000 ft. (Mar.) Kalbreyer 157!

22. **Eugenia calophylloides** *DC.* Prod. 3: 272 (1828); F.T.A. 2: 437, partly (Smeathmann spec. only); Chev. Bot. 266; Aubrév. Fl. For. C. Iv. 3: 64. *APD acc*

A shrub, sometimes half scrambling, with rusty-downy twigs, coriaceous leaves, and small white flowers in dense axillary clusters; fruit about 1/2 in. diam., densely covered with glandular warts.

Fr. G.: Konianké country (Feb.) Chev. 20831! **S. L.:** Smeathmann! Freetown (May) Lane-Poole 273! Limba, near Bafodeya (Apr.) Sc. Elliot 5465! Falaba (Apr.) Sc. Elliot 5548! Aylmer 53! Bonthe, Sherbro (Feb.) Dalz. 1010! Njala (Mar.) Deighton 1941! Yonibana (Nov.) Thomas 5219! **Lib.:** Monrovia (Nov.) Whyte! Linder 1519! Greenville (Mar.) Baldwin 11565! 11559! **Iv. C.:** Aubrév. 1639!

Eugenia jambos *Linn.*

The Rose Apple from tropical America has been introduced and is cultivated in our area.

***Eugenia malaccensis* Linn.**

The Malay Apple from tropical Asia has been introduced and is cultivated in our area.

1. *Eugenia kameruniana* Engl. in Notizbl. Bot. Gart. Berl. 2: 291 (1899).

Eugenia hankeana H. Winkl. in Engl. Bot. Jahrb. 41: 283 (1908).

Br. Cam.: Dusen 9, Bibundi to Debundscha (Feb.) Winkler 1110.

Imperfectly known species.

2. *Eugenia ledermannii* Engl. & v. Brehm. in Engl. Bot. Jahrb. 54: 332 (1917).

Br. Cam.: Bagangu, Bamenda (Dec.) Ledermann 1877. Kumbo, Bamenda (Dec.) Ledermann 1997.

Also in **French Cameroons**.

Imperfectly known species.

3. *Eugenia dinklagei* Engl. & v. Brehm. l.c. 338 (1917).

Lib.: Jenneh (Apr.) Diklage 2565.

Imperfectly known species.

4. *Eugenia tabouensis* Aubrév. in Fl. For. C. Iv. 3: 66, t. 266B (1936), French descr. only.

Shrub or small tree of sea coast; very close to *E. calophylloides* DC.

Iv. C.: Tabou Chev. 19965. Aubrév. 1281. Sassandra Chev. 17972.

Imperfectly known species.

5. *Eugenia* sp. A.

Eugenia calophylloides of F.W.T.A., ed. 1, 1: 200, partly (Nigerian spec.), not of DC.

Shrub or small tree.

N. Nig.: Patti Lokoja (Apr.) Elliott 53! Jamata (Dec.) Elliott 220!

Imperfectly known species.

6. *Eugenia* sp. B.

Leaves oblanceolate, 8–14 cm. long, 2–3.5 cm. broad; flowers apparently solitary.

S. Nig.: Kwa Falls (Mar.) Brenan 9234!

Imperfectly known species.

7. *Eugenia* sp. C.

S. Nig.: Eket Talbot!

Imperfectly known species.

2. SYZYGIUM

Gaertn. Fruct. 1: 166, t. 33 (1788).

- 1** Leaves oblong-ovate, broadest below the middle, rounded or obtuse at base, long-acuminate, 7–17 cm. long; 4–7 cm. broad; margin inrolled; lateral nerves usually rather obscure beneath, more prominent above; petiole 4–8 mm. long; flowers 3–4 mm. diam., in small, crowded, terminal inflorescences; fruit subglobose, about 1.2 cm. diam.; in swamp forest *I. owariense*

Leaves broadest at or above the middle, cuneate or rarely obtuse at the base; nerves more or less prominent beneath: **2**

- 2 Flowers 5–6 mm. diam.; inflorescence terminal, with stout square branches; young stems square and slightly winged; leaves oblong-obovate, cuneate at base, rather abruptly long-acuminate, 7–18 cm. long, 3·5–9 cm. broad; lateral nerves prominent above and beneath; petiole 6–8 (–12) mm. long; fruit 2 cm. long and 1·6 cm. broad, or more; by rivers in forest regions [2. rowlandii](#)
- Flowers usually 3–4 mm. diam., if more than branches of inflorescence and young stems not winged (see No. 4a): **3**
- 3 Branches of inflorescence and young stems square and slightly winged; leaves obovate-elliptic or elliptic, cuneate at base, shortly and obtusely acuminate (more longly acuminate in Ivory Coast and Liberian specimens), 4–9 cm. long, 1·5–4 cm. broad; petiole 6–12 mm. long; flowers 3–4 mm. diam.; in montane forest [3. staudtii](#)
- Branches of inflorescence and young stems, not winged, more or less terete: **4**
- 4 Tree usually in fringing forest and on stream banks in savannah regions, usually with tall stem; flowers 3–4 mm. diam., in laxly branched terminal inflorescences with long peduncles; leaves narrowly elliptic to oblong-elliptic, cuneate at base; acute to acuminate at apex, 6–16 cm. long, 2–7 cm. broad; petiole 0·5–2 cm. long; fruit ellipsoid, about 1 cm. long [4. guineense var. guineense](#)
- Savannah shrub or small tree, fire-tolerant; flowers 4–5 mm. diam., usually in lateral, as well as in terminal, well-branched inflorescences, often on leafless stems; leaves broadly elliptic to obovate-elliptic, long-cuneate at base, shortly acuminate, 7–15 cm. long, 3·5–7·5 cm. broad; petiole 1–4 cm. long; fruit subglobose, about 1·5 cm. long [4a. guineense var. macrocarpum](#)
- Tree of low spreading habit, or shrub, on the sea coast; flowers 3–4 mm. diam. in rather small, crowded, terminal inflorescences; leaves very coriaceous, broadly elliptic to obovate-elliptic or suborbicular, obtuse or cuneate at base, rounded or obtuse at apex or very shortly and obtusely acuminate, 7–11 cm. long, 4–6 cm. broad; margin markedly inrolled; petiole 3–6 (–10) mm. long; fruit ellipsoid, about 1 cm. long [4b. guineense var. littorale](#)

1. *Syzygium owariense* (P. Beauv.) Benth. in Fl. Nigrit. 359 (1849). *APD acc*

Eugenia owariensis P. Beauv. Fl. Owari 2: 20, t. 70 (1810); F.T.A. 2: 438, partly.

Jambosa owariensis (P. Beauv.) DC. Prod. 3: 287 (1828).

Syzygium guineense of F.W.T.A., ed. 1, 1: 201, partly.

Syzygium guineense var. *palustre* Aubrév. Fl. For. C. Iv. 3: 70, t. 268B (1936).

Syzygium rowlandii of F.W.T.A., ed. 1, 1: 201, partly.

Tree to 50 ft. high, or perhaps more, with stilt roots; in freshwater swamp forest by creeks and rivers not far from the coast; calyx pale green with red margin, stamens white; traits dark purple when ripe, said to be edible.

S. L.: near mouth of Scarcies R. (young fr. Feb.) A. P. D. Jones SLFD 653! **Lib.:** Grand Bassa (July) T. Vogel 111! **Iv. C.:** Dabbu Chev. 16201! **S. Nig.:** Eba Isl. (Jan.) Thornewill 240! R. Jamieson, Sapoba (fl. Aug.–Nov., fr. Nov.) Kennedy 229! 1685! 2801! Symington FHI 5696! Meikle & Keay 606! Warri Beauvois! Degema Talbot!

Also in **Gabon**.

2. *Syzygium rowlandii* Sprague in Bull. Herb. Boiss., Sér. 2, 5: 1170 (1905). *APD acc*

Syzygium abidjanense Aubrév. & Pellegr. in Aubrév. Fl. For. C. Iv. 3: 68, t. 267 (1936), French descr. only.

Tree to 50 ft. high (with low buttresses fide Cooper), low-branching, on river banks in forest; flowers white.

S. L.: Bandajuma Burbridge 477! Jala (Jan.) Aylmer 570! Mattru to Gbangbama (Nov.) Deighton 2368! Gorahun (Dec.) Deighton 3802! **Lib.:** Kakatown Whyte! Grand Bassa (Oct.) Dinklage 1843! Dukwia R. Cooper 382! St. Paul R., Boporo (Dec.) Baldwin 10632! **Iv. C.:** Abidjan Aubrév. 209! Banco (Nov.) Aubrév. 495! Upper Cavally (Dec.) Aubrév. 2097! Beriby (Aug.) Chev. 20023! **S. Nig.:** Lagos Rowland 47! Oron to Eket Talbot 3022! Cross Biver, Itu (Jan.) Cons. of Forests 11!

3. *Syzygium staudtii* (Engl.) Mildbr. Wiss. Ergebn. 1910–11, 2: 188 (1922); Keay in Kew Bull. 1953: 288. *APD acc*

APD: *Synonym of Syzygium guineense subsp. occidentale F. White*

Syzygium guineense var. *staudtii* Engl. in Mildbr. Wiss. Ergebn. 1907–8, 2: 582 (1913); Engl. Pflanzenw. Afr. 3, 2: 738 (1921).

Syzygium montanum Aubrév. l.c. 3: 70, t. 268A (1936), French descr. only, not of (Wight) Thw. (1859), nor of Gamble (1919).

Tree of mountain forest, to 50 ft. high, with a dense tangle of adventitious roots at the base of the stem; calyx green, filaments white.

Lib.: top of Mt. Wolagwisa, Pandami, 4,500 ft. (Mar.) Bequaert 103! **Iv. C.:** Mt. Tonkoui Aubrév. 1000! Mt. Nimba (Mar.) Aubrév. 1139! **Br. Cam.:** Cam. Mt., 6,500–7,500 ft. (Feb., Mar.) Maitland 987! Brenan 9357! Johann-Albrechtshöhe Staudt 491! Lakom, Bamenda, 6,000 ft. (May) Maitland 1510! Bagangu, Bamenda Johnstone 6! L. Oku, 6,000–7,000 ft. Johnstone 1/31! **F. Po:** 4,500–6,400 ft. Mildbr. 7132; 7145a! (?).

Also in **French Cameroons**.

4. *Syzygium guineense* (Wild.) DC. **var. guineense**—DC. Prod. 3: 259 (1828); Guill. & Perr. Fl. Seneg. 1: 315, t. 72; Aubrév. Fl. For. C. Iv. 3: 68; Aubrév. Fl. For. Soud.-Guin. 87, t. 14, 4. *APD acc*

Calyptanthus guineensis Willd. Spec. Pl. 2: 974 (1800).

Tree to 50 ft. high, usually with a tall stem **usually in fringing forest and on stream banks in savannah regions**; fruits grey when ripe, not edible; flowers often galled.

Sen.: Perrottet 344! Richard Tol (May) Döllinger 54! Cayor Heudelot! Walo Heudelot! **Gam.:** Park! Whitfield! Hayes 537! Sounders 10! **Fr. Sud.:** Macina (May) Lean 12! **Fr. G.:** Kadé Maclaud 318. Mamou Cochet 60. **S. L.:** Afzelius! Scarcies R., Wallia (fr. Feb.) Sc. Elliot 4272! Dantilla (Mar.) Sc. Elliot 5297! Kamakwie (Feb.) Deighton 4213! **Iv. C.:** Aubrév. 1070! Bondoukou Aubrév. 747. **G. C.:** Isert! Grube (Mar.) Rea 1669! Navrongo (Apr.) Vigne 3760! R. Volta (Apr.) Anderson 29! Kitson! **Togo:** Yendi (Apr.) Dalz. 59! Kratchi (June) Brent 549! **N. Nig.:** Sokoto (Feb.) Ryan 13! Lely 830! Nupe Barter 1124! Zungera (Mar.) Elliott 55! Zaria (Mar.) Weir 22! Kachiya to Kaduna (Feb.) Meikle 1202! **S. Nig.:** Alagbede F.R. (Feb.) Latilo FHI 32955! Idanre Hills Brenan & Keay 8657! **Br. Cam.:** Fonfuka (fr. May) Maitland 1363!

Widespread in tropical Africa.

- 4a. *Syzygium guineense* **var. macrocarpum** Engl. Pflanzenw. Afr. 3, 2: 738 (1921); Aubrév. Fl. For. C. Iv. 2: 67, t. 268F (1936); Aubrév. Fl. For. Soud.-Guin. 87, t. 14, 1–3.

APD: *Synonym of Syzygium guineense subsp. macrocarpum (Engl.) F. White*

Fire-tolerant savannah tree or shrub, to 30 ft. high; fruits purple when ripe, edible; flowers often galled.

Gam.: Foni Dawe 85! **Fr. Sud.:** Guélia (Feb.) Chev. 312! **Fr. G.:** Landoumas Heudelot 669! Kouroussa (Jan.) Pobéguin 143! **S. L.:** Mt. Gonkwi, Talla Hills (Feb.) Sc. Elliot 4834! Batkanu (Jan.) Deighton 3589! Musaia (fl. Feb., fr. Apr.) Deighton 4178! 5400! Bintumane, 5,000 ft. (Jan.) Glanville 465! **Iv. C.:** Tafiré Aubrév. 850! **G. C.:** Nkwantanang, Kwahu (Jan.) Chipp 636! Jagalo to Tokali (fl. & fr. Mar.) Kitson 712! Abofuo (Feb.) Vigne 1804! **Togo:** fide Engl. l.c. **N. Nig.:** Funtua (Feb.) Foster 10! Kontagora (Dec.–Jan.) Dalz. 70! Meikle 1085! Bauchi Plateau (Jan.) Lely 82! P. 5! **S. Nig.:** Lagos Foster 16! Olokemeji F.R. (Jan.) A. F. Ross 52! Udi (Nov.) Ejiofor FHI 24681! **Br. Cam.:** Johnstone 279/32! Munkep, Bamenda (Feb.) Johnstone 65!

Widespread in tropical Africa.

- 4b. *Syzygium guineense* **var. littorale** Keay in Kew Bull. 1953: 289.

APD: *Synonym of Syzygium guineense (Willd.) DC. subsp. guineense*

Syzygium littorale Aubrév. Fl. For. C. Iv. 3: 70, t. 268B (1936), French descr. only, not of (Blume) Amshoff (1945).

Tree of low-spreading habit, to 35 ft. high, or shrub, on the sea coast; fruit violet, edible.

Iv. C.: Assinie (Mar.) Chaper! Chev. 17868! Abidjan Aubrév. 902! **G. C.:** Newtown (July) Chipp 280! Atwabo (fl. & fr. Feb.) Irvine 2343! **Togo:** Lome Warnecke 111! **Dah.:** Cotonou (Apr.) Debeaux 346! **S. Nig.:** Lagos Barter 2193! Moloney 18! Millen 40! Oni Sankey 6! Bonny (Feb.) Kalbreyer 51! Eket (Apr.) Talbot 3090! Amachi FHI 24307! **F. Po:** on the beach Mann 270! 1432!

Also in **French Cameroons** and **Gabon**.

Syzygium cumini (Linn.) Skeels

Eugenia jambolana Lam.

Has been introduced into cultivation.

LECYTHIDACEAE

Trees or shrubs; leaves simple, alternate, not gland-dotted but sometimes with large glands on the margin; stipules absent. Flowers usually rather large and showy, actinomorphic or zygomorphic,

hermaphrodite. Calyx 4–6-lobed, lobes valvate or imbricate. Petals 4–6, free or united into a campanulate tube and then with many ribs. Stamens numerous, in several series, sometimes the outer ones modified into staminodes and resembling a corona; filaments mostly united; anthers basifixed or rarely adnate, opening at the side by slits; staminal disk sometimes lobed. Ovary inferior or semi-inferior, 2- or more-celled; style mostly simple; ovules 1 to many on axile placentas, sometimes pendulous from near the apex of the cells. Fruit woody, fibrous or fleshy, indehiscent or operculate at the apex. Seeds without endosperm; embryo divided or entire.

- 1 Petals 4, free from each other; fruits with large membranous wings; anther-cells divergent . [1. Combretodendron](#)
Petals united into a broad campanulate many-ribbed often spreading tube; fruits not winged; anther-cells parallel: [2](#)
- 2 Corona absent; stamens very numerous, in several series; filaments filiform; ovary nearly superior [2. Crateranthus](#)
Corona present (probably formed of staminodes), in 2 series, the outer linear or threadlike, spreading, the inner ascending or erect, of broader petaloid segments; fertile stamens in a single series, with broad flat filaments; ovary inferior; leaves with small marginal glands or a pair at the base; fruit like a pomegranate . [3. Napoleona](#)

1. COMBRETODENDRON

A. Chev. Vég. Util. 5: 151 (1909).

Petersia Welw. ex Benth. & Hook. f. (1867); F.T.A. 2: 438; F.W.T.A., ed. 1, 1: 204; not of Klotzsch (1861).

- 1 A tree, up to 40 m. high; leaves obovate, acutely acuminate, long-cuneate at base, 10–16 cm. long, 5–7.5 cm. broad, thin, obscurely toothed, glabrous, often with large pits in the axils of the lateral nerves; petiole short, puberulous; flowers several in a short panicle; pedicels about 2 cm. long, jointed below the middle; calyx-lobes rounded and shortly ciliate; petals 4, glabrous; fruit almost orbicular, emarginate, 4–5 cm. broad, 4-winged, wings membranous and reticulately veined, the principal nerves spreading at a right angle [africanum](#)

Combretodendron africanum (*Welw. ex Benth. & Book. f.*) *Exell* in *J. Bot.* 68: 182 (1930); *Knuth* in *Engl. Pflanzenr. Barringtoniac.* 60 (1939).

APD: Synonym of Petersianthus macrocarpus (P. Beauv.) Liben

Petersia africana Welw. ex Benth. & Hook. f. Gen. Pl. 1: 721 (1867); F.T.A. 2: 439; F.W.T.A., ed. 1, 1: 202; Aubrév. Fl. For. C. Iv. 3: 35.

Combretodendron viridiflorum A. Chev. Vég. Util. 5: 150 (1909).

Petersia viridiflora (A. Chev.) A. Chev. l.c. 5: 301 (1909).

Petersianthus africanus (Welw.) Merr. in Philipp. Journ. Sci. 11: 201 (1916).

Rain forest tree with tall straight bole; bark with anastomosing fissures.

Fr. G.: Kissi Chev. **S. L.:** Pendembu, Manoa (fr. July, Aug.) Dawe 542! Neama, Javi (fr. Feb.) Deighton 3891! Gola North (Nov.) King 293! **Lib.:** Ganta (fr. Feb.) Baldwin 11030! **iv. C.:** Bouroukrou (Dec.–Jan.) Chev. 16102! Abidjan Aubrév. 203! **G. C.:** Mpraeso (fr. Jan.) Brent 399! E. Akim (June) Johnson 885! Abetifi (fl. & fr. June) Thompson 78! Dunkwa (fr. Aug.) Chipp 719! **S. Nig.:** Lagos Punch! Benin Unwin 54! Uzuakoli (fr. Aug.) Jones FHI 513! Degema Talbot 3746!

Also in **French Cameroons, Gabon, Belgian Congo and Angola.**

2. CRATERANTHUS

Bak. f. in Cat. Talb. 35, t. 5 (1913).

- 1 A tree, up to 36 m. high; branchlets with broad foliaceous wings between the leaves; leaves elongate-oblong-ovate, shortly and obtusely acuminate, unequally cordate at base, up to 40 cm. long and 12 cm. broad, thinly coriaceous, glabrous; lateral nerves 10–18 pairs, looped and forming a crenate intramarginal nerve; veins scarcely evident; petiole very short and thick; flowers axillary, subsessile, showy; bracts in 2 series, leathery; calyx deeply 3-partite, segments broadly obovate, very concave, about 2.5 cm. long, glabrous; corolla widely campanulate, with numerous strong projecting ribs outside, about 3.5 cm. long [talbotii](#)

Crateranthus talbotii *Bak. f. in Cat. Talb. 36, t. 5 (1913); Knuth in Engl. Pflanzenr. Barringtoniac. 65*

(1939). *APD acc*

A tall tree; in swamp forest; flowers showy; calyx leathery, with membranous margins; corolla crimson with paler margin.

S. Nig.: Oban Talbot 5! 5a! 1643! Calabar-Mamfe Road, Oban (fr. Apr.) Ejiofor FHI 21878!

Baker distinguishes two varieties: var. *parvifolius*, with smaller, more obtuse leaves and rose-pink flowers; and var. *multibracteatus*, with more series of bracts.

3. NAPOLEONA

P. Beauv.—F.T.A. 2: 439.

- 1 Trees and erect shrubs, much branched: 2
 Lianes or scandent shrubs, sparingly branched: 11
- 2 Flowers not paniculate: 3
 Flowers paniculate on the older wood; calyx warted outside and tomentellous; leaves obovate, abruptly and very acutely acuminate; subacute at base, up to 18 cm. long and 7–8 cm. broad, shining above, laxly reticulate beneath, with about 5 pairs of lateral nerves [10. egertonii](#)
- 3 Fruits deeply 5–10-lobed, 3·5–4·5 cm. diam., about 2 cm. long, deeply depressed at the apex (not known in No. 4); corolla unequally and rather deeply divided into several segments: 4
 Fruit not, or only slightly, lobed, and not, or only slightly, depressed at the apex; corolla mostly undivided, or shortly toothed on the margin; flowers mostly on leafy shoots and sometimes also on the older branches and trunk: 7
- 4 Flowers borne in fascicles on the old wood; calyx puberulous: 5
 Flowers axillary: 6
- 5 Flowers 5–10 in a cluster, 4–5 cm. diam., pale cream, mauve at the base of the inner corona; leaves narrowly oblong-lanceolate, rather oblique, rather abruptly long-acuminate, unequal at base, 12–20 cm. long, 3·5–5 cm. broad, with about 10 pairs of lateral nerves looped and forming a double marginal nerve; fruits about 10-lobed [1. talbotii](#)
 Flowers 10–30 in a cluster, 3–3·5 cm. diam., cream with mauve markings at the base of the inner corona; leaves oblong or oblong-oblong-lanceolate, acuminate, 25–26 cm. long, about 6 cm. broad, with 7–9 pairs of looped lateral nerves; fruits about 5-lobed [2. gascoignei](#)
- 6 Calyx glabrous; corolla about 4 cm. diam.; leaves rather abruptly acuminate, oblong or oblong-oblong-lanceolate, cuneate at base, 18–24 cm. long, 5–7 cm. broad, with about 8–9 pairs of lateral nerves; fruits 3·5–4 cm. diam., deeply lobed [3. megacarpa](#)
 Calyx puberulous and slightly rugose; corolla about 2·5 cm. diam.; leaves abruptly acuminate, rounded at base, 15–25 cm. long, 6–10 cm. broad; lateral nerves about 10 or more pairs, tertiary nerves numerous and parallel [4. manni](#)
- 7 Calyx glabrous: 8
 Calyx puberulous: 9
- 8 Outer linear rays of corona much shorter than the inner cup-shaped part; corolla deep red-purple with apricot-yellow edges, 3–4 cm. diam.; leaves with marginal glands near the petiole only; leaves oblong-elliptic to oblong-obovate, generally rather narrowly cuneate at base, 10–18 cm. long, 3·5–8 cm. broad; fruit depressed subglobose, 4·5–6 cm. diam., 3·5–4 cm. long [5. heudelotii](#)
 Outer linear rays of corona about as long as the inner cup-shaped part; corolla cream-yellow with purple lines, dark red at the base within, 4–5·5 cm. diam.; leaves with marginal glands and sometimes teeth on each side below the acumen, as well as near the petiole; leaves oblong-elliptic to obovate-oblong, generally rather broadly cuneate or obtuse at base, 14–28 cm. long, 3·5–12 cm. broad; fruit depressed subglobose, about 4–4·5 cm. diam., 3–3·5 cm. long [6. imperialis](#)
- 9 Calyx warted; leaves long-caudate-acuminate; acumen 1·5 cm. long, rather spatulate at apex; lamina oblong, shortly cuneate at base, about 12 cm. long and 4 cm. broad; laxly reticulate; lateral nerves looped well within the margin; corolla 2·2–2·5 cm. diam.; fruits smooth, about 4·5 cm. diam. and 3·5 cm. long [7. parviflora](#)
 Calyx not warted; acumen not spatulate; corolla 3–4·5 cm. diam.; fruit rugose: 10
- 10 Leaves abruptly rather long-acuminate, oblong, 10–15 cm. long, 4–6 cm. broad, laxly reticulate beneath; lateral nerves prominently looped within the margin, with a secondary marginal nerve outside; corolla about 3 cm. diam. [8. leonensis](#)

Leaves shortly acuminate, broadly elliptic, shortly cuneate at base, 8–12 cm. long, 4–6 cm. broad, rather closely reticulate beneath; lateral nerves ascending within the margin; corolla about 4 cm. diam. [9. vogelii](#)

- 11** Calyx glabrous; flowers axillary; leaves obovate-elliptic, obtuse at base, 15–20 cm. long, 6–9 cm. broad, with 2 small glands towards the base of the acumen; fruit depressed subglobose, up to 5 cm. diam. and 3·8 cm. long [11. lutea](#)

Calyx puberulous; flowers in dense clusters on the older branchlets; leaves oblong-elliptic, rounded at base, 15–20 cm. long, 5–8 cm. broad. [12. reptans](#)

- 1. *Napoleona talbotii* Bak. f.** in Cat. Talb. 32, t. 4, 1–2 (1913); Knuth in Engl. Pflanzenr. Barringtoniac. 72 (1939). *APD acc*

A tree with slightly angled branchlets.

S. Nig.: Oban (Aug.) Talbot 190! 195! 198!

Also in **French Cameroons**.

- 2. *Napoleona gascoignei* Bak. f.** l.c. 33 (1913); Knuth l.c. 73.

APD: *Synonym of *Napoleonaea talbotii* Baker f.*

A tree; fruit about 1 1/2 in. diam.

S. Nig.: Obutong Road, Oban Talbot 1223.

- 3. *Napoleona megacarpa* Bak. f.** l.c. 31 (1913); Knuth l.c. 69.

APD: *Synonym of *Napoleonaea talbotii* Baker f.*

Apparently a tree, with angled branchlets; flowers sometimes in the older axils.

S. Nig.: Oban Talbot 194! 197! **Br. Cam.:** Barombi (Sept.) Preuss 560! Ossidinge Rudatis 110.

Also in **French Cameroons** and **Gabon**.

- 4. *Napoleona mannii* Miers** in Trans. Linn. Soc., Ser. 2, 1: 11 (1875); Knuth l.c. 69.

APD: *Synonym of *Napoleonaea imperialis* P. Beauv.*

A tree, 20–25 ft. with rather strong pale striate branches and large leaves; corolla yellow; corona white.

F. Po: Mann 590! Bokoko Mildbr. 6819.

- 5. *Napoleona heudelotii* A. Juss.** in Ann. Sci. Nat., Sér. 3, 2: 227, t. 4 (1844); Chev. Bot. 269, partly; Knuth l.c. 69. *APD acc*

***Napoleona whitfieldii* Lem.** in Flores des Series 4: t. 386–7 (1848); Knuth l.c. 69.

A small tree; often in regrowth forest.

Fr. G.: Fouta Djallon Heudelot 748! Rio Nunez Heudelot! **S. L.:** Whitfield! Daragbe, Samu (Dec.) Sc. Elliot 4299! Kambia (Dec.) Smythe 96! Deighton 927! Njala (fl. Dec., fr. May) Deighton 2642! 4694! Magbile (Dec.) Thomas 6409!

- 6. *Napoleona imperialis* P. Beauv.** Fl. Oware 2: 30, t. 78 (1810); Miers l.c. 7; F.T.A. 2: 439, partly; Knuth l.c. 70. *APD acc*

***Napoleona cuspidata* Miers** l.c. 10 (1875); F.W.T.A., ed. 1, 1: 204; Knuth l.c. 70; Brenan in Kew Bull. 1950: 213.

***Napoleona miersii* Hook. f.** Bot. Mag. t. 7199 (1891); F.W.T.A., ed. 1, 1: 204; Knuth l.c. 69.

***Napoleona alexandri* Talb. & Bak. f.** in Cat. Talb. 31 (1913); Knuth l.c. 70.

Tree to 20 ft. high in understorey of forest; flowers in axils of older leaves and on old wood.

N. Nig.: Patti Lokoja (Feb.–Apr.) Elliott 38! 50! Dalz. 90! Agaie (Nov.–Mar.) Yates 33! Wamba (Feb.) Thornewill 46! **S. Nig.:** Lagos (Dec.–Mar.) Barter 2144! Dalz. 1182! 1399! Idanre Hills (Jan.) Brenan 8646! Warri Beauvois! Usonigbe F.R. (Nov.) Meikle 573! Ubulu (Jan.) Thomas 2274! Degema Talbot 3765! Eket Talbot 3109! 3174! 3179! Omokku, Ahoadá (Aug.) Talbot 3801! Calabar (Feb.) Mann 2272! Oban Talbot 997a! 1400! Bebi, Obudu (Dec.) Keay & Savory FHI 25014!

Also in [French Cameroons](#), [Belgian Congo](#) and [Angola](#).

7. **Napoleona parviflora** *Bak. f.* l.c. 30 (1913); Knuth l.c. 71.

APD: Synonym of Napoleonaea vogelii Hook. & Planch.

A tree with pale angled branchlets; flowers small, with the innermost whorl of the corona not bent outwards.

S. Nig.: Indokka Road, Oban Talbot 72! 193!

8. **Napoleona leonensis** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 204 (1927); Kew Bull. 1928: 220; Aubrév. Fl. For. C. Iv. 3: 36, t. 257; Knuth l.c. 72.

APD: Synonym of Napoleonaea vogelii Hook. & Planch.

Napoleona heudelotii of Chev. Bot. 269, partly, not of A. Juss.

A small tree; flowers rather pale-reddish, solitary in the axils.

Fr. G.: Bowali, Kouria (Nov.) Chev. 15054! **S. L.:** Talla Hills (Feb.) Sc. Elliot 4892! Commendl (Nov.) Aylmer **Lib.:** Gbanga (Oct.) Linder 1236! Dukwia R. (Oct.) Cooper 86! **Iv. C.:** Aubrév. 78!

9. **Napoleona vogelii** *Hook. & Planch* in Hook. l.c. Pl. t. 799–800 (1848); Chev. Bot. 270; Knuth l.c. 72. *APD acc*

A shrub or tree, up to 50 ft.; flowers axillary, or sometimes on the old wood; [in riverain forest and near seashore](#).

S. L.: Scarcies, Wallia (Feb.) Sc. Elliot 4554! R. Kora (fr. Feb.) Sc. Elliot 4798! Sulima (Jan.) Deighton 5310! Njala (fl. Nov., fr. Mar.) Deighton 1429! 4711! 4915! **Lib.:** Cape Palmas (July) T. Vogel 45! Monrovia (Nov.) Linder 1533! **Iv. C.:** fide Chev. l.c. **G. C.:** Prestea (Oct.) Vigne 234! Fiapere (Feb.) Chipp 86! Kumasi (Oct.) Vigne 1382! **Togo:** Kersting A. 630! **S. Nig.:** Lagos Foster 26! Punch Olokemeji (Nov.) A. F. Ross 28! Ibadan (Dec.) Meikle 903!

10. **Napoleona egertonii** *Bak. f.* l.c. 33, t. 4, 3–4 (1913); Knuth l.c. 73. *APD acc*

A tree, to 40 ft. high; flowers white.

S. Nig.: Rosevear 11/30! Oban Talbot 997! **Br. Cam.:** Atolo, Mamfe (Jan.) Jeme FHI 2019!

11. **Napoleona lutea** *Bak. f. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 204 (1927); Kew Bull. 1928: 220; Knuth l.c. 70. *APD acc*

Liane, stems to 60 ft. long; with whorls of 5–6 radiating twigs at intervals along the stem; corolla apricot-yellow, not split, rays of corona very short, pistil bright mauve.

S. Nig.: Eket Talbot 3173!

12. **Napoleona reptans** *Bak. f. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 204 (1927); Kew Bull. 1928: 220; Knuth l.c. 72. *APD acc*

Scandent shrub or liane, stems to 20 ft. long; corolla pale-apricot and white; pistil pale mauve.

S. Nig.: Eket Talbot 3175!

MELASTOMATACEAE

Herbs, shrubs or trees; branches opposite. Leaves simple, opposite or verticillate, mostly with 3 to 9 longitudinally parallel nerves; stipules 0. Flowers hermaphrodite, mostly very showy, actinomorphic. Calyx tubular, free or adnate to the ovary, or sometimes connected to it by septa-like strands; lobes imbricate or rarely valvate. Petals imbricate, free, rarely united at the base. Corona sometimes present. Stamens the same to double the number of the petals; filaments free, often geniculate, inflexed; anthers 2-celled, opening by a pore at the apex or rarely by a slit (Memecylon), connective often appendaged at

the base. Ovary mostly inferior, 1- to many-celled; style simple; ovules numerous, axile, or rarely basal or parietal. Fruit a capsule or berry. Seeds minute, without endosperm.

A large tropical family.

Easily recognized by the opposite exstipulate leaves often with very marked parallel main nerves, geniculate stamens, anthers opening by pores and usually inferior ovary.

Excluded genus: *Ditinnia rupicola* A. Chev. Bot. 279 = *Remusatia vivipara* Schott (Araceae).

- 1 Ovary 3–5-celled with numerous ovules; fruit with numerous small seeds; flowers usually fairly large and showy; anthers opening by a pore and mostly fairly long; mostly herbaceous or shrubby:.....2
- Ovary 1-celled, completely adnate to the calyx-tube; seeds large and solitary or few; anthers very short, opening by a longitudinal slit; trees and shrubs[20. *Memecylon*](#)
- 2 Stamens with equal and similar anthers, or slightly unequal in size only but not in structure:.....3
- Stamens with very unequal anthers, the connective of the larger ones always long-produced at the base and with 1–2 basal appendages:.....17
- 3 Stems well-developed:4
- Acaulescent herb with rounded tuber; leaves 3–6, broadly ovate to ovate-lanceolate, on long slender petioles; flowers solitary on long slender pedicels[14. *Bourdaria*](#)
- 4 Ovary completely free from the calyx-tube[1. *Nerophila*](#)
- Ovary partially or wholly adnate to the calyx-tube:5
- 5 Ovary without a ring of bristles or scales on the top:6
- Ovary with a ring of bristles or scales on the top:10
- 6 Anther-connective without an appendage[2. *Guyonia*](#)
- Anther-connective with one or two appendages:.....7
- 7 Calyx with distinct and persistent lobes[3. *Tetraphyllaster*](#)
- Calyx subtruncate:.....8
- 8 Flowers very numerous in dense globose heads borne on the woody stem below the leaves; calyx-tube constricted above the ovary[4. *Myrianthemum*](#)
- Flowers in terminal, relatively lax, cymes; calyx-tube campanulate or funnel-shaped, not constricted above the ovary:9
- 9 Ovary half-adherent, calyx-tube campanulate[5. *Phaeoneuron*](#)
- Ovary completely adherent to the funnel-shaped calyx-tube[12. *Preussiella*](#)
- 10 Ovary with a ring of bristles on the top; calyx-lobes well-developed:11
- Ovary with a cup or ring of scales on the top; calyx-tube truncate or undulately lobed:.....15
- 11 Calyx-lobes with alternating supplementary lobes:12
- Calyx-lobes without alternating supplementary lobes:13
- 12 Flowers 4-merous; connective with two adhering short but well-marked appendages; flowers capitate[6. *Antherotoma*](#)
- Flowers 5-merous; connective without appendages; flowers paniculate, or capitate[7. *Osbeckia*](#)
- 13 Flowers in many-flowered lax panicles, not enclosed by bracts; connective long-produced[8. *Sakiersia*](#)
- Flowers solitary or capitate, surrounded by bracts; connective not produced:14
- 14 Ovary completely adhering to the calyx-tube; anthers with short anterior appendage only; seeds rounded with a flattened side[9. *Tristemma*](#)
- Ovary adhering to the calyx-tube only at the base; anthers with short dorsal appendage as well as 2 linear anterior appendages; seeds elongate[10. *Cailliella*](#)
- 15 Calyx-tube and fruit strongly 5–10-angled; anther-connective with a single anterior appendage only [11. *Calvoa*](#)
- Calyx-tube terete, anther-connective with a dorsal as well as one or two anterior appendages:.....16
- 16 Leaves long-petiolate; connective with single appendage[12. *Preussiella*](#)
- Leaves subsessile; connective with 2 appendages[13. *Medinilla*](#)
- 17 Ovary with a cup of scales on the top, which crown the fruit[15. *Amphiblemma*](#)
- Ovary without a cup of scales on the top:.....18
- 18 Calyx-tube subtruncate, lobes not well-developed:19
- Calyx-lobes well-developed:.....20

- 19 Flowers in congested racemes; fruit angled or winged at the top; connective of the larger stamens with 2 anterior appendages and a short dorsal spur [16. *Dicellandra*](#)
 Flowers in lax panicles; fruit ellipsoid, smooth, fleshy; connective of the larger stamens without a dorsal spur [17. *Dinophora*](#)
- 20 Ovary 3-celled, linear [18. *Adamea*](#)
 Ovary 4–5 celled, with the calyx-tube, more or less campanulate, not linear [19. *Dissotis*](#)

1. NEROPHILA

Naud.—F.T.A. 2: 441.

- 1 Herb, about 15–20 cm. high, with few scattered leaves; leaves sessile, ovate, obtuse, about 1 cm. long, crenulate, sparingly setose on the upper surface, faintly 3-nerved; flowers 1–3 in a head surrounded by 4 leaves; calyx-tube glabrous; lobes lanceolate, ciliate, with alternate setose teeth; petals obovate; anthers 3 mm. long [gentianoides](#)

Nerophila gentianoides *Naud.*—F.T.A. 2: 441; Gilg in Engl. Monogr. Afr. Melastom. 4, t. 1A; Chev. Bot. 271.

APD: *Synonym of Chaetolepis gentianoides (Naudin) Jacq.-Fél.*

A herb **chiefly of damp places**, with small yellow flowers; petals 4.

Sen.: in marshes of R. Senegal Heudelot 668! **Fr. G.:** Kindia (Sept.) Farman 214! Mt. Loura, 4,500 ft. Jac.-Fel. 2006. Dinguiraye Jac.-Fel. 1470. **S. L.:** Bintumane Peak, 5,400–6,390 ft. (Jan.) T. S. Jones 83! 101!

2. GUYONIA

Naud.—F.T.A. 2: 443; Jac.-Fel. in Bull. Soc. Bot. Fr. 97: 225 (1950).

Afzeliella *Gilg* in Engl. Monogr. Afr. Melastom. 4; F.W.T.A., ed. 1, 1: 205.

- 1 Stems, leaves and calyx quite glabrous; stems creeping with ascending branches; leaves obovate, finely crenulate, 8–13 mm. long and almost as broad, narrowed to the 4–6 mm. long petiole; flowers 5-merous, terminal or axillary, solitary; calyx-lobes lanceolate, subacute, quite glabrous; petals ovate-oblong, 4 mm. long; ripe fruit 3 mm. long [1. *tenella*](#)
- Stems, leaves and calyx setose; stems creeping, rooting at the nodes; leaves ovate-rhomboid, subacute, 10–15 mm. long, nearly 10 mm. broad, crenulate, petiole nearly as long as the blade, slender; flowers 4–5-merous, terminal or terminating short lateral leafy branchlets, subsessile; receptacle glabrous, calyx-lobes filiform with long setose hairs; petals up to 8 mm. long; ripe fruit 5–6 mm. long [2. *ciliata*](#)

1. **Guyonia tenella** *Naud.*—F.T.A. 2: 443; Gilg in Engl. Monogr. Afr. Melastom. 4, t. 1B; Jac.-Fel. in Bull. Soc. Bot. Fr. 97: 225 (1950). *APD acc*

Slender annual, **in moist places by streams**.

Fr. G.: Fouta Djallon Heudelot 858.

2. **Guyonia ciliata** *Hook.f.* in F.T.A. 2: 443 (1871); Jac.-Fel. l.c. *APD acc*

Afzeliella ciliata (*Hook.f.*) *Gilg* l.c. 5; Chev. Bot. 272; F.W.T.A., ed. 1, 1: 205.

Guyonia intermedia *Cogn.* in De Wild. & Th. Dur. Pl. Thonner 30, t. 16 (1900); Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 7: 367 (1935).

Afzeliella intermedia (*Cogn.*) *Gilg* in Meck. Deuts. Zent. Afr. Exp. 582 (1913).

Guyonia gracilis A. Chev. Bot. 272.

Afzeliella sp. aff. ciliata of E. Guinea in Bol. Real. Soc. Esp. Hist. Nat. 49: 185, 186 (1951).

Weak annual, petals mauve; **by streams, in shade, or epiphytic**.

Fr. G.: Dalaba Plateau (Oct.) Chev. 18737. Kissi (Feb.) Chev. 20756. Kindia Jac.-Fel. 179. Macenta Jac.-Fel. 6S7. **S. L.:** Waterloo Burbridge 153! Yetaya (Sept.) Thomas 2392! York Pass (Dec.) Deighton 3308! Lowoma (Apr.) Deighton 3678! Baoma, Koya (Apr.) Deighton 3665! **Lib.:** Gbanga (Sept.) Linder 584! Kolubanu (Oct.) Linder 1119! **Iv. C.:** Sassandra

Basin (May) Chev. 16363; 17987. Cavally Basin (Apr., July) Chev. 19553; 21345. **Br. Cam.:** above Buea, 4,000 ft. (Nov.) Migeod 26! **F. Po:** Balachá (Jan.) Guinea 1457! Moka (Dec.) Boughey 66!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**.

3. TETRAPHYLLASTER

Gilg in E. & P. Pflanzenfam. Nachtr. 266 (1897).

- 1 Herb; leaves long-petiolate, ovate, shortly acuminate, acute, 4–6.5 cm. long, 1.5–3 cm. broad, more or less densely hairy beneath, 5-nerved; flowers solitary, terminal, sessile; bracts broadly ovate, ciliate, 7–8 mm. long; receptacle smooth; sepals ovate, persistent [rosaceum](#)

Tetraphyllaster rosaceum *Gilg* in E. & P. Pflanzenfam. Nachtr. 266 (1897); Engl. Monogr. Afr. Melastom. 34, t. 8A.

APD: Synonym of Tristemma leiocalyx Cogn. var. leiocalyx

An erect hairy herb, with fairly large rose flowers.

Br. Cam.: Buea, 3,000–5,000 ft. (Jan., Sept.) Preuss 702; Dundas FHI 15308!

4. MYRIANTHEMUM

Gilg in E. & P. Pflanzenfam. Nachtr. 266 (1897).

- 1 A glabrous climbing shrub; branches terete; lower leaves alternate, upper verticillate, obovate-elliptic, acute or shortly acuminate, entire, 15–30 cm. long, 5–13 cm. broad, 5-nerved at base, nerves impressed above and prominent beneath; flowers very numerous in a globose head up to 13 cm. in diam.; pedicels slender, 3.5 cm. long; calyx truncate, constricted above the ovary; petals 4, obovate [mirabile](#)

Myrianthemum mirabile *Gilg* in Engl. Monogr. Afr. Melastom. 33, t. 7 (1898). Including var. *dertatum* Bak. f. in Cat. Talb. 128.

APD: Synonym of Medinilla mirabilis (Gilg) Jacq.-Fél.

Slender liane; cauliflorous with globose bunches of very numerous flowers; pedicels and ovaries red.; petals pink.

S. Nig.: Oban Talbot 587! 1325! **Br. Cam.:** Maune River F.R., Mamfe (May) Tamajong FHI 22144! **F. Po:** St. Isabel Peak, 2,000–2,500 ft. Mildbr. 6292.

Also in **French Cameroons** and **Gabon**.

5. PHAEONEURON

Gilg in E. & P. Pflanzenfam. Nachtr. 267 (1897).

- 1 Leaves oblong-lanceolate, obtuse or slightly rounded at base, acutely acuminate, 5–10 cm. long, 2–3 cm. broad, slightly puberulous on the 3 main parallel nerves; tertiary nerves almost at right angles; inflorescence nearly glabrous; stamens unequal [1. setosum](#)
- Leaves ovate or ovate-elliptic, rounded or cordate at base, subacute at apex, up to 16 cm. long and 9 cm. broad, puberulous on the 5 main parallel nerves; inflorescence rusty-tomentose; stamens subequal [2. dicellandroides](#)

1. **Phaeoneuron setosum** (*Hook.f.*) *Stapf* in J. Linn. Soc. 34: 492 (1900).

APD: Synonym of Ochthocharis setosa (Hook. f.) Hansen & Wickens

Dicellandra ? setosa *Hook. f.* in F.T.A. 2: 459 (1871).

D. liberica Gilg in Engl. Monogr. Afr. Melastom. 33.

Phaeoneuron libericum (Gilg) Gilg in Engl. Pflanzenw. Afr. 3, 2: 762.

A shrub or undershrub, of moist places, the older branches stout, terete, longitudinally fissured; petals 5, rose, up to 17 mm. long.

S. L.: Afzelius! **Lib.:** Grand Bassa (Nov.) Dinklage 1767; 2056!

2. **Phaeoneuron dicellandroides** Gilg in Engl. Monogr. Afr. Melastom. 35 (1898).

APD: *Synonym of Ochthocharis dicellandroides (Gilg) Hansen & Wickens*

Phaeoneuron moloneyi Stapf in Bot. Mag. t. 7729 (1900).

Phaeoneuron gracile Hutch. & Dalz. F.W.T.A., ed. 1, 1: 206, partly; Kew Bull. 1928: 220, partly.

Dicellandra gracilis A. Chev. Bot. 276 (name only), partly; Bull. Mus. Hist. Nat. Sér. 2, 4: 679 (1932), partly.

Herb or undershrub, to 5 ft. high; older branches terete; petals 5, pink, 10–12 mm. long; **in moist places.**

Fr. G.: Nzérékoré Jac.-Fel. 1121. **S. L.:** Moselele (fr. Nov.) Deighton 2390! Near Roruks (fr. July) Deighton 4673! **Lib.:** Linder! **Iv. C.:** Dyolas country, Danané (Apr.) Chev. 21206! **S. Nig.:** Lagos Moloney 28! Okomu F.R. (Dec., Feb.) Brenan 8478! 9005!

Also extends through French Cameroons and Shari to **Angola**, Congo and E. **Sudan**.

6. ANTHEROTOMA

Hook. f.—F.T.A. 2: 444. *APD acc*

- 1 An annual herb; stems appressed-setose; leaves few, shortly petiolate, lanceolate, acute, 3–4 cm. long, 0.5–1.2 cm. broad, crenate, setose above and only on the nerves beneath, 3-nerved; flowers in a close terminal cluster subtended by leaves; pedicels about 3 mm. long; calyx-tube laxly setose, lobes narrowly lanceolate, stellately bristly at the top, with alternating narrower lobes; anther-connective produced at the base into 2 short lobes; ovary bristly at apex. [naudini](#)

Antherotoma naudini *Hook. f.* in F.T.A. 2: 444 (1871); Gilg in Engl. Monogr. Afr. Melastom. 9, t. 1F. *APD acc*

Annual, to 1 ft. high; petals 4, pink or mauve. Very similar to *Osbeckia decandra* (Sm.) DC. but distinguished by the 4-merous flowers and connectives with well-developed appendages.

Fr. G.: Farana Jac.-Fel. 2086! Dalaba (Nov.) Jac.-Fel. 573 bis! **N. Nig.:** Bauchi Plateau: Naraguta (Aug.) Lely 536! Vom Dent Young 93! Panyam (Sept.) Lely 728! Sho (Nov.) Keay FHI 21450! **Br. Cam.:** Jua, Bamenda (Apr.) Maitland 1497!

Widespread in tropical Africa and in Natal and Madagascar.

7. OSBECKIA

Linn.—F.T.A. 2: 441.

- 1 Calyx-tube elongated above after anthesis into a tube, reaching 3.5–5 mm. long; calyx-lobes broadly lanceolate, caducous; lower part of calyx about 8 mm. in fruit, densely covered with long-stalked stellate hairs; flowers in flexuous cymes, shortly pedicellate; petals 4–6 mm. long; leaves ovate, distinctly petiolate, rounded at base, acute at apex, 1.5–7 cm. long, 0.7–3.2 cm. broad, crenulate, 5-nerved, long-pilose on both surfaces [1 tubulosa](#)
Calyx-tube not elongated above after anthesis: **2**
- 2 Anthers short, thick, truncate at apex, connective scarcely produced below the anther; sepals persistent, triangular: **3**
Anthers linear, acuminate, connective produced below the anther: **4**
- 3 Leaves ovate to elliptic-oblong, sparsely pilose; anthers straight, 1 mm. long, shorter than the filaments [2. decandra](#)
Leaves lanceolate, densely villous; anthers twisted, 2.5 mm. long, almost as long as the filaments [3. praviantha](#)

- 4 Sepals persistent in fruit:5
 Sepals caducous in fruit, bristly at the tips; leaves about 3 cm. long, 1 cm. broad, 3-nerved, setulose-pubescent beneath; fruit contracted below the top, 10-ribbed and finely setose6. [senegambiensis](#)
- 5 Petals mauve or pink, about 6 mm. long and 4 mm. broad; stems, leaves and calyx long-setose; leaves narrowly oblong-elliptic, about 2–5 cm. long and 1 cm. broad; fruits subglobose, setose-pilose4. [congolensis](#)
 Petals yellow, 18 mm. long and 8 mm. broad; calyx glandular pubescent; stems sparsely appressed pilose; leaves ovate, 2–2.2 cm. long, 1–1.2 cm. broad, shortly petiolate, appressed strigose pubescent5. [porteresii](#)

1. **Osbeckia tubulosa** Sm.—F.T.A. 2: 442; Gilg in Engl. Monogr. Afr. Melastom. 9, t. 1E; Chev. Bot. 271. *APD acc*

Erect annual, to 18 in. high, with 4-angled reddish stems; petals mauve or pink.

Fr. Sud.: Koulikoro (Oct.) Chev. 2078! **Fr. G.:** Farmar 167! Dalaba-Diaguissa Plateau, 3,000–4,000 ft. (Oct.) Chev. 18701. Grand Chutea (Dec.) Chev. 20235. **S. L.:** Afzelius! Don! T. Vogel 4! Barter! Sc. Elliot 3828! Sherbro Isi. (Nov.) Hunter! Masingbi (Feb.) Deighton 4064! **Lib.:** Kakatown Whyte! **Togo:** Misahöhe (Nov.) Mildbr. 7313! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 84! Panshanu (Sept.) Lely 606! jos (Nov.) Keay FHI 21434! **S. Nig.:** Idanre (Oct.) Keay FHI 22680!

2. **Osbeckia decandra** (Sm.) DC. Prod. 3: 143 (1828); Gilg l.c. 7; Keay in Kew Bull. 1952: 164. *APD acc*

Osbeckia zeylanica var. **decandra** Sm. (1813).

Osbeckia afzelii (Hook. f.) Cogn. in DC. Monogr. 7: 300 (1891); Gilg l.c. 6, t. 1C. Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 7: 370 (1935).

Antherotoma afzelii Hook. f. in F.T.A. 2: 444 (1871).

Slender herb 4–8 in. high; petals 5, pink-mauve. Very similar to *Antherotoma naudini* Hook. f. but distinguished by the 5-merous flowers and connectives without appendages.

Fr. G.: Kindia Jac.-Fel. 190. Pita Jac.-Fel. 669. Macenta Jac.-Fel. 1089. **S. L.:** Afzelius! Tower Hill, Freetown (Oct.) Deighton 2514! Near Mapaki, N.P. (Aug.) Deighton 1296! Bumbuna to Farangbaia (Sept.) Deighton 5147! Rokupr (Nov.) Jordan 153! Sasa (Sept.) Jordan 321!

3. **Osbeckia praviantha** Jac.-Fel. in Bull. I.F.A.N. 15: 973, fig. 1 (1953). *APD acc*

Erect herb, to 18 in. high; flowers light pink; **on rock outcrops.**

Fr. G.: Macenta (Oct.) Jac.-Fel. 1238! Adam 6747! **Lib.:** Kolahun, W. Prov. (Nov.) Baldwin 10147!

4. **Osbeckia congolensis** Cogn. ex Büttner in Verh. Bot. Brand. 31: 95 (1889); Gilg l.c. 6; Chev. Bot. 270–1.

APD: Synonym of Dissotis congolensis (Cogn. ex Büttner) Jacq.-Fél.

Osbeckia senegambiensis of Chev. l.c., not of Guill. & Perr.

In damp sand or marshy places, to 18 in. high; flowers mauve.

Fr. Sud.: Tabacco (Jan.) Chev. 139. Gourma (July) Chev. 24313. **Fr. G.:** Kollangui (Mar.) Chev. 12879! Farana (Jan.) Chev. 20507! **S. L.:** Falaba (Mar.) Sc. Elliot 5172! Yetaya (Sept.) Thomas 2321! Kabala (Feb., June) Deighton 3739! 4155! **Iv. C.:** Orodougou, Sassandra (June) Chev. 21811.

Also in **Gabon, Congo, Uganda, Tanganyika** and **Angola**.

5. **Osbeckia porteresii** Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 10: 630 (1938). *APD acc*

Bushy herb, woody at the base, to 1 ft. high.

Fr. G.: Nimba Mt., 4,800–5,800 ft. (Nov.) Portères 3175! Jac.-Fel. 1933!

6. **Osbeckia senegambiensis** Guill. & Perr.—F.T.A. 2: 443; Gilg l.c. 8.

APD: Synonym of Antherotoma senegambiensis (Guill. & Perr.) Jacq.-Fél.

Osbeckia saxicola of Chev. Bot. 271, not of Gilg.

Stems erect from a woody rootstock, branched, stout, 4-angled, 12–18 in. high.

Sen.: near Cape Verde (Mar.) Döllinger! Casamance, Zinguinchor (Jan.) Chev. 3015. **Fr. G.:** Gaoual Jac.-Fel. 709!

8. SAKERSIA

Hook. f.—F.T.A. 2: 458.

- 1 Branches of the inflorescence glabrous except for a few bristles at the nodes; panicle lax-flowered; flowering when leafless; calyx-tube glabrous outside, except for the ciliate broad lobes; petals ciliate; branches with very thick long-bristly nodes; leaves elliptic, slightly cuneate at base, about 11 cm. long and 4.5 cm. broad, petiole 1.5 cm. long [1. *echinulata*](#)
- Branches of the inflorescence densely bristly; panicle many-flowered; petals glabrous; flowering when leafy: ..2
- 2 Calyx-tube glabrous outside except at the base; branches shortly bristly; leaves elliptic or oblong-elliptic, rounded at base, subacutely acuminate, 6–12 cm. long, 3–6 cm. broad, sparingly setose, petiole about 1 cm. long [2. *africana*](#)
- Calyx-tube densely bristly all over; branches densely brown setose; leaves ovate to ovate-elliptic, rounded to deeply cordate at base, obtuse at apex, 6–16 cm. long, 3–7 cm. broad, shortly setose on both surfaces, petiole 1–2 cm. long [3. *calodendron*](#)

1. **Sakersia echinulata** *Hook. f.* in F.T.A. 2: 458 (1871); Gilg in Engl. Monogr. Afr. Melastom. 32, t. 5F; Chev. Bot. 276.

APD: Synonym of Dichaetanthera echinulata (Hook. f.) Jacq.-Fél.

Sakersia mirabilis A. Chev.

Tree, to 20 ft. high, producing mass of pink blossom when leafless.

Fr. G.: Conakry (Jan.) Dalz. 8379! Between Mamou and Dalaba (Mar.) Dalz. 8380! Labé (Apr.) Chev. 12393! **S. L.:** Afzelius. Kofu Mt., Scarcies (Jan.) Sc. Elliot 4599!

2. **Sakersia africana** *Hook. f.* in F.T.A. 2: 458 (1871); Gilg l.c. 32; Chev. Bot. 276.

APD: Synonym of Dichaetanthera africana (Hook. f.) Jacq.-Fél.

Tree, to 50 ft. high. in moist places; flowers produced in great quantity, with the leaves; petals rose-pink.

S. L.: Dodo Hills (Jan.) Sawyerr FHK 13596! **iv. C.:** Tabou (Apr.) Aubrév. 1666! Grabo (July) Chev. 19651! **S. Nig.:** Oban Talbot 1347! Netim, Calabar (Jan.) Espley 13! Ikom Catterall 16! **Br. Cam.:** Cameroons R. (Jan.) Mann 2205!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Cabinda**.

3. **Sakersia calodendron** *Gilg & Ledermann* in Engl. Pflanzenw. Afr. 3, 2: 759 (1921).

APD: Synonym of Dichaetanthera corymbosa (Cogn.) Jacq.-Fél.

Tree, to 30 ft. high, by streams; flowers very numerous, with the leaves; petals magenta-pink.

Br. Cam.: Bamenda: Bum, 4,000 ft. (May) Maitland 1520! Ndop Plain (Dec.) Collier FHI 22208! Bambui, 4,500 ft. (Jan.) Keay FHI 28422!

Also in **French Cameroons**.

9. TRISTEMMA

Juss.—F.T.A. 2: 445.

- 1 Calyx-tube glabrous outside; branches sparingly setose, glabrescent below; leaves ovate-elliptic, rounded or subacute at base, 5–15 cm. long, 4–6 cm. broad, shortly appressed-setose above, almost glabrous beneath, 5-nerved [1. *littorale*](#)
- Calyx-tube with hairs outside in the upper half:2

- 2 Hairs on the calyx-tube scattered, not in rings; stems long pilose-setose; leaves ovate or ovate-elliptic, somewhat rounded at base, acutely acuminate, 6–8 cm. long, 3–4 cm. broad, longly and shortly setose above and beneath, 5-nerved; petiole shaggy, 1–2 cm. long [2. involucreatum](#)
- Hairs on the calyx-tube in one or more distinct rings, the rings sometimes discontinuous, especially as the ovary enlarges in fruit: [3](#)
- 3 Calyx-tube with 3 rings of bristly-hairs, or less: [4](#)
- Calyx-tube with 4–6 rings of bristles; flowers solitary, or few together; stem and petiole shortly setose, leaves ovate-elliptic, somewhat rounded at base, subacute, 6–10 cm. long, 4–7 cm. broad, setulose on both surfaces, 5-nerved; petiole slender, 1.5–2 cm. long [7. coronatum](#)
- 4 Leaves 3-nerved, up to 4 cm. long and 2 cm. broad, ovate-elliptic, delicate, with long-silky petiole and lamina; stems procumbent below, ascending above; flowers 1–3 together; calyx-tube with a single ring of bristles ... [3. radicans](#)
- Leaves 5-nerved, usually well over 4 cm. long and 2 cm. broad, rather stiff: [5](#)
- 5 Stems and petioles shortly and often sparingly setose; petiole slender: [6](#)
- Stems and petioles densely bristly-pilose with long shaggy hairs; leaves ovate-elliptic, rounded at base, acutely acuminate, 8–12 cm. long, 4–6 cm. broad, longly and shortly setose on both surfaces; petiole 1.5–3 cm. long, flattened; bracts pilose-setose, calyx-tube with 2–3 rings of bristles [6. hirtum](#)
- 6 Calyx-tube with only one complete ring of bristles and with a second incomplete ring, or rarely with a single incomplete ring only; leaves broadly ovate-elliptic, rounded or shortly cuneate at base, 10–15 cm. long, 5–8 cm. broad, appressed-setose above, nearly glabrous beneath [4. incompletum](#)
- Calyx-tube with two complete rings of bristles, and sometimes a third, or parts of a third, ring; leaves broadly ovate-elliptic, shortly cuneate at base, 7–15 cm. long, 3–8 cm. broad, appressed-setulose on both surfaces ... [5. mildbraedii](#)

1. **Tristemma littorale** Benth. in Fl. Nigrit. 353 (1849); Gilg in Engl. Monogr. Afr. Melastom. 25. *APD acc*

APD: Synonym of Tristemma albiflorum (G. Don) Benth.

Tristemma papillosum Gilg.

Tristemma oreophilum Gilg.

Tristemma schumacheri var. **littorale** Hook. f.—F.T.A. 2: 446.

A prostrate or suberect undershrub, 3–5 ft. or more, stems obtusely angled, often wiry; flowers pink to bluish-purple; [in wet places](#).

G. C.: Begoro, Akim (Apr.) Irvine 1359! **S. Nig.:** Lagos Rowland! Olokemeji Foster 297! Ibadan (Feb., Apr.) Meikle 1143! 1409! Ilesha Foster 174! Ajebandele (Mar.) Jones FHI 17203! Enugu (Aug.) Jones FHI 6562! **Br. Cam.:** Buea (Sept.) Preuss 961. Bibundi (Apr.) Schlechter 12407! **F. Po.:** (June, Nov., Dec.) T. Vogel 90! Mann 61! Barter!

Also in [Ubangi-Shari](#), [Congo](#) and [Principe](#).

2. **Tristemma involucreatum** Benth.—F.T.A. 2: 445; Gilg l.c. 24, t. 1K. *APD acc*

Melastoma involucreatum D. Don (1823), not of Desv. (1797).

Procumbent diffusely branched; flowers solitary.

Fr. G.: Macenta Jac.-Fel. 875. **S. L.:** Afzelius! Don! Barter! **Iv. C.:** Teke near Azaguie (Aug.) Favarger!

3. **Tristemma radicans** Gilg ex Engl. Pflanzenw. Afr. 3, 2: 754 (1921); Mildbr. Wiss. Ergebn. 1910–11: 189, name only.

APD: Synonym of Tristemma demeusei De Wild.

Small herb, procumbent below with ascending branches.

F. Po.: above Musola Mildbr. 7037! Moka, 4,000 ft. (Dec.–Jan.) Exell 831! Boughey 78!

4. **Tristemma incompletum** R.Br.—Gilg l.c. 25.

APD: Synonym of Tristemma mauritianum J.F. Gmel. var. mauritianum

APD: Synonym of Tristemma mauritianum var. rozeiranum Jacq.-Fél.

APD: Synonym of Tristemma littorale var. insulare Jacq.-Fél.

APD: Synonym of Tristemma albiflorum (G. Don) Benth.

APD: Synonym of Tristemma littorale var. biafranum

Tristemma schumachaeri Guill. & Perr.—F.T.A. 2: 446; Chev. Bot. 272.

Tristemma albiflorum (G. Don) Benth.—F.W.T.A., ed. 1, 1: 208.

Dissotis talbotii Bak. f. in Cat. Talb. 36.

A low undershrub with strongly angled branches; leaves often crimson beneath; flowers pink to purple, or white; **usually in marshy places but sometimes amongst rocks.**

Sen.: Heudelot 78! Bignona (Feb.) Chev. 3016. **Gam.:** Ingram! **Fr. G.:** Conakry (Feb.) Chev. 12243! Lola (June) Collette 38! **S. L.:** Don! Barter! Freetown (June) T. Vogel 7! Sugar Loaf Mt. (Dec.) Sc. Elliot 4019! Male R. (Dec.) Deighton 3566! Potoru, Bari (Nov.) Deighton 5260! **Lib.:** Gbanga (Sept.) Linder 581! Dukwia R. (Oct.) Cooper 13! **Iv. C.:** several localities fide Chev. l.c. **G. C.:** Kumasi F.R. (Aug.) Akwa FH 1769! **Togo:** Bismarckburg (fl. all year) Büttner 191; 425. Misahöhe (May) Baumann 303. **N. Nig.:** Dekina (June) Elliott 240! **S. Nig.:** Ibadan (fl. & fr. Oct.) Keay FHI 13774! **Br. Cam.:** Rio del Rey Johnston! Buea, 4,000 ft. (Nov.) Migeod! **F. Po:** Musola (Jan.) Guinea 1061!

Extends to **Angola** and E. **Sudan**.

5. Tristemma mildbraedii Gilg ex Engl. Pflanzenw. Afr. 3, 2: 755 (1921); Mildbr. Wiss. Ergebn. 1910–11: 189, name only.

APD: Synonym of Tristemma mauritianum var. mildbraedii (Gilg) Jacq.-Fél.

APD: Synonym of Tristemma littorale var. insulare Jacq.-Fél.

Much-branched semi-woody herb, with erect branches to 3 ft. high; petals pink.

S. Nig.: Okomu F.R. (Jan.) Brenan 8922! **F. Po:** Basilé, 1,900–2,600 ft. Mildbr. 6477!

6. Tristemma hirtum P. Beauv. Fl. Oware 93, t. 57 (1806); Ventenat Choix des Plantes 35 (1808); F.T.A. 2: 446; Gilg l.c. 26; Chev. Bot. 272. *APD acc*

APD: Synonym of Tristemma hirtum P. Beauv.

Tristemma dusenii Gilg l.c. 27.

A hirsute herb or undershrub, 3–4 ft.; flowers lilac to red; **in marshy places and waste lands.**

Sen.: Derrien! **Lib.:** Kakatown Whyte! Monrovia (Nov.) Dinklage 3274! Du R. (July) Linder 210! **Iv. C.:** mouth of Cavally (Aug.) Chev. 19904. **G. C.:** Axim (Dec.) Chipp 51! **N. Nig.:** Kontagora (Nov.) Dalz. 81! Nupe Barter 1314! Vom Dent Young 101! **S. Nig.:** Lagos (Sept.) Barter 2171! Millen 131! Dalz. 1088! 1183! Benin (Sept.) Farquhar 80! Beauvois. Nun R. (Aug.) T. Vogel 39! Opobo (Sept.) Holland 136! **Br. Cam.:** Bibundi (Nov., Jan.) Mildbr. 10665! Keay FHI 28653! Mamfe (Nov.) Tamajong FHI 22119! **F. Po:** Moka (fr. Dec.) Boughey 3!

Extending to Congo and Upper Shari.

7. Tristemma coronatum Benth.—F.T.A. 2: 446; Gilg l.c. 25, t. 1L; Chev. Bot. 272. *APD acc*

APD: Synonym of Tristemma hirtum P. Beauv.

APD: Synonym of Tristemma mauritianum J.F. Gmel. var. mauritianum

Half-prostrate herb, or undershrub, 1–3 ft. high; flowers rose or white.

Fr. G.: Macenta Jac.-Fél. 1042. **S. L.:** Don! Gola Forest (Nov.) Deighton 373! **Lib.:** Nana Kru, Sinoe (Mar.) Baldwin 11587! **Iv. C.:** fide Chev. l.c. **G. C.:** S. Fomang Su (Oct.) Brown 351! Axim Burton! Kumasi Cummins 150! Akim Irvine 550! **Togo:** Amedjope (Mar.) Williams 80!

10. CAILLIELLA

Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 10: 637 (1938).

- 1 Much-branched shrub; branchlets terete, strigose; leaves lanceolate, acute, 5–6 cm. long, 1.3–1.6 cm. broad, densely strigose on both surfaces, strongly 5-nerved, petiole 7–8 mm.; flowers 5-merous, terminal, solitary, sessile, surrounded by the upper leaves and 2–3 pairs of bracts; calyx-tube glabrous, 15 mm. long, with oblong, 7–8 mm. long, persistent lobes; ovary half-adnate to calyx-tube; petals obovate-truncate, 2 cm. long, 1.6 cm. broad; stamens equal; connective not produced, with two well-developed anterior appendages; seeds curved at apex, cuneate at base [praerupticola](#)

Cailliella praerupticola *Jac.-Fel.* in Bull. Mus. Hist. Nat. Sér. 2, 10: 637 (1938). *APD acc*

Shrub to 5 ft. high, flowering as the leaves fall.

Fr. G.: Benna massif, 2,900 ft. (Dec.) *Jac.-Fel.* 2139!

11. CALVOA

Hook. f.—F.T.A. 2: 457.

- 1 Stem and leaves densely hirsute; leaves with 5 main nerves, ovate-elliptic, subcordate, not acuminate, 4–6 cm. long, 2–3.5 cm. broad, petiole up to 2 cm. long; flowers subsessile, solitary to clustered; calyx-tube strongly ribbed, subtruncate; stamens 10, unequal; ovary crowned with 5 persistent leathery broad scales projecting beyond the calyx; fruit crowned by the scales [1. hirsuta](#)
- Stem and leaves glabrous; leaves with 3 main nerves: **2**
- 2 Scales of the ovary projecting well above the calyx in fruit, venose, widely emarginate; capsule obconical, 6–7 mm. long (including the projecting scales), 10-ribbed; leaves elliptic to obovate, unequally sided at base, shortly acuminate, setose-denticulate on margin, 3.5–7 cm. long, 2–4.5 cm. broad; flowers sessile on one side of the axis [2. monticola](#)
- Scales of the ovary included within the calyx-tube, even in fruit; capsule long and narrowly obconical, 12 mm. long, strongly 5-angled with fainter intermediate ribs; leaves ovate-elliptic, with a single seta at the obtuse apex and one seta on each margin in the upper half; inflorescence a terminal scorpioid cyme with 5–7 flowers [3. trochainii](#)

1. **Calvoa hirsuta** *Hook. f.* in F.T.A. 2: 457 (1871); Gilg in Engl. Monogr. Afr. Melastom. 32, t. 5E. *APD acc*

Annual herb 5–10 in. high, **in wet places in forest, on fallen trees, etc.**; petals white.

G. C.: Ankasa F.R., 200 ft. (Dec.) Vigne 3187! **F. Po:** 6,000 ft. Mann 285! Musola (Jan.) Guinea 1111! Mildbr. 6384; 7040.

2. **Calvoa monticola** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 209 (1927); Kew Bull. 1928: 221; Chev. Bot. 275, name only. *APD acc*

Epiphyte, or terrestrial, **in moist forest**; leaves fleshy, petals pink.

Fr. G.: Nzérékoré, 1,900 ft. (June) Collenette 37! Macenta *Jac.-Fel.* 900. **S. L.:** Gola Forest, Gaura (Dec.) King 91b! **Lib.:** Gola Forest (June) Bunting! Kassa Ta (Sept.) Linder 829! **Iv. C.:** Mt. Niénokué, 1,600 ft. (July) Chev. 19476! And other localities, fide Chev. l.c. **G. C.:** Begoro, Akim (Apr.) Irvine 1352!

3. **Calvoa trochainii** *Jac.-Fel.* in Bull. Mus. Hist. Nat. Sér. 2, 10: 639 (1938), with fig. *APD acc*

Branched epiphyte, 6–8 in. high; leaves fleshy, petals pink.

Fr. G.: Ziama Forest, Macenta, *Jac.-Fel.* 1151.

[An incomplete specimen from Fernando Po (Guinea 930 bis) appears to be close to *C. trochainii*, but has been given a provisional, and therefore invalid, name by E. Guinea in Bol. Real. Soc. Esp. Hist. Nat. 49: 179, 182 (1951).]

Calvoa sp.

Possibly new.

Br. Cam.: Mamfe (Sept.) Savory 650!

Imperfectly known species.

12. PREUSSIELLA

Gilg in E. & P. Pflanzenfam. Nachtr. 267 (1897).

- 1 Ovary with a small cup on the top within the calyx; flowers in short terminal cymes; receptacle (including calyx-tube) about 5 mm. long; petals 6–8 mm. long and 3–5 mm. broad; leaves long-petiolate, ovate, slightly cordate and 5-nerved at base, shortly and gradually acuminate, 6–11 cm. long, 3·5–5 cm. broad. [1. kamerunensis](#)

Ovary without a cup on the top within the calyx; flowers in dense terminal cymes of 40–80 flowers; receptacle (including calyx-tube) about 7 mm. long; petals about 12 mm. long and 8 mm. broad; leaves long-petiolate, ovate, rounded and 5-nerved at base, acuminate, 9–17 cm. long, 5–9 cm. broad [2. Chevalieri](#)

1. **Preussiella kamerunensis** *Gilg* in E. & P. Pflanzenfam. Nachtr. 267 (1897); Engl. Monogr. Afr. Melastom. 36, t. 9. *APD acc*

Woody epiphyte, to 1 ft. high; petals pale pink.

Lib.: Dukwia R., Monrovia (Apr.) Cooper 74! **Br. Cam.:** Elephant Lake, Barombi (Aug.) Preuss 442.

2. **Preussiella chevalieri** *Jac.-Fel.* in Bull. Mus. Hist. Nat. Sér. 2, 10: 641 (1938).

APD: *Synonym of Preussiella kamerunensis Gilg*

Woody plant to 21/2 ft. high. **epiphytic or on rocks**; petals pink.

Fr. G.: Zيام Forest, Macenta, 2,500 ft. (Sept.) Jac.-Fel. 1152! **iv. C.:** Mt. Tonkui, 3,200 ft. (Oct.) Jac.-Fel. 1277!

13. MEDINILLA

Gaud.-F.T.A. 2: 460.

- 1 A glabrous shrubby plant; branches subterete, with thickened nodes; leaves sub-sessile, lanceolate, rounded at base, long-acuminate, 7–11 cm. long, 1·5–2·5 cm. broad, 3-nerved, entire, glabrous; cymes very small, few-flowered; petals 4, white [mannii](#)

Medinilla mannii *Hook. f.* in F.T.A. 2: 460 (1871). *APD acc*

Epiphyte, 4 ft. high.

F. Po: Mann 302!

14. BOURDARIA

A. Chev. in Bull. Mus. Hist. Nat. Sér. 2, 4: 681 (1932); Brenan in Kew Bull. 1953: 86.

- 1 Small herb with round tuber and short stem bearing 3–6 leaves; petioles slender, 1·5–4·5 cm. long; lamina broadly ovate to ovate-lanceolate, acute to subobtuse at apex, rounded or cordate at base, 2·5–6 cm. long, 1·2–3·8 cm. broad, crenulate to serrulate margins, 3-nerved, sparingly setose above, glabrous beneath; pedicels slender, 5–22 on each rosette, shorter than leaves when flowers open, but elongating and reaching 5–9 cm.; flowers 4-merous, petals 6–7 mm. long, calyx about 2 mm. long, shortly lobed, adnate to the ovary, sparingly pubescent or glabrescent; capsule 4-angled, 3–4 mm. long and broad [felicis](#)

Bourdaria felicis *A. Chev.* in Bull. Mus. Hist. Nat. Sér. 2, 4: 682 (1932).

APD: *Synonym of Cincinnobotrys felicis (A. Chev.) Jacq.-Fél.*

Begonia-like herb, epiphytic and on rocks with moss, in moist shaded situations; petals pale pinkish-white.

Fr. G.: Kalifayagbé, Conakry, and Taouli, Kindia Jac.-Fel. 163. Benna massif, Kindia (June) Jac.-Fel. 1744! **S. L.:** Bumban, 1,200 ft. (June) Glanville 435!

15. AMPHIBLEMMA

Naud.—F.T.A. 2; 455. *APD acc*

- 1** Fruiting cymes secund; infructescence composed of 3–6 simple or sparingly branched more or less straight branches borne in a single whorl, with the fruits arranged secundly along the whole length of the branches; young inflorescences compact, cymose, 3–5 cm. in diam., the branches elongating in fruit; calyx-tube 4–5 mm. long, sparingly puberulous; fruit 6–8 mm. long, reddish-brown; stems puberulous, glabrescent; leaves ovate, cordate at base, subacutely acuminate, 8–18 cm. long, 5–13 cm. broad, slightly setulose, 7–9-nerved at base, petiole up to half as long as the lamina *l. cymosum*

Fruiting cymes not secund; infructescence richly branched with the fruits borne towards the tips of the branches; inflorescence a panicle of cymes, with 2–4 whorls of laxly branched branches, 5–7 cm. in diam. when young, but greatly elongating in fruit; calyx-tube 6–7 mm. long, densely puberulous; fruit 8–11 mm. long, yellowish-brown; leaves similar to above, 8–14 cm. long, 4–12 cm. broad, densely puberulous on the nerves beneath .. *2. mildbraedii*

- 1. Amphiblemma cymosum (Schrad. & Wendl.) Naud.**—F.T.A. 2: 456; Gilg in Engl. Monogr. Afr. Melastom. 30. *APD acc*

Melastoma cymosum Schrad. & Wendl. in Sert. Hannov. t. 10 (1796).
Calvoa superba A. Chev. Bot. 275.

Herb to 4 ft. high, sometimes epiphytic; in moist places; petals pink.

Fr. G.: Fouta Djallon (Sept.) Chev. 18501! 18528! Macenta Jac.-Fel. 1078. **S. L.:** Barter! Regent (Apr.) Sc. Elliot 5825! Mayoso (Aug.) Thomas 1407! Njala (fr. Aug.) Deighton 3225! **Lib.:** Peahtah (Oct.) Linder 1015! **Iv. C.:** Zagoué to Soucourala (May) Chev. 21575!

- 2. Amphiblemma mildbraedii Gilg ex Engl.** Pflanzenw. Afr. 3, 2: 756 (1921); Mildbr. Wiss. Ergebn. 1910–11: 188, name only. *APD acc*

Amphiblemma cymosum of F.W.T.A., ed. 1, 1: 210, partly.

Erect shrubby herb, to 7 ft. high; petals deep pink.

N. Nig.: Naraguta (July, Aug.) Lely 544! P. 519! **S. Nig.:** Idanre (Oct.) Keay FHI 21571! Awgu (Sept.) Jones FHI 6176! **Br. Cam.:** above Widdikum, Bamenda (Jan.) Keay FHI 28326! **F. Po:** Musola Mildbr. 7055. Mioka, 5,000 ft. (Dec.) Boughey 92! Moka (Feb.) Exell 853! Mildbr. 7092.

16. DICELLANDRA

Hook. f.—F.T.A. 2: 459.

- 1** Stems sharply angled, roughly villous on the angles; leaves ovate or ovate-orbicular, shortly acuminate, rounded or cordate at base, up to 25 cm. long and 15 cm. broad, 5–7-nerved with prominent tertiary nerves at right angles; petioles up to 15 cm. long; inflorescence cylindrical, about 6 cm. long *barteri*

- Dicellandra barteri Hook. f.** in F.T.A. 2: 459 (1871); Gilg in Engl. Monogr. Afr. Melastom. 33; Stapf in J. Linn. Soc. 34: 491. *APD acc*

Amphiblemma grandifolium A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 210 (1927); Kew Bull. 1928: 221; Chev. Bot. 276, name only; Bull. Mus. Hist. Nat. Sér. 2, 4: 678 (1932).

An epiphyte, or herb of damp places; stem stout, spongy, 10 ft., rooting at the nodes; leaves often purple beneath; flowers purple.

Lib.: Dukwia R. (Sept.) Cooper 365! Greenville, Sinoe (Mar.) Baldwin 11563! **Iv. C.:** between Fort Binger and Toula (July) Chev. 19541! Grabo (Aug.) Chev. 19710! **G. C.:** Tumfa Hills, Akim (Dec.) Johnson 50b! Ankasa F.R. (Dec.) Vigne 3174! **S. Nig.:** Okomu F.R. (Feb.) Brenan 9006! Nun R. Barter 2113! Eket Talbot 3002! Oban Talbot 490! 1275! **F. Po:** (Dec.) Mann 3! Ureka Guinea 2320!

Also in **French Cameroons**.

Dicellandra scandens *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 760 (1921); Mildbr. Wiss. Ergebn. 1910–11: 188, name only.

Described as differing from *D. barteri* Hook. f. in the lanceolate leaves, obtuse to only slightly cordate at base and in the long-bristly stems and petioles; possibly not distinct.

F. Po: Mildbr. 6358.

Imperfectly known species.

17. DINOPHORA

Benth.—F.T.A. 2: 444.

- 1 A glabrous shrub with slender branches; leaves sparse, ovate-oblong, cordate at base, acutely acuminate, 5–14 cm. long, 3–6 cm. broad, almost membranous, 5–7-nerved at base, serrate with mucronate teeth; tertiary nerves almost at right angles, sub-parallel, rather distant; flowers in lax terminal dichotomous panicles; pedicels slender; calyx-tube smooth, dentate; petals ovate-lanceolate, about 1 cm. long; stamens 10, subequal, the connective produced below and 2-lobed; fruit broadly ellipsoid, with very thin walls, splitting irregularly *spenneroides*

Dinophora spenneroides *Benth.*—F.T.A. 2: 445; Gilg in Engl. Monogr. Afr. Melastom. 27, t. 1H. *APD acc*

Phaeoneuron gracile *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 206, partly; Kew Bull. 1928: 220, partly.

Dicellandra gracilis *A. Chev.* Bot. 276, name only, partly; Bull. Mus. Hist. Nat. Sér. 2, 4: 679 (1932), partly.

Delicate spreading shrub, to 12 ft. high; flowers pink.

Fr. G.: Macenta Jac.-Fel. 931. Nzérékoré Jac.-Fel. 1100. **S. L.:** Baiyama, Barri (Sept.) Deighton 2231! **Lib.:** Du R. (Aug.) Linder 288! Fayapulu (Oct.) Linder 1138! Banga (Oct.) Linder 1257! **Iv. C.:** Grabo, Cavally Basin (July) Chev. 19635! And other localities, fide Chev. l.c. **S. Nig.:** Western Lagos (Aug.) Rowland! Sapoba (fl. & fr. Nov.) A. F. Ross 219! Kennedy 2689! Keay FHI 22705! Eket Talbot! **Br. Cam.:** Rio del Rey Johnston! Between Kumba and Victoria (fl. & fr. Apr.) Hutch. & Metcalfe 142! **F. Po:** (Nov., Dec.) T. Vogel 189!

Extends to Gabon and Congo.

18. ADAMEA

Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 23: 661 (1952). *Adamia* Jac.-Fel. (1951), non Wall. (1824). *APD acc*

- 1 Sparsely branched glabrous herb, woody at base; petiole up to 5 cm. long, lamina broadly ovate-elliptic, rounded to subcordate at base, apex obscurely acuminate, margin crenate, up to 5 cm. long and 3.5 cm. broad; flowers in lax, few-flowered cymes, to 13 cm. long; flowers sessile, with linear 3-celled ovary adnate to the calyx-tube except for the filiform apex within the upper part of the calyx-tube; petals 4 mm. long; larger stamens with 2 anterior and a single posterior appendage, smaller stamens without appendages *stenocarpa*

Adamea stenocarpa (*Jac.-Fel.*) *Jac.-Fel.* in Bull. Mus. Hist. Nat. Sér. 2, 23: 661 (1952).

APD: *Synonym of Feliciadamia stenocarpa* (*Jacq.-Fél.*) *Bullock*

Adamia stenocarpa *Jac.-Fel.* l.c. 23: 448, with fig. (1951).

Herb, to 1 ft. high in moist places among rocks, with purple flowers.

Fr. G.: Mt. Konosso, 4,300 ft. (July) Adam 5579!

19. DISSOTIS

Benth.—F.T.A. 2: 447.

- 1 Flowers solitary to paniculate with inconspicuous or early deciduous bracts:2
 Flowers several in a head usually surrounded by large persistent membranous bracts, or solitary and surrounded by large persistent bracts:32
- 2 Calyx-tube glabrous outside except sometimes for bristle-tipped processes between the calyx-lobes; rarely with a few bristles near the base:3
 Calyx-tube pubescent or bristly outside:8
- 3 Calyx with accessory linear lobes between the sepals:4
 Calyx without accessory lobes; leaves sessile or subsessile:7
- 4 Leaves more or less densely setose-pilose on both surfaces with a distinct setose-pilose petiole:5
 Leaves glabrous except for the ciliate margin, subsessile, lanceolate, up to 7 cm. long and 3 cm. broad, 5-nerved, paler beneath; stems glabrous, flowers in paniculate cymes; calyx with very fine bristle-like accessory lobes; petals about 3 cm. long[4. pobeguinii](#)
- 5 Calyx with 5 accessory long-setose linear lobes between the sepals, but without accessory lobes behind (i.e. outside) the sepals; stems creeping, rooting at the nodes; lamina elliptic to lanceolate, cuneate at base, acuminate at apex, about 8.5 cm. long and 3 cm. broad; petiole 1.5–1.8 cm. long, closely pubescent and sparingly long-ciliate; inflorescence terminal, 2–4-flowered, pedicels very short; petals 2.2–2.4 cm. long[1. sylvestris](#)
 Calyx with 10 accessory long-setose linear lobes, one behind (i.e. outside) each sepal as well as between the sepals:6
- 6 Petiole broad, flattened, densely covered with long setose cilia; stems sub-woody ascending, up to 50 cm. high; lamina lanceolate or elliptic-lanceolate, acute at each end, 6–10 cm. long, 1.5–4 cm. broad; inflorescence terminal, distinctly branched, up to 7-flowered, pedicels about 2 mm. long[2. antennina](#)
 Petiole only slightly flattened, sparsely pilose; stems very slender, creeping, rooting at the nodes; lamina ovate-lanceolate, acute at each end, 3–7 cm. long, 1.5–3.5 cm. broad; inflorescence terminal, 3–8-flowered [3. humilis](#)
- 7 Calyx-lobes 1.5–2 cm. long; leaves oblong-lanceolate, or linear-oblong, broad at base, obtuse or subacute, 3–8 cm. long, 0.6–1.3 cm. broad, glabrous except for the sparingly ciliate margin, midrib conspicuous beneath, two lateral nerves obscure; flowers solitary, pedicels 1 cm. long; fruit about 2 cm. long, crowned by the persistent calyx-lobes[5. cinerascens](#)
 Calyx-lobes less than 1 cm. long; leaves lanceolate, shortly narrowed at base, up to 3 cm. long, about 0.8 cm. broad, sparingly setose-ciliate on margin and midrib beneath; very obscurely nerved but with conspicuous midrib; flowers solitary or 2–3 in terminal cymes, pedicels 2–3 mm. long; fruit about 1 cm. long, with persistent calyx-lobes[6. glauca](#)
- 8 Flowers solitary, or up to 3 together:9
 Flowers more or less paniculate:13
- 9 Leaves glabrous on both surfaces except for sparse appressed setose-hairs on the midrib beneath and petiole, broadly ovate, cuneate at base, triangular acute at apex, 2–3 cm. long, 1.5–2.5 cm. broad, 3–5-nerved, rather long-petiolate; stems sparingly setose, decumbent, rooting at the nodes; calyx-tube rather sparsely pubescent with simple bristles[7. decumbens](#)
 Leaves setose on both surfaces:10
- 10 Petals not exceeding 2.5 cm. long:11
 Petals 4 cm. long; calyx-tube 5–6 mm. long, silky-tomentose with simple hairs, lobes 12–18 mm. long; stems woody and sarmentose, tomentose; leaves ovate-lanceolate to oblong, 3–8 cm. long, 1.5–3.5 cm. broad, densely pilose[11. jacquesii](#)
- 11 Stems very slender, decumbent or ascending, 2–10 cm. tall; hairs on stem, leaves and calyx very long (3–5 mm.); leaves ovate-lanceolate, 0.8–3.5 cm. long, 0.6–2 cm. broad; calyx-tube up to 5 mm. long, densely covered with long simple hairs; seeds smooth[8. pygmaea](#)
 Stems stouter and generally taller than above, hairs not exceeding 3 mm. long; calyx-tube 5 mm. or more long, usually with plumose hairs; seeds ridged or papillose:12
- 12 Herb with decumbent pilose stems rooting at the nodes; leaves varying from ovate-suborbicular to ovate-lanceolate, 1.5–6 cm. long, 1–2.5 cm. broad, petioles with long spreading hairs or with short hairs; calyx-tube more or less densely covered with simple and/or plumose bristles; larger stamens with connectives 4–7 mm.

- long and anthers 5.5–10 mm. long; seeds with concentric ridges, pitted in centre [9. *rotundifolia*](#)
- Shrub, to 1.5 m. high, much-branched with erect woody stems, leaves lanceolate to elliptic-lanceolate, 1.5–6.3 cm. long, 0.5–1.8 cm. broad, densely setose-pubescent on both surfaces, petiole up to 2 cm. long, shortly pubescent; calyx-tube sparingly covered with plumose bristles; larger stamens with connectives 1.5–2 mm. long and anthers 4–4.5 mm. long; seeds minutely papillose [10. *fruticosa*](#)
- 13** Leaves with stellate hairs, more or less closely tomentose beneath: **14**
- Leaves with simple hairs or bristles: **19**
- 14** Calyx-tube warty, covered with short stellate hairs; calyx-lobes early caducous; flowers produced before the leaves; lamina elliptic, acute at apex, rounded at base, about 5 cm. long and 3 cm. broad, prominently 5-nerved, petiole about 1 cm. long, densely tomentose [12. *leonensis*](#)
- Calyx-tube not warty, lobes persistent; petiole up to 2 mm. long, or leaves sessile; flowers produced on leafy shoots: **15**
- 15** Leaves linear, 2–4 cm. long, 2–3 mm. broad, with the two lateral nerves very close to the margin, densely woolly-tomentose beneath; internodes usually less than 2 cm [13. *linearis*](#)
- Leaves not linear, much exceeding 3 mm. broad, 5–9-nerved: **16**
- 16** Indumentum of calyx-tube predominantly of stellate hairs; leaves sessile, amplexicaul, 7–9-nerved: **17**
- Indumentum of calyx-tube predominantly of simple hairs; leaves very shortly petiolate, not amplexicaul, 5–7-nerved: **18**
- 17** Stem shortly stellate-tomentose; leaves ovate to ovate-lanceolate, 2–6 cm. long, up to 1.5 cm. broad; calyx-tube very shortly and sparingly stellate pubescent [14. *amplexicaulis*](#)
- Stem thickly pubescent with long spreading plumose or simple hairs as well as the shorter felt of stellate hairs; leaves broadly ovate and markedly amplexicaul, up to 5 cm. long and 4 cm. broad; calyx-tube densely stellate-tomentose [15. *sessilis*](#)
- 18** Calyx-tube sparingly pubescent with short simple hairs; stem stellate-tomentose; leaves narrowly ovate to lanceolate, up to 7 cm. long and 1.5 cm. broad [16. *canescens*](#)
- Calyx-tube densely hairy with long simple setose-hairs and short stellate hairs; stem with long spreading simple or plumose hairs, sometimes glandular, and with scattered short stellate hairs; leaves ovate or elliptic, up to 3.5 cm. long and 1.4 cm. broad [17. *bambutorum*](#)
- 19** Calyx-lobes setose, often densely so, on the outer surface as well as on the margins and tips: **20**
- Calyx-lobes glabrous outside, except for the ciliate margins and crest of long bristles at the tip; rarely with a few hairs on the midrib: **28**
- 20** Calyx-lobes lanceolate to oblong, not subulate: **21**
- Calyx-lobes subulate, long-bristly, caducous; calyx-tube 6–8 mm. long, 4–5 mm. broad, covered with simple bristles and bristle-tipped scales; petals up to 1 cm. long; leaves elliptic, cuneate to obtuse at base, usually 5-nerved, 4.5–10 cm. long, 1.5–5.5 cm. broad, petiole 1–3 cm. long [25. *multiflora*](#)
- 21** Tips of calyx-lobes and body of calyx-tube adorned with star-like clumps of large radiating bristles; lobes about 1 cm. long, obliquely oblong, tube about 1.3 cm. long, densely long-setose; leaves ovate, deeply cordate, 7–9-nerved with prominent venation, 4–11 cm. long, 2–6 cm. broad, densely hairy on both sides, strigose above, softer beneath [18. *graminicola*](#)
- Tips of calyx-lobes without star-like clumps of large bristles: **22**
- 22** Calyx-tube covered with round stalked processes covered with white hairs; calyx-tube 1.5–1.8 cm. long; petals about 4 cm. long; stems 4-angled with winged corners; petioles 1.5–4 cm. long, lamina oblong-ovate, rounded to cordate at base, 5–7-nerved, 7–15 cm. long, 3.5–6 cm. broad, glabrous except for closely appressed hairs on the nerves beneath and on the upper surface [19. *splendens*](#)
- Calyx-tube with simple or forked hairs, or with flat, bristle-tipped, scale-like projections: **23**
- 23** Stems more or less densely covered with simple hairs, leaves 5–7-nerved: **24**
- Stems glabrous or scabrid with short bristly scales; leaves lanceolate, 3–5-nerved, up to 20 cm. long and 6 cm. broad, petiole up to 6 cm. long; calyx-tube and lobes densely setose: **27**
- 24** Leaves much less than 15 cm. long; ovate to ovate-lanceolate: **25**
- Leaves 15–30 cm. long, 3.5–6 cm. broad, lanceolate, rounded at base, densely hirsute beneath, petiole 2–5 cm. long; stems very densely pilose, with long internodes 15–20 cm.; calyx-tube densely covered with long simple and shorter branched hairs and lanceolate scales [23. *pulcherrima*](#)
- 25** Stems and petioles with long shaggy hairs; bracts glabrous except for the ciliate margins; leaves ovate to ovate-lanceolate, rounded at base, gradually acute at apex, 4–9 cm. long, 1–4 cm. broad, lamina on both surfaces long-pilose, 5-nerved; calyx-tube setose with long and short simple hairs [20. *bamendae*](#)
- Stems with shorter appressed hairs; bracts pubescent all over: **26**
- 26** Calyx-tube about 1 cm. long and broad, with numerous imbricate bristle-tipped scales, densely bristly; calyx-

- lobes obliquely oblong-lanceolate, about 1 cm. long, densely pubescent; petals about 3 cm. long; bracts broad, rounded; leaves ovate to ovate-lanceolate, 5–8 cm. long, 1.5–4 cm. broad, obtuse or rounded at base [21. *perkinsiae*](#)
- Calyx-tube 6–8 mm, long and 4–5 mm. broad, with bristle-tipped scales only at apex and caducous with the lobes, shortly setose with simple hairs beneath; calyx-lobes narrowly lanceolate up to 3 mm. long; petals up to 1 cm. long; bracts acute; stems sharply 4-angled; leaves ovate, cordate at base, 7–9-nerved, up to 12 cm. long and 7 cm. broad, petiole about 5 mm. long [22. *brazzae*](#)
- 27** Stem glabrous between the nodes, with denticulate scales in the inflorescence region only; leaves with closely appressed setae fused to both surfaces [24. *elliottii* var. *elliottii*](#)
- Stem scabrid with numerous denticulate scales throughout its length; leaves densely long-setose with the setae fused to the surface for only a part of their length [24a. *elliottii* var. *setosior*](#)
- 28** Erect shrub to 3 m. high; stems appressed setulose, long-setose at nodes; leaves ovate-elliptic to oblong 5–9.5 cm. long, 2.5–5 cm. broad, softly pilose on both surfaces, petiole 1–1.5 cm.; calyx-tube 8–9 mm. long with long bristle-tipped scales, otherwise glabrous; calyx-lobes lanceolate, 1.5 cm. long, with bristles at tip, margins very sparsely ciliate; petals 2.5–3 cm. long [26. *idanreensis*](#)
- Herbs; stems with spreading hairs; leaves subsessile, or petiole up to 6 mm. long; calyx-lobes strongly ciliate: **29**
- 29** Calyx-tube at least 12 mm. in diam., densely covered with long bristles which completely hide the surface of the tube; calyx-lobes oblong about 1 cm. long, strongly ciliate with long bristles and with a large crest of bristles at the tip; petals about 3 cm. long; inflorescences rather few-flowered; stems and leaves with numerous long stiff bristles; leaves broadly lanceolate, subsessile, or with petiole up to 4 mm. long, 3–5-nerved .. [27. ? *longisetosa*](#)
- Calyx-tube less than 7 mm. in diam., with the surface clearly visible between the scales and bristles: **30**
- 30** Petals 2–4 cm. long; calyx-tube 8–10 mm. long; leaves lanceolate, 4–13 cm. long, 1–3 cm. broad, petiole up to 6 mm. long: **31**
- Petals 1–1.5 cm. long; calyx-tube up to 6 mm. long; flowers very numerous; stems densely covered with long spreading rather slender hairs; leaves linear to lanceolate, 4–10 cm. long, 0.5–2 cm. broad, pilose with long slender hairs [29. *irvingiana*](#)
- 31** Stems densely setose between the nodes [28. *grandiflora* var. *grandiflora*](#)
- Stems sparingly setulose between the nodes, with long bristles at the nodes [28a. *grandiflora* var. *lambii*](#)
- 32** Petals 4; bracts inconspicuous; calyx-tube short and becoming subglobose in fruit; leaves subsessile, lanceolate, subacute, 4–6 cm. long, 1–2 cm. broad, 3-nerved, pilose; flowers small in dense heads, surrounded by the uppermost leaves; calyx-tube glabrescent in the lower part; lobes lanceolate, 3 mm. long, alternating with bristle-tipped appendages [30. *phaeotricha*](#)
- Petals 5; bracts large and conspicuous, becoming dry in fruit: **33**
- 33** Calyx-tube with bristly hairs around the middle or all over the surface: **34**
- Calyx-tube glabrous except at base: **35**
- 34** Leaves broadly lanceolate, acute, rounded at base, shortly petiolate, 4–6 cm. long, 2 cm. broad, 5-nerved, slightly appressed-setulose; bracts 2 cm. long; no glandular hairs [31. *cornifolia*](#)
- Leaves broadly ovate, acutely acuminate, sometimes cordate at base, rather long-petiolate, 5–8 cm. long, 3–5 cm. broad, 5-nerved, long-pilose; bracts pilose and ciliate; stems densely shaggy with usually gland-tipped hairs [32. *paucistellata*](#)
- 35** Flowers single, each surrounded by an involucre of bracts about 1 cm. long; leaves broadly lanceolate, subacute, rounded at base, 6–10 cm. long, 2–4 cm. broad, 5-nerved, appressed-pilose on both surfaces, distinctly petiolate [33. *segregata*](#)
- Flowers several in a head with a common involucre of bracts: **36**
- 36** Stem glabrous, or with simple, not glandular, hairs: **37**
- Stems densely covered with soft gland-tipped hairs; leaves, etc., more or less as in *D. erecta* but calyx-lobes with a line of hairs up the middle [37. *lecomteana*](#)
- 37** Leaves lanceolate or linear-lanceolate, subsessile, or with petiole not exceeding 5 mm.; bracts membranous in fruit: **38**
- Leaves ovate, acute, rounded to cuneate at base, 5–13 cm. long, 3–6.5 cm. broad, 5-nerved, petiole 0.5–2.5 cm. long, strigose or pubescent on both surfaces, stems hirsute or strigose; bracts not membranous in fruit, calyx-lobes not hairy in the middle [36. *erecta*](#)
- 38** Stem glabrous or nearly so, quadrangular, almost white; petals blue or purple; bracts becoming membranous and almost hyaline in fruit; leaves 4–8 cm. long, 1–1.5 cm. broad, 3–5-nerved, sparingly setulose [34. *theifolia*](#)
- Stem hispid with long spreading hairs; petals white; leaves 4–5 cm. long, 6–10 mm. broad; leaves sparsely appressed-pilose above, shortly setulose beneath [35. *controversa*](#)

APD: Synonym of Heterotis sylvestris (Jacq.-Fél.) Jacq.-Fél.

Herb with long creeping stems rooting at the nodes, with erect branches; **in moist shady places**; petals pink.

Fr. G.: Ziama Forest, Macenta (Oct.) Jac.-Fel. 2088!

2. **Dissotis antennina** (Sm.) Triana in Trans. Linn. Soc. 28: 58 (1871); F.T.A. 2: 451; Gilg in Engl. Monogr. Afr. Melastom. 15; Jac.-Fel. l.c. 635.

APD: Synonym of Heterotis antennina (Sm.) Benth.

Osbeckia antennina Sm. (1813).

Lignieria alpestris A. Chev. Bot. 279.

Herb with ascending stems, to 18 in. high; perennating with tubers in the dry season.

Fr. G.: Kinsan, 2,500 ft. Jac.-Fel. 2087. Bilima Mt. Jac.-Fel. 1831. Ziama Mt., 2,500 ft., Macenta (Oct.) Jac.-Fel. 2089! Dalaba (Oct.) Chev. 18781! **S. L.:** Don! Sugar Loaf Mt., 1,000 ft. (Nov.) Deighton 5623!

3. **Dissotis humilis** A. Chev. & Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 4: 684 (1932); Jac.-Fel. op. cit. 10: 635 (1938). *APD acc*

Creeping herb; similar to above.

Fr. G.: Gangan Mt., Kindia (Nov.) Jac.-Fel. 220. Diaguissa (Oct.) Jac.-Fel. 2054!

4. **Dissotis pobeguinii** Hutch. & Dalz. F.W.T.A., ed. 1,1: 211 (1927); Kew Bull. 1928: 221.

APD: Synonym of Heterotis pobeguinii (Hutch. & Dalziel) Jacq.-Fél.

Erect unbranched herb, to 2 ft. high. with pale stem and large red-purple flowers.

Fr. G.: Baffing R., Douné (Aug.) Pobéguin 1695! Bilima Jac.-Fel. 2145!

5. **Dissotis cinerascens** Hutch. in Kew Bull. 1921: 372.

APD: Synonym of Heterotis cinerascens (Hutch.) Jacq.-Fél.

Erect glaucous herb, to 18 in. high, stems somewhat fleshy; petals magenta.

N. Nig.: Birnin Gwari (June) Keay FHI 25878! Bauchi Plateau: Naraguta (June) Lely 259! P. 331! Vom Dent Young 94!

Also in **French Camerouns** and **French Congo**.

6. **Dissotis glauca** Keay in Kew Bull. 1952: 545 (1953).

APD: Synonym of Heterotis rupicola (Gilg ex Engl.) Jacq.-Fél.

Dissotis ruficola Hutch. & Dalz. F.W.T.A., ed. 1, 1: 211 (1927); Kew Bull. 1928: 221; not of Gilg ex Engl. (1921).

Stem prostrate, rooting at the nodes; **in dry places amongst rocks**.

S. L.: Hart! Sugar Loaf Mt., (Dec.) Sc. Elliot 3977! **Lib.:** Zwedru, Tchien (Aug.) Baldwin 7065! Tawata, Boporo (Nov.) Baldwin 10351!

7. **Dissotis decumbens** (P. Beauv.) Triana l.c. 58 (1871); Gilg l.c. 15.

APD: Synonym of Heterotis decumbens (P. Beauv.) Jacq.-Fél.

Melastoma decumbens P. Beauv. (1806).

Dissotis laevis (Benth.) Hook. f.—F.T.A. 2: 451.

Stems creeping with erect branches; flowers rose, 1/2-3/4 in. diam.

S. Nig.: Nun R. (Aug.) T. Vogel 36! Degema Talbot! **F. Po:** (Dec.) Guinea 258!

Also in **French Cameroons**, **Gabon**, **Congo** and **Angola**.

8. **Dissotis pygmaea** A. Chev. & Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 4: 685 (1932).

APD: Synonym of Heterotis pygmaea (A. Chev. & Jacq.-Fél.) Jacq.-Fél.

A delicate herb, sometimes growing in clumps; on moist shaded rocks.

Fr. G.: Mt. Gangan, Kindia, (Nov.) Jac.-Fel. 195. Benna massif (Nov.) Jac.-Fel. 2108!

[This is possibly the same as *D. rupicola* Gilg ex Engl. Pflanzenw. Afr. 3, 2: 748 (1921), described from Sinoe Basin, Liberia.]

9. **Dissotis rotundifolia** (Sm.) Triana l.c. 58 (1871); Gilg l.c. 15. *APD acc*

APD: Synonym of Heterotis prostrata (Thonn.) Benth.

Osbeckia rotundifolia Sm. (1813).

Dissotis plumosa (D. Don) Hook. f.—F.T.A. 2: 452; Chev. Bot. 274.

Dissotis prostrata (Thonn.) Hook. f.—F.T.A. 2: 452; Chev. Bot. 274.

Dissotis deistellii Gilg ex Engl. Pflanzenw. Afr. 3, 2: 748 (1921).

A common and variable decumbent herb, often in damp places; flowers pink or mauve, about 2 in. diam.

Fr. G.: Mamou (Jan.) Chev. 20386. Beyla (Mar.) Chev. 20870. Macenta Jac.-Fel. 839. **S. L.:** Afzelius! T. Vogel 152! 154! Lester Peak (Dec.) Sc. Elliot 3874! Njala (Sept.) Deighton 2101! Musaia (Apr.) Deighton 5389! **Lib.:** Kakatown Whyte! Dukwia R. (Oct., Nov.) Cooper 23! **Iv. C.:** Mankono (June) Chev. 21932! **G. C.:** Aburi (Oct.) Johnson 461! Bonpata (Dec.) Dalz. 137! Essiama, W.P. (Apr.) Williams 438! **Togo:** Misahöhe (Nov.) Mildbr. 7390! **N. Nig.:** Patti Lokoja (Sept.) T. Vogel 184! Bauchi Plateau (May) Lely P. 289! **S. Nig.:** Abeokuta Irving 55! Lagos (Oct.) Dalz. 1187! **Br. Cam.:** Buea (Nov.) Migeod 7! **F. Po:** Musola (Jan.) Guinea 1259!

Widespread in tropical Africa.

10. **Dissotis fruticosa** (Brenan) Brenan & Keay in Kew Bull. 1952: 547 (1953). *APD acc*

Dissotis rotundifolia var. **fruticosa** Brenan in Kew Bull. 1950: 227.

Erect shrub of spreading habit, to 5 ft. high. on rocky hills; young stems, petioles and nerves pink; petals pale pink, opening in the morning and soon falling.

S. Nig.: Ondo (Sept.) Keay FHI 22569! Idanre Hills (Oct.) Keay FHI 25503! 25512!

11. **Dissotis jacquesii** A. Chev. in Bull. Mus. Hist. Nat. Sér. 2, 4: 686 (1932); Jac.-Fel. in Bull. Soc. Bot. Fr. 82: 284, with fig. (1935).

APD: Synonym of Heterotis jacquesii (A. Chev.) Aké Assi

Plant with woody sarmentose branches, growing in clumps and reaching several metres; petals violet.

Fr. G.: Mt. Gangan, Kindia Jac.-Fel. 240. Ditinn Jac.-Fel. 586. Pita Jac.-Fel. 679! Benna Jac.-Fel. 2097. **S. L.:** Picket Hill (Sept.) T. S. Jones 196! **Iv. C.:** Tonkouli Jac.-Fel. 1270.

12. **Dissotis leonensis** Hutch. & Dalz. F.W.T.A., ed. 1,1: 211 (1927); Kew Bull. 1928: 222. *APD acc*

Shrub, to 6 ft. high; flowers purple, produced before the leaves.

Fr. G.: Pita Jac.-Fel. 743. Kindia Jac.-Fel. 2142. Fouta Djallon Pobéguin 2281. **S. L.:** Kessewe Hill (Apr.) Lane-Poole 126! Sankon Biriwa (Feb.) Deighton 3507! Loma Mts. (Nov.) Jaeger 661!

13. **Dissotis linearis** Jac.-Fel. in Bull. I.F.A.N. 15: 980, fig. 2 (1953). *APD acc*

Dissotis incana of Chev. Bot. 273 and of F.W.T.A., ed. 1, 1: 212, partly (Chev. 13322), not of (E. Mey. ex Hochst.) Triana.

Erect herb in marshy soil.

Fr. G.: Dinguiraye (Dec.) Jac.-Fel. 1467! Timbo (Apr.) Chev. 13322; 13599. Labé to Mali Chev. 34391. Bouria to Ditinn Pobéguin 1416.

14. *Dissotis amplexicaulis* Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 8: 108 (1936).

*APD: Synonym of *Heterotis amplexicaulis* (Jacq.-Fél.) Aké Assi*

Dissotis gilgiana Hutch. & Dalz. F.W.T.A., ed. 1, 1: 212 (1927); Kew Bull. 1928: 222; not of De Wild.

Dissotis incana var. *gilgiana* A. Chev. Bot. 274.

Plant 2–3 ft. high; flowers a fine red; in moist ground.

Fr. Sud.: Sicoro (Jan.) Chev. 228! **Fr. G.:** Toukan to Bouria (Apr.) Chev. 12924! Douné (Dec.) Chev. 14634! **S. L.:** Erimakuna Sc. Elliot 5218! **Iv. C.:** Mankono circle (July) Chev. 21997!

15. *Dissotis sessilis* Hutch. ex Brenan & Keay in Kew Bull. 1952: 545 (1953). *APD acc*

Shrubby perennial herb, 2–4 ft. high; flowers cerise.

S. L.: Bintumane Peak, 5,000–6,000 ft. (Nov., Jan.) Glanville 386! 464! T. S. Jones 80! 93! Nichols 9! Loma Mts. (Nov.) Jaeger 491!

16. *Dissotis canescens* (Graham) Hook. f. in F.T.A. 2: 453 (1871).

*APD: Synonym of *Heterotis canescens* (E. Mey. ex Graham) Jacq.-Fél.*

Osbeckia canescens Graham (1840).

Osbeckia incana E. Mey. ex Hochst. (1845–6).

Dissotis incana (E. Mey. ex Hochst.) Triana; Gilg l.c. 17; F.W.T.A., ed. 1, 1: 212, partly.

Erect herb 3–4 ft. high in wet places; flowers pink or purple.

N. Nig.: Kontagora (Dec.) Dalz. 82! Bauchi Plateau: Naraguta (Nov.) Lely 720! Vom Dent Young 97! Ropp (Dec.) Savory UCI 121!

[These specimens have the calyx-tube sparsely covered with simple instead of stellate hairs as in other forms of the species which is widespread in tropical and southern Africa; our form has been described as var. *sudanensis* Jac.-Fel. in Bull. I.F.A.N. 15: 980 (1953).]

17. *Dissotis bambutorum* Gilg & Ledermann ex Engl. Pflanzenw. Afr. 3, 2: 750 (1921).

*APD: Synonym of *Heterotis angolensis* var. *bambutorum* (Gilg & Ledermann ex Engl.) Jacq.-Fél.*

Erect herb, to 3 ft. high, at edge of forest and by streams; flowers bright pink.

Br. Cam.: Lakom, Bamenda, 6,000 ft. (Apr.) Maitland 1679! Near L. Bambulue, 6,200 ft. (Jan.) Keay FHI 28370! Near Bamenda, 6,000–7,500 ft. (Jan.) Migeod 382! 422!

Also in French Cameroons.

18. *Dissotis graminicola* Hutch. in Kew Bull. 1921: 371. *APD acc*

Erect shrubby herb, to 6 ft. high; flowers about 2 1/2 in. diam., bluish purple or magenta.

N. Nig.: between Abuja and Kagarko (Dec.) Meikle 1588! Dogon Kurmi, Jemaa (Nov.) Keay FHI 21734! Naraguta (Aug., Jan.) Lely 543! P. 126! Jos (Nov.) Keay FHI 21027!

19. *Dissotis splendens* A. Chev. & Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 4: 686 (1932). *APD acc*

Perennial, to 6 ft. high with 4-winged stems and large mauve flowers.

Fr. G.: Gangan Mt., Kindia Jac.-Fel. 207. Pita Jac.-Fel. 1960. Dalaba Jac.-Fel. 2053. Benna Jac.-Fel. 2098.

20. *Dissotis bamendae* Brenan & Keay in Kew Bull. 1952: 546 (1953).

*APD: Synonym of *Dissotis princeps* (Kunth) Triana var. *princeps**

Stout herb to 6 ft. high; flowers about 2 in. diam., deep pink or violet.

Br. Cam.: Bamenda, 5,400–7,000 ft. (Jan.) Migeod 392! Keay FHI 28344! Nchan, Bamenda, 5,000 ft. (June) Maitland 1734!

Also in **French Cameroons**.

21. *Dissotis perkinsiae* Gilg in Engl. Monogr. Afr. Melastom. 21 (1898). *APD acc*

Shrub, 3–5 ft. high; flowers about 2 1/2 in. diam., reddish-violet or deep mauve-purple.

Togo: Bismarckburg (Feb.) Büttner 385! Misahöhe (Nov.) Mildbr. 7254! **S. Nig.:** Unya, Obudu (Dec.) Keay & Savory FHI 25020! **Br. Cam.:** Tinta, Mamfe (Jan.) Jeme FHI 2033! Bamenda, 5,000 ft. (Apr.) Maitland 1429!

Also in **French Cameroons**.

22. *Dissotis brazzae* Cogn. in DC. Monogr. 7: 372 (1891); Exell in J. Bot. 67, Suppl. 1: 179 (1929). *APD acc*

Dissotis multiflora of Gilg l.c. 18, partly; of F.W.T.A., ed. 1, 1: 212, partly; not of Triana.

Shrubby herb, to 8 ft. high; flowers mauve or purple.

Fr. G.: Macenta (Oct.) Jac.-Fel. 1090! Baldwin 9834! Nzérékoré (Oct.) Baldwin 9701! Mt. Nimba (Sept.) Schnell 3589! **S. L.:** Benikoro (Oct.) Thomas 2889! **Togo:** Misahöhe (Nov.) Mildbr. 7201! **Br. Cam.:** Bamenda, 7,000 ft. (Oct.) Johnstone 242/31!

Also in **Congo, Uganda** and **Angola**.

23. *Dissotis pulcherrima* Gilg l.c. 20 (1898).

APD: *Synonym of Dissotis thollonii Cogn. ex Büttner var. thollonii*

"A 9–12-ft. high, stiff, erect, unbranched shrub which only after flowering produces adventitious shoots; flowers lilac, about 1 1/2 in. diam."

Togo: Misahöhe Baumann 387. Bismarckburg (Jan., Feb.) Büttner 369.

24. *Dissotis elliotii* Gilg var. *elliotii*-Gilg l.c. 19 (1898). *APD acc*

Dissotis thollonii A. Chev. Bot. 275, not of Cogn.

Dissotis floribunda A. Chev. Bot. 273.

Stout herb or undershrub to 8 ft. high; flowers red- or blue-purple, about 1 1/2 in. diam.

Fr. Sud.: Koundian (Feb.) Chev. 417! **Fr. G.:** near Mamou (Mar.) Dalz. 8378! **S. L.:** Kukuna (Jan.) Sc. Elliot 4513! Likuru (Feb.) Sc. Elliot 4996! Kamalo (Feb.) Deighton 3497! Bintumane Peak, 4,500–5,400 ft. (Jan.) T. S. Jones 89! 96! **Lib.:** Mao R. (Feb.) Bequaert 54! **N. Nig.:** Vom Dent Young 99! **Br. Cam.:** Lakom, Bamenda (Apr.) Maitland 1677! Near Batibo (Jan.) Keay FHI 28329! Bamenda (May) Maitland 1444!

24a. *Dissotis elliotii* var. *setosior* Keay & Brenan in Kew Bull. 1950: 342 (1951).

APD: *Synonym of Dissotis thollonii Cogn. ex Büttner var. thollonii*

Similar to above, but with scabrid stem and more densely setose leaves.

S. Nig.: Balleghete, Obudu (Jan.) Rosevear 4/30! Koloishe, 5,000–5,400 ft. (Dec.) Keay & Savory FHI 25080! Ikwetete (Dec.) Keay & Savory FHI 25236!

25. *Dissotis multiflora* (Sm.) Triana l.c. 58 (1871); Gilg l.c. 18 (excl. syn. *D. brazzae* Cogn.); Chev. Bot. 274. *APD acc*

Osbeckia multiflora Sm. (1813)—F.T.A. 2: 442.

Osbeckia liberica Stapf in J. Linn. Soc. 37: 98 (1905); F.W.T.A., ed. 1, 1: 208.

Shrubby herb, to 4 ft. high, **usually in moist places**; flowers pink, about 1 in. diam.

Fr. G.: Nzérékoré (June) Jac.-Fel. 954! 1103! **S. L.:** Don! Sherbro Sc. Elliot 5788! Kenema (Jan.) Thomas 7684! Njala (Sept.) Deighton 2122! Peri, Gaura (Oct.) Deighton 5209! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! Du R. (July) Linder 118! **Iv. C.:** fide Chev. l.c. **S. Nig.:** Onitsha Barter 1796! Eket Talbot 3358! Oban Talbot! **Br. Cam.:** Rio del Rey Johnston!

Also in **French Camerouns** and **Congo**.

26. **Dissotis idanreensis** *Brenan* in Kew Bull. 1950: 214. *APD acc*

Erect shrub to 10 ft. high, on rocky hills where it flowers when leafless, and in swampy grassland; petals magenta.

S. Nig.: R. Oshun, Ibadan (Nov.) Keay FHI 28139! Idanre Hills (Jan.) Brenan & Keay 8694!

27. **Dissotis? longisetosa** *Gilg & Ledermann ex Engl.* Pflanzenw. Afr. 3, 2: 752 (1921). *APD acc*

Erect, sparingly branched herb with rough brown bristles; flowers purple-pink.

S. Nig.: Koloishe Mt., Obudu, 5,000–5,400 ft. (fl. & fr. Dec.) Keay & Savory FHI 25084! **Br. Cam.:** L. Bambulue, Bamenda, 7,000 ft. (Oct.) Johnston 220/31!

Also in **French Camerouns**.

[These specimens agree perfectly with specimens from the type locality—the Bambuto Mts.—but differ from Engler's description in having asymmetrical calyx lobes.]

28. **Dissotis grandiflora** (*Sm.*) *Benth. var. grandiflora*—F.T.A. 2: 455; Gilg l.c. 21; Chev. Bot. 273. *APD acc*

Osbeckia grandiflora *Sm.* (1813).

Dissotis djaloni *A. Chev.* Bot. 273.

Stem 1–2 ft. from a woody tuberous base; flowers purple, 2 in. or more in diam.

Fr. G.: (Sept.) Farmar 261! Fouta Djalon Heudelot 779! Mali Jac.-Fel. 1979. Dalaba Jac.-Fel. 2051. **S. L.:** Don! Sc. Elliot 4490! Hastings Dawe! Mange Bureh (Jan.) Deighton 1046! Musaia (Apr.) Deighton 5416! **Lib.:** Pandamai (Mar.) Bequaert 96! **Iv. C.:** fide Chev. l.c.

28a. **Dissotis grandiflora var. lambii** (*Hutch.*) *Keay* in Kew Bull. 1952: 545 (1953). *APD acc*

Dissotis lambii *Hutch.* in Kew Bull. 1916: 230; F.W.T.A., ed. 1, 1: 212.

Stem 4–5 ft., simple or sparingly branched; flowers mauve or blue-purple, about 3 in. diam.

Fr. G.: (July) Collenette 77! **G. C.:** Wanki, Ashanti (June) Chipp 483! **N. Nig.:** Kaduna (Oct.) Lamb 58! Naraguta (June) Lely 285! 484! P. 578!

29. **Dissotis irvingiana** *Hook.*, Bot. Mag. t. 5149 (1859); F.T.A. 2: 453; Gilg l.c. 20; Chev. Bot. 274. *APD acc*

Osbeckia calotricha of Chev. Bot. 274, partly, not of Gilg.

Stems erect, branched, 4-angled, 3–4 or more ft. high; flowers rose-purple. Flourishing in moist places, but abundant also in dry bush.

Gam.: Brown-Lester 21! **Port. G.:** Pussubé (Mar.) Esp. Santo 1143! **Fr. Sud.:** Sicoro (Jan.) Chev. 230. **Fr. G.:** Timbo Pobéguin 1697! Kankan Jac.-Fel. 496. Macenta Jac.-Fel. 1308. **S. L.:** Musaia (Dec.) Deighton 5710! Warantamba (Oct.) Small 370! **Iv. C.:** Orodougou (June) Chev. 21830! **G. C.:** Krobo (Dec.) Johnson 496! Kintampo (June) Vigne 3048! **Togo:** Kpedsu (Dec.) Howes 1054! Misahöhe (Nov.) Mildbr. 7335! Lome Warnecke 437! **N. Nig.:** Nupe Barter 1025! Naraguta (June, Aug.) Lely 333! P. 570! Abinsi (Dec.) Dalz. 717! **S. Nig.:** Abeokuta Irving 119! Olokemeji Foster 302! **Br. Cam.:** Bamenda to Kentu (June) Maitland 1551!

Also in **French Camerouns** and **Ubangi-Shari-Chad**.

30. **Dissotis phaeotricha** (*Hochst.*) *Triana* in Trans. Linn. Soc. 28: 58 (1871); F.T.A. 2: 451; Gilg l.c. 14. *APD acc*

Osbeckia phaeotricha *Hochst.* (1844).

Dissotis villosa *Hook. f.* in F.T.A. 2: 450 (1871).

Osbeckia postpluvialis Gilg.

Herb 6–18 in. high; petals 4, mauve or purple; in moist places and cultivated fields.

Gam.: Dawe 31! **Fr. G.:** Youkounkoun Jac.-Fel. 702. Gaoual Jac.-Fel. 712. Dinguiraye Jac.-Fel. 1456. **N. Nig.:** Nupe Barter 895! 1315! Kontagora (Nov.) Dalz. 84! Anara F.R., (Oct., Nov.) Keay FHI 5448! 28119! Vom Dent Young 100! Ropp (July) Lely 447! Abinsi (Apr.) Dalz. 755!

Widespread in tropical Africa and in S. Africa.

31. *Dissotis cornifolia* (Benth.) Hook. f. in F.T.A. 2: 448 (1871); Gilg l.c. 13.

APD: Synonym of Melastomastrum cornifolium (Benth.) Jacq.-Fél.

Heterotis cornifolia Benth. (1849).

Herb, to 3 ft. high. in moist places; petals mauve to purple.

S. L.: Afzelius! Ronietta (Nov.) Thomas 5326! 5444! Benikoro (Oct.) Thomas 2892! Njala (June) Deighton 1745! Rhombe (Mar.) Adames 152! **Lib.:** Grand Bassa (July) T. Vogel 80! Monrovia (July) Linder 30!

32. *Dissotis paucistellata* Stapf in J. Linn. Soc. 37: 99 (1905).

APD: Synonym of Melastomastrum afzelii var. *paucistellatum* (Stapf) Jacq.-Fél.

A hirsute herb, 2–3 ft. high; flowers rose, about 2 in. diam., in involucrate heads. Very similar to and easily mistaken for *Tristemma hirtum* but distinguished by the usually gland-tipped hairs, by the calyx being bristly all over, and the unequal stamens.

Fr. G.: Mamou Jac.-Fel. 776. **S. L.:** Kabusa, Limba (Apr.) Sc. Elliot 5478! Rowala (July) Thomas 1042! Bumbuna (Oct.) Thomas 3764! Njala (Oct.) Deighton 1418! **Lib.:** Monrovia Whyte! Kakatown Whyte! Kolubanu (Oct.) Linder 1133! Mt. Barclay (Jan.) Dalz. 8092! **G. C.:** Axim Joly.

[M. Jacques-Félix informs me that Dr. Joly's specimen, cited by Cogniaux l.c. 364 as *D. afzelii* Hook f., is *D. paucistellata* Stapf. If Joly's specimen is in fact identical with Afzelius s.n. type of *D. afzelii* (a specimen which has not been seen either by Hutchinson, Jacques-Félix or myself), then *D. paucistellata* Stapf must, as would appear likely from the descriptions, be regarded as a synonym of *D. afzelii* Hook. f.—F.T.A. 2: 449—R.W.J.K.]

33. *Dissotis segregata* (Benth.) Hook. f. in F.T.A. 2: 448 (1871); Gilg l.c. 12.

APD: Synonym of Melastomastrum segregatum f. *segregatum*

Heterotis segregata Benth. (1849).

Stem 4-angled, with bristles at the nodes, shrubby below; 2–3 ft. high; at edges of swamps, etc.; flowers red- or blue-purple, about 1 1/2 in. diam.

N. Nig.: Nupe Barter 1311! Lokoja Ansell! **S. Nig.:** Lagos (Apr.) Dalz. 1185! Nun R. (Aug.) T. Vogel 12! Ibo country (Aug.) T. Vogel 9! Calabar (Sept.) Holland 131!

Widespread in tropical Africa, reaching S. Rhodesia and Angola.

34. *Dissotis theifolia* (G. Don) Hook. f. in F.T.A. 2: 449 (1871); Gilg l.c. 13, t. 2A; Chev. Bot. 275.

APD: Synonym of Melastomastrum theifolium (G. Don) A. Fern. & R. Fern. var. *theifolium*

Shrubby herb, 2–6 ft. high; branches 4-angled, white, with bristles at the nodes; flowers red- to blue-purple, 1–1 1/2 in. diam. Often in dry rocky places.

Fr. G.: Fouta Djallon (Sept.–Oct.) fide Chev. l.c. **S. L.:** Don! Hills above Freetown (Nov., Dec.) Sc. Elliot 3840! Deighton 232! Mamunta (Nov.) Deighton 4935! **Togo:** Agome Mts. (Oct.) Baumann 319! **N. Nig.:** Patti Lokoja (Oct., Nov.) Dalz. 85! Keay FHI 28095! Panshanu (Sept.) Lely 607! **S. Nig.:** Lagos (Nov.) Dalz. 1186! Abeokuta Irving 57! Onitsha Barter 1772! Obanliko (Dec.) Keay & Savory FHI 25016! **Br. Cam.:** Bambui, Bamenda (Apr.) Maitland 1627!

Also in French Cameroons.

35. **Dissotis controversa** (A. Chev. & Jac.-Fel.) Jac.-Fel. in Bull. Mus. Hist. Nat. Sér. 2, 7: 372 (1935).

APD: *Synonym of Melastomastrum theifolium var. controversum* (A. Chev. & Jacq.-Fél.) Jacq.-Fél.

Tristemma controversa A. Chev. & Jac.-Fel. in op. cit. 4: 681 (1932).

Erect herb, to 3 ft. high, with tuberous roots; flowers pure white.

Fr. G.: Gangan Mt., Kindia (Oct.) Jac.-Fel. 194!

36. **Dissotis erecta** (Guill. & Perr.) Dandy in F. W. Andr. Fl. Pl. A.—E. Sudan 1: 192 (1950).

APD: *Synonym of Melastomastrum capitatum* (Vahl) A. Fern. & R. Fern. var. *capitatum*

Tristemma erectum Guill. A. Perr. Fl. Seneg. 312 (1833).

Heterotis capitata Benth. (1849).

Dissotis capitata (Benth.) Hook. f. in F.T.A. 2: 449 (1871); Gilg l.c. 13; F.W.T.A., ed. 1, 1: 213.

Dissotis hirsuta Hook. f. in F.T.A. 2: 450 (1871).

? **D. radicans** Hook. f. in F.T.A. 2: 450 (1871).

Shrubby herb to 4 ft. high, in dry situations as well as by streams; flowers purple, red, pink or rarely white.

Fr. Sud.: Sikasso (May) Chev. 791. **Fr. G.:** Heudelot 826! Macenta (Oct.) Baldwin 9819! Diaguissa (Apr., Sept.) Chev. 13469; 13464; 18583. **S. L.:** Don! T. Vogel 175! Kaballa (Sept.) Thomas 2185! 2200! Freetown (Oct.) Deighton 2170! Kenema (Oct.) Deighton 5226! **Iv. C.:** Farmar 357! **G. C.:** Ntonso, Ashanti (Oct.) Darko 389! **Togo:** Misahöhe (May) Baumann 302, and other localities fide Gilg l.c. **N. Nig.:** Nupe Barter 1312! Anara F.R. (Oct.) Keay FHI 5450! Vodni, 4,600 ft. (July) Lely 425! Bauchi Plateau (July, Oct.) Lely P. 380! P. 797! Abinsi (June) Dalz. 762! **S. Nig.:** Lagos Colony MacGregor 36! Sapoba (Mar.) Jones FHI 6112! Bateriko (June) Jones FHI 18985!

Extends to **Uganda** and **Angola**.

37. **Dissotis lecomteana** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 215 (1927); Kew Bull. 1928: 222.

APD: *Synonym of Melastomastrum afzelii var. lecomteanum* (Hutch. & Dalziel) Jacq.-Fél.

Habit of the preceding; about 3 ft. high; flowers red.

Fr. G.: Dindea (Sept.) Pobéguin 1699! Kindia (May) Jac.-Fel. 1643! Fouta Djallon Jac.-Fel. 553; 747. **S. L.:** near Falaba Sc. Elliot 5174! Erimakuna (Mar.) Sc. Elliot 5241!

1. **Dissotis afzelii** Hook. f.—F.T.A. 2: 449.

See under *D. paucistellata* Stapf above.

Imperfectly known species.

2. **Dissotis rupicola** Gilg ex Engl. Pflanzenw. Afr. 3, 2: 748 (1921), not of Hutch. & Dalz. (1927).

Near *D. decumbens* (P. Beauv.) Triana, with simple hairs on calyx-tube, but with smaller leaves; in rocky places. Quite possibly the same as *D. pygmaea* A. Chev. & Jac.-Fel.

Lib.: Sinoe Basin—no spec. cited.

Imperfectly known species.

3. **Dissotis conrauii** Gilg ex Engl. l.c. 752.

Shrub about 5 ft. high, with long-petioled, lanceolate, 5-nerved leaves, in grassland. Near *D. pulcherrima* Gilg and *D. elliotii* Gilg.

Br. Cam.: Bali—no spec. cited.

Imperfectly known species.

4. **Dissotis kerstingii** Gilg ex Engl. l.c. 752.

Near *D. irvingiana* Hook., but with very long internodes and narrowly lanceolate, distinctly serrate leaves.

Togo: Basari-no spec. cited.

Imperfectly known species.

5. *Dissotis* sp.

Probably new. Herb to 6 ft. high; flowers red-purple.

Lib.: Mt. Bili, Sanokwele (Dec.) Barker 1148!

Imperfectly known species.

20. MEMECYLON

Linn.—*F.T.A.* 2: 460.

- 1 Leaves without well-marked lateral ascending nerves, only the midrib prominent on lower surface; flowers axillary in compound umbels:2
- Leaves with well-marked lateral ascending nerves prominent on lower surface: 11
- 2 Calyx not reaching more than halfway up the bud, thus leaving the corolla largely exposed well before it opens; fruits ellipsoid or subglobose:3
- Calyx reaching well beyond halfway up the bud, thus covering most of the corolla until just before it opens; fruits subglobose:..... 10
- 3 Inflorescence up to 3 cm. long with branches not exceeding 1 cm. long:.....4
- Inflorescence 4–7 cm. long, lateral branches (sometimes themselves branched) 1–2 cm. long, usually 4 together in 2 or 3 whorls; leaves elliptic to oblong, 9–17 cm. long, 3–7 cm. broad, caudate-acuminate; transverse and intra-marginal nerves just visible; fruits oblong-ellipsoid, about 6 mm. broad and 12 mm. long[8. obanense](#)
- 4 Flowers 1–2 mm. diam.:.....5
- Flowers up to 1 mm. diam., very numerous in well-branched cymes; fruits subglobose, 5–7 mm. diam.; leaves elliptic, long-acuminate, 5–8 cm. long, 1.5–4 cm. broad[7. dasyanthum](#)
- 5 Receptacle cupuliform; fruits ellipsoid or subglobose:.....6
- Receptacle patelliform; fruits subglobose; cymes lax:9
- 6 Corolla acute in bud; calyx subtruncate; fruit ellipsoid:7
- Corolla rounded at apex in bud; fruit ellipsoid or subglobose:8
- 7 Cymes usually well-developed, peduncle more than 5 mm. long, pedicels at least 4 mm. long; often with more than 5 fruits in each cyme; leaves elliptic-lanceolate, gradually long-acuminate, 5–12 cm. long, 1.5–5 cm. broad, petiole generally swollen at base; fruits about 7 mm. broad and 10 mm. long[1. afzelii](#)
- Cymes contracted, peduncle up to 5 mm. long, pedicels 1–2 mm. long (up to 3 mm. in fruit); rarely with more than 2 or 3 fruits in each cyme; leaves oblong-elliptic, rather abruptly long-acuminate, 8–14 cm. long, 3–6 cm. broad; fruits about 8 mm. broad and 12 mm. long[2. aylmeri](#)
- 8 Cymes lax, with peduncle up to 3 cm. long; calyx sinuate-dentate; fruits oblong-ellipsoid, about 6 mm. broad and 13 mm. long; leaves lanceolate to oblong-lanceolate, gradually acuminate, about 15 cm. long and 6 cm. broad; a sarmentose shrub[3. adamii](#)
- Cymes dense, with peduncle less than 2 mm. long, flowers glomerate; fruits subglobose; leaves oblong-elliptic, rather abruptly long- or caudate-acuminate (acumen about 2 cm. long), 10–14 cm. long, 3–5 cm. broad [4. viride](#)
- 9 Corolla acute in bud; leaves elliptic, obtuse, acute, or obtusely acuminate at apex, 6–14 cm. long, 2.5–5.5 cm. broad; cymes often borne on leafless parts of the stem below the leaves; fruits about 8 mm. diam. [5. normandii](#)
- Corolla rounded at apex in bud; leaves oblong-elliptic, rather abruptly long-acuminate, 8–14 cm. long, 3–6 cm. broad; fruits about 10 mm. diam. [6. candidum](#)
- 10 Calyx about 2 mm. long, subtruncate or very shortly and irregularly lobed; cymes well-branched, many-flowered; leaves elliptic, long-acuminate, 6–12 cm. long, 2.5–6 cm. broad, drying greyish-green; fruits about 8 mm. diam. [9. polyanthemus](#)
- Calyx 3–4 mm. long, with distinct broadly triangular lobes; leaves oblong or oblong-lanceolate, rather abruptly acuminate, 6–20 cm. long, 3–7 cm. broad; leaves thickly coriaceous with inrolled margins, drying reddish-brown; fruits 13–17 mm. diam. [10. lateriflorum](#)

- 11 Flowers in lax inflorescences; pedicels at least 2 mm. long; peduncles and pedicels both well-developed: **12**
 Flowers in dense sessile or pedunculate glomerules or fascicles; flowers sessile or subsessile, or if pedicels well-developed then peduncle very short and flowers fasciculate; bracts and bracteoles persistent:..... **21**
- 12 Inflorescences densely puberulous, bracteoles at the base of the pedicels and not immediately below the calyx-tube; inflorescences terminal as well as axillary, at least 5 cm. long:..... **13**
 Inflorescences glabrous: **14**
- 13 Branchlets, petioles and main nerves beneath quite glabrous; flowers very numerous in fairly long-pedunculate cymes, sometimes nearly as long as the leaves; leaves ovate or ovate-elliptic, obtuse at base or becoming rounded or cordate, with short flattened petioles, shortly acuminate, 12–18 cm. long, 6–10 cm. broad; transverse nerves more or less conspicuous beneath; leaves often purplish-brown when dry; fruits globose, 6 mm. in diam. [11. blakeoides](#)
 Branchlets, petioles and main nerves beneath puberulous; inflorescences 5–7 cm. long; petiole 8–11 mm. long, lamina elliptic-lanceolate, cuneate at base, acuminate at apex, 10–14 cm. long, 4.5–5 cm. broad, transverse nerves visible, except near the base [12. fleuryi](#)
- 14 Bracteoles immediately below the calyx-tube; transverse nerves inconspicuous: **15**
 Bracteoles at the base of the pedicels; inflorescences mostly of pedunculate umbels or compound umbels:..... **16**
- 15 Leaves 4–6.5 cm. broad, 7–12 cm. long, coriaceous, ovate to ovate-elliptic, obtuse to cuneate at base, strongly 3-nerved, main nerves impressed above; flowers in axillary cymes up to 2 cm. long [13. dinklagei](#)
 Leaves 2–4.5 cm. broad, 5–9 cm. long, papery, elliptic, cuneate at the base, gradually acuminate, 3-nerved, with lateral ascending nerves considerably weaker than the midrib, impressed above; flowers in axillary cymes up to 2 cm. long; fruit 5 mm. in diam. [14. barteri](#)
- 16 Lateral nerves equally prominent with the transverse nerves and looped with them almost from the base: **17**
 Lateral nerves considerably more prominent than the transverse nerves, more or less straight and not bowed to loop with the transverse nerves except near the leaf apex: **18**
- 17 Nerves impressed above; pedicels 4–5 mm. long; leaves oblong-elliptic to broadly ovate, rounded or slightly cuneate at base, acutely acuminate, with 6–15 pairs of transverse nerves prominent beneath, looping with the prominent ascending laterals; inflorescence of 1–3 axillary pedunculate umbels, with long pedicels [15. zenkeri](#)
 Nerves slightly prominent above; pedicels 1–2 mm.; leaves oblong-elliptic, obtuse to cuneate at base, acuminate, with 8–12 pairs of transverse nerves looping with the rather weaker ascending laterals; inflorescence a 2–3-times branched compound umbel, with short pedicels; fruits ellipsoid, about 1 cm. long [16. englerianum](#)
- 18 Pedicels 3–5 mm. long, inflorescences of simple pedunculate 2–3-flowered umbels; leaves cuneate at base, up to 9 cm. long and 4.5 cm. broad;..... **19**
 Pedicels 5–8 mm. long, inflorescences simple or branched, several-flowered; leaves broadly elliptic to ovate, obtuse, rounded or sometimes cuneate at base, shortly acuminate, usually over 6.5 cm. long and 3 cm. broad; **20**
- 19 Leaves thin, elliptic to ovate, gradually long-acuminate, acumen about 1/3 as long as the blade, 4–7 cm. long, 1.8–3 cm. broad; peduncles about 5 mm. long, like the pedicels, very slender [17. golaense](#)
 Leaves coriaceous, elliptic, shortly and gradually acuminate, narrowed to the acutely cuneate base, 4–9 cm. long, 3–4.5 cm. broad; inflorescence of several pedunculate 2–3-flowered umbels at the nodes of older branchlets below the leaves; peduncles and pedicels similar to above but stouter [18. fosteri](#)
- 20 Inflorescences in axils of leafy shoots; leaves obtuse to cuneate at base, 6.5–11 cm. long, 3–7 cm. broad, main lateral nerves diverging from the midrib right at the base of the lamina [19. cinnamomoides](#)
 Inflorescences mainly on older branchlets below the leaves; leaves always rounded at base, 7–18 cm. long, 4.5–10 cm. broad, main laterals diverging from the midrib well above the base of the lamina [20. memecyloides](#)
- 21 Inflorescences pedunculate, peduncle 5–12 mm. long, 4-winged; flowers sessile or subsessile, 6–16 together in a glomerule; branchlets 4-winged; leaves rather shortly petiolate, ovate, or ovate-elliptic, cordate at base, gradually acuminate, 5.5–13.5 cm. long, 3–6 cm. broad, strongly 3-nerved with 6–10 pairs of prominent transverse nerves [21. meikleii](#)
 Inflorescences sessile or subsessile (peduncle up to 2 mm. long) in the leaf-axils:..... **22**
- 22 Leaves cordate or subcordate at base, shortly petiolate, ovate-lanceolate, rather long-acuminate, 5–15 cm. long, 2.5–6 cm. broad; flowers 2–3, sessile in the leaf axils; fruits 6–8 mm. diam., sessile, or on pedicels 1–2 mm. long [22. guineense](#)
 Leaves cuneate or obtuse, rarely rounded, at base:..... **23**
- 23 Lateral nerves more or less straight and not bowed to loop with the transverse nerves except near the leaf apex: **24**
 Lateral nerves bowed to loop with the 6–15 pairs of strong transverse nerves, both types of nerves impressed above and prominent beneath; for other characters see above [15. zenkeri](#)
- 24 Flowers 2–3 in each axil, subsessile; leaves membranous, nerves not prominent above, distinctly petiolate,

elliptic or ovate-elliptic, rather long-acuminate, 3-nerved, with rather faint transverse nerves[23. membranifolium](#)

Flowers several to numerous in dense axillary, sessile or very shortly pedunculate fascicles; pedicels up to 3–5 mm. long in mature flowers, bracts and bracteoles persistent and conspicuous; leaves leathery, ovate to ovate-elliptic, shortly and obtusely acuminate, 5–12 cm. long, 2–6 cm. broad, lateral and transverse nerves prominent above, with conspicuous transverse venation prominent on both surfaces[24. fasciculare](#)

1. **Memecylon afzelii** *G. Don* Gen. Syst. 2: 655 (1832); Keay in Kew Bull. 1952: 162 (excl. syn. *M. polyanthemos* Hook. f.); Jac.-Fel. in Bull. I.F.A.N. 15: 988, figs. 4–5, (1953). *APD acc*

Memecylon polyanthemos Hook. f. in F.T.A. 2: 463, partly (spec. Afzelius).

Memecylon polyanthemos of F.W.T.A., ed. 1, 1: 214, partly.

Understorey tree or shrub, in [forest](#), to 20 ft. high; petals mauve.

Fr. G.: Kindia (fr. June) Jac.-Fel. 426! **S. L.:** Afzelius! Bonthe Isl. (Mar.) Deighton 2469! Boma (Apr.) Deighton 3718! Njala (fl. Apr., fr. May–June) Deighton 3535! 3536! Kofiu Mt. (fr. Jan.) Sc. Elliot 4597! **Iv. C.:** Grand Basaam Chev. 33089. Mid. Cavally Chev. 19287. Agneby Chev. 17047; 17081. **G. C.:** Amedzope (May) Scholes 60! **Togo:** Misahöhe (Apr., May) Baumann 551! **S. Nig.:** Omo F.R. (fl. Apr., Nov., fr. Mar., Apr.) Tamajong FHI 16924! 20985!

2. **Memecylon aylmeri** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 214 (1927); Kew Bull. 1928: 223; Jac.-Fel. l.c. 993, fig. 6 (1953). *APD acc*

[Forest](#) shrub, to 12 ft. high; flowers pale blue.

Fr. G.: Mt. Nzo (fr. Mar.) Chev. 21002! **S. L.:** Kenema Aylmer 627! **Lib.:** Yeh R. (Oct.) Linder 994! Moylakwelli (Oct.) Linder 1285! Boporo (Nov.) Baldwin 10385! Mt. Bobei, Sanokwele (Sept.) Baldwin 9563! **G. C.:** Owabi (Mar.) Andoh FH 4381!

3. **Memecylon adamii** *Jac.-Fel.* in Bull. I.F.A.N. 15: 992 (1953).

APD: *Synonym of Memecylon englerianum Cogn. var. englerianum*

Sarmentose shrub, about 6 ft. high.

Fr. G.: Mt. Ziana Adam 4088! 4089!

4. **Memecylon viride** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 214 (1927); Kew Bull. 1928: 223. *APD acc*

A glabrous shrub.

S. Nig.: Oban Talbot 496! s.n.!

5. **Memecylon normandii** *Jac.-Fel.* l.c. 995, fig. 7 (1953). *APD acc*

Memecylon polyanthemos of F.W.T.A., ed. 1, 1: 214, partly, not of Hook. f.

Tree to 30 ft. high, with subterete branches; fruits purple.

Fr. G.: Pobéguin 2170! Kindia (fl. & fr. Oct.) Jac.-Fel. 400! Pita (fr. Dec.) Jac.-Fel. 692! **S. L.:** Kahreni (fr. Apr.) Sc. Elliot 5636! Kukuna (fr. Jan.) Sc. Elliot 4686! Matotoka (July) Thomas 1265! Ezi (fr. Feb.) Thomas 2338! Jigaya (Nov.) Thomas 2722! **G. C.:** Bonsa Su (May) Vigne 1998!

6. **Memecylon candidum** *Gilg* in Engl. Monogr. Afr. Melastom. 43 (1898). *APD acc*

A glabrous shrub, or small tree; flowers usually white.

S. Nig.: Oban Talbot 696! 1717! **Br. Cam.:** S. Bakossi F.R., Kumba (May) Olorunfemi FHI 30567!

Also in [French Cameroons](#).

7. **Memecylon dasyanthum** *Gilg & Ledermann ex Engl.* Pflanzenw. Afr. 3, 2: 768 (1921). *APD acc*

A small tree.

Br. Cam.: Likomba (fr. Oct.) Mildbr. 10534! Fontuka, Bamenda (fr. May) Maitland 1373! Bali F.R., Bamenda (fr. May) Ujor FHI 30371!

Also in **French Cameroons**.

8. **Memecylon obanense** *Bak. f.* in Cat. Talb. 37 (1913).

APD: Synonym of Memecylon englerianum Cogn. var. englerianum

Shrub to 12 ft. high.

S. Nig.: Oban Talbot 485! 486! 1376! Itu Dist. (fr. June) Ujor FHI 27986!

9. **Memecylon polyanthemos** *Hook. f.* in F.T.A. 2: 463 (1871), partly (spec. Mann); Gilg in Engl. Monogr. Afr. Melastom. 44, partly; F.W.T.A., ed. 1, 1: 214, partly; Aubrév. Fl. For. C. Iv. 3: 76, t. 272 A; Jac.-Fel. l.c. 997, fig. 8. *APD acc*

Memecylon simii of Chev. Bot. 278, not of Stapf.

Tree to 25 ft. high; flowers blue.

Fr. G.: Macenta (fl. Mar., fr. May) Jac.-Fel. 901! 1560! **S. L.:** Bagroo R. (Apr.) Mann 851! Bandajuma (May) Aylmer 76! Gola Forest (Apr.) Small 594! **Lib.:** Dukwia R. (fl. Feb., fr. Oct.) Cooper 97! 289! **Iv. C.:** Cavally Chev. 19807.

10. **Memecylon lateriflorum** (*G. Don*) *Brem.* in Fedde Rep. 37: 196 (1934); Jac.-Fel. l.c. 1000. *APD acc*

Pavetta lateriflora *G. Don* Gen. Syst. 3: 575 (1834).

Memecylon donianum *Planch.* in Fl. Nigrit. 357 (1849); F.T.A. 2: 463; Gilg l.c. 44; F.W.T.A., ed. 1, 1: 214; Aubrév. l.c. 3: 76, t. 270.

Memecylon simii *Stapf* in J. Linn. Soc. 37: 99 (1905).

Memecylon applanatum *Bak. f.* in Cat. Talb. 37 (1913).

Memecylon polyanthemos of Chev. Bot. 278, partly, not of Hook. f.

Small tree of **forest**, to 30 ft. high; stamens blue, petals white.

Fr. G.: R. Samou Jac.-Fel. 405. **S. L.:** Don! Yonibana (Oct.) Thomas 4204! 4237! Gorahun (fr. Mar.) Deighton 4105! Kambui Hills (fr. Nov.) Edwardson 5! **Lib.:** Sinoe Basin Whyte! Duo, Sinoe (Mar.) Baldwin 11359! **Iv. C.:** Aboisso (Apr.) Chev. 16299! **G. C.:** Dompim Vigne 1969! Mampong Scarp (May) Vigne 1134! **S. Nig.:** Oban Talbot 1606!

11. **Memecylon blakeoides** *G. Don* Gen. Syst. 2: 655 (1832); Keay in Kew Bull. 1952: 163.

APD: Synonym of Spathandra blakeoides (G. Don) Jacq.-Fél. var. blakeoides

Memecylon spathandra *Blume* Mus. Bot. 1: 361 (1851); Gilg l.c. 38; F.W.T.A., ed. 1, 1: 215.

Spathandra caerulea *Guill. & Perr.* (1833).

Memecylon caerulea (*Guill. & Perr.*) *Hook. f.* in F.T.A. 2: 461 (1871), not of Jack (1820); Chev. Bot. 277.

Memecylon strychnoides *Bak.* in Kew Bull. 1895: 105; F.W.T.A., ed. 1, 1: 215.

Memecylon millenii *Gilg* l.c. 38 (1898).

Tree of **swamp forest by rivers**, with shrubby habit, to 70 ft. high; flowers with white petals and blue anthers; fruits black when ripe.

Sen.: Perrottet; Heudelot! **Fr. G.:** R. Lanfome (Mar.) Pobéguin 906! Near Mamou (Mar.) Dalz. 8382! **S. L.:** Don! Whitfield! T. Vogel 188! R. Bagroo (Apr.) Mann 827! Lusenya (fr. Dec.) Sc. Elliot 4093! Waterloo Lane-Poole 427! **Lib.:** Monrovia (Apr.) Bequaert 178! Whyte! Kakatown Whyte! Totokwelli, Medina (Oct.) Linder 1305! Duport (Nov.) Linder 1477! **G. C.:** Axim (fl. & fr. Nov.) Vigne 1453! **S. Nig.:** Lagos (Oct., Nov.) Millen 168! Dalz. 1184! Okomu F.R. (fl. Mar., fr. May) Richards 3278! Ross 200! Sapoba (Aug., Oct.) A. F. Ross 206! Kennedy 1757!

Extends to Cabinda.

12. **Memecylon fleuryi** *Jac.-Fel.* in Bull. Mus. Hist. Nat. Sér. 2, 7: 148 (1935); Aubrév. l.c. 3: 78, t. 272 B.

APD: Synonym of Spathandra blakeoides var. fleuryi (Jacq.-Fél.) Jacq.-Fél.

Shrub, in **forest**; remarkable for its pubescence.

Iv. C.: Grand Bassam (Feb.) Fleury in Hb. Chev. 33073. Abidjan (Feb.) Aubrév. 887! **G. C.:** Beyin, W.P. (Nov.) Vigne 1453!

13. **Memecylon dinklagei** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 764 (1921); Hutch. & Dalz. in Kew Bull. 1928: 223; Aubrév. l.c. 3: 78, t. 272 C.

APD: Synonym of Lijndenia barteri (Hook. f.) K. Bremer

Shrub on sandy ground.

S. L.: Yonibana (Nov.) Thomas 4816! **Lib.:** Grand Bassa (Sept.) Dinklage 2032! **Iv. C.:** Port Bouët Aubrév. 1652!

14. **Memecylon barteri** *Hook. f.* in F.T.A. 2: 462 (1871); Gilg l.c. 41.

APD: Synonym of Lijndenia barteri (Hook. f.) K. Bremer

Memecylon dinklagei of Chev. Bot. 277, not of Gilg (fide Hutch.).

A much-branched evergreen shrub, about 8 ft. or more high; flowers small white, very fugacious; berries black-purple.

Fr. G.: Kouria (Sept.) Chev. 14777. **S. Nig.:** Lagos (Mar.) Barter 2152! Moloney! Dalz. 1056! 1233! Ovim, Okigwi (Dec.) Jones FHI 6201!

15. **Memecylon zenkeri** *Gilg* in Engl, Monogr. Afr. Melastom. 43, t. 10 D (1898). *APD acc*

Memecylon zenkeri var. **parvifolium** *Bak. f.* in Cat. Talb. 38 (1913).

Memecylon johnstonii *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 766 (1921).

Shrub to 12 ft. high with 4-angled branches; petals white; stamens blue.

S. Nig.: Oban Talbot 1723! 1739! Calabar (Feb.) Mann 2285! **Br. Cam.:** Preuss 1373! Mopanya (Mar.) Kalbreyer 174! Rio del Rey Johnston!

Also in **French Cameroons**.

16. **Memecylon englerianum** *Cogn.* in DC. Monogr. 7: 1194 (1891); Gilg. l.c. 43. *APD acc*

Memecylon nigrescens *Engl.* Bot. Jahrb. 7: 338 (1884), not of Hook. & Arn. (1833).

Shrub, to 12 ft. high, with violet-blue flowers.

S. Nig.: Usonigbe F.R. (fr. Nov.) Keay FHI 25576! **Br. Cam.:** Likomba (Dec.) Mildbr. 10757! S. Bakundu F.R. (fr. Mar.) Brenan 9480! Mungo (Oct.) Buchholz.

17. **Memecylon golaense** *Bak. f.* in J. Bot. 49: 320 (1911); Aubrév. l.c. 3: 80, t. 272 D.

APD: Synonym of Warneckea golaensis (Baker f.) Jacq.-Fél.

Shrub or small tree to 30 ft. high, with yellow-green bark; petals dark ultramarine colour at base, shading off to white.

S. L.: Gola Forest (Apr.) Small 634! **Lib.:** Gola Forest (Apr.) Bunting! **Iv. C.:** Mt. Momi (Apr.) Aubrév. 1173!

18. **Memecylon fosteri** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 215 (1927); Kew Bull. 1928: 223.

APD: Synonym of Warneckea fosteri (Hutch. & Dalziel) Jacq.-Fél.

Shrub or small tree, to 15 ft. high, petals pale blue.

S. Nig.: (Oct.) Foster 359! Idanre Hills (Oct.) Keay FHI 21564! 22654! Brenan 8666!

19. **Memecylon cinnamomoides** *G. Don* Gen. Syst. 2: 655 (1832); Keay in Kew Bull. 1952: 162; Gilg l.c. 39.

APD: Synonym of Warneckea cinnamomoides (G. Don) Jacq.-Fél.

Memecylon vogelii of Aubrév. l.c. 3: 78, t. 271 A, not of Naud.

Shrub or spreading tree, to 30 ft. high; flowers blue.

S. L.: Afzelius. Talla Hills (Feb.) Sc. Elliot 4916b! Magbile (fr. Dec.) Thomas 5918! 6200! 9849! **iv. C.:** Rasso Aubrév. 1697! And other localities. **G. C.:** Kumasi (Mar.) Vigne 1645! **Togo:** Kpandu (Mar.) Robertson 107!

20. *Memecylon memecyloides* (Benth.) Exell in Cat. S. Tomé 181 (1944).

*APD: Synonym of *Warneckea memecyloides* (Benth.) Jacq.-Fél.*

Spathandra memecyloides Benth. in Fl. Nigrit. 357 (1849).

Memecylon vogelii Naud. (1852); F.T.A. 2: 462; Gilg l.c. 41; F.W.T.A., ed. 1, 1: 215.

Memecylon cinnamomoides of F.W.T.A., ed. 1, 1: 215, partly.

Spreading tree of **swamp forest**, to 50 ft. high; petals pale blue; fruit deep blue.

G. C.: Ancobra R. (young fr. Dec.) Johnson 920! Afram Plains (May) Kitson 1127! Cape Coast Brass! **S. Nig.:** Oni, Epe Dist. Thompson 4! Shasha F.R. (Jan., Apr.) Ross 241! Richards 3014! Degema Talbot 3768! **F. Po:** T. Vogel 149! Barter!

Also in **Principe**.

[The areas of this species and of *M. cinnamomoides* G. Don overlap in the Gold Coast where several specimens which appear to be intermediate between the two species have been collected.]

21. *Memecylon meikleii* Keay in Kew Bull. 1952: 163.

*APD: Synonym of *Warneckea guineensis* (Keay) Jacq.-Fél.*

Spreading shrub, about 10 ft. high; petals mauve-pink, filaments and style bright blue.

S. Nig.: Ibadan (Mar.) Meikle 1253!

22. *Memecylon guineense* Keay l.c. 163 (1952).

*APD: Synonym of *Warneckea guineensis* (Keay) Jacq.-Fél.*

Memecylon sessile A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 215 (1927), not. of Wall, ex Wight & Arn. (1834); Chev. Bot. 278, name only; Chev. in Bull. Mus. Hist. Nat. Sér. 2, 4: 687 (1932); Aubrév. l.c. 3: 76, t. 271 C.

Slender-stemmed shrub, 3–9 ft. high (or tree to 36 ft., fide Richards) in **dense forest**; flowers blue, fruits purple.

Lib.: Dukwia R. (Feb.) Cooper 251! **iv. C.:** between the Sassandra and Cavally (July) Chev. 19243! 19283! Sanvi (fr. Mar.) Chev. 17836! Yapo Aubrév. 598! **S. Nig.:** Okomu F.R. (fl. & fr. Dec.-Feb.) Brenan 8422! 8753! 9142! 9159! Shasha F.R., (fl. & fr. May) Richards 3475!

23. *Memecylon membranifolium* Hook. f. in F.T.A. 2: 462 (1871); Gilg l.c. 41.

*APD: Synonym of *Warneckea membranifolia* (Hook. f.) Jacq.-Fél.*

Memecylon longicauda Gilg l.c. 40, t. 10 E (1898).

Memecylon leucocarpum Gilg l.c. (1898).

Memecylon nanum A. Chev. Bot. 278, name only.

Shrub to 10 ft. high, in **forest**, calyx-tube blue-violet, lobes red-violet, petals and filaments vivid blue; fruits deep blue.

iv. C.: fide Chev. l.c. **G. C.:** Begoro (fl. & fr. Nov.) Vigne 4276! **Togo:** Amedzofwe (Feb.) Irvine 153! Alavanyo (fl. Sept., fr. Oct.) St. Clair Thompson 3570! **S. Nig.:** Okomu F.R. (fl. & fr. Dec., Jan.) Brenan 8581! 8845! 8900! Oban Talbot! **Br. Cam.:** Ambas Bay (Feb.) Mann 8! Johann-Albrechtshöhe (Dec.) Staudt 471! **F. Po:** (Jan.) Mann 191!

Also in **French Cameroons**.

24. *Memecylon fasciculare* (Planch. ex Benth.) Naud.—F.T.A. 2: 463; Gilg l.c. 41; Chev. Bot. 277; Aubrév. l.c. 3: 78, t. 271 B.

*APD: Synonym of *Warneckea fascicularis* (Planch. ex Benth.) Jacq.-Fél.*

Memecylon cinnamomoides of Chev. Bot. 277, not of Don.

A shrub, to 10 ft. high, flowers pinkish, fruits black when ripe.

Fr. G.: Heudelot 909! Farmar 289! Various localities fide Chev. l.c. **S. L.:** Afzelius! Don! Talla Hills (fl. & fr. Feb.) Sc. Elliot 4830! 4916a! Bonthe (Feb.) Dalz. 997! Sussex (Apr.) Deighton 4124! York (May) Deighton 5518! **Iv. C.:** Mt. Dou Aubrév. 1071.

1. **Memecylon polyneuron** *Gilg* in Engl. Monogr. Afr. Melastom. 41 (1898). Type specimen not seen by Hutch. & Dalz. and presumably now destroyed.

S. L.: Afzelius (Hb. Berlin).

Imperfectly known species.

2. **Memecylon fernandianum** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 765 (1921); Mildbr. in Wiss. Ergebn. 1910–11: 188, name only.

Possibly the same as *M. membranifolium* Hook. f.

F. Po: Bokoko, 2,000 ft. Mildbr. 6824.

Imperfectly known species.

3. **Memecylon liberiae** *Gilg ex Engl.* l.c. 3, 2: 768 (1921).

No specimen cited; description very inadequate.

Lib.: Monrovia.

Imperfectly known species.

4. **Memecylon sp. A.**

Tree, 30–35 ft. high; leaves lanceolate, 17–27 cm. long, 6–7.5 cm. broad, not 3-nerved; flowers not known. Possibly this may prove to be *M. liberiae* Gilg ex Engl.

Lib.: Dukwia R. (fr. May) Linder 414!

Imperfectly known species.

COMBRETACEAE

Trees or shrubs, often scandent. Leaves opposite, alternate or rarely verticillate, simple, exstipulate. Flowers spicate or racemose, mostly small, hermaphrodite, rarely unisexual. Calyx-tube adnate to the ovary; limb 4–8-fid or -lobed, lobes valvate. Petals 4–5 or none, rarely many, small, imbricate or valvate. Stamens 4–10, rarely more; filaments inflexed in bud; anthers versatile, didymous, opening lengthwise by slits. Disk epigynous. Ovary inferior, rarely half-inferior, 1-celled; style simple; ovules 2–6, suspended from the apex of the ovary by slender funicles. Fruit often winged, rarely dehiscent. Seed pendulous, without endosperm; embryo with convolute, plicate or contorted cotyledons and small radicle.

Mainly tropics and subtropics.

Recognized by the exstipulate simple leaves, inferior ovary, and often winged fruits. +

- | | | |
|---|---|--------------------------------|
| 1 | Petals present:..... | 2 |
| | Petals absent:..... | 6 |
| 2 | Ovary half-superior; fruits not winged, 5–8 cm. diam., succulent, drupaceous; leaves alternate .. | 1. Strephonema |
| | Ovary completely inferior; fruits usually winged, or at least ridged: | 3 |
| 3 | Upper receptacle (calyx-tube) and calyx-lobes deciduous before the fruit ripens, fruit winged, or at least ridged, not linear: | 4 |
| | Upper receptacle and calyx-lobes persistent at the time of fruiting; fruit linear 3–4 cm. long, densely silky-villous; flowers in small, often bracteate heads; whole plant covered with small black glands | 5. Guiera |
| 4 | Style free from the upper receptacle:..... | 5 |
| | Style adnate to the upper receptacle, at least at the base | 4. Quisqualis |

- 5 Flowers all hermaphrodite; fruit 4–5-winged or ridged [2. *Combretum*](#)
 Flowers hermaphrodite and male in the same inflorescence; fruit 2–4-winged [3. *Pteleopsis*](#)
- 6 Receptacle without adnate bracteoles; fruits 2-winged (except the exotic *Terminalia catappa*); leaves alternate, rarely sub-verticillate: [7](#)
 Receptacle with two adnate bracteoles; fruits elongate-obovoid, ribbed, but scarcely winged; flowers in spikes; leaves opposite, glabrous, coriaceous; in mangrove swamps [9. *Laguncularia*](#)
- 7 Flowers in spikes, or spike-like racemes, never in heads [6. *Terminalia*](#)
 Flowers and fruits crowded into dense heads: [8](#)
- 8 Petiole with a pair of glands, leaves glabrous, coriaceous; stamens 5, fruits not beaked; in mangrove-swamps and other coastal habitats [7. *Conocarpus*](#)
 Petiole without glands, leaves pubescent, chartaceous; stamens 10; fruits distinctly beaked [8. *Anogeissus*](#)

1. STREPHONEMA

Hook. f.—F.T.A. 2: 484, under Lythraceae.

- 1 Leaves elliptic, rounded at base, shortly acuminate, 12–17 cm. long, up to 7 cm. broad, with about 6 pairs of lateral nerves, glabrous and almost veinless beneath; inflorescence axillary, very short and subumbellate; pedicels glabrous, about 0.5 cm. long; calyx glabrous [1. *mannii*](#)
 Leaves oblong, rounded at base, acutely acuminate, about 25 cm. long, 6–8 cm. broad, pilose in the axils of the nerves beneath; lateral nerves 9–11 pairs, with slender parallel tertiary nerves beneath; inflorescence raceme-like, about 6 cm. long, everywhere brown-tomentose [2. *pseudocola*](#)

1. *Strephonema mannii* *Hook. f.*—F.T.A. 2: 484; Engl. & Diels Monogr. Afr. Combretac. 1. *APD acc*

A glabrous shrub, to 20 ft. high; **by rivers**.

S. Nig.: Eket Talbot! Old Calabar R. (Feb.) Mann 2293! **Br. Cam.:** Muyuku, Victoria (May) Maitland 1145!

Also in **Gabon**.

2. *Strephonema pseudocola* *A. Chev.* in Bull. Soc. Bot. Fr. 58, Mém. 8: 172 (1912); Aubrév. Fl. For. C. Iv. 3: 60, t. 265. *APD acc*

Strephonema apolloniense *J. J. Clark* in Kew Bull. 1913: 76.

A **forest** tree, up to 70 ft.; flowers white; fruit 2–3 in. broad, nearly 2 in. long, rough, verrucose with a long acute beak; seed solitary, with 2 cotyledons somewhat resembling those of a kola nut.

S. L.: Baiima (Sept.) Deighton 3055! **Lib.:** Gbanga (Sept.) Linder 767! Dukwia R. (Nov.) Cooper 121! Kitoma (fr. Apr.) Harley 1124! Tappita (Aug.) Baldwin 9116! Browntown, Tchien (Aug.) Baldwin 7083! Loffa R. (fr. Dec.) Baldwin 10947!
Iv. C.: Prolo (Aug.) Chev. 19870. Mbago (fr. Feb.) Chev 16189. Abidjan Aubrév. 61! 128! And various other localities.
G.C.: Nkwanta, W. Apollonia (Aug.) Chipp 232!

2. COMBRETUM

Loefl.—F.T.A. 2: 419

- 1 Suffrutices with short, erect stems, usually herbaceous, arising from a woody rootstock, appearing in savannah soon after grass fires and flowering within a few weeks: [2](#)
 Trees, shrubs and lianes: [5](#)
- 2 Stem and leaves glabrous, glutinous when young: [3](#)
 Stem and leaves (at least on the lower surface) densely tomentellous, or silky-tomentose: [4](#)
- 3 Leaves with petiole 1–2 cm. long, lamina lanceolate, acute at both ends, 5–11 cm. long, 1–4 cm. broad; flowers in spikes, up to 15 cm. long, borne towards the base of the stems [1. *bauchiense*](#)
 Leaves subsessile, linear, 6–7 cm. long, 3–5 mm. broad; flowers clustered towards the ends of 1–3 cm. long peduncles, borne at the ends of the branches [2. *lineare*](#)
- 4 Upper receptacle cup-shaped; disk with a free margin; petals clawed, spreading; leaves ovate, obtuse at base,

- acute at apex, 8–11 cm. long, 3.5–6.5 cm. broad, very shortly tomentellous beneath [3. *relictum*](#)
- Upper receptacle campanulate; disk wholly adnate; petals not clawed, incurved; leaves obovate-elliptic to narrowly elliptic, rounded or obtuse at each end, mucronate at apex, 4–12 cm. long, 0.8–5 cm. broad, more or less densely silky-tomentose and very prominently reticulate beneath [4. *sericeum*](#)
- 5** Flowers 4-merous; fruits 4-winged: **6**
- Flowers 5-merous; fruit 5-winged; scandent shrubs and lianes: **36**
- 6** Petals and filaments white, cream or yellow: **7**
- Petals and filaments red or crimson; upper receptacle (including calyx-lobes) 3.5–8 mm. long; flowers clustered in short glomeruliform or umbel-like spikes arranged in a large panicle: **33**
- 7** Stamens shorter than the petals; filaments about 1 mm. long; upper receptacle very shallowly cup-shaped; disk well-developed, glabrous: **8**
- Stamens longer than the petals; filaments much exceeding 1 mm. long: **9**
- 8** Leaves rounded at base, truncate to very slightly acuminate at apex, densely tomentose beneath; lamina broadly elliptic, 3.5–8 cm. long, 2–5 cm. broad [5. *tomentosum*](#)
- Leaves deeply cordate to auriculate at base, distinctly acuminate, puberulous to glabrescent beneath; lamina oblong, 8–28 cm. long, 5–12.5 cm. broad (see fig. 103 A) [6. *excelsum*](#)
- 9** Trees and erect shrubs, always in savannah: **10**
- Lianes and scandent shrubs, mainly in forest country (but see Nos. 16 and 17): **20**
- 10** Petals ciliate around the margin (see fig. 103 B): **11**
- Petals glabrous on the margin: **13**
- 11** Undersurface of leaves clothed with white scales, usually concealed on young leaves by a dense indumentum of long silky hairs; venation very prominent beneath, not prominent above; lamina more or less elliptic or ovate, acute or acuminate at apex, 6–18 cm. long, 3–10 cm. broad; flowers densely hairy; fruits 1.5–2 cm. long; leaves and fruits never reddish-brown; bark of bole and older branches dark grey, deeply fissured [7. *molle*](#)
- Undersurface of leaves sometimes glandular beneath but without white scales, puberulous or glabrous; venation equally prominent above and beneath; lamina more or less elliptic or ovate-elliptic, or obovate-elliptic, obtuse at apex, 6–14 cm. long, 2.5–5 cm. broad; fruits 1.8–2.5 cm. long; leaves and fruits usually reddish-brown when mature and dry; bark of bole and older branches pinkish-brown, finely reticulate: **12**
- 12** Stem and mature leaves beneath densely and softly puberulous [8. *nigricans* var. *nigricans*](#)
- Stem and mature leaves beneath glabrous or nearly so-(see fig. 103 B) [8a. *nigricans* var. *elliottii*](#)
- 13** Upper receptacle (including calyx-lobes) 1 mm. long or less, very shallowly cup-shaped: **14**
- Upper receptacle (including calyx-lobes) at least 2 mm. long, deeply cup-shaped or funnel-shaped; fruit at least 2.5 cm. long: **15**
- 14** Plant with abundant red scales; leaves and fruit drying reddish-brown; for other characters see below [16. *micranthum*](#)
- Plant with white scales; leaves drying greenish; fruit pale brown; for other characters see below ... [17. *nioroense*](#)
- 15** Young shoots, inflorescences and fruits glutinous; scales absent; inflorescences usually on woody shoots and often branched; bark of older branches grey, finely muricate, not peeling in stringy fibres: **16**
- Young shoots, inflorescences and fruits not glutinous; scales mostly present (but see No. 15); inflorescences usually unbranched, axillary on young leafy shoots: **17**
- 16** Venation strongly reticulate and markedly prominent beneath; upper surface of leaves smooth, puberulous, green and glutinous when fresh, midrib usually prominent above; lower surface white when fresh, more or less densely tomentose; lamina very thick and leathery, very variable in shape; flowers densely hairy; fruits about 3.5 cm. long, pale brown from the start [9. *glutinosum*](#)
- Venation conspicuous on both surfaces but not markedly prominent beneath; both surfaces of similar colour when fresh; lamina thinly coriaceous, glabrous or pubescent on both surfaces, very variable in shape; flowers densely or sparsely hairy; fruits up to 3.5 cm. long, red and very glutinous when young, becoming pale brown, glabrous [10. *ghasalense*](#)
- 17** Flowers 5–6 mm. long (lower receptacle or "ovary," and upper receptacle including calyx-lobes, each about 3 mm. long); stem and leaves glabrous or very sparsely pubescent, undersurface of leaves densely covered with white scales; leaves elliptic, ovate-elliptic, oblong-elliptic, or rarely broadly lanceolate, 6–14 cm. long, 3–6 cm. broad, petiole 1.5–3 cm. long: **18**
- Flowers 3.5–4 mm. long (lower receptacle or "ovary," and upper receptacle including calyx-lobes, each about 2 mm. long); stem and leaves pubescent or tomentose at least when young; bark of bole and older branches peeling in stringy fibres to expose reddish-brown powdery under-bark; petiole 1–2 cm. long; fruits tomentellous: **19**
- 18** Lower receptacle with reddish scales, almost without hair; fruit deep crimson or purple, with red scales on the

- body; bark of bole and older branches dark grey, fissured-(see fig. 103 D) [11. binderianum](#)
- Lower receptacle with whitish or brownish scales and with numerous hairs; fruit brown, tomentose, without red scales [12. crotonoides](#)
- 19** Undersurface of young leaves densely covered with white scales, densely puberulous on midrib, petiole and nerves, but only sparsely puberulous on the lamina; mature leaves with scattered white scales beneath, and glabrous except for a few hairs on the midrib; lamina ovate-elliptic to oblong-lanceolate, 8–14 cm. long, 4–6 cm. broad-(see fig. 103 C) [13. lamprocarpum](#)
- Undersurface of young leaves densely covered with white scales and with coarse, soft tomentum on both nerves and lamina; mature leaves densely covered with white scales; lamina elliptic to ovate-elliptic, 4–8 (–12) cm. long, 2–5 cm. broad [14. geitonophyllum](#)
- Undersurface of young leaves densely and closely tomentellous, brown when dry, with or without visible scales; mature leaves tomentellous, scales usually becoming more obvious but never dense and almost contiguous as in Nos. 13 and 14; lamina elliptic to oblong-elliptic, 7–17 cm. long, 3.5–7.5 cm. broad [15. hypopilinum](#)
- 20** Upper receptacle (including calyx-lobes) 1.5 mm. long or less: **21**
- Upper receptacle (including calyx-lobes) 2.5–6 mm. long: **28**
- 21** Flower spikes up to 3 cm. long, dense, usually solitary in the leaf-axils; mature leaves usually less than 6 cm. long (rarely up to 9 cm.), cuneate at base; plants of savannah: **22**
- Flower spikes in branched panicles; mature leaves usually more than 6 cm. long; plants of forest vegetation: . **23**
- 22** Inflorescence-axes, flowers, fruits, young shoots and petioles densely covered with red scales; leaves drying reddish-brown; fruits reddish-brown, up to 1.5 cm. long [16. micranthum](#)
- Inflorescence-axes and flowers with white scales; stem, leaves and petiole more or less glandular; plant without red scales; leaves drying greenish; fruits pale brown, up to 2 cm. (rarely to 3.5 cm.) long [17. nioroense](#)
- 23** Upper receptacle very shallowly cup-shaped, so that the disk is easily visible; inflorescence-axes and/or flowers with scales: **24**
- Upper receptacle deeply cup-shaped, concealing the disk; inflorescence and flowers without scales: **26**
- 24** Flower spikes up to 5 cm. long; leaves glabrous and glandular beneath, with pits in the axils of the main nerves, lamina elliptic, coriaceous, 8–12 cm. long, 3.5–5.5 cm. broad, main lateral nerves prominently looped; lower receptacle with abundant whitish scales [18. obanense](#)
- Flower spikes usually exceeding 5 cm. long: **25**
- 25** Flowers viscid, glabrous, red scales sparse on inflorescence-axes only; leaves glabrous, shining, with pits in the axils of the main nerves; lamina broadly ovate, 10–16 cm. long, 6–9 cm. broad [19. homalioides](#)
- Flowers and inflorescence-axes with abundant red scales; leaves pubescent on the midrib beneath and on petiole, without pits; lamina oblong-elliptic, 8–16 cm. long, 4–8 cm. broad [20. demeusei](#)
- 26** Fruits 1–1.2 cm. long, very light and papery; leaves pubescent beneath, neither glandular nor scaly, oblong or oblong-oblancoate, 6–12 cm. long, 2.5–5 cm. broad, the upper ones gradually becoming smaller and bract-like; inflorescence softly tomentellous, with very numerous flowers [21. smeathmannii](#)
- Fruits 2–4.5 cm. long; leaves closely and minutely impressed-punctate and with white scales beneath: **27**
- 27** Fruit orbicular, emarginate at apex, 2–3.5 cm. long, yellow-brown, with wide papery wings; leaves chartaceous, drying pale brown or dull green, tertiary nerves almost at right angles to the main laterals; lamina oblong-elliptic to ovate-elliptic, 10–21 cm. long, 5–10 cm. broad [22. insulare](#)
- Fruit ovate with a long beak, about 4.5 cm. long, dark brown, with thick narrow wings; leaves coriaceous, drying dark brown, grey or black, tertiary nerves at an acute angle to the main laterals; lamina broadly elliptic, 9–18 cm. long, 4.5–8 cm. broad [23. cuspidatum](#)
- 28** Flowers and inflorescence-axes densely covered with reddish scales, otherwise glabrous; upper receptacle (including calyx-lobes) 4–5 mm. long, attenuate to base, hence funnel-shaped; flowers crowded in glomeruliform spikes; leaves oblong to oblong-obovate, 8–17 cm. long, 3.5–7.5 cm. broad [24. fulvum](#)
- Flowers and inflorescence-axes without reddish scales, usually pubescent, sometimes with whitish scales: **29**
- 29** Leaves with numerous minute reddish scales beneath; upper receptacle (including calyx-lobes) 5–6 mm. long, funnel-shaped; petals about 2.5 mm. long; flowers in simple axillary spikes; leaves oblong-ovate to ovate, 8–22 cm. long, 3.5–11 cm. broad [25. bipindense](#)
- Leaves without red scales; petals 1–2 mm. long: **30**
- 30** Upper receptacle attenuate to base, hence funnel-shaped, 4.5–5 mm. long; flowers crowded in glomeruliform spikes; leaves broadly ovate to ovate-elliptic, 10–17 cm. long, 7–10 cm. broad [26. batesii](#)
- Upper receptacle rounded at base, hence campanulate; flowers in simple spikes or panicles of spikes: **31**
- 31** Upper receptacle (including calyx-lobes) 3–5 mm. long, densely tomentose or tomentellous: **32**
- Upper receptacle (including calyx-lobes) about 2.5 mm. long, sparingly pubescent or glabrous; margin of disk free for 1 mm.; leaves elliptic to oblong-elliptic, 7–16 cm. long, 3–8 cm. broad [29. oyemense](#)

- 32 Margin of disk adnate; upper receptacle (including calyx-lobes) 4–5 mm. long (see fig. 103E), shortly tomentose; leaves coriaceous, mostly rounded at base; main lateral nerves brown-bearded in axils, tertiary venation not conspicuous above; lamina ovate-elliptic to oblong-elliptic, 11–19 cm. long, 5–8 cm. broad [27. fuscum](#)
- Margin of disk free for 1 mm.; upper receptacle (including calyx-lobes) 3–4 mm. long, closely tomentellous; leaves rigidly papery, mostly broadly cuneate at base; main laterals not bearded in axils; tertiary transverse venation close, subparallel, conspicuous above; lamina oblong-elliptic, 9–16 cm. long, 3.5–6.5 cm. broad. [28. sordidum](#)
- 33 Inflorescences with conspicuous white or pink bract-like leaves subtending the flower-clusters; petals pilose outside, not incurved; leaves elliptic to ovate, acute at apex, 5–10 cm. long, 3–5 cm. broad, pubescent on the nerves: 34
- Inflorescences without white or pink bract-like leaves, flowers often produced before the leaves; petals glabrous or sparsely pubescent outside, incurved: 35
- 34 Upper receptacle glabrous [30. racemosum](#)
- Upper receptacle shortly pubescent [31. cinereipetalum](#)
- 35 Upper receptacle markedly swollen at base (see fig. 103 F), 5–8 mm. long, densely pilose; leaves oblong-elliptic, rounded at base, emarginate and conspicuously mucronate at apex, 8–12 cm. long, 4–5 cm. broad, strongly reticulate and pubescent beneath [32. lecardii](#)
- Upper receptacle not, or scarcely, swollen at base, 3.5–5 mm. long, sparingly to densely pilose; flowers in very large panicles; leaves broadly elliptic, to nearly orbicular, 7–20 cm. long, 4–10 cm. broad, densely pubescent or nearly glabrous beneath [33. paniculatum](#)
- 36 Stamens subsessile, together with the style, completely included in the campanulate 3.5–4.5 mm. long upper receptacle; petals white; fruit ovoid, woody, 5-angled but only very narrowly winged, 4–5.8 cm. long, 2.5–3 cm. broad; leaves oblong-elliptic to narrowly elliptic, rounded or obtuse at apex, 4–13 cm. long, 2–6 cm. broad, very minutely impressed-punctate beneath [34. acutum](#)
- Stamens with filaments longer than the petals and, together with the style, well exerted from the receptacle: 37
- 37 Leaves up to 4.5 cm. long and 3 cm. broad; flowers in short axillary racemes, scarcely as long as the leaves; upper receptacle about 5 mm. long; petals spatulate, well exerted, cream coloured; lamina elliptic, petioles usually becoming spines; scandent shrub in the drier savannah regions [35. aculeatum](#)
- Leaves exceeding 5 cm. long and 3 cm. broad; flowers in long spikes, or in panicles of spikes or of globose heads, or if in short racemes or clusters, then petals red: 38
- 38 Flowers in panicles of globose heads about 1 cm. diam.; subtended by conspicuous whitish bract-like leaves; petals and filaments cream; fruits about 12 mm. long, apiculate; leaves oblong-elliptic, 8–15 cm. long, 4–7 cm. broad; softly pubescent beneath [36. zenkeri](#)
- Flowers not in panicles of globose heads about 1 cm. diam.; usually in long spikes, but if in short racemes or clusters, then petals red: 39
- 39 Upper receptacle straight, up to 15 mm. long, or if more then funnel-shaped and glabrous or sparsely pubescent outside; disk without a free edge: 40
- Upper receptacle curved, 15–32 mm. long, tubular, rounded at base, densely puberulous, tomentose or velutinous; disk with a free edge: 49
- 40 Flowers in short dense, terminal, simple racemes, 3–5 cm. long and broad; upper receptacle funnel-shaped above, narrowly tubular in the middle, and swollen at the base (see fig. 103 I), 12–15 mm. long (including the broadly ovate calyx-lobes); petals scarlet; leaves elliptic or obovate, 7–10 cm. long, 3–5 cm. broad [37. constrictum](#)
- Flowers in long spikes or spike-like racemes, often arranged in large panicles, or if in short dense clusters then upper receptacle campanulate and 5–7 mm. long: 41
- 41 Flowers in dense clusters, upper receptacle campanulate, 5–7 mm. long, petals deep scarlet; leaves elliptic to obovate-elliptic, 7–14 cm. long, 3–7.5 cm. broad, glabrous [38. confertum](#)
- Flowers in long spikes or spike-like racemes; often arranged in large panicles: 42
- 42 Upper receptacle rounded at base, hence campanulate, 3.5–5 mm. long (including the calyx-lobes); petals incurved, always red; bracts mostly small; leaves subcordate or rounded at base: 43
- Upper receptacle, attenuate at base, hence funnel-shaped, 5–22 mm. long; petals, long exerted, not incurved; bracts often large: 45
- 43 Stems with stiff dark-brown, spreading, gland-tipped hairs, about 2 mm. long; flowers in long, lax, mostly simple, spike-like racemes; leaves oblong, 7–13 cm. long, 2.5–5 cm. broad [39. tarquense](#)
- Stems shortly pilose or puberulous: 44
- 44 Flowers in long, lax, mostly simple, spike-like racemes, 10–15 cm. long; leaves glabrous or sparsely pubescent beneath; lamina obovate-oblong, 6–15 cm. long, 3–7 cm. broad; petiole 5–8 mm. long [40. calobotrys](#)
- Flowers in spike-like racemes up to 10 cm. long, arranged in a branched panicle; leaves hirsute on the nerves beneath; lamina ovate-oblong, 8–13 cm. long, 4–7 cm. broad; petiole 2–3 mm. long [41. mannii](#)

- 45** Upper receptacle (including calyx-lobes) 12–22 mm. long, glabrous or sparsely pubescent within and without (see fig. 103 H); petals spatulate, 10–15 mm. long, red; leaves oblong, 8–15 cm. long, 4–9 cm. broad [42. *grandiflorum*](#)
- Upper receptacle (including calyx-lobes) 5–12 mm. long, pubescent, often densely so, within and without:.... **46**
- 46** Bracts as long as, or longer than, the flowers and often hiding them, persistent; petals lanceolate, 12–16 mm. long, usually yellow streaked with crimson; inflorescence-axes and flowers with long spreading hairs (brown when dry) usually conspicuous amongst shorter hairs, not glandular; fruits densely and softly hairy, usually very numerous; leaves oblong-elliptic to oblong-obovate, up to 20 cm. long and 12 cm. broad-(see fig. 103 G) [43. *dolichopetalum*](#)
- Bracts seldom as long as the flowers and never hiding them, often early deciduous; petals 6–12 mm. long, usually pink or red, with paler margins and outer surfaces; inflorescence-axes and flowers without long spreading hairs, sometimes glandular:..... **47**
- 47** Flowers densely crowded in the upper half of the spike-like racemes, peduncle and floriferous part each 2.5–5 cm. long; racemes usually borne in whorls of 3 in the large panicles; inflorescence and outside of flowers shortly pubescent, without long gland-tipped hairs; upper receptacle (including the broadly triangular calyx-lobes) 5–7 mm. long, densely pilose within right up to the mouth; petals red or crimson; bracts usually persistent, coloured, with a broad blade; leaves usually in threes, oblong-elliptic, 10–18 cm. long, 4.5–8 cm. broad [44. *comosum*](#)
- Flowers in larger spike-like racemes with the floriferous part up to 20 cm. long; usually more laxly arranged racemes in opposite pairs, or alternate; upper receptacle (including the long-triangular calyx-lobes) 7–9 mm. long, pilose within but only very sparsely so towards the mouth; petals usually pink; leaves in pairs; bracts not strongly coloured:..... **48**
- 48** Inflorescence and flowers without (or with only few) long gland-tipped hairs, but sometimes with short gland-tipped hairs; flowers more or less crowded in the upper part of the raceme; bracts often persistent [45. *rhodanthum*](#)
- Inflorescences and flowers with numerous long gland-tipped hairs; flowers in long, lax, spike-like racemes; bracts usually early caducous; leaves oblong-elliptic, 10–25 cm. long, 5–11 cm. broad [46. *hispidum*](#)
- 49** Stems and flowers without gland-tipped hairs; upper receptacle 16–22 cm. long: **50**
- Stems and flowers densely covered with short gland-tipped hairs; upper receptacle 30–32 mm. long; inflorescence usually well-branched; fruit orbicular, with wide, papery wings; leaves ovate or ovate-oblong, subcordate at base, 10–15 cm. long, 6–8 cm. broad, glabrous-(see fig. 103 J) [49. *bracteatum*](#)
- 50** Flowers densely but shortly puberulous; fruits orbicular, with wide, papery wings; inflorescence usually well-branched; leaves oblong-elliptic, rounded or cuneate at base, 9–15 cm. long, 3.5–6.5 cm. broad, glabrous [47. *platypterum*](#)
- Flowers very densely long-velutinous; fruits fusiform, with thick, narrow wings; inflorescence usually a simple spike; leaves oblong-elliptic, cordate or subcordate at base, 6–13 cm. long, 3–6.5 cm. broad, pubescent on the midrib beneath [48. *mooreanum*](#)

1. *Combretum bauchiense* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 220 (1927); Kew Bull. 1928: 224. *APD acc*

Combretum ghasalense var. *pobeguini* Aubrév. Fl. For. Soud.-Guin. 112 (1950).

Stems to 3 ft. high; petals, filaments and style cream; probably closely related to trees of the *C. ghasalense* group.

Fr. Sud.: Guéla (Dec.) Chev. 320 bis! **Fr. G.:** Farfar 286! Timbo (Jan.) Pobéguin 109! **N. Nig.:** Bauchi Plateau (Jan.) Lely P. 39! Vom Dent Young 92! Jos (Nov.) Keay FHI 21665! Ropp (Dec.) Savory UCI 131! Hoss Keay FHI 12725!

2. *Combretum lineare* Keay in Kew Bull. 1953: 290. *APD acc*

Combretum arenarium Portéres in Bull. Soc. Bot. Fr. 97: 181, with fig. (1951), not of Engl. & Gilg (1903).

Suffrutex, to 18 in. high; petals yellow.

Fr. G.: Bouffa (fl. & fr. Mar.) Portéres. Bramaya, Fouta Djallon Paroisse 178!

3. *Combretum relictum* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 221 (1927); Kew Bull. 1928: 225. *APD acc*

Combretum glutinosum var. *relictum* (Hutch. & Dalz.) Aubrév. Combret. des Sav. Bois. A.O.F. 23 (1944); Fl. For. Soud.-Guin. 106, t. 15. 4.

Suffrutex, to 3 ft. high; calyx green, petals yellow.

Fr. G.: Fouta Djallon (fl. & fr. Mar.) Heulelot 747! Aubrév. 41-G! Boké (June) Paroisse 12!

4. **Combretum sericeum** *G. Don* in Edin. Phil. Journ. 11: 347 (1824); Hook. Fl. Nigrit. 341 (1849); Keay in Kew Bull. 1950: 255, 256. *APD acc*

Combretum herbaceum *G. Don* l.c.; F.T.A. 2: 433; Engl. & Diels Monogr. Afr. Combretum 67; F.W.T.A., ed. 1, 1: 220; Chev. Bot. 262.

Suffrutex, with tough woody underground stem, sending up erect annual shoots, to 2 ft. high, [after grass fires](#); petals yellow, or pink, or red; fruit pink, becoming pale brown.

Fr. Sud.: Guélla (Feb.) Chev. 319! **Fr. G.:** Kollangui (Apr.) Chev. 12884! Konroussa (May) Pobéguin 894! **S. L.:** Afzelius! Don! Makunde (Apr.) Sc. Elliot 5710! Wallia, R. Scarcies (Feb.) Sc. Elliot 4283! Batkanu (Feb.) Glanville 166! **Iv. C.:** Baoule-Nord Chev. 22200. **G. C.:** Salaga Krause! Navrongo (fl. & fr. May) Andoh FH 5215–7! Suguri (Apr.) Pomeroy 2! Gambaga (fl. & fr. May) Vigne 3852! **Dah.:** Atacora Mts. Chev. 23947. **N. Nig.:** Sokoto (Feb., Mar.) Ryan 4! 5! Zaria (Dec.) Meikle 829! Nupe Barter 793! 1682! Bauchi Plateau (fl. & fr. Jan.) Lely 9! P. 56! P. 60! Katagum Dalz. 359! **S. Nig.:** Old Oyo F. R. (fl. & fr. Feb.) Keay FHI 16282! 23444!

Also in [Ubangi-Shari](#) and [A.–E. Sudan](#).

[Note that specimens have been collected which appear to be intermediate in habit between this species and *C. paniculatum* Vent., a scandent shrub or forest liane. The taxonomic status of such plants is as yet uncertain and further material and field studies are much required.]

5. **Combretum tomentosum** *G. Don*—F.T.A. 2: 430 (excl. spec. Kirk); Engl. & Diels l.c. 16; Keay in Kew Bull. 1950: 248. *APD acc*

Scandent shrub with dense brownish indumentum; flowers pale yellow.

Sen.: Leprieur! Bondou (Feb., Mar.) Heudelot 375! Casamance Etesse 36! **Fr. Sud.:** Sicoro, Bamako (Jan., Mar.) Chev. 212! Waterlot 1503! 1504! Kita (Apr.) Dubois 13! **Port. G.:** Brene, Bissau (Jan.) Esp. Santo 1677! **Fr. G.:** Farana (fr. Mar.) Sc. Elliot 5364! Kouroussa (Feb.) Pobéguin 642! Timbo Kouria (Dec.) Chev. 14778! Pita (Jan.) Jac.-Fel. 739! **S. L.:** Afzelius! Kukuna, Scarcies (Jan.) Sc. Elliot 4666! Madina, Tonko Limba (Mar.) Adames 221!

6. **Combretum excelsum** *Keay* in Kew Bull. 1952: 131.

APD: Synonym of Combretum pecoense Exell

[Forest](#) liane; calyx pale green; petals pale yellow; panicles up to 6 ft. long.

S. Nig.: Cross River North F. R. (Dec.) Keay FHI 28147!

7. **Combretum molle** *R. Br. ex G. Don* in Trans. Linn. Soc. 15: 431 (1827). *APD acc*

APD: Synonym of Combretum pisoniiflorum (Klotzsch) Engl.

APD: Synonym of Combretum molle R. Br. ex G. Don

Combretum velutinum *DC.* Prod. 3: 20 (1828); Aubrév. Combret. des Sav. Bois. A.O.F. 32–34 (1944); Fl. For. Soud.-Guin. 116, t. 16, 9–13, incl. var. *glabrum* Aubrév.

Combretum trichanthum *Fres.* in Mus. Senckenberg. 2: 155 (1837); F.T.A. 2: 431; Engl. & Diels l.c. 34.

Combretum sokodense *Engl.* Bot. Jahrb. 39: 498 (1907); F.W.T.A., ed. 1, 1: 221.

[Savannah](#) tree with relatively straight bole, to 30 ft. (rarely to 50 ft.) high, with characteristic dark grey deeply fissured bark; petals and stamens cream.

Fr. Sud.: Kita Dubois 64. Nioro to Bamako Aubrév. 38–S. **Fr. G.:** Fouta Djallon Heudelot 691! Kouroussa Pobéguin 227. Kollangui Chev. 12878. **S. L.:** Bintumane Peak, 4,600 ft. (fr. Jan.) T. S. Jones 155! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Bawku (Apr.) Vigne 3751! Santejan to Nebiowalli (May) Kitson 526! Tainso, Wenchi (fr. Jan.) Vigne 3545! Nwerene (fr. May) Irvine 2459! **Togo:** Sokode (May) Kersting 861 Yendi (Apr.) Williams 169! **Dah.:** Atacora Mts. Chev. 24276! **Fr. Nig.:** Fada N'Gourma fide Aubrév. l.c. **N. Nig.:** Sokoto (Dec.) Dalz. 437! Zamfara F. R. (Apr.) Keay FHI 16140! 16148! 16185! Katagum Dalz. 347! Bauchi Plateau (Feb.) Lely P. 172! Yola (fl. Apr., fr. Oct.) Dalz. 92! **S. Nig.:** Lagos Foster 43! Olokemeji (fl. Mar., fr. Sept.) A. F. Ross 119! Keay FHI 25383! **Br. Cam.:** Bafut Ngemba F. R. (Apr.) uxor FHI 30045! Esù, Bamenda Johnstone 55/31!

[Widespread in tropical Africa.](#)

8. **Combretum nigricans** *Lepr. ex Guill. & Perr. var. nigricans*—F.T.A. 2: 431; Engl. & Diels l.c. 19;

Aubrév. Combret. des Sav. Bois. A.O.F. 30–32, partly; Fl. For. Soud.-Guin. 114, partly (excl. syn. *C. lecananthum* Engl. & Diels). *APD acc*

A small tree.

Sen.: Galam Heudelot 112! M'bidjem Thierry 224! **Gam.:** Dawe 48! Banks of R. Gambia Leprieur!

- 8a. **Combretum nigricans** var. **elliottii** (Engl. & Diels) Aubrév. Combret. des Sav. Bois. A.O.F. 30–32 (1944); Fl. For. Soud.-Guin. 115, t. 16, 5–8. *C. elliottii* Engl. & Diels l.c. 42 (1899); F.W.T.A., ed. 1, 1: 220. *C. lecananthum* Engl. S Diels l.c. 42 (1899); F.W.T.A., ed. 1, 1: 220. *APD acc*

Savannah tree, 15–25 ft. high, rarely to 40 ft., with pinkish-brown finely reticulate bark; petals and filaments cream, disk bright red; mature fruits and dry leaves reddish-brown.

Sen.: fide Aubrév. l.c. **Fr. Sud.:** Koulikoro Chev. 2126! **Port. G.:** Botelhe, Caravela (May) Esp. Santo 2010! Banta, Buba (fr. May) Esp. Santo 2478! **Fr. G.:** Rio Nunez Heudelot! Mamou to Dalaba (Mar.) Dalz. 8369! Farana (fr. Jan.) Sc. Elliot 5363! Chev. 20452! **S. L.:** Berria, Falaba (Feb.) Sc. Elliot 4999! 5212! Erimakuna (fr. Mar.) Sc. Elliot 5251! Kambaia (fr. Oct.) Small 477! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Mangkurugu (fr. May) Kitson 528! Gbongoda, Gambaga (fr. June) Akpabla 697! Nchira, Wenchi (fr. Jan.) Vigne 3556! **Togo:** Basari (Apr.) Kersting A. 271! **N. Nig.:** Sokoto (fl. Apr., May, fr. Dec.) Dalz. 435! 539! Ryan 32! 61! Zamfara F. R. (fl & fr Apr.) Keay FHI 16173! 16176! 18062! Lokoja Elliott 230! **S. Nig.:** Olokemeji Foster 309!

Also in **Chad**, **Ubangi-Shari** and **A.–E. Sudan**. (See Appendix, pp. 75, 77.)

9. **Combretum glutinosum** Perr. ex DC.—F.T.A. 2: 432, partly; Engl. & Diels l.c. 49 (excl. Barter 113); Aubrév. Combret. des Sav. Bois. A.O.F. 20–24; Fl. For. Soud.-Guin. 108, t. 15, 1–2, incl. var. *passargei* (Engl. & Diels) Aubrév. *APD acc*

APD: Synonym of Combretum apiculatum Sond. subsp. apiculatum

Combretum passargei Engl. & Diels l.c. 45; F.W.T.A., ed. 1, 1: 221 (excl. Dalz. 426b).

C. leonense Engl. & Diels l.c. 51; F.W.T.A., ed. 1, 1: 222.

Combretum hypopilinum of F.W.T.A., ed. 1, 1: 221, partly (Barter 737; 1179; Dalz. 431–2; Lely 801).

Combretum ghasalense of F.W.T.A., ed. 1, 1: 221, partly (Chev. 190).

Savannah tree, to 35 ft. high; recognized in the field by the thick leaves which are green and glutinous above, but white, strongly reticulate and hairy beneath; petals and filaments cream or yellow; fruit pale brown.

Sen.: Leprieur! Perrottet 157! 312! Galam Heudelot 336! 376! **Gam.:** Sankuli Kunda (Jan.) Dalz. 8367! **Fr. Sud.:** Kati Chev. 1901 **Fr. G.:** Tonba Pobéguin 2164. **S. L.:** Buyabuya, Scarcies R. (fr. Feb.) Sc. Elliot 4772! 4775! **Iv. C.:** Ouagadougou Aubrév. 2352. Kaya Aubrév. 2374. Bâtié Aubrév. 2840! **G. C.:** Navrongo (fl. & fr. Jan.-Mar.) Vigne 4477! 4482! 4659! 4724! Nangodi (fr. July) Vigne 3299! Tamale (fr. Apr.) Darko 277! Zuarangu (fr. Apr.) Saunders 2! **Dah.:** Atacora Mts. Chev. 24275! **Fr. Nig.:** Gourma Chev. 24408! **N. Nig.:** Sokoto (fl. Dec.–Feb.) Dalz. 431! 432! Lely 801! Kano (Jan.) Dalz. 331! Nupe Barter 737! 1179! Bauchi Plateau (fl. & fr. Mar.) Lely P. 180! P. 183! Musgu (fr. Apr.) E. Vogel 82! **S. Nig.:** Old Oyo F. R. (Feb.) Keay FHI 16013!

Also in **French Cameroons**, **Ubangi-Shari** and **A.–E. Sudan**.

10. **Combretum ghasalense** Engl. & Diels l.c. 47 (1899); Aubrév. Combret. des Sav. Bois. 25–26; Fl. For. Soud.-Guin. 112, t. 15, 5–7 (excl. var. *harmsianum* (Diels) Aubrév. and var. *pobeginii* Aubrév.).

APD: Synonym of Combretum adenogonium Steud. ex A. Rich.

Combretum undulatum Engl. & Diels l.c. 48. *C. zechii* Diels in Engl. Bot. Jahrb. 39: 496 (1907).

Combretum chevalieri Diels l.c. 497.

Combretum augustinum Diels l.c. 501.

Combretum basarense Engl. Bot. Jahrb. 39: 496 (1907).

Combretum dalzielii Hutch in F.W.T.A., ed. 1, 1: 222 (1927); Kew Bull. 1928: 225.

Savannah tree, to 25 ft. high; petals and filaments cream or yellow; young fruits red and very glutinous, becoming pale brown. At least four forms occur in our area, but they appear to be connected by intermediates and cannot be separated satisfactorily, even as varieties. They are: (A) leaves pubescent,

broadly elliptic, broadest at or slightly above the middle, obtuse at apex, petiole relatively short, flowers densely hairy; (B) leaves glabrous, broadly lanceolate, broadest below the middle, acute or acuminate at apex, margin markedly undulate, petiole relatively long; flowers densely hairy; (C) leaves as in B, but flowers sparsely pubescent; (D) leaves as in A, but glabrous except for conspicuous tufts in the axils of the main lateral nerves, flowers sparsely pubescent.

Fr. Sud.: Yatenga Chev. 24803! Sikasso Aubrév. 10-S! **Fr. G.:** (fr. Feb.) Farmar 229! Guélie Chev. 320! Teliko Pobéguin 1443! Dalaba Aubrév. 9-G. **S. L.:** Sc. Elliot 4963! Kate Sc. Elliot 4966! Musaia Deighton 4193! Talla Hills (fr. Feb.) Sc. Elliot 4877! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Daboia Dudgeon 102! Pong to Nakaw (Mar.) Kitson 697! Zuarungu (Feb.) Vigne 4725! Tainso, Wenchi (Jan.) Vigne 3544! Achimota (Jan.) Irvine 1945! Aframsu Kwahu (Jan.) Chipp 637! **Togo:** Kpedsu (Dec.) Howes 1051! Sokode (Jan.) Kersting A. 264! **N. Nig.:** Sokoto (Dec.) Dalz. 436! Kano to Zaria (Jan.) Dalz. 426a! 426b! Kontagora (Jan.) Dalz. 112! Meikle 1064! Lokoja Dalz. 911! Katagum (Dec.) Dalz. 221! Elliott 167! **S. Nig.:** Old Oyo F. R. (fl. & fr. Feb.) Keay FHI 14638! 14646! 16277!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan**. (See Appendix, pp. 75, 76.)

11. **Combretum binderianum** *Kotschy* in Sitzungsber. K. Akad. Wiss. Wien. math.-naturw. Cl. 51, 1: 363, t. 5 (1865); Engl. & Diels l.c. 56; Aubrév. Fl. For. Soud.-Guin. 122.

APD: Synonym of Combretum collinum subsp. suluense (Engl. & Diels) Okafor

APD: Synonym of Combretum collinum subsp. binderianum (Kotschy) Okafor

Savannah tree, 10–20 ft. high; often on poor ironstone plateaux; bark of bole and older branches dark grey and fissured; petals and filaments cream; fruit crimson or purple, with reddish scales.

G. C.: Vigne! Saku (Apr.) Vigne 4696! Mangkuma to Nakwabi, Bole Kitson 879! Adamsu, Ashanti (Dec.) Vigne 3501! **N. Nig.:** Anara F.R. (fr. May) Keay FHI 22956! Kankomi (fr. Aug.) Keay FHI 12689! Bauchi Plateau (Jan.) Lely P. 8! P. 11! P. 269! Lam Bau, Kwaya (fr. Aug.) Daggash FHI 24861!

Also in **French Cameroons**, **Ubangi-Shari** and widespread in E. Africa.

12. **Combretum crotonoides** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 220 (1927); Kew Bull. 1928: 224.

APD: Synonym of Combretum collinum Fresen.

Combretum geitonophyllum var. **crotonoides** (*Hutch. & Dalz.*) Aubrév. Combret. des Sav. Bois. A.O.F. 38 (1944); Fl. For. Soud.-Guin. 120, t. 17, 5–7.

Savannah tree similar to above, but with brown tomentose fruits.

Sen.: Bondou Heudelot 187! 356! **Fr. Sud.:** Bellamy 450! Kita (fl. Feb.) Dubois 6a! Sebékoro (fr. Aug.) Dubois 6c! Nioro to Bamako (fr. Nov.) Aubrév. 18-S! 19-S! 20-S! **Fr. G.:** Kouroussa Pobéguin 647!

13. **Combretum lamprocarpum** *Diels* in Engl. Bot. Jahrb. 39: 500 (1907); Aubrév. Combret. des Sav. Bois. A.O.F. 36; Fl. For. Soud.-Guin. 119.

APD: Synonym of Combretum collinum subsp. geitonophyllum (Diels) Okafor

Combretum kerstingii *Engl. & Diels* in Engl. Bot. Jahrb. 39: 499 (1907).

Combretum collinum of F.W.T.A., ed. 1, 1: 220, and of Aubrév. l.c. 119, not of Fres.

Combretum verticillatum of F.W.T.A., ed. 1, 1: 220, partly, not of Engl.

Savannah tree, to 30 ft. high; bark of bole and older branches peeling in stringy fibres and exposing the reddish-brown, powdery under bark; petals and filaments cream.

Fr. Sud.: fide Aubrév. l.c. **Fr. G.:** Cita (Mar.) Aubrév. 23-G! Ditinn (Apr.) Chev. 12991! **Iv. C.:** Niangbo (Jan.) Serv. For 1705! Bondoukou (Jan.) Aubrév. 744! **G. C.:** Salaga (Jan.) Vigne 1545! Dukwesein, Ashanti (fr. Dec.) Chipp 607! Bosomoa F.R. (fr. June) Vigne 2998! **Togo:** Busse 3561! Loso (Mar.) Kersting 615! Yendl (Apr.) Vigne 1691! **Dah.:** Savé (May) Chev. 23561! 23580! **N. Nig.:** Nupe Barter! Kontagora (fl. & fr. Jan.) Dalz. 113! **S. Nig.:** Lagos MacGregor 138! Oyo to Iseyin road (Feb.) Brenan & Keay 8961! Keay FHI 22477! Old Oyo F.R. (fl. & fr. Feb.) Keay FHI 16270!

14. **Combretum geitonophyllum** *Diels* in Engl. Bot. Jahrb. 39: 495 (1907); Aubrév. Combret. des Sav. Bois. A.O.F. 38; Fl. For. Soud.-Guin. 120 (excl. var. *crotonoides* (*Hutch. & Dalz.*) Aubrév.).

APD: Synonym of Combretum collinum subsp. geitonophyllum (Diels) Okafor

Combretum verticillatum of F.W.T.A., ed. 1, 1: 220, partly, not of Engl.

Savannah tree; bark as in previous species.

Sen.: Haute Casamance Etesse 16! **Gam.:** N. bank of R. Gambia Ozanne! Sankuli Kunda (Jan.) Dalz. 8366! Kuntuar (fl. & fr. Jan.) Dalz. 8368! **Fr. Sud.:** N. Yatenya Chev. 24820! Macina Chev. 24914! Guétala Dubois 6b! Forgo, Mossi Chev. 24654! **Fr.G.:** Balanadougou (Feb.) Chev. 323!

15. **Combretum hypopilinum** *Diels* l.c. 497 (1907); Aubrév. Combret. des Sav. Bois. A.O.F. 39; Fl. For. Soud.-Guin. 121, t. 17, 8–10.

APD: Synonym of Combretum collinum subsp. hypopilinum (Diels) Okafor

Combretum glutinosum of F.T.A. partly, not of Perr. ex DC.

Savannah tree or shrub, to 20 ft. high; bark as in species No. 13; petals and filaments cream; fruit purplish-brown.

Sen.: Bignona, Casamance Aubrév. 103-C. **Fr. G.:** Banko (June) Pobéguin 884! Dabola Aubrév. 25-G! **Iv. C.:** Ferkéssédougou (Apr.) Aubrév. 2320! 2321! Léo (fr. July) Aubrév. 2487! **G. C.:** Pan to Bujan (fl. & fr. Apr.) Kitson 523! Bele Dist. (May) Kitson 790! Lissa (Mar.) Kitson 812! Nangodi (fr. July) Vigne 3297! Gambaga (May) Vigne 3937! **Dah.:** Kandi (Jan.) Aubrév. 3-D! **Fr. Nig.:** Gaya Aubrév. 8-D! **N. Nig.:** Sokoto (Dec.) Lely 842! Nupe Barter 1113! 1192! 1204! Mokwa (Apr.) Keay FHI 25716! Musgu (May) E. Vogel 69! Bauchi Shaw 95! Abinsi (Feb., Mar.) Dalz. 698! 777! **S. Nig.:** Old Oyo F.R. (Feb.) Keay FHI 16288! 16300!

Also in **French Camerouns** and **Ubangi-Shari**.

16. **Combretum micranthum** *G. Don* in Edin. Phil. Journ. 11: 347 (1824); Engl. & Diels Monogr. Afr. Combretum 17; Aubrév. Fl. For. Soud.-Guin. 114; Keay l.c. 250 (q.v. for full synonymy). *APD acc*

Combretum altum *Perr.*—F.T.A. 2; 428.

Combretum floribundum *Engl. & Diels* l.c. 18; Chev. Bot. 261.

Spreading shrub, sometimes a liane, or a small tree; petals white, receptacle with red scales; leaves and fruits dark reddish-brown when old

Sen.: Sieber 25! Heudelot 284! Thiès (fr. Dec.) Chev. 2147! **Gam.:** Dawe 83! Genieri (fr. Feb.) Fox 66! **Fr. Sud.:** Gourma (July) Chev. 24517! Fo Chev. 958! San (fr. Sept.) Chev. 2145! **Port. G.:** Pussubé (June) Esp. Santo 1185! Bissalanca, Bissau (fr. Jan.) Esp. Santo 1647! **Fr. G.:** Rio Nunez Heudelot 812! Diaguissa (Apr.) Chev. 12678! Ditinn (Apr.) Chev. 13559! **S. L.:** Afzelius! Kukuna (fl. Mar., May, fr. Jan.) Sc. Elliot 4702a! Jordan 388! Adames 220! **Iv. C.:** Bobo Dioulasso Aubrév. 1981! **G. C.:** Williams 521! Gambaga Scarp (July) Akpabla 728! **Dah.:** Kouandé to Konkobiri Chev. 24290 (partly)! **Fr. Nig.:** Niamey to Zinder (fr. Oct.) Hagerup 568a! **N. Nig.:** Nupe Barter 1645! 1711! Mokwa (fl. & fr. Apr.) Keay FHI 25718! Sokoto (May-July) Dalz. 429! Lely 821! 822! Katagum Dalz. 326!

17. **Combretum nioroense** *Aubrév. ex Keay* in Kew Bull. 1953: 290; Aubrév. Combret. des Sav. Bois. A.O.F. 27 (1944), French descr. only; Fl. For. Soud.-Guin. 113, t. 15, 8. *APD acc*

Scandent shrub.

Fr. Sud.: Nioro to Bamako (fr. Nov.) Aubrev. 30-S! Bamako Vuillet 230! Koléna, Kita (fr. Sept.) Dubois 78! Gourma (July) Chev. 24404! Koulikoro (June) Chev. 25936!

18. **Combretum obanense** (*Bak. f.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 221 (1927); Kew Bull. 1928: 228; Exell in J. Bot. 67: 101 (1929); Keay in Kew Bull. 1950: 249.

APD: Synonym of Combretum marginatum Engl. & Diels

Combretum paucinervium var. **obanense** *Bak. f.* in Cat. Talb. 38 (1913).

A **forest** shrub, with coriaceous leaves.

S. Nig.: Obutong Road, Oban Talbot 1676!

Also in **Gabon**.

19. **Combretum homalioides** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 221 (1927); Kew Bull. 1928: 225; Keay l.c. 249. *APD acc*

Forest liane probably, but "tree 60 ft." fide Barter; flowers white.

S. Nig.: Onitsha Barter 1803! Udi F. R. (Nov.) Smith 33!

Also in **Cabinda**.

20. **Combretum demeusei** *De Wild.* in Ann. Mus. Congo 5, 3: 235 (1910); Exell in J. Bot. 67: 103 (1929); Keay l.c. 250. *APD acc*

Combretum mildbraedii *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 221 (1927); Kew Bull. 1928: 225.

Scandent shrub, with abundant red scales.

Fr. G.: Labé (fl. Jan., fr. Mar.) Maclaud 435! Chev. 12364! Mamou (Nov.) Chev. 141815! Pobéguin 1450! Diagoussa (Dec.) Chev. 18008! Dalaba (Dec., Mar.) Chev. 18091! 20293! Timbo (Nov.) Chev. 14792! **G. C.:** Essiama (fr. Feb.) Irvine 2317! **Togo:** Misahöhe (Nov.) Mildbr. 7305! Alavanyo, Hohoe (Nov.) St. Clair Thompson FH 3660! **S. Nig.:** Enugu F.R. (Oct.) Smith 23!

Also in **Ubangi**, **Gabon** and **Belgian Congo**.

21. **Combretum smeathmannii** *G. Don* in Trans. Linn. Soc. 15: 424 (1827); Exell in J. Bot. 67: 139 (1929).

APD: Synonym of Combretum mucronatum Schumach. & Thonn.

Combretum mucronatum *Schum. & Thonn.* (1827); F.T.A. 2: 426; Engl. & Diels l.c. 31; F.W.T.A., ed. 1, 1: 221.

Scandent shrub, becoming forest liane; petals and filaments white; fruits pale pink when young.

Gam.: Pirie 50! Brown-Lester 69! **Port. G.:** Bissau Dist. (Jan.–Feb.) Esp. Santo 1688! 1738! 1783! **Fr. G.:** Heudelot 744! Kouria (Jan.) Pobéguin Bilima (Dec.) Chev. 14885! **S. L.:** Kukuna, Scarcies R. (Jan.) Sc. Elliot 4702b! Njala (fl. & fr. Feb.) Deighton 1814! 1929! Moyamba (Jan.) Deighton 3483! **Lib.:** Sardu (Jan.) Bequaert 56! **Iv. C.:** fide Chev. l.c. **G.C.:** Aenyim, Obuasi (Jan.) Chipp 645! Nsawkaw, Wenchi (Jan.) Vigne 3540! Pokoase (fl. & fr. Mar.) Irvine 1532! **Togo:** Amedzofwe (Feb.) Irvine 177! **Dah.:** Porto Novo (fl. & fr. Jan.) Chev. 22829! 22843! **S. Nig.:** Lagos Moloney! Abeokuta Barter 3319! Ibadan (fl. Dec., fr. Jan.) Newberry 4! 16! Oban Talbot 1386!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Spanish Guinea**, **Belgian Congo** and **Uganda**.

22. **Combretum insulare** *Engl. & Diels* Monogr. Afr. Combretum 21 (1899); Keay l.c. 252.

APD: Synonym of Combretum cuspidatum Planch. ex Benth.

Forest liane; fruits yellowish.

S. Nig.: Ibadan North F.R. (fr. Feb.) Chizea FHI 23971! **Br. Cam.:** Victoria (fl. Nov., fr. Feb., Mar.) Maitland 380! 773! 1061! **F. Po:** Mann 1156!

23. **Combretum cuspidatum** *Planch. ex Benth.*—F.T.A. 2: 426 (excl. Barter 1803); Engl. & Diels l.c. 21; Keay l.c. 252 (q.v. for full synonymy). *APD acc*

APD: Synonym of Combretum conchipetalum Engl. & Diels

Combretum afzelii *Engl. & Diels* l.c. 22, not of G. Don; F.W.T.A., ed. 1, 1: 221.

Large forest liane, especially by river banks; flowers white, greenish-white or yellowish; fruit bulky, probably dispersed by water.

Fr. G.: Rio Nunez Heudelot 630! **S. L.:** Afzelius! T. Vogel 47! Senge (Nov.) Deighton 2369! Njala (fl. Nov., fr. Apr.) Deighton 3069! 3445! 3539! **Lib.:** Zeahtown, Tchien (Aug.) Baldwin 7015a! **G. C.:** Tano R. (Sept.) Chipp 343! Princes (Jan.) Akpabla 786! Otrokpe (Sept.) Vigne 4006! **S. Nig.:** Iddo Isl., Lagos (Oct.) Millen 7! Eket Talbot! **F. Po:** (June) Mann 410!

Also in **French Cameroons** and **Belgian Congo**.

24. **Combretum fulvum** *Keay* in *Kew Bull.* 1950: 254. *APD acc*

Scandent shrub, or forest liane; petals white, turning yellow.

Fr. G.: Séfan, Kindia (Dec.) Jac.-Fel. 2169! **S. L.:** Njala (Oct.) Deighton 1332! Taiya R., Mano (fr. Jan.) Dalz. 8097!

25. **Combretum bipindense** *Engl. & Diels* *Monogr. Afr. Combretum* 77 (1899). *APD acc*

Scandent shrub or forest liane; flowers white; easily recognized by the small red scales on the undersurface of the leaves.

G. C.: Kumasi (fl. Sept., fr. Dec.) Vigne 3369! 3369a! Kwadaso (Oct.) Darko 737! **Br. Cam.:** FHI 12304! Victoria (fr. Feb.) Maitland 378!

Also in **French Cameroons**.

26. **Combretum batesii** *Exell* in *J. Bot.* 67: 145 (1929). *C. fuscum* of F.W.T.A., ed. 1, 1: 221, partly (Dunlap 13).

APD: Synonym of Combretum fuscum Planch. ex Benth.

Forest liane.

Br. Cam.: Cam. Mt., 4,000 ft. (Jan.) Dunlap 13!

Also in **French Cameroons**.

27. **Combretum fuscum** *Planch. ex Benth.*—F.T.A. 2: 426 (excl. spec. Irving); *Engl. & Diels l.c.* 76. *APD acc*

Scandent shrub or forest liane; bract-like leaves white; petals cream.

S. L.: Freetown (June) T. Vogel 127! Between Bafodeya and Loko (Apr.) Sc. Elliot 5669! Bawbaw (May) Deighton 2692! Njala (June) Deighton 727! 1746! Yonibana (fr. Nov.) Thomas 5152! **Lib.:** Grand Bassa Ansell! **Iv. C.:** Bouroukrou (fr. Jan.) Chev. 16739! **G. C.:** Assuansi (July) Box 2758! **S. Nig.:** Lagos Millen 156! Gambari F. R. (Aug.) Onochie. FHI 19150! Awba Hills F. R. (fr. Jan.) Jones & Keay FHI 14625! Agulu (Aug.) Latilo FHI 27310!

Also in **Ubangi**.

28. **Combretum sordidum** *Exell* in *J. Bot.* 67: 144 (1929). *APD acc*

Scandent shrub or forest liane; bract-like leaves greenish-white; petals cream.

G. C.: Nsuta (May) Vigne 1740! **S. Nig.:** Gambari Group F. R. (June-Aug.) Onochie FHI 19108! Ejiofor FHI 15144! Omo F. R. (fr. Feb.) Jones & Onochie FHI 17585! Okomu F. R. (fr. Jan.) Brenan 8861! Usonigbe F. R. (fr. Oct.) Keay & Onochie FHI 19671!

Also in **French Cameroons** and **Gabon**.

29. **Combretum oyemense** *Exell* in *Bull. Soc. Linn. Normandie, Sér.* 8, 9: 135 (1937). *APD acc*

Scandent shrub; petals and filaments white or yellow.

S. L.: Kambia Magbema (Mar.) Jordan 428! **G. C.:** Bura River F. R. (Mar.) Andoh FH 3264!

Also in **French Cameroons** and **Gabon**.

30. **Combretum racemosum** *P. Beauv.*—F.T.A. 2: 424 (incl. var. *flammeum* Welw. ex Laws.); *Engl. & Diels l.c.* 82; *Chev. Bot.* 264. *APD acc*

Scandent shrub or forest liane; bracteate leaves white with green veins, or rarely pink, petals and stamens vivid dark red.

Sen.: Perrottet! **Gam.:** Brown-Lester 29! Genieri (Feb.) Fox 63! **Port. G.:** Pussubé (Dec.) Esp. Santo 1086! Brene, Bissau (Jan.) Esp. Santo 1680! **Fr. G.:** Rio Nunez Heudelot! **S. L.:** Don! Njala (Feb.) Deighton 1066! Makeni (Jan.) Deighton 2854! **Lib.:** Johnston! Dinklage 3319! Ganta (Dec.) Barker 1109! **G. C.:** Dodowa Plains (Jan.) Johnson 583! Anyinam (Dec.) Dalz. 100! Assuansi (Jan.) Fishlock 5! **Togo:** Makpame Mildbr. 7427! **Dah.:** Porto Novo (Jan.) Chev. 22830! **N.**

Nig.: R. Gurara (Dec.) Elliott 201! R. Benue (Jan.) Dalz. 864! **S. Nig.:** Lagos Foster 144! Abeokuta (Jan.) Rowland! Ibadan (Jan.) Keay & Jones FHI 14838! Oban Talbot! Mt. Koloishe, Obudu (Dec) Keay & Savory FHI 25128! **Br. Cam.:** Cameroons R. (Jan.) Mann 2188! Victoria (Feb.) Maitland 413! Batibo, Bamenda (Jan.) Keay FHI 28328! **F. Po:** (Jan.) Mann 182!

Also in **French Cameroons, Ubangi, Kenya, Uganda, A.-E. Sudan, Gabon, Belgian Congo** and **Angola**.

31. *Combretum cinereipetalum* Engl. & Diels Monogr. Afr. Combretum 84 (1899). *APD acc*

Scandent shrub or forest liane; very similar to the preceding species.

Br. Cam.: Buea (Dec., Jan.) Maitland 133! Lehmbach 136. Also in **French Cameroons, Uganda, Belgian Congo** and **Angola**.

32. *Combretum lecardii* Engl. & Diels l.c. 73 (1899); Chev. Bot. 263; Aubrév. Fl. For. Soud.-Guin. 106. *APD acc*

Scandent shrub; flowers red.

Sen.: Lecard 12! Bondou Heudelot 151! **Gam.:** Saunders 56! Pirie 34! Georgetown (Jan.) Dalz. 8361! **Fr. Sud.:** Dio (Aug.) Chev. 167! Bamako (Jan., Mar.) Chev. 240! Waterlot 1050! **Fr. G.:** Maclaud 319! Coniagins (Feb.) Pobéguin 2139! **S. L.:** Hutton!

33. *Combretum paniculatum* Vent.—F.T.A. 2: 425; Engl. & Diels l.c. 70; Chev. Bot. 263. *APD acc*

Combretum pincianum Hook. Bot. Mag. sub. t. 4262 (1846).

Combretum ramosissimum Engl. & Diels l.c. 72.

Combretum abbreviatum Engl.—Engl. & Diels l.c.

Scandent shrub, becoming lofty liane in forest, extending into the savannah regions in fringing forest and thickets; petioles becoming spines; petals and stamens bright red; flowers often produced when plant is leafless.

Sen.: Perrottet! **Gam.:** Hayes 527! **Fr. G.:** Timbo Farmar 272! Mamou (Mar.) Dalz. 8371! **S. L.:** Don! Njala (Jan., Feb.) Deighton 1930! 1930a! Sherbro Sc. Elliot 5847! Karina (Jan.) Glanville 144! Lib: Brewerville (Dec.) Baldwin 10977! **Iv. C.:** fide Chev. l.c. **G. C.:** Tamale Williams 422! Nsawkaw, Wenchi (Jan.) Vigne 3539! Aburi Patterson! R. Volta, Krepi (Jan.) Johnson 566! **Dah.:** Burton! Porto Novo (Jan.) Chev. 22825! **N. Nig.:** Sokoto (Feb.) Lely 808! Nupe (Apr.) Barter 735! Yola (Feb.) Dalz. 196! Gidan Atiko, Tiv (Dec.) Keay FHI 22710! **S. Nig.:** Epe (Feb.) Millen 154! Ibadan (Dec-Feb) Keay FHI 14606! 25672! Ilora, Oyo (Jan.) Keay FHI 25644! Oban Talbot 1478! **Br. Cam.:** Buea (Dec.) Maitland 887! Kate, Kumba (Feb.) Dundas FHI 13990! **F. Po:** Barter 2061! (Jan.) Mann 203!

Widespread in tropical Africa.

[See note under No. 4, *C. sericeum* G. Don.]

34. *Combretum acutum* Laws. in F.T.A. 2: 424 (1871); Keay in Kew Bull. 1950: 247; Hook. Ic. Pl. t. 3476 (1950). *APD acc*

Scandent shrub, to 10 ft. high; by river banks in savannah regions; young branches purplish; petals white.

G. C.: R. Addeko (Apr.) Kitson 931! Bugiyenga to Loggada (May) Kitson 530! Pong Tamale (fl. & fr. May) Vigne 3862! R. Volta, Naga (Mar.) Vigne 4689! **Dah.:** Sansanné Mange, Oti (Feb.) Aubrév. 133-D! **N. Nig.:** Lokoja Barter 453! 1671! Abinsi (June) Dalz. 706!

35. *Combretum aculeatum* Vent.—F.T.A. 2: 423; Chev. Bot. 260; Aubrév. Fl. For. Soud.-Guin. 106. *APD acc*

Scandent shrub of dry regions; petals white.

Sen.: Heudelot 424! Leprieur! Sieber 55! Dakar (Apr.) Hagerup 11! **Fr. Sud.:** Kodjar, Gourma (July) Chev. 24385! **Iv. C.:** Yako Aubrév. 2750. Ouagadougou Aubrév. 2439. **G. C.:** Busunu (May) Vigne. 3845! 3870! **Fr. Nig.:** Niamey Aubrév. 40-N! **N. Nig.:** Sokoto (fr. July) Dalz. 430! Mutwe (fr. Dec.) Foster 74! Bornu (Apr.) E. Vogel 81! Yola (Dec.) Dalz. 93!

Also in **Mauritania**, and extends to Abyssinia, Somaliland and **Tanganyika**.

36. **Combretum zenkeri** *Engl. & Diels* l.c. 66 (1899). *APD acc*

Scandent shrub or forest liane, bracteate leaves white; petals cream.

Fr. G.: Nzérékoré (Oct.) Jac.-Fel. 2037! Baldwin 9706! **Iv. C.:** Baoulé (Oct.) Pobéguin 196! G. C.: Kumasi (Sept., Oct.) Vigne 1338! Darko 731! Nsawam (Oct.) Dalz. 98! Bomkrom, Afram Plains (fr. Jan.) Chipp 597! **Togo:** Lome Warnecke 449! Hohoe Dist. (Oct.) St. Clair Thompson FH 3596! **Dah.:** Poisson! Croja Quéré (Sept.) Le Testu 290! **S. Nig.:** Lagos Millen 52! Abeokuta Irving 18! Olokemeji Foster 130! Ibadan (fl. Sept.–Oct., fr. Oct.–Dec.) Jones & Keay FHI 13713! Oban Talbot 1373!

Also in **French Cameroons**.

37. **Combretum constrictum** (*Benth.*) *Laws.* in F.T.A. 2: 423 (1871), partly (spec. Vogel only). *APD acc*

Poivrea constricta *Benth.* in Fl. Nigrit. 337 (1849).

Usually a low shrub, erect or scrambling; leaves alternate, or often opposite, or sometimes in whorls of 3; flowers crowded, scarlet, often at the ends of short brandies near the ground; often in damp situations.

N. Nig.: Gurara R. (fr. July) Elliott 183! Gbebe, Bassa (June) Elliott 241! Abinsi (Mar.) Dalz. 705! 787! Yola Dalz. 191! **S. Nig.:** Onitsha Barter 1303! Idah (Sept.) T. Vogel 39! Ibo country (Aug.) T. Vogel 42 Idua, Calabar R. (Sept.) Holland 155! Ahoda (Aug.) Talbot 3805!

Also in **Tanganyika**.

38. **Combretum confertum** (*Benth.*) *Laws.* in F.T.A. 2: 422 (1871); *Engl. & Diels* l.c. 74. *APD acc*

Poivrea conferta *Benth.* in Fl. Nigrit 338 (1849).

Forest liane; petals, stamens and style deep scarlet.

S. Nig.: Oban Talbot! Oron to Eket Talbot! Bendiga Ayuk, Ikom (Dec.) Keay FHI 28170! **Br. Cam.:** Johann-Albrechtshöhe (Oct.) Staudt 774. **F. Po.:** (Dec.) T. Vogel 256!

Also in **French** and **Belgian Congo**.

39. **Combretum tarquense** *J. J. Clark* in Kew Bull. 1913; 76 (1913). *APD acc*

Scandent shrub; stems with stiff brown hairs; petals red; fruit crimson.

Iv. C.: Aboisso, Sanvi (Apr.) Cher. 17749! **G. C.:** Tarkwa (Feb.) Thompson 43! Suku Suku (Nov.) Chipp 10! Bou (Nov.) Vigne 1413! Prestea (Sept.) Vigne 3069! Axim (Feb.) Irvine 2202! Benso (Jan.) Andoh FH 5384!

40. **Combretum calobotrys** *Engl. & Diels* l.c. 73 (1899).

APD: Synonym of Combretum mannii M. A. Lawson ex Engl. & Diels

Scandent shrub or liane, with long simple racemes of flowers with scarlet petals and stamens.

Lib.: Grand Bassa (Nov.) Dinklage 1775! 1862! Kakatown Whyte! Dukwia R. (Oct., Nov.) Cooper 49! Farmington R. (Dec.) Bequaert 7!

41. **Combretum mannii** *Laws. ex Engl. & Diels* l.c. 74 (1899). *APD acc*

Combretum klotzschii of F.T.A. 2: 422, partly.

Forest liane; flowers red or purple.

Dah.: Le Testu 191! **Br. Cam.:** Cameroons R. (Jan.) Mann 725!

Also in **Gabon**.

42. **Combretum grandiflorum** *G. Don*—F.T.A. 2: 423; *Engl. & Diels* l.c. 89; Chev. Bot. 262. *APD acc*

Scandent shrub or forest liane; petals brilliant red.

Gam.: Abuko (Jan.) Dalz. 8362! **Port. G.:** Bubaque, Bijagós (Nov.) Esp. Santo 2330! **Fr. G.:** Conakry (Jan., Feb.) Dalz. 8363! Chev. 12075! **S. L.:** Don! Barter! Sc. Elliot 4081! Sukudu Dawe 550! Giewahun (Nov.) Deighton 181! Kuntaia

(June) Thomas 429! **Lib.:** Monrovia (Oct.) T. Vogel! Cooper 54! Gbanga (Sept.) Linder 556! Gletown, Tchien (July) Baldwin 6943! **Iv. C.:** San Pedro Thoiré 319! Yapo (Oct.) Chev. 22367b! Dabou Chev. 15237! **G. C.:** Tarkwa (July, Sept.) Dalz. 99! Vigne 142! 4764! Benso (Aug., Nov.) Andoh FH 5392! Prestea (July) Vigne 1262! 3071!

43. **Combretum dolichopetalum** *Engl. & Diels* l.c. 91 (1899). *APD acc*

Cacoucia villosa *Laws.* in F.T.A. 2: 433.

Combretum lawsonianum of Chev. Bot. 263, not of Engl. & Diels.

Scandent shrub or forest liane; flowers often hidden by the large yellow-green bracts; petals yellow with crimson streaks within.

S. L.: Tiama, Njala (Jan.) Dalz. 8356! Deighton 503! **Iv. C.:** Grand Bassam (Jan.) Pobéguin 200! San Pedro (Sept.) Thoiré! Abidjan (Dec.) Chev. 17324! **G. C.:** Tano R. (fl. & fr. Sept.) Chipp 344! Dunkwa (fl. & fr. Aug.) Vigne 159! Axim (Feb.) Irvine 2160! Kumasi (fl. & fr. Sept.) Darko 338! **Dah.:** Porto Novo (Jan.) Chev. 22820! **S. Nig.:** Lagos Rowland! Millen 64! 182! Ibadan (fl. & fr. Jan.) Keay & Jones FHI 14837! Awka Thomas 73! Oban Talbot 1333! Eket Talbot 3004! Calabar (fl. & fr. Feb.) Mann 2296! **Br. Cam.:** Mamfe (Dec.) Keay FHI 28321! Rio del Rey Johnston!

44. **Combretum comosum** *G. Don*—F.T.A. 2: 421; Engl. & Diels l.c. 91; Chev. Bot. 261. *APD acc*

Poivrea comosa (*G. Don*) *Walp.*—Fl. Nigrit. 339.

Scandent shrub, or forest, liane, with large panicles; petals red or crimson.

Gam.: Albreda Perrottet. **Fr. G.:** Fouta Djallon Heudelot 834! Conakry Maclaud! Irebeleya (Dec.) Chev. 14762! **S. L.:** Don! Freetown (Jan.–May) Barter! Johnston 49! Njala (Feb.) Deighton 497! Pujehun (Feb.) Dawe 471! **Lib.:** Kakatown Whyte! Bushrod Isl. (Dec.) Barker 1105! Boporo (Nov.) Baldwin 10374! **G. C.:** Burton! Tarkwa (Dec., Jan.) Johnson 982! Vigne 4117! Tuapem (Nov.) Chipp!

45. **Combretum rhodanthum** *Engl. & Diels* Monogr. Afr. Combretum 92 (1899).

APD: Synonym of Combretum comosum G. Don

Combretum comosum of F.W.T.A., ed. 1, 1: 222, partly, not of G. Don. Scandent shrub, or forest liane; petals pink.

Fr. G.: Koukouré Valley Pobéguin! **S. L.:** near Mofari, Scarcies (Jan.) Sc. Elliot 4438! 4443! Kenema (Feb.) Lane-Poole 348! Segbwema Smythe 50! Yokodu (Feb.) MacDonald 9! Kamakui (fl. & fr. Aug.) Deighton 3500! 3498! **Lib.:** Gbanga (Dec.) Baldwin 10526! Daniel 37!

Also in **Ubangi-Shari**, **Uganda**, **A.–E. Sudan** and **Belgian Congo**.

46. **Combretum hispidum** *Laws.* in F.T.A. 2: 421 (1871); Engl. & Diels l.c. 89.

APD: Synonym of Combretum comosum G. Don

Scandent shrub or liane; inflorescence, flowers and fruits sticky with numerous gland-tipped hairs; petals bright salmon-pink within, paler at margins and without, deflected to one side.

Fr. G.: Soriba Pobéguin! Kouria (Jan.) Pobéguin 894! Chev. 18170! Timbo Pobéguin 99! 142! Dalaba (Mar.) Dalz. 8372! **S. L.:** Kalangba (Feb.) Glanville 178! Musala (Feb.) Deighton 4227! Fondokhori (Feb.) Deighton 5317! **Lib.:** Vonjama (Feb.) Bequaert 87! **G. C.:** Ofuman, Wenchi (fl. & fr. Jan.) Vigne 3552! Sunjani (Feb.) Darko 379! **Togo:** Misahöhe (Feb.) Baumann 379. **S. Nig.:** Ibadan (fl. & fr. Jan.) Keay FHI 14595! 14839! Olokemeji (fl. & fr. Mar.) Meikle 1302! Ubulubu (Feb.) Thomas 2302! 2314!

Also in **Ubangi-Shari**, **French Cameroons**, **Spanish Guinea**, **Belgian Congo** and **Angola**.

47. **Combretum platypterum** (*Welw.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 220 (1927); Kew Bull. 1928: 224. *APD acc*

Cacoucia platyptera *Welw.* in Trans. Linn. Soc. 27: 24 (1869).

Campylochiton platypterus *Hiern* in Cat. Welw. 2: 354.

Cacoucia paniculata *Laws.* in F.T.A. 2: 434.

Cacoucia barteri *Hemsl.* in Kew Bull. 1897: 267.

Combretum lawsonianum *Engl. & Diels* l.c. 101.

Scandent shrub or forest liane; bracts and receptacle greyish-red or red; petals yellow to red; filaments red; fruits red at first then pale brown.

Fr. G.: Conakry (fr. May) Baldwin 5790! **S. L.:** R. Scarcies, Kambia (Jan.) Sc. Elliot 4710! Panguma Smythe 73! Kamakwie (Feb.) Deighton 4200! Sukudu (fl. & fr. July-Aug.) Dawe 544! **Lib.:** Nyanda-molahun (Feb.) Bequaert 72! Ganta (fl. & fr. May) Harley 1194! **G. C.:** Abofaw, Ashanti (June) Vigne 1190! Akwapim (Apr.) Gould! **S. Nig.:** Lagos Rowland! Ibadan (fl. Apr., fr. Aug.) Meikle 1447! Keay FHI 16233! Onitsha Barter 1657! Unwin 62! Ogoja Rosevear 54/29! **Br. Cam.:** Bamenda (Apr., June) Maitland 1405! 1579!

Extends to **Angola**, **Belgian Congo** and Upper Nile land.

48. **Combretum mooreanum** *Exell* in J. Bot. 67: 179 (1929). *APD acc*

Cacoucia velutina *S. Moore* in J. Bot. 18: 2 (1880).

Combretum velutinum (*S. Moore*) *Engl. & Diels* l.c. 100 (1899), not of DC. (1828); F.W.T.A., ed. 1, 1: 220.

Cacoucia coccinea of F.T.A. 2: 434, not of Aubl.

Straggling shrub to 7 ft. high, **in marshes**; flowers red or dull orange-red.

S. L.: R. Bagroo (Apr.) Mann 856! Newton (fl. & fr. Feb.) Jordan 195! Gbangbatok to Moselelo (Nov.) Deighton 2380! Gegbwema (fr. Apr.) Deighton 3725! Giema (Nov.) Deighton 355! Kumrabai (fl. & fr. Dec.) Thomas 6734! Magburuka, Rowala (Jan.) King 150b!

49. **Combretum bracteatum** (*Laws.*) *Engl. & Diels* l.c. 100, t. 29 B (1899), excl. syn. *Cacoucia platyptera* Welw. and *Campylochiton platypterus* Hiern. *APD acc*

Cacoucia bracteata *Laws.* in F.T.A. 2: 434, partly (excl. spec. Welw.).

Cacoucia platyptera of Hemsl. in Hook. Ic. Pl. t. 2549, not of Welw.

Cacoucia splendens *Hemsl.* l.c. t. 2548.

Scandent shrub; bracts yellowish-green to reddish-yellow; receptacle and calyx-lobes yellow on one side, orange on the other; petals and filaments orange, anthers red.

S. Nig.: Oban Talbot! Calabar (Jan.) Holland 12! Itang, Calabar (fl. & fr. Jan.) Box 3544! **Br. Cam.:** Victoria (fl. Nov.–Feb., fr. Mar.) Preuss 1320! Maitland 146! 473! Cameroons R. (Jan.) Mann 2208! Johann-Albrechtshöhe (Jan.) Staudt 527! Mamfe (Jan.) Keay FHI 28324! **F. Po.:** (Jan., Feb.) Barter 2057! Mann 158! Kalbreyer 42!

Also in **French Cameroons**, **Gabon** and **Cabinda**.

1. **Combretum fruticosum** (*Loefl.*) *Stuntz* in U.S. Dept. of Agric. Bur. Pl. Ind. Invent. Seeds & Pl. Import 31: 86 (1914); *Exell* in J. Bot. 67: 143 (1929).

A specimen in the Paris Herbarium (Heudelot 45) purporting to be from Senegal is this S. American species. It seems however that labels have become confused as there is no sheet of this species bearing Heudelot's own label and the species is not otherwise recorded from Africa. Imperfectly known species.

2. **Combretum macrocarpum** *P. Beauv.* Fl. Oware 90, t. 118, fig. 2.

Described only from detached fruits; referred by most authors to *C. racemosum* P. Beauv., but probably not a *Combretum* at all. Imperfectly known species.

3. **Combretum etessei** *Aubrév.* Combret. des Sav. Bois. A.O.F. 19 (1944), French descr. only; Fl. For. Soud.-Guin. 108.

Savannah tree; flowers not known; evidently related to *C. glutinosum* Perr. ex DC.

Sen.: Fouladou Etesse 42! Bignona Aubrév. 59! **Port. G.:** Xime to Bambadinca (fr. June) Esp. Santo 2271!

Imperfectly known species.

4. **Combretum maclaudii** *Aubrév.* Combret. des Sav. Bois. A.O.F. 40 (1944), French descr. only; Fl. For. Soud.-Guin. 122.

Savannah tree; fruits not known.

Fr. G.: boundary of Portuguese Guinea Maclaud!

Imperfectly known species.

5. **Combretum simulans** *Portéres* in Bull. Soc. Bot. Fr. 97: 179 with fig. (1951).

Suffrutex; probably a form of *C. sericeum* G. Don; type specimen not traced.

Fr. G.: Mali, Fouta Djallon (Nov.) Portières.

Imperfectly known species.

6. ***Combretum dolichopodum* Gilg ex Engl.** in Pflanzenw. Afr. 3, 2: 700 (1921); Exell in J. Bot. 67: 140 (1929).

Type from French Cameroons; also recorded from Togoland, but specimens not traced.

Imperfectly known species.

7. ***Combretum* sp. A.**

Flowers in bud only; evidently distinct from all other species in our area.

S. Nig.: Oban Talbot 500!

Imperfectly known species.

8. ***Combretum* sp. B.**

Habit not known; fruits not known.

S. L.: Yonibana (Nov.) Thomas 4164! 4248! 4657! 4785! 5260! Mamoka Thomas 4360!

Imperfectly known species.

3. **PTELEOPSIS**

Engl.—Engl. & Diels Monogr. Afr. Combretac. 2 (1900).

1 Fruits 3- or 4-winged; trees or shrubs of savannah: **2**

Fruits 2-winged; a tree of rain forest; leaves appearing after the flowers, opposite or subopposite, with appressed silky hairs when young, glabrescent, but still slightly pilose even when adult; lamina broadly oblong to obovate-oblong, rarely broadly lanceolate, obtuse or acute at base, acuminate at apex, 5–8 cm. long, 2–3.5 cm. broad; lateral nerves 10–12 pairs; petiole 10–15 mm. long; flowers in 1–2 cm. long, capituliform, many-flowered, corymbose-racemes; fruits broadly elliptic, 1.5–1.7 cm. long, 1–1.2 cm. broad [3. *hylodendron*](#)

2 Leaves 4–11 cm. long, 2–4 cm. broad, lamina ovate-elliptic, or oblong-elliptic, or narrowly oblong, narrowed at base, acuminate, thinly pilose beneath; lateral nerves 6–8 pairs; petiole 5–15 mm. long; fruits 3- or 4-winged, broadly obovate, 1.6–2 cm. long, 1.5–2.5 cm. broad, borne on slender pedicels about 1 cm. long; a small tree [1. *suberosa*](#)

Leaves up to 3 cm. long and 1.5 cm. broad, lamina ovate, obtuse or rounded at base, obtuse or very obtusely acuminate at apex, glabrous or slightly pubescent; petiole short; fruits 3-winged, about 1 cm. long and 0.7 cm. broad, borne on very slender pedicels 7–9 mm. long; low straggling shrub [2. *habeensis*](#)

1. ***Pteleopsis suberosa* Engl. & Diels** in Engl. Bot. Jahrb. 39: 509 (1907); Chev. Bot. 265; Aubrév. Fl. For. Soud.-Guin. 139, t. 21, 1–2. **APD acc**

Savannah tree, to 30 ft. high.

Fr. Sud.: Balani (fr. Jan.) Chev. 143. Kolokeni (Nov.) Aubrév. 65-S! Bougouni to Sikasso (Nov.) Aubrév. 66-S! **Fr. G.:** Dara (fl. & fr. Feb.) Maclaud 93! Kinsam Maclaud 215! Siguiri (Nov.) Jac.-Fel. 1391! 1392! **Iv. C.:** Bobo Dioulasso (fl. Nov., fr. Dec.) Aubrév. 1842! 2166! 2224! Po (Nov.) Aubrév. 2169! **G. C.:** Naga (fr. Mar.) Vigne! Nakong (fr. Feb.) Vigne 4719! **Togo:** Sokodé-Basari (Nov.) Kersting 486; A. 315! **Dah.:** Kandi (fr. Jan.) Aubrév. 7-D! **Fr. Nig.:** Gaya, Air (Oct.) Aubrév. 15-N! **S. Nig.:** Old Oyo F. R. (fr. Feb.) Keay FHI 14649! 14650! Upper Ogun F. R. (fr. Feb.) Keay FHI 22507!

2. ***Pteleopsis habeensis* Aubrév. ex Keay** in Kew Bull. 1953: 290; Aubrév. Fl. For. Soud.-Guin. 141, t. 21, 3 (1950), French descr. only; Aubrév. Fl. For. C. Iv. 3: 61 (1936), name only. **APD acc**

Shrub with habit of *Combretum micranthum* with which it is found in **low thickets**.

Fr. Sud.: Bandiagara (fr. Sept.) Aubrév. 1776! Bandiagara to Mopti Chev. 24914! Ségou Vuillet.

3. *Pteleopsis hylodendron* *Mildbr.* in Notizbl. Bot. Gart. Berl. 8: 61 (1921); Aubrév. Fl. For. C. Iv. 3: 61, t. 264, 1–4. *APD acc*

Pteleopsis suberosa of F.W.T.A., ed. 1, 1: 222, partly (Gold Coast specimens), not of Engl. & Diels.

Rain forest tree, to 12 ft. girth, without buttresses, flowers white.

Iv. C.: Danané Aubrév. 1117! Banco (Jan.) Aubrév. 1774! 1775! **G. C.:** Wiawosa, W. Ashanti (Feb.) Chipp 104! Owabi, Ashanti (Feb.) Andoh FH 4293! Dunkwa (Mar.) Vigne 987! Kumasi (Feb.) Vigne 1814! **S. Nig.:** Ukon F.R. (fl. Feb., fr. Mar.) Catterall 2!

Also in **French Cameroons**.

Pteleopsis kerstingii *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 717 (1921).

In savannah and gallery-forest.

Togo: Sokodé Kersting.

Imperfectly known species.

4. QUISQUALIS

Linn.—F.T.A. 2: 435; Exell in J. Bot. 69: 117 (1931).

- 1 Upper receptacle up to 2 cm. long; petals 3–4 mm. long, inconspicuous:2
 Upper receptacle 4–8 cm. long, glabrous or shortly pubescent; petals about 15 mm. long, conspicuous; leaves obovate-elliptic, rounded at base, shortly acuminate, 3.5–14 cm. long, 2.5–8 cm. broad; fruits narrowly elliptic, with narrow, thick wings, about 3 cm. long [3. indica](#)
- 2 Upper receptacle 8–10 mm. long, pubescent; leaves oblong, rounded or rarely subcordate at base, obtuse at apex, 7–12 cm. long, 3–5 cm. broad, with 4–6 main lateral nerves on each side of the midrib; fruit broadly elliptic, with wide wings about 3 cm. long and 2–2.5 cm. broad [1. latialata](#)
- Upper receptacle about 2 cm. long, purple, velutinous; leaves ovate-oblong to ovate-lanceolate, obtuse to subcordate at base, acuminate, 5–8 cm. long, 2–3 cm. broad, with 7–8 main lateral nerves on each side of the midrib; fruit oblong, winged, about 3 cm. long and 2 cm. broad [2. pellegriniana](#)

1. *Quisqualis latialata* (*Engl. ex Engl. & Diels*) *Exell* in J. Bot. 69: 121 (1931).

APD: *Synonym of Combretum latialatum Engl. ex Engl. & Diels*

Combretum latialatum *Engl. ex Engl. & Diels* Monogr. Afr. Combretum 86, t. 25C (1899); F.W.T.A., ed. 1, 1: 221.

Scandent shrub, with pale bract-like leaves; petals red or purplish.

S. Nig.: Brass Barter 288! Sapoba Kennedy 347! 2627! Degema Talbot! **Br. Cam.:** Victoria (June) Maitland 57! Victoria to Bimbila (Aug.) Preuss 1322!

Also in **French Cameroons, Spanish Guinea, Gabon, Belgian Congo** and **Angola**.

2. *Quisqualis pellegriniana* (*Exell*) *Exell* in J. Bot. 69: 121 (1931).

APD: *Synonym of Combretum falcatum (Welw. ex Hiern) Jongkind*

Combretum pellegrinianum *Exell* in J. Bot. 67: 177 (1929).

Shrub with purple-velutinous flowers; upper leaves purplish when dry and probably coloured and bract-like when fresh.

S. Nig.: Oban Talbot 498!

Also in **Gabon**.

3. *Quisqualis indica* *Linn.*—F.T.A. 2: 435; Engl. & Diels Monogr. Afr. Combretac. 5, fig. 3; Chev. Bot. 265; Exell in J. Bot. 69: 124.

APD: Synonym of Combretum indicum (L.) DeFilipps

Scandent shrub, **often on river banks**; petals often white outside and red inside, or white and turning red first on the outside, later turning entirely red; commonly cultivated.

Fr. Sud.: Ouagadougou Chev. 2468! **S. L.:** Freetown (May) Deighton 2 727! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Karega (Apr.) Williams 113! R. Volta, Yeji (Apr.) Bally 180! **Togo:** Kratchi Anderson 8! **Dah.:** Zagnanado Chev. 23084. **N. Nig.:** Nupe Barter 1118! R. Kaduna (Apr.) Dalz. 433! R. Benue, Lokoja (Oct.) Parsons 158! **S. Nig.:** Abeokuta Rowland! Calabar R. (Feb.) Mann 2289! **Br. Cam.:** Cameroons R. (Jan., June) Mann 20! 426! 2212! Victoria (Apr.) Hutch. & Metcalfe 166!

Widespread in tropical Africa and Asia; cultivated throughout the Tropics.

5. GUIERA

Juss., Gen. Pl. 320 (1789); F.T.A. 2: 418.

- 1 A small shrub, with scattered black dots; branchlets softly tomentellous; leaves opposite or subopposite, oblong-elliptic, rounded or slightly cordate at base, mucronate at apex, 3–5 cm. long, 1.5–3 cm. broad, softly tomentose on both surfaces with scattered black glands beneath; petiole without a pair of glands; flowers in dense shortly pedunculate involucre heads, the latter about 1 cm. in diam.; bracts enclosing the flowers in bud, ovate, about 7 mm. long; petals very narrow; fruits linear, radiating, 3–4 cm. long, crowned by the persistent perianth, densely silky-villous [senegalensis](#)

Guiera senegalensis *J. F. Gmel.* in Linn. Syst. Nat. ed. 13, 2: 675 (1791); F.T.A. 2: 418; Engl. & Diels Monogr. Afr. Combretac. 2, fig. 2; Chev. Bot. 259; Aubrév. Fl. For. Soud.-Guin. 90. *APD acc*

APD: Synonym of Guiera senegalensis J.F. Gmel.

Grey foliage and yellowish flowers. **Abundant in sandy wastes and semi-desert areas of the north.**

Sen.: Döllinger! Kayes (Dec.) Chev. 2. Samandiniéry (Feb.) Chev. 2152! **Gam.:** Brown-Lester! Genieri (fl. & fr. Feb.) Fox 44! **Fr. Sud.:** various localities. **Port. G.:** Pussubé (fl. & fr. Feb.) Esp. Santo 1132! **Fr. G.:** Kouroussa Pobéguin 817! Boké Chiliou! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 469! **N. Nig.:** Sokoto (fl. & fr. Dec.) Dalz. 434! Katagum Dalz. 134! Bornu (fl. & fr. Apr.) E. Vogel 84! Zaria Baikie! Bauchi Plateau (fl. & fr. July) Lely P. 561!

Extends to A.–E. **Sudan.**

6. TERMINALIA

Linn.—F.T.A. 2: 415.

- 1 Fruits broader than long, with wide wings; coastal and forest species: **2**
Fruits longer than broad; mostly savannah species (but see Nos. 3 and 7): **3**
- 2 Fruits rhomboid, about 2.5 cm. long and 3.5 cm. broad; ovary densely rusty-tomentose; leaves subverticillate, obovate, subacute, 7–14 cm. long, 4–6 cm. broad, slightly pubescent mainly on the nerves beneath, often very densely so when young; coastal species [1. scutifera](#)
Fruits transversely oblong, about 2 cm. long and 5 cm. broad; ovary shortly tomentellous; leaves crowded, long-petiolate, with a pair of subopposite glands on the sides of the petiole, lamina obovate, subacute, 10–17 cm. long, 6–10 cm. broad, glabrous; tall tree of forest [2. superba](#)
- 3 Fruit fleshy, not or scarcely winged, ellipsoid, 4–6.5 cm. long, 2.5–3.5 cm. broad; leaves obovate, narrowed to the rounded or cordate base, 15–25 cm. long, 10–15 cm. broad; introduced species [3. catappa](#)
Fruits dry, broadly winged; savannah species (except No. 7): **4**
- 4 Leaves elongate-obovate, gradually attenuate to the normally sessile or subsessile base, rarely with a distinct petiole, 15–35 cm. long, 6–12 cm. broad, lateral nerves numerous and prominent on both surfaces; young and mature shoots glabrous; flowers glabrous or sparsely pubescent; fruits oblong, 8–13 cm. long, 3–4 cm. broad, glabrous [4. macroptera](#)
Leaves always distinctly petiolate, usually pubescent or tomentose, at least on the young shoots: **5**
- 5 Fruits glabrous, at least when mature; flowers glabrous outside, or pubescent: **6**

- Fruits densely puberulous or tomentellous all over; flowers densely tomentellous or tomentose outside:7
- 6 Fruits oblong, lanceolate, or narrowly elliptic, 5–9 cm. long, 2–3.5 cm. broad; leaves variable, oblong, or narrowly to broadly elliptic, 10–30 cm. long, 3–11 cm. broad, glabrous, or pubescent and then glabrescent beneath [5. laxiflora](#)
- Fruits broadly elliptic, 3–5 cm. long, 2–3.5 cm. broad; leaves obovate-elliptic, 7–11 cm. long, 2.5–7.5 cm. broad, puberulous or glabrescent beneath [6. brownii](#)
- 7 Forest species, with tall straight bole; leaves obovate, narrowed from above the middle to the base, abruptly and shortly acuminate, 7–12 cm. long, 3–5.5 cm. broad, with very prominent lateral nerves, almost glabrous; fruits oblong, 7–10 cm. long, 2–2.5 cm. broad [7. ivorensis](#)
- Savannah species, with short gnarled boles; leaves hairy, often densely so:8
- 8 Leaves up to 20 cm. long and 7 cm. broad; fruits up to 7 cm. long and 3 cm. broad:9
- Leaves 20–35 cm. long, 10–18 cm. broad, very broadly oblong-elliptic, with a long stout petiole; densely tomentose beneath, becoming less so with age; venation very strongly reticulate beneath; fruits 7–10 cm. long, 2.5–4 cm. broad [11. mollis](#)
- 9 Mature leaves pubescent only on the nerves beneath with the glaucous surface of the lamina clearly visible between the hairs, or almost glabrous; lamina more or less elliptic, 9–15 cm. long, 3–8 cm. broad; fruits oblong, 5–7 cm. long, 1.5–2.5 cm. broad [8. glaucescens](#)
- Mature leaves densely tomentose or silky all over the lower surface: 10
- 10 Leaves closely appressed-silky and silvery beneath, upper surface shining; lamina lanceolate or elliptic, acute or obtuse at apex, 7–10 cm. long, 3–4.5 cm. broad; fruits 5.5–6.5 cm. long, 2–3 cm. broad, densely white-silky [9. albida](#)
- Leaves loosely tomentose with curly hairs beneath, drying brown, upper surface matt; lamina elongate-oblong or oblong-elliptic, obtuse at apex, 9–20 cm. long, 3–7 cm. broad; fruits 5–6 cm. long, 2–3 cm. broad, tomentose [10. avicennioides](#)

1. **Terminalia scutifera** *Planch. ex Laws.* in F.T.A. 2: 417 (1871); Engl. & Diels Monogr. Afr. Combretac. 25, t. 14 A; Chev. Bot. 258. *APD acc*

Tree of [sea shore](#), to 45 ft. high, gnarled and branching from the base; deciduous.

Port. G.: Bolama Carvalho 316. Formosa (young fr. Apr.) Esp. Santo 1989! Pefiné, Bissau Esp. Santo 1703! **Fr. G.:** Heudelot 907! Conakry (Feb.) Debeaux 141! Chev. 13045. **S. L.:** Afzelius. Lumley Beach (Feb.) Deighton 534! Hamilton (Dec.) Lane-Poole 87! Kent (Dec.) Dawe 419!

2. **Terminalia superba** *Engl. & Diels* l.c. 26, t. 14 B (1900); Chalk & Burtt Davy, For. Trees & Timbers Brit. Emp. 2: 30; Aubrév. Fl. For. C. Iv. 3: 58, t. 263, 5–8. *APD acc*

Terminalia altissima *A. Chev.* Vég. Util. 5: 151 (1909); Chev. Bot. 256.

Forest tree, to 150 ft. (rarely to 200 ft.) high, with large thin buttresses, clean straight bole and rather flat crown; bark ashy grey.

Fr. G.: Kissidougou (Feb.) Chev. 20702! **S. L.:** Bandama (Feb.) Aylmer 579! Hangha (Feb.) Lane-Poole 146! **Iv. C.:** Azaguié Chev. 22307b! Bouroukrou Chev. 16104. **G. C.:** Kwahu (young fr. Apr.) Johnson 668! Kumawo (fr. June) Chipp 457! Dunkwa (fr. June) Vigne 878! Asankrangwa (Jan.) Brent 3! **Dah.:** Zagnanado Chev. 22954. **N. Nig.:** Lapai Yates 37! **S. Nig.:** Dodds 393! Shasha F.R. (fr. Mar.) Jones & Onochie FHI 16678! Sapoba (Nov.) Kennedy 1682! Abakaliki (fr. Oct.) Rosevear 18/28! **Br. Cam.:** Victoria (fr. Jan.) Preuss 1300! Maitland 232! Tiko (Jan.) Dunlap 177!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon Cabinda** and **Belgian Congo**.

3. **Terminalia catappa** *Linn.*—F.T.A. 2: 416; Engl. & Diels l.c. 9. *APD acc*

Tree, to 80 ft. high, with whorled branches and dark green, shining leaves; [a native of India, but introduced and widely cultivated in our area, sometimes spontaneous.](#)

Sen.: St. Louis Brunner 55! **S. L.:** Moyamba Lane-Poole 2! **Lib.:** Monrovia Baldwin 5691! **G. C.:** Achimota (Jan.) Irvine 1950! **S. Nig.:** various localities fide Keay. **Br. Cam.:** Victoria Preuss.

Widely cultivated in the tropics.

4. **Terminalia macroptera** *Guill. & Perr.*—F.T.A. 2: 416; Engl. & Diels l.c. 11; Aubrév. Fl. For. Soud.-Guin. 129, t. 18, 2 (excl. syn. *T. elliotii* Engl. & Diels). *APD acc*

Terminalia chevalieri Diels in Engl. Bot. Jahrb. 39: 510 (1907); Chev. Bot. 257.

Savannah tree, to 30 ft. high, with black fissured bark and large, bright green leaves; **usually in relatively moist situations.**

Sen.: Perrottet. **Gam.:** Ingram! Dawe 15! **Fr. Sud.:** N. Yatenga (fr. Aug.) Chev. 24798! **Port. G.:** Bissalanca, Bissau (fr. Jan.) Esp. Santo 1640! **Fr. G.:** Kouroussa Pobéguin 846. **S. L.:** Dudgeon! **Iv. C.:** Touba Aubrév. 1234! **G. C.:** Sa (fr. Mar.) Kitson 845! **Togo:** Atakpame Mildbr. 7456! **N. Nig.:** S. Sokoto (fr. May) Lely 818! Kontagora (Feb.) Dalz. 284 (partly)! Katagum Dalz. 308! 372! Jos (fr. Aug.) Mackay FHI 1431! S. Bornu (fr. Dec.) Foster 89! **S. Nig.:** Old Oyo F. R. (fl. & fr. Feb.) Keay FHI 16015! Abakaliki Rosevear 38/29!

Extends to A.–E. **Sudan** and **Uganda**.

5. *Terminalia laxiflora* Engl. in Engl. & Diels Monogr. Afr. Combretac. 12, t. 2 B (1900); Aubrév. l.c. 131, t. 18, 1, t. 19, 1 (incl. var. pubescens Aubrév.). **APD acc**

Terminalia elliotii Engl. & Diels l.c. (1900).

Terminalia sokodensis Engl. Bot. Jahrb. 39: 510 (1907); F.W.T.A., ed. 1, 1: 226; Chalk & Burt Davy l.c. 40.

Savannah tree, to 36 ft. high; rather similar to above and sometimes growing in the same communities with it; leaves variable in shape and indumentum but always long-petiolate.

Fr. Sud.: Birgo Dubois 145. **Port. G.:** Esp. Santo 520! **S. L.:** Erimakuna (Mar.) Sc. Elliot 5200! Falaba (Apr.) Deighton 5402! Musaia Deighton 5486! **Iv. C.:** Bobo Dioulasso Aubrév. 1979! And several other localities fide Aubrév. l.c. **G. C.:** Karega (Apr.) Williams 151! Nsawkaw (Jan.) Vigne 3543! Kratchi to Birri (fr. Sept.) Brent 552! **Togo:** Sokodé-Basari Kersting 473. Yendi (fr. May) Akpabla 529! **Dah.:** Atacora Mts. Chev. 24152. **N. Nig.:** Dan Ja, Katsina (fr. May) McElderry FHI 16482! Karshe (Feb.) Dalz. 391! Basawa, Zaria (Apr.) Keay FHI 16103! Bauchi Plateau Lely 851–5! Naraguta (fr. June) Kennedy FHI 7258! Biu (fl. & fr. Mar.) Kennedy FHI 8053! Yola (May) Dalz. 91! **S. Nig.:** Olokemeji (fl. & fr. Mar.) Keay & Foggie FHI 22534! Enugu Jones FHI 1122! **Br. Cam.:** Furu, Bamenda (fl. & fr. Feb.) Johnstone 49/31!

Extends to A.–E. **Sudan**.

6. *Terminalia brownii* Fres.—F.T.A. 2: 415; Engl. & Diels l.c. 17, t. 8 A; Aubrév. l.c. 135. **APD acc**

A small tree, up to 30–40 ft. high; **on rocky hills.**

N. Nig.: Bauchi Plateau (fr. Aug.) Lely P. 628! Kilba country, Yola Prov. (fr. July) Dalz. 94!

Extends to Abyssinia and Somaliland, **Angola**, **Uganda** and E. Africa.

7. *Terminalia ivorensis* A. Chev. Vég. Util. 5: 152 (1909); Chalk & Burt Davy l.c. 35; Aubrév. Fl. For. C. Iv. 3: 56, t. 263, 1–4. **APD acc**

Forest tree, to 150 ft. high, or more, with broad blunt buttresses, clean straight bole; bark dark-brown or blackish, fissured.

Fr. G.: Lola to Nzo (Mar.) Chev. 20976. Nzérékoré (fr. Oct.) Baldwin 9716! **S. L.:** Lane-Poole 276! Njala (May) Deighton 1142! Rokupr (fr. Feb.) Deighton 4191! **Lib.:** Dukwia R. (Apr.) Cooper 370! Gbau, Sanokwele (young fr. Sept.) Baldwin 9424! **Iv. C.:** Makougné (fr. Jan.) Chev. 16153! Yapo Chev. 22339! Guiglo Aubrév. 1226! **G. C.:** Dunkwa (young fr. June) Vigne 260! 877! Akotase (fr. Sept.) Chipp 569! E. Akim (June) Johnson 733! **S. Nig.:** Ibadan F.R. (May–Aug.) Punch 122! Gilman! Usonigbe F.R. (fr. Nov.) Keay FHI 28060! **Br. Cam.:** Likomba (fr. Dec.) Mildbr 10740!

8. *Terminalia glaucescens* Planch. ex Benth.—F.T.A. 2: 416; Engl. & Diels l.c. 13; Chalk & Burt Davy l.c. 39; Aubrév. Fl. For. Soud.-Guin. 132, t. 19, 2–3.

APD: *Synonym of Terminalia schimperiana* Hochst.

Terminalia togoensis Engl. & Diels l.c.; Chev. Bot. 258.

Terminalia baumannii Engl. & Diels l.c. 14; Chev. Bot. 257.

Terminalia passargei Engl. in Engl. & Diels l.c. 16; Chev. Bot. 258.

Terminalia longipes Engl. Bot. Jahrb. 39: 513 (1907).

Savannah tree, to 40 ft. high; bark dark grey, deeply fissured; closely related to the tall forest species *T. ivorensis* A. Chev.

Fr. G.: Kouria (fr. Aug.) Chev. 14695! **S. L.:** Kabala (fl. July, fr. Sept.) Thomas 2207! Deighton 4817! Musaia (fl. July, fr. Feb.) Deighton 4223! 4821! **Iv. C.:** Middle Nzi Valley, N. Baoulé (fl. & fr. July) Chev. 22194! 22204! Bondoukou Aubrév. 1600! **G. C.:** Kumawo (June) Chipp 462! Egura (fr. Aug.) Chipp 739! Kintampo (Apr.) Thompson 73! R. Tafo, Nchenenchene (Apr.) Kitson 1049! **Togo:** Lome Warnecke 442! Bismarckburg (fr. Aug.) Büttner 155. Misahöhe (Apr.) Baumann 262. **Dah.:** Atacora Mts. (June) Chev. 24089! **N. Nig.:** Sokoto (May) Lely 815! Lokoja (fr. Sept.) T. Vogel 178! R. Gurara, Gornapara Elliott 186! Abinsi (fl. July, fr. Mar.) Dalz. 699! 700! **S. Nig.:** Awba Hills F.R. (fr. Oct.) Jones FHI 7301! Aboh Barter 330! Ikom Rosevear 48/29! **Br. Cam.:** Fang, Bamenda (Apr.) Maitland 1404!

Extends to A.–E. **Sudan.**

9. **Terminalia albida** *Sc. Elliot* in J. Linn. Soc. 30: 79 (1893); Aubrév. l.c. 133, t. 20, 1–2. *APD acc*

Terminalia argyrophylla *Engl. & Diels* Monogr. Afr. Combretac. 15, t. 6 C (1900).

Combretum sericeum of F.T.A. 2: 424, and of Chev. Bot. 264, not of G. Don.

A **savannah** shrub or tree, to 40 ft. high; all parts shining-silky-pubescent.

Sen.: Sokone-Messirah Trochain 3376. Niocola Koba Trochain 3515. Farancounda to Tambanala Chev. 3161. **Gam.:** Dawe 44! Genieri (fl. June, fr. Feb.) Fox 83! 110! **Fr. Sud.:** Bougouni to Sikasso Aubrév. 69-**S. Port. G.:** Catio (fr. June) Esp. Santo 2077! **Fr. G.:** Ditinn to Labé Chev. 12880! **S. L.:** Buyabuya, Wallia (Mar.) Sc. Elliot 4269! Bubuya (May) Adames 172! Batkanu (fl. Apr., fr. July) Thomas 20a! Small 139! Jigaya (fr. Nov.) Thomas 2667! Matiki (Apr.) Deighton 3220! Worowaia (Apr.) Lane-Poole 29!

[Hybrids between this species and the next probably occur.]

10. **Terminalia avicennioides** *Guill. & Perr.*—F.T.A. 2: 416; Engl. & Diels l.c. 14; Aubrév. l.c. 133, t. 20, 3–4. *APD acc*

Terminalia lecardii *Engl. & Diels* l.c. 15; Chev. Bot. 257.

Terminalia dictyoneura *Diels* in Engl. Bot. Jahrb. 39: 512 (1907).

Savannah tree, to 30 ft. high; flowers and leafy shoots pinkish when young; mature leaves greyish-green above and white beneath, drying brownish; sometimes extremely abundant.

Sen.: Lecard. Albreda Perrottet. **Gam.:** Ozanne! **Fr. Sud.:** fide Aubrév. l.c. **Port. G.:** Canjadudi, Gabu (fr. Apr.) Esp. Santo 2512! **S. L.:** Hutton! **Iv. C.:** Serv. For. 1975! Tenkodogo Aubrév. 2489. **G. C.:** Tamale (Apr.) Williams 124! Pala to Narago (Mar.) Kitson 969! **Togo:** Sokodé (fr. Mar.) Kersting 32! Bawku (Apr.) Vigne 3763! **Dah.:** Agouagou (May) Chev. 23513! Savalou (fr. May) Chev. 23798! **N. Nig.:** Sokoto (fl. & fr. May) Lely 816! 817! Zamfara F. R. (fl. & fr. Apr.) Keay FHI 15886! 18071! Nupe Barter 1120! Katagum Dalz. 395! Bornu (Apr.) E. Vogel 71! **S. Nig.:** Rowland 9! Old Oyo F.R. (Feb.) Keay FHI 16278!

Also in **French Cameroons** and **Ubangi-Shari-Chad**.

11. **Terminalia mollis** *Laws.* in F.T.A. 2: 417 (1871), not of Zoll. ex Teysm. & Binn. (1866), name only, nor of (Presl) Vidal (1885). *APD acc*

Terminalia torulosa *F. Hoffm.* (1889)—Engl. & Diels l.c. 15; Chev. Bot. 258.

Terminalia reticulata *Engl.* Bot. Jahrb. 39: 511 (1907), not of Roth (1821); F.W.T.A., ed; 1, 1: 226; Aubrév. l.c. 132.

Terminalia kerstingii *Engl.* l.c.; F.W.T.A., ed. 1, 1: 226.

Savannah tree, to 30 ft. high.

Fr. G.: Kollangui (Mar.) Chev. 12870. Kouroussa Pobéguin 251. Pita Pobéguin 2266. **Iv. C.:** Ferkéssédougou Serv. For. 2317. **G. C.:** Abetifi (fr. June) Thompson 85! Jugbwe (Apr.) Thompson 67! Bamboi (fr. May) Vigne 3835! Afram Plains (young fr. May) Kitson 1133! Yeji (fr. July) Vigne 1226! **Togo:** Kersting A. 196! Sokodé-Basari (fr. Nov.) Kersting 476. Yendi (Apr.) Vigne 1690!

Widespread in tropical Africa.

7. CONOCARPUS

Linn.—F.T.A. 2: 417.

- 1 A shrub; branchlets slightly winged, finely appressed-pubescent; leaves lanceolate, acute at both ends, narrowed to a short winged biglandular petiole, 6–9 cm. long, 2–3.5 cm. broad, glabrous or nearly so, with several pairs of arcuate lateral nerves; flowers in dense ellipsoid heads, the latter more or less paniculate, about 1.5 cm.

long; petals absent; fruits densely imbricate, slightly recurved [erectus](#)

Conocarpus erectus Linn.—F.T.A. 2: 417; Engl. & Diels Monogr. Afr. Combretac. 32; Chev. Bot. 259; Exell in J. Bot. 69: 127. *APD acc*

About 10 ft. high; on seashore and in salt marshes near the coast.

Sen.: Leprieur! Dakar (Jan.) Hagerup 770! Carabane (Jan.) Chev. 2158. **Port. G.:** Bissau (fr. Feb.) Esp. Santo 1836! **Fr. G.:** Heudelot 783! **S. L.:** T. Vogel 164! Kent Smythe 248! Freetown (fr. Mar.) Dalz. 959! Bendu, Kente Creek (fr. Mar.) Adames 12! **Lib.:** Grand Cess (fr. Mar.) Baldwin 11616! **S. Nig.:** Bonny R. (fr. Oct.) Mann 505! **Br. Cam.:** Victoria (fr. May) Maitland 720!

Also on the coasts of other parts of tropical W. Africa and of tropical and subtropical America.

8. ANOGEISSUS

(DC.) Wall.—F.T.A. 2: 417. *APD acc*

- 1 Branchlets tomentose, leaves alternate, elliptic to ovate-lanceolate, obtuse and mucronate, or acute at apex, 2–8 cm. long, 1.2–3.5 cm. broad; at first densely silky, then laxly pubescent beneath; receptacle above the ovary consisting of a narrow tubular lower portion, and a cup-shaped upper portion; fruits in subglobose cone-like heads; each fruit broadly winged, beaked by the persistent tubular portion of the receptacle [leiocarpus](#)

Anogeissus leiocarpus (DC.) Guill. & Perr.—F.T.A. 2: 418; Engl. & Diels Monogr. Afr. Combretac. 31; Chev. Bot. 259; Aubrev. Fl. For. Soud.-Guin. 135. *APD acc*

Conocarpus leiocarpus DC. Prod. 3: 16 (1828).

Anogeissus schimperi Hochst. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 227 (1927); Aubrev. Fl. For. C. Iv. 3: 60.

Anogeissus leiocarpus var. **schimperi** (Hochst. ex Hutch. & Dalz.) Aubrev. Fl. For. Soud.-Guin. 135 (1950).

A tree to 70 ft. high, with grey bark (becoming blackish in old trees) and light green or ashen foliage, often with drooping branches; flowers greenish-yellow, with a reddish disk with white hairs.

There are several ecological forms of this species which extends from the driest savannah to the borders of the forest zone, usually in moist situations but also in relatively dry situations in some northern areas. Specimens from the drier areas tend to have smaller leaves and more hairy flowers but there are too many intermediates for varieties or species to be distinguished.

Sen.: L. Panie-Foul Perrottet. **Gam.:** Saunders 75! **Fr. Sud.:** Kita (fr. Aug.) Chev. 2156! Bamako (May) Hagerup 45! **Fr. G.:** Kourouasa Pobéguin 870! Fouta Djallon Pobéguin 1924. **Iv. C.:** N. Baoulé (July) Chev. 22188! Bondoukou Aubrev. 701! Banco Martineau! **G. C.:** Yeji (Aug.) Pomeroy 1348! Turo (July) C. Saunders 806! Woase (June) Chipp 488! Odumasi (Aug.) Johnson 1091! Ejura (Aug.) Chipp 738! **Fr. Nig.:** Zinder Chev. 25206! **Dah.:** Le Testu 178! **N. Nig.:** Zamfara F.R. (Apr.) Keay FHI 16151! Samaru, Zaria (Aug.) Keay FHI 28031! Anara F.R. (May) Keay FHI 19195! Zungeru (Oct.) Dalz. 102! Gurara R. (July) Elliott 185! **S. Nig.:** Olokemeji Foster 103! Abakaliki (Oct.) Rosevear 19/28! **Br. Cam.:** Kentu, Bamenda (June) Maitland 1581!

Extends to A.–E. **Sudan**, Abyssinia and Eritrea. (See Appendix P. 73.)

9. LAGUNCULARIA

Gaertn.—F.T.A. 2: 419.

- 1 A small tree; branchlets glabrous; leaves opposite, petiolate, obovate or elliptic, rounded and mucronate at apex, 6–10 cm. long, 4–5 cm. broad, glabrous, with several slightly recurved lateral nerves; petiole with a pair of glands towards the top; flowers subpaniculate, sessile on the axis; bracts deciduous, ovate; axis puberulous; bracteoles adnate to the calyx-tube; fruits shortly club-shaped, ribbed, about 2 cm. long, shortly pubescent [racemosa](#)

Laguncularia racemosa Gaertn.—F.T.A. 2: 419; Engl. & Diels Monogr. Afr. Combretac. 33, fig. 4; Chev. Bot. 260; Aubrev. Fl. For. C. Iv. 3: 52, t. 262, 6–10. *APD acc*

Growing in mangrove swamps of tropical America and West Africa.

Sen.: Carabane (Jan.) Chev. 2159. **S. L.:** Wellington (Mar.) Kirk 46! Waterloo (June) Lane-Poole 290! Kumrabai (Dec.) Thomas 6962! 7081! Turtle Isl. (fl. & fr. Nov.) Deighton 2360! **Lib.:** Grand Bassa (July) T. Vogel 110! **G. C.:** Burton! Bushua (fr. Apr.) Chipp 176! **S. Nig.:** Lagos Dalz. 1057! Bonny (fr. Oct.) Holland 144! Brass (fr. Dec.) Unwin 22! Nun R. T. Vogel 52! **Br. Cam.:** Victoria (Feb., Apr.) Dalz. 8179! Maitland 388!

RHIZOPHORACEAE

Trees or shrubs, frequently on maritime shores; branches swollen at the nodes. Leaves opposite and stipulate, rarely alternate and exstipulate, leathery, simple; stipules interpetiolar, caducous. Flowers hermaphrodite, in axillary inflorescences. Calyx-tube adnate to the ovary or free; lobes 3–14, persistent, valvate. Petals usually small, often notched, bifid or laciniate, convolute or inflexed in bud. Stamens equal to or usually more than the petals in number, often in pairs opposite the petals on the edge or at the base of a perigynous disk; anthers 2– or many-celled. Ovary mostly inferior, 2–6-celled or 1-celled by suppression of the septa; style simple or rarely styles several; ovules 2 in each cell, rarely more, inserted towards the apex on the inner angle of the cell. Fruit mostly indehiscent, usually 1-seeded or the cells 1-seeded. Seeds with or without fleshy endosperm; cotyledons terete or connate.

A small family, often partial to maritime shores.

Leaves usually opposite and with interpetiolar stipules; flowers small and inconspicuous.

- 1 Leaves apparently alternate, anisophyllous, with normally developed and small, usually caducous, leaves at each node, exstipulate; ovary inferior, with 3–4 styles; flowers small, spicate; petals laciniate:[2](#)
Leaves opposite or whorled, stipulate; stipules interpetiolar; style simple:[3](#)
- 2 Leaves oblique, with 1–3 strong longitudinal nerves on each side of the midrib; inflorescence of solitary axillary spikes, or of 2–4 spikes borne near the base of lateral leafy shoots; drupe 1-seeded [1. Anisophyllea](#)
Leaves pinnately nerved; inflorescence a panicle of catkin-like spikes on leafless shoots; drupe with 3–4 seeds [2. Poga](#)
- 3 Flowers in clusters on simple pedicels; petals laciniate[3. Cassipourea](#)
Flowers in pedunculate cymes; petals entire or nearly so:[4](#)
- 4 Filaments free, very short; stipules large and enclosing the young buds; seed germinating in the fruit on the tree; calyx glabrous [4. Rhizophora](#)
Filaments united into a long tube; stipules small; seed not germinating on the tree; calyx tomentellous[5. Anopyxis](#)

1. ANISOPHYLLEA

R. Br. ex Sabine—F.T.A. 2: 412. *APD acc*

- 1 Leaves cuneate or obtuse at base:[2](#)
Leaves cordate or subcordate at base:[4](#)
- 2 Spikes usually 2–4, borne at different levels near the base and below the leaves of young leafy lateral shoots which are themselves normally borne directly in the axils of older leaves; inflorescence-axes and flowers on the outside puberulous, not glandular; leaves acute or gradually acuminate at the apex:[3](#)
Spikes solitary, supra-axillary, with 1–3 superposed buds between the spike and the petiole of the older leaf which subtends it; inflorescence-axes and flowers on the outside densely hirsute and glandular; branchlets with a few long spreading hairs, or glabrescent; leaves obliquely rhomboid-elliptic or obovate-elliptic, rather abruptly long-acuminate, 4–8.5 cm. long (excluding the 5–15 mm. long acumen), 2–3.5 cm. broad, usually with only 1 strong longitudinal nerve on each side of the midrib[3. sp. A](#)
- 3 Young branchlets puberulous; inflorescence-axes, bracts and outside of flowers more or less densely puberulous; laciniae of petals without glandular swollen apices; fruits oblong to obovoid-ellipsoid, 4–5 cm. long, 2.5–3 cm. diam.; leaves varying from obliquely lanceolate-elliptic or ovate-lanceolate and about 7 cm. long by 2.5 cm. broad, to ovate and about 15 cm. long by 7 cm. broad; secondary nerves nearly at right angles to the midrib, rather markedly parallel, main longitudinal nerves 1–2 on each side of the midrib [1. laurina](#)
Young branchlets long-hirsute; inflorescence-axes, bracts and outside of flowers very sparsely puberulous; bracts and calyx-lobes ciliate at the margins; laciniae of petals with glandular swollen apices; fruits subglobose to oblong, 2.5–3 cm. long, about 2 cm. diam.; leaves obliquely ovate, 7–15 cm. long, 3–6 cm. broad; secondary nerves forming an acute angle with the midrib, not markedly parallel; main longitudinal nerves 1–2 on each side of the midrib [2. meniaudi](#)

- 4 Inflorescence-axes and flowers on the outside loosely pilose, the former very slender and only about 2 cm. long; spikes solitary, slightly supra-axillary; leaves ovate-oblong, acutely long-acuminate, 6–8 cm. long, 2.5–3 cm. broad, silky-pilose and rose-purplish when young; 1–2 strong longitudinal nerves on each side of the midrib, arising from near the base of the leaf [4. *purpurascens*](#)

Inflorescence-axes and flowers on the outside glabrous or sparingly puberulous, the former rather stout and 7–12 cm. long; spikes probably borne in the same manner as species Nos. 1 and 2 above; leaves obliquely oblong-ovate or oblong-elliptic, acuminate, 7.5–15 cm. long, 3–7 cm. broad, pubescent when young but soon glabrous, margin inrolled; 2–3 strong longitudinal nerves on each side of the midrib, with at least one of the nerves arising 1–3 cm. above the base of the leaf [5. *sp. B*](#)

1. **Anisophyllea laurina** *R. Br. ex Sabine*—F.T.A. 2: 413; Chev. Bot. 256. *APD acc*

APD: Synonym of *Anisophyllea polyneura* Floret

Anisophyllea strychnoides Engl. & v. Brehm. in Engl. Bot. Jahrb. 54: 373 (1917).

Anisophyllea fissipetala Engl. & v. Brehm. l.c. 377 (1917).

Shrub or tree, 15–50 ft., or up to 70 ft. high; **locally abundant in secondary regrowth**; flowers yellow-green; fruits yellow, often peach-pink or reddish on the sunned side, fleshy, edible. "Monkey Apple."

Port. G.: Bolama Henriques 2. **Fr. G.:** Rio Nunez (Jan.) Heudelot 559! 645! Farana (fl. Mar., fr. May) Sc. Elliot 5365! Chev. 13163! 13424! Aubrév. 3072! Mamou Pobéguin 1541! Bilima (Dec.) Chev. 14686! **S. L.:** Don ! Freetown (Dec.) Barter! Sc. Elliot 4154! Port Loko (Jan.) Deighton 1049! Waterloo (June) Lane-Poole 264! Njala (fl. Nov.–Mar., fr. May) Deighton 1863! 3055! 4731! 4758–61! 4964–6! Musaia Sc. Elliot 5118!

2. **Anisophyllea meniaudi** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 704, fig. 1 (1937); Aubrév. Fl. For. C. Iv. 3: 42, t. 258. *APD acc*

Forest tree, to 70 ft. high; fruit green with yellowish spots, or yellow.

S. L.: Kenema (fr. Aug.) Deighton 3143! Benduhun, Tunkia (Dec.) Deighton 3814! Dodo (fr. Apr.) Deighton 3916! **Iv. C.:** Djibi, Abidjan (Dec.) Aubrév. 880! 1719! Toulepleu Aubrév. 1192!

3. **Anisophyllea sp. A** *APD acc*

Anisophyllea laurina of F.W.T.A., ed. 1, 1: 228, partly (Nigerian specimens), not of *R. Br. ex Sabine*.

Evergreen tree, to 50 ft. high, with dense foliage; flowers white; fruits yellow.

S. Nig.: Udi Plateau (fl. Mar., fr. June) Ainslie! Kennedy 3134! Jones FHI 6643! 6923! Cross River Div. Macleod! Eket Talbot 3169!

4. **Anisophyllea purpurascens** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 228 (1927); Kew Bull. 1928: 226 (1928). *APD acc*

A tree.

S. Nig.: Oban Talbot !

5. **Anisophyllea sp. B** . *APD acc*

Forest tree, to 120 ft. high, with clean straight bole.

S. Nig.: Okomu F.R. (young fr. Feb.) Brenan 9086! Ikom (Oct.) Catterall 46!

1. **Anisophyllea setosa** *Mildbr.* Wiss. Ergebn. 1910–11, 2: 188 (1922), name only.

F. Po: Bokoko Mildbr. 6836.

Imperfectly known species.

2. **Anisophyllea brachystila** *Engl. & v. Brehm.* in Engl. Bot. Jahrb. 54: 378 (1917).

Small shrub. Locality not traced, but possibly in our area.

"Südnigeria-Kamerun-Zone": Dolo (June) Schlechter 12450.

Imperfectly known species.

2. POGA

Pierre in Bull. Soc. Linn. Paris 2: 1254 (1896).

- 1 A tree; branches glabrous, purplish; leaves elliptic, rounded at base, obtuse and oblique at apex, 12–15 cm. long, 6–7 cm. broad, leathery, loosely gland-dotted beneath; lateral nerves numerous; petiole flat above, about 2 cm. long; flowers very small, arranged in panicles of catkin-like spikes on leafless shoots; axis becoming woody; sepals and petals 4; stamens 8; ovary inferior, 4-celled; ovules solitary in each cell, pendulous; fruit a large drupe, ellipsoid, about 6 cm. long, with fleshy exocarp and woody endocarp with numerous resinous lacunae; seeds without endosperm [oleosa](#)

Poga oleosa *Pierre* in Bull. Soc. Linn. Paris 2: 1254 (1896); Engl. in Notizbl. Bot. Gart. Berl. 5: 294–298, fig. 1 (1913); Holl. 2: 305; F.W.T.A., ed. 1, 2: 605; Kennedy For. Fl. S. Nig. 51. *APD acc*

A forest tree, to 100 ft. high; esteemed for its fruits, whose seeds yield a valuable oil.

S. Nig.: Oban Talbot 1636!

Also in *French Cameroons* and *Gabon*.

3. CASSIPOUREA

Aubl.—Alston in Kew Bull. 1925: 241–276 (1925).

Weihea Spreng.—F.T.A. 2: 410.

Dactylopetalum Benth.—F.T.A. 2: 411.

- 1 Calyx-tube shorter than the ovary, and much shorter than the 5 lanceolate calyx-lobes; calyx-lobes spreading or reflexed, glabrous within; leaves usually serrate or dentate: **2**
Calyx-tube generally longer than the ovary in the flower, as long, or longer than the erect triangular calyx-lobes: **3**
- 2 Ovary glabrous, depressed at the apex; leaves subentire or serrate, elliptic to oblong, cuneate to rounded at base, rounded or obtuse at apex, not acuminate, or only very shortly and obtusely so, 4–10 cm. long, 2–5.5 cm. broad [1. congoensis](#)
Ovary pubescent, ridged and conical at the apex; leaves coarsely dentate with 3–4 teeth in the upper half, lanceolate-elliptic, cuneate at base, rather long-acuminate, 5–15 cm. long, 2.5–6 cm. broad [2. adami](#)
- 3 Calyx within and ovary densely silky-hairy; calyx cup-shaped: **4**
Calyx glabrous or puberulous within, campanulate; ovary glabrous or pubescent: **6**
- 4 Calyx 10–12 mm. long, pedicel 15–25 mm. long, articulated towards the apex; flowers solitary; stamens much shorter than the calyx; leaves elliptic, acute at each end, 10–12 cm. long, 4–6 cm. broad [3. firestoneana](#)
Calyx 3–4 mm. long, pedicels 1–3 mm. long; stamens longer than the calyx: **5**
- 5 Flowers very numerous at each node, forming a dense cluster; leaves lanceolate or elliptic-lanceolate, 5–6 cm. long, not more than 3 cm. broad, entire or nearly so [4. eketensis](#)
Flowers few at each node, laxly arranged; leaves broadly oblong or elliptic, rather abruptly acuminate, 7–14 cm. long, 3–6 cm. broad, distinctly toothed [5. afzelii](#)
- 6 Leaves obovate, or oblanceolate, very gradually narrowed to the base, 7–17 cm. long, 3–6.5 cm. broad; flowers sessile in small clusters; ovary puberulous towards the apex [6. nialatou](#)
Leaves oblong, elliptic or ovate: **7**
- 7 Ovary tomentose, or pilose towards the apex; pedicels up to 2 mm. long: **8**
Ovary glabrous: **9**
- 8 Ovary tomentose all over; flowers in dense many-flowered fascicles at the thickened nodes of the older parts of the branchlets; leaves broadly elliptic, cuneate, or more rarely rounded, at base, 12–18 cm. long, 7–14 cm. broad; petiole 6–9 mm. long [8. barteri](#)
Ovary pilose towards the apex; flowers in rather few-flowered fascicles; leaves oblong, or oblong-elliptic, rounded, or more rarely cuneate, at base, 6–15 cm. long, 3–6 cm. broad; petiole 8–13 mm. long [7. ugandensis](#)
- 9 Venation of leaves rather lax and much less prominent than the main lateral nerves beneath; lamina elliptic, 10–15 cm. long, 5–6.5 cm. broad, margin not revolute; flowers distinctly pedicellate [9. glabra](#)
Venation of leaves strongly reticulate, almost as prominent as the main lateral nerves above and beneath; lamina

oblong-elliptic to ovate-elliptic, 6–10 cm. long, 2.5–6 cm. broad, margin revolute; flowers sessile or subsessile
 [10. paludosa](#)

1. **Cassipourea congoensis** *R. Br. ex DC.* Prod. 3: 34 (1828); Alston in Kew Bull. 1925: 259 (q.v. for full synonymy); Aubrév. Fl. For. C. Iv. 3: 46; Jac.-Fel. in Rev. Bot. Appliq. 1952: 266. *APD acc*

APD: Synonym of Cassipourea louisii Liben

APD: Synonym of Cassipourea malosana (Baker) Alston

Cassipourea africana *Benth.* in Hook. Fl. Nigrit. 341 (1849).

Weihea africana *Benth. ex Oliv.* F.T.A. 2: 410 (1871).

A shrub or small tree, sometimes half-scrambling, glabrous except on the young internodes and leaf- and flower-buds; flowers few in clusters or solitary.

Sen.: M'bidjem Thierry 25! **Fr. G.:** Farana (Mar.) Sc. Elliot 5369! Kouroussa Adam 4703. **S. L.:** Afzelius. **Iv. C.:** Lalirabah Aubrév. 666! **G. C.:** Volta R. Gorge, Tiase (May) Irvine 3001! R. Volta, Kete-Krachi (June) Vigne 3879! Trawa (June) Vigne 4392! **Togo:** Lome (Mar.) Warnecke 99. **S. Nig.:** Lokoja (Sept.) T. Vogel 206! Nupe Barter 1670! Gurara R. (fr. July) Elliott 176! Abinsi (Apr.) Dalz. 634! **S. Nig.:** Lagos (Mar.) Foster 53! Olokemeji (Feb.) Foster 281! Keay FHI 22490!

Also in **French Cameroons** and **Belgian Congo**.

2. **Cassipourea adami** *Jac.-Fel.* in Rev. Bot. Appliq. 1952: 268, t. 9 (1952). *APD acc*

Shrub, 10–20 ft. high, with dense foliage.

Fr. G.: Mt. Bala, Macenta (Mar.) Adam 4108! Mt. Djiba, Macenta to Guéckédou Adam 5841.

3. **Cassipourea firestoneana** *Hutch. & Dalz. ex Cooper & Record* in Yale Univ. For. Bull. 31: 37 (1931); Jac.-Fel. l.c. 272, t. 11. *APD acc*

Forest tree, to 85 ft. high, with low buttresses and long clear bole; flowers white.

Lib.: Firestone Plantation, Dukwia R. (Oct., Nov.) Cooper 96! 112!

4. **Cassipourea eketensis** *Bak. f.* in J. Bot. 52: 3 (1914); Alston l.c. 265; Jac.-Fel. l.c. 270. *APD acc*

A shrub or tree with terete, glabrous branches.

S. Nig.: Eket Talbot 3213! 3214!

5. **Cassipourea afzelii** (*Oliv.*) *Alston* in Kew Bull. 1925: 265 (1925); Jac.-Fel. l.c. 270. *APD acc*

Weihea afzelii *Oliv.* F.T.A. 2: 411 (1871).

Cassipourea caesia *Stapf* in J. Linn. Soc. 37: 97 (1905).

Dactylopetalum parvifolium *Sc. Elliot* in J. Linn. Soc. 30: 78 (1894).

Cassipourea parvifolium (*Sc. Elliot*) *Stapf* l.c.; Alston l.c. 265.

A slender-branched shrub, or tree, to 30 ft. high, with pale glaucous leaves; flowers white.

S. L.: Afzelius! Colonial Reserve, Freetown (Jan.) King-Church 3! Kambia (Jan.) Sc. Elliot 4735! Kenema (Jan.) Smythe 232! **Lib.:** Kakatown Whyte! Monrovia Whyte! Brewer's Landing (Nov.) Linder 1401! Dukwia R. (Feb.) Cooper 214! Piatah (Dec.) Baldwin 10593! 10609!

6. **Cassipourea nialatou** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 706 (1937); Aubrév. Fl. For. C. Iv. 3: 46, t. 260A; Jac.-Fel. l.c. 268. *APD acc*

Large **forest** tree with cylindrical bole, without buttresses.

Iv. C.: Grabo Serv. For. 1292. Tabou (Dec.) Serv. For. 1676!

7. **Cassipourea ugandensis** (*Stapf*) *Engl.* Pflanzenw. Afr. 3, 2: 673 (1921); Alston l.c. 272 (1925).

APD: Synonym of Cassipourea gummiflua var. ugandensis (Stapf) J. Lewis

Dactylopetalum ugandense *Stapf* in J. Linn. Soc. 37: 515 (1906).

Forest tree, to 80 ft. high, [by streams](#).

Br. Cam.: Bagangu, Bamenda, 5,000 ft. Johnstone 312/32! Bali-Ngamba F. R., Bamenda (young fr. June) Ujor FHI 30415!

Also in [Belgian Congo](#) and [Uganda](#).

8. *Cassipourea barteri* (*Hook. f.*) *N. E. Br.* in Kew Bull. 1894: 5 (1894); Alston l.c. 273; Aubrév. Fl. For. C. Iv. 3: 46, t. 260 B; Jac.-Fel. l.c. 270. *APD acc*

Dactylopetalum barteri *Hook. f.* in F.T.A. 2: 412 (1871); Chev. Bot. 256.

Shrub or small tree, to 60 ft. high; [common in sandy soil or near swamps not far from the sea](#).

S. L.: York to Bawbaw Deighton 2746! **Lib.:** Grand Cess (young fr. Mar.) Baldwin 11615! **Iv. C.:** Tabou to Beriby Chev. 19981. **S. Nig.:** Lagos (Dec.) Millen 63! 112! Dalz. 1058! Oni Sankey 11! Sapoba (Jan.) Kennedy 2060! R. Nun Barter 2133! Mouth of Kwa Ibo R., Eket Talbot 3094!

Extends to [Angola](#).

9. *Cassipourea glabra* *Alston* l.c. 274 (1925); Jac.-Fel. l.c. 270. *APD acc*

A small tree with glabrous dark-brown branches.

S. L.: Njala (Jan.) Deighton 4036! **Togo:** Togo Plateau F. R. (Jan.) Adogla FH 4060! **S. Nig.:** Oban Talbot 1757!

10. *Cassipourea paludosa* *Hutch. & Dalz. ex Jac.-Fel.* l.c. 268, t. 10 (1952). *APD acc*

Shrub, to 12 ft. high, [near river in marsh forest](#); flowers white or green, sweet-scented.

S. L.: Thomas 8694! Njala (July, Dec.) Deighton 1743! 2585!

1. *Cassipourea* (subgen. *Weihea*) **sp. A.**

Large tree of [montane forest](#); complete flowers not known.

Br. Cam.: Bamenda Lightbody FHI 30108! 30115!

Imperfectly known species.

2. *Cassipourea* (subgen. *Weihea*) **sp. B.**

Small [forest](#) tree; complete flowers not known.

G. C.: Bobiri Andoh FH 5547! Asenanyo F.R. (Feb.) Andoh FH 4310! **S. Nig.:** Ondo Lamb 153!

Imperfectly known species.

4. RHIZOPHORA

Linn.—F.T.A. 2: 407.

- 1 Pedicels 6–15 mm. long, relatively slender; buds acute at apex; sepals 10–13 mm. long, 2.5–3.5 mm. broad; radicle seldom exceeding 20 cm. long while still on the tree; leaves narrowly oblong-elliptic, subacute to cuneate at base, obtuse at apex, 7–13 cm. long, 2.5–5 cm. broad, petiole 1–2 cm. long:.....[2](#)

Pedicels 3–4 mm. long, stout; buds obtuse at apex; sepals 8–11 mm. long, 3–4.5 mm. broad, greenish; pericarp 3.5–5 cm. long; radicle attaining 30–65 cm. long while still on the tree; inflorescence much-branched, several-to many-flowered, 5–7 cm. long; peduncle 1.5–4 cm. long, branches relatively short and stout, flowers rather crowded; bracts obtuse; leaves similar to above, midrib reddish when fresh [3. racemosa](#)

- 2 Inflorescence normally 2-flowered (rarely 3–4); peduncle 3–4 cm. long, pedicels 10–15 mm. long; bracts obtuse; pericarp 2–2.5 cm. long; sepals greenish-yellow, midrib straw coloured when fresh; flowers sweet-scented; dark cork warts conspicuous on leaves beneath [1. mangle](#)

Inflorescence much-branched and many-flowered, 7–12 cm. long, lax, with slender branches; peduncle 3.5–8 cm. long; pedicels 6–10 mm. long; bracts more or less acute and spreading; pericarp about 3.5 cm. long; sepals yellowish-green, midrib reddish when fresh [2. harrisonii](#)

1. *Rhizophora mangle* *Linn.* Sp. Pl. 1: 443 (1753), partly; F.T.A. 2: 408; Leechman in Kew Bull. 1918:

4; Chev. Bot. 255; Keay in Kew Bull. 1953: 123. *APD acc*

Shrub or small tree, to 15 ft. high, in mangrove swamps.

Sen.: R. Salum Brunner 102! Casamance (Jan.) Chev. 3007! 3008! **Fr. G.:** Tristao Isl. Paroisse 18! **S. L.:** Lumley (fl. & fr. June, Oct.) Tindall 1! 7! Mapotolon, Samu (fl. & fr. June, Sept.) Adames 230! 247! **S. Nig.:** Lagos (fl. Nov., fr. May, Nov.) Savory UCI 71! 704! Eket Talbot 3097!

Also in **Angola** and on the east coast of tropical America and neighbouring islands.

2. *Rhizophora harrisonii* *Leechman* in Kew Bull. 1918: 8 (1918); Keay l.c. 124. *APD acc*

Rhizophora racemosa of many authors, partly, not of G. F. W. Meyer, including:—F.T.A. 2: 408 (spec. Vogel); Chev. Bot. 255 (spec. Chev. 3006); F.W.T.A., ed. 1, 1: 229.

Shrub or small tree, to 20 ft. high; in mangrove swamps.

Sen.: Perrottet 319! Casamance (Jan.) Chev. **Gam.:** Don! Bitang Creek Dawe 76! Koto (May) Fox 105! **Fr. G.:** Peroisse 3! Conakry (May) Pobéguin 1174! **S. L.:** T. Vogel 166! Bonthe, Sherbro Isl. (Mar.) Rhind 5365! Lumley (fl. & fr. June) Tindall 4! Mapotolon, Samu (Sept.) Adames 248! Yelibana Isl. (Oct.) Jordan 623! Maswari (Oct.) T. S. Jones 242! **Lib.:** Grand Bassa (July) T. Vogel 113! **S. Nig.:** Lagos (Nov., Dec.) Hagerup 800! Savory UCI 70!

Also in **S. Tomé**, **Gabon**, **Angola**, and on the east coast of tropical America and neighbouring islands.

3. *Rhizophora racemosa* *G. F. W. Mey.* Primit. Fl. Essequib. 185 (1818); Leechman l.c. 6; Keay l.c. 125; also of many authors in part, including F.T.A. 2: 408 (spec. Barter); Chev. Bot. 255 (excl. spec. Chev. 3006); F.W.T.A., ed. 1, 1: 229. *APD acc*

A tree, to 130 ft. high, or forming a shrubby tangle 12–30 ft. high; the commonest Red Mangrove in West Africa.

Sen.: mouth of R. Senegal Roger! Casamance (Jan.) Chev. 3005! M'boro (May) De Wailly 4634! **S. L.:** Congo Town Bay (fl. & fr. Feb.) Johnston 64! 65! Kumrabai (Dec.) Thomas 6907! 6950! 7085! Tombo (Jan.) Deighton 1030! Bonthe, Sherbro Isl. (fl. & fr. Mar.) Rhind 5364! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! Duport (Nov.) Linder 1472! Fisherman's Lake (fl. & fr. Dec.) Baldwin 10897! **Iv. C.:** Assinie (fl. & fr. Apr.) Chev. 16311! Bingerville (fl. & fr. Feb.) Chev. 17359! **G. C.:** Axim (July) Chev. 13824! Botchiano, Accra Irvine 1031! **Togo:** Lome Warnecke 58! **Dah.:** (fr. Dec.) Poisson! **S. Nig.:** Lagos (fl. & fr. May–Nov.) Millen 137! Thompson 1! Brass Barter 1850! 2078! Nun R. (fr. Sept.) Mann 492! **Br. Cam.:** Tiko (Feb.) Maitland 972!

Also in **Gabon**, **French Congo**, **Belgian Congo**, **Angola**, and on the east coast of tropical America and neighbouring islands.

5. ANOPYXIS

Engl. in E. & P. Pflanzenfam. Nachtr. 2: 49 (1900); Sprague in Kew Bull. 1909: 309. *APD acc*

Pynaertia *De Wild.* (1908).

- 1 A large tree; leaves verticillate, oblong to oblong-oblancheolate, rounded at apex, about 10 cm. long and 3–4 cm. broad, subcoriaceous, glabrous and shining, finely reticulate; stipules linear; flowers in short cymes; calyx softly tomentellous, about 1 cm. long, lobes ovate, obtuse; petals linear-oblancheolate, pubescent in the upper part, entire or toothed; fruit narrowly ellipsoid, 3–5 cm. long, 2 cm. in diam., softly tomentellous *klaineana*

Anopyxis klaineana (*Pierre*) *Engl.* in E. & P. Pflanzenfam. Nachtr. 2: 49 (1900). *APD acc*

Macarisia klaineana *Pierre* in Bull. Soc. Linn. Paris n.s. 78 (1898).

Pynaertia ealaënsis *De Wild.* in Ann. Mus. Congo 5, 2: 262, t. 84 (1908).

Anopyxis ealaënsis (*De Wild.*) *Sprague* in Kew Bull. 1909: 311; F.W.T.A., ed. 1, 1: 229; Aubrév. Fl. For. C. Iv. 3: 42, t. 259; Kennedy For. Fl. S. Nig. 50.

Anopyxis occidentalis *A. Chev.* Bot. 255.

Forest tree, to 150 ft. high, with clean straight bole and dense symmetrical crown; sepals green, petals yellow; capsules grey.

S. L.: Kambul F. R. King 41! **Lib.:** Dukwia R. (fr. Mar.) Cooper 288! **iv. C.:** Dabou (fr. Feb.) Chev. 16209! Azaguié (Sept.) Chev. 22296! **G. C.:** Tarkwa (July) Evans 4! Nkwanta, W. Apollonia (Aug.) Chipp 334! **S. Nig.:** Sapoba (fl. most of year) Kennedy 351! 1542! Onitsha Chesters 211! Eket Talbot 3348!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

HYPERICACEAE

Herbs, shrubs or rarely trees or climbers, with a resinous juice. Leaves opposite or verticillate, rarely alternate, simple, entire or glandular-dentate, rarely coriaceous, usually thin and marked with translucent or black dots, rarely small and scale-like; stipules absent; indumentum when present often stellate and ferruginous. Flowers terminal or rarely axillary, from solitary to cymosepaniculate or corymbose, usually yellow or white, hermaphrodite, actinomorphic. Sepals 4–5, imbricate. Petals 4–5, hypogynous, imbricate or contorted. Stamens numerous or rarely subdefinite, hypogynous, usually variously united into 3–5 or more bundles, rarely free; anthers 2-celled, opening by longitudinal slits. Ovary of 3–5 (rarely 1) carpels, 1-celled or imperfectly or perfectly 2–5-celled; styles the same number as the carpels, slender, free or rarely somewhat united, with a terminal capitate to clavate stigma; ovules axile or pendulous, numerous and 2-seriate, or few or solitary. Fruit a septicidal or rarely loculicidal capsule, or a berry or drupe. Seeds without endosperm; embryo straight or arcuate.

A widely dispersed family.

Recognized by the opposite often gland-dotted leaves and the stamens united into bundles.

- 1 Petals glabrous inside: **2**
 Petals hairy inside; fruit a berry or drupe; stamens united into 5 bundles: **3**
- 2 Fruit a capsule, or berry, with many seeds; stamens not united into a tube, but often united into bundles **1.**
 Hypericum
 Fruit a drupe with a single seed; stamens united into a tube above **2. Endodesmia**
- 3 Fruit a berry: **4**
 Fruit a drupe with a crustaceous pericarp enclosing the 5 pyrenes **5. Harungana**
- 4 Seeds numerous; ovules about 5 in each of the 5 cells of the ovary **3. Vismia**
 Seeds few; ovules solitary or paired in each of the 5 cells of the ovary **4. Psorospermum**

1. HYPERICUM

Linn.—F.T.A. 1: 154.

- 1 Trees or shrubs; ovary 5-celled; stigmas 5: **2**
 Herbaceous perennials; petals 6–8 (–14) mm. long: **3**
- 2 Leaves narrowly elliptic, 1–2 (–3.5) cm. long, 3–6 mm. broad, with translucent nerves and glandular lines; flowers solitary at the ends of the branches; sepals about 1 cm. long; petals obovate-oblong, 2–3 cm. long; style about 5 mm. long, with linear branches about 3 mm. long **1. lanceolatum**
 Leaves varying from elliptic to ovate or lanceolate, 3–8 cm. long, 0.8–3 cm. broad, with opaque nerves and translucent glandular dots and dashes; flowers in 1-several-flowered cymes; sepals 6–8 mm. long; petals oblanceolate, 2.5–3.5 cm. long; style about 1 cm. long, nearly entire **2. riparium**
- 3 Stems erect, up to 70 cm. high; internodes much longer than the leaves; leaves lanceolate or narrowly elliptic, 7–23 mm. long, 1–7 mm. broad; flowers in a loose dichotomous cyme; ovary 3-celled (rarely 4-celled); styles 3, free; fruit a dehiscent capsule **3. lalandii**
 Stems prostrate, procumbent or ascending, up to 60 (rarely 90) cm. long, sometimes rooting at the lower nodes; internodes rarely longer than the leaves; leaves elliptic or obovate, 6–15 mm. long, 3–11 mm. broad; flowers solitary, often appearing axillary; ovary 5-celled; styles 5, free; fruit fleshy and indehiscent **4. peplidifolium**

1. *Hypericum lanceolatum* Lam.—F.T.A. 1: 156; Hutch. in Kew Bull. 1923: 224.

APD: *Synonym of Hypericum revolutum Vahl subsp. revolutum*

Hypericum leucoptychodes Steud. ex A. Rich.—Good in J. Bot. 65: 330; Hutch. in Fl. Pl. S. Africa 20, t. 787 (1940).

Shrub or tree to 40 ft. high; flowers golden-yellow.

Br. Cam.: Cam. Mt., 4,000–10,000 ft. (Nov.–Apr.) Mann 1199! 2179! Maitland 302! 1099! Brenan 9556! Bangwa, Mamfe (Jan.) Lobe Babute 22/37! Besuako, Bamenda (fl. & fr. Mar.) Johnstone 86/31! Lakom, Bamenda (Apr.) Maitland 1632! **F. Po.:** 9,000–10,000 ft. Mann 294! Moka, 4,000–5,000 ft. (Dec., Jan.) Exell 798! Boughey 28!

Also on mountains of eastern Africa, from Abyssinia to Transvaal, also in [Madagascar](#) and the [Mascarene Islands](#).

2. *Hypericum riparium* A. Chev. in Bull. Soc. Bot. Fr. 54, Mém. 8: 8 (1907).

APD: *Synonym of Hypericum roeperianum G. W. Schimp. ex A. Rich.*

Hypericum conrauanum Engl. Bot. Jahrb. 40: 555 (1908).

Shrub to 10 ft. high.

Fr. G.: Diaguissa, 2,500 ft. (Apr.) Chev. 13460! **S. Nig.:** Mt. Koloishe, Obudu, 5,000–5,400 ft. (Dec.) Keay & Savory FHI 25082! Ikwette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25219! **Br. Cam.:** Baberong Conrau 28! Bamenda, 6,200–8,000 ft. (Dec., Jan.) Keay & Lightbody FHI 28386! Tamajong FHI 22214! Lakom, Bamenda, 6,000 ft. (Mar., Apr.) Maitland 1435! 1488!

Also in [French Cameroons](#).

3. *Hypericum lalandii* Choisy—F.T.A. 1: 155. *APD acc*

Herb of [moist grassland](#), with yellow or orange-yellow flowers.

N. Nig.: Bauchi Plateau (Aug.) Lely P. 622!

Widespread from A.–E. [Sudan](#) to [Angola](#) and the Cape, also in [Madagascar](#) and in [Bhutan](#), [Khasia](#) and [SW. Yunnan](#).

4. *Hypericum peplidifolium* A. Rich.—F.T.A. 1: 155. *APD acc*

Herb of [mountain grasslands](#), often in [moist places](#); flowers yellow.

Br. Cam.: Litoka, Cam. Mt., 4,400 ft. (Apr.) Maitland 1088! Mann's Spring, Cam. Mt., 7,000 ft. (Mar.) Richards 9521! Bamenda (Jan., Feb.) Migeod 426! 496! L. Bambulue (May) Ujor FHI 30307! Belo, Bamenda (Apr.) Maitland 1468! Bansa, Bamenda (fl. & fr. Jan.) Keay FHI 28694! **F. Po.:** Moka (Jan.) Exell 764! Mioka (Dec., Jan.) Guinea 1913! Boughey 146!

Also in [French Cameroons](#), the highlands of eastern Africa from Abyssinia to S. Rhodesia, and in [Angola](#).

Hypericum sp.

Flowers not known, but leaves distinct from any of the above species.

F. Po.: El Pico, 7,300 ft. Boughey 137!

Imperfectly known species.

2. ENDODESMIA

Benth.—F.T.A. 1: 157.

- 1 A shrub or small tree; branchlets finely longitudinally lined, glabrous; leaves opposite, oblong-lanceolate, obtusely caudate-acuminate, more or less cuneate at the base, 6–10 cm. long, 2–3 cm. broad, with numerous close parallel lateral nerves, and scattered small blackish glands on the lower surface; petiole 3–4 mm. long; flowers cymose; sepals oblong-lanceolate, acute, shortly united at the base, coriaceous, 5 mm. long, keeled; petals yellow, contorted, about twice as long as the sepals; anthers apiculate; fruits about 1.5 cm. long, on thickened pedicels [calophylloides](#)

Endodesmia calophylloides Benth.—F.T.A. 1: 157. *APD acc*

In swamp forest, by rivers.

S. Nig.: Sapoba (fl. Feb., fr. Oct.) Kennedy 1787! A. F. Ross 213! Richards 3919! Calabar Chev. 13628! **Br. Cam.:** Cameroons R. (June) Mann 424!

Also in **French Cameroons**, **Gabon** and **Cabinda**.

3. VISMIA

Vand. Fl. Lusit. Brasil. 51 (1788); F.T.A. 1: 160.

- 1 Inflorescence paniculate, equalling or exceeding the leaves; flowers numerous, small, subumbellate on pedicels 1–2 mm. long; sepals 1.5–2 mm. long; stamens 4–6 in each bundle; leaves broadly ovate-elliptic, cordate at base, shortly acuminate, 6–12 cm. long, 3.5–7 cm. broad, puberulous then glabrescent beneath, with numerous opaque glands, drying a rich reddish-brown colour [1. rubescens](#)

Inflorescence a pair of pedunculate subumbellate cymes, shorter than the leaves, usually borne at the apex of short lateral shoots bearing two pairs of leaves, the lower pair much smaller than the upper pair which subtend and exceed the cymes; pedicels 6–10 mm. long; sepals about 4 mm. long; stamens 20–40 in each bundle; leaves elliptic or elliptic-lanceolate, cuneate or obtuse at base, acutely acuminate, stellate-puberulous beneath with black glands, not drying reddish [2. guineensis](#)

1. **Vismia rubescens** *Oliv.* F.T.A. 1: 160 (1871); Exell & Mendonca Consp. Fl. Ang. 1: 124. *APD acc*

A climbing shrub, attaining 20 ft.

S. Nig.: Eket Talbot 3296!

Also in **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Cabinda**.

2. **Vismia guineensis** (*Linn.*) *Choisy* Monogr. Hyp. 36 (1821). *APD acc*

Hypericum guineense *Linn.* Diss. Hyp. 4, t. 8, fig. 1 (1776); Amoen. Acad. 8: 321 (1785).

Psorospermum guineense (*Linn.*) *Hochr.* in Ann. Conserv. Jard. Bot. Genève. 21: 57 (1919), partly (excl. syn. *P. senegalense* Spach, and ref. Guill. & Perr. Fl. Seneg. 1: 107).

Vismia leonensis *Hook. f.* in Fl. Nigrit. 243 (1849); F.T.A. 1: 161; Chev. Bot. 50; F.W.T.A., ed. 1, 1: 230.

Vismia leonensis var. **macrophylla** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 230 (1927); Kew Bull. 1928: 227.

Vismia laurentii var. **polyandra** *Hochr.* l.c. 55.

A small tree, up to 50 ft. high in **secondary forest growth**; petals greenish-yellow with thin red markings.

Port. G.: Cacine (July) Esp. Santo 2117! **Fr. G.:** Conakry (June) Debeaux 422! Kaba to Haut-Mamou (May) Chev. 13265! Massadou, Macenta (May) Collenette 23! **S. L.:** Afzelius! Smeathmann! T. Vogel 122! R. Bagroo (Apr.) Mann 864! Kahreni, Limba (Apr.) Sc. Elliot 5591! Njala (fl. May, fr. Oct.) Deighton 668! Small 125! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 810! Ganta (May) Harley 1173! Butaw, Sinoe (Mar.) Baldwin 11490! **Iv. C.:** Mt. Momy, Dyolas (fr. Apr.) Chev. 21372! Toumodi, Baoulé-Sud (fr. Aug.) Chev. 22384! **G. C.:** Kumasi (Apr.) Vigne 1091! Ancobra (fr. Jan.) Kitson 1007! Obuasi (fr. June) Andoh FH 4213! **S. Nig.:** Aguku Thomas 885! Ekwulobia, Awka (fr. Nov.) Ujor FHI 15293! **Br. Cam.:** Kumba Dist. (fr. June) Olorunfemi FHI 30622!

Also in **French Cameroons**.

4. PSOROSPERMUM

APD: *Synonym of Harungana Lam.*

Spach—F.T.A. 1: 158.

- 1 Lateral nerves not impressed above, leaves not bullate: **2**
Lateral nerves impressed above, leaves more or less bullate, elliptic, 3–7 cm. long, 1.5–3 cm. broad, strictly opposite; inflorescences often terminating short lateral shoots: **10**
- 2 Leaves alternate or subopposite, rarely some opposite, not subsessile and not or only slightly acuminate: **3**
Leaves always strictly opposite; inflorescences usually appearing terminal, or terminating short lateral shoots: **8**
- 3 Leaves coriaceous, oblong to obovate, 8–18 cm. long, 4–10.5 cm. broad; stem and leaves entirely glabrous; inflorescences appearing terminal and not usually exceeded by the lateral shoots; flowers numerous in large corymbose-cymes; petals pale purple [1. alternifolium](#)

- Leaves membranous or subcoriaceous, up to 14 cm. long and 6 cm. broad; stem and leaves often hairy; inflorescences usually exceeded by the lateral shoots; petals white or cream, with dark streaks:4
- 4 Suffrutex; sepals 5 mm. long; stems and leaves densely long-woolly tomentose; leaves elliptic, 5–14 cm. long, 2.5–6 cm. broad2. [lanatum](#)
- Erect shrubs and trees:.....5
- 5 Cymes appearing axillary, up to about 5 cm. diam., numerous, occurring at most of the nodes of the young shoots:6
- Cymes not appearing axillary, exceeding 5 cm. diam., corymbose, terminating the main shoots, most nodes not floriferous; peduncles exceeding 1 cm. long:7
- 6 Leaves obtuse at apex, midrib straight; mature branchlets and undersurface of leaves pubescent; internodes usually shorter than the leaves; cymes dense, subsessile or peduncles up to 1 cm. long3. [senegalense](#)
- Leaves acute at apex, midrib dorsiventrally arched; branchlets and leaves quite glabrous except when very young, internodes usually as long as, or longer than, the leaves; cymes lax, peduncle usually exceeding 1 cm. long4. [glaberrimum](#)
- 7 Inflorescence and outside of sepals densely woolly tomentose5. [corymbiferum](#) var. [corymbiferum](#)
- Inflorescence and outside of sepals sparingly pubescent or nearly glabrous5a. [corymbiferum](#) var. [kerstingii](#)
- 8 Leaves distinctly acuminate, membranous; petiole 4–8 mm. long; lamina elliptic, cuneate at base, 5–11 cm. long, 2–5 cm. broad, lower surface concolorous, laxly and not conspicuously reticulate, punctate all over; stems, leaves, inflorescences and outside of sepals glabrous6. [tenuifolium](#)
- Leaves scarcely acuminate, subcoriaceous, subsessile, or with petiole up to 3 mm. long, subcordate or rounded at base, sometimes cuneate; gland dots usually absent from lower surface of leaves, reticulation where not obscured by indumentum, conspicuous owing to the pallid surface between the veins:9
- 9 Inflorescence and outside of sepals sparingly pubescent or nearly glabrous; leaves glabrous or sparingly pubescent, with the reticulate venation on the pallid lower surface obvious (at least when dry); leaves usually more or less oblong.7. [febrifugum](#) var. [febrifugum](#)
- Inflorescence and outside of sepals woolly tomentose; lower surface of leaves covered with stellate indumentum tending to obscure the reticulation; leaves usually broadly ovate to orbicular7a. [febrifugum](#) var. [ferrugineum](#)
- 10 Lamina of adult leaves densely punctate beneath, sparsely pubescent on the midrib and lateral nerves8. [densipunctatum](#)
- Lamina of adult leaves densely ferruginous tomentose beneath9. [aurantiacum](#)

1. **Psorospermum alternifolium** *Hook.f.* in Fl. Nigrit. 243 (1849); F.T.A. 1: 159; Chev. Bot. 50; Aubrév. Fl. For. Soud.-Guin. 146, t. 23, 3. *APD acc*

Shrub, or small tree, to 12 ft. high, or suffrutescent; flowers pale purple, often galled.

Fr. Sud.: Banfara (Mar.) Chev. 534! **Fr. G.:** Farmar 327a! Various localities fide Chev. l.c. **S. L.:** Freetown Don! Wossin Highlands Sc. Elliot 5051! Wallia, Buyabuya (Feb.) Sc. Elliot 4774! Kongobu (Mar.) MacDonald 26! Port Loko (Jan.) Deighton 1042! Madina (Feb.) Glanville 180! Makump (July) Thomas 979! Tepetuk (Apr.) Jordan 221! Bintumane, Loma Mts. (fr. Apr.) Frith 28!

2. **Psorospermum lanatum** *Hochr.* in Ann. Conserv. Jard. Bot. Genève. 21: 59 (1919). *APD acc*

Psorospermum guineense of F.W.T.A., ed. 1, 1 232, partly, not of Hochr.

Suffrutex, with erect sparingly branched stems, to about 1 1/2 ft. high.

Fr. G.: Kollangui (Mar.) Chev. 13512! Dalaba (Apr.) Caille 18158!

Also in **Uganda**.

3. **Psorospermum senegalense** *Spach* in Ann. Sci. Nat. Sér. 2, 5: 164 (1836), excl. ref. Choisy and Linn.; F.T.A. 1: 158, partly (excl. spec. Barter). *APD acc*

Vismia guineensis of Guill. & Perr. Fl. Seneg. 107, t. 23, not of (Linn.) Choisy.

Psorospermum guineense *Hochr.* l.c. 57, partly (observation and syn. *P. senegalense* Spach); F.W.T.A., ed. 1, 1: 232, partly.

Shrub or small tree; flowers white.

Sen.: Perrottet 91! **Gam.:** Albreda (May) Leprieur! **Port. G.:** Pussubé (young fr. Feb.) Esp. Santo 1141! **S. L.:** Hutton!

4. **Psorospermum glaberrimum** *Hochr.* l.c. 63 (July 1919); Aubrév. l.c. 146, t. 23, 4. *APD acc*

Psorospermum tenuifolium var. *laxiflorum* Engl. Bot. Jahrb. 17: 85 (1893).

Psorospermum laxiflorum (Engl.) Engl. Bot. Jahrb. 55: 385 (August 1919); F.W.T.A., ed. 1, 1: 232.

Psorospermum tenuifolium of Chev. Bot. 51, partly, not of Hook. f.

Psorospermum umbellulatum Hutch. & Dalz. F.W.T.A., ed. 1, 1: 232 (1927); Kew Bull. 1928: 226.

Much-branched shrub, to 12 ft. high; flowers white.

Gam.: Esso Heudelot 92a! **Fr. G.:** Farana (Mar.) Sc. Elliot 5369! Ditinn (Apr.) Chev. 12949! **S. L.:** Sc. Elliot! Burbridge 542! 545! Kamakuia (May) Thomas 267! Musaia (May) Deighton 4320! **Iv. C.:** Ferkéssédougou Aubrév. 1523. **Togo:** Bismarckburg (Nov.–Mar.) Büttner 431! **Dah.:** Djougou (May) Chev. 23841.

5. *Psorospermum corymbiferum* Hochr. var. *corymbiferum*—in Ann. Conserv. Jard. Bot. Genève. 21: 58 (July 1919). *APD acc*

Psorospermum senegalense of F.T.A. 1: 158, partly (spec. Barter).

Psorospermum guineense of F.W.T.A., ed. 1, 1: 232, partly; of Aubrév. Fl. For. Soud.-Guin. 146, t. 23, 2, partly; not of (Linn.) Hochr.

Savannah shrub, or tree, to 15 ft. high; flowers cream, ripe fruits purple.

Gam.: Whitfield! **Fr. G.:** Fouta Djallon Heudelot 768! Kouroussa Pobéguin 212! **Fr. Sud.:** & **Iv. C.:** fide Aubrév. l.c. **G. C.:** Gambaga (fr. May) Vigne 3858! **N. Nig.:** Sokoto (Dec.) Lely 854! Kontagora (Feb.) Dalz. 79! Zaria (Mar.) Weir 26! Anara F. R. (Mar.) Olorunfemi FHI 24417! Nupe Barter 1203! Bauchi Plateau (Mar.) Lely P. 178! **S. Nig.:** Lagos Colony Rowland! Olokemeji (Mar.) Meikle 1299! Foster 291! Oyo (Mar.) FHI 20531!

Also in **Uganda**.

[Esp. Santo 2465 from Farim, Port. G., is somewhat intermediate between tills variety and *P. senegalense* Spach.]

5a. *Psorospermum corymbiferum* var. *kerstingii* (Engl.) Keay & Milne-Redhead in Kew Bull. 1953: 291.

APD: *Synonym of Psorospermum corymbiferum* var. *doeringii* (Engl.) Keay & Milne-Redh.

Psorospermum kerstingii Engl. Bot. Jahrb. 55: 384 (August 1919); F.W.T.A., ed. 1, 1: 231.

Psorospermum ledermannii var. *doeringii* Engl. l.c. 387.

Psorospermum thompsonii Hutch. & Dalz. F.W.T.A., ed. 1, 1: 232 (1927); Kew Bull. 1928: 226.

Savannah shrub, or tree, to 15 ft. high; flowers cream.

Iv. C.: Serv. For. 1883! **G. C.:** Drobo, Ashanti (fr. Apr.) Thompson 64! Tamale Williams 148! Binduri (Apr.) Vigne 4694! **Togo:** Misahöhe (Apr.) Baumann 568! Kratchi Andersen 40! Basari (Dec.–Feb.) Kersting 71; 597. Atakpame (fr. Apr.) Doering 220. Kpedji (fl. & fr. May) Doering 13. **N. Nig.:** Wonnaka, Gusau (fr. May) Ogbe FHI 15820! Samaru, Zaria (Mar.) Hubbard, T. 48! T. 56! Anara F. R. (fl. & fr. May) Keay FHI 22966! **S. Nig.:** Lagos Colony Rowland!

6. *Psorospermum tenuifolium* Hook. f. in Fl. Nigrit. 242, t. 21 (1849); F.T.A. 1: 159. *APD acc*

APD: *Synonym of Vismia affinis* Oliv.

A shrub, much-branched, to 10 ft. high; in swamp forest, often near the coast; petals greenish-white; fruits plum-coloured.

S. Nig.: Lagos (Sept.) Dalz. 989! Eba Isl. (July) Kennedy 1706! Akassa, Nun R. (Aug.) T. Vogel 23! 43! Mann 459! Brass Barter 1865! Calabar (fl. & fr. Mar.) Thomson 133! Brenan 9219! **Br. Cam.:** Asu R. Bamenda (Mar.) Johnstone 286!

Also in **French Cameroons** and **Belgian Congo**.

7. *Psorospermum febrifugum* Spach var. *febrifugum*—in Ann. Sci. Nat. Sér. 2, 5: 163 (1836); F.T.A. 1: 158, partly (as to var. *glabrum* and var. *albidum*); Aubrév. l.c. 146 (as to aggregate species). *APD acc*

Psorospermum campestre Engl. Bot. Jahrb. 17: 84 (1893); F.W.T.A., ed. 1, 1: 231.

Psorospermum baumannii Engl. l.c. 382 (1919); F.W.T.A., ed. 1, 1: 232.

Psorospermum microphyllum A. Chev. Bot. 51.

Psorospermum floribundum Hutch. & Dalz. F.W.T.A., ed. 1, 1: 232 (1927).

Savannah tree, or shrub, to 12 ft. high, with smooth grey bark; flowers cream; fruits red.

S. L.: Afzelius! Freetown (fr. Apr.) Deighton 4756! **Iv. C.:** Mt. Zan, Dyolas (May) Chev. 21568. Gouékouma (May) Chev. 21676. **G. C.:** Kwalu Tafo (fr. Apr.) Kitson 1053! 1060! Mampong (fr. May) Kitson 517! Saku (May) Vigne 4702! **Togo:** Agome Mts. (Mar.) Baumann 22! **N. Nig.:** Patti Lokoja (Apr.) Elliott 45! **S. Nig.:** Lagos (Dec.) Barter 2187! Millen 57! Foster 66! Sobo Plains (fl. Mar., fr. Sept.) Jones FHI 7450! Butler-Cole 1! Onitsha Barter 1652! Udi Kennedy 3149! Enugu (May) Jones FHI 6563!

Widespread in tropical Africa.

7a. **Psorospermum febrifugum var. ferrugineum** (*Hook. f.*) *Keay & Milne-Redhead* in *Kew Bull.* 1953: 290. *APD acc*

Psorospermum ferrugineum *Hook. f.* in *Fl. Nigrit.* 241 (1849).

Psorospermum febrifugum of F.T.A. 1: 158, partly (excl. var. *glabrum* and var. *albidum*); *Aubrév. l.c.* 146 (as to t. 23, 1).

Psorospermum febrifugum of F.W.T.A., ed. 1, 1: 232.

Savannah shrub or small tree, to 12 ft. high; flowers cream; fruits red.

Fr. G.: Konkouré Pobéguin 1942! **S. L.:** Afzelius! Freetown Don! Falaba (Mar.) Sc. Elliot 5219! 5441! Kaballa (fr. Sept.) Thomas 2238! Musaia (Apr.) Deighton 5452! **N. Nig.:** Vom Dent Young 15! Naraguta (Apr.) Kennedy FHI 7216! Bauchi Plateau (Mar.) Lely P. 178! **Br. Cam.:** Bafring (Feb.) Johnstone 36/31!

Widespread in tropical Africa.

8. **Psorospermum densipunctatum** *Engl. Bot. Jahrb.* 55: 385 (1919). *APD acc*

Shrub or small tree, to 10 ft. high, in **mountain grassland and forest edges**; leaves dark glossy green; flowers white or yellowish; fruits red.

Br. Cam.: Bamenda Prov.: Lakom, 6,000 ft. (Apr.) Maitland 1662! Basenako, 5,000 ft. (June) Maitland 1680! Bafut-Ngamba F. R. (Apr.) Ujor FHI 30019! Lightbody FHI 26341! Kumbo (fr. Apr.) Ejiofor FHI 30081!

Also in **French Cameroons**.

9. **Psorospermum aurantiacum** *Engl. l.c.* 55: 383 (1919). *APD acc*

Tree, to 15 ft. high, in **mountain grassland and forest**; leaves rusty tomentose; petals cream.

S. Nig.: Ikwette Plateau, 5,000 ft. (Dec.) Keay & Savory FHI 25229! **Br. Cam.:** Bamenda Lightbody! L. Bambulue (fl. & fr. Apr.) Johnstone 305/32! Ndu, Bamenda (fr. May) Johnstone 108/31!

Also in **French Cameroons**.

5. HARUNGANA

Lam. Tab. Encyc. Méth. Bot. t. 645 (1797).

Haronga Thouars (1806)—F.T.A. 1: 159.

- 1 A tree or shrub, with orange-coloured sap, clothed everywhere with fine stellate hairs; leaves opposite, ovate or ovate-elliptic, rounded, or sometimes cuneate or subcordate at base, acute or shortly acuminate at apex, 10–20 cm. long, 6–10 cm. broad, with rather numerous lateral nerves prominent beneath; petiole 1.5–2 cm. long; flowers very small and numerous in a terminal corymbose cyme, its branches covered with coarse rusty indumentum *madagascariensis*

Harungana madagascariensis *Lam. ex Poir.* in *Lam. Encyc. Méth.* 6: 314 (1804); *Exell in J. Bot.* 68: 181 (1930). *APD acc*

APD: *Synonym of Vismia rubescens Oliv.*

Arungana paniculata *Pers.* (1809).

Haronga madagascariensis (*Lam. ex Poir.*) *Choisy* (1821)—F.T.A. 1: 160; Chev. Bot. 51.

Haronga paniculata *Lodd. ex Steud.* (1840)—F.W.T.A., ed. 1, 1: 233.

Flowers whitish, fragrant, dotted with black glands; drupes 2–4 seeded, 2.5–3.5 mm. diam.; **abundant on cleared ground in forest regions, also in fringing forest in the savannah regions.**

Sen.: Casamance (Jan., Feb.) Chev. 2726; 2728. **Gam.:** Albreda (fr. Mar., Apr.) Perrottet. **Fr. Sud.:** Kita Dubois 208! **Fr. G.:** Heudelot 598! Kouroussa (Aug.) Pobéguin 429! Kissossa (July) Pobéguin 786! Kouria (Aug.) Chev. 14892! **S. L.:** Barter! Regent (Dec.) Sc. Elliot 4005! Freetown (July) Deighton 5! Kambaia (Oct.) Small 473! **Lib.:** Sinoe Basin Whyte! Gbanga (Oct.) Linder 1235! Ganta Harley! Vonjama (Oct.) Baldwin 9888! **Iv. C.:** Assikasso (Dec.) Chev. 22611! **G. C.:** Kumasi Cummins 101! Boankra (May) Chipp 436! Half Assinie (July) Chipp 298! Tarkwa (July) Vigne 916! **Togo:** Misahöhe Baumann 454! Aledja Kersting A. 208! **N. Nig.:** Birnin Gwari (Nov.) Thornewill 152! Naraguta (Aug.) Lely 493! **S. Nig.:** Lagos Barter 2089! Dalz. 1068! Benin Dennett 31! Onitsha Unwin 80! Oban Talbot 540! Calabar (Feb.) Mann 2287! **Br. Cam.:** Cam. Mt., 2,500–4,000 ft. (Nov.–Jan.) Mann 1183! Maitland 245! Babanki, Bamenda, 4,500 ft. (June) Maitland 1719! **F. Po:** T. Vogel 100! Barter 1255! Mann 637! Moka (Dec.) Boughey 81!

Widespread in tropical Africa, Madagascar and the Mascarene Islands.

GUTTIFERAE

Trees or shrubs, with resinous juice. Leaves opposite, simple; stipules absent. Flowers actinomorphic, unisexual, polygamous or dioecious, rarely hermaphrodite. Sepals 2–6; rarely more, imbricate. Petals the same number, hypogynous, contorted or imbricate, very rarely subvalvate. Stamens mostly numerous, hypogynous, free or variously united in the lower part or into bundles opposite the petals; anthers 2-celled, opening lengthwise. Rudimentary ovary sometimes present in the male flower; staminodes often present in the female flower. Ovary sessile, superior, 1- to many-celled; ovules 1 to many, on the inner angle of the cells or erect from their base, rarely parietal (Allanblackia); stigmas various, sometimes radiating. Fruit dehiscent or not, sometimes large and globose. Seeds often with an aril, without endosperm; embryo large; cotyledons often minute.

A tropical family.

Recognized by the opposite entire leaves without stipules, unisexual flowers with the stamens mostly collected into bundles, imbricate calyx, and resinous juice.

- 1 Ovary 1-celled, with numerous ovules on 5 parietal placentas; stamens united into 5 cuneate-spathulate bundles opposite the petals; anthers sessile; flowers unisexual, large; fruit large, elongate [1. *Allanblackia*](#)
- Ovary 2- or more-celled with axile placentas: [2](#)
- 2 Flowers hermaphrodite; ovules 3 or more in each cell: [3](#)
- Flowers hermaphrodite or polygamous; ovary 2-celled with 2 ovules in each cell; stamens numerous, connate only near the base; filaments slender; stigma sessile, capitate [4. *Mammea*](#)
- 3 Flowers large, terminal, solitary; inner sepals nearly as large as the petals; stamens numerous, shortly connate into 5 bundles, and filaments free above: fruit large and ovoid or subglobose [2. *Pentadesma*](#)
- Flowers small, umbellate; sepals much smaller than the petals and exposing them in bud; stamens about 15, connate nearly to the anthers in 5 bundles; fruit a small berry [3. *Symphonia*](#)
- 4 Flowers polygamous or dioecious; ovary 2- or more-celled, with a solitary ovule in each cell; stamens free or variously united into bundles; fruits usually rather small; leaves often punctate or with resinous lines oblique to the lateral nerves [5. *Garcinia*](#)

Calophyllum inophyllum Linn.

Introduced into our area.

Mesua ferrea Linn.

Introduced into our area.

1. ALLANBLACKIA

Oliv.—F.T.A. 1: 162. *APD acc*

- 1 Fruit fusiform, 25–50 cm. long, 8–14 cm. diam., with 40–80 seeds about 2–4 cm. long and 1.5–2.5 cm. broad; flowers pink or red, the male crowded towards the apex of the branches, with pedicels 2.5–7 cm. long; disk of male flower pitted or pleated; leaves varying from broadly oblong-elliptic to oblong-oblancoate, cuneate or rounded at base, acutely acuminate, 10–25 cm. long, 3.5–8 cm. broad [1. *floribunda*](#)
- Fruit ovoid to subglobose, 12–16 cm. long, 10–12 cm. diam., with 10–12 seeds about 4.5 cm. long and 3–3.5 cm. broad; flowers white or pale pink, disk of male flower smooth or only slightly pleated; pedicels 3–6 mm. long; leaves obovate, oblanceolate or oblong-lanceolate, cuneate at base, cuspidate at apex, 6–12 cm. long, 2.5–5 cm. broad [2. *monticola*](#)

1. **Allanblackia floribunda** *Oliv.* F.T.A. 1: 163 (1868); Chev. Bot. 52; Staner in Bull. Jard. Bot. Brux. 13: 114 (1934). *APD acc*

APD: Synonym of Allanblackia parviflora A. Chev.

Allanblackia parviflora *A. Chev.* Vég. Util. 5: 163 (1909); Chev. Bot. 53; F.W.T.A., ed. 1, 1: 233; Aubrév. Fl. For. C. Iv. 2: 286, t. 240.

Evergreen tree of forest, to 100 ft. high.

S. L.: Jama (May) Lane-Poole 98! Banduma, Daru (Apr.) Deighton 3142! **Lib.:** Dukwia R. (Mar.) Cooper 325! Nyaake, Webo (young fr. June) Baldwin 6132! Ganta (fl. May, fr. Apr.) Harley 1134! 1182! **Iv. C.:** Erymakouié (fl. & fr. Jan.) Chev. 16161. Alépé (Mar.) Chev. 16239. Azaguié Chev. B. 22356! **G. C.:** Axim (fl. June, fr. Nov.) Chipp 20! 251! Beyin (July) Chipp 263! Ashanti (Apr.) Vigne 1082! Suku (Feb.) Brent 9 DD! Imbraim (Mar.) Thompson 20! **Dah.:** Sakété (Jan.) Chev. 22858! **S. Nig.:** Ijebu-Ode (Apr.) Gilman 521! Benin City Dennett 32! Ezi (Feb.) Thomas 2331! Degema (Oct.) King-Church 47! Talbot 3661! 3687! Oban Talbot 1335! 1337! **Br. Cam.:** Cameroons R. (Jan.) Mann 2193!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Cabinda** and **Uganda**.

2. **Allanblackia monticola** *Mildbr. ex Engl.* Pflanzenw. Afr. 3, 2: 509 (1921); Staner l.c. 111. *APD acc*

APD: Synonym of Allanblackia kisonghi Vermoesen

Forest tree.

F. Po: north side of St. Isabel peak, 1,900–2,900 ft. Mildbr. 6430.

Also in **Belgian Congo**.

Allanblackia sp.

Represented by only a poor specimen, but evidently distinct from *A. floribunda* Oliv., and probably also from *A. monticola* Mildbr. ex Engl. Better material required.

Br. Cam.: Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30327!

Imperfectly known species.

2. PENTADESMA

Sabine—F.T.A. 1: 164.

- 1 Leaves oblong-obovate to oblong-oblancheolate, cuneate at base, shortly acuminate, 10–22 cm. long, 3.5–7 cm. broad, with numerous close parallel lateral nerves; glandular canals on undersurface visible by reflected light, glandular dots clearly visible in young and sucker leaves by transmitted light; pedicels about 2.5 cm. long, stout, flowers nodding; sepals very unequal, the inner as large as the petals, up to about 5 cm. long; ovary gradually narrowed into the elongated style which is divided into 5 linear spreading lobes; fruits broadly ellipsoid, pointed, about 15 cm. long and 10 cm. broad; seeds large with flattened sides *butyracea*

Pentadesma butyracea *Sabine*—F.T.A. 1: 164; Chev. Bot. 52; Aubrév. Fl. For. C. Iv. 2: 282, t. 237. *APD acc*

APD: Synonym of Pentadesma grandifolia Baker f.

APD: Synonym of Pentadesma butyracea Sabine

Pentadesma leucantha *A. Chev.* Vég. Util. 5: 166 (1909); Chev. Bot. 52.

Pentadesma nigrifolia *Bak. f.* in Cat. Talb. 7 (1913); F.W.T.A., ed. 1, 1: 235.

Pentadesma grandifolia *Bak. f.* l.c. 8 (1913); F.W.T.A., ed. 1, 1: 235.

Pentadesma kerstingii *Engl.* Bot. Jahrb. 55: 396 (1919); Chev. Bot. 52.

Forest tree, to 75 ft. high; flowers white, cream or greenish-white. [N.B.—there is no evidence of their ever being red as stated in ed. 1]; sepals persistent at the base of the fruit; seeds 3–10 embedded in a yellowish pulp. The yellow latex from the incised bark dries like gamboge.

Fr. G.: Conakry (cult.) Farmar 316! Nzérékoré (Oct.) Baldwin 9698! Kindia Chev. 13102. **S. L.:** Cole! Freetown Don! Rotomba Isl. (fr. Mar.) Kirk 14! Fulawun (Apr.) Deighton 1629! Njala (Sept.) Small 194! **Lib.:** Dukwia R. (fl. Feb., fr. Oct.) Cooper 80! 273! 379! Tappita (Aug.) Baldwin 9068! **Iv. C.:** Aboisso (Aug.) Chev. 16290! **G. C.:** Suku Suku (Oct.) Brent 5! Simpa Andoh FH 3256! **Togo:** Sokodé (Mar., Oct.) Kersting 15; 452. Atakpame (fr. May) Doering 238. **Dah.:** Atacora Mts. Chev. 24169! **N. Nig.:** Agaie (Oct.) Yates! **S. Nig.:** Lagos Millen 113! Eba (Oct.) Sankey! Nun R. (fl. & fr. Sept.) Mann 483! Oban Talbot 1742! **Br. Cam.:** Malende (Apr.) Ejiofor FHI 29364!.

Other species are recorded from the French Cameroons, Gabon and Belgian Congo, but some at least of them are probably not distinct from *P. butyracea* Sabine.

3. SYMPHONIA

Linn. f.—F.T.A. 1: 163.

- 1 A glabrous tree; leaves elliptic-oblongate, obtusely acuminate, cuneate at the base, 8–10 cm. long, 2–3 cm. broad, with numerous rather close parallel lateral nerves; petiole about 0.5 cm. long; flowers red to deep crimson, rather densely clustered on short lateral shoots, about 6–7 mm. long; fruits ellipsoid to depressed-globose, about 2.5 cm. in diam.; seeds one or few, large, with flattened sides [globulifera](#)

Symphonia globulifera *Linn. f.*—F.T.A. 1: 163; Staner in Bull. Jard. Bot. Brux. 13: 143 (1934); Aubrév. Fl. For. C. Iv. 2: 284, t. 238. *APD acc*

Symphonia globulifera var. **gabonensis** *Vesque* in DC. Monogr. 8: 231 (1893); Chev. Bot. 52.

Symphonia gabonensis (*Vesque*) *Pierre* in Bull. Soc. Linn. Paris 2: 1228 (1897); F.W.T.A., ed. 1, 1: 235, incl. var. *macrantha* Hutch. & Dalz.

A tree, up to 80 ft. high; bole straight, with a crown of short horizontal branches; **common in muddy forest-swamps and by streams.**

S. L.: Falaba (Apr.) Aylmer 55! Bo to Tinkonko (June) King 251! **Lib.:** Dukwia R. (fl. Feb., fr. Oct.) Cooper 105! 333! Logantown, New Cess R. (Mar.) Baldwin 11183! **Iv. C.:** Dabou (Feb.) Chev. 16198. **G. C.:** Aburi (July) Johnson 913! Axim (Feb.) Irvine 2373! **S. Nig.:** Lagos (fl. & fr. Jan.) Millen 131! Dalz. 1267! Epe Barter 3255! R. Oni Sankey 4! Calabar (Feb.) Mann 2279! Oban Talbot 220! **Br. Cam.:** Ambas Bay (fl. & fr. Feb.) Mann 761! Likomba (Oct.) Mildbr. 10542! Njinikom (May) Johnstone 14!

Also in **French Cameroons, Gabon, Belgian Congo, Uganda, Angola, S. Tomé**, and in **tropical America**.

4. MAMMEA

Linn. Gen. Pl. ed. 1, 344 (1737).

- 1 A large tree; leaves oblong-elliptic, shortly cuneate at the base, rather abruptly acuminate, 15–25 cm. long, 6–9 cm. broad, with numerous lateral nerves and reticulate on both surfaces; petiole about 2 cm. long; flowers solitary or few; pedicels about 3 cm. long; calyx closed in bud, opening into 2 or 3 segments about 1.5 cm. long; petals slightly longer than the calyx; fruit globose-obovoid, about 7 cm. or more long, finely warted; seeds 5 cm. long, with fibrous coat [africana](#)

Mammea africana *Sabine* in Trans. Hort. Soc. 5: 457 (1824); Staner in Bull. Jard. Bot. Brox. 13: 101 (1934); Aubrev. Fl. For. C. Iv. 2: 284, t. 239. *APD acc*

APD: *Synonym of Mammea usambarensis Verdc.*

Ochrocarpus africanus *Oliv.* F.T.A. 1: 169 (1868); Chev. Bot. 55; F.W.T.A., ed. 1, 1: 235.

Garcinia golaensis *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 237 (1927); Kew Bull. 1928: 228.

A **forest** tree, 50–100 ft. high; bark often yellow, with pale scales, and with resinous yellow sap; fruit orange-coloured, commonly with 3 large seeds in a yellowish pulp.

S. L.: Freetown, on the mountain Afzelius. Gola (fr. Jan.) Unwin & Smythe 67! **Lib.:** Dukwia R. (fr. Feb., Oct.) Cooper 85! 223! **Iv. C.:** Yapo (Sept.) Chev. 22332! **G. C.:** Dunkwa (Jan.) Vigne 943. Akumadan (Oct.) Vigne 2556! Agogo Irvine 579! **S. Nig.:** Sapoba (Oct.) Kennedy 1680! A. F. Ross 211! Ahoada (Sept.) King-Church 43! **Br. Cam.:** Likomba (Nov.) Mildbr. 10610!

Also in [Principé](#), [Cabinda](#) and [Belgian Congo](#).

Mammea americana *Linn.*

Has been introduced from tropical America and is cultivated in various localities within our area.

5. GARCINIA

Linn.—F.T.A. 1: 164.

- 1 Stamens free; leaves in whorls of 3, obovate or elliptic, cuneate to rounded at base, rounded and mucronate at apex, 5–12 cm. long, 2–6 cm. broad; flowers with pedicels 1–2 cm. long, in axillary fascicles on the older twigs [1. livingstonei](#)
- Stamens variously united in bundles; leaves in pairs: **2**
- 2 Branchlets winged or very sharply 4-angled; leaves with tertiary nerves and veins obscure beneath; flowers numerous in terminal umbellate racemes, the axis 1–4 cm. long, tetragonous, densely covered by the bracts, and, in later stages, by scars of fallen pedicels; stamens in 5 narrow bundles of 6–10 stamens; filaments shortly free above; fruits verrucose: **3**
- Branchlets terete or only slightly angular; fruits usually smooth, or rarely verrucose (*G. elliotii*); stamens in 4 bundles; flowers in few-flowered cymes or in axillary fascicles: **4**
- 3 Leaves rounded at base, broadly elliptic, abruptly acuminate, 10–15 cm. long, 6–8 cm. broad; lateral nerves about 8, spreading; fruit broadly ellipsoid, acute at each end, about 4 cm. long, 3 cm. broad [2. granulata](#)
- Leaves cuneate at base, oblong-elliptic gradually acuminate or acute, 12–24 cm. long, 4.5–9 cm. broad; lateral nerves 8–14, making an acute angle with the midrib towards the base; fruit obovoid or ellipsoid, up to 4.5 cm. long and 4 cm. broad; usually 2-seeded [3. gnetoides](#)
- 4 Sepals and petals densely puberulous outside; stamens in 4 narrow bundles of 15–20 stamens; anthers subsessile; fruits subglobose or ovoid, 5–9 cm. diam., with 2–4 ellipsoid seeds, 3–3.5 cm. long and about 1.5 cm. broad, embedded in copious pulp; leaves broadly elliptic, cuneate to rounded at base, acute or shortly acuminate, 6–14 cm. long, 2–6 cm. broad, shining on both surfaces; 10–15 pairs of lateral nerves prominent on both surfaces, with very obscure venation between; petiole puberulous [4. kola](#)
- Sepals and petals glabrous outside; petioles not puberulous: **5**
- 5 Filaments free above; anthers spherical or ovoid; flowers unisexual or hermaphrodite in axillary fascicles: **6**
- Filaments completely fused into 4 bundles, with oblong anthers sessile on the top of each bundle; flowers unisexual, in axillary and terminal few-flowered cymes: **9**
- 6 Leaves subsessile, subcordate and sometimes amplexicaul at base, oblong-elliptic, shortly acuminate, 15–25 cm. long, 6–10 cm. broad, with about 15 pairs of lateral nerves, laxly reticulate; male flowers in fascicles on the older branches; pedicels 2.5–5 cm. long [5. staudtii](#)
- Leaves distinctly petiolate, usually narrowed at base, not subcordate or amplexicaul: **7**
- 7 Fruits densely verrucose, ellipsoid, 2.5 cm. long, 1.5 cm. broad; flowers in axillary fascicles; stamens in bundles of 5–7 stamens; leaves oblong or oblong-elliptic, subacute at base, very shortly and obtusely acuminate, 9–16 cm. long, 3–6 cm. broad [6. elliotii](#)
- Fruits smooth: **8**
- 8 Stamens 6–10 (or more) in each bundle; flowers in axillary fascicles of 5–30 flowers; pedicels 1.5–4.5 cm. long; leaves oblong-elliptic, or oblong-ovate, or oblong-lanceolate, or oblanceolate, rounded to cuneate at base, acute or shortly acuminate at apex, 12–30 cm. long, 4.5–12 cm. broad, reticulate on both surfaces; fruits subglobose, about 2 cm. diam. [7. polyantha](#)
- Stamens 3 in each bundle; flowers in small dense axillary fascicles; pedicels up to 7 mm. long; leaves lanceolate to elliptic-lanceolate, gradually narrowed to an obtuse apex, 5–15 cm. long, 1.2–4.5 cm. broad, coriaceous, (elliptic to obovate-elliptic, distinctly acuminate, 6–15 cm. long, 2.5–5 cm. broad, papery-in a rain forest tree, see note below); fruits subglobose, about 1.5 cm. diam. [8. ovalifolia](#)
- 9 Leaves with glandular dots and dashes, lateral nerves very numerous and close without intermediate nerves; lamina oblong-elliptic, shortly cuneate at base, caudate and obtusely acuminate, 6–10 cm. long, 2–5 cm. broad; pedicels up to 1 cm. long; flower buds about 5 mm. long [9. punctata](#)
- Leaves with long glandular canals, but lacking glandular dots and dashes: **10**
- 10 Anthers transversely septate: **11**
- Anthers not septate; otherwise as above [13. epunctata](#)
- 11 Staminal bundles united at base, about equal to the rudimentary ovary in length; petals coriaceous; leaves elliptic, cuneate at base, abruptly caudate-acuminate, 7–12 cm. long, 2.5–6 cm. broad; lateral nerves very numerous and close [10. mannii](#)

Staminal bundles free, much longer than the rudimentary ovary; petals thin: **12**

- 12** Lateral nerves 10–15, with much less prominent secondary nerves and veins between; lamina obovate or obovate-oblong, cuneate at base, acuminate at apex, 9–14 cm. long, 3–6.5 cm. broad, bright green when dry, papery [11. brevipedicellata](#)

Lateral nerves very numerous and close, more or less equally prominent; lamina elliptic, cuneate at base; acuminate or acute at apex, 7–14 cm. long, 3–6 cm. broad [12. afzelii](#)

1. *Garcinia livingstonei* T. Anders.—F.T.A. 1: 165; Aubrév. Fl. For. Soud.-Guin. 148, t. 24. *APD acc*

*APD: Synonym of *Garcinia robsoniana* Bamps*

Garcinia baikieana Vesque in DC. Monogr. 8: 336; Chev. Bot. 53; F.W.T.A., ed. 1, 1: 236.

Garcinia baikieana var. *togoensis* Engl. (1908).

Shrub or branching tree to 50 ft. high, with dark foliage; petals white; fruits yellow or red; [by streams and rivers in savannah country](#).

Fr. Sud.: Sansanding (Sept.) Chev. R. Niger, Kenieue (fr. Jan.) Chev. 276. **Fr. G.:** R. Niger, Farana Sc. Elliot 5338! Chev. 20460! **iv. C.:** Léo Aubrév. 2689. **G. C.:** Pong (fr. Mar.) Kitson 871! R. Volta Aveyeme (fr. Apr.) A. S. Thomas 28! **Togo:** R. Oti, Possau (Dec.) Kersting A. 235. **N. Nig.:** Nupe Barter 848!

[Widespread in tropical Africa.](#)

2. *Garcinia granulata* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 236 (1927); Kew Bull. 1928: 227.

*APD: Synonym of *Garcinia quadrifaria* (Oliv.) Pierre*

Small tree; fruit green, finely granular-verrucose.

S. L.: Gola (fr. Jan.) Unwin & Smythe 58! Kambui F.R. (Oct.) Edwardson 135!

[Very close to, and perhaps not specifically distinct from the next.]

3. *Garcinia gnetoides* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 236 (1927); Kew Bull. 1928: 227; Aubrév. Fl. For. C. Iv. 2: 288, t. 241, 1–4.

*APD: Synonym of *Garcinia quadrifaria* (Oliv.) Pierre*

Xanthochymus quadrifarius A. Chev. Bot. 54, not of Oliv.

Garcinia densivenia of F.W.T.A., ed. 1, 1: 236, not of Engl.

[Forest](#) tree, to 50 ft. high; flowers white; fruit orange.

Lib.: Bobei Mt., Sanokwele (Sept.) Baldwin 9581! 9605! **iv. C.:** Chev. 15157! Yapo Aubrév. 595; 589. Mt. Nimba Aubrév. 1145. **G. C.:** Suku Suku (Nov.) Chipp 14! R. Bonsa, Piaso Vigne 222! R. Ancobra, Axim (fr. Mar.) Irvine 2380! **S. Nig.:** Omo F.R. Tamajong FHI 16920! Ikom Catterall 11! Oban Talbot 229!

4. *Garcinia kola* Heckel in Journ. Pharm. et Chim. 8: 88 (1883); Staner in Bull. Jard. Bot. Brux. 13: 120; Aubrév. l.c. 2: 290, t. 241, 5–10. *G. dinklagei* Engl. Bot. Jahrb. 40: 56 (1908). *APD acc*

Garcinia conrauana Engl. l.c. 562, partly.

A [forest](#) tree, reaching 90 ft.; flowers greenish-white with a reddish indumentum; fruits reddish-yellow, the size of an orange, with orange-yellow, or reddish pulp; seed-coat brown with branched lines, the kernels pale and penetrated with pockets of resin.

S. L.: Gola Forest (fr. Jan.) Unwin & Smythe 50! **Lib.:** Grand Bassa (Feb.) Dinklage 1612! Dukwia R. (Feb.) Cooper 216! **iv. C.:** Agboville Aubrév. 1484. Banco Aubrév. 1641; 1720. Rasso Aubrév. 1768. **Dah.:** Porto Novo Chev. 22722! **S. Nig.:** Lagos Melton! Okomu F.R. Brenan 8547! Degema Talbot 3809! Uwet (fr. Feb.) Macleod! Umu-Akpo (Dec.) Rosevear 28/28!

Also in [French Cameroons](#), [Gabon](#) and [Belgian Congo](#).

5. *Garcinia staudtii* Engl. Bot. Jahrb. 40: 558, t. 1, A–D (1908). *APD acc*

A [forest](#) shrub or tree, up to about 40 ft.

S. Nig.: Rosevear 6/30! Oban Talbot 1588! Ikom (Jan.) Catterall 18!

Also in **French Cameroons**.

6. **Garcinia elliotii** *Engl.* l.c. 571 (1908). *APD acc*

Shrub, 2 ft. high, or more; fruit 2-seeded, the seed-coat marked with prominent pale branching lines.

S. L.: Thomas 10113! Makunde Sc. Elliot 5709; 5709b! Kassa (fr. Mar.) Sc. Elliot 5094! Njala (fr. Apr.) Deighton 2637!

7. **Garcinia polyantha** *Oliv.* F.T.A. 1: 166 (1868); Chev. Bot. 54; Staner l.c. 124; Aubrev. l.c. 2: 292, t. 242.

APD: *Synonym of Garcinia smeathmannii (Planch. & Triana) Oliv.*

Garcinia barteri *Oliv.* l.c.; F.W.T.A., ed. 1, 1: 237, partly (excl. syn. *G. kerstingii* Engl.).

Garcinia chevalieri *Engl.* Bot. Jahrb. 55: 390 (1919).

Garcinia chevalieriana *Hochr.* in Ann. Conserv. Jard. Bot. Genève. 21: 67 (1919).

Forest tree, to 70 ft. high; flowers cream, with pink pedicels.

Port. G.: Catio (Oct.) Esp. Santo 2188! **Fr. G.:** Kouria (Oct.) Chev. 15025! Dalaba-Diaguissa Plateau Chev. 18743! **S. L.:** Limba (fr. Apr.) Sc. Elliot 5625! Maria, R. Scarcies (fr. Feb.) Sc. Elliot 4802! Kambia, Magbema (Dec.) Jordan 759! Njala (fl. Oct., fr. Feb.) Deighton 1410! 3118! Gola Forest (fr. Jan.) Unwin & Smythe 60! **Lib.:** Gbanga (Oct.) Linder 1239! **Iv. C.:** Sanvi Chev. 16309! Massa-Me Aubrév. 137! **G. C.:** Tarquah Dist. (Aug.) Vigne 209! 221! Ancobra R. (Dec.) Johnson 921! **N. Nig.:** Kurmin Damisa, Jemaa (Nov.) Keay & Onochie FHI 21729! **S. Nig.:** Epe Barter 2293! Okomu F.R. (fr. Feb.) Brennan 9040! Sapoba Kennedy 416! 1419! Nun R. (Sept.) Mann 488! Brass Barter 31! 1830! **Br. Cam.:** Likomba (Nov.) Mildbr. 10685! Bali-Ngemba F.R. (fr. May) Ujor FHI 30370! **F. Po:** 4,000 ft. (Dec.) Mann 583!

Also **Gabon**, **Belgian Congo**, **Tanganyika**, **N. Rhodesia** and **Angola**.

[The following species have also been named *G. polyantha* Oliv., but differ by their larger male flowers, with 20–30 stamens in each bundle:—**S. Nig.:** R. Ata, Obudu, 4,000 ft. (Dec.) Keay & Savory FHI 25060! **Br. Cam.:** L. Bambulue (Jan., Feb.) Keay FHI 28358! Tiku FHI 22158! Njinikom, Bamenda (Apr.) Maitland 1489! These may represent a distinct species.]

Garcinia ovalifolia *Oliv.* F.T.A. 1: 166 (1868); Chev. Bot. 54; Staner l.c. 129; Aubrév. Fl. For. Soud.-Guin. 148, t. 149. *APD acc*

Garcinia kerstingii *Engl.* Bot. Jahrb. 40: 558 (1908).

Garcinia acuminata *A. Chev.* Bot. 52 (fide Hutch.).

Garcinia barteri of F.W.T.A., ed. 1, 1: 237, partly.

Shrub or tree to 30 ft. high; flowers white; fruit yellow; in fringing forest in the savannah regions (typical plant); see note below.

Fr. Sud.: Sikasso Vuillet 493. **Fr. G.:** Ditinn (fr. Mar.) Chev. 13579! R. Niger, Farana (Jan.) Chev. 20483! **S. L.:** Sc. Elliot! **Iv. C.:** Niangbo Aubrév. 1706! Bobo Dioulasso Aubrév. 1849. **Togo:** Sokodé (fl. Dec., fr. Mar.) Kersting 16; 46. Auae (fr. Jan.) Kersting 225. **Dah.:** Natitingou Aubrév. 827. **N. Nig.:** Nupe Barter 807! Kontagora (Dec.) Dalz. 114! Kafuna, Kaduna (Dec.) Meikle 785! Anara F.R. (Nov.) Keay FHI 21695! Bauchi Plateau Batten-Poole 259! **S. Nig.:** Western Lagos Rowland! Ikette, Obudu (Jan.) Keay & Savory FHI 25270!

Also in **Ubangi-Shari**, **French Cameroons**, **Gabon** and **Belgian Congo** (fide Staner l.c.).

[I am not satisfied that the broad view of this species adopted by Staner (l.c.) is correct. The following specimens of a rain forest tree (to 80 ft. high) agree with material from the Belgian Congo cited by Staner as *G. ovalifolia* Oliv., but appear to me to differ significantly from the typical plant:—**S. Nig.:** Okomu F.R. (fl. Jan.–Mar., fr. Feb.) A. F. Ross 241! Ross 154! Brennan 8881! 9067! 9107! Akpabla 1092!]

9. **Garcinia punctata** *Oliv.* F.T.A. 1: 167 (1868); Staner l.c. 138. *APD acc*

A tree, 15–30 ft.

S. Nig.: Oban Talbot 1336! 1637! **Br. Cam.:** Johann-Albrechtshöhe Staudt 446! 509!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola** and **N. Rhodesia**.

10. **Garcinia mannii** *Oliv.* F.T.A. 1: 167 (1868); Staner l.c. 142, 157; F.W.T.A., ed. 1, 1: 237, only in

part. *APD acc*

Garcinia obanensis Bak. f. in Cat. Talb. 9 (1913).

S. Nig.: Oban Talbot 1334! Ikom (Nov.) Catterall 57! **Br. Cam.:** Amba Bay (Jan.) Mann 711!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

11. *Garcinia brevipedicellata* (Bak. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 237 (1927); Kew Bull. 1928: 228 (1928).

APD: *Synonym of Garcinia afzelii* Engl.

Garcinia mannii var. *brevipedicellata* Bak. f. in Cat. Talb. 8 (1913).

A tree, 20–25 ft. high; "centre of flower dark-red; filaments orange; sepals pale green."

S. Nig.: Oban Talbot 1503! 1591! **Br. Cam.:** Kumba Dist. (fr. July) Olorunfemi FHI 30687!

12. *Garcinia afzelii* Engl. Bot. Jahrb. 40: 570 (1908). *APD acc*

APD: *Synonym of Garcinia epunctata* Stapf

Garcinia antidysenterica A. Chev. Vég. Util. 6: 445 (1911); Chev. Bot. 53; Staner l.c. 157.

Garcinia mannii of F.W.T.A., ed. 1, 1: 237, partly.

Garcinia mimfiensis of Aubrév. Fl. For. C. Iv. 2: 292, t. 242, 4–10, not of Engl.

A tree, to 50 ft. high; flowers pale green or greenish-yellow.

Fr. G.: Sanan Plateau Pobéguin 2217! **S. L.:** Afzelius. Dawe 570! Kafu (Jan.) Sc. Elliot 1604! Erimakuna (Mar.) Sc. Elliot 5185! Baboo Farm (young fr. Apr.) Sc. Elliot 5816! Buyabuya, R. Scarcies (Feb.) Sc. Elliot 4548! Colonial Reserve (Jan.) King-Church 6! Musaia (Dec.) Deighton 4563! Bintumane, 3,000 ft. (Jan.) Glanville 459! **Iv. C.:** Danané (Apr.) Chev. 21200! Anoumaba (Nov.) Chev. 22412! Yabouakrou to Tingouela (Dec.) Chev. 22571! Abidjan (May) Aubrév. 96! **G. C.:** Adamsu Vigne 3498! Fuller Falls, Kintampo (Nov.) Andoh FH 5415! **S. Nig.:** Awba Hills (Dec.) Jones FHI 4877!

13. *Garcinia epunctata* Stapf in J. Linn. Soc. 37: 86 (1905); Staner l.c. 140. *APD acc*

APD: *Synonym of Garcinia preussii* Engl.

Garcinia mannii of F.W.T.A., ed. 1, 1: 237, partly, not of Oliv.

Very similar to the last species.

S. L.: Gola Forest (May) Small 665! **Lib.:** Sinoe Basin Whyte! Dukwia R. (Sept.) Cooper 367!

Also in **Belgian Congo**.

Garcinia mangostana Linn.

Is cultivated in our area.

1. *Garcinia laurifolia* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 236 (1927); Kew Bull. 1928: 228 (1928).

Flowers not known.

S. L.: Ninia, Talla Hills (young fr. Feb.) Sc. Elliot 4806!

Imperfectly known species.

2. *Garcinia conrauana* Engl. Bot. Jahrb. 40: 562 (1908), partly (excl. Zenker 2552); Staner l.c. 123.

Br. Cam.: Bangwa (Jan.) Conrau 54.

Imperfectly known species.

3. *Garcinia smeathmannii* (Planch. & Triana) Oliv. F.T.A. 1: 168 (1868).

Rheedia smeathmannii Planch. & Triana (1860).

Probably a form of *G. polyantha* (agg.) but as this group requires more thorough revision I have not replaced the well-known name.

S. L.: Smeathmann!

Imperfectly known species.

Garcinia nobilis *Engl.* Bot. Jahrb. 40: 566 (1908).

The specimen (Talbot 1385) cited as this species in F.W.T.A., ed. 1, 1: 236, is *Salacia alata* De Wild. Excluded species.

SCYTOPETALACEAE

Trees; branchlets sometimes winged. Leaves alternate, simple, exstipulate. Flowers hermaphrodite, actinomorphic, in terminal panicles or axillary racemes or fasciculate on the old wood. Calyx cupular, entire or toothed. Petals 3–10, valvate, free or shortly connate. Stamens numerous, in several series on the margin of or on the disk, free or united towards the base; anthers 2-celled, opening by a pore or slit at the side or towards the top. Ovary superior, 3–6-celled; ovules 2 to several in each cell, axile. Fruit woody. Seeds with ruminant or uniform copious endosperm and linear embryo.

A small family confined to tropical West Africa and the Congo region.

Closely allied to Tiliaceae.

- 1 Corolla furrowed in bud, subsequently splitting into 5–14 petals; anthers opening by longitudinal slits:[2](#)
Corolla not furrowed in bud, subsequently splitting into 3–5 petals; anthers opening by apical pores:[3](#)
- 2 Flowers in long, lax, axillary panicles; fruit a 1-seeded, oblong or globose capsule; endosperm uniform[1. *Oubangui*](#)
Flowers in short axillary racemes; fruit a 1-seeded, ovoid-conical drupe; endosperm ruminant ...[2. *Scytopetalum*](#)
- 3 Filaments much shorter than the anthers; fruit a 1-seeded, ellipsoid drupe; endosperm ruminant; flowers in very short axillary racemes[3. *Rhaptopetalum*](#)
Filaments longer than the anthers; fruit a several-seeded capsule; endosperm not ruminant; flowers in fascicles on the main stem and older branches[4. *Brazzeia*](#)

1. OUBANGUIA

Baill. in Bull. Soc. Linn. Paris 2: 869 (1890).

- 1 Branchlets with foliaceous wings, the wings expanded into an obtusely triangular blade beneath each node; leaves oblong-elliptic, subacute at base, obtusely long-caudate-acuminate, 18–25 cm. long, 7–8 cm. broad, slightly undulate on the margin, glabrous; lateral nerves about 8 pairs, very prominent beneath and looped; flowers small, in loose axillary panicles; calyx cupular, 3 mm. long; petals about 6, oblanceolate, about 8–10 mm. long; stamens numerous, connate at base; fruits oblong, glaucous, about 1.5 cm. long[1. *alata*](#)
Branchlets not winged, angular; leaves elliptic, cuneate at base, abruptly long-caudate-acuminate, 8–13 cm. long, 3.5–4.5 cm. broad, glabrous; lateral nerves 5–8 on each side of midrib, only slightly prominent beneath; inflorescence and flowers similar to above; fruits globose, about 1.5 cm. long[2. *laurifolia*](#)

1. *Oubangui* *alata* Bak. f. in Cat. Talb. 15 (1913). *APD acc*

A forest tree, to 60 ft. high; petals pink inside, white outside; anthers “bright aureolin.”

S. Nig.: Obutong Road, Oban Talbot 200! 1513! Orem, Calabar (fr. May) Ejiofo FHI 21892! **Br. Cam.:** Ndian, Kumba (Mar.) Smith Cam. 86/36! Bibundi Mildbr 10649!

2. *Oubangui* *laurifolia* (Pierre) Van Tiegh. in Ann. Sci. Nat. sér. 9, 1: 327 (Apr. 1905); Pierre in De Wild. Miss. Laurent 150 (Oct. 1905). *APD acc*

Egasea laurifolia Pierre in De Wild. Ann. Mus. Congo sér. 5, 1: 31, t. 17 (1903).

A forest tree.

S. Nig.: Oban Talbot 1693!

Also in **Gabon**.

2. SCYTOPETALUM

Pierre ex Engl. in E. & P. Pflanzenfam., Nachtr. 244 (1897).

- 1 Leaves narrowly oblong-elliptic, acutely cuneate at base, long-tailed-acuminate, 4.5–9 cm. long, 2–3.5 cm. broad, papery, with about 5 pairs of rather obscure lateral nerves and less prominent secondary ones; flowers in short axillary racemes; pedicels flattened and twisted, 3 mm. long; petals several, connate below, 5–6 mm.

long; fruits ovoid, acute, 2 cm. long, ribbed [tieghemii](#)

Scytopetalum tieghemii (A. Chev.) Hutch. & Dalz. F.W.T.A. ed. 1, 1: 238 (1927); Kew Bull. 1928: 228; Aubrév. Fl. For. C. Iv. 2: 266, t. 232. *APD acc*

Rhaptopetalum tieghemii A. Chev. Vég. Util. 5: 220 (1909); Chev. Bot. 122.

A forest tree, to 60 ft. high, branchlets “weeping”; sometimes abundant in relatively moist places; flowers white, fragrant when first open in the morning, petals and stamens shrivelling and falling the same evening; fruit red when ripe.

S. L.: Njala (Mar., Apr.) Deighton 1157! 4283! Matotaka (fr. July) Thomas 1269! 1341! Gola Forest (fl. & young fr. Apr.) Small 627! **Lib.:** Dukwia R. (fl. Feb., young fr. June) Cooper 247! 356! Barclayville (young fr. Mar.) Baldwin 11134! Zeahtown, Tchien (fr. Aug.) Baldwin 6982! **iv.C.:** Malamalasso (fr. Mar.) Chev. 16252! Abidjan Aubrév. 94! **G. C.:** Bonsaso, Tarkwa (May) Chipp 209! Tarkwa (Feb.) Thompson 44! Bawdia (fl. & young fr. Apr.) Vigne FH 953! Axim (Feb.) Irvine 2236! Prestea Road, Enchi Dist. (fl. & young fr. Mar.) Andoh FH 5631!

3. RHAPTOPETALUM

Oliv. — F.T.A. 1: 351, under Olacaceae.

- 1 Leaves broadly elliptic, very broadly and obtusely acuminate, 8–12 cm. long, 4–6.5 cm. broad, leathery, with about 5 pairs of opposite or subopposite lateral nerves; flowers in very short axillary racemes; pedicels articulating at the top and persisting; calyx saucer-shaped, 2 mm. long; petals 3, leathery, about 7 mm. long; fruit ellipsoid, 2 cm. long [coriaceum](#)

Rhaptopetalum coriaceum *Oliv.* — F.T.A. 1: 351. *APD acc*

A tree, 30 ft. high; calyx light green; petals pink; anthers yellow.

S. Nig.: Calabar Thomson 40! Ibum-Netim Road, Oban (Apr.) Talbot 562! Babiri, Obudu (May) Latilo FHI 30920! **F. Po:** Mann 1443!

Rhaptopetalum sp.

Tree; flowers not known.

G. C.: Ankobra Junction (fr. Jan.) Kitson 1020! Abra, W. Prov. (fr. Jan.) Akpabla 814!

Imperfectly known species.

4. BRAZZEIA

Baill. in Bull. Soc. Linn. Paris 1: 609 (1886).

- 1 A glabrous shrub; branchlets narrowly winged; leaves obovate-elliptic or elliptic, narrowed to the unequal base, usually with one side more or less cuneate and the other rounded, rather long-acuminate, margin crenate to subentire, 6–17 cm. long, 2.7–6.2 cm. broad, with 4–7 main lateral looping nerves on each side of midrib prominent beneath; fascicles few-flowered; calyx shallowly cupular, subtruncate; corolla ovoid in bud, about 1 cm. long; capsules subglobose, up to 4 cm. long and broad, 4–8-valved; seeds adhering by sticky hairs to form a solid subglobose mass which becomes loose in the capsule [soyauxii](#)

Brazzeia soyauxii (*Oliv.*) Van Tiegh. in Ann. Sci. Nat. sér. 9, 1: 356 (1905). *APD acc*

Rhaptopetalum soyauxii *Oliv.* in Hook. Ic. Pl. t. 1405 (1883).

An erect forest shrub, to 6 ft. high; leaves deep green, glossy; flowers on older wood below leaves and down stem to the base; corolla pinkish-purple; stamens yellow; fruits red.

Br. Cam.: Banga, S. Bakundu F.R. (Mar.) Brenan & Onochie 9479!

Also in **French Cameroons** and **Gabon**.

TILIACEAE

Trees or shrubs, sometimes herbs, often clothed with stellate hairs. Leaves usually alternate, simple; stipules paired or absent. Flowers mostly cymose, actinomorphic, mostly hermaphrodite. Sepals valvate. Petals free or absent, contorted, imbricate or valvate. Stamens usually numerous, free or rarely connate into 5–10 bundles; anthers 2-celled. Ovary syncarpous or very rarely apocarpous, superior, 2–10-celled; style usually simple; ovules on axile placentas. Fruit baccate or drupaceous or variously dehiscent. Seeds sometimes hairy, mostly with copious endosperm and usually straight embryo.

A fairly large family well represented in tropical Africa.

Readily recognised by the stipulate leaves mostly with stellate hairs, valvate calyx, the numerous free stamens, and 2-celled anthers.

- 1 Carpels free, usually 2–5, rarely 1; sepals united into a campanulate 3–5-fid calyx; leaves large, cordate and 7-nerved at the base [1. *Christiana*](#)
- Carpels united, sepals free or nearly so: **2**
- 2 Fruits not prickly: **3**
- Fruits prickly: **7**
- 3 Trees or shrubs; leaves not tailed at the base: **4**
- Herbs; leaves often tailed-setose at the base; ovary 2–5-celled; fruit spindle-shaped [6. *Corchorus*](#)
- 4 Ovary 1–4-celled; fruits entire, or 1–4-lobed, not exceeding 3 cm. long; androgynophore usually present; stamens free [2. *Grewia*](#)
- Ovary 5–10-celled; fruits longitudinally grooved or ridged, exceeding 3 cm. long: **5**
- 5 Anthers short, much shorter than the filaments, without a sterile apical appendage; flowers sometimes enclosed in an involucre of 3 or 4 valvate bracts; fruit ellipsoid, often exceeding 2 cm. diam.: **6**
- Anthers long, as long as or longer than the filaments, with a sterile apical appendage; flowers not in an involucre of bracts; fruit spindle-shaped, 5–7 cm. long, 1–1.5 cm. diam., longitudinally ribbed [5. *Glyphaea*](#)
- 6 Androgynophore present; stamens free; flowers always enclosed in an involucre of bracts; fruit woody, 6–8-ribbed, about 4 cm. long [3. *Duboscia*](#)
- Androgynophore absent; stamens united into a short tube; flowers not always enclosed in an involucre of bracts (*D. subericarpa* and *D. dewevrei*); fruit fibrous, with 5–10 longitudinal grooves, 6–15 cm. long, 3–10 cm. diam. [4. *Desplatsia*](#)
- 7 Anthers short, very much shorter than the filaments; stamens free, not in bundles; herbs or undershrubs: **8**
- Anthers long; stamens united into 4 bundles; petals not glandular at base; sepals apiculate; androgynophore absent; fruits globose, 3–4 cm. diam.; a small tree [9. *Ancistrocarpus*](#)
- 8 Fruits globose or ovoid, up to 1.5 cm. long; petals mostly yellowish, glandular at base; androgynophore present [7. *Triumfetta*](#)
- Fruits cylindrical, 2–6 cm. long; petals purple to pink (or white), not glandular at base; androgynophore absent; outer stamens barren [8. *Clappertonia*](#)

***Berria cordifolia* (Willd.) Burret**

A native of tropical Asia, it has been introduced to several localities.

Schoutenia Korth.

Species of *Schoutenia* have also been introduced.

Elaeocarpus Linn.

Species of *Elaeocarpus* have also been introduced.

1. CHRISTIANA

DC. — F.T.A. 1: 241.

- 1 A tree; leaves broadly ovate, cordate and 7-nerved at the base, acuminate, about 20 cm. long and 15 cm. broad, entire, stellate-tomentellous and prominently nerved beneath; cymes lateral, stalked; bracts linear, deciduous; carpels 1–5, free, obovoid, about 1 cm. long, in fruit splitting into 2 boat-shaped valves, tomentose; seeds marbled [africana](#)

Christiana africana DC. — F.T.A. 1: 241; Chev. Bot. 86; Burret in Notizbl. Bot. Gart. Bert. 9: 611 (1926). Aubrév. Fl. For. C. Iv. 2: 212, t. 209. *APD acc*

Tree, to 40 ft. high, with spreading crown; often by streams, **mainly in the drier parts of the forest regions.**

Sen.: Manpalago, Casamance (fr. Feb.) Chev. 3071! **S. L.:** Kambia (fr. Jan.) Sc. Elliot 4707! Njala (July) Deighton 758! Makene (fr. Mar.) Deighton 3899! Musaia (fr. Sept.) Deighton 4883! Mayoso (Aug.) Thomas 1453! **Iv. C.:** Anoumaba (fr. Nov.) Chev. 22392! Aniasué, Comoé Aubrév. 657! **G. C.:** Atabadi, Elmina (July) Box 2735! Nteinseri (June) McAinsh 911! Jabo, Upper Wassaw F.R. (June) Vigne 964! Bana Hill, Krobo (fr. Jan.) Irvine 1922! **N. Nig.:** Lokoja T. Vogel 200! **S. Nig.:** Awba Hills F.R. (fr. Oct.) Jones FHI 7061! Oban Talbot! **Br. Cam.:** Likomba Mildbr. 10748!

Also in **Shari, A.-E. Sudan, Belgian Congo, Angola** and in eastern tropical S. America.

2. GREWIA

Linn. — F.T.A. 1: 242.

- 1 Flowers in terminal (and sometimes also axillary), several- to many-flowered panicles; ovary not lobed, bilocular; stigma not or scarcely lobed; fruit not lobed:2
- Flowers in axillary or lateral (and rarely terminal), usually few- to several-flowered cymes, or solitary; stigma always lobed:7
- 2 Lower surface of leaves clearly visible between the more or less laxly arranged stellate hairs, or glabrous:3
- Lower surface of leaves completely hidden by the soft felt of hoary indumentum; stipules linear-subulate, early caducous; leaves oblong-elliptic, rounded at base, acutely acuminate, 6–14 cm. long, 2–6 cm. broad; glabrous above; prominently 3-nerved at base, sepals about 5 mm. long; fruits ellipsoid, flattened, about 1.5 cm. long, softly tomentellous [6. malacocarpa](#)
- 3 Leaves glabrous beneath, obovate-elliptic, rounded or slightly cuneate and 3-nerved at base, long-caudate-acuminate, 15–30 cm. long, 6–14 cm. broad; fruits obovoid, shortly beaked, about 3 cm. long, glabrous [1. coriacea](#)
- Leaves stellate-pubescent or pilose beneath, up to 18 cm. long and 7 cm. broad; fruits pubescent:4
- 4 Primary bracts entire or digitately divided to the base:5
- Primary bracts pinnately divided; leaves narrowly oblong-elliptic, gradually acuminate, unequal-sided at base, 12–18 cm. long, 4–5.5 cm. broad, very minutely pubescent beneath and pilose on the midrib and petiole [5. oligoneura](#)
- 5 Primary bracts digitately divided to the base, with linear-filiform segments, persistent; leaves ovate or ovate-elliptic, rounded at base, rather gradually acuminate, 10–15 cm. long, 5–7 cm. broad, sparingly stellate-pubescent beneath; fruits spindle-shaped, acute at both ends, 3–3.5 cm. long, with scattered stellate hairs [2. barombiensis](#)
- Primary bracts entire, or 2-lobed, often early caducous; fruits obovoid, about 2 cm. long, scabrid-pubescent: ...6
- 6 Branchlets, petioles and lower surface of leaves shortly tomentellous with brown scaly hairs, sometimes with a few long white hairs; leaves elliptic, rounded at base, acuminate, 6–12 cm. long, 2.5–5 cm. broad [3. hookerana](#)
- Branchlets, petioles and lower surface of leaves rather densely clothed with long white hairs; leaves oblong-elliptic, rounded at base, rather long-acuminate, 8–14 cm. long, 4–7 cm. broad [4. brunnea](#)
- 7 Flowers 2 or more together:8
- Flowers solitary; leaves broadly ovate, acute at apex, rounded at base, dentate, 2–4 cm. long, up to 4 cm. broad, strongly 5-nerved at base, laxly stellate-pubescent beneath; pedicels stellate-tomentose; sepals linear-lanceolate, 1.5 cm. long; fruits 3–4-lobed, glabrous [17. tenax](#)
- 8 Leaves digitately 5–7-nerved and more or less cordate at base, very broadly ovate or reniform-orbicular, mostly as broad or nearly as broad as long:9
- Leaves 3-nerved and at the most rounded (or rarely subcordate) at base, ovate to elliptic or lanceolate, usually much longer than broad: 11
- 9 Cymes leaf-opposed; common peduncle solitary and shorter than the petiole, more or less branched above: ... 10
- Cymes axillary; common peduncles usually 2–3 in each leaf axil, longer than the petiole; leaves very broadly ovate to suborbicular, serrate, up to 13 cm. long and broad, softly tomentose on both surfaces; stipules narrowly lanceolate, about 1 cm. long; cymes 3–6-flowered; buds softly tomentose; fruits 1–3-lobed, shortly tomentose and pilose [9. barteri](#)
- 10 Pedicels slender, about 1.5 cm. long; stipules linear or filiform, 1 cm. long; leaves broadly ovate-elliptic, serrulate, up to 15 cm. long and 11 cm. broad, almost scabrid above, softly tomentose beneath; cymes with

- numerous flowers; buds bristly-tomentose; fruits with 3–4 almost free carpels, tuberculate [7. *cissoides*](#)
- Pedicels very short and stout; stipules broadly oblanceolate; leaves reniform or suborbicular, up to 12 cm. broad, denticulate and often lobulate; tertiary nerves parallel and conspicuous; flowers few and crowded; buds densely villous; fruits depressed-globose, scarcely lobed, tuberculate and pilose [8. *villosa*](#)
- 11** Lower surface of leaves completely hidden by the soft felt of hoary indumentum: **12**
- Lower surface of the leaves clearly visible between the more or less laxly arranged stellate hairs: **13**
- 12** Leaves distinctly dentate, with prominent lateral nerves on the lower surface; tertiary nerves numerous, parallel, distinct; blade oblong-lanceolate or oblong-elliptic, sometimes oblique at base, 5–10 cm. long, 2–5 cm. broad, with very minute stellate hairs on the upper surface; sepals nearly 1 cm. long [10. *mollis*](#)
- Leaves minutely crenate, with very obscure lateral nerves beneath; tertiary nerves scarcely visible; blade broadly lanceolate, very obtuse or slightly acuminate, 2–5 cm. long, 1–2 cm. broad, glabrous or nearly so above; sepals up to 8 mm. long [11. *bicolor*](#)
- 13** Sepals at length 2.5 cm. long; petals pale pinkish or white; peduncle 2–3 cm. long, pedicels 1–2 cm. long; fruits deeply 4-lobed, pilose in the grooves; stem, petioles, undersurface of leaves, inflorescence and outside of sepals rather long-pilose; leaves lanceolate-elliptic, rounded to cuneate at base, gradually acuminate, 8–17 cm. long, 2.5–8 cm. broad, denticulate, especially towards the base [12. *pubescens*](#)
- Sepals up to 1.8 cm. long; petals yellow to reddish-brown; peduncle up to 1 cm. long, pedicels up to 1 cm. long: **14**
- 14** Ovary stipitate above the glandular torus; fruit entire, with both long and short pubescence; leaves oblong-elliptic, rounded at both ends, 2.5–10 cm. long, 1.5–5.5 cm. broad, slightly stellate-pubescent above, shortly so beneath, closely serrate; peduncle 3–4 mm. long, pedicels 4–7 mm. long; sepals 8–12 mm. long [13. *lasiodiscus*](#)
- Ovary sessile above the glandular torus: **15**
- 15** Fruits not lobed (rarely obscurely 2-lobed), 8–12 mm. diam., scabrid-pubescent; flower-buds elongate, slightly constricted above the broad base, shortly stellate-pubescent; leaves oblong-ovate to oblong-obovate, 5–14 cm. long, 2.5–6.5 cm. broad, very laxly and minutely pubescent beneath [14. *carpinifolia*](#)
- Fruits 2–4-lobed (rarely some not lobed); flower-buds densely bristly tomentose: **16**
- 16** Fruits scabrid-pubescent, not deeply lobed; flower-buds elongate [115. *flavescens*](#)
- Fruits glabrous, deeply lobed; flower-buds globose [16. *megalocarpa*](#)

1. *Grewia coriacea* Mast. in F.T.A. 1: 252 (1868); Burret in Engl. Bot. Jahrb. 45: 162. *APD acc*

Microcos coriacea (Mast.) Burret in Notizbl. Bot. Gart. Berl. 9: 759 (1926).

Shrub or small tree in **understorey of rain forest**, to 50 ft. high; larger trees with stilt roots; sepals pink, petals yellow; fruits purplish when ripe; **sometimes in swamp forest**.

S. Nig.: Shasha F.R. (Feb.) Richards 3155! Okomu F.R. (Jan.) A. F. Ross 239! Sapoba (June–Nov.) Kennedy 363! Meikle 608! Oban Talbot 1660! **Br. Cam.:** Likomba Mildbr. 10608! S. Bakundu F.R. Ejiofor FHI 14065!

Also in **French Cameroons, Gabon, Spanish Guinea, Belgian Congo** and **Angola**.

2. *Grewia barombiensis* K. Schum. in Engl. Bot. Jahrb. 15: 124 (1892); Chev. Bot. 86. *APD acc*

Grewia africana of Burret in Engl. Bot. Jahrb. 45: 165, partly, not of (Hook. f.) Mast.

A shrub, up to 25 ft., sometimes scrambling; flowers white.

iv. C.: fide Chev. l.c. **S. Nig.:** Ajilite Millen 171! Cross River North F.R. (June) Latilo FHI 31848! Degema Talbot 3613! 3793! Oban Talbot 1270! **Br. Cam.:** Barombi Preuss 385!

Also in **French Cameroons, Gabon** and **Angola**.

3. *Grewia hookerana* Exell & Mendonça in Consp. Fl. Angol. 1: 215 (1951), *APD acc*

Omphacarpus africanus Hook. f. (1849).

Grewia africana (Hook. f.) Mast. in F.T.A. 1: 253 (1868), partly, not of Mill. (1768); Burret l.c. 165, partly; F.W.T.A., ed. 1, 1: 245, partly (excl. syn. *G. brunnea* K. Schum.).

Microcos africana (Hook. f.) Burret in Notizbl. Bot. Gart. Berl. 9: 760 (1926).

A shrub, to 20 ft. high, often scandent; flowers white inside, brown outside; fruits red or russet.

S. L.: Don! Njama, Kowa (May) Deighton 5764! Mabonto (fr. Oct.) Thomas 3549! **Lib.:** Du R. (fr. Aug.) Linder 249! Gbanga (fr. Sept.) Linder 735! **G. C.:** Kumasi (fl. May, fr. Dec.) Vigne FH 1717! Andoh FH 5158! Agogo (Apr.) Bally FH 4979! **S. Nig.:** Akilla (fr. Jan.) Onochie FHI 20675!

4. *Grewia brunnea* *K. Schum.* in Engl. Bot. Jahrb. 33: 301 (1903). *APD acc*

Grewia africana of Burret in Engl. Bot. Jahrb. 45: 165, partly; F.W.T.A., ed. 1, 1: 245, partly.
Microcos iodocarpa Burret in Notizbl. Bot. Gart. Berl. 9: 761 (1926).

Scandent shrub, to 30 ft. high; flowers pinkish-brown, petals with white edges.

Lib.: Dukwia R. (Apr.) Cooper 407! **Togo:** Misahöhe (fr. Nov.) Mildbr. 7290! **S. Nig.:** Lagos Batten-Poole 22! R. Ogbesse, Ondo (May) Jones FHI 3591!

Also in **French Cameroons**.

5. *Grewia oligoneura* *Sprague* in Kew Bull. 1909: 22; Burret in Engl. Bot. Jahrb. 45: 165. *APD acc*

Microcos oligoneura (*Sprague*) Burret in Notizbl. Bot. Gart. Berl. 9: 763 (1926).

A tree, up to 30 ft.

S. Nig.: Oban Talbot 1460! **F. Po:** Mann 210!

Also in **French Cameroons** and **A.-E. Sudan**.

6. *Grewia malacocarpa* *Mast.* in F.T.A. 1: 253 (1868); Burret in Engl. Bot. Jahrb. 45: 163. *APD acc*

Grewia schlechteri *K. Schum.* (1901).

Grewia dependens *K. Schum.* (1903).

Microcos malacocarpa (*Mast.*) Burret in Notizbl. Bot. Gart. Berl. 9: 760 (1926).

Scandent shrub or liane, in **forest regions**; sepals pinkish-grey, petals orange; fruits grey-green; leaves almost white beneath.

S. L.: Bagroo R. (Apr.) Mann 820! Kahreni, Limba (Apr.) Sc. Elliot 5582! Kongohun (Apr.) Deighton 3677! Roruks (fr. July) Deighton 2509! Gola Forest (fr. May) Small 685! **Lib.:** Kakatown Whyte! Sinoe Whyte! Suen (Nov.) Linder 1400! **G. C.:** S. Fomang Su F.R. (Oct.) Andoh FH 4247! Bou, Axim Vigne FH 1466! Abra (fr. Jan.) Akpabla 809! **Togo:** Day R., Cwegbe Baumann 441! **N. Nig.:** Lokoja Barter 447! **S. Nig.:** Ishagama to Ibadan Schlechter 12316! Ibadan South F.R. (Apr.) Keay FHI 22831! Oban Talbot 1743! **Br. Cam.:** Victoria Winkler 22a. Mbo Ledermann 1504. **F. Po:** San Carlos Mildbr. 6841. Bokoko Mildbr. 6931.

Also in **French Cameroons**.

7. *Grewia cissoïdes* *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 244 (1927); Kew Bull. 1928: 229; Aubrév. Fl. For. Soud.-Guin. 154, t. 25, 5. *APD acc*

Grewia herbacea of Burret in Engl. Bot. Jahrb. 45: 176, partly; Chev. Bot. 87.

Grewia venusta of F.T.A. 1: 249, partly.

A tomentose, **savannah** shrub (or subherbaceous after burning) with wrinkled leaves and yellow flowers.

Sen.: Dienoundiella Berhaut 1816; 4166. **Fr. Sud.:** near Bama (June) Chev. 941. **G. C.:** Bambisi (May) Kitson! Kayoro (June) Vigne 4713! Wa (Dec.) Adams GC 4475! **Dah.:** Djougou (May) Chev. 23851! **N. Nig.:** Nupe Barter 1662! 3438! Alagbede F.R., Ilorin (Feb.) Ejiofor FHI 19818! Kontagora (Jan.) Dalz. 108! Yola (Apr.) Dalz. 54!

8. *Grewia villosa* *Wild.* — F.T.A. 1: 249; Burret in Engl. Bot. Jahrb. 45: 198; Burret in Notizbl. Bot. Gart. Berl. 9: 721; Aubrév. l.c. 154, t. 25, 5; Ic. Pl. Afr. t. 5. *APD acc*

A coarse-leaved shrub of the **drier savannah regions, often on rocky hills**; 10–15 ft. high; flowers reddish-brown.

Sen.: Roger! Cape Verde (Mar.) Perrottet 118! Dakar (Jan.) Hagerup 777! **Fr. Sud.:** Gao De Wailly 4762. Sumpi (Aug.) Chev. 3085. **iv. C.:** Kaya Aubrév. 2176. Yako Aubrév. 2751. **G. C.:** Cape Coast Brass! Accra Brown 415! Prampram (Dec.) Robertson 41! **N. Nig.:** Kwarre, Sokoto (June) Keay FHI 7561! Yola (fl. & fr. June) Dalz. 53!

Throughout the drier parts of tropical Africa and in **Arabia** and **India**.

9. *Grewia barteri* *Burret* in Engl. Bot. Jahrb. 45: 186 (1910); Aubrév. l.c. 154, t. 25, 7. *APD acc*

Grewia asiatica of F.T.A. 1: 248, partly.

A **savannah** shrub, erect, up to 10–12 ft., or more or less scrambling, with stout densely yellow-tomentose branches; petals bright yellow turning orange.

Fr. Sud.: Birgo, Arbala Dubois 69. **G. C.:** Mojonoiri, Bawku (May) Vigne FH 4503! Nangodi (Feb.) Vigne FH 4728! Zuarungu (July) C. J. Taylor FH 5356! **Togo:** Sokode-Basari Kersting A 318. **Dah.:** Kandi De Gironcourt 125. **N. Nig.:** Nupe Barter 1721! Zungeru (Aug.) Elliott 8! Jebba (fr. Apr.) Meikle 1386! Kontagora (Feb.) Dalz. 110! Gwari Hill, Minna (Dec.) Meikle 692! Auchang (Feb.) Barter 344! Bauchi (July) Kennedy FHI 7277! Sherifuri (Apr.) Thornewill 155!

Also in **French Cameroons**.

10. **Grewia mollis** Juss. — F.T.A. 1: 248; Burret in Engl. Bot. Jahrb. 45: 174; Aubrév. l.c. 154, t. 25, 4. *APD acc*

A shrub or small tree, up to 20 ft. high, in **savannah**; leaves pale greenish-white beneath; flowers yellow; fruits black when ripe; very variable.

Sen.: Tambacounda Berhaut 1294. **Fr. Sud.:** Faragaran (Mar.) Chev. 668! **Fr. G.:** Kouroussa (July) Pobéguin 224! **S. L.:** Falaba (Mar.) Sc. Elliot 5163! **IV. C.:** various localities fide Aubrév. l.c. **G. C.:** Krepi Plains (Jan.) Johnson 536! Kintampo (Mar.) Dalz. 30! Kwahu Tafo (May) Kitson 1147! Tamale (Apr.) Williams 123! **Togo:** Kusuntu to Palime Baumann 466! Sokode-Basari Kersting A. 581! Yendi (Apr.) Vigne FH 1705! **Dah.:** Savalou Aubrév. 44-D. Birni Aubrév. 93-D. **N. Nig.:** Sokoto (May) Lely 831! Zamfara F.R. (fl. & fr. Apr.) Keay FHI 18014! Zaria (June) Keay FHI 25894! 25895! Kontagora (Jan.–Feb.) Dalz. 109! Meikle 1082! Nupe Barter 1097! Bauchi Plateau (Mar.) Lely P. 175! Mbakon F.R., Tiv (Feb.) Jones FHI 6292! **S. Nig.:** Old Oyo F.R. (Feb.) Keay FHI 16011!

Widespread in tropical Africa.

11. **Grewia bicolor** Juss. in Ann. Mus. Paris 4: 90, t. 50, fig. 2 (1804); Burret l.c. 45: 176; Aubrév. l.c. 154, t. 25, 3. *APD acc*

Grewia salvifolia Heyne ex Roth (1821) — F.T.A. 1: 247; not of Linn. f. (1781).

A shrub or tree, up to 40 ft. high, in the **drier savannahs**; leaves almost white beneath; flowers yellow.

Sen.: Roger! Sieber! Heudelot! Kouma (Oct.) Perrottet 116! **Fr. Sud.:** Gassa to Tacadji (Aug.) Chev. 3088! **IV. C.:** Kaya Aubrév. 2180. **Dah.:** Abomey Chev. 23143. **N. Nig.:** Nupe Barter! Mamu (May) Lely 161! Daddara F.R., Katsina (May) Onwudinjoh FHI 22371!

Widespread in the drier parts of tropical Africa, and in **Arabia** and **India**.

12. **Grewia pubescens** P. Beauv. Fl. Oware 2: 76, t. 108 (1819); F.T.A. 1: 250; Burret in Engl. Bot. Jahrb. 45: 187; Aubrév. l.c. 154, t. 26, 1–2. *APD acc*

Grewia tetragastis R. Br. ex Mast. in F.T.A. 1: 252; Chev. Bot. 88.

Grewia gigantiflora K. Schum. (1903).

Shrub or small tree, more or less scandent, to 30 ft. high; flowers fairly large, pale pinkish or white; fruits 4-lobed, pilose.

Fr. G.: Kindia Pobéguin 1300. Timbo Macclaud 268. **S. L.:** Binkolo (Aug.) Thomas 1783! Musaia (fr. Dec.) Deighton 4546! Yetaya (Sept.) Thomas 2455! Bumban (Aug.) Deighton 1228! **Lib.:** Bonuta (Oct.) Linder 871! Sanokwele (Sept.) Baldwin 9530! Soplina, Vonjama (fr. Nov.) Baldwin 10068! **IV. C.:** Toumodi (Aug.) Chev. 22397! **G. C.:** Cape Coast Brass! Sekondi (Oct.) Howes 976! Nsawam (Feb.) Dalz. 102! Kumasi (Sept., Oct.) Vigne 1335! Darko 348! **Togo:** Lome Warnecke 469! Misahöhe (Nov.) Mildbr. 7257! **Dah.:** Adja Oumé Le Testu 58! **S. Nig.:** Agege, Lagos Millen 1! Abeokuta Irving! Ibadan (fl. Sept., fr. Jan.) Newberry 77! Meikle 957! Degema Talbot 3754! Oban Talbot 142! 1345!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon** and **Angola**.

13. **Grewia lasiodiscus** K. Schum. in Notizbl. Bot. Gart. Berl. 3: 100 (1901); Aubrév. l.c. 154, t. 26, 4–5. *APD acc*

Vinticina lasiodiscus (K. Schum.) Burret in Notizbl. Bot. Gart. Berl. 12: 715 (1935).

Grewia kerstingii Burret in Engl. Bot. Jahrb. 45: 172 (1910); Chev. Bot. 87; F.W.T.A., ed. 1, 1: 245.

Vinticina kerstingii (Burret) Burret in Notizbl. Bot. Gart. Berl. 12: 715 (1935).

Savannah shrub; flowers yellow.

Sen.: Leprieur. Bakel Perrottet 119! **Gam.:** Park! D. H. Sounders 47! Genieri (July) Fox 116! 171! **Fr. Sud.:** Darabougou (Apr.) Chev. 726! Bamako (Apr.) Hagerup 19! **Port. G.:** Bafatá (June) Esp. Santo 2394! **Fr. G.:** Sulemania, Farana (Mar.)

Sc. Elliot 5277! Kouroussa (Mar.) Pobéguin 184! Timbo Pobéguin 1587! **IV. C.:** Ouangolo Aubrév. 1406. Boromo Aubrév. 2178. **G. C.:** Navere to Delmizen (Apr.) Kitson 536! Cherepong, Wa (fl. & fr. Mar.) Kitson 802! Laura-Tumu Dist. (Mar.) Kitson 813! **Togo:** Jakuga Tamberma (ft. & fr. Apr.) Kersting A. 582! **N. Nig.:** Bida (Apr.) Keay FHI 25719! Mokwa (Apr.) Keay FHI 25714! Anara F.R. (May) Keay FHI 22993!

14. **Grewia carpinifolia** *Juss.* — F.T.A. 1: 247; Burret in Engl. Bot. Jahrb. 45: 167, incl. var. *rowlandii* Burret; Aubrév. l.c. 154, t. 26, 3. *APD acc*

Vinticina carpinifolia (*Juss.*) Burret in Notizbl. Bot. Gart. Berl. 12: 715 (1935).

Scrambling shrub to 15 ft. high; sepals pale yellow-green petals and stamens, golden-yellow; flowers sweet-scented; fruits yellow.

S. L.: Afzelius. **IV. C.:** Toumodi Pobéguin 265. **G. C.:** Cape Coast (July) Brass! Don! T. Vogel 67! Princetown (fl. & fr. Apr.) Chipp 172! Accra (fl. & fr. Feb.–Aug.) Moloney! Dalz. 61! Irvine 20! Aburi (fl. & fr. Mar., June) Brown 395! Johnson 900! Kumasi (Apr.) Vigne 1097! Kwahu Hills (Apr.) Johnson 909! **Togo:** Lome Warnecke 34! 374! Mildbr. 7480! **Dah.:** Adja Oumé Le Testu 285! Cotonou (Mar.) Debeaux 351! **S. Nig.:** Lagos (Mar.) Millen 44! Foster 36! Ibadan (Apr.) Meikle 1471! Ibadan North F.R. (May) Keay FHI 16207! Oshogbo (Apr.) Millson!

Also in **Belgian Congo**, **Angola** and **S. Tomé**.

15. **Grewia flavescens** *Juss.* in Ann. Mus. Paris 4: 91 (1804); Burret in Engl. Bot. Jahrb. 45: 168; Aubrév. l.c. 154, t. 26, 6–7. *APD acc*

APD: Synonym of Grewia retinervis Burret

Vinticina flavescens (*Juss.*) Burret in Notizbl. Bot. Gart. Berl. 12: 715(1935).

Grewia pilosa of F.T.A. 1: 250, partly.

Grewia guazumifolia of Chev. Bot. 87.

A **savannah** shrub; flowers yellow; ripe fruits brown.

Sen.: Cape Verde Perrottet 120! Bakel Heudelot 283! **Fr. Sud.:** Gourma (July) Chev. 24376! **IV. C.:** Kaya Aubrév. 2177. **Fr. Nig.:** Niamey De Wailly 4920. **N. Nig.:** Sokoto (fr. Oct.) Dalz. 419! Katagum (fl. & fr. Sept.) Dalz. 84! Damaturu (fr. Oct.) Daggash FHI 22013! Mandara (Aug.) E. Vogel 23!

Widespread in the drier parts of tropical Africa and in **India**.

16. **Grewia megalocarpa** *Juss.* l.c. 4: 91 (1804); P. Beauv. Fl. Oware 2: 69, t. 102 (1818); F.T.A. 1: 245, partly (Beauvois spec.). *APD acc*

Grewia ferruginea of F.T.A. 1: 251, partly (Brass spec.).

Scandent shrub; sepals green outside, white within; petals greenish-yellow.

G. C.: Cape Coast (Apr.) Brass! Scholes 286! Achimota (fl. & fr. May, fr. July) Milne-Redhead 5093! Irvine 678!

[I suggest that Beauvois' specimen, a photograph of which I have seen, came from what is now the Gold Coast, and not from Oware. The species appears to be peculiar to the coastal scrub of the Cape Coast to Accra region. — R.W.J.K.]

17. **Grewia tenax** (*Forsk.*) *Fiori* in Agric. Colon. 5, Suppl. 23 (1912); Burret in Notizbl. Bot. Gart. Berl. 9: 689; Aubrév. l.c. 151, t. 25, 1–2.

APD: Synonym of Grewia picta Baill.

Chadara tenax *Forsk.* (1775).

Grewia chadara *Lam.* (1789).

Grewia populifolia *Vahl* (1790) — Burret in Engl. Bot. Jahrb. 45: 192; Chev. Bot. 88; Ic. Pl. Afr. 27.

Grewia betulaeifolia *Juss.* (1804) — F.T.A. 1: 246; F.W.T.A., ed 1, 1: 245.

Shrub, to 10 ft. high, in the **driest savannahs**; flowers white; fruits reddish.

Sen.: Sieber! Richard Tol (fl. Jan., fr. Sept.) Roger! Perrottet 117! Walo Heudelot! **Fr. Sud.:** Gao (fl. & fr. Sept.) Hagerup 366! **Fr. Nig.:** Niamey (Oct.) Hagerup 552!

From Mauritania throughout the drier parts of northern Africa to **Arabia**, Persia and India.

3. DUBOSCIA

Bocq. — F.T.A. 1: 265.

- 1 Involucre composed of 3 valvate bracts enclosing 3 flowers; leaves obliquely ovate or ovate-oblong, rounded or cordate at base, acutely acuminate, 8–16 cm. long, 4–8 cm. broad, denticulate, prominently 3-nerved at base, softly stellate-pubescent with a closer felt beneath; stipules early deciduous, subulate-lanceolate; inflorescence leaf-opposed; peduncle stout, 3–5 cm. long; fruits woody, 8-ribbed, ellipsoid-globose, 4 cm. long, tomentose [1. macrocarpa](#)

Involucre composed of 4 valvate bracts enclosing 2 flowers; leaves ovate or ovate-lanceolate, cordate at base, acutely acuminate, 8–17 cm. long, 3–5–7 cm. broad, denticulate, 3-nerved at base, hairy as above; stipules at length deciduous, linear-lanceolate, 1 cm. long; inflorescence as above but peduncle more slender and longer; fruits woody, 6–7-ribbed, 4 cm. long, tomentellous. [2. viridiflora](#)

1. *Duboscia macrocarpa* Bocq. — F.T.A. 1: 266; Burret in Notizbl. Bot. Gart. Berl. 9: 817. *APD acc*

A forest tree, to 30 ft. high; bracts pale green, petals pink with brown hairs.

S. Nig.: Oban (Jan.) Talbot 1293! Afi River F.R., Ikom (Dec.) Keay FHI 28256!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea** and **Cabinda**.

[Chev. 22618 cited as this species in Chev. Bot. 89 is *Desplatsia dewevrei* (De Wild. & Th. Dur.) Burret (q.v.). The sterile specimen Chev. 22583 cited as this species in F.W.T.A., ed. 1, 1: 243 is probably also a *Desplatsia*.]

2. *Duboscia viridiflora* (K. Schum.) Mildbr. in Wiss. Ergebn. 1910–11, 2: 59 (1922); Burret l.c. 818; Hutch. & Dalz. in Kew Bull. 1928: 229; Aubrév. Fl. For. C. Iv. 2: 218, t. 212, 3–8. *APD acc*

Diplantheum viridiflorum K. Schum. (1897).

A forest tree, to 85 ft. high, with fluted bole and narrow buttresses; flowers greenish-white.

IV. C.: fide Aubrév. l.c. **G. C.:** Ofin Headwaters F.R. (Nov.) Vigne FH 3419! Damang Akpabla 928! **S. Nig.:** Sapoba Kennedy 2326! Oban Talbot 1729! Cross River North F.R. (June) Latilo FHI 31824! **Br. Cam.:** Buea (Mar.) Maitland 584! Victoria (Feb.) Winkler 1089. Mombo, S. Bakossi (fr. May) Olorunfemi FHI 30569!

Also in **French Cameroons** and **Belgian Congo**.

4. DESPLATSIA

Bocq. — F.T.A. 1: 266; Burret in Notizbl. Bot. Gart. Berl. 9: 818 (1926).

- 1 Bracts suborbicular, about 1 cm. long, forming an involucre which encloses the flowers in bud; inflorescence, bracts and outside of flowers densely villous; stem and petioles densely rusty villous; stipules deeply divided into linear, ciliate lobes, 5–15 mm. long; leaves oblong-oblong-elliptic, rather oblique, truncate to subcordate or sometimes obtuse at base, acuminate at apex, 15–35 cm. long, 5–13 cm. broad, irregularly and rather sharply toothed on the margin, long-stellate-pubescent beneath and on midrib above; fruit suborbicular, to about 10 cm. long and 8–9 cm. broad, 5–6-celled and rather obscurely longitudinally grooved [1. chrysochlamys](#)

Bracts linear or ovate-lanceolate, up to 5 mm. long, not forming an involucre, flowers not enclosed in bud; stem and petioles shortly pilose or pubescent: [2](#)

- 2 Bracts, bracteoles and lobes of stipules linear, ciliate; outside of flowers densely velutinous; leaves cordate on each side at base, oblong-ovate to oblong-obovate, acutely long-acuminate, 10–16 cm. long, 3–6 cm. broad, irregularly and rather sharply toothed on the margin, sparingly stellate-pubescent on nerves and veins beneath and on midrib above; fruit oblong-ellipsoid, 6–10 cm. long, 5–6-celled, longitudinally grooved [2. subericarpa](#)

Bracts, bracteoles and lobes of stipules ovate-lanceolate, puberulous; outside of flowers densely tomentose; leaves unequal-sided at base, rounded to subcordate on one side, obtuse to rounded on the other, oblong-elliptic, long-acuminate, 12–25 cm. long, 4–9 cm. broad, coarsely and irregularly toothed in the upper part, sparingly stellate-pubescent on nerves and veins beneath, glabrous on midrib above; fruit oblong-ellipsoid, 10–15 cm. long, 8–10 cm. broad, 6–10-celled, longitudinally grooved [3. dewevrei](#)

1. *Desplatsia chrysochlamys* (Mildbr. & Burret) Mildbr. & Burret in Notizbl. Bot. Gart. Berl. 9: 819 (1926). *APD acc*

Ledermannia chrysochlamys Mildbr. & Burret in Mildbr. Wiss. Ergebn. 1907–8, 2: 497 (1912); Aubrév. Fl. For. C. Iv. 2: 216, t. 211.
Pleianthemum macrophyllum K. Schum. ex A. Chev. Bot. 92, name only.

Forest tree or shrub, to 20 ft. high; flowers pinkish.

S. L.: Levuma, Koya (fr. Dec.) Deighton 3850! **Lib.:** (fl. Aug., fr. Nov.) Harley 995! Gbanga (Sept.) Linder 781! Diebla, Webo Dist. (July) Baldwin 6367! **Iv. C.:** San Pedro Thoiré! Abidjan Chev. 15441! Banco Martineau 307! RassoAubrév. 155! **G. C.:** Achimkrom, Prestea (July) Vigne FH 1260! Anibil Andoh FH 3252! Subiri F.R., Benso (Sept.) Andoh FH 5569! Sefwi Bekwai (young fr. Oct.) Akpabla 890! **Br. Cam.:** Mopanya Kalbreyer 107! Bulifambo, Buea (Mar.) Maitland 562!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**.

2. *Desplatsia subericarpa* Bocq. — F.T.A. 1: 266; Chev. Bot. 88; Burret l.c. 9: 821; Aubrév. l.c. 220, t. 213, 1–3. *APD acc*

Understorey tree, to 30 ft. high, or shrub; flowers pink.

S. L.: Mabonto (Oct.) Thomas 3525! **Iv. C.:** Bouroukrou (fl. & fr. Jan., Dec.) Chev. 16697! 16837. Tai Aubrév. 1217. **G. C.:** Kwahu Prasu (fl. & fr. Feb.) Vigne FH 1599! Tafo (fl. Sept.–Nov., fr. Nov.) Darko 149! Lovi WH 3844! Bobiri F.R. (Jan.) Andoh FH 5457! **S. Nig.:** Shasha F.R. (Feb.) Jones & Onochie FHI 15373! Sapoba (Nov.–Jan.) FHI 1259! Kennedy 2349! Afi River F.R. (Dec.) Keay FHI 28254! Oban Talbot 1430!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Cabinda**.

3. *Desplatsia dewevrei* (De Wild. & Th. Dur.) Burret in Mildbr. Wiss. Ergebn. 1907–8, 2: 496 (1912); Engl. Pflanzenw. Afr. 3, 2: 354, t. 171; Burret in Notizbl. Bot. Gart. Berl. 9: 821; Aubrév. l.c. 220, t. 213, 4–5. *APD acc*

Grewiopsis dewevrei De Wild. & Th. Dur. (1899).

Duboscia acuminata A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 139 (1912); Chev. Bot. 89, partly.

Duboscia macrocarpa of Chev. Bot. 89, not of Bocq.

Desplatsia lutea A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 240 (1927); Kew Bull. 1928: 229; Chev. Bot. 88, name only.

Understorey tree, to 45 ft. high, with wide spreading crown; flowers white or yellow; fruits greenish-yellow.

Iv. C.: Dyola country (Apr.) Chev. 21323! Zaranou (young fr. Mar.) Chev. 16272! Ebrinahoué to Diangobo (Dec.) Chev. 22618! Man Aubrév. 959! **G. C.:** Tafo (Nov.) Brewu WH 6831! Atroni (Aug.) Vigne FH 2469! Owabi (Dec.) Lyon FH 2622! **S. Nig.:** Ibadan F.R. (Mar., Nov.) Punch 50! Akure F.R. (fl. & fr. Oct., Nov.) Keay FHI 25494! 25532! Sapoba (fr. Nov.) A. F. Ross 233! Kennedy 1649! 1861! Ikom Catterall 71! Degema Talbot 3637! **Br. Cam.:** Victoria (Nov.) Maitland 797! Johann-Albrechtshöhe (Jan.) Staudt 570!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**.

5. GLYPHAEA

Hook. f. ex Planch. — F.T.A. 1: 267.

- 1 A tree; branchlets stellate-puberulous, at length glabrous; leaves oblong or oblong-obovate, rounded and 3-nerved at base, caudate-acuminate, denticulate or subentire, nearly glabrous, 7–16 cm. long, 2.5–9 cm. broad, thin; stipules subulate, small, deciduous; flowers yellow, few in terminal or leaf-opposed inflorescences; pedicels up to 1.5 cm. long; sepals oblong, 1.5–1.75 cm. long, stellate-tomentellous; petals slightly shorter than the sepals; fruits spindle-shaped, beaked, longitudinally ribbed, 5–6 cm. long [brevis](#)

Glyphaea brevis (Spreng.) Monachino in Phytolog. 2: 484 (1948). *APD acc*

Capparis brevis Spreng. (1807).

Grewia lateriflora G. Don (1831).

Glyphaea grewioides Hook. f. ex Planch. (1848); Chev. Bot. 92.

Glyphaea lateriflora (G. Don) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 239 (1927); Kew Bull. 1928: 229; Aubrév. Fl. For. C. Iv. 2: 216.

Mainly in **regrowth forest**.

Port. G.: Bissau Esp. Santo 1892! **Fr. G.:** Heudelot 862! Kaba to Haut-Mamou (Apr.) Chev. 12755. **S. L.:** Don! T. Vogel 101! Sherbro Sc. Elliot 5766! Kahreni, Limba (Apr.) Sc. Elliot 5579! Njala (May, Aug.) Deighton 636! 1835! Binkolo (Aug.) Thomas 1858! **Lib.:** Kakatown Whyte! Ganta (fl. Apr., fr. Sept.) Harley! Baldwin 9286! Sodu (Jan.) Bequaert 50!

Iv. C.: San Pedro Thoiré! Soumié Aubrév. 447! **G. C.:** Abetifl, Kwahu (fl. & young fr. June) Thompson 82! Aburi Hills (Nov.) Johnson 281! Kumasi (Mar.) Chipp 142! Nkoranza (fl. & fr. Apr.) Dalz. 3! **Togo:** Baumann 574! **N. Nig.:** Gurara R. (July) Elliott 178! Sanga River F.R. (fl. & young fr. Nov.) Keay FHI 21046! **S. Nig.:** Lagos (Apr.) Moloney! Dalz. 926! Abeokuta Irving 97! Benin Unwin 46! Dennett 81! Oban Talbot 433! **Br. Cam.:** Buea (fl. & fr. Mar.) Maitland 578! Tiko (Jan.) Dunlap 183! 301! Johann-Albrechtshöhe Staudt 500! 540! Fonfuka, Bamenda (fl. & fr. May) Maitland 1374! **F. Po:** T. Vogel 119! Mann 18!

Widespread in tropical Africa.

6. CORCHORUS

Linn. — F.T.A. 1: 261.

- 1 Leaf-blade 0.5–2 cm. long, elliptic or obovate-elliptic, about as long as or shorter than the petiole, without basal hair-like auricles; prostrate woody perennial in dry regions; branches tortuous; flowers solitary or paired; fruits beaked, breaking into 4 valves, about 2 cm. long, subsessile [1. *depressus*](#)
 Leaf-blade much longer than the petiole; annuals or rarely perennials: **2**
- 2 Leaves without basal hair-like auricles, up to 10 cm. long, 0.5–1.5 cm. broad; fruits shortly beaked, about 1–1.5 cm. long, fasciculate; valves not septate within [2. *fascicularis*](#)
 Leaves usually with basal hair-like auricles: **3**
- 3 Capsule with 3 divergent beaks at the apex, the valves not or indistinctly transversely ridged inside: **4**
 Capsule with an entire beak, the valves with distinct transverse ridges inside: **5**
- 4 Leaves ovate or ovate-lanceolate, 3–6 cm. long, 2–3 cm. broad; pods acutely winged, 1.5–2.5 cm. long, fairly stout [3. *aestuans*](#)
 Leaves lanceolate or linear-lanceolate, 3–9 cm. long, 1–1.5 cm. broad; pods faintly ridged, slender, 2.5–3.5 cm. long [4. *tridens*](#)
- 5 Capsule usually 5-valved, stout, 3–6 cm. long, rather abruptly narrowed to the apex; leaves lanceolate or ovate-lanceolate, up to 20 cm. long and 7 cm. broad [5. *olitorius*](#)
 Capsule usually 3-valved, slender, 3–6 cm. long, gradually narrowed to the apex; leaves elliptic to oblong-lanceolate, 4–8 cm. long, 1–1.5 cm. broad [6. *trilocularis*](#)

1. *Corchorus depressus* (Linn.) C. Christensen in Dansk. Bot. Arkiv. 4, 3: 34 (1922); Chatterjee in Kew Bull. 1948: 372. *APD acc*

Antichorus depressus Linn. (1761).

Corchorus antichorus Raeschel (1797) — F.T.A. 1: 263; Chev. Bot. 91; F.W.T.A., ed. 1, 1: 241.

Branches prostrate, a few inches long, from a stout rootstock; flowers yellow; a plant of desert soils.

Fr. Sud.: Timbuktu (Aug.) Chev. 3529. Gao (Nov.) Hagerup 348!

From Cape Verde Islands and Teneriffe to N. Africa, **Arabia**, Central and N.W. India.

2. *Corchorus fascicularis* Lam. — F.T.A. 1: 263. *APD acc*

Annual or sometimes perennial; branches lax, up to 4 ft. high; flowers yellow.

Sen.: Roger 6! Walo Perrottet! **Fr. G.:** Kouroussa (July) Pobéguin 332! **S. L.:** Port Loko (fr. Dec.) Thomas 6659! Njala (Nov.) Deighton 1786! Musala (fr. Dec.) Deighton 4439! 5702! Mange, Bure (fl. & fr. Dec.) Jordan 727! **G. C.:** Red Volta R., Nangodi (fr. Dec.) Adams & Akpabla GC 4288! **N. Nig.:** Katagum Dalz. 85!

Widespread in tropical Africa, and in **Arabia**, **India** and **Australia**.

3. *Corchorus aestuans* Linn. Syst. Nat., ed. 10, 2: 1079 (1759). *APD acc*

Corchorus acutangulus Lam. (1786) — F.T.A. 1: 264; Chev. Bot. 90; F.W.T.A., ed. 1, 1: 241.

Annual or perennial, branched, erect or prostrate; flowers golden-yellow.

Sen.: Heudelot! **Fr. Sud.:** Macina (fl. & fr. Sept.) Chev. 24865! **Fr. G.:** Conakry (fr. May) Debeaux 313! **S. L.:** Njala (Sept.) Deighton 2120! Makene (fr. Mar.) Deighton 3900! Musaia (fl. & fr. Dec.) Deighton 4509! Jigaya (fl. & fr. Nov.) Thomas 2726! **Lib.:** Peahtah (fl. & fr. Oct.) Linder 1014! Bumbuma (Oct.) Linder 1321! **Iv. C.:** Bouaké (July) Chev. 22108! **G. C.:** Cape Coast (July) T. Vogel 59! Accra Brown 420! Achimota (fl. & fr. June) Irvine 742! Sandema (Sept.) Hughes FH

5349! **Togo**: Lome Warnecke 32! **Dah.**: Le Testu 171! **N. Nig.**: Lokoja (Sept.) T. Vogel 162! Nupe Barter 802! **S. Nig.**: Olokemeji (Aug.) Foster 322! Ibadan (fl. & fr. Oct.) Jones FHI 13726!

Widely distributed in the tropics.

4. **Corchorus tridens** *Linn.* — F.T.A. 1: 264; Chev. Bot. 91. *APD acc*

A weed of cultivation; flowers yellow.

Sen.: Perrottet! **Fr. Sud.**: Hagerup 163b! Timbuktu (July) Chev. 1240! **Fr. G.**: Conakry (Feb.) Chev. 12015. **Iv. C.**: Bouaké (July) Chev. 22109. **G. C.**: Sounders 1! Accra (fl. & fr. Oct.) Brown 341! **N. Nig.**: Nupe Barter 935! Sokoto Moiser 84! Zungeru (Aug.) Dalz. 111! Keana, Nassarawa (June) Hepburn 25! 26! Biu (Sept.) Noble 34! Kalkala (fl. & fr. Sept.) Gwynn 133! 134! **S. Nig.**: Lagos (Apr.) Dalz. 1391!

Widespread in tropical Africa; also in **India** and **Australia**.

5. **Corchorus olitorius** *Linn.* — F.T.A. 1: 262; Chev. Bot. 91. *APD acc*

A more or less glabrous herb, often woody at the base; flowers yellow; cultivated or subsontaneous; one of the plants which yield jute. A common form has lacinate leaves.

Sen.: Kaolak Kaichinger. **Fr. Sud.**: Koro, Macina (fl. & fr. Sept.) Chev. 24823! Gao (Aug.) De Wailly 5160! **Fr. G.**: Kouroussa Pobéguin 336! **S. L.**: Barter! Falaba (Mar.) Sc. Elliot 5228! Mabang Dudgeon 2! Kenema (fr. Nov.) Deighton 388! Makump (fr. Dec.) Glanville 409! **Lib.**: Kakatown Whyte! **Iv. C.**: Pehiri Chev. 19190. **G. C.**: Assuantsi (fl. & fr. Mar.) Irvine 1541! Achimota (fl. & fr. Aug.) Irvine 790! **Togo**: Lome Warnecke 294! **Dah.**: Le Testu 173! **N. Nig.**: R. Niger (fl. & fr. Sept.) T. Vogel 119! Mongu (July) Lely 401! Katagum Dalz. 86! **S. Nig.**: Lagos Dodd 436! Cross R. (Mar.) Johnston!

Widespread throughout the tropics; also in **Australia**.

6. **Corchorus trilocularis** *Linn.* — F.T.A. 1: 262; Chev. Bot. 92. *APD acc*

Herbaceous or half-woody annual, 1–2 ft. high; flowers yellow.

Sen.: Niayes (Dec.) Chev. 3094. **Fr. Sud.**: Kabara (July) Chev. 1241! **G. C.**: Krobo Plains (fr. Dec.) Johnson 495! Achimota (fl. & fr. Oct.) Irvine 837! Prampram (fl. & fr. Dec.) Robertson 44! **N. Nig.**: Takwara (May) Lely 100! Kano Adelodun FHI 5417!

Widespread in the tropics of the Old World; also in **Australia**.

Corchorus urticifolius *Wight & Arn.* — F.T.A. 1: 263.

Recorded from Gambia (see Appendix, p. 97), but no specimen seen.

Doubtfully recorded species.

7. TRIUMFETTA

Linn. — F.T.A. 1: 254; Sprague & Hutch. in J. Linn. Soc. 39: 231–276 (1909).

- 1 Sepals lepidote outside; upper leaves oblanceolate, lower suborbicular and subtrilobed, up to 14 cm. in diam.; petiolar glands 2–4 on each side; stamens about 60; tubercles of the ovary pilose, terminated by several spinules [11. lepidota](#)
- Sepals not lepidote: **2**
- 2 Prickles of the ovary and fruit terminating in several small spines stellately arranged; fruits globose; leaves lanceolate or ovate-lanceolate, base subcuneate, acute at the apex, 3–9 cm. long, up to 3.5 cm. broad, serrate, stellate-pilose or tomentose beneath [2. dubia](#)
- Prickles of the ovary and fruit terminating in a single straight or curved but not hooked spine: **3**
- Prickles terminating in a single hooked or falcate spine: **4**
- 3 Prickles slender, dilated only at base; leaves mostly undivided, mostly ovate, subcordate at base, acute, 5–12 cm. long, 2.5–7 cm. broad, tomentose beneath; sepals 5–9 mm. long, horn 0.5 mm. long; stamens 8–10; fruit 1–1.5 cm. in diam., prickles pilose or nearly glabrous [3. tomentosa](#)
- Prickles stout, much widened at base; leaves very like T. tomentosa [4. heudelotii](#)
- 4 Fruit ovoid or globose, indehiscent, 4–10 mm. in diam. including the prickles: **5**

Fruit globose, dehiscent, 1–1.5 cm. in diam. including the prickles; stamens 10–12; leaves undivided or trilobed or sub-5-lobed [8. cordifolia](#)

5 Stamens 15; fruit globose or subglobose: **6**

Stamens 5–13; fruit ovoid, prickles ciliate; leaves rhomboid-orbicular to hexagonal, broadly cuneate or truncate at base, acute or subacute, undivided or 3-lobed, coarsely serrate, stellate-pubescent beneath [7. pentandra](#)

6 Fruit 4–5 mm. in diam. including the prickles, tomentose, the prickles glabrous; leaves very variable [5. rhomboidea](#)

Fruit 8–10 mm. in diam. including the prickles, tomentose, the prickles densely pilose; leaves ovate to lanceolate, undivided or 3-lobed, sharply serrate, setulose with oppressed simple hairs on both surfaces; stamens usually 15 [6. eriophlebia](#)

1. **Triumfetta lepidota** *K. Schum.* in Engl. Bot. Jahrb. 15: 127 (1892); Sprague & Hutch. in J. Linn. Soc. 39: 245. *APD acc*

Ancistrocarpus tomentosus *A. Chev.* Bot. 92.

Erect shrub, 3–5 ft.; flowers yellow; *in savannah*.

G. C.: Yeji Anderson 21! **Togo:** Yendi (May) Akpabla 509! **Dah.:** Djougou (June) Chev. 23915! **N. Nig.:** Sokoto Prov. (June) Dalz. 535! Funtua to Mahuta (Aug.) Keay FHI 25995! Nupe Barter! Gurara R., Gornapara (Dec.) Elliott 205! Nabardo (May) Lely 217!

Extends to A.-E. **Sudan**.

2. **Triumfetta dubia** *De Wild.* in Ann. Mus. Congo, sér. 5, 1: 54 (1903); Sprague & Hutch. l.c. 259, incl. var. *tomentosa*.

APD: *Synonym of Triumfetta setulosa* *Mast.*

An undershrub, 3–4 ft.; stem stellate-hirsute; flowers small, yellow.

Fr. G.: Kouroussa (Sept.) Pobéguin 450! **S. L.:** Kabala (Sept.) Thomas 2189! 2215! Jigaya (Sept.) Thomas 2746! Musaia (fr. Dec.) Deighton 5708! Warantamba (Oct.) Small 357! **G. C.:** Techiman (fr. Dec.) Adams GC 4489! **Togo:** Sokode Schröder 88; 112. Bismarckburg Büttner 194. **N. Nig.:** Nupe Barter 1550! Patti Lokoja (Oct.) Dalz. 55! Naraguta (June–Aug.) Lely 334! 535! P. 626! Vom Dent Young 21!

Also in **Belgian Congo** and **E. Africa**.

3. **Triumfetta tomentosa** *Boj.* — F.T.A. 1: 258; Sprague & Hutch, l.c. 260. *APD acc*

An undershrub, 2–5 ft., more or less tomentose all over; flowers yellow.

S. L.: Port Loko (fl. & fr. Dec.) Thomas 6646! Njala (fl. & fr. Dec.) Deighton 1516! 5291! Musaia (fl. & fr. Dec.) Deighton 4554! **Iv. C.:** Anoumaba (Nov.) Chev. 22403! **N. Nig.:** Naraguta (Aug.) Lely 511! P. 665! Vom Dent Young 22! **Br. Cam.:** Buea (fl. & fr. Dec.) Maitland 135! Njinikom, Bamenda (June) Maitland 1767!

Widespread in tropical Africa.

4. **Triumfetta heudelotii** *Planch. ex Mast.* in F.T.A. 1: 259 (1868); Sprague & Hutch. l.c. 261. *APD acc*

Like the last, with smaller fruits and stouter prickles.

Fr. G.: Heudelot 681!

5. **Triumfetta rhomboidea** *Jacq.* — F.T.A. 1: 257, partly; Sprague & Hutch. l.c. 266; Chev. Bot. 89. *APD acc*

A weedy undershrub, variable in habit and foliage; flowers orange or yellow.

Sen.: Dakar (Dec.) Chev. 3074. **Gam.:** Koto (fl. & fr. May) Fox 102! **Fr. Sud.:** fide Chev. l.c. **S. L.:** Freetown Smythe 51! Kumrabai (fr. Dec.) Thomas 7059! Mano Salija (Nov.) Deighton 289! Gorahun (Nov.) Deighton 359! Magbile (Dec.) Thomas 6195! **Lib.:** Grand Bassa T. Vogel 88! Monrovia (Nov.) Whyte! Linder 1435! 1524! Barker 1457! Peahtah (fr. Dec.) Baldwin 10598! **Iv. C.:** fide Chev. l.c. **G. C.:** Cape Coast Don! Amuni (Dec.) Chipp 44! Mansu (Aug.) Howes 960! Shai Plains (fr. Jan.) Johnson 571! Atwabo Fishlock 24! Kumasi (Dec.) Darko 649! **Togo:** Lome Warnecke 268! **Dah.:** Burton! Le Testu 62! **N. Nig.:** Nupe Barter 1058! Lokoja (Oct.) Parsons 50! Dogon Kurmi, Jemaa (Nov.) Keay FHI 21045!

Bauchi Plateau (Oct.) Lely P. 827! **S. Nig.:** Lagos Dalz. 1084! Ibadan (fl. & fr. Dec., Jan.) Meikle 860! 936! Enugu (fl. & fr. Feb.) Jones FHI 4572! Ikom (Jan.) Holland 207! **Br. Cam.:** Buea (fr. Dec.) Maitland 134!

Distributed throughout the tropics.

6. **Triumfetta eriophlebia** *Hook. f.* in Fl. Nigrit. 235 (1849); Sprague & Hutch, l.c. 267. *APD acc*

Triumfetta rhomboidea of F.T.A. 1: 257, partly.

An erect, branched undershrub.

N. Nig.: Bauchi Plateau (July) Lely P. 353! **S. Nig.:** Benin Imp. Inst. 7! Agulu Thomas 195! Calabar (Sept.) Holland 145! Farquhar 45! Owhy-Ikure (fr. Jan.) Holland 217! **Br. Cam.:** Buea (Jan., Apr.) Maitland 279! Hutch. & Metcalfe 114! Bamenda (June) Maitland 1739! **F. Po.:** (Oct.) T. Vogel 9! Mioka (fl. & fr. Dec.) Boughey 88!

7. **Triumfetta pentandra** *A. Rich.* in Guill. & Perr. Fl. Seneg. 1: 93, t. 19 (1831); Sprague & Hutch. l.c. 267. *APD acc*

Triumfetta neglecta *Wight & Arn.* — F.T.A. 1: 255.

An erect, branched annual, slightly pubescent.

Sen.: Roger! **Fr. Sud.:** Djenne (Sept.) Chev. 3078! **S. L.:** Waterloo (fl. & fr. Dec.) Deighton 3359! Magbille (Dec.) Thomas 5910! Manankon, Musaia (fl. & fr. Apr.) Deighton 5421! **G. C.:** Sandema (fl. & fr. Sept.) Hughes FH 5346! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 470! **N. Nig.:** Sokoto (Nov.) Moiser 22! Katagum (fl. & fr. Sept.) Dalz. 83! **S. Nig.:** Aguku Thomas 596!

Extends to Abyssinia, Ngamiland and S.W. Africa.

8. **Triumfetta cordifolia** *A. Rich.* l.c. 1: 91, t. 18 (1831); Sprague & Hutch. l.c. 270, incl. vars.; Chev. Bot. 89. *APD acc*

A shrub, sometimes up to 12 or 15 ft. high, pubescent, hairy or nearly glabrous, with long-stalked ovate cordate leaves; fruits 1/3 inch across.

Sen.: Farmar! Perrottet. Komboland Heudelot. **Gam.:** Boteler! Ingram! **Port. G.:** Esp. Santo! **Fr. G.:** Kouria (Oct.) Chev. 14968! Macenta (Oct.) Baldwin 9829! **S. L.:** Bagroo R. Mann 869! Kumrabai (fr. Dec.) Thomas 7104! Kenema (fl. Nov., fr. Jan.) Deighton 389! Thomas 7560! **Lib.:** Monrovia Whyte! Peatah (Oct.) Linder 1033! Ganta (Nov.) Harley! Vonjama (Oct.) Baldwin 9941! **Iv. C.:** fide Chev. l.c. **G. C.:** Arreboo Dudgeon 109! Axim Cort Dev. Synd.! Aburi (Oct.) Johnson 476! Assuantsi (fl. & fr. Mar.) Irvine 1556! **Togo:** Agu Mt., Nyambo Busse 3356. Misahöhe Baumann 306. **N. Nig.:** Anara F.R. (Oct.) Keay FHI 20125! **S. Nig.:** Lagos Barter 2186! Millen 5! Dalz. 1269! Abeokuta Irving! Ibadan (fl. & fr. Dec.) Meikle 861! Oban Talbot! Okimi (fr. Jan.) Holland 170! Mt. Koloishe, Obudu (fl. & fr. Dec.) Keay & Savory FHI 25070! **Br. Cam.:** Victoria Preuss 1356! Buea (fr. Jan.) Maitland 322! Mamfe Rudatis 93. Njinikom (June) Maitland 1766! **F. Po.:** Barter!

Widespread in the moister parts of tropical Africa.

Triumfetta sp.

A low herb with pink hairs; possibly a new species.

S. Nig.: Idanre Hills (Oct.) Keay FHI 22652!

Imperfectly known species.

8. CLAPPERTONIA

Meisn. Pl. Vasc. Gen. tabl. diagn. 36, comm. 28 (1837).

Honckenya Willd. (1793) — F.T.A. 1: 260, not of Ehrh. (1788).

- 1 A small erect shrub; branches stellate-tomentose; leaves more or less broadly ovate in outline, rounded or cordate at base, variously 3–5-lobed or sometimes not lobed, serrate, up to about 13 cm. long and 7 cm. broad, stellate-pubescent or tomentose beneath; stipules persistent, lanceolate, about 1 cm. long; flowers few in terminal leafy racemes; fruits narrowly oblong, 4–6 cm. long, very bristly, bristles pilose *L. ficifolia*
- A prostrate woody herb; branches laxly pilose; leaves mostly 3–5-lobed, 2–5 cm. long, thin, serrate, pilose only on the nerves; stipules linear-subulate, about 0.5 cm. long; flowers 2–3 together; fruits ellipsoid, 2 cm. long,

densely bristly, bristles laxly pilose [2. minor](#)

1. **Clappertonia ficifolia** (Willd.) Decne. in Deless. Ic. Select. Pl. 5: 1, t. 1 (1846); Becherer in Fedde Rep. 28: 58 (1930). *APD acc*

Honckenya ficifolia Willd. — F.T.A. 1: 260; Chev. Bot. 90; Burret in Notizbl. Bot. Gart. Berl. 9: 862 (1926); F.W.T.A., ed. 1, 1: 241.

To 7 ft. high; usually in marshy places; flowers conspicuous red-purple, rarely white, 2–3 in. diam. when opened; fruits reddish-brown.

Fr. G.: Heudelot 791! Farana (Mar.) Sc. Elliot 5372! Macenta (fr. Oct.) Baldwin 9776! **S. L.:** Kitchom Sc. Elliot 4309! Hangha (Sept.) Aylmer 604! Njala (Sept.) Deighton 112! **Lib.:** Grand Bassa (July) T. Vogel 57! 91! Kakatown Whyte! Congotown (Aug.) Barker 1397! **Iv. C.:** Mankono (July) Chev. 21973! **G. C.:** Accra Don! Essiama (Apr.) Williams 435! Aburi (May) Johnson 957! Kumasi (Nov.) Irvine 1848! **Dah.:** Porto Novo (Jan.) Chev. 22712. **N. Nig.:** Nupe Barter 1226! **S. Nig.:** Lagos (fl. & fr. Dec.) Moloney! Hagerup 845! Agulu Thomas 153! Eket Talbot 3009! Oban Talbot 1235! **Br. Cam.:** Cameroons R. (Jan.) Mann 724! Kentu, Bamenda (June) Maitland 1553!

Widespread in tropical Africa.

2. **Clappertonia minor** (Baill.) Becherer l.c. 58 (1930). *APD acc*

Honckenya minor Baill. in Adansonia 10: 183 (1872); Burret l.c. 862; F.W.T.A., ed. 1, 1: 241.

H. parva K. Schum. in Engl. Bot. Jahrb. 15: 115 (1893); Chev. Bot. 90.

Flowers white or rose, scarcely 1 in. diam.; in dry places.

S. L.: Afzelius! Regent (Oct.) Deighton 209! Hedde's Farm (Dec.) Sc. Elliot 3915! Koribundu (fl. & fr. Nov.) Deighton 4669! Yonibana (Nov.) Thomas 4840! **Lib.:** Monrovia (fl. & fr. Nov.–Jan.) Krause! Dalz. 8114! Barker 1465! Gbanga (Sept.) Linder 697! **Iv. C.:** Alépé (Feb.) Chev. 17378. Mt. Niénokoué (July) Chev. 19490. **G. C.:** Axim Joly.

9. **ANCISTROCARPUS**

Oliv. — F.T.A. 1: 265. *APD acc*

- 1 Leaves oblong-elliptic, rounded at base, acutely acuminate, up to 20 cm. long and 7 cm. broad, serrulate; with about 8 pairs of lateral nerves, 3-nerved at base; stamens united in bundles opposite the petals, fruit globose, 3–4 cm. diam. including the prickles which are up to half as long as the fruit-body [densispinosus](#)

Ancistrocarpus densispinosus Oliv. — F.T.A. 1: 265. *APD acc*

Ancistrocarpus brevispinosus Oliv. — F.T.A. 1: 265; F.W.T.A., ed. 1, 1: 240.

A small tree with long half-scrambling branches; flowers white, turning yellow.

S. Nig.: Lagos Lamborn 264! Epe Barter 3276! Abeku, Shasha F.R. (Mar.) Jones & Onochie FHI 17196! Oji R. (Mar.) Kitson! Agbani, Udi (July) Cousens FHI 4851! Aking, Calabar (Apr.) Ejiofor FHI 21881! Eket Talbot! Oban Talbot 7. **Br. Cam.:** Kalbreyer 207! Cameroons R. (Jan.) Mann 2204! Victoria (fl. May, fr. Oct.) Maitland 672! 751! Johann-Albrechtshöhe Staudt 671! Abonando, Mamfe (Mar.) Rudatis 29!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Cabinda**.

STERCULIACEAE

Trees or shrubs, often with soft wood, or very rarely herbs, mostly with stellate hairs. Leaves alternate, simple or digitately compound; stipules usually present. Flowers variously arranged, hermaphrodite or unisexual, actinomorphic. Sepals valvate, mostly partly connate or rarely spathaceous. Petals 5, or absent, contorted imbricate, often hooded. Stamens free or connate into a column, sometimes with staminodes; anthers 2-celled. Ovary superior, of 2–12 united carpels or of one carpel; ovules on axile placentas; style simple or rarely the styles free to the base. Fruit various. Seeds with or without endosperm and straight or curved embryo.

A large tropical family.

With the stamens often united into a column; indumentum mostly stellate or lepidote; petals sometimes absent.

-
- 1 Flowers with petals, hermaphrodite (rarely polygamous):2
 Flowers without petals, unisexual or sometimes polygamous; trees or shrubs: 12
- 2 Stamines present; mostly trees and shrubs:3
 Stamines absent; mostly herbs or undershrubs; androgynophore absent (or rarely very short): 10
- 3 Androgynophore well-developed; fruiting carpels free, with a terminal wing, samara-like; petaloid stamens present between the stamens and carpels:4
 Androgynophore absent or very short; fruit capsular:5
- 4 Calyx spatheous; stamens 10; leaves not lobed [1. *Mansonia*](#)
 Calyx 5-lobed; stamens 30 or more, filaments united at base in pairs; leaves digitately 5–7-lobed [2. *Triplochiton*](#)
- 5 Petals hooded over the androecium; anthers sessile on the staminal tube:6
 Petals not hooded:7
- 6 Petals with a long apical appendage; fruits spiny [4. *Byttneria*](#)
 Petals without a long apical appendage; fruits not spiny [5. *Scaphopetalum*](#)
- 7 Petals much shorter than the sepals, pilose towards margins; stamens in groups or phalanges with the fertile stamens; staminal tube short with small stamens within it and alternating with the phalanges, or absent; seeds conspicuously arillate [6. *Leptonychia*](#)
 Petals as long as or longer than the sepals:8
- 8 Bracteoles neither persistent nor enlarging in fruit:9
 Bracteoles persistent and enlarging in fruit, suborbicular [8. *Melhania*](#)
- 9 Petaloid stamens 5, inserted between the stamens and carpels; filaments much shorter than the anthers; staminal tube absent; petals falling off; seeds with a unilateral wing [3. *Nesogordonia*](#)
 Petaloid stamens between the stamens and carpels absent; staminal tube present, bearing the stamens and stamens usually with distinct filaments; petals persistent, often becoming dry or scarious [7. *Dombeya*](#)
- 10 Ovules numerous; capsule loculicidally 5-valved, apex often with horny appendages; carpels opposite the sepals [9. *Hermannia*](#)
 Ovules 2; carpels opposite the petals: 11
- 11 Ovary 5-celled; capsule loculicidally 5-valved; cells 1-seeded [10. *Melochia*](#)
 Ovary 1-celled; capsule 2-valved, 1-seeded [11. *Waltheria*](#)
- 12 Carpels numerous, multiseriate; calyx-lobes normally 8; anther-cells arranged in 1 whorl [12. *Octolobus*](#)
 Carpels up to 12, in a single whorl; calyx-lobes (3–) 4–5 (–6): 13
- 13 Fruiting carpels neither winged nor inflated and submembranous, usually 2-many-seeded, rarely 1-seeded: ... 14
 Fruiting carpels winged, or inflated and submembranous, normally 1-seeded: 16
- 14 Seeds with a large unilateral wing; anther-cells (in our species) arranged in 1 whorl; leaves simple [13. *Pterygota*](#)
 Seeds not winged: 15
- 15 Anther-cells arranged in an irregular mass; seeds usually with endosperm [14. *Sterculia*](#)
 Anther-cells arranged in 1 or 2 whorls, rarely at more than 2 levels owing to lobing of the cupshaped upper part of the synandrium (*C. digitata* and *C. megalophylla*); seeds usually without endosperm [15. *Cola*](#)
- 16 Fruiting carpels inflated, submembranous; calyx-tube long; leaves simple, broadly ovate-cordate, not densely lepidote beneath; anther-cells arranged in an irregular mass [16. *Hildegardia*](#)
 Fruiting carpels samara-like; calyx-tube short; leaves digitately 5–7-foliolate, or 1-foliolate, densely lepidote beneath; anther cells arranged in 1 whorl [17. *Tarrietia*](#)

***Guazuma ulmifolia* Lam.**

Introduced plant cultivated in our area:

***Helicteres isora* Linn.**

Introduced plant cultivated in our area:

***Kleinhovia hospita* Linn.**

Introduced plant cultivated in our area:

***Pterospermum* spp.**

Introduced plant cultivated in our area:

***Theobroma cacao* Linn.**

The Cocoa tree is an introduced plant cultivated in our area:

1. MANSONIA

J. R. Drumm. ex Prain in J. Linn. Soc. 37: 260 (1905); Brenan in Hook. Ic. Pl., sub t. 3451 (1947); Chatterjee & Brenan in Hook. Ic. Pl., sub t. 3484 (1951).

- 1 Branchlets and lower surface of leaves densely and softly pubescent with stellate hairs; leaves obovate-orbicular, cordate at the base, slightly pointed, 15–30 cm. long, 8–15 cm. broad, thinly papery, crenulate-denticulate, 6–7-nerved at the base, with about 5 pairs of lateral nerves; stipules deciduous; cymes pedunculate, many-flowered; calyx spathaceous, densely stellate-tomentose, 1 cm. long, apiculate; petals obovate, nearly 1.5 cm. long; androgynophore nearly 1 cm. long; fruits winged, body 1.5 cm. long, obovoid, reticulate, wing unilaterally obovate-oblongate, about 6 cm. long *L. altissima* var. *altissima*

Branchlets and lower surface of leaves sparingly pubescent or nearly glabrous; otherwise similar to above ... *La. altissima* var. *kamerunica*

1. **Mansonia altissima** (*A. Chev.*) *A. Chev.* var. **altissima** — in Bull. Soc. Bot. Fr. 58, Mém. 8: 138 (1912); Aubrév. Fl. For. C. Iv. 2: 261, t. 230; Kennedy For. Fl. S. Nig. 62; Brenan in Hook. Ic. Pl., sub t. 3451; Chatterjee & Brenan in Hook. Ic. Pl., sub t. 3484. *APD acc*

Achantia altissima *A. Chev.* in Bull. Mus. Hist. Nat. 15: 548 (1910).

A forest tree, to 100 ft. high, deciduous, with white fragrant flowers and winged maple-like fruits.

IV. C.: Mbayakro, Nzi (Aug.) Chev. 22281! Anoumaba (fr. Nov.) Chev. B. 22345! **G. C.:** Nkwanta (fr. Jan.) Chipp 65! Sunyani (fr. Jan.) Chipp 72! Kumasi (fr. Oct.) Brent 936! Jimira F.R. (July) Vigne, FH 3013! **S. Nig.:** Olokemeji (fr. Jan.) A. F. Ross 50! Mamu F.R., Ibadan (July) Ahmed & Chizea FHI 20004! Akure F.R. (July) Onwudinjoh FHI 23419! Agbabu, Ondo Prov. Kennedy 2373!

- 1a. **Mansonia altissima** var. **kamerunica** *Jac.-Fél.* in Rev. Bot. Appliq. 25: 236 (1945); Chatterjee & Brenan in Hook. Ic. Pl., sub t. 3484. *APD acc*

Forest tree, to 100 ft. high.

Br. Cam.: Barombi Kotto, Kumba Div. (fr. Dec.) Smith 129/36! Boviongo, Kumba Div. (July) Smith 129/41!

Also in **French Cameroons**.

[Jacques-Félix in Rev. Bot. Appliq. 27: 516 (1947) suggests that this variety is the same as *M. nymphaeifolia* Mildbr. in Notizbl. Bot. Gart. Berl. 7: 489 (1921) from the French Cameroons. Brenan (ll.cc.), however, is doubtful of this. The type of *M. nymphaeifolia* has, presumably, been destroyed, but even if it does prove to be the same as Jacques-Félix suggests, it seems wiser to treat our plant as a variety.]

2. TRIPLOCHITON

K. Schum. in Engl. Bot. Jahrb. 28: 330 (1900).

Samba Roberty (1953).

- 1 A large tree, with glabrous branchlets and leaves; mature leaves 5–7-lobed, 5–7-nerved at base, lobes broadly ovate or triangular to oblong, obtusely acuminate, lamina averaging 10–15 cm. diam., leaves of seedlings larger and more deeply lobed; flowers hermaphrodite or polygamous in axillary cymose-panicles up to 7.5 cm. long; calyx 7–9 mm. long, deeply lobed, tomentellous outside; petals obovate or obcordate, about 1 cm. long and broad, densely pilose on both surfaces; androgynophore 3–3.5 mm. long; stamens 30–46, with filaments 2–3 mm. long, connate at the base in pairs; staminodes 5, broadly oblong-ovate, antisepalous, surrounding the 5 antipetalous carpels; fruiting carpels about 6 cm. long, including the obliquely oblong-obovate, membranous wing *scleroxylon*

Triplochiton scleroxylon *K. Schum.* in Engl. Bot. Jahrb. 28: 331 (1900); Chev. Bot. 75; Aubrév. Fl. For. C. Iv. 2: 260, t. 229; Kennedy For. Fl. S. Nig. 59. *APD acc*

Triplochiton johnsoni *C. H. Wright* in Hook. Ic. Pl. t. 2758 (1903); Chev. Bot. 75.

Triplochiton nigericum *Sprague* in Kew Bull. 1909: 212; F.W.T.A., ed. 1, 1: 248.

Samba scleroxylon (K. Schum.) Roberty (1953).

A large forest tree, to 200 ft. high, with large buttresses, deciduous; leaves and fruits maple-like; petals white, red-purple at base.

Fr. G.: Koulikoro Chev. 20649. **S. L.:** Koinadugu, Loma Mts. Frith 26! **Iv. C.:** Bouroukrou (Dec.–Jan.) Chev. 16105! Agboville Chev. 22341! Rasso Aubrév. 548! **G. C.:** Anum (Dec.) Johnson 813! Aburi (Jan.) Irvine 1898! Owabi (Nov.) Vigne FH 2597! Agogo Chipp 450! **Dah.:** Sakété (Jan.) Chev. 22819! **S. Nig.:** Olokemeji (Dec.) Foster 370! Ibadan F.R. (Jan.) Punch 125! Ijebu-Ode (fl. & young fr. Jan.) Punch! Ojojo, Benin Foster 188! Sapoba (fl. Dec., fr. Feb.–Mar.) Kennedy 739! 1679!

Also in French Cameroons, Spanish Guinea and Belgian Congo.

3. NESOGORDONIA

Baill. in Bull. Soc. Linn. Paris 1: 555 (1886); R. Capuron in Notulae Syst. 14: 258 (1953).

Cistanthera K. Schum. (1897) — F.W.T.A., ed. 1, 1: 240 (under Tiliaceae); Burret in Notizbl. Bot. Gart. Berl. 9: 865 (1926).

- 1 A tree; leaves ovate-elliptic, acuminate, mucronate, cuneate at base, up to 11 cm. long and 5 cm. broad, entire, very minutely stellate-puberulous beneath, at length glabrous; stipules linear, deciduous; petiole slender, 1.5–4 cm. long; flowers few in slender axillary cymes; peduncle a little longer than the petiole; sepals ovate-lanceolate, 8–10 mm. long, tomentellous; petals glabrous, about 1.3 cm. long; fruits broadly turbinate, truncate, woody, about 3 cm. long, each valve with 2 blunt horns, stellate-tomentellous; seeds winged, wings oblique, 1 cm. long [papaverifera](#)

Nesogordonia papaverifera (A. Chev.) R. Capuron in Notulae Syst. 14: 259 (1953). *APD acc*

Cistanthera papaverifera A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 141 (1912); F.W.T.A., ed. 1, 1: 240; Aubrév. Fl. For. C. Iv. 2: 214, t. 210; Kennedy For. Fl. S. Nig. 58.

A forest tree, to about 100 ft. high, with clean straight bole; flowers yellowish-white, fragrant.

S. L.: Kasewe F.R. (fl. Mar., fr. Dec.) Deighton 4594! King 126! **Iv. C.:** Bangouanou, Morénou (Nov.) Chev. 22459! Sahoua to Bangouanou (fr. Nov.) Chev. 22442! Bouroukrou (Dec.) Chev. 16108! 16123! Abidjan Aubrév. 109! Man Aubrév. 404! **G. C.:** Dunkwa (fl. June, fr. Feb.) Vigne 267! FH 893! Abuasi (Jan.) Soward 666! Koforidua (June) Moor 73! Awaso, Sefwi Bekwai (fr. Oct.) Akpabla 882! **Dah.:** Le Testu 159! **S. Nig.:** Olokemeji (Dec.) Foster 373! Chev. 14001. Akure F.R. (young fr. Apr.) Onochie FHI 3354!

4. BYTTNERIA

Loefl. — F.T.A. 1: 239.

- 1 Branchlets not prickly, stellate-puberulous; leaves with petiole up to about 23 cm. long, lamina broadly ovate to suborbicular-ovate or ovate, widely truncate-cordate at base, acutely acuminate, up to about 18 cm. long and broad, thin, entire, 5-nerved at base, nearly glabrous; flowers small in slender leaf-opposed cymes, sometimes with an additional subaxillary smaller cyme; cymes about as long as the petiole; sepals lanceolate, about 6 mm. long, finely tomentellous; petals a little longer, obovate with a long linear-lanceolate appendage; body of fruit about 3 cm. diam., with numerous spines [1. catalpifolia subsp. africana](#)
- Branchlets prickly, puberulous with simple or fascicled hairs; leaves with petiole up to 9 mm. long, lamina oblanceolate-oblong, rounded at base, acuminate at apex, up to 6 cm. long and 2.3 cm. broad, margin markedly crenate in the upper part; flowers in small umbels or groups of umbels; calyx glabrous; petals with an incurved claw, 2 small lateral processes and a long ligulate appendage: [2](#)
- 2 Umbels 2 together, each with (1–) 2 (–3–4) flowers; petioles up to 5 mm. long, body of fruit about 1 cm. diam. with unequal-sized spines [2. guineensis](#)
- Umbels up to 6 together, each with 6–9 flowers; petioles up to 9 mm. long; fruit not known [3. sp. A](#)

1. *Byttneria catalpifolia subsp. africana* (Mast.) Exell & Mendonça in Conspectus Fl. Ang. 1: 197 (1951). *APD acc*

Buettneria africana Mast. in F.T.A. 1: 239 (1868); K. Schum. in Engl. Monogr. Afr. Sterculiac. 90, t. 5 B; F.W.T.A., ed. 1, 1: 249.

Scandent shrub or liane, mainly in [secondary forest](#); flowers white, sweet-scented; cut stem yielding water copiously.

G. C.: Agogo (fr. Dec.) Chipp 443! Irvine 874! Kumasi (July) Akwa FH 1766! Akroso (Aug.) Howes 947! Jimira F.R. (Aug.) Vigne FH 3997! Agona (Nov.) Darko 718! **S. Nig.:** Oban Talbot 438! 1388! **Br. Cam.:** Nkom-Wum, Bamenda Prov. (July) Ujor FHI 30465!

Also in [French Cameroons](#), [Belgian Congo](#), [Angola](#), [Uganda](#) and [A.-E. Sudan](#).

The subsp. *catalpifolia* is in tropical S. America.

2. *Byttneria guineensis* *Keay & Milne-Redhead* in Kew Bull. 1954: 263. *APD acc*

Prickly scrambling shrub; flowers red; fruits green with reddish tinge.

S. L.: Njala (fl. & fr. Apr.) Deighton 4740! 5030!

3. *Byttneria* sp. **A.** *APD acc*

Prickly climber, similar to *B. guineensis* but differing by the following characters as well as those shown in the key: (i) primary branches obscurely angled, hollow, with larger prickles, (ii) leaves with less hairy petioles and somewhat longer acumens, (iii) sepals apparently narrower. Better material of this plant is needed before making a decision about its taxonomical status.

S. Nig.: R. Addo, Igbessa, Lagos Colony (Dec.) Millen 194!

5. SCAPHOPETALUM

Mast. in J. Linn. Soc. 10: 28 (1869).

- 1 Sepals up to 8 mm. long, at anthesis usually adherent in two pairs with the fifth sepal free, calyx thus appearing 3-lobed, or rarely adhering 3 and 2 together, calyx thus appearing 2-lobed: **2**
 Sepals about 15 mm. long, quite separate at anthesis, subglabrous outside; petals about 10 mm. long, 3-toothed at apex; pedicels 1–2 cm. long; flowers on the old wood; branchlets puberulous; leaves oblong, abruptly long-caudate-acuminate at apex, margin more or less undulate, 10–22 cm. long, 4–8 cm. broad [5. talbotii](#)
- 2 Sepals entirely glabrous, more or less flat, elliptic, acuminate at apex about 7 mm. long and 2.5 mm. broad, rather thin, with a strong midrib; sepals or pairs of sepals separating to the base; petals glabrous, with broad lateral lobes; 3-cuspidate at apex, strongly veined; anthers at top of staminal tube; ovary glabrous; flowers generally solitary, with pedicels about 1.5 mm. long; branchlets minutely puberulous when very young, soon glabrous; leaves glabrous, oblong to elliptic, rounded to cuneate at base, caudate-acuminate, 9–17.5 cm. long, 3–6.7 cm. broad [1. parvifolium](#)
 Sepals distinctly pubescent or puberulous outside, concave, ovate to oblong, 5–8 mm. long, 3–3.5 mm. broad, united at base; petals not 3-cuspidate; ovary densely pubescent; flowers several together; branchlets distinctly hairy: **3**
- 3 Branchlets puberulous; leaves only sparsely puberulous beneath; flowers axillary and on bole, bracts not usually conspicuous: **4**
 Branchlets densely tomentellous; leaves oblong or oblong-lanceolate, rounded at base, shortly acuminate at apex, 16–35 cm. long, 5–12.5 cm. broad, finely puberulous with stellate and fascicled hairs beneath; flowers usually in axils of leaves, with numerous often conspicuous bracts; sepals densely puberulous outside, appearing distinct in bud; petals puberulous outside; anthers at top of staminal tube [4. letestui](#)
- 4 Petals glabrous outside except at the apex, attached to the staminal tube at the base only and thus easily detached; sepals puberulous outside, densely so on the margins thus making them distinct in bud; staminal tube with a second lower whorl of anthers (? always); leaves elliptic-lanceolate, to lanceolate, rounded or obtuse at base, gradually acuminate, 14–33 cm. long, 4–10.5 cm. broad [2. cf. zenkeri](#)
 Petals puberulous outside, firmly attached to the staminal tube for 1–1.5 mm.; sepals densely puberulous outside, margins not clearly marked in bud by lines of hairs, pairs of sepals firmly connate; anthers at top of staminal tube; leaves elongate-oblong-elliptic to oblong-oblong-lanceolate, obtuse to rounded (rarely cuneate) at base, shortly acuminate, 10–34 cm. long, 3.5–12.5 cm. broad [3. amoenum](#)

1. *Scaphopetalum parvifolium* *Bak. f.* in Cat. Talb. 14 (1913). *APD acc*

Small tree, to 30 ft. high; “flowers bright yellow, sepals bright palish green”; [in forest](#).

S. Nig.: Obutong Road, Oban Talbot 1264! Oban Talbot! Uwet — Budeng Road (Nov.) Rosevear C. 5! Between Ndiumo and Orora Road (Nov.) Rosevear C. 15!

2. **Scaphopetalum cf. zenkeri** *K. Schum.* in E. & P. Pflanzenfam. Nachtr. 1: 241 (1897); Engl. Monogr. Afr. Sterculiac. 93, t. 7 B. *APD acc*

Small **forest** tree, to 45 ft. high, or shrub; flowers on leafy shoots and on branches down to base of bole; sepals greenish-purple outside, very pale green inside; petals hyaline yellow at apex, with lines which are white outside and purple inside; staminal tube rich deep purple; fruits ellipsoid, knobbly and puberulous outside, about 2·8 cm. long and 1·5 cm. diam.

S. Nig.: Oban Talbot! **Br. Cam.:** S. Bakundu F.R., Kumba (fl. Mar., Apr., fr. Aug.) Brenan 9291! 9427! Ejiofor FHI 29314! Olorunfemi FHI 30704!

Also in **French Cameroons**.

[The duplicate of the type at Kew is not in a fit state to dissect so I cannot confirm that the androecium of *S. zenkeri* is as figured by Schumann. This figure does not show the second lower whorl of anthers which is present in our specimens from the British Cameroons which in other respects closely resemble the type material.]

3. **Scaphopetalum amoenum** *A. Chev.* in Bull. Soc. Bot. Fr. 61, Mém. 8: 255 (1917); Hutch. & Dalz. in Kew Bull. 1928: 296; Aubrév. Fl. For. C. Iv. 2: 262, t. 231, 1–7. *APD acc*

Forest tree, to 45 ft. high, bole usually leaning; sepals brownish-puberulous; petals yellowish-green with deep purple lines and markings; staminal tube deep purple or red; fruits ellipsoid, about 1·5 cm. long.

Lib.: Dukwia R. (Feb.–Mar.) Cooper 57! 237! 264! Moala (Nov.) Linder 1379! Truo (Mar.) Baldwin 12570! **Iv. C.:** Aubrév. 1690! Songan, Indénié (Mar.) Chev. 17788! Massa-Mé Aubrév. 138! Bouroukrou (Dec.–Jan.) Chev. 16578; 16586; 16896. **G. C.:** Abiabo, Axim (Nov.) Vigne FH 1421! Abura F.R. (Nov.) Tinsley WH 3854!

4. **Scaphopetalum letestui** *Pellegr.* in Bull. Mus. Hist. Nat. 27: 196 (1921); Fl. Mayombe 1: 31, fig. 1 (1924).

APD: *Synonym of Scaphopetalum blackii* var. *letestui* (Pellegr.) N. Hallé

Scaphopetalum blackii of F.W.T.A., ed. 1, 1: 250, not of Mast.

Forest shrub.

S. Nig.: Oban Talbot s.n.! 437! 476!

5. **Scaphopetalum talbotii** *Bak. f.* l.c. 14 (1913). *APD acc*

Scaphopetalum macranthum of F.W.T.A., ed. 1, 1: 249, not of K. Schum.

Small **forest** tree, to 30 ft. high; sepals dull pink outside, dull purplish-red on inside; petals ribbed, yellow; anthers cream; androecium deep wine-red at base; stigma pale dull pink.

S. Nig.: Oban Talbot 1562! **Br. Cam.:** Rio del Rey Johnston!

Several species have been described from the **French Cameroons** by Engler and K. Krause, but I have not been able to see material of them. The types have presumably been destroyed. With further material from the type localities it may be possible to prove that some of these species are the same as some of those described above.

6. LEPTONYCHIA

Turcz. — F.T.A. 1: 238.

- 1 Flowers axillary; leaves up to 25 cm. long; ovary (3–) 5-celled:.....2

Flowers in fascicles on the older wood well below the leaves which are usually over 25 cm. long; branchlets and leaves soon glabrous; sepals 6–8 mm. long, sparingly puberulous outside; petals suborbicular, pilose inside and

- towards the margins, nearly glabrous outside; staminal tube short but well-developed with a lanceolate staminode between each group of 2 fertile stamens and 1–2 filament-like staminodes; ovary 5-celled, densely pilose; style more or less pilose; fruits finely puberulous (? always):7
- 2 Staminal tube short but more or less well-developed, with 5 lanceolate or ovate-lanceolate staminodes inserted inside it so that one of them appears between each bundle or group of fertile stamens and filament-like staminodes; sepals 8 mm. or more long; ovary densely pilose; fruits densely hairy:3
- Staminal tube and inner whorl of lanceolate staminodes absent; fertile stamens 15, with 2 filament-like staminodes between every 3 fertile stamens and in the same whorl as them; sepals 7–8 mm. long, only sparingly puberulous outside; petals pilose towards the margins and also on both surfaces; ovary pubescent; style glabrous; fruits muricate, glabrous except for a few hairs on the tips of the warts; leaves narrowly oblong-lanceolate, long-caudate-acuminate, 13–23 cm. long, 3.5–6.5 cm. broad, very thin [6. sp. nr. echinocarpa](#)
- 3 Fertile stamens 15–20:4
- Fertile stamens 10; style pilose; petals not 2-lobed:6
- 4 Petals 2-lobed, pilose towards the margins; sepals 10–11 mm. long; filament-like staminodes 2 in each group of 4 fertile stamens; branchlets soon nearly glabrous; petioles sparingly puberulous; leaves elliptic to obovate-elliptic, gradually long-acuminate, 12–22 cm. long, 3–7 cm. broad [1. occidentalis](#)
- Petals not 2-lobed; sepals 13–18 mm. long:5
- 5 Petioles, rusty-pubescent; branchlets densely rusty-pubescent when young, glabrescent; sepals 13–15 mm. long; petals deltoid, long-pilose towards the margins; staminodes 4 in each group of 4 fertile stamens, only shortly united at base; style more or less glabrous; leaves broadly elliptic to obovate-elliptic, gradually long-acuminate, 9–19 cm. long, 3.5–7 cm. broad [2. pubescens](#)
- Petioles and branchlets sparingly whitish puberulous, soon nearly glabrous; sepals 15–18 mm. long; petals suborbicular-elliptic, pilose on both surfaces as well as towards the margins; staminodes 2–3 in each bundle of 3–4 fertile stamens, each bundle united at base into a common stipe above the staminal tube; style pilose in lower half; leaves obovate-elliptic, gradually long-acuminate, 14–23 cm. long, 4.5–8 cm. broad [3. batangensis](#)
- 6 Sepals about 15 mm. long, covered with greyish-brown hairs; petals suborbicular, densely pilose towards the margins, pilose inside and sparingly so outside; staminodes 3–5 in each bundle of 2 fertile stamens; leaves elliptic, acuminate, 9–18 cm. long, 4–7 cm. broad [4. macrantha](#)
- Sepals about 8–9 mm. long, covered with yellow-brown hairs; petals elliptic, densely pilose towards the margins only; staminodes 3 in each bundle of 2 fertile stamens; leaves more or less oblong, abruptly long-acuminate, 11–19 cm. long, 4.5–7.7 cm. broad [5. multiflora](#)
- 7 Leaves broadly oblong-elliptic, rounded at base, long-acuminate, 25–35 cm. long, 11–14 cm. broad, with 7–10 main lateral nerves on each side of midrib [7. pallida](#)
- Leaves elongate-oblong-oblong-lanceolate, slightly rounded at base, gradually acuminate, 27–32.5 cm. long, 6–7 cm. broad, with 6–7 main lateral nerves on each side of midrib [8. lanceolata](#)

1. *Leptonychia occidentalis* Keay in Kew Bull. 1954: 264. *APD acc*

Leptonychia urophylla of F.W.T.A., ed. 1, 1: 249, partly, not of Welw. ex Mast.

Shrub or small tree to 20 ft. high, rarely more; flowers greenish-white; in forest.

S. L.: Smythe 215! Thomas 9778! Hangha (Jan.) Thomas 7782! Njala (Feb.) Deighton 4702! Kambui F.R. (Mar.) Lane-Poole 187! Gola Forest (fr. Mar.) Small 540! **Lib.:** Dukwia R. (fr. Apr.) Cooper 406! Vahon, Kolahun (fr. Nov.) Baldwin 10245! Tappita (fr. Aug.) Baldwin 9114! Jabroke, Webo (fr. July) Baldwin 6463!

2. *Leptonychia pubescens* Keay l.c. 265 (1954). *APD acc*

Leptonychia urophylla of F.T.A. 1: 238, partly (Barter spec.); F.W.T.A., ed. 1, 1: 249, partly; Aubrév. Fl. For. C. Iv. 2: 264, t. 231, 8–12; not of Welw. ex Mast.

Small tree to 30 ft. high, or shrub; flowers green, white or yellow; fruits greyish-green with black seeds and scarlet arils.

Iv. C.: Anoumaba (Nov.) Chev. 22415! **G. C.:** Juaben (Mar.) Johnson 631! Mampong (fr. Apr.) Vigne FH 1931! Konongo (Apr.) Vigne FH 1932! Ampan (fr. Nov.) Vigne FH 4275! **Dah.:** Allada (young fr. Mar.) Chev. 23404! **S. Nig.:** Agege Foster 222! Ilugun, Abeokuta Prov. (fr. Feb.) Keay FHI 22484! Ibadan South F.R. (Jan.) Keay FHI 19803! Attah Barter 3419! Appiapam, Obubra (fl. & fr. Apr.) Jones FHI 12159!

3. *Leptonychia batangensis* (C. H. Wright) Burret in Notizbl. Bot. Gart. Berl. 9: 728 (1926). *APD acc*

Grewia batangensis C. H. Wright in Kew Bull. 1896: 158.

Leptonychia urophylla of F.T.A. 1: 238 (1868), partly (Mann spec.); K. Schum. in Engl. Monogr. Afr. Sterculiac. 96, partly; F.W.T.A., ed. 1, 1: 249, partly; not of Welw. ex Mast., see Exell & Mendonça in Consp. Fl. Ang. 1: 198.

A small forest tree, 15–20 ft. high, with greenish flowers.

Br. Cam.: Amba Bay (Jan.) Mann 13! **F. Po.:** (Jan.) Mann 166!

Also in **French Cameroons**.

4. **Leptonychia macrantha** *K. Schum.* in E. & P. Pflanzenfam. Nachtr. 1: 241 (1897); Monogr. 96. *APD acc*

Shrub or small tree, in forest; flowers green.

S. Nig.: Ologdo, Ishan Dist. (Mar.) Ebuade FHI 22759! Ikom (Dec.) Rosevear 73/30a!

Also in **French Cameroons**.

5. **Leptonychia multiflora** *K. Schum.* in E. & P. Pflanzenfam. Nachtr. 1: 241 (1897); Monogr. 95, t. 8 C; Pellegr. in Mém. Soc. Bot. Fr. 1950–51: 49. *APD acc*

Small tree, in forest.

Br. Cam.: Abonando, Mamfe (Mar.) Rudatis 20!

Also in **French Cameroons** and **Belgian Congo**.

6. **Leptonychia sp. nr. echinocarpa** *K. Schum.* in E. & P. Pflanzenfam. Nachtr. 1: 241 (1897); Monogr. 95. *APD acc*

Erect shrub, to 15 ft. high; sepals green, stamens and petals cream; in forest.

S. Nig.: Oban Talbot 604! Afi River F.R. (Dec.) Keay FHI 28221! **Br. Cam.:** Korup F.R., Kumba Dist. (fr. June) Olorunfemi FHI 30641!

[This differs slightly from *L. echinocarpa* K. Schum., from **French Cameroons** and Gabon, as known to me from the description and the syntype Soyaux 216 in Kew Hb., but may well prove conspecific.]

7. **Leptonychia pallida** *K. Schum.* in E. & P. Pflanzenfam. Nachtr. 1: 241 (1897); Monogr. 98, t. 8 E. *APD acc*

Small tree, to 30 ft. high; cauliflorous; sepals green, filaments and petals cream; foliage drying pale green; fruits green with grey indumentum and seeds covered with bright orange aril; in forest.

S. Nig.: Afi River F.R. (fl. & young fr. Dec., fr. May) Keay FHI 28223! 28235! Jones & Onochie FHI 5836! **Br. Cam.:** Barombi (June, Sept.) Preuss 313! 483! Bambuko F.R., Kumba Div. (Sept.) Olorunfemi FHI 30759! **F. Po.:** Mildbr. 6354.

Also in **French Cameroons**.

8. **Leptonychia lanceolata** *Mast.* in F.T.A. 1: 239 (1868). *APD acc*

A shrub 12–15 ft. high, with pale leaves and glabrous branchlets.

F. Po.: (Jan) Mann 190!

Imperfectly known species.

1. **Leptonychia adolfi-friederici** *Engl. & K. Krause* in Engl. Bot. Jahrb. 48: 556 (1912). *APD acc*

Erect shrub.

The androecium is not sufficiently accurately described for this species to be included in the key; the type specimen has presumably been destroyed.

F. Po.: S.W. coast, near Bokoko (Oct.) Mildbr. 6958.

2. **Leptonychia densivenia** *Engl. & K. Krause* l.c. 557 (1912). *APD acc*

Small erect shrub.

F. Po.: Barter! S.W. coast, near Bokoko (Oct.) Mildbr. 6898.

Included in the first edition as a synonym of *L. urophylla* Welw. ex Mast., but a specimen collected by Barter in Fernando Po agrees reasonably well with the description and appears distinct from *L. urophylla* and all the above species. The androecium is not sufficiently well described for the species to be included in the key; the type has presumably been destroyed. The Barter specimen (cited by K. Schum. in Engl. Monogr. Afr. Sterculiac. 97 as *L. urophylla*) is not good enough for dissection.

3. **Leptonychia fernandopoana** Engl. & K. Krause ex Mildbr. Wiss Ergebn. 1910–11, 2: 187 (1922), name only. *APD acc*

F. Po: Bokoko Mildbr. 6823; 6862.

7. DOMBEYA

Cav. — F.T.A. 1: 226.

- 1 Flowers arranged in a subglobose rather dense subumbellate head, with a peduncle 6–22 cm. long; sepals lanceolate, about 1 cm. long, villous-pilose; petals about 1·6 cm. long and 1 cm. broad, not dry and hardened in fruit; ovary 5-celled, with about 5 ovules in each cell; branchlets, peduncles, petioles and nerves beneath coarsely pilose with simple hairs; leaves digitately lobulate, cordate at base, 10–25 cm. long and broad; stipules long-subulate-acuminate, loosely villous [1. buettneri](#)

Flowers in lax, well-branched cymes; sepals up to 6 (–8) mm. long; petals considerably longer than broad, becoming dry and papery in fruit; ovary 3-celled, with about 2 ovules in each cell; branchlets, peduncles and petioles glabrous, or puberulous to tomentose with stellate hairs:..... [2](#)

- 2 Flowers produced on woody branchlets before the leaves; young branchlets, petioles and inflorescence axes glabrous or whitish-puberulous to tomentellous; leaves rounded-ovate, cordate at base, irregularly dentate at margin, up to 17 cm. long and broad:..... [3](#)

Flowers terminal or axillary, produced after or with the leaves; young branchlets and petioles densely reddish-brown stellate-tomentose; inflorescence axes and outside of sepals woolly-tomentose; leaves ovate to suborbicular, cordate at base, 8–23 cm. long, 6·5–19 cm. broad, undersurface densely covered with a close felt of grey tomentellous indumentum beneath, also with larger brownish stellate hairs which are scattered over the lamina but become abundant on the nerves, upper-surface green, puberulous [3. cf. ledermannii](#)

- 3 Inflorescence axes, young branchlets and petioles densely stellate-puberulous; sepals woolly-tomentose outside [2. quinqueseta var. quinqueseta](#)

Inflorescence axes, young branchlets and petioles glabrous or sparingly pubescent; sepals puberulous-tomentellous outside [2a. quinqueseta var. senegalensis](#)

1. **Dombeya buettneri** K. Schum. in Engl. Bot. Jahrb. 15: 133 (1892); Engl. Monogr. Afr. Sterculiac. 27, t. 2 B; Aubrév. Fl. For. Soud.-Guin. 163, t. 29, 3. *APD acc*

Dombeya mastersii of F.T.A. 1: 228, partly (Irving spec.).

A weedy shrub, or small tree, to 15 ft. high, with pithy branches; leaves with very long channelled petioles; flowers white, usually with red centre, about 1 in. across, turning yellow in drying.

Fr. G.: Farana (Feb.) Chev. 20660. Niger sources Chev. 20576. **S. L.:** Sefadu (Dec.) Deighton. 3475! Jagbwema, Faiama (Dec.) Deighton 5286! Bintumane, 3,000 ft. (Jan.) Glanville 462! **iv. C.:** Beoumi (Dec.) Lowe! Bouroukrou Aubrév. 702! **G. C.:** Essiama Cummins! Kumasi (Jan.) Dalz. 66! Anum (Nov., Jan.) Johnson 553! 818! Sekodumase (Jan.) Kitson 11! **Togo:** Ketschenkobache (Nov.) Büttner 347! Ketschenki (Nov.) Büttner 345! Misahöhe (Nov.) Mildbr. 7341! **N. Nig.:** Kurmin Ninte, Jemaa (Nov.) Keay FHI 22258! **S. Nig.:** Lagos Millen 39! Abeokuta Irving! Olokemeji Foster 146! Ibadan (Nov.) Jones & Keay FHI 14161! Ikom (Jan.) Holland!

2. **Dombeya quinqueseta** (Del.) Exell var. **quinqueseta** — in J. Bot. 73: 263 (1935). *APD acc*

APD: *Synonym of Dombeya rotundifolia* (Hochst.) Planch. var. *rotundifolia*

Xeropetalum quinquesetum Del. (1826).

Dombeya reticulata Mast. (1868) — F.W.T.A., ed. 1, 1: 248.

Dombeya multiflora var. **vestita** K. Schum. in Engl. Monogr. Afr. Sterculiac. 34 (1900); Aubrév. l.c. 163, partly.

Dah.: Kandi (Jan.) Aubrév 4d! **N. Nig.:** Talbot!

Widespread in the savannah regions of tropical Africa.

2a. *Dombeya quinqueseta* var. *senegalensis* (Planch.) Keay in Kew Bull. 1954: 263.APD: *Synonym of Dombeya quinqueseta* (Delile) Exell*Dombeya senegalensis* Planch. (1851) — F.W.T.A., ed. 1, 1: 248.*Dombeya multiflora* of F.T.A. 1: 227, partly (Heudelot 160).*Dombeya multiflora* var. *senegalensis* (Planch.) Aubrév. l.c. 163, t. 29, 1–2.*Dombeya atacorensis* A. Chev. Bot. 83, name only.

Shrub or tree, to 15 ft. high; flowers white, appearing before the leaves; in savannah.

Sen.: Heudelot 160! Gam.: Georgetown (Jan.) Dalz. 8051! Jarume Koto, Niani (Jan.) Frith 161! Fr. Sud.: Kati (Jan.) Chev. 176! Birgo (Feb.) Dubois 58! Port. G.: Buruntuma to Pitche, Gabú (Jan.) Esp. Santo 2372! Fr. G.: Maclaud 20! Dinguiraye (Dec.) Jac.-Fél. 1443! Togo: Kete Kratchi (Jan.) Vigne FH 1579! Dah.: Konkobiri (fr. July) Chev. 24314 (partly)! N. Nig.: Bauchi Plateau (Nov.–Jan.) Lely P. 2! W. D. MacGregor 385! Costello P. 17/28! S. Nig.: N. of Shepeteri (Feb.) Keay FHI 22493! 22524!

3. *Dombeya* cf. *ledermannii* Engl. Bot. Jahrb. 45: 319 (1910). APD acc

Tree, to 25 ft. high in tall grass savannah; flowers white.

N. Nig.: above Masenge, W. escarpment of Bauchi Plateau, 3,000 ft. (Feb.) Hepburn 134! Br. Cam.: Bamenda Prov.: Bamenda Johnstone 276/31! Bambui road (Jan.) Keay FHI 28333! Babanki, 4,000 ft. (Jan.) Johnstone 8/31! Kumbo (Jan.) Johnstone 31/31!

[I have been unable to trace authentic material of this species; the type, Ledermann 1557, was collected between Fossong in Mamfe Division of the British Cameroons and Dchang in the French Cameroons. *D. discolor* Engl. l.c., from Babudju (probably in the French Cameroons), is also known now only from the description; it appears to be close to our plant.]

Dombeya squarrosa Engl. Bot. Jahrb. 45: 318 (1910).No authentic material available; possibly a form of *D. buettneri* K. Schum.

Br. Cam.: Bamenda Prov.: Babungo (Dec.) Ledermann 1967. Ngom (Jan.) Ledermann 2089.

Imperfectly known species.

8. MELHANIA

Forsk. — F.T.A. 1: 230.

- 1 A low shrublet; branches and leaves softly stellate-tomentose; leaves ovate-elliptic, subcordate at base, rounded or truncate at apex, about 3 cm. long and 1.5 cm. broad, crenate-serrate; stipules subulate-filiform, 3 mm. long, becoming glabrous; flowers axillary, solitary; bracteoles 3, much enlarged, membranous, and wing-like in fruit, about 3 cm. diam.; stamens 5, with alternating staminodes; fruit a small loculicidal capsule, 1–2-seeded *1. denhamii*

A low shrublet as above, but bracteoles linear-subulate and cells of fruit 3-seeded *2. ovata*

1. *Melhanian denhamii* R. Br. — F.T.A. 1: 230; K. Schum. in Engl. Monogr. Afr. Sterculiac. 15, t. 1 A; Chev. Bot., 84. APD acc

A small shrublet, woody at the base, the flowers enclosed in large bracteoles.

Sen.: Walo and Cayor (Dec.–Mar.) Perrottet 90! Fr. Sud.: Timbuktu (fl. & fr. June–July) Hagerup 119! 213!

Extends from Mauritania to India.

2. *Melhanian ovata* (Cav.) Spreng. Syst. Veg. 3: 32 (1826); K. Schum. l.c. 6, t. 1 D. APD acc*Brotera ovata* Cav. (1799).*B. lepriurii* Guill. & Perr. Fl. Seneg. 85 (1831).*Melhanian abyssinica* A. Rich. (1847) — F.T.A. 1: 231.*Melhanian lepriuri* Webb in Hook. Nig. Fl. 110, t. 4–5 (1849).

Sen.: St. Louis, Gandole and Four-à-Chaux (Sept.–Oct.) Perrottet.

Sandy deserts in N. and S. tropical Africa generally; also in India.

Our plant is var. *oblongata* (Hochst.) K. Schum. l.c. 7.

9. HERMANNIA

Linn. — F.T.A. 1: 232.

- 1 Herb, woody only at the base; stems ascending; leaves lanceolate or lanceolate-elliptic, subacute at each end, 2–6 cm. long, 1–2.5 cm. broad, loosely stellate-pubescent on both surfaces; petiole up to 1 cm. long; stipules linear-lanceolate, acute, 4–6 mm. long, often leafy; flowers axillary; pedicels very slender, 3–4 cm. long; calyx-lobes triangular-lanceolate, 1.5 mm. long, strongly nervose; fruits broadly turbinate, truncate and with several horns at the apex, 5–6 mm. long, loosely stellate-pubescent [tigreensis](#)

Hermannia tigreensis *Hochst. ex A. Rich.* — F.T.A. 1: 233; K. Schum. in Engl. Monogr. Afr. Sterculiac. 85. *APD acc*

A herb of farms, 1 ft. high, not common; flowers small, deep red.

Sen.: Cayor Berhaut 1314. **N. Nig.:** Sokoto (Aug.) Dalz. 414! Bichikki, 13 miles W. of Bauchi (Sept.) Lely 626!

Also in **N. Cameroons**, extending to Abyssinia, Eritrea and **Angola**.

10. MELOCHIA

Linn. — F.T.A. 1: 235.

- 1 Flowers in terminal clusters; stems with lines of stellate hairs on the young parts; leaves ovate, rounded or very slightly cuneate at base, acute, 3–6 cm. long, up to 4 cm. broad, 5-nerved at the base, nearly glabrous; petiole 1/3–1/2 as long as the blade; bracts linear, ciliate [l. corchorifolia](#)
- Flowers axillary; petioles very short: **2**
- 2 Stems and young parts densely covered with long silky hairs; leaves ovate-lanceolate, acute, rounded to truncate at the base, 4–8 cm. long, 2–3.5 cm. broad, pilose; petiole about 1/4 as long as the blades; bracts very long-linear, densely plumose-pilose [2a. melissifolia var. mollis](#)
- Stems at most pubescent with rather short hairs: **3**
- 3 Bracts about 1 cm. long; leaves ovate-lanceolate, pointed, 4–7 cm. long, 2–3 cm. broad [2b. melissifolia var. bracteosa](#)
- Bracts about 0.5 cm. long; leaves rather broadly ovate, scarcely pointed, 2–4 cm. long, about 1.5 cm. broad. [2c. melissifolia var. microphylla](#)

1. **Melochia corchorifolia** *Linn.* — F.T.A. 1: 236; K. Schum. in Engl. Monogr. Afr. Sterculiac. 41, t. 39; Chev. Bot. 84. *APD acc*

Herb or undershrub, 1 1/2–2 ft. or more, with hollow stems, erect or sometimes prostrate; flowers small, white or sometimes yellowish or pinkish; more common in wet places.

Sen.: Heudelot 494! Roger 119! M'bidjem (Oct.) Thierry 84! **Gam.:** Wallikunda (Sept.) Macluskie 14! **Fr. Sud.:** Tacadji (Aug.) Chev. 2747! Sansanding (Sept.) Chev. 24965! **Fr. G.:** Farana (Mar.) Sc. Elliot 5320! **S. L.:** Mahela (fr. Dec.) Sc. Elliot 3911! Pendembu (July) Thomas 831! Konta (Sept.) Jordan 103! **Lib.:** Cape Palmas (July) T. Vogel 30! 57! **G. C.:** Navrongo (fr. Dec.) Adams & Akpabla GC 4357! **Togo:** Yendi (Dec.) Adams & Akpabla GC 4095! **Fr. Nig.:** Niamey (Oct.) Hagerup 528! **N. Nig.:** Sokoto (Oct.) Moiser 118! Kontagora (Nov.) Dalz. 125! Nupe Barter 1529! Damaturu Kabau (fl. & fr. Oct.) Daggash FHI 22018! **S. Nig.:** Gambari, Ibadan Prov. (Sept.) Onochie FHI 7900!

Widespread in the tropics of the Old World.

2. **Melochia melissifolia** *Benth.* in Hook. Journ. Bot. 4: 124 (1841); K. Schum. l.c. 42. *APD acc*

Several varieties are widespread in tropical Africa; var. *melissifolia* is in tropical America. For this edition I have followed K. Schumann, but I am not altogether satisfied that these varieties are really distinct. There seems no justification for raising them to specific rank as in the first edition. A thorough study of this variable species throughout its range is needed.

2a. **Melochia melissifolia var. mollis** *K. Schum. l.c. 43 (1900). APD acc*

Melochia mollis (*K. Schum.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 250 (1928); Kew Bull. 1928: 296.

Herb with axillary clusters of small white or yellowish flowers.

Lib.: Monrovia Whyte! Vonjama (Oct.) Baldwin 9865! **S. Nig.:** Eket Talbot! **Br. Cam.:** Rio del Rey Johnston!

Extends to Shari, Upper Nile.

2b. Melochia melissifolia var. bracteosa (*F. Hoffm.*) *K. Schum.* l.c. 43 (1900).

APD: *Synonym of Melochia bracteosa F. Hoffm.*

Melochia bracteosa *F. Hoffm.* (1889) — F.W.T.A., ed. 1, 1: 250.

? **M. melissifolia var. brachyphylla** *K. Schum.* l.c., partly (*Sc. Elliot* 5095).

Habit of the preceding, up to 5 ft. high.

Sen.: Berhaut 1335; 2324; 4354. **S. L.:** Kambia (Dec.) *Sc. Elliot* 4351! Deighton 863! Pujehun (Dec.) Deighton 268! Yonibana (Nov.) Thomas 4915! 5061! Musaia (Dec.) Deighton 4550! **Lib.:** Gbanga (Oct.) Linder 1174! Tawata (Nov.) Baldwin 10310! **N. Nig.:** Bauchi Plateau (Sept.) Lely P. 716! **S. Nig.:** Lagos Millen 108! Ibadan (Mar.) Schlechter 12337! Ibuzo (Nov.) Thomas 2025! Onitsha Barter 1798! Okumi (Jan.) Holland 176! **Br. Cam.:** Rio del Rey Johnston!

Widespread in tropical Africa.

2c. Melochia melissifolia var. microphylla *K. Schum.* l.c. 43 (1900).

APD: *Synonym of Melochia bracteosa F. Hoffm.*

Melochia melissifolia of F.W.T.A., ed. 1, 1: 250.

A branched, prostrate, woody weed, with white or mauve flowers in axillary clusters.

Sen.: Heudelot 564! **S. L.:** *Sc. Elliot* 4163! Picket Hill (Nov.) T. S. Jones 206! Port Loko (Dec.) Thomas 6554! Rokupr (Oct.) Jordan 131! **Lib.:** Monrovia (Nov.) Linder 1551! Barker 1469! Zigida (Oct.) Baldwin 9987! Medina, Bumbuma (Oct.) Linder 1319! **N. Nig.:** Vom Dent Young 19! Plains between Hephram and Ropp (July) Lely 370! **S. Nig.:** Ebute Metta (Mar.) Dalz. 1191! Idanre Hills (Oct.) Keay FHI 22600! Ikom (Jan.) Rosevear 7/31!

11. WALTHERIA

Linn. — F.T.A. 1: 235.

- 1** Bracts and calyx puberulous and with larger stellate hairs having conspicuous reddish stalks; calyx 6–6.5 mm. long, the lobes triangular, about 2 mm. broad at base; cymes often stalked; stem and undersurface of leaves shortly stellate-pubescent or stellate puberulous, becoming less so with age; leaves lanceolate to ovate-lanceolate, obtuse at base, acute at apex, up to 8 cm. long and 3.5 cm. broad, crenate [1. lanceolata](#)

Bracts and calyx villous, with long simple hairs; calyx 4–4.5 mm. long, the lobes long-attenuate, about 1 mm. broad at base; cymes congested, usually many-flowered, usually sessile; stem and undersurface of leaves densely stellate-tomentose; leaves ovate to lanceolate, rounded or subcordate at base, obtuse or subacute at apex, up to 14 cm. long, and 6 cm. broad, rather closely serrulate-crenate [2. indica](#)

- 1. Waltheria lanceolata** *R.Br. ex Mast.* in F.T.A. 1: 235 (1868); *K. Schum.* in *Engl. Monogr. Afr. Sterculiac.* 44, t. 3 H; *Chev. Bot.* 85. *APD acc*

Waltheria incana *A. Chev.* Bot. 85, name only.

Straggling undershrub, to 10 ft. high; flowers yellow.

Sen.: Heudelot 68! Sedhiou, Casamance (Feb.) Chev.! **Gam.:** Ingram! **Fr. G.:** Heudelot 692! Pobéguin 377bis! Farana (Jan.) Chev. 20403! Kouria (Oct.) Caille in *Hb. Chev.* 14986. **S. L.:** Heddles Farm (Dec.) *Sc. Elliot* 3906! Freetown (Oct.) Deighton 249! Njala (Feb.) Deighton 1067! Port Loko (Dec.) Thomas 6709! **Lib.:** Bonuta (Oct.) Linder 882! Zigida, Vonjama (Oct.) Baldwin 9991! Loffa R., Boporo (Dec.) Baldwin 10679!

- 2. Waltheria indica** *Linn.* Sp. Pl. 2: 673 (1753); *Exell & Mendonça Consp. Fl. Ang.* 1: 192; *Int. Code Bot. Nomenclat.* 38 (1952). *APD acc*

Waltheria americana *Linn.* (1753) — F.T.A. 1: 235; *Chev. Bot.* 85; *K. Schum.* l.c. 45; F.W.T.A., ed. 1, 1: 250.

Erect herb or shrub to 7 ft. high; petals yellow, turning orange or brown with age; **common in open places.**

Sen.: Kaolak Chev. **Gam.:** Brooks 25! Genieri (Feb.) Fox 25! **Fr. Sud.:** Oualia (Dec.) Chev. 33! Labbézenga (Nov.) Hagerup 450! Timbuktu (July) Hagerup 226! **Fr. G.:** Pobéguin 377! **S. L.:** Freetown Deighton 1056! Rokupr (Apr.) Jordan 7! Magbile (Dec.) Thomas 5893! Karina (Feb.) Glanville 169! **Lib.:** Cinco, Monrovia (Nov.) Linder 1547! **Iv. C.:** fide Chev. l.c. **G. C.:** Abra, Cape Coast (Oct.) Howes 993! Achimota Irvine 460! Krobo Plains (Jan.) Johnson 538! Damongo, N.T. (July) Andoh FH 5195! **Togo:** Lome Warnecke 30! **Dah.:** Burton! Poisson! **N. Nig.:** Lokoja Ansell! Katsina (fl. & fr. Apr.) Meikle 1359! Naraguta (June) Lely 339! **S. Nig.:** Lagos Millen 178! Dawodu 8! Abeokuta Irving! Old Oyo F.R. (Sept.) Latilo FHI 23541! Uguoka, Awka (fl. & fr. Mar.) Jones FHI 7353!

Widespread in the tropics.

12. OCTOLOBUS

Welw. ex Benth. & Hook. f. Gen. Pl. 1: 982 (1867); Hutch, in Kew Bull. 1937: 394.

- Shrub or small tree; branchlets shortly tomentose when very young, soon glabrous; stipules subulate, caducous; leaves unifoliate, with petiole up to 5 cm. long, swollen at apex; lamina oblanceolate to elliptic-obovate, narrowed to the cuneate or rounded base, gradually long-acuminate, 6–24 cm. long, 2.5–7.5 cm. broad, glabrous, lateral nerves arcuate and prominent beneath, 7–9 pairs, venation closely reticulate; flowers unisexual, solitary and surrounded at base by an involucre of bracts, in axils of lower leaves, or on stem just below the leaves; calyx up to 2.8 cm. long, more or less densely tomentose outside, with 8 lanceolate lobes, 1.2–1.5 cm. long, each with a crisped marginal fringe, tube about 1–1.3 cm. long, narrow in male flower but broader in female; anthers about 4 mm. long, in 1 whorl with stipe about 5 mm. long; carpels numerous; fruiting carpels oblique ellipsoid, 2–2.5 cm. long, about 1.5 cm. broad, with stipe 1–1.5 cm. long, densely crowded, each with 5–6 seeds[angustatus](#)

Octolobus angustatus *Hutch. in Kew Bull. 1937: 395.*

APD: Synonym of Octolobus spectabilis Welw.

Octolobus spectabilis of Aubrév. Fl. For. C. Iv. 2: 252, t. 225 A (1936), not of Welw.

Cola rolandi-principis A. Chev. Bot. 83, name only.

Cola angustifolia of F.W.T.A., ed. 1, 1: 255, partly (as to syn.).

C. flavo-velutina of F.W.T.A., ed. 1, 1: 255, partly (Unwin & Smythe 53).

Small tree, to 25 ft. (rarely to 50 ft.) high, or shrub, in **forest**; flowers yellow or cream; fruiting carpels red, with shining black seeds.

S. L.: Gola Forest (fr. Jan.) Unwin & Smythe 53! **Iv. C.:** Adzopé to Boudépé (fr. Dec.) Chev. 22672! **G. C.:** Kwahu Prasu (Feb.) Vigne FH 1602! S. Fomang Su F.R. (Jan.) Vigne FH 2674! Akotui (Oct.) Vigne FH 4028! Aketewia (fl. & fr. Nov.) Vigne FH 4268! Akrum Ravine, Begoro (Oct.) Box 3497! **S. Nig.:** Etemi, Omo F.R. (Mar.) Jones & Onochie FHI 16613! Shasha F.R. (Feb.) Richards 3115! Owo F.R. (May) Jones FHI 3561a! Akure F.R. (Nov.) Keay FHI 25538! Okomu F.R. (Mar.) Akpabla 1118! Ekem, Nsukka (June) Cousens FHI 3561! Aboabam (Dec.) Keay!

[O. spectabilis Welw. from Gabon and Angola is closely related.]

Octolobus sp.

Forest tree, to 35 ft. high; flowers not known.

Br. Cam.: Mombo, S. Bakosi Forest, Kumba Dist. (fr. May) Olorunfemi FHI 30565!

Imperfectly known species.

13. PTERYGOTA

Schott & Endl. Meletem. Bot. 32 (1832).

- Undersurface of young leaves and shoots and inflorescence axes with very short appressed stellate hairs, often whitish or olivaceous in colour; leaves usually 7-nerved at base, more or less pentagonal-ovate, sometimes slightly lobed, widely to deeply cordate at base, 10–38 cm. long and broad; flowers 17–20 mm. long, distinctly pedicellate, sepals tomentose outside but subglabrous within; fruiting carpels 12–18 cm. long, 10–13 cm.

broad, ellipsoid or subglobose, rounded on the side opposite the suture, with a stout stipe 1.5–4.5 cm. long and 1.5–2 cm. diam.; seeds (including wing) 8–12 cm. long, 3.5–5.5 cm. broad [1. macrocarpa](#)

Undersurface of young leaves and shoots and inflorescence axes densely brown stellate-tomentose; leaves usually 5-nerved at base, oblong-ovate to suborbicular, truncate to widely cordate at base, 5–17 cm. long and broad; flowers 10–12 mm. long, sessile or subsessile, sepals tomentose outside and inside; fruiting carpels tapered on the side opposite the centre of the suture, 7.5–10 cm. broad from the centre of the suture to the tip of the tapered back, 5–7 cm. long, attenuate at base into the 3–5 cm. long stipe which is about 4–5 mm. diam. in the middle; seeds (including wing) 7–7.5 cm. long, 2.5–3 cm. broad [2. bequaertii](#)

1. *Pterygota macrocarpa* K. Schum. in Engl. Monogr. Afr. Sterculiac. 135, fig. 1, A–B (1900); Aubrév. Fl. For. C. Iv. 2: 254, t. 226; Milne-Redhead in Kew Bull. 1950: 348, partly (excl. ref. frts., Maitland 445 and carpel walls associated with Maitland 90). *APD acc*

Pterygota cordifolia A. Chev. Vég. Util. 5: 252 (1909).

Forest tree, to 120 ft. high, with buttresses.

S. L.: Smythe 258! (sterile spec., ident. provis.). Iv. C.: Aubrév. 957! Morénou (Nov.) Chev. 22462! Man Aubrév. 405! Zaranou (fr. Mar.) Chev. 16271. G. C.: Nkawe Chipp 143! Dedeswa (fr. Mar.) Chipp 144! Ntenseri (fr. Mar.) Mc.Ainsh 872! Kotokron (June) Vigne FH 1198! Owabi (fr. Nov.) Vigne FH 2589! S. Nig.: Olokemeji F.R. (fr. Feb.) Corbin 522! Ejiofor FHI 33451! Ibadan North F.R., Ubogu FHI 7152! Shasha F.R. (fr. Feb.) Jones FHI 16974! Akure F.R. (fl. Nov., fr. Oct.) Latilo FHI 15284! Keay FHI 19660! Kataban, Ikom (Nov.) Catterall! Oban Talbot! Br. Cam.: Victoria (fl. & fr. Nov.) Maitland 90! 769! Likomba (fl. Nov., fr. Dec.) Mildbr. 10701! 10778!

[Small fragments of Zenker 2652 (the type-number of *P. kamerunensis* K. Schum. (1907), from Bipinde in the French Cameroons in the herbaria at Kew and the British Museum are probably equal to *P. macrocarpa* K. Schum.)]

2. *Pterygota bequaertii* De Wild. in Comp. Rend. Soc. Biol. (Réunion, Dec. (1919)) 82: 1397 (1919). *APD acc*

Pterygota aubrevillei Pellegr. in Bull. Soc. Bot. Fr. 78: 441 (1931); Aubrév. Fl. For. C. Iv. 2: 256, t. 227.

Sterculia thompsonii Hutch. & Dalz. F.W.T.A., ed. 1, 1: 251 (1928), partly (lvs. only).

Forest tree, to 100 ft. high; less common than *P. macrocarpa*, and usually in rather moister regions; flowers cream when young, with ginger-brown hairs.

Iv. C.: (May) Aubrév. 1926! Mé (Oct.) Aubrév. 166. Yapó (fr. Dec.) Aubrév. 607! S. Nig.: W. Prov. Thompson 6! Abeku, Omo F.R. (fl. & fr. Feb.) Jones & Onochie FHI 16738! Sapoba Kennedy 1633! 1857! Usonigbe F.R. (fr. Aug.) Adekunle FHI 22637! 22644! Mamu River F.R. (fl. & fr. Nov.) Keay FHI 21529! Degema (fl. & fr. Aug.) Rosevear PH. 1/39! Talbot 3641! Oban Talbot 217!

Also in French Cameroons, Gabon and Belgian Congo.

Besides the above indigenous species, *P. alata* (Roxb.) R. Br. from tropical Asia has been collected (Maitland 445) at Victoria, British Cameroons; the references to the fruit in Milne-Redhead's paper (Kew Bull. 1950: 348) are based on this specimen and not on *P. macrocarpa* K. Schum.

14. STERCULIA

Linn. — F.T.A. 1: 215.

- 1 Leaves digitately nerved and lobed, cordate at base, lobes triangular-acuminate, up to 20 cm. long and broad, softly stellate-tomentellous beneath, becoming less so with age; flowers in short crowded cymes on the previous year's shoots; calyx widely campanulate, lobed to about the middle, about 1 cm. long, tomentose outside; fruiting carpels boat-shaped, 6 or more cm. long, very hairy inside; seeds ellipsoid, slate-coloured, 10–14 mm. long, with a yellow fleshy aril at base [1. setigera](#)

Leaves pinnately nerved and entire: [2](#)

- 2 Calyx divided to the base, lobes about 5 mm. long, woolly inside; fruiting carpels with very woody walls about 1 cm. thick, ellipsoid, with a short stout stipe, acuminate at apex, 10–16 cm. long, with about 16 seeds each completely enclosed in yellow aril; panicles with 1–5-flowered lateral branches up to about 2 cm. long; leaves elliptic or oblong, rounded to obtuse at base, shortly acuminate at apex, 7–14 cm. long, 4–8 cm. broad, with 10–14 pairs of parallel lateral nerves, thinly stellate-pubescent to subglabrous beneath, petioles 2–7 cm. long [2. oblonga](#)

Calyx campanulate, lobed in the upper half; fruiting carpels with walls up to 5 mm. thick, boat-shaped, distinctly stipitate, 5–7 cm. long; seeds not covered with yellow aril; lateral branches of inflorescence several-flowered,

up to 5 cm. long:.....3

- 3 Calyx-lobes not adhering at apex, with apical incurved hairy appendages; inflorescence axes sparingly stellate puberulous; leaves glabrous or nearly so beneath, more or less oblong, rounded at base, scarcely acuminate, 10–30 cm. long, 4–16 cm. broad, petioles 3–11 cm. long; fruiting carpels glabrous or puberulous inside, with about 8 seeds each completely enclosed in bright red aril [3. *rhinopetala*](#)

Calyx-lobes adhering at apex, without appendages; inflorescence axes densely stellate-tomentose; leaves stellate-tomentellous beneath, ovate-elliptic or slightly obovate, rounded to slightly cordate at base, obtusely and shortly acuminate, 10–18 cm. long, 5–11 cm. broad, petioles 2–7.5 cm. long; fruiting carpels bristly-tomentose inside, with slate-coloured seeds, not arillate [4. *tragacantha*](#)

1. *Sterculia setigera* Del. Cent. Pl. Afr. 61 (1826); Aubrév. Fl. For. Soud.-Guin. 159, t. 28. *APD acc*

Sterculia tomentosa Guill. & Perr. Fl. Seneg. 1: 81, t. 16 (1831); F.T.A. 1: 217; K. Schum. in Engl. Monogr. Afr. Sterculiac. 106; F.W.T.A., ed. 1, 1: 251; Kennedy For. Fl. S. Nig. 63; not of Thunb. (1794).

Sterculia cinerea A. Rich. — F.T.A. 1: 218.

A deciduous, [savannah](#) tree, to 40 ft. high; bark rough, yielding a white gum; young branches softly tomentose; flowers dull red or yellowish-green with red streaks, appearing before the new foliage; fruiting carpels usually 4–5, grey to brownish outside, beaked, velvety inside with pungent bristles along the placenta line.

Sen.: Perrottet 88! Bakel Leprieur. Bondou Heudelot 156. **Gam.:** Dawe 47! **Fr. Sud.:** Bougouni Chev. 678. And various localities fide Aubrév. l.c. **Fr. G.:** Kadé Pobéguin 1983. **IV. C.:** Korhogo Aubrév. 1865. Ferkéssédougou Aubrév. 1619! **G. C.:** Ejura (fr. Aug.) Chipp 761! Wa (Mar.) McLeod 841! Salaga (fr. June) Saunders 804! **Togo:** Sokode (Apr.) Kersting! **Dah.:** Ouessé Poisson 79! **N. Nig.:** Nupe Barter 1115! 1307! Zungeru (Jan.) Elliott 28! Ilorin (Feb., Mar.) Lamb 41! Yola (fr. Oct.) Shaw 93! Musgu (Mar.) E. Vogel 98! **S. Nig.:** Okure Okwe Unwin 152!

Widespread in tropical Africa.

2. *Sterculia oblonga* Mast. in F.T.A. 1: 216 (1868); K. Schum. l.c. 101, fig. 1 C; Chev. Bot. 76; Kennedy l.c.

APD: *Synonym of Eribroma oblongum (Mast.) Pierre ex A. Chev.*

Sterculia elegantiflora Hutch. & Dalz. F.W.T.A., ed. 1, 1: 251 (1928); Kew Bull. 1928: 297; Aubrév. Fl. For. C. Iv. 2: 236, t. 218, 1–5.

Sterculia thompsonii Hutch. & Dalz. ll.cc., partly (flowers only; the leaves are *Pterygota bequaertii* De Wild.).

Forest tree, to 120 ft. high, with buttresses and clean bole; bark-slash cream; flowers cream or greenish-yellow; fruiting carpels greyish-brown.

IV. C.: Soubiré, Sanvi (Mar.) Chev. 17693! Yapo Chev. 22316! Abidjan Aubrév. 182! Bouroukrou Chev. 16137. Mid. Comoé Chev. 22633. Attié Chev. 22668. **G. C.:** Amentia (Sept.) Vigne FH 1359! N. Agogo, Ejan (Jan.) Vigne FH 1789 (partly)! Jimira F.R. (Oct.) Vigne FH 3108! **S. Nig.:** (fr. Dec.) Foster 369! W. Prov. Thompson 6 (partly)! Sapoba (Nov.) Kennedy 410! 1632! Usonigbe F.R. (fr. Aug.) Adekunle FHI 22639! **Br. Cam.:** Likomba Mildbr. 10616! **F. Po:** Mann 1162!

Also in **French Cameroons** and **Gabon**.

3. *Sterculia rhinopetala* K. Schum. l.c. 102 (1900); Aubrév. l.c. 236, t. 217; Kennedy l.c. 64. *APD acc*

Sterculia oblongifolia A. Chev. Bot. 76, name only.

Forest tree, to 120 ft. high, with narrow buttresses and straight bole; bark-slash pinkish-brown; flowers cream or greenish-yellow; fruiting carpels brown.

IV. C.: Morénou (fr. Nov.) Chev. 22455! And various localities fide Aubrév. l.c. **G. C.:** Dunkwa (Aug.–Sept.) Chipp 717! Vigne FH 157! Sefwi-Bibiani (fl. & fr. Aug.) Vigne FH 1326! Abuasi (Sept.) Vigne FH 925! **Togo:** Worawora (Oct.) St. C. Thompson FH 3595! **S. Nig.:** Ibadan F.R. (Nov.) Punch 106! Akure F.R. (Oct.) Keay FHI 16250! Okomu F.R. (fr. Feb.) A. F. Ross 189! Ikom (Sept.) Catterall 34!

Also in **French Cameroons**.

4. *Sterculia tragacantha* Lindl. — F.T.A. 1: 216; K. Schum. l.c. 102; Chev. Bot. 77; Aubrév. l.c. 234, t. 218, 6–9; Kennedy l.c. 63. *APD acc*

A tree of the [open parts or edges of forests](#); up to 80 ft. high; bole 30–40 ft., sometimes buttressed; grey corky bark yielding a coloured gum; conspicuous with red-purple flowers about Jan.–Feb.; fruit bright red turning brown.

Fr. Sud.: Banfara (Mar.) Chev. 536! **Port. G.:** Bissalanca, Bissau (Feb.) Esp. Santo 1728! **Fr. G.:** Fouta Djallon Heudelot 657! Conakry Maclaud! Mamou to Dalaba (fr. Mar.) Dalz. 8387! **S. L.:** Don! Buya-buya (Feb.) Sc. Elliot 4465! Panguma (Mar.) Lane-Poole 74! Kosso Town Smythe 249! Rosino (Feb.) Deighton 4975! **Lib.:** Peahtah (fr. Oct.) Linder 1106! Genna Tanyehun (Dec.) Baldwin 10760! Kle, Boporo (fl. & fr. Dec.) Baldwin 10625! **iv. C.:** Azaguié (young fr. Sept.) Chev. 22305! **G. C.:** Cape Coast Brass! Fiapere (Feb.) Chipp 84! Peki Plains (Jan.) Johnson 544! Asofa, Achimota (fl. & fr. Jan.) Irvine 1967! Odumase (fr. Mar.) Irvine 896! Tafo (fl. & fr. Nov.) N. F. Robertson 4! 5! Lovi WH 3848! **Togo:** Lome Warnecke 456! **Dah.:** Le Testu 169! **N. Nig.:** Nupe Barter 1228! Agaie (Feb.) Yates 32! Selfwe R., Plateau Prov. Thornewill 59! **S. Nig.:** Lagos Rowland! Benin City Unwin 36! Oban (May) Talbot! Ujor FHI 30820! **Br. Cam.:** Amba Bay (Feb.) Mann 759! Victoria (Jan., Feb.) Maitland 366! 372! Johann-Albrechtshöhe Staudt 887!

Widespread in tropical Africa.

***Sterculia foetida* Linn.**

A native of tropical Asia, it has been introduced into cultivation in our area.

***Sterculia apetala* (Jacq.) Karst**

Sterculia carthaginensis Cav.

A native of tropical America, it has been introduced into cultivation in our area.

15. COLA

Schott & Endl. — F.T.A. 1: 220.

***Chlamydocola* (K. Schum.) Bodard** in J. Agr. Trop. Bot. Appliq. 1: 313 (1954).

- 1 Leaves compound, digitate; anthers in 1 whorl (N.B. — rudimentary anthers can always be observed below the carpels in the female flowers):2
- Leaves simple, lobed or entire: 11
- 2 Leaflets with undersurface completely hidden (or almost so) by scales clearly visible under x 10 lens, and giving the surface a silvery appearance; leaflets 3, up to 50 cm. long and 20 cm. broad, shortly petiolulate; flowers in densely clustered cymes on the older wood; pedicels jointed, distinct, scaly; calyx-tube campanulate, 7–10 mm. long, densely scaly outside, lobes with crisped marginal frill [1. lepidota](#)
- Leaflets not scaly, or only minutely, sparsely and inconspicuously so; leaflets 5–7 (–9):3
- 3 Calyx 6–9 cm. long, elongate-urceolate, ribbed, brown-woolly in bud, later only minutely stellate-puberulous; plant cauliflorous; leaflets usually deeply lobed, subsessile, central leaflets up to 45 cm. long, basal leaflets much smaller [2. gigas](#)
- Calyx up to 4 cm. long:4
- 4 Flowers in axillary clusters among the leaves, sometimes also a few clusters just below the leaves:5
- Flowers borne on the older wood below the leaves:7
- 5 Leaflets, at least the central ones, usually deeply lobed, never abruptly caudate-acuminate; stipules caducous; perianth without a crisped marginal fringe, lobes more or less erect; stamens grouped in bundles within the whorl; fruiting carpels long-stipitate, smooth:6
- Leaflets oblanceolate to obovate, not lobed, very abruptly long-caudate-acuminate at apex, up to 40 cm. long and 11 cm. broad; branchlets, pedicels and outside of flowers brown-tomentellous, petiole and midrib beneath puberulous; stipules ovate-lanceolate, erect and rigid, 1.5–4.5 cm. long; calyx-tube about 8–12 mm. long, lobes reflexed, about 14–16 mm. long, with a crisped almost lacinate marginal fringe towards the apex; stamens in a continuous whorl, not grouped or twisted; fruiting carpels apparently sessile, with irregular conical warts, ellipsoid to subglobose, 4–5 cm. diam., 3–8 cm. long [5. rostrata](#)
- 6 Leaves papery to subcoriaceous, gradually acuminate at apices of leaflets and often also of upper lobes, up to 55 cm. long, almost glabrous beneath; petioles 2.5–7 mm. diam.; male calyx about 15 mm. long, lobed to below the middle or to base; fruiting carpels opening out almost flat with the seeds borne on the margins .. [3. digitata](#)
- Leaves thickly coriaceous and rigid, obtuse or hardly acuminate at apices of leaflets and lobes, up to 85 cm. long, densely stellate-puberulous beneath; petioles 8–15 mm. diam.; male calyx 16–22 mm. long, lobed to the middle; fruiting carpels apparently not opening out flat, boat-shaped [4. megalophylla](#)
- 7 Pedicels 1.8–5 cm. long; calyx subglabrous or minutely puberulous outside, campanulate to shortly funnel-shaped, 1.3–3.5 cm. long; leaflets broadly oblanceolate to obovate, always petiolulate, not lobed, but sometimes sinuate especially towards the acuminate apex, up to 35 cm. long and 14.5 cm. broad, subglabrous

- beneath; fruiting carpels shortly stipitate, ellipsoid or oblong, stout, glabrous, up to 20 cm. long and 10 cm. thick [6. pachycarpa](#)
- Pedicels up to 1 cm. long; calyx densely pubescent or puberulous outside: **8**
- 8** Leaflets all sessile, basal ones very asymmetrical towards base (proximal side more or less rounded, distal side cuneate) more or less glaucous-grey beneath; petiole, midrib and lateral nerves at first with coarse plumose or stellate hairs which are easily rubbed off; central leaflets to 35 cm. long and 15 cm. broad; pedicels up to 3 mm. long with small ovate bracts at base; calyx campanulate 9–15 mm. long [7. argentea](#)
- Leaflets petiolulate, rarely some sessile, entire or rarely sporadically sinuately lobed, not glaucous beneath, basal ones cuneate and not or only very slightly asymmetrical at base: **9**
- 9** Carpels 3–5; calyx-tube up to 9 mm. long, lobes up to 13 mm. long; pedicels up to 1 cm. long in flower; leaflets papery to thinly coriaceous, always long-petiolulate: **10**
- Carpels 9–12; calyx-tube 1.1–1.9 cm. long, lobes 1.3–2.5 cm. long; stamens 17–18; flowers sessile or subsessile; fruiting carpels thick-walled, obliquely oblong, 9–12 (–16) cm. long, densely tomentellous, subsessile, with a short, curved beak; leaflets up to 60 cm. long and 20 cm. broad, petiolulate or subsessile, acuminate [10. chlamydantha](#)
- 10** Calyx-tube 2–3 mm. long, lobes 6–7 mm. long; anthers 8–10; carpels 3–4; flowers fasciculate; fruiting carpels when dry thin-walled, shortly boat-shaped to cylindrical, 4–9 cm. long, longitudinally ridged, otherwise smooth and subglabrous, with stipe up to 8 mm. long and beak up to 15 mm. long; leaflets up to 30 cm. long, gradually acuminate, ultimate venation obscure [8. umbratilis](#)
- Calyx-tube 7–9 mm. long, lobes 8–13 mm. long; anthers about 15; carpels 4–5; flowers in short panicles, with common axis up to 3 cm. long; leaflets up to 42 cm. long, gradually acuminate, ultimate venation a prominent reticulum [9. buntingii](#)
- 11** Leaves mostly deeply digitately lobed and nerved; anthers in 1 whorl (N.B. — rudimentary anthers can always be observed below the carpels in the female flowers): **12**
- Leaves entire, sometimes obscurely lobed but then anthers in 2 whorls: **19**
- 12** Stipules persistent, linear, 1.4–2.8 cm. long, rigid; leaves closely crowded at the top of the unbranched main stem, very variable in size, petioles of lower leaves up to 53 cm. long; lamina deeply 3-lobed, sometimes with 1–2 additional basal lobes, acuminate abrupt, very narrow, up to 4 cm. long, central lobe with 8–14 main lateral nerves on each side of midrib; petioles and main nerves beneath scurfy-puberulous, surface of lamina otherwise glabrous except for closely set minute reddish sessile glands; flowers sessile, bracteate, in clusters in leaf-axils and down to base of trunk; calyx about 6 mm. long, densely rusty-pubescent outside, deep plum-purple inside with numerous minute papillae; carpels 3; fruiting carpels ellipsoid, acuminate at apex, 4–7 cm. long, 1–3-seeded [11. ficifolia](#)
- Stipules soon caducous, up to 1 (–1.5) cm. long; main stem usually branched, leaves not closely crowded at top; leaves (2–) 3–5 (–7)-lobed or rarely entire, gradually acuminate, central lobe with up to 7 main lateral nerves on each side of midrib; flowers mostly in cymes; calyx 9–20 mm. long: **13**
- 13** Calyx with numerous minute papillae inside; carpels 4–6; fruiting carpels ellipsoid to subcylindrical, with a long apical beak; leaves 2–3-lobed, or rarely entire; young branchlets and petioles with short stellate pubescence; flowers in slender few-flowered cymes, pedicels well-developed [12. heterophylla](#)
- Calyx with elongate more or less flexuous simple hairs inside; carpels (5–) 8–11: **14**
- 14** Carpels 5–7, in fruit elongate, subcylindrical, up to 8 cm. long, including the 2–3 cm. long beak; leaves not more than 3-lobed, sometimes simple, often with long hairs on petiole-apex and main nerves; flowers yellowish; calyx with usually rather sparse stellate hairs outside; small tree to 3.6 m. high; see below [13. brevipes](#)
- Carpels (6–) 8–11, in fruit (where known) without a long apical beak; leaves 3–7-lobed, never simple: **15**
- 15** Petioles and main basal nerves of leaves beneath pubescent, puberulous or almost glabrous; hairs short, stellate or simple, not hispid; lobes of leaves usually entire: **16**
- Petioles and main basal nerves of leaves beneath hispid with long spreading simple or fascicled hairs: **18**
- 16** Calyx-lobes 1–2 mm. thick, 4 or 5, sometimes 3; flowers yellowish inside, with dense usually brownish stellate indumentum outside; inflorescence-axes and pedicels very short; inflorescences few-flowered; fruits not known: **17**
- Calyx-lobes 1 mm. or less thick, usually 5, rarely 4; flowers normally red or purplish-red inside (very rarely uniformly pale yellow), with short stellate indumentum outside, usually rather sparse on the lobes; inflorescence-axes and pedicels usually distinct; inflorescences several- to many-flowered; leaves usually 5-lobed, sometimes 3- or 7-lobed; petioles and main basal nerves of leaves beneath more or less stellate-pubescent; fruiting carpels sessile, obovoid to ellipsoid, rounded at apex, up to 8.5 cm. long and 3–5 cm. broad, glabrous; tree 4–12 (–18) m. high [16. millenii](#)
- 17** Leaves 3-lobed, sometimes with 2 additional basal lobes, the lobes separated by open sinuses, their margins not overlapping; leaves green; tree to 5 m. high [14. flaviflora](#)
- Leaves 5-, very rarely 3-lobed, the lobes close to one another and usually with their margins overlapping; leaves reddish or purplish beneath when fresh [15. ricinifolia](#)

- 18** Calyx outside with sparse to moderately dense indumentum of small stellate hairs, lobes 4–7.5 mm. long; leaves usually 5-lobed, sometimes with secondary lobes; fruiting carpels with stipe about 1.5 cm. long, subcylindrical, narrowed to apex, with prominent suture, up to 10 cm. long and 3 cm. broad, glabrous [17. caricaefolia](#)
- Calyx outside densely and shortly brown-tomentose, lobes 3.5–5 mm. long; leaves 3- or 5-lobed, usually without secondary lobes; fruiting carpels subsessile, obovoid to ellipsoid, rounded at apex, up to 5 cm. long and 3 cm. broad, densely pubescent to shortly tomentose [18. hispida](#)
- 19** Anthers in 1 whorl (N.B. — rudimentary anthers can always be observed below the carpels in the female flowers): **20**
- Anthers in 2 superposed whorls (N.B. — rudimentary anthers can always be observed below the carpels in the female flowers): **36**
- 20** Leaves cordate at base, often with a pair of small pouches near base of lamina, obovate-elliptic, abruptly acutely acuminate, up to 35 cm. long and 15 cm. broad; stems, stipules, petioles and midrib of leaves beneath densely clothed with long spreading hairs; flowers crowded in the upper axils, shortly pedicellate; calyx 5–12.5 mm. long, more or less spreading-pilose outside, with minute simple elongate flexuose hairs inside; carpels 5–6; fruiting carpels subcylindrical, beaked, up to about 7 cm. long and 1.5 cm. diam. (when dry) .. [19. marsupium](#)
- Leaves not cordate, lamina without small pouches at base: **21**
- 21** Calyx 3–5 cm. long, campanulate, stellate-puberulous outside, tube glabrous within except for microscopic papillae near base, lobes densely stellate-puberulous within; flowers solitary or fasciculate in leaf-axils, pedicels about 2–3.5 cm. long; carpels 4–5, densely and minutely tomentellous, with an androgynophore up to 3 mm. long; leaves obovate, more or less rounded at base, shortly acuminate, up to 40 cm. long and 16 cm. broad, coriaceous, glabrous or nearly so when mature [20. altissima](#)
- Calyx up to 2.5 cm. long: **22**
- 22** Calyx with minute simple elongate more or less flexuose hairs inside; petioles usually with long spreading simple or fascicled hairs; flowers shortly pedicellate in the upper axils; calyx 7–13 mm. long, sparsely stellate-pubescent outside; carpels 5–7, shortly tomentose; fruiting carpels subcylindrical, up to 8 cm. long including the 2–3 cm. long beak; leaves obovate or obovate-elliptic, acute or rounded at base, more or less acuminate at apex, up to 35 cm. long and 13 cm. broad, sometimes lobed; see above [13. brevipes](#)
- Calyx with minute papillae inside; young branchlets and petioles without long spreading hairs: **23**
- 23** Flowers in cymes or panicles, with main axis well-developed: **24**
- Flowers fasciculate, main axis of inflorescence absent or nearly so; mature leaves glabrous or nearly so: **25**
- 24** Inflorescence and flowers densely and shortly rusty-tomentose, paniculate, many-flowered; calyx 4–6 mm. long with very short tube; leaves and shoots when young with dense easily detached ginger-brown stellate indumentum; leaves elliptic to lanceolate-elliptic, usually obtuse at each end, to 25 cm. long and 13 cm. broad, coriaceous; fruiting carpels 4–6, subglobose, rounded at apex, up to 5 cm. long [21. laurifolia](#)
- Inflorescence and flowers rather sparsely and very shortly grey-puberulous, cymose, rather few-flowered; calyx 7–20 mm. long; leaves and shoots when young with indumentum as on inflorescence; leaves more or less acuminate at apex, membranous; fruiting carpels ellipsoid to ellipsoid-oblong, beaked [12. heterophylla](#)
- 25** Stipules large and persistent, 2.5–3.5 cm. long; flowers sessile; calyx campanulate, about 5–7 mm. long, tomentellous outside; leaves elongate-obovate or elliptic-lanceolate, abruptly acuminate at apex, up to 58 cm. long and 20 cm. broad, woolly-tomentose when young, glabrescent, petiole up to 36.5 cm. long [22. semecarpophylla](#)
- Stipules usually up to 1.5 cm. long, caducous (but in No. 23 up to 3 cm. long and more or less persistent); flowers distinctly pedicellate: **26**
- 26** Calyx 6–25 mm. long: **27**
- Calyx 2.5–5 (–6) mm. long; carpels 3–5: **31**
- 27** Calyx glabrous outside, 16–25 mm. long, with very short tube; anthers 9–10; carpels 8, glabrous except for microscopic papillae; ovules 6–7 per carpel; styles bifid at apex; flowers borne on cushions along whole of trunk; pedicels up to 14 mm. long, jointed 2.5–5 mm. above base, glabrous; leaves crowded at ends of shoots, with stipules up to 3 cm. long and more or less persistent; lamina oblanceolate-elliptic, up to 35 cm. long and 14 cm. broad, often smaller; fruiting carpels subglobose, stipitate [23. glabra](#)
- Calyx more or less puberulous to tomentose outside, 6–17 mm. long; carpels (3–) 4–5, tomentellous to tomentose; pedicels hairy: **28**
- Petioles up to 1 cm. long, rarely a few up to 2.8 cm.: **30**
- 29** Stipules lanceolate, caducous; upper pulvinus of petiole glabrous, or with a few minute simple hairs on upper side; calyx 9–10 mm. long, stellate-puberulous outside; leaves elliptic or elongate-elliptic, up to 27 cm. long and 12.5 cm. broad [24. nigerica](#)
- Stipules subulate, up to 7 (–14) mm. long, persistent; upper pulvinus of petiole densely and shortly puberulous all round; calyx 6–17 mm. long, coarsely brown-pubescent outside; leaves elliptic or oblanceolate-elliptic, up to 30 cm. long and 10 cm. broad [25. flavo-velutina](#)
- 30** Outside of calyx with sparse stellate hairs; calyx about 10 mm. long, with tube about 5 mm. long; androphore and

base of calyx inside glabrous except for minute papillae on latter; carpels whitish-pubescent; leaves oblong-elliptic to oblong-oblancheolate or lanceolate, up to 14 (–20) cm. long and 5 (–8) cm. broad; fruiting carpels boat-shaped, 3.5–4 cm. long, subsessile, with short deflexed beak about 5 mm. long [26. reticulata](#)

28...... Petioles 2.5–8 cm. long, but sometimes shorter near the apices of shoots: **29**

Outside of calyx densely tomentellous; calyx about 6–8 mm. long, with tube about 1–2 mm. long; androphore and base of calyx inside pubescent; carpels rusty-pubescent; leaves oblanceolate to elliptic-oblancheolate or obovate, up to 20 cm. long and 5 cm. broad, coriaceous [27. angustifolia](#)

31 Acumen of leaves long, enlarged towards the blunt apex; lamina ovate-elliptic or elliptic, up to 11.5 cm. long and 4.5 cm. broad; petiole up to 8 mm. long, puberulous; flowers solitary or paired in leaf-axils on slender puberulous pedicels about 8–10 mm. long; calyx densely puberulous outside [28. philipi-jonesii](#)

Acumen of leaves not enlarged towards the apex:..... **32**

32 Petioles up to 1.2 cm. long, rarely longer; lamina oblanceolate or obovate, long-attenuate to a usually narrow obtuse base; leaves aggregated near ends of shoots, mostly 10–22 (–30) cm. long and 3–9 (–10) cm. broad; flowers fascicled on leafy twigs and all down stems, on slender sparsely puberulous pedicels up to 16 mm. long; calyx sparsely puberulous or subglabrous outside; fruiting carpels 5, up to 6 cm. long and 4.5 cm. broad, narrowed to base, shortly beaked [29. cauliflora](#)

Petioles (1.2–) 2–9 cm. long; lamina not long-attenuate at base; leaves not conspicuously aggregated near ends of shoots: **33**

33 Calyx glabrous or almost so except on lobe-margins and for microscopic papillae inside; carpels glabrous; fruiting carpels obliquely subglobose to obovoid, 1.5–3 cm. long, 1.4–2.2 cm. broad, usually with 2 seeds in each; flowers numerous in dense fascicles among and just below leaves; pedicels 4–13 mm. long, glabrous; leaves oblanceolate to elliptic, up to about 15 cm. long and 6.5 cm. broad [30. boxiana](#)

Calyx densely puberulous to pubescent outside; carpels pubescent: **34**

34 Leaves narrowed to a rounded or obtuse base, lanceolate to slightly oblanceolate, gradually very long-acuminate, 15–40 cm. long, 4–12 cm. broad; flower-fascicles among leaves and below; pedicels slender, up to about 13 mm. long; ovules 4–6 per carpel [31. praeacuta](#)

Leaves narrowed to an acute base, more shortly and abruptly acuminate, acumen to 1.5 cm. long; flowers on old wood:..... **35**

35 Acumen of leaves tapering to a very narrow (0.75–1 mm.) apex; pedicels short, about 3–6 mm. long; ovules 2 per carpel; leaves oblanceolate to obovate, 8–22 cm. long, 3.2–10 cm. broad [32. bodardii](#)

Acumen of leaves 2–3 mm. broad near apex; pedicels about 2 cm. long; ovules 1 per carpel; leaves broadly oblanceolate, 12–26 cm. long, 5–10 cm. broad; fruiting carpels subglobose, apiculate, stipitate, about 1.5 cm. long, glabrous. [33. attiensis](#)

36 Leaves elliptic to oblong-lanceolate or obovate, rarely ovate-elliptic, cuneate or rounded at base, never lobed, more or less clearly 3-nerved at base: **37**

Leaves ovate to suborbicular, mostly truncate to cordate at base: **41**

37 Leaves not verticillate at nodes, though sometimes appearing in a false verticil terminating the shoot but with alternate leaves below; flowers and bracts (except in No. 36) non-verticillate; cotyledons 2 or more: **38**

Leaves verticillate but sometimes a few not clearly whorled; flowers and bracts tending to be verticillate; inflorescence very densely tomentellous, up to 7 cm. long, with short pedicels, densely flowered; calyx-lobes densely tomentellous within as well as without; cotyledons 3–6 (rarely 2):..... **40**

38 Flowers and bracts non-verticillate; inflorescence puberulous, sometimes densely so, not conspicuously elongated, up to 9 cm. long; flowers up to 2 (–3) cm. long: **39**

Flowers and bracts irregularly verticillate; inflorescence very densely shortly tomentose all over (brown when dry), often conspicuously elongated (sometimes growing into leafy shoots) up to 17 cm. long, with long bare axes bearing 2–3 pairs of long-pedunculate lateral cymules, the latter small and dense with short pedicels; calyx not more than 1 cm. long, apparently not opening widely; leaves oblong-elliptic, up to 26 cm. long and about 9 cm. broad, with acumen which is often abrupt and usually rather long; fruiting carpels with surface as in No. 35 and without tubercles; seeds (in only carpel opened) 4, each with 2 cotyledons [36. simiarum](#)

39 Fruiting carpels green and shiny, surface smooth to touch, but knobbly with large tubercles, up to about 13 cm. long and 7 cm. broad, upper suture forming a conspicuous ridge produced into a short deflexed beak; seeds 4–8 (–10) per carpel, each seed with 2 cotyledons; leaves broadly oblong to broadly elliptic, sometimes elliptic-oblancheolate, abruptly and shortly acuminate at apex, up to 33 cm. long and 13 cm. broad, usually smaller, often discoloured on lower surface when dry; indumentum on inflorescence often dense [34. nitida](#)

Fruiting carpels russet-brown or olivaceous, surface rough to touch owing to a minute indumentum, but not knobbly, up to 20 cm. long by 6 cm. broad, narrowed to apex, upper suture not conspicuously ridged, apex not deflexed; seeds up to 14 per carpel, each seed with 3–4 (rarely 2 or 5–6) cotyledons; leaves oblanceolate to narrowly oblong or elliptic, sometimes narrowly obovate, gradually long-acuminate at apex, the acumen often twisted downwards, up to 22 cm. long and 8 cm. broad; indumentum on inflorescence often comparatively sparse and fine [35. acuminata](#)

- 40** Leaves usually in whorls of 4; fruiting carpels similar to No. 35, up to 20 cm. long and 9 cm. broad; seeds about 6–8 per carpel, each with thick testa and (2–) 3–4 cotyledons; leaves elliptic-lanceolate or obovate, shortly and rather abruptly narrowly acuminate, 11–25 cm. long, 3·5–9 cm. broad [37. *verticillata*](#)
- Leaves usually in whorls of 3; fruiting carpels green, surface with close rounded knobs and ridges and with a more or less straight beak at apex, keeled on upper suture, up to 12 cm. long; seeds (in only carpel opened) 2 per carpel, each with (3–) 4–5 (–6) cotyledons; leaves elliptic to obovate-elliptic, rarely ovate-elliptic, up to 17 cm. long and 7·5 cm. broad, with a usually short acumen, lamina usually less elongate than in No. 37, with close lateral nerves and prominent venation [38. *anomala*](#)
- 41** Leaves golden beneath with dense scales, rigidly coriaceous, obtuse to subcordate at base, obtuse to rounded at apex, sometimes apiculate, 7·5–40 cm. long, 5–30 cm. broad, lateral nerves (including basal) 4–5; panicles axillary, golden-scaly, sparingly branched near the base with spiciform branches much shorter than the leaves, or appearing unbranched; flowers sessile or subsessile, up to 5 mm. long; fruiting carpels 4–5, sessile, 3–7 cm. long, 2–4 cm. broad, very shortly and abruptly beaked and when dry with interrupted longitudinal ridges .. [39. *hypochrysea*](#)
- Leaves glabrous or puberulous to shortly tomentose with stellate hairs beneath, not scaly, lamina truncate to cordate at base; panicles not scaly, well branched throughout: **42**
- 42** Inflorescence-axes and outside of calyx puberulous, the surface usually visible between the small stellate hairs; calyx thin; leaves sparingly puberulous beneath when young, nearly glabrous when mature; fruiting carpels glabrous, ellipsoid to suborbicular, knobby or smooth outside, 5–10 cm. long: **43**
- Inflorescence-axes and outside of calyx densely puberulous to shortly tomentose all over; calyx thick; leaves sparingly puberulous to shortly tomentose beneath; fruiting carpels glabrous or tomentose: **44**
- 43** Pedicels well-developed, about 4·5–15 mm. long, each breaking at the joint, leaving the 1·5–11 mm. long slender basal portion, the latter dilated at apex; leaves acute to shortly acuminate at apex, 8–35 cm. long, 5·5–30 cm. broad [40. *lateritia* var. *lateritia*](#)
- Pedicels mostly 0·5–2 mm. long, rarely some (especially towards base of inflorescence) up to 6·5 mm., each breaking at the joint leaving the basal portion up to about 1·5 mm. long (rarely up to 5 mm.); leaves shortly acuminate at apex, 9–45 cm. long, 8–40 cm. broad [40a. *lateritia* var. *maclaudi*](#)
- 44** Leaves sparingly and minutely puberulous beneath when young, nearly glabrous when mature, the surface not grey; leaves 7–45 (–68) cm. long, 7–44 cm. broad; inflorescence shortly brown-tomentose; fruiting carpels tomentose outside, up to 15 cm. long [41a. *gigantea* var. *glabrescens*](#)
- Leaves densely tomentellous or shortly tomentose beneath when young, the surface completely covered, grey to brownish-grey: **45**
- 45** Young branchlets, petioles, inflorescence-axes and outside of calyx densely and shortly brown-tomentose; leaves densely and shortly tomentose beneath, even when mature, lamina 13–37 cm. long, 10·5–30 cm. broad; fruiting carpels densely brown-tomentose outside, scarcely beaked, up to 9 cm. long [41. *gigantea* var. *gigantea*](#)
- Young branchlets, petioles, inflorescence-axes and outside of calyx densely and very shortly grey-tomentellous; leaves densely and very shortly tomentellous beneath when young, surface becoming clearly visible between the hairs when mature, lamina often shallowly 3-lobed, rounded to subacute at apex, 8–35 cm. long, 8–30 cm. broad; fruiting carpels glabrous, crescent-shaped, 11·5–15 cm. long, tapered into a long, recurved beak at apex [42. *cordifolia*](#)

1. *Cola lepidota* K. Schum. in Engl. Monogr. Afr. Sterculiac. 121, t. 13 (1900); Pellegr. in Mém. Soc. Bot. Fr. 1950–51: 41. *APD acc*

Forest tree, to 60 ft. high, cauliflorous; flowers brownish-red and scaly outside, red-purple within; fruiting carpels about 20 cm. long and 5 cm. broad, subcylindric, shortly acuminate, roughly scaly; seeds smooth, brownish.

S. Nig.: Oban Talbot 124! 1382! 1570! 1643! Arochuku Box 3549! Cross River North F.R., Ikom (fr. June) Latilo FHI 31849! **Br. Cam.:** Rio del Rey Johnston! Barombi (Oct.) Preuss 43! Johann-Albrechtshöhe (Apr.) Staudt 925! 936! S. Bakundu F.R. (Mar.) Brenan 9444!

Also in **French Cameroons** and **Gabon**.

2. *Cola gigas* Bak. f. in Cat. Talb. 10, t. 3, 1–4 (1913). *APD acc*

Cola lanata Bak. f. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 256 (1928); Kew Bull. 1928: 298.

Chlamydocola gigas (Bak. f.) Bodard in J. Agr. Trop. Bot. Appliq. 1: 314 (1954), excl. descr. & fig. of fruit (*Cola gigas* has 4 carpels in flower and is scarcely likely to have a fruit with 12 carpels as shown by Bodard).

Forest tree, to 40 ft. high, cauliflorous; flowers deep red; young shoots densely woolly, becoming nearly glabrous.

S. Nig.: Oban (Oct.) Talbot 160! 411! 1244! 1299!

[The type of *C. lanata* at Kew is numbered Talbot 1299, but it is clearly a duplicate of Talbot 1244 at the British Museum, the number 1299 being an error of copying.]

3. *Cola digitata* *Mast.* in F.T.A. 1: 224 (1868); K. Schum. l.c. 123, t. 15 D; Chev. Bot. 79; Aubrév. Fl. For. C. Iv. 2: 250, t. 225, 7; Pellegr. l.c. 41. *APD acc*

Sterculia digitata (*Mast.*) *Roberty* (1953).

Cola schizandra *Bak. f.* (1913).

Small forest tree to 30 ft. high, leaves in a bunch at the top; flowers dark purple; fruiting carpels greyish-green outside, crimson-red within; seeds black.

Lib.: Monrovia Whyte! Dukwia R. Cooper 455! **Iv. C.:** fide Chev. l.c. **G. C.:** Simpa Vigne FH 2871! Ankasa F.R. (fr. Dec.) Vigne FH 3167! **S. Nig.:** Aboabam, Ikom (fl. Dec., fr. May) Keay FHI 28216! Latilo FHI 30977! Oban Talbot 1598! **Br. Cam.:** Kumba Dist. (fr. Apr., June) Ejiofor FHI 14018! Olorunfemi FHI 30620! Missellele, Tiko (fl. & fr. Jan.) Box 3567!

Also in **French Cameroons**, **Gabon**, **Cabinda**, **Belgian Congo** and the islands of **Principe** and **S. Tomé**.

4. *Cola megalophylla* *Brenan & Keay* in Hook. Ic. Pl. t. 3532 (1955). *APD acc*

Forest tree, to 125 ft. high, with buttresses; bole straight, cylindrical, usually quite unbranched; fruiting carpels scarlet within, seeds black when ripe.

S. Nig.: Okomu F.R. (fl. Jan., fr. Jan., Feb.) A. F. Ross 251! Brenan 8571! 9176! Ndekke turning, Oban Talbot 192! **Br. Cam.:** Mulonga, Kumba (Mar.) Jeme 15/38!

5. *Cola rostrata* *K. Schum.* in Engl. Bot. Jahrb. 33: 314 (1903); Pellegr. l.c. 43. *APD acc*

Forest tree, with wide crown, to 50 ft. high; flowers creamy yellow within.

S. Nig.: Degema Talbot 3244! 3642! Oban Talbot 1626! Omon-Ndeliche F.R. (fr. June) Ujor FHI 30172! **Br. Cam.:** S. Bakundu F.R. (Mar.) Brenan 9433!

Also in **French Cameroons** and **Gabon**.

6. *Cola pachycarpa* *K. Schum.* in Engl. Monogr. Afr. Sterculiac. 122, t. 12, E–H (1900); Pellegr. l.c. 42. *APD acc*

Forest tree, to 30 ft. high, little-branched; flowers pale red, white within; fruiting carpels brown and orange-yellow; seeds with a thick yellowish waxy coat.

S. Nig.: Rosevear 17/29! 23/32! Oban Talbot 1738! **Br. Cam.:** Barombi (fl. Mar., fr. Aug.) Preuss 22! 370! Abonando (Apr.) Rudatis 40! S. Bakundu F.R. (fl. Mar., Apr., fr. Nov.) Dundas FHI 8356! 8486! Brenan 9475!

Also in **French Cameroons** and **Gabon**.

7. *Cola argentea* *Mast.* in F.T.A. 1: 224 (1868). *APD acc*

Cola talbotii *Bak. f.* in Cat. Talb. 11 (1913).

Forest shrub or small tree, to 18 ft. high; flowers red; fruiting carpels about 4 in. long (fide Bak. f.).

S. Nig.: Kwa R., Oban-Nsan Road (Apr., May) Talbot 4! Oban (fr. May) Talbot 439! 1267! 1608! Onochie FHI 7724! Ujor FHI 30842! **Br. Cam.:** S. Bakundu F.R. Clayton 226!

Also in **Gabon**.

8. *Cola umbratilis* *Brenan & Keay* l.c. t. 3537 (1955). *APD acc*

Small forest tree, to 20 ft. high, cauliflorous; flowers red; fruits bright pink with large raised veins on the surface.

G. C.: Prestea (Sept., Oct.) Vigne FH 167! 3076! Simpa (fr. Feb.) Vigne FH 2797! Axim (fr. Feb.) Irvine 2205!

9. *Cola buntingii* *Bak. f.* in Cat. Talb. 12 (1913); Aubrév. l.c. 252. *APD acc*

Cola chlamydanthia of F.W.T.A., ed. 1, 1: 256, partly (Linder 290).

Forest tree, to 40 ft. high; cauliflorous; flowers red; fruiting carpels about 14 cm. long, pinkish-red on outside and glossy (fide Bak. f.); seed-coat white, glistening waxy, exterior of cotyledons purplish-red, interior darkish crimson (fide Bak. f.).

Lib.: Begwai (Aug.) Bunting 1! Tappi (fr. Dec.) Bunting 36! Dukwia R. (Aug., Oct.) Linder 290! Bequaert! Cooper 63! Gbanga (Sept.) Linder 579! **IV. C.:** Tabou (fr. Dec.) Aubrév. 1700! Guiglo (Oct.) Aubrév. 2040!

10. *Cola chlamydantha* K. Schum. in Engl. Monogr. Afr. Sterculiac. 112 (1900); Pellegr. l.c. 42.

APD: *Synonym of Chlamydocola chlamydantha* (K. Schum.) M. Bodard

Cola mirabilis A. Chev. in Vég. Util. 5: 249 (1909); Aubrév. l.c. 2: 250, t. 224.

Sterculia mirabilis (A. Chev.) Roberty (1953).

Chlamydocola chlamydantha (K. Schum.) Bodard l.c. 313 (1954).

Forest tree, to 60 ft. high, cauliflorous; flowers deep red; carpels green to reddish outside, brown within, each with 20–24 scarlet seeds.

S. L.: Tikonko, Dama (Jan.) Deighton 3887! Panguma (fr. Apr.) Deighton 3931! **Lib.:** Vahon, Kolahun (Nov.) Baldwin 10241! **IV. C.:** Aubrév. 199! Alépé (fr. Dec., Jan.) Chev. 16241! **G. C.:** Tuapem (fl. & fr. Nov.) Chipp 8! Prestea (Oct.) Vigne FH 165! Awiabo, Axim (Nov.) Vigne 1434! Simpa (fr. Feb.) Vigne FH 2782! Sefwi Bekwai (fl. & fr. Oct.) Darko 62! Opon Valley (fr. Jan.) Irvine 1092! Nanankwa (Nov.) Tinsley WH 3855! 3856! Axim (fr. Feb.) Irvine 2180! **S. Nig.:** Oban Talbot 6! 1645!

Also in **French Camerouns** and **Ubangi-Shari**.

11. *Cola ficifolia* Mast. in F.T.A. 1: 223 (1868); K. Schum. l.c. 118. *APD acc*

Cola preussii K. Schum. l.c. 120 (1900).

Schubea heterophylla Pax (1899), partly (leaves only, flowers are *Trichoscypha acuminata* Engl.).

Unbranched tree, to 20 ft. high; lamina of leaves up to 36 cm. long and 32 cm. broad; **in forest**; **fruits red**.

Br. Cam.: Victoria (Apr.) Maitland 601! Preuss 1330 (partly). S. Bakundu F.R. (Apr.) Brenan 9295! Kumba to Kiliwindi (fr. Aug.) Preuss 394. **F. Po:** Mann 1157!

12. *Cola heterophylla* (P. Beauv.) Schott & Endl. Meletem. Bot. 33 (1832); K. Schum. l.c. 118, partly; F.W.T.A., ed. 1, 1: 255, partly.

Sterculia heterophylla P. Beauv. Fl. Oware 1: 67, t. 40 (1806).

Cola gabonensis of Aubrév. l.c. 2: 244, t. 221, 7–8, not of Mast.

Shrub or small tree, usually 2–10 ft., rarely to 16 ft., high; leaves commonly simple, but there is a tendency for (2–) 3-lobed leaves to occur in Gold Coast and Nigeria; simple leaves 7–32 cm. long, 2.6–12.5 cm. broad, to 35 cm. long and 32 cm. broad when lobed; flowers pale yellow or yellowish green to dull reddish, or purplish-red inside and yellowish outside; fruiting carpels bright red, ellipsoid to ellipsoid-oblong, 1.5–7.5 cm. long, including the rather slender 0.5–2 cm. long hooked apical beak; **in forest**.

S. L.: Peri, Gaura (Oct.) Deighton 5215! Kenema-Bo road (Dec.) King 79b! Gola Forest (fr. Jan.) Unwin & Smythe 54. **Lib.:** Dukwia (fl. Oct., Nov., fr. Feb.) Cooper 31! 154! Zeahtown, Tchien (July, Aug.) Baldwin 6992! 7004! Tawata, Boporo (Nov.) Baldwin 10292! Ganta (fl. Sept., fr. Dec.–Mar.) Baldwin 9247! Barker 1138! **IV. C.:** fide Aubrév. l.c. **G. C.:** Prestea (Sept.) Vigne FH 3077! Asuansi (Aug.–Sept.) Box 2797! 3300! Asankragwa, W. Prov. (Aug.) Vigne FH 1293! Ntrentreso, W. of Sefwi Bekwai (Oct., Nov.) Darko 61! 81! **S. Nig.:** Lagos (Apr.) Rowland! Abeokuta Irving 106! Okeigbo, Ondo Prov. (fr. Feb.) Jones FHI 14716! 14731! Owena F.R. Kennedy 2464! 2465! Okomu F.R. (fr. Feb.) Brenan 9114! Sapoba (Nov.) Meikle & Keay 574! Kennedy 1858! 1945! Oban Talbot 1571!

Also in **Gabon**.

13. *Cola brevipes* K. Schum. in Engl. Monogr. Afr. Sterculiac. 119 (1900). *APD acc*

Cola flavescens Engl. (1907).

Cola heterophylla of F.W.T.A., ed. 1, 1: 255, partly (Kalbreyer 206, Mann 2286, Talbot 1566; 1587).

Cola togoensis of F.W.T.A., ed. 1, 1: 255, partly (Talbot 3671).

Small tree, to 12 ft. high.

S. Nig.: Degema Talbot 3671! Calabar (fr. Feb., May) Kalbreyer 206! Mann 2286! Oban Talbot 1566! 1587! **Br. Cam.:** Victoria Braun 25.

Also in **French Cameroons**.

14. *Cola flaviflora* Engl. & K. Krause in Engl. Bot. Jahrb. 45: 327, fig. 1 (1911). *APD acc*

Small tree, to 16 ft. high, in **rain forest**; flowers among or below the leaves, olive-green outside, yellow inside.

S. Nig.: Aboabam, Ikom (May, Dec.) Keay FHI 28184! 28326! Latilo FHI 30974! Bendiga Ayuk to Ikom (May) Jones & Onochie FHI 18895! Cross River North F.R. (Dec.) Keay FHI 28158! Oban Talbot 1340! **Br. Cam.:** Abonando, Mamfe (May) Rudatis 60!

Also in **French Cameroons**.

15. *Cola ricinifolia* Engl. & K. Krause l.c. 334 (1911). *APD acc*

Cola viridiflora Engl. & K. Krause l.c. (1911).

Small tree about 6 ft. high, in **forest**; flowers among or below the leaves, brownish outside, dull yellow inside.

S. Nig.: Aboabam, Ikom (May) Jones & Onochie FHI 16547! Oban Talbot 15! **Br. Cam.:** Mundame, nr. Kumba (Jan.) Darko in Hb. Box 3591!

Also in **Spanish Guinea**.

16. *Cola millenii* K. Schum. in Engl. Bot. Jahrb. 33: 313 (1903). *APD acc*

Cola togoensis Engl. & K. Krause in op. cit. 45: 33, fig. 2 (1911); F.W.T.A., ed. 1, 1: 255.

?*C. heterophylla* of F.T.A. 1: 223, partly (Barter spec.).

Tree, 12–40 ft., sometimes to 60 ft. high, in **drier parts of the forest region, especially in secondary forest**; leaves up to 30 cm. long and 35 cm. broad, but usually smaller; flowers greenish outside, red-brown to purplish inside, outside varying to dull purple, inside to purple and greenish-yellow, rarely flowers wholly pale yellow; fruiting carpels rich pink to orange-red.

Iv. C.: Morénou (Nov.) Chev. 22450! **G. C.:** Bususo (Sept.) Darko 145! R. Kakum, Asuansi (Sept.) Box 3476! 3477! Tobiasi (Sept.) Box 3479! Tafo (Oct., Nov.) Box 3644! Lovi WH 3850! Bunso (Oct., Nov.) Scholes 324! Box 3487! 3488! 3489! 3490! 3491! 3494! Achimota (May, Sept.) Milne-Redhead 5102! 5102a! Box 3486! **Togo:** Lome Warnecke 414! Fume (Dec.) Box 3513! Kafeiro, Hohoe (Nov.) St. C. Thompson FH 3679! Misahöhe (Nov.) Mildbr. 7263! **Dah.:** Le Testu 61! **S. Nig.:** Ebute Metta Millen 31! Olokemeji (Nov.) A. F. Ross 27! Ibadan (Nov.) Newberry & Etim 179! Jones & Keay FHI 14163! Ibadan F.R. (Nov.) Punch 136!

17. *Cola caricaefolia* (G. Don) K. Schum. in Engl. Monogr. Afr. Sterculiac. 111 (1900), partly (Afzelius spec. only), excl. t. 11 B (?); Aubrév. Fl. For. C. Iv. 2: 248, t. 223, 1–4. *APD acc*

Sterculia caricaefolia G. Don Gen. Syst. 1: 517 (1831).

Courtenia afzelii R.Br. (1844).

Cola afzelii (R.Br.) Mast. in F.T.A. 1: 223 (1868).

Shrub or small tree, to 20 ft. high, in **forest**; leaves up to 32 cm. long and 46 cm. broad; flowers brown outside, purplish inside, outside varying to yellow-green, inside to red; fruiting carpels orange-pink.

S. L.: Afzelius! Limba Oldfield 8! Njala (Jan., Feb.) Deighton 2604! 5904! Rokupr (Apr.) Jordan 204! Roruks (Apr.) Deighton 3967! Mayoso (Aug.) Thomas 1449! **Lib.:** Ganta (fl. Sept., Oct., fr. Apr.) Harley 445! 683! Baldwin 12516! Dukwia R. (Sept.) Cooper 364! Vonjama Dist. (Oct.) Baldwin 10032! 10078! **Iv. C.:** Man Aubrév. 1082! **G. C.:** Amentia (Sept.) Box 3484! Asuansi (Sept.) Box 3478! Upper Wassaw F.R. (Oct.) Darko 69! 70! Wassaw Akropong (fr. Oct.) Darko 71! Aguna (Aug.) Adjei FH 1306!

18. *Cola hispida* Brenan & Keay l.c. t. 3531 (1955). *APD acc*

Cola caricaefolia of K. Schum. l.c., partly; F.W.T.A., ed. 1, 1: 255, partly.

Shrub or tree, to 40 ft. high, in **forest**; leaves up to 30 cm. long and 24 cm. broad; flowers greenish-yellow inside with brown pubescence outside, inside varying to reddish-pink.

N. Nig.: (fr. Aug.) Shaw 42! Jemaa Dist. (Nov.) Keay FHI 21723! 22266! **S. Nig.:** Onitsha (Nov.) Barter 1306! 1774! Kennedy 2511! Onochie FHI 21623! Degema Talbot 3629! 3666! Arochuku (Feb.) Box 3547! Oban Talbot 1341! Iso Bendiga to Bendiga Afi (Dec.) Keay FHI 28263! **Br. Cam.:** Kentu, Bamenda (fr. June) Maitland 1782!

Also in **Gabon**.

19. *Cola marsupium* **K. Schum.** in Ber. Deutsch. Bot. Ges. 9: 68 (1891); Monogr. 113, t. 12, A–D. **APD acc**

A shrub or small tree up to about 30 ft. high; young shoots with pale brown hairs; flowers cream, pale reddish at base; fruiting carpels red; **in forest**.

S. Nig.: Oban Talbot 24! 1338! **Br. Cam.:** Victoria (Apr.) Maitland 603! Misellele, Tiko (Jan.) Box 3566! S. Bakundu F.R. (Mar.) Brenan 9451! Johann-Albrechtshöhe (Jan.) Staudt 519! 795!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea** and **Belgian Congo**.

20. *Cola altissima* **Engl.** Bot. Jahrb. 39: 594 (1907). **APD acc**

A **forest** tree, to 100 ft. high; flowers green outside carmine inside.

S. Nig.: Ondo (Mar.) A. F. A. Lamb 149! **Br. Cam.:** Nyanga, Kumba Div. (Feb.) Jeme 9/38!

Also in **French Cameroons** and **Gabon**.

21. *Cola laurifolia* **Mast.** in F.T.A. 1: 222 (1868); K. Schum. in Engl. Monogr. Afr. Sterculiac. 115, t. 14 B; Chev. Bot. 80.

Sterculia laurina **Roberty** (1953).

S. laurifolia of Chev. Bot. 76, not of F. Muell.

Tree, 20–90 ft. high, on river banks; flowers yellow or brownish.

Sen.: Berhaut 782; 3234; 4303; 4335. **Fr. Sud.:** Macina (fr. Sept.) Chev. 24868! And other localities fide Chev. l.c. **Port. G.:** R. Corubal, Saltinho (May) Esp. Santo 2482! **Fr. G.:** Kouroussa Pobéguin 670! **S. L.:** R. Dantilia, Falaba (Mar.) Sc. Elliot 5292! **IV. C.:** Soubré Chev. 19124! R. Sassandra, Dolou Chev. 21779. **G. C.:** R. Volta, Bamyoi Ferry (fl. & fr. Apr.) Kinloch FH 3273! Navrongo (fr. Sept.) Vigne FH 4571! R. Kru, Prang (Jan.) Vigne 1543! **Togo:** Katscha stream Kersting A. 563! **Dah.:** R. Ouémé, between Savé and Agouagon Chev. 23590. Atacora Mts. Chev. 24279. **N. Nig.:** Nupe Barter 1304! Alagbede F.R., Ilorin (Feb.) Latilo FHI 32957! Abinsi (Aug.) Dalz. 739! **S. Nig.:** Lagos Rowland! Foster 47! R. Ogun Millen 138! Crosa R., Itu (fr. June) Ujor FHI 27993! Calabar Robb!

22. *Cola semecarpophylla* **K. Schum.** in Notizbl. Bot. Gart. Berl. 2: 306 (1899); Monogr. 117, t. 11 A. **APD acc**

Forest tree, to 40 ft. high; flowers red, small, abundant, on the old wood; fruits red.

S. Nig.: Oban Talbot 1585! **Br. Cam.:** N. Korup F.R., Kumba (young fr. July) Olorunfemi FHI 30669!

Also in **French Cameroons**.

23. *Cola glabra* **Brenan & Keay** in Hook. Ic. Pl. t. 3530 (1955). **APD acc**

Forest tree, 10–40 ft. high; flowers bright orange-pink inside and outside.

S. Nig.: Akure F.R. (fr. Apr.) Symington FHI 4147! Onyeagocha FHI 7145! Owena, Akure F.R. (Dec.) Box 3520! Owena F.R. Kennedy 2459!

24. *Cola nigerica* **Brenan & Keay** l.c. t. 3533 (1955). **APD acc**

Cola flavo-velutina of F.W.T.A., ed. 1, 1: 255, partly (Talbot 1344).

Forest tree, to 25 ft. high, or shrub; flowers white, in cushions on the stem below the leaves, or with some male flowers among the leaves; fruits red.

S. Nig.: Shasha F.R. (Dec.) A. F. A. Lamb 164! 3 miles from Abeku on path to Owosomole, Shasha F.R. (fl. & fr. Mar.) Jones & Onochie FHI 16672! Etemi, Omo F.R. (Nov.) Tamajong FHI 20998! Oban Talbot 1332! 1344!

25. **Cola flavo-velutina** *K. Schum.* in Notizbl. Bot. Gart. Berl. 2: 306 (1899); Monogr. 116, t. 15 C; F.W.T.A., ed. 1, 1: 255, partly (only as to Talbot 29; 31; 1266). *C. arcuata* Bak. f. (1913).

Forest tree, 10–30 ft. high; flowers yellow.

G. C.: Tano-Offin F.R. (Jan.) Vigne FH 1005! S. Scarp F.R., Kwahu (Jan.) Moor FH 1028! **S. Nig.:** Ohosu F.R. Hide 13/38! Oban Talbot 29! 31! 1266! 1736! 1737! **Br. Cam.:** S. Bakundu F.R. (Mar., Apr.) Brenan 9416! Ejiofor FHI 29328! Olorunfemi FHI 30503!

Also in **French Cameroons** and **Gabon**.

26. **Cola reticulata** *A. Chev.* in Bull. Soc. Bot. Fr. 61, Mém. 8: 254 (1917); Aubrév. Fl. For. C. Iv. 2: 246, t. 220, 5–7. *APD acc*

Sterculia reticulata (*A. Chev.*) *Roberty* (1953).

Cola johnsonii *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 255 (1928); Kew Bull. 1928: 297.

Cola basaltica *A. Chev.* Bot. 78, name only.

Cola flavo-velutina of F.W.T.A., ed. 1, 1: 255, partly.

Shrub or small tree, to 15 ft. high; flowers yellow, solitary, or few together, among or just below the leaves.

Fr. G.: Mt. Nzo, Guerezés country (Mar.) Chev. 21018. **Iv. C.:** foot of Mt. Nouba, by sources of R. Nuon (Apr.) Fleury in Hb. Chev. 21105! Mt. Dou Aubrév. 1053! Mt. Copé, Grabo (July) Chev. 19723! Mbasso (fr. Dec.) Chev. 22653! **G. C.:** Kwahu (Mar.) Johnson 619! Pompo Headwaters F.R. S. T. Jackson FH 2250!

27. **Cola angustifolia** *K. Schum.* in Engl. Monogr. Afr. Sterculiac. 115, t. 16 D (1900); F.W.T.A., ed. 1, 1: 255 (excl. syn. *C. rolandi* *principis* *A. Chev.*). *APD acc*

Small or medium-sized tree; fruits orange-red.

S. L.: Afzelius! Kessewe Hills (Apr.) Lane-Poole 119! Dambaye, Kambui F.R. King 180! Tosien, Tonkia (young fr. Mar.) King 334!

28. **Cola philipi-jonesii** *Brenan & Keay* l.c. t. 3534 (1955). *APD acc*

Forest shrub, 6–10 ft. high; flowers dull cream.

S. Nig.: Boje, Afi River F.R., Ikrom Dist. (May) Jones & Onochie FHI 5838!

29. **Cola cauliflora** *Mast.* in F.T.A. 1: 221 (1868), partly; K. Schum. Monogr. 117. *APD acc*

Sterculia cauliflora (*Mast.*) *Roberty* (1953).

Cola micrantha *K. Schum.* (1899) — l.c. 116, t. 14 D.

Straggling shrub or small tree, 4–15 ft. high; flowers pinkish, with orange tinge; **in forest**.

S. Nig.: Oban Talbot 188! **Br. Cam.:** Ambas Bay (Feb.) Mann 772! S. Bakundu F.R. (Mar.) Onochie in Hb. Brenan 9304! Johann-Albrechtshöhe (Feb.) Staudt 602!

Also in **French Cameroons** and **Gabon**.

30. **Cola boxiana** *Brenan & Keay* l.c. t. 3529 (1955). *APD acc*

Understorey forest tree, up to 50 ft. high and 5 ft. girth; flowers creamy yellow, profuse; fruiting carpels bright red.

G. C.: Atewa Range, E. Prov. (Feb.) Vigne FH 4331! 4825! Akrom Ravine, near Begoro, E. Prov. (fl. & fr. Oct.) Box 3495!

31. **Cola praeacuta** *Brenan & Keay* l.c. t. 3535 (1955). *APD acc*

Shrub in **forest**.

Br. Cam.: Musongiseli, Kumba Dist. (Feb.) Smith 78/36!

32. *Cola bodardii* Pellegr. in Bull. Soc. Bot. Fr. 97: 189 (1950).

APD: *Synonym of Cola attiensis* var. *bodardii* (Pellegr.) N. Hallé

Small tree, about 15 ft. high and 8 in. girth; “flowers pale translucent cream”; in forest.

S. Nig.: near Ibeku-Ayetoro crossing of Owena R., Shasha F.R. (Feb.) Jones & Onochie FHI 16718!

Also in **Gabon**.

[The Nigerian specimen has thinner, less glossy leaves than the type.]

33. *Cola attiensis* Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 92: 255 (1946); Aubrév. Fl. For. C. Iv. 2: 244, t. 221, 4–6 (1936), French descr. only. *APD acc*

Shrub or small tree.

Iv. C.:R. Agnéby Aubrév. 1785! Aouabo Aubrév. 645!

34. *Cola nitida* (Vent.) Schott & Endl. Meletem. Bot. 33 (1832); Chev. Vég. Util. 6: 120, figs. 2, 10, 27, 31, 32, etc., tt. 1–5, 10–13, 15 (1911); Aubrév. Fl. For. C. Iv. 2: 242, t. 220, 8–10. *APD acc*

Sterculia nitida Vent. Jard. Malm., in note under t. 91 (1805).

Cola vera K. Schum. in Notizbl. Bot. Gart. Berl. 3: 15 (1900); K. Schum. in Engl. Monogr. Afr. Sterculiac. 124, fig. 2, A–F.

Cola acuminata var. *latifolia* K. Schum. l.c. 127 (1900).

Cola acuminata of Engl. Pflanzenw. Afr. 3, 2: 465, not of (P. Beauv.) Schott & Endl.

Forest tree, to 80 ft. high; flowers cream, usually with dark reddish markings within. **often cultivated**, but native only as far east as the Gold Coast, introduced elsewhere.

Sen.: cult. fide Berhaut. **Fr. Sud.:** Babela Chev. 371! **Fr. G.:** Massadou, Macenta (May) Collette 21! **S. L.:** Regent (Dec.) Sc. Elliot 4011! Samu country (Dec.) Sc. Elliot 4213! Njala (Jan.) Dalz. 8133! Kanya (Oct.) Thomas 2928! Mayoso (Aug.) Thomas 1394! **Lib.:** Monrovia Whyte! Gbanga (Sept.) Linder 811! Webó Dist. (June, July) Baldwin 6139! 6332a! Vonjama (Oct.) Baldwin 9892! **IV. C.:**fide Chev. l.c. **G. C.:** Aburi Bot. Gdns. (fl. Oct., fr. Aug.) Johnson 484! 1050! Kumasi Cummins 227! Dunkwa (fl. Feb., Aug.) Vigne 15/26! Chipp 718! Asamankese, E.P. (Aug.) Howes K. 1! Opon Valley, W.P. (July) Foggie FH 211! Kakum F.R. Hughes 127! **Togo:** Tove, Palime (Oct., cult.) Darko 152! **N. Nig.:** Labozhi (Jan., cult.) Yates 53! Elliott! Fahji (fr. Dec.) Elliott! **S. Nig.:** Odo Ona, Ibadan (July, cult.) Russell FHI 14971! Agodi, Ibadan (July, cult.) Russell FHI 14970! Epe (Jan., cult.) Onochie & Ladipo FHI 20654! **F. Po:** Mann 8! T. Vogel 174!

Often cultivated, but native only as far east as the Gold Coast, introduced elsewhere.

35. *Cola acuminata* (P. Beauv.) Schott & Endl. l.c. (1832); K. Schum. l.c. 125, fig. 2, G–J, incl. vars. kamerunensis, ballayi (partly), grandiflora & trichandra; Chev. l.c. 6: 129, figs. 13, 25, 29, 30, tt. 6, 9, 14 (1911), q.v. for full synonymy. *APD acc*

Sterculia acuminata P. Beauv. Fl. Oware 1: 41, t. 24 (1805).

Cola pseudoacuminata Engl. Pflanzenw. Afr. 3, 2: 465 (1921).

Forest tree, to 60 ft. high, very similar to *C. nitida*.

S. L.: Newton (Nov., cult.) Deighton 1490! **Lib.:** Gbanga (Sept.) Okeke 17! Zigida, Vonjama (young fr. Oct., cult.) Baldwin 10019a! (?) **IV. C.:**cult. fide Chev. l.c. **Togo:** fide Chev. l.c. **Dah.:** Sakété Chev. 22872! **N. Nig.:** Yates! Agaie (Feb.) Yates 42! **S. Nig.:** Agodi, Ibadan (Jan., cult.) Russell FHI 14977! 14978! Okomu F.R. (Dec.) Brennan 8573! Akure (fr. June, cult.) Russell FHI 14983! Shasha F.R. Lancaster 7! Sapoba Kennedy 1648! 1746! Warri Prov. Beauvois! Benin City Unwin 55! Oban Talbot! Ikom (Jan.) Holland 174! **F. Po:** Barter 2075!

Also in **French Cameroons** and southwards to **Angola**.

Sometimes cultivated, but native only from Togo eastwards and southwards.

[Maitland 758 from Victoria Bot. Gdns. has shortly acuminate leaves but appears to be *C. acuminata* and may be var. kamerunensis K. Schum. Hybrids between *C. nitida* and *C. acuminata* are known and may well occur wherever the two species occur together. For convenience we keep *C. nitida* and *C. acuminata* as species but the characters are not altogether constant and when better known may show that the plants are no more than subspecies or geographical variants.]

36. *Cola simiarum* Sprague ex Brenan & Keay l.c. t. 3536 (1955). *APD acc*

Tree, 20–60 ft. high, with reddish-brown rough bark; **in forest by streams**.

S. L.: Kenema (Mar.) Lane-Poole 195! Baiima (fr. Sept.) Deighton 3079! Mahwe R., Zimi (Apr.) King 179! **Lib.:** Dukwia R. (Mar.) Cooper 336! **iv. C.:** Toulépleu Road, Cavally Aubrév. 1191!

37. **Cola verticillata** (Thonn.) Stapf ex A. Chev. Vég. Util. 6: 136, fig. 3, t. 7 (1911), excl. syn. *C. anomala*. *Sterculia verticillata* Thonn. in Schum. Beskr. Guin. Pl. 240 (1827). **APD acc**

Forest tree, to 80 ft. high; flowers cream with dark reddish markings within.

G. C.: Farma 559! Aquapim Thonning. Aburi (fl. & fr. Oct., Nov.) Johnson 485! 1051! 1052! Konomngo, Akim (May) Thompson 75! Tafo (fl. Aug.–Oct., fr. Oct.) Benstead in Hb. Darko 335! Lovi WH 3843! **Dah.:** Sakété Chev. 22837! **N. Nig.:** Agaie (fl. irregularly Aug.–May, principally Aug.–Sept.) Yates 41! **S. Nig.:** Ibadan (Dec., May, cult.) Russell FHI 14952! 14982! Akure F.R. (fr. Nov.) Keay FHI 25535! 25537! Sapoba Kennedy 418!

Also in **French Camerouns** (Mildbr. 8122 — ?).

[Maitland 592, from Bulifambo, Buea, British Camerouns, is near *verticillata* but with usually coriaceous elliptic leaves; fruits are required for certain identification.]

38. **Cola anomala** K. Schum. in Engl. Monogr. Afr. Sterculiac. 134, t. 16 B (1900). **APD acc**

Tree to 60 ft. high, with dense crown; flowers yellow, with no red markings.

Br. Cam.: Bamenda Prov.: Bangwe (June) Conrau 192. Nchan (May) Maitland 1450! Bamenda (Jan.) Johnstone 275/32! Bambui (Jan., June, cult.) Russell FHI 14964! 14984! Bansa (Nov., cult.) Russell FHI 14974!

39. **Cola hypochrysea** K. Schum. in Notizbl. Bot. Gart. Berl. 2: 306 (1899); Monogr. 131, t. 15 A. **APD acc**

Forest tree of medium size; “the red fruits are as if lacquered”.

S. Nig.: Eket Talbot 3046!

Also in **French Camerouns**.

40. **Cola lateritia** K. Schum. **var. lateritia** — in Notizbl. Bot. Gart. Berl. 2: 305 (1899); Monogr. 131, t. 15 B. **APD acc**

Cola rhodoxantha K. Schum. (1899).

Cola sereti De Wild. (1908).

Cola lateritia var. nigerica Bak. f. in Cat. Talb. 13 (1913).

A **forest** tree of medium size; fruiting carpels red.

S. Nig.: Oban Talbot 1313! Upper Cross River Catterall 75! **Br. Cam.:** Victoria (fr. Feb., Mar.) Maitland 530! Dalz. 8257! Johann-Albrechtshöhe (Jan.) Staudt 510! 822.

Also in **French Camerouns**, **Gabon** and **Belgian Congo**.

- 40a. **Cola lateritia var. maclaudi** (A. Chev.) Brenan & Keay in Kew Bull. 1954: 266. **APD acc**

Cola cordifolia var. maclaudi A. Chev. in Bull. Soc. Bot. Fr. 55, Mém. 8: 32 (1908), excl. Chev. 16149.

Cola maclaudi (A. Chev.) Aubrév. Fl. For. C. Iv. 2: 246–8, t. 222, 1–4.

Cola leonensis Hutch. ex Lane-Poole (1916), name only.

Cola lateritia of F.W.T.A., ed. 1, 1: 255, partly (as to S.L., Lib., G.C. and Togo specimens).

A **forest** tree, to 125 ft. high; flowers yellow changing to red, rarely white turning greenish-yellow (Darko 153); fruiting carpels red.

Fr. G.: Yombo to Orobé, Fouta Djallon (Nov.) Caille in Hb. Chev. 14766! **S. L.:** Sinjo (Feb.) Lane-Poole 144! Wallia, Scarcies Sc. Elliot 4750! Njala (Feb., May) Deighton 698! 2457! Bumbuna (Oct.) Thomas 3121! 3181! Bogboabu (Oct.) D. G. Thomas 114! **Lib.:** Gbanga (Sept.) Linder 537! Ganta (fr. Apr.) Harley 658! Zolopla, Sanokwele (Sept.) Baldwin 9377! **iv. C.:** Beriby (fr. Aug.) Chev. 20014! Aboisso (Apr.) Chev. 16317! Abidjan Aubrév. 173! **G. C.:** Dunkwa (Aug.–Sept.) Vigne FH 147! Subiri F.R. (fl. Sept., young fr. Dec.) Andoh FH 5441! 5568! Axim (Nov.) Brent 29! Akumadan (Oct.) Vigne FH 2567! Tobiasi (Sept.) Box 3480! Awaso, Sefwi-Anwawso (Oct.) Darko 54! **Togo:** Misahöhe (Nov.) Mildbr. 7209! Kpeve (Oct.) 153! Wiawia, Hohoe (Oct.) St. C. Thompson FH 3617! **S. Nig.:** Ohsu F.R. Hide 12/38! Okomu F.R. (Dec.) Brenan 8442! Sapoba Kennedy 2543!

Also in **Cabinda**.

41. **Cola gigantea** A. Chev. var. **gigantea** — Bull. Soc. Bot. Fr. 55, Mém. 8: 32 (1908); Engl. Pflanzenw. Afr. 3, 2: 467. *APD acc*

Cola cordifolia of K. Schum. in Engl. Monogr. Afr. Sterculiac. 132, partly; of F.W.T.A., ed. 1, 1: 255, partly.

Tree of **forest** and fringing **forest**, to 100 ft. high; flowers white to pinkish or purple within; fruiting carpels scarlet-tomentose, drying brown; seeds scarlet.

S. Nig.: OC 105! OC 106! Oju (fr. Apr.) Dundas 1933/5! Emege, Brass Akpata FHI 3944! **Br. Cam.:** Fongom, Bamenda, 3,500 ft. (Apr.) Maitland 1590!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo**, **Uganda** and **A.-E. Sudan**.

- 41a. **Cola gigantea** var. **glabrescens** Brenan & Keay l.c. (1954). *APD acc*

Cola cordifolia of K. Schum. in Engl. Monogr. Afr. Sterculiac. 132, partly; F.W.T.A., ed. 1, 1: 255, partly; Aubrév. Fl. For. C. Iv. 2: 246–8, t. 222, 5–8; not of (Cav.) R.Br.

Cola cordifolia var. **maclaudi** A. Chev. l.c. 8: 32 (1908), partly (Chev. 16149).

Forest tree, to 100 ft. high; “flowers uniformly dull creamy-white inside, darker yellowish, tinged reddish outside, changing to orange, rich pink and red” (Box 3485); fruiting carpels light tawny-brown outside, pinkish inside.

Iv. C.: Agboville (Dec.) Chev. 22334! **G. C.:** Asebu, Cape Coast (Apr.) Box 3175! Scholes 285! S. Fomang Su F.R. (Oct.) Brown FH 2073! Asuboi, Nsawam (Sept.) Box 3485! Amentia (fl. & fr. Sept.) Vigne FH 1377! Tafo (Sept.) Darko 201! **Togo:** Misahöhe (Feb., Nov.) Baumann 431! Mildbr. 7316! **Dah.:** Poisson! **N. Nig.:** Agaie (Dec.) Yates! **S. Nig.:** Lagos (Dec.) Moloney! Millen 36! Olokemeji (Nov.) Jones FHI 14191! Onda to Apoge, Shasha F.R. (fr. Feb.) Jones & Onochie FHI 17576!

42. **Cola cordifolia** (Cav.) R.Br. in Benn. Pl. Jav. Rar. 237 (1844); K. Schum. l.c. 132, partly; F.W.T.A., ed. 1, 1: 255, partly; Aubrév. Fl. For. Soud.-Guin. 160, t. 27. *APD acc*

Sterculia cordifolia Cav. Diss. 5: 286, t. 143, 2 (1788), excl. fruit; Guill. & Perr. Fl. Seneg. 79 (1831).

Cola cordifolia var. **puberula** A. Chev. l.c. 31 (1908).

A tree, to 50 ft. high, with buttresses, **in savannah country**; fruiting carpels gamboge-yellow, irregularly suffused and blotched with cherry-red, especially towards back; seeds 8–9, rose-pink.

Sen.: Adanson 214. Perrottet 87! Talmy! Casamance (May) Leprieur! Tambanaba, Casamance (Feb.) Chev. 3070! **Gam.:** Hayes 516! Albreda Heudelot 82! Fajara, Bathurst (fr. July) Box! Kudang (Jan.) Dalz. 8053! Gunjur Dawe 7! 62! **Fr. Sud.:** Bamako (Jan.) Chev. 200! Sikoro (Jan.) Chev. 248! Koulikoro Chev. 3069! **Fr. G.:** Labé (Mar.) Chev. 12408!

[Pellegrin in a letter dated 16 July 1945 describes in detail the indumentum of the leaves of Adanson 214 which evidently agrees closely with more recent material from the same area.]

1. **C. winkleri** Engl. & K. Krause in Engl. Bot. Jahrb. 45: 333 (1911).

Flowers not described; type presumably destroyed; possibly near *C. flaviflora* Engl. & K. Krause.

Br. Cam.: Johann-Albrechtshöhe (fr. Dec.) Winkler 1045.

Imperfectly known species.

2. **Cola triloba** (R.Br.) K. Schum. in Engl. Monogr. Afr. Sterculiac. 119 (1900).

Courtenia triloba R.Br. in Benn. Pl. Jav. Rar. 236 (1844).

Cola heterophylla of F.T.A. 1: 223, partly (Heudelot spec.); ?Aubrév. Fl. For. C. Iv. 2: 250, t. 221, 1–3.

Tree, to 30 ft. high; previously regarded as conspecific with *C. heterophylla* (P. Beauv.) Schott & Endl., but differs in the dense rusty pubescence on young shoots and apparently in the calyx being densely rusty-pubescent outside; the leaves are mostly shallowly to deeply 3-lobed. Trilobed forms of *heterophylla* are not known from French Guinea and Sierra Leone.

Fr. G.: Heudelot 720! **S. L.:** Gberia Fotombu (old fr. Oct.) Small 405! **Iv. C.:** Abidjan Aubrév. 163!

Imperfectly known species.

3. Cola sp. A.

Near *C. anomala* K. Schum., but leaves not verticillate.

S. Nig.: Rosevear 14/30! **Br. Cam.:** Ossidinge (Oct.) Rudatis 78!

Imperfectly known species.

4. Cola sp. B.

Shrub; leaves obovate, about 21–24 cm. long and 10·5–11·5 cm. broad, shortly lobed near apex or entire, glabrous, coriaceous; petioles 8·5–10 cm. long; fruiting carpels 12, red, shortly stipitate, 4·3 cm. long, 2·5 cm. broad, shortly more or less stellate-pubescent, 6-seeded.

Lib.: Ganta (fr. Feb.) Harley 852!

Imperfectly known species.

5. Cola sp. C.

Shrub or tree, to 15 ft., with red fruit; **on flooded ground; leaves narrowly obovate up to 15 cm.** long and 5·5 cm. broad; fruiting carpels probably about 6, with stipe 1·25–1·5 cm. long, shortly and broadly ellipsoid, shortly beaked, about 3·5 cm. long and 2·5 cm. broad, more or less rusty stellate-tomentellous.

Lib.: Piatah (fr. Dec.) Baldwin 10597a!

Imperfectly known species.

6. Cola sp. D.

Forest tree; “flowers growing from cushions on the old wood, purple”; leaves digitate, leaflets oblanceolate, sessile, long-acuminate, entire, up to 30 cm. long and 7 cm. broad.

Br. Cam.: Mopanya, Cam. Mt., 2,400 ft. (Apr.) Maitland 1069!

Imperfectly known species.

7. Cola sp. E.

Forest tree, to 60 ft. high and 3 ft. girth; fruits borne on stem; leaves digitate, leaflets oblanceolate, more or less petiolulate, acuminate, up to 27 cm. long and 8 cm. broad, coriaceous, with scurfy stellate-puberulence beneath, especially on midrib, stipules subulate, up to 7 cm. long; fruiting carpels, tomentellous.

Br. Cam.: Korup F.R., Kumba Dist. (fr. July) Olorunfemi FHI 30672!

Imperfectly known species.

8. Cola sp. F.

Small **forest** tree, 12–15 ft. high; fruits borne on stem near base; leaves digitate; leaflets oblanceolate, acuminate, shortly petiolulate, up to 30 cm. long and 9·5 cm. broad; fruiting carpels 7–9, with stipe about 1·5 cm. long, up to about 15 cm. long and 4·5 cm. broad, bright orange-red.

S. L.: Smythe 53! Gola Forest (fr. May) Small 602! **Lib.:** Jaurazon, Sinoe (young fr. Mar.) Baldwin 11476!

Imperfectly known species.

9. Cola sp. G.

Cola heterophylla of F.W.T.A., ed. 1, 1: 255, partly.

Stems, petioles and midrib of leaves above hirsute with rather long spreading hairs; stipules filiform, up to 1 cm. long; petioles slender, to 6 cm. long; leaves thin, ovate-elliptic, very acutely acuminate, sometimes with 1 or 2 acute small marginal lobes; flowers in short cymes among the leaves, about 10–12 mm. long, 4-lobed, more or less densely stellate-pubescent outside, papillose inside.

S. Nig.: Degema Talbot 3741!

Imperfectly known species.

16. HILDEGARDIA

Schott & Endl. Meletem. Bot. 33 (1832); Kostermans in Bull. Jard. Bot. Brux. 24: 335 (1954).

- 1 Branchlets rather thick, glabrous; leaves very broadly ovate-cordate, shortly acuminate, 15–25 cm. long and broad, very thin, about 7-nerved at base, thinly pilose when quite young; petiole up to 25 cm. long; flowers in numerous slender panicles towards the ends of the branchlets; calyx long-tubular, narrower in the middle, 2 cm. long, minutely puberulous; lobes 5, lanceolate, acute, pubescent inside; stamens and carpels exserted; fruit broadly and obliquely inflated, submembranous, red, 7 cm. long, 3 cm. broad[barteri](#)

Hildegardia barteri (*Mast.*) *Kosterm.* l.c. 337 (1954). *APD acc*

Sterculia barteri *Mast.* in F.T.A. 1: 218 (1868); Hook. Ic. Pl. t. 2277.

Firmiana barteri (*Mast.*) *K. Schum.* in E. & P. Pflanzenfam. 3, 6: 97 (1893); Engl. Monogr. Afr. Sterculiac. 109, t. 10 B; Chev. Bot. 77; Aubrév. Fl. For. C. Iv. 2: 238, t. 219; Kennedy For. Fl. S. Nig. 65.

Erythropsis barteri (*Mast.*) *Ridley* (1934) — F.W.T.A., ed. 1, 2: 606.

Tree, 80–100 ft. or more high, buttressed, with 30–40 ft. bole and girth up to 12 ft.; bark green, wood very soft; deciduous; flowers scarlet, appearing before the leaves; [in drier parts of the forest regions, especially on rocky hills.](#)

Iv. C.: Man Aubrév. 402! **G. C.:** N. of Agogo (Dec.) Chipp 603! Ejan (Jan.) Vigne FH 1795! Achimota (Dec.) Irvine 1861! Dunkwa (fl. & fr. Dec.) Vigne FH 945 (partly)! New Tafo (Dec.) Lovi WH 3868! **Togo:** Chito (Dec.) Howes 1060! **Dah.:** Hollis country (fr. Feb.) Chev. 22942! **N. Nig.:** Nupe Barter 1085! Vom Dent Young! **S. Nig.:** Abeokuta (Jan.) Rowland! Olokemeji (fl. Dec., fr. Feb.) A. F. Ross 40! Owo F.R. Jones FHI 3517! Lem, Okigwe (fl. & fr. Jan.) Jones FHI 517!

17. TARRIETIA

APD: *Synonym of Hildegardia Schott & Endl.*

Blume Bijdr. 227 (1825).

- 1 Leaves digitately 5–7-foliolate, or by reduction the upper leaves 1-foliolate, long-petiolate; leaflets elongate-ob lanceolate or oblong-elliptic, caudate-acuminate, cuneate at base, 10–20 cm. long, 3–7 cm. broad, glabrous and with a raised midrib above, densely lepidote beneath; lateral nerves 10–15 pairs; flowers numerous in axillary panicles; calyx-lobes narrowly lanceolate, subacute, 3 mm. long, softly stellate-tomentellous; fruits unilaterally winged; body ellipsoid, 2–5 cm. long, wing about 7 cm. long and 3 cm. broad[utilis](#)

Tarrietia utilis (*Sprague*) *Sprague* in Kew Bull. 1916: 851; Aubrév. Fl. For. C. Iv. 2: 256, t. 228; Pellegr. in Bull. Soc. Bot. Fr. 88: 380 (as var. *laxiflora* Pellegr. which is var. *utilis*). *APD acc*

Triplochiton utile *Sprague* in Kew Bull. 1908: 257.

Cola proteiformis *A. Chev.* Vég. Util. 5: 250 (1909).

Heritiera utilis (*Sprague*) *Sprague* (1909).

A large [forest](#) tree 75–90 ft. high or more, with bole 40–60 ft. and flying buttresses which separate from the trunk shortly below the point at which they are given off; leaves coriaceous, simple on seedlings in the first year and on the flowering twigs, otherwise digitate; winged fruits 2–5 together.

S. L.: Babadoori Valley (Sept.) Lane-Poole 399! Kenema (Oct.) Aylmer 254! Kambui Hills, Dambaye Valley (Sept.) Small 388! Gola Forest Small 646! **Lib.:** Gbanga (Sept.) Linder 664! Dukwia R. (Oct.) Cooper 61! 103! **Iv. C.:** Azaguié (Sept.) Chev. 22293! San Pedro Serv. For. 1663! **G. C.:** Hunisu (fr. Jan.) Thompson 1! Imbraim (Mar.) Thompson 25! Ajakwa, N. of Chama Chipp 204! Wassidimo, E. of Benu Chipp 210! Prestea (Oct.) Vigne 231!

The species also occurs in Gabon, as var. *densiflora* Pellegr. l.c.

BOMBACACEAE

Trees sometimes very large. Leaves simple or digitate, alternate, often lepidote; stipules deciduous. Flowers hermaphrodite, large and showy. Calyx closed and valvate in bud, often with an epicalyx. Petals often elongated, sometimes absent. Stamens numerous free or united into a tube; anthers reniform to linear, 1-celled; pollen smooth. Ovary superior, 2–5-celled; style simple, capitate or lobed; ovules 2 or more on the inner angle of each cell. Capsule loculicidally dehiscent or not dehiscent, the valves rarely falling away. Seeds often embedded in hairs from the wall of the fruit, with little or no endosperm and flat or contorted or plicate cotyledons.

Confined to the tropics.

Arboreal relatives of the Malvaceae, with which they have much in common.

- 1 Calyx deeply 5-lobed, 5.5–8.5 cm. long; fruit indehiscent, not woolly inside; flowers large, solitary, pendulous on pedicels up to 25 cm. long; stamens very numerous [1. *Adansonia*](#)
- Calyx truncate to slightly 5-lobed, up to about 3 cm. long; fruit filled with softly woolly floss inside; pedicels up to about 3 cm. long: [2](#)
- 2 Stamens numerous; flowers 4–9 cm. long, solitary [2. *Bombax*](#)
- Stamens 5–15, in 5 bundles of 1–3; flowers generally 3 cm. long or less, in fascicles [3. *Ceiba*](#)

Ochroma lagopus Sw.

O. pyramidale (Cav.) Urb.

The Balsa wood tree, a native of central America has been introduced into our area; for note on nomenclature see Little in Caribbean Forester 5: 108–114 (1944).

1. ADANSONIA

Linn. — F.T.A. 1: 212. *APD acc*

- 1 A large tree (see frontispiece in Vol. I, Part 1); leaves digitately 5-foliolate, long-petiolate; leaflets obovate, acutely acuminate, subsessile, up to about 12 cm. long and 5 cm. broad, entire or denticulate, stellate-pubescent or nearly glabrous beneath; flowers large, pendulous on long stalks; calyx deeply 5-lobed, very hirsute-tomentose on both sides; petals setose outside, adnate to the base of the staminal column; stamens very numerous; fruits oblong-ellipsoid to globose [digitata](#)

Adansonia digitata Linn. — F.T.A. 1: 212; Chev. Bot. 73; Bakhuizen in Bull. Jard. Bot. Buitenz., sér. 3, 167; Aubrév. Fl. For. Soud.-Guin. 165, t. 30, 1–4. *APD acc*

Adansonia sphaerocarpa A. Chev. (1901).

Stem comparatively short and stout, 40–60 ft. high, 30–40 or more feet in girth, with short thick branches; bark unarmed, often purplish; fruit 6–9 in. long, pendulous on long stalks, yellowish-felted outside; seeds embedded in a dry acid pulp; often planted near villages, mainly in the drier regions.

Sen.: Roger! **Fr. Sud.:** San (June) Chev. 1104! **Fr. G.:** Farana (Jan.) Chev. 20453! Conakry Chev. 25691! **S. L.:** Makasi, Russell (May) Deighton 2759! Musaia (Oct.) Thomas 2626! Jigaya (Sept.) Thomas 2799! **G. C.:** Amansare (July) Chipp 513! Nangodi (July) Vigne FH 3301! **Togo & Dah.:** fide Aubrév. l.c. **N. Nig.:** Nupe Baikie! Maiduguri (July) Ujor FHI 21948! **S. Nig.:** Attah T. Vogel 34!

Widespread in the drier regions of Africa.

2. BOMBAX

Linn. — F.T.A. 1: 213.

Salmalia Schott & Endl. (1832).

Rhodognaphalon (Ulbr.) Roberty (1953).

- 1 Petals red, orange or pink (rarely yellow), oblong; calyx silky-pilose within, separating from the receptacle and

falling with the petals and stamens, broadly cup-shaped; stamens grouped in 5 bundles; floss white or greyish: **2**

Petals white, lanceolate, 4·8–5·2 cm. long, about 1 cm. broad; calyx glabrous within, remaining attached to the receptacle after the fall of the petals and stamens, campanulate; stamens not grouped in bundles; fruits obovoid, 5–8 cm. long, 3–4 cm. broad, with brownish floss; leaflets broadly obovate, rounded or shortly acuminate at apex, with up to 10 pairs of main lateral nerves; tree of forest regions. **3. brevicuspe**

- 2** Young leaves and shoots glabrous; leaflets with about 15–25 main lateral nerves on each side of the midrib; flowers 6·5–9 cm. long; fruits cylindrical, 10–18 (–25) cm. long, 4·3–6 (–8) cm. broad, with valves more or less flat when mature, fruit thus angular in section; tree of forest regions **1. buonopozense**

Young leaves and shoots densely stellate-pubescent, but soon glabrescent; leaflets with about 8–10 main lateral nerves on each side of the midrib; flowers 4–7 cm. long; fruits cylindrical to subglobose, 6–16 cm. long, 4–6 cm. broad, with convex valves; tree of savannah regions **2. costatum**

- 1. Bombax buonopozense P. Beauv.** Fl. Oware 2: 42, t. 83, 1 (1816); Aubrév. Fl. For. Soud.-Guin. 170; F.W.T.A., ed. 1, 1: 258, in part only. **APD acc**

Gossampinus buonopozensis (P. Beauv.) Bakh. (1924).

Bombax flammeum Ulbr. in Engl. Bot. Jahrb. 49: 530, fig. 1 (1913); F.W.T.A., ed. 1, 1: 258; Aubrév. Fl. For. C. Iv. 2: 224, t. 214, 1–6.

G. flammea (Ulbr.) Bakh. (1924).

Bombax buesgenii Ulbr. l.c. 537 (1913) — F.W.T.A., ed. 1, 1: 258.

G. buesgenii (Ulbr.) Bakh. (1924).

Bombax angulicarpum Ulbr. l.c. 534, fig. 2 (1913) — F.W.T.A., ed. 1, 1: 259.

G. angulicarpa (Ulbr.) Bakh. (1924).

Large tree of **forest regions**, to 120 ft. high; bark with stout conical spines mainly on the younger branches; calyx yellowish-green; petals deep pink or red; flowering when leafless.

S. L.: Hart! Sc. Elliot! Njala (Feb.) Deighton 1584! 1584a! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Tanosu (Feb.) Chipp 99! Kumasi Vigne FH 1881! Dunkwa (Feb.) Vigne 259! Nchira (Dec.) Sam 782! Axim Irvine! **Togo:** Esime, Atakpame (Jan.) Doering 351! **N. Nig.:** Agaie (Jan.) Yates 62! **S. Nig.:** Foster 371! Ikirun, Lagos (Feb.) Millson! Olokemeji (fr. Feb.) A. F. Ross 84! Ibadan (Feb., Mar.) Keay FHI 25632! Latilo FHI 22749! Buonopozo, Benin Beauvois. **Br. Cam.:** Victoria (Jan.–Mar.) Maitland 175a! Preuss 1372.

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

- 2. Bombax costatum Pellegr. & Vuillet** in Notulae Syst. 3: 88 (1914); Aubrév. Fl. For. Soud.-Guin. 170, t. 31 (incl. vars.). **APD acc**

Bombax andrieui Pellegr. & Vuillet (1914).

Bombax houardii Pellegr. & Vuillet (1914).

Bombax vuilleti Pellegr. (1919).

Bombax buonopozense of Ulbr. in Engl. Bot. Jahrb. 49: 527; F.W.T.A., ed. 1, 1: 258, for the most part; not of P. Beauv.

Tree of **savannah** regions, 10–50 ft. high; bark usually rough and spiny; petals red to orange, rarely yellow; flowering when leafless.

Sen.: fide Aubrév. l.c. **Gam.:** Kudang (Jan.) Dalz. 8111! Sankuli Kunda (Jan.) Dalz. 8112! **Fr. Sud.:** Badumbé (Dec.) Chev. 46! Koulikoro Vuillet 692; 731. **Port. G.:** Pussubé, Bissau (fl. & young fr. Feb.) Esp. Santo 1468! **Fr. G.:** Farana Chev. 20437. Ditinn Chev. 18023. **S. L.:** Materboi (Feb.) Deighton 3622! Kasikeri (fr. May) Thomas 162! **Iv. C.:** Banfora, Niangho and Bobo-Dioulasso fide Aubrév. l.c. **G. C.:** Samba to Pabia (fl. & young fr. Feb.) McLeod! Savelugu to Walwale Kitson 542! Navrongo (Dec.) Vigne FH 4683! **Togo:** Sokodé-Basari (Dec.) Kersting 464! **Dah.:** Savalou (May) Chev. 23712! **N. Nig.:** Farquhar! Wawa, Borgu (Dec.) Barter 731! Ejidongari F.R., Ilorin (Feb.) Latilo FHI 32961! Zungeru (Dec.) Elliott 18! Bauchi Plateau Batten-Poole 234!

Also in **Ubangi-Shari**.

- 3. Bombax brevicuspe Sprague** in Kew Bull. 1909: 306; Ulbr. l.c. 538; Aubrév. Fl. For. C. Iv. 2: 226, t. 215. **APD acc**

Rhodognaphalon brevicuspe (Sprague) Roberty in Bull. I.F.A.N. 15: 1404 (1953).

A tall tree of rain **forest**, to 120 ft. high, with straight bole and small buttresses; deciduous; petals white, flowers fragrant.

S. L.: Jagbwema — Njala path, Gaura King 134! Kambui Hills (Nov.) Small 831! **Lib.:** Dukwia R. Cooper 421! **Iv. C.:** Abidjan Aubrév. 60! And other localities fide Aubrév. l.c. **G. C.:** Subirinsu (fr. Feb.) Thompson 10! 12! Imbraim (fr. Mar.)

Thompson 31! Dunkwa (fr. June) Vigne FH 887! Begoro (Dec.) Brown FH 2137! **S. Nig.:** Sapoba Kennedy 1125! **Br. Cam.:** Johann-Albrechtshöhe (fr. Mar.) Schultze 105! Ngombe, Kumba (fr. Nov.) Dundas FHI 13902!

Also in **French Camerouns.**

Bombax sessile (Benth.) Bakh.

Pachira sessilis Benth.

Pachira oleaginea Decne.

A native of central America, it is cultivated in our area.

3. CEIBA

Mill. Gard. Dict. Abridg. ed. 4 (1754).

Eriodendron DC. (1824) — F.T.A. 1: 213.

- 1 Leaves digitately 8–15-foliolate, long-petiolate; leaflets sessile, lanceolate to oblanceolate, acutely acuminate, acute at base, 10–20 cm. long, 3–4 cm. broad, entire or slightly toothed in the upper part, glabrous; flowers fasciculate, small; pedicels about 3 cm. long, articulated at the top; calyx about 1 cm. long, shortly 5-lobed, lobes broad, glabrous; petals united at base, 2–2.5 cm. long, densely silky-villous outside; stamens 15, united into 5 separate slender bundles; anthers sinuous; fruits ellipsoid or elongate-fusiform, narrowed at both ends, 4–12 in. long, pale brownish [pentandra](#)

Ceiba pentandra (Linn.) Gaertn. Fruct. 2: 244, t. 133, fig. 1 (1791); Bakhuizen in Bull. Jard. Bot. Buitenz., sér. 3, 6: 194 (q.v. for synonymy); Aubrév. Fl. For. C. Iv. 2: 228, t. 216; Fl. For. Soud.-Guin. 169. *APD acc*

Bombax pentandrum Linn. (1753).

Eriodendron anfractuosum DC. — F.T.A. 1: 214; Chev. Bot. 74.

Ceiba thonningii A. Chev. in Rev. Bot. Appliq. 17: 249 (1937).

Ceiba guineensis (Thonn.) A. Chev. l.c. 261 (1937), incl. vars.

Ceiba caribaea (DC.) A. Chev. l.c. 266 (1937).

A tree, up to 200 ft. high, in **forest and planted by villages**; trunk with large buttresses; branches in different forms without prickles or with obtuse or acutely pointed stout prickles, generally prickly in the young state; flowers white, appearing either when the whole tree is bare or on leafless branches; fruits in some forms bursting on the tree, in others often falling; floss white or grey.

Sen.: Sedhiou, Casamance Chev. 3068. **Fr. Sud.:** Koubita (Feb.) Davey 45! **Port. G.:** Bissalanca (Feb.) Esp. Santo 1730! **S. L.:** Afzelius! Batkanu (Jan.) Deighton 3615! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Accra Plains (Jan.–Feb.) Irvine 1832! Krepe Plains (Jan.) Johnson 550! Ejura Vigne FH 3469! **Togo:** Sokodé-Basari (Jan.) Kersting A. 709! 710! Kete Kratchi (Jan.) Vigne FH 1539! **Dah.:** fide Chev. l.c. **N. Nig.:** various localities fide Keay. **S. Nig.:** Unwin 21! Foster 372!

Probably of ancient introduction in Africa; distributed throughout the tropics; the genus is native in tropical America.

MALVACEAE

Herbs often with fibrous stems or rarely shrubs; hairs usually stellate or lepidote. Leaves alternate, often palmately nerved or divided; stipules present. Flowers actinomorphic, hermaphrodite or rarely unisexual. Sepals valvate, with or without an epicalyx of bracteoles. Petals 5, free from each other but often adnate at the base to the staminal column, contorted or imbricate. Stamens numerous, monadelphous; anthers 1-celled. Ovary syncarpous, rarely of 1 carpel, rarely the carpels in vertical rows; style one. Ovules on axile placentas. Fruit a capsule or breaking into separate compartments. Seeds usually with some endosperm and straight or curved embryo, the cotyledons often folded.

A large cosmopolitan family.

Generally recognised by the usually stellate indumentum, showy flowers with valvate calyx, monadelphous stamens and 1-celled anthers.

- 1 Epicalyx absent: **2**
 Epicalyx present: **5**
 2 Carpels transversely divided, contracted in the middle, the upper half spreading stellately in fruit, 2-seeded, the lower seed tomentose; leaves entire, cordate; flowers small in panicles [1. Wissadula](#)

- Carpels not transversely divided:3
- 3 Staminal column provided with anthers up to the top or nearly so:4
- Staminal column destitute of anthers at the top; some of the leaves trifoliate [10. Hibiscus](#)
- 4 Carpels 10 or more, with more than 1 ovule in each cell; leaves always cordate [2. Abutilon](#)
- Carpels up to 10, with 1 ovule in each cell; leaves usually not cordate [3. Sida](#)
- 5 Styles twice as many as the carpels; staminal column destitute of anthers at the apex:6
- Styles the same number as the carpels or style more or less undivided:8
- 6 Flowers not in heads or at any rate not surrounded by an involucre:7
- Flowers in heads surrounded by an involucre of bracts [6. Malachra](#)
- 7 Bracteoles of epicalyx connate at the base and adnate to the calyx; carpels with hooked spines [4. Urena](#)
- Bracteoles of epicalyx free to the base or nearly so; carpels without hooked spines, but sometimes with barbate bristles [5. Pavonia](#)
- 8 Style undivided or nearly so:9
- Style divided into separate stigmas:11
- 9 Calyx truncate:10
- Calyx 5-lobed; seeds cottony-hairy; dwarf shrublet with glandular leaves [9. Cienfuegosia](#)
- 10 Leaves with minute scales, otherwise glabrous; epicalyx of 3–5 bracteoles; fruit indehiscent; seeds pubescent [7. Thespesia](#)
- Leaves with abundant stellate hairs; epicalyx of (5–) 9–15 bracteoles; fruit dehiscent; seeds glabrescent [8. Azanza](#)
- 11 Epicalyx of 5 or more free or partially connate usually narrow bracteoles; ovules 3 or more in each cell; carpels 5, dehiscent, not separating from the axis; seeds various [10. Hibiscus](#)
- Epicalyx of 3 broad foliaceous more or less cordate usually deeply toothed or lacinate bracteoles; calyx truncate or nearly so; carpels usually 5, with numerous ovules, dehiscent; seeds covered with long cottony hairs [11. Gossypium](#)
- Epicalyx of 7–10 small or obsolete linear bracteoles; ovary 5-celled with 1 ovule in each cell; fruits depressed, prominently 5-angled; carpels dehiscent [12. Kosteletzkya](#)
- Epicalyx of 1–3 narrow free bracteoles; carpels 8–12, 1-ovulate, subindehiscent, separating from the central axis [13. Malvastrum](#)

1. WISSADULA

Medic. — F.T.A. 1: 182.

- 1 An undershrub with slender branches, the latter puberulous with very short hairs and often also pubescent with stellate hairs; leaves ovate, cordate, acutely acuminate, 5–10 cm. long, 4–8 cm. broad, entire, minutely puberulous above, densely stellate-tomentellous beneath; flowers small in terminal panicles; epicalyx none; calyx 5-lobed to about the middle; fruiting carpels 5, about 1 cm. long, abruptly spreading in the upper half, with rather long sharp beaks, minutely puberulous, constricted in the middle, the upper seed puberulous, the lower tomentose [amplissima var. rostrata](#)

Wissadula amplissima (Linn.) R. E. Fries in Kungl. Sv. Vet. Akad. Handl. 43, 4: 48 (1908). *APD acc*

Sida amplissima Linn. (1753).

Wissadula amplissima var. rostrata (Schum. & Thonn.) R. E. Fries l.c. 51, t. 6, 13–14 (1908); Exell Cat. S. Tomé 116 (q.v. for synonymy).

APD: Synonym of Wissadula rostrata (Schumach.) Hook. f.

Sida rostrata Schum. & Thonn. (1827).

Wissadula rostrata (Schum.) Hook. f. — F.T.A. 1: 182.

Wissadula hernandioides of Chev. Bot. 59.

Wissadula periplocifolia of Chev. Bot. 59.

Erect, 3–7 ft.; leaves hoary beneath; flowers yellow or orange to reddish; **in savannah and cleared ground.**

Sen.: Roger 7! Heudelot 222! **Fr. Sud.:** Mopti to Djenné (Sept.) Chev. 2744! **Port. G.:** Pussubé, Bissau (fl. & fr. Dec.) Esp. Santo 1437! **Fr. G.:** Kouria (Nov.) Chev. 14813!! Nzérékoré (Oct.) Baldwin 9738! **S. L.:** Regent (Dec.) Sc. Elliot 3986!! Njala (fr. Jan.) Deighton 2944! Port Loko (Dec.) Thomas 5852! 6669! Kenema (fr. Jan.) Thomas 7526! Kle, Boporo (fl. & fr. Dec.) Baldwin 10638! **Iv. C.:** Bouroukrou Chev. 16856! **G. C.:** Cape Coast (July) T. Vogel 81! Aburi (fr. Jan.) Brown 879! Wenchi (Nov.) Thorold 46! **Togo:** Lome Warnecke 176! Kpedsu (fr. Dec.) Howes 1068! **Dah.:** Zagnanado Chev. 22975! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 532! **N. Nig.:** Jebba Barter! Nupe Barter 1043! 1717! Bauchi (Sept.) Lely 631! **S. Nig.:** Ogun R., Lagos Millen 74! Ibadan (fl. & fr. Nov.) Obi FHI 14462! Aboh Barter 304! Cross R. (Jan.) Holland 263!

Throughout tropical Africa including Cape Verde Islands and S. Tomé; var. *amplissima* is found in tropical America.

2. ABUTILON

Mill. — *F.T.A.* 1: 183. *APD acc*

- 1 Carpels numerous, 20 or more:2
Carpels about 10:6
- 2 Pedicels and branchlets eglandular, usually densely tomentellous or tomentose, with or without long weak hairs:3
Pedicels and branchlets with gland-tipped hairs as well as longer spreading eglandular hairs; carpels acute or shortly acuminate at apex; flowers solitary; calyx-lobes acuminate; leaves ovate-rounded, cordate at base, acute to acuminate at apex, 5–15 cm. long, 4–11 cm. broad, doubly dentate, shortly stellate-tomentellous beneath, puberulous above [5. *hirtum*](#)
- 3 Carpels rounded at apex:4
Carpels acute or acuminate; flowers solitary; pedicels long; especially in fruit, jointed near the top; calyx-lobes acuminate; leaves broadly ovate, stellate-tomentellous beneath, less so above:5
- 4 Branches terete or subterete, softly tomentellous; leaves ovate-rounded, cordate at base, triangular-acute at apex, 3–7 cm. diam., doubly dentate, softly tomentellous on both sides; flowers usually paired, shortly pedicellate; calyx-lobes acuminate, tomentose [1. *pannosum*](#)
Branches angular, tomentellous, leaves broadly ovate, acuminate, widely cordate, 5–12 cm. long, up to 10 cm. broad, slightly crenulate, minutely tomentellous; flowers in leafy panicles; calyx-lobes acute, tomentellous [2. *angulatum*](#)
- 5 Leaves not acuminate, crenate, 3–7 cm. long; carpels abruptly acute, remaining more or less erect and villous [3. *guineense*](#)
Leaves conspicuously acuminate, slightly dentate, 4–12 cm. long; carpels gradually acuminate, spreading stellately in fruit, at first densely pilose, at length nearly glabrous and blackish [4. *mauritanum*](#)
- 6 Stems densely pilose with long rather weak, more or less reflexed hairs; calyx-lobes broadly ovate, as long as the carpels; carpels 10, acute, villous, 3–5-seeded; petioles becoming reflexed; leaves broadly ovate, cordate, gradually acute, up to 10 cm. long and 8 cm. broad, crenate, slightly stellate-pubescent above, more densely so beneath; flowers solitary or paired on each peduncle [6. *grandifolium*](#)
Stems at most shortly stellate-tomentose, rarely with a few longer, very weak ascending hairs:7
- 7 Leaves acuminate; indumentum lax and soft:8
Leaves not acuminate, cordate at base; indumentum very short and tomentellous; stipules linear, caducous; pedicels jointed near the apex:9
- 8 Stipules ovate to broadly lanceolate, subcordate at base, 1–2 cm. long, up to 1.3 cm. broad; leaves ovate-rounded, denticulate, rather widely cordate, 5–12 cm. long, with long spreading hairs on the nerves beneath; flowers in terminal panicles; pedicels jointed about the middle; carpels acute [7. *auritum*](#)
Stipules filiform, 1 cm. long, ciliate; leaves rounded-ovate, slightly trilobate, up to 12 cm. broad, coarsely crenate, pilose on the nerves; flowers in axillary and terminal cymes; pedicels jointed near the apex; carpels with long subulate points [8. *ramosum*](#)
- 9 Leaves ovate, subentire or denticulate, 2.5–7 cm. long, 2–5 cm. broad; flowers solitary or paired; carpels densely tomentose, acute [9. *fruticosum*](#)
Leaves subreniform, shortly 3–5-lobulate, about 2.5 cm. broad; flowers axillary and terminal, 1–3 together; carpels with subulate points [10. *macropodium*](#)

1. *Abutilon pannosum* (Forst. f.) Schlechtend. in Bot. Zeit. 9: 828 (1851). *APD acc*

Sida pannosa Forst. f. (1787).

S. mutica Del. ex DC. (1824).

Abutilon muticum (Del. ex DC.) Sweet (1830) — F.W.T.A., ed. 1, 1: 260; Chev. Bot. 60.

Abutilon glaucum of F.T.A. 1: 185.

An undershrub, 3–6 ft. high; flowers yellow or pink with a darker centre; carpels 2–3-seeded.

Sen.: Perrottet 76! Dagana, Walo Heudelot! **Fr. Sud.:** Dianté (July) Chev. 1162! Timbuktu (July) Hagerup 221! **N. Nig.:** Gashua, Bornu (June) Onochie FHI 23367! Kukawa (fl. & fr. Feb.) E. Vogel 34!

Also in Cape Verde Islands, and in the drier regions of tropical Africa and Asia.

2. *Abutilon angulatum* (Guill. & Perr.) Mast. in F.T.A. 1: 183 (1868). *APD acc*

Bastardia angulata Guill. & Perr. (1831).

Abutilon intermedium Hochst. ex Garcke (1867) — Chev. Bot. 60.

A tall perennial, 6–12 ft. high, whitish-downy all over; flowers yellow or lilac with dark purple centre; carpels 1-seeded.

Sen.: Perrottet 73! Richard Tol (Feb.) Roger 138! Thiès Chev. **Gam.:** Albreda Perrottet. **N. Nig.:** Katagum (Sept.) Dalz. 73!

Widespread in the drier parts of Africa, and in Madagascar.

3. *Abutilon guineense* (Schum. & Thonn.) Bak. f. & Exell in J. Bot. 74, Suppl. Polypet., Addend. 22 (1936). *APD acc*

Sida guineensis Schum. & Thonn. (1827).

Abutilon asiaticum of F.T.A. 1: 184, partly, and of F.W.T.A., ed. 1, 1: 261.

An erect, more or less villous perennial with wrinkled leaves and yellow-orange flowers.

G. C.: Accra (fl. Mar., fl. & fr. Sept., Oct.) T. Vogel 7! Dalz. 125! Deighton 590! Morton GC 6018!

Also in Angola and Rhodesia.

4. *Abutilon mauritianum* (Jacq.) Medic. Malv. 28 (1787). *APD acc*

Sida mauritiana Jacq. (1781).

Abutilon zanzibaricum Boj. ex Mast. in F.T.A. 1: 186 (1868).

Abutilon indicum of F.T.A. 1: 186, partly; Chev. Bot. 60 (as var. *australiense*).

A whitish-downy perennial, 3–5 ft. high; flowers yellow or orange.

Sen.: Talmy 32. **G. C.:** Achiobuana (Apr.) Chipp 183! Kumasi Cummins 15! Aburi (Jan.) Johnson 846! **Togo:** Kpeve (Mar.) Williams 93! **Dah.:** Sakété (fl. & fr. Jan.) Chev. 22818! **S. Nig.:** Lagos (Apr.) Dalz. 1196! Abeokuta Barter 3347! Ibadan (fl. & fr. Feb., Oct.) Marks 1! Jones FHI 13749! Idanre (fl. & fr. Jan.) Brenan 8710! Oban Talbot 1389! **Br. Cam.:** Tiko (fl. & fr. Feb.) Maitland 975a!

Widespread in tropical Africa, and in Mauritius.

5. *Abutilon hirtum* (Lam.) Sweet Hort. Brit., ed. 1: 53 (1826); Brenan in Kew Bull. 1953: 91. *APD acc*

Sida hirta Lam. (1783).

Abutilon graveolens (Roxb. ex Hornem.) Wight & Arn. (1833).

N. Nig.: Gosling!

Widespread in the tropics.

6. *Abutilon grandifolium* (Willd.) Sweet l.c. (1826); Brenan l.c. 90. *APD acc*

Sida grandifolia Willd. (1809).

Abutilon tortuosum Guill. & Perr. (1831); Chev. Bot. 60.

Abutilon graveolens of F.T.A. 1: 184.

A tall perennial, 3–6 ft. high, with more or less zigzag hairy branches; flowers yellow to orange.

Sen.: Roger! St. Louis Chev. Walo, Richard Tol, etc. (Sept., Oct.) Perrottet 75! **Fr. Sud.:** Macina (Sept.) Chev. 24828.

A native of S. America, introduced into parts of Africa and India, and Madeira.

7. *Abutilon auritum* (Wall. ex Link) Sweet l.c. (1826); Bot. Mag. t. 2495; F.T.A. 1: 187. *APD acc*

Sida aurita Wall. ex Link (1822).

A tall perennial covered with down and spreading hairs; leaves on long hispid petioles, with conspicuous ear-like stipules; seeds with scattered groups of short stellate hairs; flowers orange-red.

S. L.: Wellington (fl. & fr. Mar.) Kirk 4! Leicester (fl. & fr. Dec.) Sc. Elliot 3892! Deighton 3354! Murray Town (fl. & fr. Apr.) Deighton 5761!

Probably native in the East Indies, introduced into various parts of the world.

8. *Abutilon ramosum* (Cav.) Guill. & Perr. — F.T.A. 1: 186. *APD acc*

Sida ramosa Cav. (1785).

An erect branching perennial, somewhat glandular-tomentose and with spreading hairs; leaves long-stalked; flowers yellow or whitish; carpels 2–3-seeded.

Sen.: Heudelot 303! Walo (Nov.) Perrottet 77! 78! Richard Tol (Dec.) Roger 137! **N. Nig.:** Katagum (Sept.) Dalz. 71!

Widespread in the drier parts of tropical Africa.

9. *Abutilon fruticosum* Guill. & Perr. Fl. Seneg. 1: 70 (1831); F.T.A. 1: 187; Chev. Bot. 59. *APD acc*

A hoary, much-branched, woody perennial, 3–6 ft. high, with comparatively small leaves; flowers yellow; carpels 2–3-seeded.

Sen.: Roger! Saffal Isl., R. Senegal, near St. Louis (Sept., Oct.) Perrottet 80!

Widespread in the drier parts of Africa, extending to **Arabia** and N.W. India.

10. *Abutilon macropodium* Guill. & Perr. l.c. 69, t. 14 (1831); F.T.A. 1: 185. *APD acc*

Low, much-branched, suffrutescent, downy on the younger parts; flowers yellow; seeds large, 3 in each carpel.

Sen.: Walo, Richard Tol, etc. (Sept.–Oct.) Perrottet!

3. SIDA

Linn. — F.T.A. 1: 178.

- 1** Prostrate, with long slender branches, often rooting at the lower nodes; stems weakly pilose; stipules linear-filiform; leaves broadly ovate, widely cordate, acuminate, 2–5 cm. long, up to 4 cm. broad, doubly crenate, sparingly pubescent; petiole nearly as long as the lamina; flowers solitary or paired; pedicels filiform [1. *veronicifolia*](#)
More or less erect herbs or small shrubs, rarely procumbent, but then stems woody; not rooting at the nodes: ...**2**
- 2** Leaves linear or linear-lanceolate, entire; flowers in lax terminal cymes; leaf-lamina up to 12 cm. long and 1.5 cm. broad, loosely pilose; petiole short; stipules linear; pedicels jointed above the middle; carpels 5 or 6, scarcely beaked [2. *linifolia*](#)
Leaves lanceolate to broadly ovate or rounded, toothed or crenate; flowers mostly axillary:**3**
- 3** Leaves cordate at base, broadly ovate; flowers clustered or rarely subsolitary:**4**
Leaves rounded to acute at base; flowers mostly solitary or paired:**5**
- 4** Indumentum of long pilose loose hairs; leaves crenate-serrate, 3–7 cm. long, 2–4 cm. broad, pilose; petiole fairly long; stipules subulate; flowers clustered or rarely solitary, shortly pedicellate; carpels 5, scarcely beaked ...[3. *urens*](#)
Indumentum of short dense stellate hairs; leaves dentate, not acuminate, 3–7 cm. long, 3–5 cm. broad, softly tomentose; petiole stout, nearly as long as the lamina; stipules filiform, short; flowers solitary in the lower axils, more crowded above; carpels 10, with long sharp awns covered with reflexed hairs [4. *cordifolia*](#)
- 5** Carpels 5, each breaking at the base to release the seed, awned; flowers solitary to clustered; leaves oblong to rounded, 1.5–3 cm. long, 0.5–2 cm. broad, crenate, softly tomentellous beneath [5. *alba*](#)
Carpels 7–10, dehiscent along the dorsal side, or indehiscent:**6**
- 6** Carpels indehiscent, usually 7–8, rugose, more or less connivent; leaves ovate-elliptic, rounded at apex, 2.5–4.5 cm. long, 1.5–3 cm. broad, crenate, shortly tomentellous beneath [6. *ovata*](#)
Carpels dehiscent (often only gaping) along the dorsal side, usually 8–10, not connivent:.....**7**

- 7 Leaves finely stellate-tomentellous beneath, at least when young, the hairs covering the surface of the lamina: **8**
 Leaves pilose, pubescent, or more or less glabrescent beneath, with the surface of the lamina clearly visible
 beneath the hairs; carpels strongly rugose on sides as well as back: **10**
- 8 Sides of carpels rugose; leaves more or less obovate-elliptic or obovate; flowers often rather long-pedicellate and
 solitary [7a. *rhombifolia* var. *α*](#)
 Sides of carpels smooth; leaves more or less elliptic; flowers usually shortly pedicellate, often clustered: **9**
- 9 Leaves with minute stellate hairs only on upper surface [7b. *rhombifolia* var. *β*](#)
 Leaves with long simple hairs on upper surface [7c. *rhombifolia* var. *γ*](#)
- 10 Flowers about 2.5–2.8 cm. diam. when open; stems often procumbent; leaves elliptic, up to about 3 cm. long and
 1 cm. broad, rarely more; carpels awned, pubescent towards the apex [8. *scabrida*](#)
 Flowers up to about 1.5 cm. diam. when open; stems erect: **11**
- 11 Carpels awned (sometimes only shortly so); stem and leaves with minute stellate hairs and rather sparse simple
 or fascicled hairs; leaves up to 7.5 cm. long and 2.5 cm. broad: **12**
 Carpels more or less beaked, but not awned; stem and leaves clothed, often densely, with long simple hairs;
 leaves rhombic-elliptic to ovate-lanceolate up to 14 cm. long and 5.8 cm. broad, rather coarsely serrate in the
 upper half [11. *corymbosa*](#)
- 12 Carpels longer than broad, gradually narrowed into the rather short awns, usually ochre-coloured; leaves more or
 less lanceolate, up to 6.5 (–7.5) cm. long and 1.2 (–2) cm. broad [9. *acuta*](#)
 Carpels as broad as long, D-shaped, rather abruptly awned, awns often long; carpels usually brown; leaves
 elliptic-ovate to elliptic-lanceolate, up to 7.5 cm. long and 2.5 cm. broad [10. *stipulata*](#)

1. *Sida veronicifolia* Lam. Encycl. 1: 5 (1783).

APD: *Synonym of Sida pilosa* Retz.

APD: *Synonym of Sida javensis* Cav.

Sida humilis Cav. (1788) — F.T.A. 1: 179; Chev. Bot. 59.

A straggling **wayside plant**, sometimes matting the sandy soil, with pale yellow flowers.

S. L.: Talla Hills (Feb.) Sc. Elliot 4857! Njala (Nov.) Deighton 1509! Musaia (Dec.) Deighton 5694! **Lib.:** Peahtah (Oct.) Bequaert 1058! Vonjama (Oct.) Baldwin 9863! **iv. C.:** Bingerville (Dec.) Chev. 16054. Bouroukrou (Dec.–Jan.) Chev. 16674. **G. C.:** Fumso (Mar.) Darko 531! Afram Plains (Dec.) Morton GC 6090! **S. Nig.:** Lagos Barter 2139! Millen 73! Ibadan (Dec.) Umana FHI 26750! Idanre (Jan.) Brenan 8719! **Br. Cam.:** Buea (Dec.) Maitland 905!

Distributed in the tropics generally.

2. *Sida linifolia* Juss. ex Cav. — F.T.A. 1: 179; Chev. Bot. 58. APD acc

A stiff, erect, more or less hairy weed, 1½–2 ft.; flowers white, sometimes pink, 1/2–3/4 in. across; petals red-purple at the base.

Sen.: Heudelot 492! **Gam.:** Hayes 581! **Fr. Sud.:** Tabacco (Jan.) Chev. 126. **Fr. G.:** Maclaud! **S. L.:** Barter! Freetown (Oct.) Deighton 247! Port Loko (Nov.) Thomas 6532! Makump (Jan.) Glanville 145! **Lib.:** Tawata, Boporo (Nov.) Baldwin 10312! Soplina, Kolahun (Nov.) Baldwin 10048! **iv. C.:** Dabou (Feb.) Chev. 17248. **G. C.:** Cape Coast (July) T. Vogel 19! Nchenenchena to Kwahu Tafo (May) Kitson 1166! Accra Brown 380! **Togo:** Lome Warnecke 267! **Dah.:** Sakété to Pedjilé (Feb.) Chev. 22911. **N. Nig.:** Zungero (Oct.) Dalz. 124! Bauchi Plateau (June, July) Lely 279! P. 344! Lokoja (Oct.) Parsons 43! **S. Nig.:** Lagos (June) Dalz. 1193! Ibadan (Dec.) Meikle 898! Oban Talbot 1408!

Widespread in tropical Africa and America.

3. *Sida urens* Linn. — F.T.A. 1: 179; Chev. Bot. 59. APD acc

A hirsute perennial; branches sometimes lax and trailing; flowers whitish or pale yellow.

Sen.: Roger 142! Heudelot 553! **S. L.:** Heddle's Farm (Dec.) Sc. Elliot 3907! Kumrabai (Dec.–Jan.) Thomas 6901! Magbile (Dec.) Thomas 6222! Kenema (Nov.) Deighton 411! **G. C.:** Aburi (May) Hughes 812! Kumasi (Oct.) Darko 350! **N. Nig.:** Ilorin Prov. Clarke 13! **S. Nig.:** Ibadan (Jan.) Meikle 939! Aguku Dist. Thomas 737!

Widespread in the tropics and subtropics.

4. *Sida cordifolia* Linn. — F.T.A. 1: 181; Chev. Bot. 57. APD acc

An erect, softly downy perennial, up to 5 ft. high, with bright yellow flowers; **common in waste and sandy places.**

Sen.: Heudelot 490! **Fr. Sud.:** Bara (Sept.) Hagerup 370a! Ténétou (Mar.) Chev. 657! **Port. G.:** Barro to Sedengal (Nov.) Esp. Santo 3126! **Fr. G.:** Timbo (Feb.) Pobéguin 135! Kouroussa (July) Pobéguin 320! Dalaba-Diaguissa (Oct.) Chev. 18702! **S. L.:** Regent (Dec.) Sc. Elliot 4147! Magburaka (Oct.) Glanville 52! Mano Salija (Dec.) Deighton 431! **Lib.:** Monrovia (Nov.) Whyte! Linder 1560! Peahtah (Oct.) Linder 951! Suacoco, Gbanga (Nov.) Daniel 35! **G. C.:** Abra (Oct.) Howes 994! Paliba (Dec.) Adams & Akpabla GC 4123! Tamale (Nov.) Williams 396! **Togo:** Lome Warnecke 237! **Dah.:** Cotonou (Mar.) Debeaux! **N. Nig.:** Nupe Barter! Kontagora (Nov.) Dalz. 129! Sokoto (Aug.) Dalz. 428! Panyam (July) Lely 437! **S. Nig.:** Lagos Millen 123! Ibadan (Dec.) Meikle 900! Awka (Oct.) Jones FHI 6788!

Widespread in the tropics and subtropics.

5. *Sida alba* Linn. Sp. Pl., ed. 2, 2: 960 (1763). *APD acc*

Sida spinosa of Linn. (1753), partly; F.T.A. 1: 180; Chev. Bot. 58.

A woody herb, with branches sometimes lax and trailing; flowers small, white.

Sen.: Roger! Dakar (May) Baldwin 5709! **Gam.:** Genieri (Feb.) Fox 42! **Fr. Sud.:** Bara, Amongo (Sept.) Hagerup 370! Sompi, and Mopti to Djenné, fide Chev. l.c. **S. L.:** Bonthe Isl. (Mar.) Deighton 2478! **G. C.:** Accra (Mar.) Deighton 565! **Togo:** Lome Warnecke 150! **N. Nig.:** Sokoto Lely 150! Fodama (Dec.) Moiser 251! Lemme (May) Lely 140! Biu (Aug.) Noble 13!

Widespread in the tropics.

6. *Sida ovata* Forsk. Fl. Aegypt.-Arab. 124 (1775). *APD acc*

Sida grewioides Guill. & Perr. (1831) — F.T.A. 1: 182; Chev. Bot. 57; F.W.T.A., ed. 1, 1: 263.

A rather hoary woody herb, 2 ft. or more high; flowers yellow.

Sen.: Roger 8! Heudelot 413! Walo (Sept., Oct.) Perrottet. **Fr. Sud.:** L. Télélé, Goundam (Aug.) Chev. 2748! Timbuktu (July) Hagerup 219! **iv. C.:** fide Chev. l.c. **N. Nig.:** Bindawa valley, Katsina (July) Grove 4! Katagum (Oct.) Dalz. 69! Karaswa, Bornu (June) Onochie FHI 23341!

In the drier parts of Africa, and extending to **Arabia** and India.

7. *Sida rhombifolia* Linn. Sp. Pl. 2: 684 (1753); F.T.A. 1: 181; Chev. Bot. 58. *APD acc*

A widespread perennial weed; requiring further taxonomical study throughout its range.

There appear to be three varieties in our area: —

7a. *Sida rhombifolia* var. *α*.

Flowers pale yellow.

Fr. G.: Heudelot 697 (partly)! Kouria (Oct.) Caille in Hb. Chev. 15029! **S. L.:** Rokupr (Jan.) Deighton 2959! Jordan 704! Bureh town (Dec.) Deighton 3289! Bumbuna (Oct.) Thomas 3712! **G. C.:** Akwadum (July) Deighton 5281! **Fr. Nig.:** Niamey (Oct.) Hagerup 504! **N. Nig.:** Sokoto (Nov.) Moiser 35! Katagum (Oct.) Dalz. 70! Nupe Barter 1718! **S. Nig.:** Ibadan (Apr., July, Dec.) Meikle 909! 1448!

Widespread in the tropics.

7b. *Sida rhombifolia* var. *β*.

Flowers pale yellow.

Fr. G.: Heudelot 697 (partly)! **S. L.:** Njala (Dec.) Deighton 1795! Baoma, Koya (Dec.) Deighton 3799! Musaia (Dec.) Deighton 5695! **Lib.:** Kakatown Whyte! **G. C.:** Benso (June) Andoh FH 5527! Kaasi, Kumasi (Feb.) Darko 524! **Togo:** Lome Warnecke 429! **N. Nig.:** Kontagora (Nov.) Dalz. 126! Lokoja Ansell! **S. Nig.:** Ibadan (Jan.) Meikle 938! Okomu F.R. (Feb.) Brenan 9164! Nun R. T. Vogel 26! Ikoma (Dec.) Rosevear 44/30a! **Br. Cam.:** Buea (Nov., Jan.) Maitland 118! 254! Bamenda (Feb., Apr.) Maitland 1729! Migeod 462! **F. Po.:** (Dec.) Guinea 289.

Widespread in tropical Africa and (?) in the tropics generally.

7c. *Sida rhombifolia* var. *γ*.

Possibly a montane form; flowers yellow or pinkish-yellow.

Br. Cam.: Cam. Mt., 4,400–6,000 ft. (Dec., Jan., Apr.) Maitland, 809! 1119! Dunlap 30! Bamenda 6,600 ft. (Jan.) Keay FHI 28411!

Also in **N.E. tropical Africa**.

8. **Sida scabrida** *Wight & Arn.* Prodr. Fl. Pen. Ind. Or. 1: 57 (1834).

APD: Synonym of Sida rhombifolia L.

Woody herb, to 18 in. high, or procumbent; flowers pale orange, larger than the other related species.

S. L.: Makunde, Limba (Apr.) Sc. Elliot 5714! Rokupr (Mar.) Jordan 426! **Lib.:** Monrovia (Nov.) Linder 1526! **S. Nig.:** Ibadan (Apr.) Meikle 1410!

Also in **India**.

9. **Sida acuta** *Burm. f.* Fl. Ind. 147 (1768). *APD acc*

Sida carpinifolia of F.W.T.A., ed. 1, 1: 263, partly, not of Linn. f.

Sida vogelii *Hook. f.* in Fl. Nigrit. 231.

A shrubby perennial, much-branched, to 3 ft. high; flowers pale yellow.

S. L.: Mano (Nov., Dec.) Deighton 5661! 5662! Bumpe (Nov.) Deighton 5874! **Lib.:** Sinoe Basin Whyte! **G. C.:** Accra Moloney! Kaasi, Kumasi (Feb.) Darko 519! **Togo:** Lome Warnecke 188! **N. Nig.:** Fodama (Dec.) Moiser 161! Aguji, Ilorin Thornton! Bauchi Plateau (Aug.) Lely P. 610! **S. Nig.:** Ibadan (Aug., Dec.) Golding 4! Meikle 882! 887! 892! Olokemeji (May) Foster 287! **F. Po.:** (Nov.) T. Vogel 214!

Widespread in the tropics.

10. **Sida stipulata** *Cav.* Diss. 1: 22, t. 3, 10 (1785).

APD: Synonym of Sida acuta Burm. f. subsp. acuta

Sida carpinifolia of F.W.T.A., ed. 1, 1: 263, partly, not of Linn. f.

Shrubby perennial, to 4 ft. high; flowers yellow.

S. L.: (June) T. Vogel 26! 83! Leicester Peak (Dec.) Sc. Elliot 3897! Kenema (Nov.) Deighton 418! Musaia (Apr.) Deighton 5463! **Lib.:** Cinco, Monrovia (Nov.) Linder 1546! Sinkor (June) Barker 1360! **G. C.:** Cape Coast (July) T. Vogel 13! Woase (June) Chipp 487! Asuansi (Feb.) Williams 282! Kumasi (Feb.) Andoh FH 4134! **Togo:** Amedzofe (Feb.) Irvine 180! **S. Nig.:** Idu, Sapoba (Nov.) A. F. Ross 220! Calabar (Apr.) Holland 114! **Br. Cam.:** Victoria (June) Maitland 49! **F. Po.:** (Dec.) Guinea 283.

Also in tropical America.

11. **Sida corymbosa** *R. E. Fries* in Bull. Herb. Boiss., sér. 2, 7: 998 (1907).

APD: Synonym of Sida collina Schlttdl.

A shrubby perennial, to 7 ft. high; flowers yellow, often apricot-coloured.

S. L.: Sumbuya (Nov.) Deighton 2272! Mattru (Nov.) Deighton 2350! Gegbwema, Tunkia (Oct.) Deighton 5202! Njala (Oct., Dec.) Deighton 5189! 5293! **Lib.:** Gbanga (Sept.) Linder 595! **S. Nig.:** Ibadan (Nov., Dec.) Meikle 880! 888! 897! Keay FHI 28297! Idanre (Jan.) Brenan 8708!

Also in **central America**.

Hybrids probably occur between several of the above species. Meikle has collected specimens from Ibadan, Nigeria, which appear to be hybrids between *S. acuta* and *S. corymbosa*. A specimen from Lagos (Foster 326) may be a hybrid between *S. stipulata* and *S. corymbosa*.

4. URENA

Linn. — F.T.A. 1: 189.

- 1 A fibrous undershrub covered with stellate hairs; leaves very variable, usually more or less 3–5-lobed, sometimes deeply so, whitish beneath; middle nerve often with a large pitted gland near the base; flowers axillary, usually solitary; epicalyx of 5 linear-lanceolate bracteoles united at the base and persistent in fruit; fruit depressed-globose, covered with rigid hooked bristles [lobata](#)

Urena lobata Linn. — F.T.A. 1: 189; Chev. Bot. 61 (incl. vars.). *APD acc*

Varying from a low woody weed to a shrub 8–10 ft. high; flowers rose-pink or yellow, 1 in. or less long; *cultivated in some of its forms.*

Sen.: (Aug.) Roger 118! **Gam.:** Brooks 13! **Fr. Sud.:** Ianfola (Mar.) Chev. 450! **Fr. G.:** Conakry Lecerf! Farana (Mar.) Sc. Elliot 5321! **S. L.:** Freetown (Nov.) Deighton 233! Yetaya (Sept.) Thomas 2289! Gberia Timbako (Sept.) Small 312! **Lib.:** Kakatown Whyte! Vonjama (Oct.) Baldwin 9927! Suacoco, Gbanga (Nov.) Daniel 32! **G. C.:** Cape Coast (July) T. Vogel 32! Wanki (June) Chipp 479! Accra (Oct.) Morton GC 6021! Tamale (Oct.) Williams 381! **Togo:** Lome Warnecke 232! **Fr. Nig.:** Niamey (Oct.) Hagerup 556! **N. Nig.:** Kebbi, Sokoto Prov. (Oct.) Dalz. 422! Nupe Barter 849! Bauchi Plateau (Aug.) Lely P. 574! 581! Yola (Sept.) Shaw 68! **S. Nig.:** Ibadan (Dec.) Meikle 916! Idu, Sapoba (Nov.) A. F. Ross 224! Nun R. (Aug.) T. Vogel 5! Oban Talbot 1265! **Br. Cam.:** Buea (Nov.) Migeod 224! Bambili, Bamenda (Aug.) Ujor FHI 29984! **F. Po:** Barter!

Widely distributed in the tropics and subtropics.

5. PAVONIA

Cav. — F.T.A. 1: 189; Ulbrich in Engl. Bot. Jahrb. 57: 54–184 (1920).

- 1 Fruiting carpels with a narrow membranous wing on the margin, not awned, not enclosed by the calyx; epicalyx of 10 linear-filiform bracteoles, much longer than the calyx, forming a little open basket around the carpels in fruit; leaves up to 2.5 cm. long, with long and short stellate hairs beneath; flowers solitary on long pedicels jointed towards the top: **2**
- Fruiting carpels not winged, enclosed by the persistent calyx; epicalyx of 10–12 linear or linear-lanceolate bracteoles, shorter than or about as long as the calyx; leaves usually much exceeding 2.5 cm. long, usually cordate at base; flowers solitary or clustered: **3**
- 2 Leaves digitately divided almost to the base; lobes 3–5, oblanceolate, slightly toothed, up to 2.5 cm. long **1. zeylanica**
- Leaves elliptic-suborbicular, not lobed, rounded at base, 1–2 cm. long **2. kotschy**
- 3 Fruiting carpels not awned, with reflexed hairs on the margins; leaves slightly lobed, lobes triangular, doubly dentate; stem and leaves densely tomentose beneath; flowers solitary, or crowded above **3. hirsuta**
- Fruiting carpels with long awns armed with short reflexed bristles; leaves more or less distinctly digitately lobed, usually coarsely toothed; flowers clustered in leaf-axils on short pedicels, or solitary towards ends of shoots: **4**
- 4 Stem and leaves more or less densely long-hirsute **4. urens var. urens**
- Stem and leaves pubescent or glabrescent **4a. urens var. glabrescens**

1. **Pavonia zeylanica** Cav. — F.T.A. 1: 192; Ulbr. in Engl. Bot. Jahrb. 57: 153 (as var. *microphylla* Ulbr.). *APD acc*

APD: *Synonym of Pavonia arenaria var. microphylla (Ulbr.) Verdc.*

Pavonia arabica of Chev. Bot. 62.

Perennial with hispid branches 1–1½ ft. high from a thick woody stock; flowers yellow or reddish, exceeding the epicalyx.

Sen.: Perrottet 69! Richard Tol Lelièvre! Walo Heudelot! **Fr. Sud.:** Tacadji (Aug.) Chev.!

Extends to Abyssinia and Somaliland, S.E. **Arabia** and India.

2. **Pavonia kotschy** Hochst. ex Webb — F.T.A. 1: 192; Ulbr. l.c. 171; Chev. Bot. 62. *APD acc*

A low woody perennial of semi-desert regions, with short densely pubescent branchlets; flowers yellow, less than 1 in. across, shorter than the epicalyx.

Fr. Sud.: Timbuktu (fl. & fr. July) Chev. 1246! Hagerup 188! **N. Nig.:** Kukawa (fl. & fr. Jan.) E. Vogel 27!

Extends to Abyssinia and Somaliland; also in [Arabia](#).

3. **Pavonia hirsuta** *Guill. & Perr.* — F.T.A. 1: 191; Ulbr. l.c. 116 (incl. var. *microphylla* Ulbr.); Chev. Bot. 62 (excl. Chev. 18504 which is *Kosteletzkya grantii*).

APD: Synonym of Pavonia senegalensis (Cav.) Leistner

An erect or sometimes prostrate undershrub, softly yellowish tomentose all over; flowers large, yellow with a red-purple centre 2 in. or more across; epicalyx of 12 downy free bracts, calyx with 3–5 green veins.

Sen.: Heudelot 410! Walo (Jan.) Perrottet 71! **Fr. Sud.:** Timbuktu (July, Sept.) Chev. 1244! Hagerup 201! **N. Nig.:** Sokoto (June, Nov.) Dalz. 420! Moiser 59! Katagum (Nov.) Dalz. 72! L. Chad (Feb., Mar., Oct., Dec.) E. Vogel 42! Elliott 148!

Widespread in the drier parts of tropical Africa.

4. **Pavonia urens** *Cav. var. urens* — Diss. 3: 137, t. 49, 1 (1787); Ulbr. l.c. 104; Brenan in Mem. N.Y. Bot. Gard. 8, 3: 223. *APD acc*

Pavonia schimperiana var. **hirsuta** of F.W.T.A., ed. 1, 1: 263; Chev. Bot. 62.

Coarse woody herb, to 10 ft. high; flowers white, with pink or purplish markings.

Fr. G.: Dalaba to Diaguissa (Sept.) Chev. 18588! **S. L.:** Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 140! **N. Nig.:** Bauchi Plateau (Sept.) Lely P. 709! **S. Nig.:** Mt. Koloishe, Obudu, 4,800 ft. (Dec.) Keay & Savory FHI 25124! **Br. Cam.:** Cam. Mt., 4,000 ft. (Dec.) Maitland 840! Bambili, Bamenda (Aug.) Ujor FHI 29976! Nchan, Bamenda (June) Maitland 1681! **F. Po:** Mioka, near Moka (Feb.) Exell 849!

Widespread in tropical Africa, also in [Madagascar](#) and the [Mascarenes](#).

- 4a. **Pavonia urens** var. **glabrescens** (*Ulbr.*) *Brenan* in F. W. Andr. Fl. Pl. A.-E. Sudan 2: 36 (1952).

APD: Synonym of Pavonia schimperiana Hochst. ex A. Rich.

Pavonia schimperiana var. **glabrescens** *Ulbr.* l.c. 108 (1920).

Pavonia schimperiana of F.W.T.A., ed. 1, 1: 263.

Woody herb; flowers white with pink or reddish markings.

Fr. G.: Longuery (Dec.) Chev. 14828! **Togo:** Bismarckburg (fl. Oct., Nov., fr. Nov.) Büttner 261! **Br. Cam.:** Buea (Jan.) Dunlap 126! Maitland 318! **F. Po:** Finca Puente (Jan.) Guinea 1710!

Widespread in tropical Africa.

6. MALACHRA

Linn. — F.T.A. 1: 188.

- 1 Leaves deeply 3–7-lobed, lobes oblanceolate, toothed, coarsely strigose beneath like the stems, about 6 cm. long; flowers in dense subglobose heads subtended by leafy suborbicular bracts; epicalyx of several linear-filiform plumose bracteoles; calyx long-pilose; fruiting carpels reticulate, about 1/2 as long as the calyx [1. radiata](#)

Leaves slightly 3–7-lobed, lobes broad at the base, slightly pubescent beneath and on the stems, 5–9 cm. long; flowers few in heads; bracts ovate, cordate, pale with distinct veins; calyx markedly veined, pilose; carpels shorter than the calyx, finely reticulate, glabrous [2. capitata](#)

1. **Malachra radiata** (*Linn.*) *Linn.* Syst., ed. 12, 2: 459 (1767); F.T.A. 1: 188; Chev. Bot. 61. *APD acc*

Sida radiata *Linn.* (1763).

An erect, coarsely hairy perennial, about 4 ft. high; [in wet places; flowers light red.](#)

Sen.: Néma Berhaut 823. **Iv. C.:** between Toumodi and Nzaakro (Aug.) Chev. 22422! **G. C.:** Hatogodo, near Quittah (Sept.) Akpabla 330! **N. Nig.:** Nupe Barter 1547!

Extends to A.-E. [Sudan](#), also in tropical America.

2. *Malachra capitata* (Linn.) Linn. l.c. 458 (1767); F.T.A. 1: 188. *APD acc**Sida capitata* Linn. (1753).

Like the last, with roundish leaves and yellow or white flowers.

Sen.: Richard Tol Perrottet 64!

A plant of the West Indies and central America.

7. THESPESIA*Soland. ex Corr.* — F.T.A. 1: 209.

- 1** Leaves ovate, cordate at base, acuminate at apex, entire, with minute scales on both surfaces, otherwise glabrous, 6–15 cm. long, 5–10 cm. broad; flowers axillary, solitary; epicalyx of 3–5 oblong-lanceolate segments, early caducous; calyx about 1 cm. long, scaly outside; fruit depressed-globose, woody, finely scaly, about 2.5 cm. diam. [populnea](#)

Thespesia populnea (Linn.) *Soland. ex Corr.* — F.T.A. 1: 209; Chev. Bot. 70; J. B. Hutch. in New Phytol. 46: 135. *APD acc*

*APD: Synonym of Thespesia populneoides (Roxb.) Kostel.**Hibiscus populneus* Linn. (1753).

A coastal tree or shrub; petals yellow, large and showy; generally planted in the streets of the coastal towns.

Sen.: St. Louis Brunner! Farman 110! **G. C.:** Cape Coast T. Vogel! Dixcove (Apr.) Chipp 179! Achimota (Jan.) Irvine 1946! **Togo:** Lome Warnecke 357! **Dah.:** Zagnanado Chev. 23087. **S. Nig.:** Calabar (fr. Jan.) Goldie!

Widely distributed in the tropics.

8. AZANZA

Alef. in Bot. Zeit. 29: 298 (1861); Exell & Hillcoat in Contrib. Conhec. Fl. Mocamb. 2: 59 (1954). *APD acc*

- 1** Leaves palmately 3–5-lobed, cordate at base, lobes usually obtuse, more or less stellate-pubescent above, densely stellate-pubescent to tomentose and reticulate beneath, 4–13 cm. long, 5–14 cm. broad; flowers axillary, solitary, sometimes crowded towards ends of shoots; epicalyx of (5–) 9–15 linear segments, more or less caducous; calyx about 1 cm. long, densely stellate-tomentose or tomentellous outside; fruits tomentose [garckeana](#)

Azanza garckeana (F. Hoffm.) Exell & Hillcoat l.c. (1954).

*APD: Synonym of Thespesia garckeana F. Hoffm.**Thespesia garckeana* F. Hoffm. Beitr. Fl. Centr. Ost-Afr. 12 (1889).Tree to 30 ft. high, or more, **in savannah regions**; possibly introduced in our area; flowers large, yellow.**N. Nig.:** Tula Dist., Bauchi Prov. Kennedy FHI 7276!

Widespread in east and south tropical Africa.

Azanza lampas (Cav.) *Alef.*

A native of tropical Asia, it has been introduced into gardens.

9. CIENFUEGOSIA

Cav. Diss. 3: 174 (1787); J. B. Hutchinson in New Phytol. 46: 125 (1947).

Fugosia Juss. (1789) — F.T.A. 1: 208.

- 1 Leaves undivided or slightly lobulate, obovate, very shortly acuminate, 8–13 cm. long, 4–6.5 cm. broad, 5-nerved at the base, glabrous but gland-dotted beneath, finely reticulate on both surfaces; petiole very short; stipules linear-subulate, about 5 mm. long; flowers from near the base of the previous season's stem; pedicels up to 3 cm. long; epicalyx of about 3 short unequal bracteoles; calyx turbinate, 1.5 cm. long, 5-lobed, lobes acuminate, nerved and gland-dotted [1. heteroclada](#)

Leaves digitately divided to the base, lobes 5–7, linear or oblanceolate, up to 4 cm. long, glabrous; petiole about 1/3 as long as the leaf; stipules linear, slightly pubescent; flowers on the young shoots, axillary, solitary; pedicels longer than the leaves; epicalyx of 10–12 short linear bracteoles; calyx 1.5 cm. long, lobes lanceolate, acuminate, 3-nerved and gland-dotted [2. digitata](#)

1. *Cienfuegosia heteroclada* Sprague in Kew Bull. 1907: 48; J. B. Hutch. in New Phytol. 46: 127. *APD acc*

A suffrutex, in [savannah](#), sending up branches from a woody stock after burning; stems angular, glabrous, dark gland-dotted; flowers pink or purplish, 1 in. or more long; capsule obovoid, 3/4 in. long, gland-punctate; seeds densely clothed with long rusty hairs.

G. C.: Zuarungu Dist. (Jan.) Vigne FH 4665! **N. Nig.:** Kontagora (fl. & fr. Dec.–Jan.) Dalz. 122! Meikle 1034! Naraguta (Mar.) Hill 25!

2. *Cienfuegosia digitata* Cav. Diss. 3: 174, t. 72, 2 (1787); Chev. Bot. 69; J. B. Hutch. l.c. 128. *APD acc*

Fugosia digitata (Cav.) Pers. — F.T.A. 1: 209.

A low shrubby plant a foot or more high, with angular branches; flowers yellow with red-purple centre, 1–2 in. in diam.

Sen.: Sieber 58! Richard Tol (Sept.) Perrottet 66! Roger! Walo Heudelot! **Fr. Sud.:** Amango (Sept.) Hagerup 385a! **G. C.:** Bawku (Nov.) Vigne FH 4664! **Fr. Nig.:** Fada to Koupéla, Gourma (July) Chev. 24535! **N. Nig.:** Kano (Mar., May) Buxton! Ejiofor FHI 26150a! Bauchi Plateau (July) Lely P. 563!

Widespread in the drier parts of tropical Africa.

10. HIBISCUS

Linn. — F.T.A. 1: 194.

- 1 Calyx persistent, not splitting down one side, usually more or less deeply lobed: **2**
Calyx spathaceous, splitting down one side and falling off at anthesis or in fruit: **33**
- 2 Calyx more or less deeply lobed: **3**
Calyx cupuliform, about 7 mm. long, with very short lobes; epicalyx cupuliform, 5-dentate; corolla about 4.5 cm. long; branchlets, petioles and midrib and nerves on underside of leaves hispid-pilose; stipules filiform; leaves obovate-oblong, rounded or obtuse at base, acuminate at apex, margin remotely dentate in upper part [29. grewoides](#)
- 3 Bracteoles of epicalyx united for more than half their length; trees with broadly ovate or pentagonal, rather large, more or less cordate leaves: **4**
Bracteoles of epicalyx free, or united only at base, or absent; shrubs, straggling climbers or herbs: **5**
- 4 Leaves broadly ovate-rounded, deeply cordate, acuminate, up to 15 cm. long and broad, entire or crenulate, at length glabrous, canous-tomentellous beneath, digitately nerved from the base; flowers solitary, large and showy [1. tiliaceus](#)
Leaves pentagonal, with triangular denticulate lobes, rather widely cordate, up to 15 cm. broad, minutely stellate-puberulous beneath, 5–7-nerved at the base; flowers comparatively small in cymes [2. sterculiifolius](#)
- 5 Epicalyx absent; annual herbs; leaves very variable, simple to trifoliate sometimes on the same plant, long-petiolate; flowers solitary, axillary; seeds strongly tuberculate: **6**
Epicalyx present: **7**
- 6 Calyx longer than the fruit; leaf-margin entire or slightly dentate; stems more or less pubescent [3. sidiformis](#)
Calyx shorter than the fruit; leaf-margin distinctly dentate; stems with long weak hairs [4. lobatus](#)
- 7 Bracteoles of epicalyx forked or provided with a foliaceous appendage: **8**
Bracteoles of epicalyx neither forked nor provided with a foliaceous appendage: **11**

- 8 Stipules foliaceous, reniform-orbicular, 1–1.5 cm. long; stems prickly; leaves digitately 3–5-lobed, lobes coarsely toothed, up to 7 cm. long, prickly on the nerves beneath and on the petioles; flowers solitary; bracteoles of the epicalyx nearly as long as the calyx, linear with a foliaceous appendage on the back [5. *surattensis*](#)
Stipules not foliaceous: 9
- 9 Stems prickly; flowers axillary; bracteoles of epicalyx 8–12, shorter than the calyx: 10
Stems not prickly; flowers umbellate; pedicels up to 2.5 cm. long; bracteoles of epicalyx 5–6, entire, spatulate-ob lanceolate, much longer than the calyx; leaves 3–7-lobed, suborbicular, up to 18 cm. broad, crenate, softly pubescent beneath [8. *comoensis*](#)
- 10 Pedicels up to 2 cm. long; sepals ovate-lanceolate, long-acuminate; leaves mostly deeply digitately 3–5-lobed, lobes coarsely toothed, up to 6.5 cm. long; bracteoles of epicalyx with a foliaceous appendage but often without lateral lobes; stems prickly and more or less shortly hirsute [6. *noldeae*](#)
Pedicels 2–13 cm. long; sepals ovate, acute; leaves usually palmately 3–5-lobed, or triangular or ovate, up to about 17 cm. long and broad; bracteoles of epicalyx forked; stems prickly and more or less long-hirsute [7. *rostellatus*](#)
- 11 Calyx inflated; bracteoles of epicalyx 7–12, free, linear, ciliate; upper leaves mostly deeply 3–5-lobed with the lobes variable in shape; much-branched hispid annual [9. *trionum*](#)
Calyx not inflated: 12
- 12 Epicalyx of more than 5 bracteoles: 13
Epicalyx of 5 bracteoles: 29
- 13 Bracteoles of epicalyx spatulate, somewhat widened above the middle, nearly as long as the calyx; leaves ovate to orbicular, often somewhat pentagonal, 5–8 cm. long and broad, doubly crenate, densely and softly tomentose beneath; flowers usually solitary, shortly stalked; fruit a little longer than the calyx, very villous [10. *panduriformis*](#)
Bracteoles of epicalyx narrowed to the apex: 14
- 14 Epicalyx of subulate or filiform, more or less terete bracteoles: 15
Epicalyx of linear to lanceolate, more or less flat bracteoles: 20
- 15 Leaves broad, 5-lobed or pentagonal, with long petioles; flowers on slender pedicels: 16
Leaves lanceolate to ovate, distinctly but rather shortly petiolate, serrate-dentate, 3–5 cm. long, 1–3.5 cm. broad, scabrid; flowers solitary on slender pedicels; bracteoles of the epicalyx small and inconspicuous [15. *micranthus*](#)
- 16 Capsule depressed, distinctly winged, setose on the wings; leaves without incrustations at the base of the nerves beneath: 17
Capsule pointed, not winged, densely villous; leaves long-petiolate, usually rather sharply 5-lobed, dentate, softly pubescent, with chalk-like incrustations at the base of the nerves beneath; bracteoles of epicalyx very slender: 18
- 17 Stems densely pubescent, with prickles; leaves ovate to palmately 3– or slightly 5-lobed [11. *vitifolius* var. *vitifolius*](#)
Stems with small prickles; leaves deeply lobed [11a. *vitifolius* var. *ricinifolius*](#)
- 18 Epicalyx about 1/2 as long as the calyx: 19
Epicalyx about 1/4 as long as the calyx [14. *longisepalus*](#)
- 19 Leaves more or less 5-lobed; indumentum of rather long and short hairs [12. *physaloides*](#)
Leaves obscurely 3-lobed or not lobed; indumentum short and harsh [13. *pseudohirtus*](#)
- 20 Leaves not lobed, linear or lanceolate, subsessile or shortly petiolate, obtusely serrate: 21
Leaves lobed or broadly ovate, usually with a fairly long petiole: 24
- 21 Leaves linear, 5–13 cm. long, softly pubescent beneath; seeds covered with small scales; bracteoles of epicalyx about 10, linear, shorter than the calyx; calyx-lobes lanceolate, setose; capsule about 1.5 cm. long, setose-pilose [16. *squamosus*](#)
Leaves lanceolate or linear-lanceolate, thinly pubescent beneath or glabrous; seeds not scaly: 22
- 22 Petals up to 1 cm. long; calyx-lobes triangular, about 6 mm. long; bracteoles of epicalyx about 7, lanceolate, about 1/3 as long as calyx; capsule scarcely 1 cm. long; leaves narrowly lanceolate, 5–6 cm. long, thinly stellate-pubescent beneath; suffrutex with erect shoots up to 15 cm. long [17. *gourmania*](#)
Petals at least 2 cm. long; calyx-lobes lanceolate, 1 cm. long or more: 23
- 23 Stems trailing or suberect, up to 60 cm. long, hispid with yellowish spreading hairs; leaves linear-lanceolate towards the ends of shoots, but usually more or less lobed below [18. *articulatus* var. *articulatus*](#)
Stems erect, up to 2 m. high, not hispid, or hispid only below; leaves lanceolate, apparently never lobed [18a. *articulatus* var. *glabrescens*](#)

- 24 Stems very hispid with yellowish spreading hairs; leaves deeply 3-lobed, or scarcely lobed, 5–7 cm. long, lobes oblong-lanceolate, crenate, slightly setulose on the nerves beneath; pedicels longer than the calyces; bracteoles of epicalyx 8–10, pilose; capsule about 1.5 cm. long, sparingly setose; seeds nearly smooth [18. *articulatus* var. *articulatus*](#)
- Stems not hispid, sometimes prickly; flowers shortly pedicellate: 25
- 25 Calyx fleshy at maturity; stems not prickly; leaves ovate or 3-lobed, glabrous or nearly so [19. *sabdariffa*](#)
- Calyx not fleshy at maturity: 26
- 26 Bracteoles of the epicalyx much shorter than the calyx in fruit; petiole usually long, often as long as the lamina: 27
- Bracteoles of the epicalyx nearly as long as the calyx in fruit; petioles short; leaves ovate-triangular, irregularly dentate, slightly setulose [23. *whytei*](#)
- 27 Calyx woolly as well as setose; leaves deeply lobed or broadly ovate, rather sharply serrate, glabrescent; stems smooth or sometimes slightly prickly [20. *cannabinus*](#)
- Calyx not woolly, sometimes setose, or puberulous with small stellate hairs; leaves often deeply lobed, puberulous to tomentellous beneath; stems often prickly or sometimes scabrid: 28
- 28 Calyx densely setose, but only sparingly puberulous and later glabrescent between the broad-based simple setae; stems more or less prickly; leaves puberulous beneath [21. *asper*](#)
- Calyx stellate-puberulous, with fascicles of longer hairs, but scarcely setose; stems slightly scabrid and densely pubescent; leaves tomentellous beneath [22. *scotellii*](#)
- 29 Leaves linear-lanceolate, often hastate at the base, up to 18 cm. long and 4 cm. broad, serrulate, slightly pubescent beneath; flowers crowded at the apex of the shoots, very shortly stalked; bracteoles of epicalyx linear, about as long as the calyx, ciliate [24. *congestiflorus*](#)
- Leaves broadly ovate to more or less pentagonal, rounded or cordate at base; flowers axillary, shortly pedicellate: 30
- 30 Bracteoles of epicalyx linear-subulate about 1 cm. long and scarcely 1.5 mm. broad, bristly pilose, shorter than the calyx; calyx-lobes lanceolate, contracted towards the base; corolla about 6 cm. long; leaves ovate, 4–6.5 cm. long, 3.5–5 cm. broad, rather coarsely doubly dentate, stellate-hirsute beneath [25. *lonchosepalus*](#)
- Bracteoles of epicalyx linear to lanceolate, 1–8–2.8 cm. long, as long as or longer than the calyx: 31
- 31 Leaves permanently and softly stellate-tomentose beneath, ovate or obscurely 3-lobed; fruits stellate-tomentose but not setose; seeds long-pilose [26. *owariensis*](#)
- Leaves beneath stellate-hirsute, or glabrescent and pubescent mainly on the nerves; fruits setose at first; seeds shortly pubescent or papillose: 32
- 32 Bracteoles of epicalyx linear, about 1.5 mm. broad, not touching each other towards the base; flowers crowded towards the apex of the stem; leaves more or less glabrescent and pubescent mainly on the nerves beneath [27. *lunarifolius*](#)
- Bracteoles of epicalyx rather broadly lanceolate, 5–7 mm. broad and touching each other towards the base; flowers not crowded; leaves rather coarsely stellate-hirsute beneath [28. *macranthus*](#)
- 33 Bracteoles of the epicalyx linear, 6 or more, not early caducous; flowers large: 34
- Bracteoles of the epicalyx ovate to lanceolate, 4–8, persistent, or caducous before anthesis: 35
- 34 Pedicel as long as the fruit or longer; fruits narrowly ovoid, narrowed to the base, acuminate at apex, more or less membranous, up to 8 cm. long; stems covered with reflexed bristly hairs [30. *abelmoschus*](#)
- Pedicel much shorter than the fruit; fruits elongate-conical, truncate at base, ribbed, becoming fibrous, up to 30 cm. long; stems glabrous or shortly pubescent [31. *esculentus*](#)
- 35 Lobes of leaves obtuse, narrowed to their base; bracteoles 5–6, lanceolate, early caducous; upper flowers in terminal leafless racemes; flowers small, about 3 cm. long; fruits ovoid, up to about 4 cm. long; stems pubescent or glabrescent, with minute thorns [32. *ficulneus*](#)
- Lobes of leaves acute (or leaves sometimes not lobed); bracteoles 4–8, ovate to ovate-lanceolate, persistent; flowers large; fruits ovoid, up to about 6 cm. long: 36
- 36 Stems, pedicels and fruits covered with long bristly hairs; pedicels about 3 cm. long; bracteoles usually 4 [33. *manihot* var. *manihot*](#)
- Stems and pedicels glabrous or glabrescent; pedicels 1–1.5 cm. long; bracteoles 6–8, long-ciliate on the margins, otherwise glabrous [33a. *manihot* var. *caillei*](#)

1. **Hibiscus tiliaceus** Linn. — F.T.A. 1: 207; Chev. Bot. 69 (incl. var. *elatus* Hochr.). *APD acc*

Epicalyx not enclosing the calyx in bud, with very short lobes much shorter than the tube. A small tree with purplish branches; stipules leafy, leaving annular scars; flowers 2–3 in. long, yellow with a purple centre. [Common near the sea.](#)

Sen.: Perrottet 48! Heudelot! Sieber 34! Carabane (fr. Feb.) Chev. 2741! **Gam.:** (fl. & fr. July) Ruxton 3! **Port. G.:** Bissau (Feb.) Esp. Santo 1784! **S. L.:** T. Vogel 58! Rotomba Isl. (Mar.) Kirk 30! Lumley (fl. & fr. Feb.) Dudgeon 5a! Bureh town (Nov.) Lane-Poole 82! **Lib.:** Kru, Fishtown (fr. Mar.) Baldwin 11612! **IV. C.:** Bliéron Chev. 19915! **G. C.:** mouth of Ancobra R. (fl. & fr. July) Chipp 312! **S. Nig.:** Lagos (Feb.) Dalz. 1060! 1194! Nun R. (fl. & fr. Aug.) T. Vogel 9! **F. Po.:** (fr. Dec.) Barter 1549! Mann 15!

Throughout the tropics.

2. **Hibiscus sterculiifolius** (*Guill. & Perr.*) *Steud.* Nom., ed. 2, 1: 760 (1840); Chev. Bot. 67. *APD acc*

Paritium sterculiifolius *Guill. & Perr.* Fl. Seneg. 60, t. 13 (Apr. 1831).

Hibiscus quinquelobus *G. Don* (1831, after Aug.) — F.T.A. 1: 208.

Hibiscus perrottetii *Steud.* — Chev. Bot. 66.

A small tree; branches stellate-tomentose; flowers 1 in. or more long, much smaller than in the preceding, yellow with a brown-purple centre; epicalyx cup-shaped with 10 teeth 1/2 as long as the calyx.

Sen.: Farmar! Casamance (Apr.) Perrottet 49! **Gam.:** Brown-Lester 19! Albreda (Mar.) Perrottet 50! Heudelot 640! **Fr. Sud.:** Balani (Jan.) Chev. 146! Sarakouroba (fr. Feb.) Chev. 478! **Fr. G.:** fide Chev. l.c. **S. L.:** Don! Heddle's Farm (Dec.) Sc. Elliot 3995! Kumrabai (Dec.–Jan.) Thomas 6875! Mt. Horton (Jan.) T. S. Jones 303! **Lib.:** Jabrocca (Dec.) Baldwin 10856! **S. Nig.:** Benin City Dennett 42!

3. **Hibiscus sidiformis** *Baill.* in Bull. Soc. Linn. Paris 1: 518 (1885). *APD acc*

Solandra ternata *Cav.* (1788).

Hibiscus ternatus (*Cav.*) *Mast.* in F.T.A. 1: 206 (1868); Chev. Bot. 68; F.W.T.A., ed. 1, 1: 267; not of Cav. (1787).

Hibiscus ambongoensis *Baill.* (1885).

Hibiscus pamanzianus *Baill.* (1885).

Hibiscus ternifoliolus *F. W. Andr.* (1952).

An erect, branching, pubescent herb, woody below; flowers pale yellow less than 1 in. long.

Sen.: Heudelot 466! Richard Tol (Oct.) Roger 109! Walo (Oct.) Perrottet 72! **Fr. Sud.:** Sompi Chev. Amongo (fl. & fr. Sept.) Hagerup 378! **IV. C.:** Yako to Ouahigouya (Aug.) Chev. 24734! **N. Nig.:** Sokoto (fl. & fr. June) Dalz. 421! Jebba Barter! Yola (fl. & fr. June) Dalz. 81!

Widespread in the drier parts of tropical Africa and in Madagascar.

4. **Hibiscus lobatus** (*Murr.*) *O. Ktze.* Rev. Gen. Pl. 3, 2: 19 (1898). *APD acc*

Solandra lobata *Murr.* (1785).

Hibiscus solandra *L'Hérit.* (1788) — F.T.A. 1: 206; Hochr. l.c. 128 (as var. genuinus).

Erect, slightly villous, rather laxly branched herb, to 5 ft. high; flowers cream.

Sen.: Perrottet. **N. Nig.:** Dogon Kurmi, Jemaa, Plateau Prov. (fl. & fr. Nov.) Keay FHI 21044!

Widespread in tropical Africa, extending to Madagascar and India.

5. **Hibiscus surattensis** *Linn.* — F.T.A. 1: 201; Chev. Bot. 68. *APD acc*

Herbaceous, trailing or climbing; stems with spreading hairs and recurved prickles; flowers yellow with red centre.

Sen.: Khann and Kounoun (Sept.–Oct.) Perrottet 57! **Fr. G.:** Conakry and Kouria, fide Chev. l.c. **S. L.:** Kumrabai (fr. Dec.) Thomas 6803! York Pass Lane-Poole 437! Njala (Dec.) Deighton 1576! Mambolo (Jan.) Deighton 963! **Lib.:** Monrovia (fl. Nov., fr. Jan.) Baldwin 10990! Linder 1434! Kakatown Whyte! **IV. C.:** Bouroukrou Chev. 16613. **G. C.:** Atwabo Fishlock 21! Kumasi (Sept.) Vigne FH 1381! **Togo:** Lome Warnecke 243! **Dah.:** Le Testu 188! **S. Nig.:** Ikoyi, Lagos (Dec.) Dalz. 1192! Olokemeji Foster 138! Sapoba (Nov.) Kennedy 1639! Meikle 588! Oban Talbot 1410! **Br. Cam.:** Buea (Apr.) Hutch. & Metcalfe 103!

Widespread in the tropics of the Old World.

6. **Hibiscus noldeae** *Bak. f.* in J. Bot. 77: 20 (1939). *APD acc*

Shrubby perennial herb, sometimes scandent; flowers yellow with deep red centre.

S. Nig.: Mt. Koloishe, 6,200 ft. (fl. & fr. Dec.) Keay & Savory FHI 25094! **Br. Cam.:** Bamenda, 5,000 ft. (fl. & fr. Feb.–Apr.) Migeod 463! Ujor FHI 30075!

Also in **Uganda**, **Tanganyika**, **Belgian Congo** and **Angola**.

7. **Hibiscus rostellatus** *Guill. & Perr.* — F.T.A. 1: 201; Chev. Bot. 67. *APD acc*

APD: *Synonym of Hibiscus furcellatoides Hochr.*

Hibiscus furcellatoides *Hochr.* (1917) — Chev. Bot. 66.

Hibiscus furcatus of F.W.T.A., ed. 1, 1: 267, not of Willd.

Undershrub, to 10 ft. high, or half-climbing, more or less hispid and with recurved prickles; flowers large, yellow, with a dark purple centre.

Sen.: Kounoun (Sept.–Mar.) Perrottet 53! **Gam.:** Ingram! Dudgeon! **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1663! **Fr. G.:** Koukouré to Timbo (Mar.) Chev. 12504! Nzérékoré (Oct.) Baldwin 9700! **S. L.:** Kambia (fl. & fr. Dec.) Sc. Elliot 4349! Jordan 755! Mano Smythe 60! Njala (Nov.–Feb.) Deighton 2436! 4947! Makump (Dec.) Glanville 109! **Lib.:** Kakatown Whyte! Peahtah (Oct.) Linder 1098! Sanokwele (Sept.) Baldwin 9640! **G. C.:** Kintampo (Nov.) Andoh FH 5438! **Dah.:** Abbo to Massé (Feb.) Chev. 22969. **N. Nig.:** Zaria (Feb.) Dalz. 360! Vom Dent Young 18! **S. Nig.:** Lagos (Nov.) Dalz. 1059! 1195! Ibadan (Jan.) Meikle 959! Akilla (Jan.) Onochie FHI 20674! Onitsha (Feb.) Jones FHI 7475! **Br. Cam.:** Bulifambo, Buea (fr. Mar.) Maitland 577!

Extends to central, east and north-east tropical Africa.

8. **Hibiscus comoensis** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 267 (1928); Kew Bull. 1928: 298; Chev. Bot. 65. *APD acc*

IV. C.: Akabossué to Ebrinahoué, Mid. Comoé (Dec.) Chev. 22613!

9. **Hibiscus trionum** *Linn.* — F.T.A. 1: 196; Hochr. l.c. 144; Chev. Bot. 69. *APD acc*

Much-branched hispid annual; flowers yellow with a purple centre.

Sen.: Richard Tol Berhaut 1412. **Fr. Sud.:** Sompi (Aug.) Chev.!

Widespread in the tropics of the Old World.

10. **Hibiscus panduriformis** *Burm. f.* — F.T.A. 1: 203; Hochr. in Ann. Conserv. Jard. Bot. Genève. 4: 95; Chev. Bot. 66. *APD acc*

Erect branched undershrub, 4–8 ft., covered with fine down mixed with bristles; flowers large, yellow turning orange, or purple-streaked, with a red or purple centre; seeds striped.

Sen.: Roger 12! Walo (Sept.–Oct.) Perrottet 58! 60! **G. C.:** Shai Plains (Feb.) Irvine 1979! Burufo, Lawra (fl. & fr. Dec.) Adams GC 4426! **Dah.:** Abbo to Massé Chev. 22974! **N. Nig.:** Kontagora (fl. & fr. Nov.) Dalz. 131! Maigana, Zaria (Dec.) Lamb 68! Nabardo (fl. & fr. Sept.) Lely 615! Bauchi Plateau (fl. & fr. Aug.) Lely P. 658!

Widespread in tropical Africa, also in **Madagascar**, **tropical Asia** and **Australia**.

11. **Hibiscus vitifolius** *Linn. var. vitifolius* — F.T.A. 1: 197, partly; Hochr. l.c. 169 (as var. *genuinus*); Chev. Bot. 69. *APD acc*

Low shrub, or scrambling herb, to 6 ft. high; flowers bright yellow with a purple centre, about 2 in. long; recognisable by the 5-winged fruit.

G. C.: Cape Coast (fl. & fr. July) T. Vogel 66! Aburi (Nov.) Johnson 847! Accra Plains (fl. & fr. Aug.) Irvine 70! **Togo:** Lome Warnecke 204! **Dah.:** Adjaonéré to Abbo (fl. & fr. Feb.) Chev. 22956! **N. Nig.:** Jebba Barter! Katagum (fl. & fr. Sept.) Dalz. 62! **S. Nig.:** Abeokuta Millen 95! Olokemeji (fl. & fr. Sept.) Onochie FHI 20227! Ibadan (fl. & fr. Aug.) Golding 5!

Widespread in tropical Africa, **Madagascar**, **Asia** and **Australia**, also in **West Indies** (? introduced).

11a. **Hibiscus vitifolius var. ricinifolius** (*E. Mey. ex Harv.*) *Hochr.* in Ann. Conserv. Jard. Bot. Genève. 4: 170 (1900); Brenan in Mem. N.Y. Bot. Gard. 8, 3: 225.

APD: Synonym of Hibiscus vitifolius L. subsp. vitifolius

Hibiscus ricinifolius E. Mey. ex Harv. (1860).

Br. Cam.: Mopanya, Cam. Mt., 2,400 ft. (fr. Apr.) Maitland FHI 12332!

Also in **Uganda**, **Abyssinia**, **Eritrea**, **Nyasaland**, **Angola** and **Natal**.

12. *Hibiscus physaloides* Guill. & Perr. — F.T.A. 1: 199, partly; Hochr. l.c. 161 (as var. *genuinus*); Chev. Bot. 67. *APD acc*

A woody herb, to 6 ft. high, with spreading pungent hairs; flowers up to 4 in. diam., yellow, with a red base turning violet.

Sen.: Dagana, Walo (Sept.–Oct.) Perrottet 61! 62! **Gam.:** Albreda Perrottet. **Fr. Sud.:** Kati to Kita (Oct.) Chev. 2745! **Port. G.:** Picle, Bissau Esp. Santo 1737! **S. L.:** Gene (Nov.) Deighton 446! Makump (Dec.) Glanville 110! Njala (Dec.) Deighton 1577! **Lib.:** Kakatown Whyte! Karmadhun (Nov.) Baldwin 10187! **IV. C.:** Ano (Dec.) Chev. 22534! Beoumi (Dec.) Lowe! **N. Nig.:** Jebba (fl. & fr. Sept.) Elliott 211! **S. Nig.:** Lagos Millen 124! Akure F.R. (fl. & fr. Oct., Nov.) Keay FHI 25466! Usonigbe F.R. (Nov.) A. F. Ross 259! Sapele Darker!

Widespread in tropical Africa, and in **Canary Islands**, **Cape Verde Islands** and **Comoro Islands**, **Madagascar** and **Seychelles**.

13. *Hibiscus pseudohirtus* Hochr. in Bull. Soc. Bot. Fr. 61, Mém. 8: 247 (1916); Chev. Bot. 67; Cufodontis in Ann. Naturhist. Mus. Wein 56: 55. *APD acc*

An undershrub with shortly pilose and scabrid branchlets; flowers white, rather small, solitary, on long peduncles

Fr. Sud.: Macina (fl. & fr. Sept.) Chev. 24866!

14. *Hibiscus longisepalus* Hochr. l.c. 250 (1916); Chev. Bot. 66. *APD acc*

An undershrub, tomentose and with spreading hairs; flowers yellow, 1–1½ in. long; epicalyx very small, setaceous.

Fr. Sud.: Macina (Sept.) Chev. 24842!

15. *Hibiscus micranthus* Linn. f. Suppl. Pl. 308 (1781); F.T.A. 1: 205; Hochr. in Ann. Conserv. Jard. Bot. Genève. 5: 60; Cufodontis l.c. 46 (q.v. for vars.). *APD acc*

APD: Synonym of Hibiscus praeteritus R.A. Dyer

Undershrub, 5–6 ft. high, with stiff, straight, scabrid branches; stipules almost spiny; flowers small, about ½ in. long, white turning pink; seeds cottony.

Sen.: Heudelot 539! Walo (Sept.–Nov.) Perrottet. **Fr. Sud.:** Gao (Sept.) Hagerup 365! **G. C.:** Cape Coast Brass. Accra (Mar., May) Deighton 587! Irvine 721! **Togo:** Lome Warnecke 218! 339!

Widespread in the drier parts of tropical Africa, S. Africa, Madagascar, **Arabia** and India.

16. *Hibiscus squamosus* Hochr. in Ann. Conserv. Jard. Bot. Genève. 4: 165 (1900). *APD acc*

Hibiscus epidospermus Mast. in F.T.A. 1: 197 (1868), not of Miq. (1859).

Stem erect, little-branched, 3 ft. or more, scabrid-pubescent or downy; flowers conspicuous, pale yellow with dark purple centre; **common in marshy places**.

G. C.: Imp. Inst.! Tamale (Oct.) Williams 401! **N. Nig.:** Nupe Barter 1165! Kontagora (fl. & fr. Nov.) Dalz. 127! **S. Nig.:** Awba R., Ibadan (fl. & fr. Oct.) Jones FHI 6365!

17. *Hibiscus gourmania* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 267 (1928); Kew Bull. 1928: 298. *APD acc*

Gourmania grewioides A. Chev. Bot. 86, name only.

Suffrutex, with stems up to 6 in. high, from short erect woody rhizomes; flowers white.

IV. C.: Ouagadougou to Ouahigouya (Aug.) Chev. 24717. **Fr. Nig.:** Fada to Koupéla, Gourma (July) Chev. 24514! **N. Nig.:** Ejidogari F.R., Ilorin (Feb.) Ejiofor FHI 19831!

18. **Hibiscus articulatus** *Hochst. ex A. Rich. var. articulatus* — F.T.A. 1: 200; Hochr. l.c. 159 (as var. *genuinus*); Chev. Bot. 63. *APD acc*

Stems trailing or suberect, to 2 ft. long, from woody rhizome; leaves very variable in shape; flowers white or yellow (? sometimes turning pink); **in marshy ground**.

IV. C.: Toura country (May) Chev. 21746! **G. C.:** Nangodi (June) Vigne FH 4514! **Fr. Nig.:** Gourma (July) Chev. 24428! **N. Nig.:** Aguji, Ilorin (Dec.) Thornton! Nabardo (May) Lely 206! Kwoya Dist., Bornu (Aug.) Daggash FHI 24859!

Widespread in tropical Africa.

- 18a. **Hibiscus articulatus var. glabrescens** *Hochr. l.c. 159 (1900). APD acc*

Erect herb, to 6 ft. high; leaves apparently not lobed; flowers white or yellow or pink.

Togo: Misahöhe Baumann 48! **N. Nig.:** Kentish Rankin! Lema, Laflagi Dist., Ilorin (Aug.) Onyeagocha FHI 27266!

Also in **A.-E. Sudan**.

19. **Hibiscus sabdariffa** *Linn. — F.T.A. 1: 204; Hochr. l.c. 116; Chev. Bot. 67; Berhaut Fl. Sen. 160. APD acc*

Erect, slightly branched with smooth or slightly hispid stem, often coloured; epicalyx and calyx sometimes with scattered hairs and tubercles, becoming succulent; flowers an inch or more long, yellow with a purple centre; **widely cultivated** and variable in form and size.

Sen.: fide Berhaut l.c. **Fr. Sud.:** Timbuktu Chev. 1250! **Fr. G.:** fide Chev. l.c. **S. L.:** Sc. Elliot 4173! Njala (Nov.) Deighton 1849! Yonguru (Jan.) Thomas 7149! **G. C.:** Tamale Dudgeon! **Dah.:** Burton! **N. Nig.:** Katagum (Sept.) Dalz. 68! Kukawa (Feb.) E. Vogel 42! 52! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8156! Sapoba Kennedy 1654!

Widely cultivated in the tropics.

20. **Hibiscus cannabinus** *Linn. — F.T.A. 1: 204, partly; Hochr. l.c. 114, partly; Chev. Bot. 64–65 (excl. var. *chevalieri*). APD acc*

An erect annual, to 15 ft. high; flowers large, yellow with a red-purple centre; **cultivated as a fibre plant, and naturalized**.

Sen.: Richard Tol (Feb.) Döllinger! **Gam.:** MacCarthy Isl. (fl. & fr. Jan.) Dalz. 8129! **Fr. Sud.:** Sansanding (Sept.) Chev. 24967! Koulikoro (Sept.) Chev. 25026! Labbézenga (Sept.) Hagerup 458! And many other localities fide Chev. l.c. **S. L.:** Deighton 2935! **G. C.:** Kpong (fl. & fr. Oct.) Johnson 827! **Togo:** Lome Warncke 282! **N. Nig.:** Sokoto Dalz. 424! 425! Katagum (fl. & fr. Sept.–Oct.) Dalz. 63! 64! Kalkala, L. Chad (fl. & fr. Mar.) Gwynn 93! **S. Nig.:** Lagos Dodd 442!

Cultivated in most tropical countries.

21. **Hibiscus asper** *Hook. f. in Fl. Nigrit. 228 (1849); Berhaut Fl. Sen. 160 (? Incl. var.).*

APD: Synonym of Hibiscus cannabinus L.

Hibiscus cannabinus var. chevalieri *Hochr. — Chev. Bot. 65.*

Hibiscus cannabinus of F.T.A. 1: 204, partly; Hochr. l.c., partly.

Erect fibrous herb to 8 ft. high, often red-tinged in parts and armed with small spine-tipped tubercles; flowers yellow with purple centre; **probably native in savannah areas**.

Sen.: fide Berhaut l.c. **Gam.:** (July) Brooks 14! **Fr. Sud.:** Sarédina (May) Davey 130! Bure, Amongo (fl. & fr. Sept.) Hagerup 409! **Fr. G.:** Kouria (Oct.) Caille in Hb. Chev. 14909! **S. L.:** Turner! Waterloo (fl. & fr. Dec.) Deighton 3346! Kora, Scarcies R. (fr. Feb.) Sc. Elliot 4592! Mahela, Samu (fl. & fr. Dec.) Sc. Elliot 4041! Musaia (fl. & fr. Dec.) Deighton 4499! **G. C.:** Dukwesein (fl. & fr. Dec.) Chipp 599! Lumbunga (fl. & fr. Dec.) Morton GC 6225! **Dah.:** Burton! **N. Nig.:** Sokoto (fl. & fr. Oct.) Dalz. 426! Nupe Barter 1026! Zungeru (Oct.) Dalz. 128! Katagum (Sept.) Dalz. 65 (partly)! **S. Nig.:** Foster 362! Higginson 11!

Probably widespread in tropical Africa.

Perhaps no more than varietally distinct from *H. cannabinus* Linn.

22. *Hibiscus scotellii* *Bak. f.* in J. Linn. Soc. 30: 74 (1894); Hochr. l.c. 117. *APD acc*

APD: Synonym of Hibiscus sineaculeatus F.D. Wilson

Erect fibrous herb, to 6 ft. high; flowers yellow with a dark red or purplish centre; **often on rocky hills**; probably native.

S. L.: Sasseni, Scarcies R. Sc. Elliot 4535! Lungi (fl. & fr. Nov.) Glanville 111! Waterloo (fl. & fr. Dec.) Deighton 3347! Tisana, Bonthe Isl. (fl. & fr. Nov.) Deighton 2318! **Lib.:** Vonjama (Oct.) Baldwin 9887! Kolahun (fl. & fr. Nov.) Baldwin 10148! **G. C.:** Kwahu-Pepeease (fl. & fr. Nov.) Irvine 1713! **N. Nig.:** Anara F.R. (fl. & fr. Sept., Oct.) Keay FHI 20117! 24354! Bauchi Plateau (Sept.) Lely P. 686! Panshanu (fl. & fr. Sept.) Lely 609! **S. Nig.:** Idanre Hills (fl. & fr. Oct.) Keay FHI 22587!

[The specimens from Liberia, Gold Coast, and Nigeria differ somewhat from the Sierra Leone material and are rather intermediate between typical *H. scotellii* and typical *H. asper*.]

23. *Hibiscus whytei* *Stapf* in J. Linn. Soc. 37: 79 (1905); Chev. Bot. 69. *APD acc*

A tall woody herb, sparingly stellate-pubescent; leaves 11/2–31/2 in. long; bracteoles of epicalyx 10, narrow linear-lanceolate; corolla yellow with purple centre, about 11/2 in. long.

Fr. G.: Kindia Chev. 13031; 13224. Kouria to Ymbo Chev. 14750. **Lib.:** Kakatown Whyte! **Iv. C.:** Bouroukrou Chev. 16614; 16787. Bingerville Chev. 17355.

24. *Hibiscus congestiflorus* *Hochr.* in Ann. Conserv. Jard. Bot. Genève. 10: 21 (1906); Chev. Bot. 65. *APD acc*

Hibiscus baumannii *Ulbr.* (1922).

Erect herb, to 10 ft. high, often unbranched; stems pilose; flowers yellow with purple centre, 11/2–21/2 in. long; **in savannah**.

G. C.: Irvine! Kintampo (Nov.) Andoh FH 5440! **Togo:** Kpedsu (fl. & fr. Dec.) Howes 1052! **Dah.:** Massé to Kétou (Feb.) Chev. 23006! **N. Nig.:** Lokoja (Oct.) Dalz. 80! Bauchi Plateau (Oct.) Lely P. 831! Yola (Oct.) Shaw 70! **S. Nig.:** Eruwa Road, Olokemeji (Nov.) Onochie FHI 8163! Oyo (fl. & fr. Jan.) Keay FHI 25646! Owo G. Burton 3!

Also in **Ubangi-Shari**.

25. *Hibiscus lonchosepalus* *Hochr.* in Bull. Soc. Bot. Fr. 61, Mém. 8: 251 (1917); Chev. Bot. 66. *APD acc*

A tall undershrub; flowers probably yellow with purple centre.

Dah.: Agouagon (May) Chev. 23540!

26. *Hibiscus owariensis* *P. Beauv.* Fl. Oware 2: 88, t. 117 (1820). *APD acc*

Hibiscus calycinus of F.T.A. 1: 202, partly.

Hibiscus calyphyllus of Chev. Bot. 64.

An undershrub, to 6 ft. high; flowers large, yellow with red-purple centre.

Iv. C.: Kouroukoro to Touna (May) Chev. 21790! **G. C.:** Afaben (fl. & fr. Aug.) Johnson 110! Akwapim Hills (fl. & fr. Aug.) Johnson 772! Aburi (July) Deighton 3384! **Togo:** Lome Warnecke 222! **S. Nig.:** Foster 365! Lagos Colony (fl. & fr. Aug.) Rowland! Ijaiye F.R. (fr. Apr.) Onochie FHI 21956! Warri Beauvois.

Also in **A.-E. Sudan**.

27. *Hibiscus lunarifolius* *Willd.* — F.T.A. 1: 202, partly. *APD acc*

A tall undershrub, stellate-hirsute becoming glabrous; flowers large, yellow with purple centre.

S. L.: Deighton 5712! Koflu Mt. (fr. Jan.) Sc. Elliot 4612! **Lib.:** St. Paul R. Reynolds! **S. Nig.:** Lagos Colony Foster 358! Calabar Maitland 13!

An Indian plant found also in parts of tropical Africa.

28. **Hibiscus macranthus** *Hochst. ex A. Rich.* Fl. Abyss. 1: 55 (1847).

APD: Synonym of Hibiscus ludwigii Eckl. & Zeyh.

Hibiscus lunarifolius of F.T.A. 1: 202, partly.

Shrub, or woody herb, to 6 ft. high or more; flowers large, yellow with deep purple centre.

Br. Cam.: Bamenda, 5,000 ft. (fl. & fr. Jan.) Migeod 402!

Also in **Abyssinia** and **Eritrea**.

29. **Hibiscus grewoides** *Bak. f.* in Cat. Talb. 9 (1913). *APD acc*

A small tree, up to 16 ft. high; flowers yellow.

S. Nig.: near Owum, Oban Talbot 1343!

30. **Hibiscus abelmoschus** *Linn.* — F.T.A. 1: 207; Hochr. in Ann. Conserv. Jard. Bot. Genève. 4: 150; Chev. Bot. 63; Rev. Bot. Appliq. 20: 325.

APD: Synonym of Abelmoschus moschatus Medik.

To 6 ft. high; leaves 3–5-lobed; flowers about 4 in. diam., yellow, with crimson centre; seeds musk-scented; **an introduced plant, found near habitation.**

Sen.: Roger! R. Senegal (Sept.) Perrottet 51! **Fr. G.:** Farana circle Chev. 20400. **S. L.:** Luseniya, Samu (fr. Dec.) Sc. Elliot 4087! Futa, Masakoi (fl. & fr. Sept.) Deighton 2240! Ronietta (Nov.) Thomas 5380! **Lib.:** Grand Basaa (July) T. Vogel 26! Sinoe Basin Whyte! Jabroke, Webo (July) Baldwin 6685! **Iv. C.:** Baoulé-Nord circle Chev. 22307. **G. C.:** Aburi Brown 784! Ancobra Junction (Jan.) Irvine 1072! **Dah.:** Savalou Chev. 23690. **S. Nig.:** Lagos (Aug.) Dodd 423! Onitsha Prov. Thomas 607!

Widely distributed in the tropics.

31. **Hibiscus esculentus** *Linn.* — F.T.A. 1: 207; Hochr. l.c. 150; Chev. Bot. 65; Rev. Bot. Appliq. 20: 323 (incl. vars.).

APD: Synonym of Abelmoschus esculentus (L.) Moench

APD: Synonym of Abelmoschus caillei (A. Chev.) Stevels

? **H. hispidissimus** *A. Chev.* l.c. 326, t. 10 (1940).

A cultivated, or subspontaneous herb, with long-stalked, usually 5-lobed leaves; flowers large, yellow, with purple or red centre.

Sen.: **Fr. Sud.:** & **Dah.:** fide Chev. l.c. **S. L.:** Mayoso (Aug.) Thomas 1421! **N. Nig.:** Yates 42! **S. Nig.:** Lagos Millen 5!

Widespread in the tropics.

32. **Hibiscus ficulneus** *Linn.* Sp. Pl. 2: 695 (1753); Hochr. l.c. 153; Chev. in Rev. Bot. Appliq. 20: 320.

APD: Synonym of Abelmoschus ficulneus (L.) Wight & Arn.

A fibrous herb, becoming woody below; flowers about 1 in. diam., pink or white, with rosy centre.

Fr. Nig.: fide Chev. l.c. **N. Nig.:** Gosling! Mud flats near Dikoa, L. Chad Lamb 111!

Also in **A.–E. Sudan**, **Madagascar**, **Asia** and **Australia**; possibly introduced and naturalized in Africa, but stated by Lamb to be wild.

33. **Hibiscus manihot** *Linn.* **var. manihot** — Sp. Pl. 2: 696 (1753); Hochr. l.c. 153; Chev. in Rev. Bot. Appliq. 20: 322.

APD: Synonym of Abelmoschus manihot (L.) Medik. var. manihot

Hibiscus abelmoschus of F.W.T.A., ed. 1, 1: 268, partly, not of Linn.

To 6 ft. high; leaves 3–5-lobed; flowers 4–9 in. diam., pale yellow (or white), with purple centre; an introduced plant, found near habitation.

S. L.: Likuru, Tamisso (fr. Feb.) Sc. Elliot 4954! Mabonto (Oct.) Thomas 3578! **Br. Cam.:** Sofo, Buea (Dec.) Maitland 142!

Widespread and native in Asia.

33a. *Hibiscus manihot* var. *caillei* A. Chev. in Rev. Bot. Appliq. 20: 322, t. 8 (1940).

*APD: Synonym of *Abelmoschus caillei* (A. Chev.) Stevels*

Similar in appearance to *H. esculentus*, but with large bracteoles.

Fr. G.: Kouria (Oct.) Caille in Hb.Chev. 14910. **S. L.:** Bumhuna (Oct.) Thomas 3341! **Lib.:** Kakatown Whyte!

***Hibiscus clandestinus* Cav.** Icon. 1: 1, t. 2 (1791); Cufodontis l.c. 35 (1948).

Based on a plant from Senegal **cultivated** by Cavanilles; flowers scarcely 2 mm. long.

Usually regarded as a synonym of *H. micranthus* Linn. f., but maintained by Cufodontis.

Imperfectly known species.

***Hibiscus* (sect. *Abelmoschus*) sp. A.**

To 8 ft. high, in **cultivated ground**; flowers in a long leafless raceme.

G. C.: Kumasi Cummins 200!

Imperfectly known species.

***Hibiscus mutabilis* Linn.**

Is cultivated.

***Hibiscus rosa-sinensis* Linn.**

Is cultivated.

***Hibiscus schizopetalus* (Mast.) Hook. f.**

Is cultivated.

11. GOSSYPIUM

Linn.— F.T.A. 1: 210; J. B. Hutchinson, Silow & Stephens, The Evolution of Gossypium (1947); see also Watt, Wild & Cultivated Cotton Pl. (1907); Watt in Kew Bull. 1926: 193–210, and op. cit. 1927: 321–356; Wouters in Publ. I.N.É.A.C., Sér. Sci. 34 (1948); Roberty in Candollea 9: 19–103 (1942), and op. cit. 13: 9–165 (1950).

- 1** Bracteoles linear-oblong or narrowly triangular, not more than 4 mm. broad, with up to 4 teeth, or entire; capsules with hairs on the sutures; seeds with a single coat of fine brown hairs, but without long lint-hairs (“cotton-wool”) [1. *anomalum*](#)
Bracteoles suborbicular or broadly triangular, more than 1 cm. broad; capsules without hairs on the sutures; seeds with long lint-hairs (“cotton-wool”), with or without a layer of fuzz-hairs below: **2**
- 2** Bracteoles entire or dentate, the teeth usually less than 3 times longer than broad: **3**
Bracteoles deeply lacinate, the laciniae usually more than 3 times as long as broad: **4**
- 3** Bracteoles closely investing the flower, longer than broad, entire or with 3–4 teeth near the apex; capsules tapering [2. *arboreum*](#)
Bracteoles flaring widely from the flower, usually broader than long, the upper margin usually with 6–8 teeth; capsules rounded, or with prominent shoulders; plants covered with a dense even coat of long hairs [3. *herbaceum* var. *acerifolium*](#)
- 4** Staminal column short; anthers loosely arranged, the filaments longer in the upper part of the column than below; capsule surface smooth, sometimes with oil-glands conspicuous beneath the surface [4. *hirsutum*](#)
Staminal column long; anthers compactly arranged, on short subequal filaments; capsule surface usually coarsely

pitted with black oil-glands in the pits:5

- 5 Capsules usually less than 6 cm. long, broadest near the base; seeds free5. *barbadense* var. *barbadense*

Capsules usually more than 6 cm. long, broadest near the middle and tapering to the base; seeds connate5a. *barbadense* var. *brasiliense*

1. **Gossypium anomalum** Wawra in Sitzungsber. Math.-Nat. Akad. Wiss. Wien 38: 561 (1860); F.T.A. 1: 211; Chev. in Bev. Bot. Appliq. 13: 190–194; J. B. Hutch, in J. B. Hutch, et al. Evol. Gossyp. 28, t. 4 (q.v. for syn.). *APD acc*

Fr. Sud.: & Fr. Nig.: fide Chev. l.c.

Extends to A.–E. Sudan, Eritrea, Somaliland, S.W. Africa and Angola.

2. **Gossypium arboreum** Linn. — F.T.A. 1: 211; J. B. Hutch. l.c. 32, t. 4 (q.v. for syn.; specimens from our area are referred to the race soudanense). *APD acc*

Gossypium simpsonii of F.W.T.A., ed. 1, 1: 269.

Gossypium africanum of F.W.T.A., ed. 1, 1: 269.

Perennial shrubs, or annual subshrubs; flowers red or purple, or yellow.

G. C.: Gambaga Imp. Inst. 48487! Togo: Kpedsu (Jan.) Howes 1099! Dah.: Zagnanado (Feb.) Chev. 23069! N. Nig.: Nupe Barter 1182! Kazaure (fl. & fr. Feb.) Imp. Inst. H 1258/1913. Ilorin (Nov.) Lamb 3! Thornton! Bassa (June) Elliott 249! Kano (Jan.) Andrew! Lamb 8! Geidam (Dec.) Elliott 135! S. Nig.: Lagos Rowland! Abeokuta Irving! Millen! Oba Foster 188!

Widespread in tropical and subtropical Africa, Madagascar and Asia.

3. **Gossypium herbaceum** var. **acerifolium** (Guill. & Perr.) A. Chev. in Compt. Rend. Acad. Sci. 208: 25 (1939); Rev. Bot. Appliq. 19: 540; J. B. Hutch. l.c. 36, t. 5 (q.v. for syn.). *APD acc*

Gossypium punctatum var. **acerifolium** Guill. & Perr. (1831).

Gossypium obtusifolium var. **wightianum** (Tod.) Watt — F.W.T.A., ed. 1, 1: 269.

A hairy shrub, to 6 ft. high; flowers yellow usually purple-blotched in centre.

Sen.: fide Guill. & Perr. l.c. Dah.: Dassa-Zoumè (fl. & fr. May) Chev. 23614! N. Nig.: Nupe Barter! Kano Prov. Imp. Inst. 46323! Ilorin Thornton! S. Nig.: Abeokuta (Feb.) Irving!

Extends to India and Nyasaland.

4. **Gossypium hirsutum** Linn. Sp. Pl., ed. 2, 2: 975 (1763); J. B. Hutch. l.c. 40, 6–7 (q.v. for syn.), including var. *punctatum* (Schum. & Thonn.) J. B. Hutch, *G. mexicanum* Tod. and *G. purpurascens* Poir. — F.W.T.A., ed. 1, 1: 269. *APD acc*

Cultivated and subspontaneous.

Fr. Sud.: Goundam (Aug.) Chev. 2732! Gam.: Dudgeon! Georgetown (Jan.) Dalz. 8130! S. L.: Barter! Moyamba (fl. & fr. Feb.) Dudgeon 7! G. C.: Winnebuh (Feb.) Dalz. 8283! Anum (Feb.) Johnson! Akuse (fl. & fr. Apr.) Johnson 1073! Labolabo Dudgeon 136! Togo: Kpedsu Howes 1100! Dah.: Dassa-Zoumè (May) Chev. 23617! N. Nig.: Nupe Barter 1184! Kukawa (Feb.) E. Vogel 35! S. Nig.: Badagry Higginson!

Wild and cultivated in America, introduced in many parts of the world.

5. **Gossypium barbadense** Linn. var. **barbadense** — Sp. Pl. 2: 693 (1753); J. B. Hutch. l.c. 48, t. 8 (q.v. for syn.). *APD acc*

Gossypium peruvianum Cav. — F.W.T.A., ed. 1, 1: 269.

Gossypium vitifolium Lam. — F.W.T.A., ed. 1, 1: 269.

Sen.: Roger! S. L.: Moyamba (Feb.) Dudgeon 8! Lib.: Kakatown Whyte! G. C.: Kumasi Cummins 137! Anum (Dec.) Johnson 1! Sittam, E. Akim (fr. Mar.) Dudgeon 1! Togo: Lome Warnecke 18! Kpedsu (Jan.) Howes 1095! N. Nig.: Ankpa (Feb.) Lamb 17! Mawpa, Kabba (Nov.) Lamb 6! S. Nig.: Abeokuta (Feb.) Irving! Ikure Holland 250!

Native to tropical S. America and widely cultivated in the tropics.

- 6a. **Gossypium barbadense** var. **brasiliense** (Macfadyen) J. B. Hutch. l.c. 50 (1947). *APD acc*

Gossypium brasiliense Macfadyen (1837) — F.W.T.A., ed. 1, 1: 270.

S. Nig.: Lagos Colony Millen 28! Abeokuta Irving 102! **F. Po:** T. Vogel 20!

Native and cultivated in tropical S. America, now distributed throughout central America and the Antilles, sporadic in Africa and India.

12. KOSTELETZKYA

C. Presl — F.T.A. 1: 193.

- 1 Flowers densely clustered at the ends of the shoots, forming a panicle of spike-like racemes; fruits enclosed by the calyx, 5-angled, tomentose all over and bristly pilose mainly on the angles; epicalyx of 8–10 filiform pilose bracteoles as long as the calyx; leaves suborbicular to ovate, widely cordate at base, slightly 3-lobed, up to about 12 cm. long and broad, stellate pilose, doubly dentate [1. grantii](#)
Flowers solitary on well-developed pedicels, or in lax axillary fascicles or cymes; fruits not enclosed by the calyx: [2](#)
- 2 Leaves linear to linear-lanceolate, up to 12 cm. long and 1.3 cm. broad, the lower ones sometimes hastate at the base, serrulated, scabrid on both surfaces; stems scabrid; flowers solitary; pedicels up to 4 cm. long; epicalyx of 7–10 linear bracteoles a little shorter than the calyx; fruits depressed, pentagonal, bristly pilose all over [2. buettneri](#)
Leaves ovate, pentagonal or 3 (–5)-lobed: [3](#)
- 3 Fruits with recurved bristles on the very prominent, almost winged angles, the body tomentose and about 7 mm. diam.; flowers in lax fascicles or cymes; epicalyx of about 7 linear pubescent bracteoles, shorter than the calyx; leaves pentagonal, crenate about 7 cm. diam., shortly stellate-pubescent above, stellate-pubescent and with longer stellate hairs beneath, somewhat glabrescent; stems stellate-pubescent [3. stellata](#)
Fruits with spreading, not recurved bristles, mainly on the angles, the body stellate-pubescent and about 5 mm. diam.; flowers in lax axillary fascicles; epicalyx of about 7 linear-filiform long-pilose bracteoles, about as long as the calyx, or longer; leaves ovate to 3 (–5)-lobed, dentate, up to about 10 cm. long and 8 cm. broad, more or less densely hirsute on both surfaces; stems more or less densely hirsute or somewhat glabrescent [4. adoensis](#)

1. *Kosteletzkya grantii* (Mast.) Garcke in Linnaea 43: 53 (1881). *APD acc*

Hibiscus grantii Mast. in F.T.A. 1: 203 (1868).

Kosteletzkya chevalieri Hochr. (1906) — Chev. Bot. 63; F.W.T.A., ed. 1, 1: 270.

Erect coarse herb, to 6 ft. high, densely strigose-hispid; flowers pale pink.

Port. G.: Piche to Canquelifa (Oct.) Esp. Santo 3107! **Fr. G.:** Timbo to Ditinn (Sept.) Chev. 18504! Soumbalako to Boulivel (Sept.) Chev. 18661! **S. L.:** Musaia (Oct.–Dec.) Thomas 2609! Deighton 4452! Warantamba (Oct.) Small 338! **N. Nig.:** Kontagora (Oct.) Dalz. 130!

Extends to A.–E. **Sudan**, **Uganda**, **Belgian Congo** and **Angola**.

2. *Kosteletzkya buettneri* Gürke in Verh. Bot. Verein. Brand. 31: 92 (1889). *APD acc*

Kosteletzkya flava Bak. f. (1894) — F.W.T.A., ed. 1, 1: 270.

Kosteletzkya augusti Hochr. (1917) — Chev. Bot. 63 (incl. vars.).

Hibiscus rhodanthus of F.W.T.A., ed. 1, 1: 267, not of Gürke.

An erect, scabrid fibrous perennial, 2–3 ft. high; flowers white with pink veins, turning yellow, over 1 in. diam.

Gam.: Kuntaur Ruxton 94! **Fr. G.:** Pobéguin! Farana Chev. 20465. **S. L.:** Erimakuna (Mar.) Sc. Elliot 5256! Rotenbana (fl. & fr. Jan.) Jordan 188! **IV. C.:** Dialakora to Kénéougoué Chev. 21970. **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 19196! Panyam (fl. & fr. July) Lely P. 416!

Extends to A.–E. **Sudan**, **Angola**, S.W. Africa and Rhodesia.

3. *Kosteletzkya stellata* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 270 (1928); Kew Bull. 1928: 299. *APD acc*

Hibiscus solandra of Chev. Bot. 67, not of L'Hérit.

Erect, or scrambling, fibrous perennial, up to 14 ft. high; flowers pink, about 3/4 in. diam.

G. C.: Anum (Nov.) Johnson 816! **Dah.:** Abbo (Feb.) Chev. 22965! **S. Nig.:** Iddo Isl. (Dec.) Millen 44! Ebute Metta Millen 53! Akilla, Ijebu Ode Prov. (fl. & fr. Jan.) Onochie & Ladipo FHI 20676!

4. *Kosteletzkya adoensis* (Hochst. ex A. Rich) Mast. in F.T.A. 1: 194 (1868). *APD acc**Hibiscus adoensis* Hochst. ex A. Rich. (1847).

Prostrate or scrambling; flowers pink or white, with reddish or purplish centre.

Br. Cam.: Cam. Mt., 3,000–6,000 ft. (fl. & fr. Nov–Apr.) Dunlap 35! 85! Maitland 224! 821! 1238! Bamenda (fl. & fr. Sept.) Ujor FHI 30208!Also in **A.–E. Sudan, Abyssinia, Kenya, Uganda, Tanganyika, Nyasaland, N. Rhodesia, Belgian Congo, Angola** and **Madagascar**.

13. MALVASTRUM

*APD: Synonym of Anisodonteia C. Presl**A. Gray* — F.T.A. 1: 177.

- 1 Woody herb; branches with loose long appressed branched hairs; leaves with slender petioles, ovate, coarsely serrate, more or less rounded at the base, 3–5 cm. long, 2–2.5 cm. broad, laxly pilose on the upper surface with simple hairs, hairs branched beneath; flowers single or crowded, shortly stalked; epicalyx of 3 narrow bracteoles; calyx-lobes broadly lanceolate, acute; carpels 8–12, with 3 sharp points at the apex and on the sides, laxly pilose. [coromandelianum](#)

Malvastrum coromandelianum (Linn.) Garcke in Bonplandia 5: 297 (1857); Chev. Bot. 56. *APD acc**Malva coromandeliana* Linn. (1753).*Malvastrum tricuspidatum* A. Gray (1852) — F.W.T.A., ed. 1, 1: 270.

Erect, 2–3 ft.; flowers pale yellow.

G. C.: W. of Axim (Apr.) Morton GC 6649! Obrachera (Nov.) Morton GC 7890! Kumasi (Sept.) Darko 594! Accra (Mar.) Deighton 564! **Dah.:** Adjara, Porto Novo (Jan.) Chev. 22751. **N. Nig.:** Aguji, Ilorin Thornton! **S. Nig.:** Lagos Rowland! Ibadan (Jan.–Apr., Aug.) Golding 3! 18! Meikle 935! 1145! 1455!

Native of America, widely distributed in the tropics.

MALPIGHIACEAE

Trees, shrubs or climbers, usually clothed with appressed medifixed hairs. Leaves opposite or rarely alternate, simple; a pair of glands often present at the base of the blade; stipules present or absent, sometimes connate. Flowers mostly hermaphrodite, actinomorphic. Sepals 5, imbricate or rarely valvate, often biglandular outside. Petals 5, clawed. Disk small. Stamens 10, hypogynous; filaments free or connate at the base; anthers 2-celled, opening lengthwise. Carpels usually 3, free or connate into a 3-celled ovary; cells 1-ovuled; styles usually separate and spreading. Fruiting carpels mostly winged or carpels connate into a fleshy or woody drupe. Seeds without endosperm and with straight, curved or uncinate, rarely circinate embryo.

A distinct and mainly tropical family, most highly represented in tropical America.

The medifixed hairs, glandular calyx-lobes and samaroid fruit are almost constant features of the few represented in our area.

- 1 Leaves alternate: **2**
 Leaves opposite: **3**
- 2 Samara more or less oblanceolate or obovate, the wing arising from the upper part of the fruit body **1.**
[Acridocarpus](#)
 Samara elliptic-suborbicular, the wing surrounding the outer side of the fruit body **2.** [Rhinopterys](#)
- 3 Sepals closed over the petals in bud **3.** [Flabellaria](#)
 Sepals open in bud, the petals conspicuous: **4**
- 4 Wing of samara very small, the latter nut-like **4.** [Stigmaphyllon](#)

- Wing of samara large:5
- 5 Samara broadly elliptic; calycine glands large and fleshy[5. *Heteropteris*](#)
- Samara shield-like, orbicular; calycine glands absent[6. *Triaspis*](#)

***Thryallis glauca* (Cav.) O. Ktze.**

***Galphimia glauca* Cav.**

A native of Central America, it is commonly cultivated as a hedge plant.

Species of *Malpighia* Linn. are also cultivated in our area.

1. ACRIDOCARPUS

Guill. & Perr. — F.T.A. 1: 277. APD acc

- 1 Bracts and bracteoles erect, usually small and subulate (rarely short and ovate), up to 3 mm. long; inflorescence not or only a little branched; mature leaves glabrous beneath, or the midrib sometimes shortly pubescent:.....2
- Bracts and bracteoles soon becoming reflexed, spatulate-oblongate to broadly lanceolate or ovate, 4–6 mm. long, persistent; inflorescence much-branched, with curved spreading branches; leaves more or less obovate to oblanceolate-obovate, cuneate, rounded or subcordate at base, rounded and often apiculate at apex:6
- 2 Bracts and bracteoles subulate, without glands:3
- Bracts and bracteoles glandular; leaves more or less cuneate at base; flowers in long racemes or subpaniculate; samara oblanceolate about 5 cm. long and 1.5 cm. broad:5
- 3 Leaves more or less oblong, rounded or very often obtuse at base, distinctly acuminate; samara at least 2.5 cm. long:4
- Leaves oblanceolate, or oblong-oblanceolate, cuneate at base, rounded and sometimes very shortly cuspidate at apex, 8–13 cm. long, 2–5 cm. broad; flowers in long racemes; calyx with 2–3 glands; samara up to 2.8 cm. long[3. *chevalieri*](#)
- 4 Flowers racemose, numerous, floriferous part of axis at least 5 cm. long; calyx with a single large gland below the lobes and opposite the outer petal; leaves more or less oblong, 12–27 cm. long, 7–12 cm. broad, lateral nerves looped and very prominent beneath, coarsely reticulate; samara 3–5 cm. long, 1.2–2 cm. broad[1. *longifolius*](#)
- Flowers subcorymbose, few, floriferous part of axis up to 5 cm. long; calyx with 2 glands; leaves narrowly oblong, 8–12 cm. long, 3.5–5 cm. broad, rather finely reticulate beneath; samara up to 3.5 cm. long and 1.5 cm. broad[2. *alternifolius*](#)
- 5 Leaves oblong or narrowly obovate-oblanceolate, 6–12 cm. long, 3–5 cm. broad, lateral nerves about 6 pairs, much branched; pedicels up to about 1.5 cm. long[4. *smeathmannii*](#)
- Leaves broadly obovate, about 18 cm. long and 8 cm. broad, with about 9 pairs of strong lateral nerves and few tertiary nerves; pedicels up to about 8 mm. long[5. *staudtii*](#)
- 6 Sepals 3–3.5 mm. long; anthers acute at apex, not 2-horned; samara obliquely oblanceolate, up to 7 cm. long and 2 cm. broad; leaves 8–30 cm. long, 4–14 cm. broad, glabrous or pubescent beneath[6. *plagiopterus*](#)
- Sepals 6–6.5 mm. long; anthers with two divergent sterile horns at the apex; samara up to 6 cm. long and 2.2 cm. broad; leaves 10–30 cm. long, 5–17 cm. broad, more or less pilose beneath[7. *macrocalyx*](#)

1. ***Acridocarpus longifolius* (G. Don) Hook. f.** in Fl. Nigrit. 244 (1849); Niedenzu in Engl. Pflanzenr. Malpighiac. 271 (incl. vars.) *APD acc*

***Anomalopteris longifolia* G. Don** (1831).

***Acridocarpus smeathmannii* var. ♂** Oliv. F.T.A. 1: 278.

A glabrous scandent shrub; flowers yellow; fruits reddish; **often growing near water.**

Lib.: Fishtown Dinklage 2040. Monrovia (June) Baldwin 5873! Dinklage 2218. Dime (fl. & fr. Apr.) Barker 1260! **S. Nig.:** Lagos (Feb., July) Barter 2196! Millen 145! Dalz. 1262! Nun R. (fl. & fr. Aug.) Mann 467! Brass Barter 3701! Eket Talbot 3096! **Br. Cam.:** Victoria Winkler 1228. **F. Po:** (Dec.) T. Vogel 125! 195!

Also in **French Cameroons, Gabon, Angola, Principe** and **S. Tomé.**

2. ***Acridocarpus alternifolius* (Schum. & Thonn.) Niedenzu** in Arb. Bot. Inst. Ak. Braunsberg 6: 53 (1915); Engl. Pflanzenr. Malpighiac. 269. *APD acc*

Malpighia alternifolia Schum. & Thonn. (1827).

Acridocarpus corymbosus Hook. f. — F.T.A. 1: 278; Chev. Bot. 95.

A glabrous scrambling shrub, like the preceding; **sometimes on the sea coast**.

S. L.: Afzelius. Freetown (June) T. Vogel 177! Kumrabai (fr. Dec.) Thomas 7084! Njala (fl. Mar., fr. Apr.) Deighton 1709! 1832! **Iv. C.:** Dabou (Feb.) Chev. 17219. **G. C.:** Kratté Thonning. Cape Coast (Sept.) Brass! T. Vogel 12! Dixcove (Apr.) Chipp 177! Abokobi (Oct.) Vigne FH 4263! Aburi Scarp (Oct.) Scholes 300! **N. Nig.:** Jebba (Dec.) Barter! Hagerup 746 Meikle 845! Nupe Barter 507! Lokoja (Oct.) Dalz. 12!

3. *Acridocarpus chevalieri* *Sprague* in Journ. de Bot. 22: 24 (1909). *APD acc*

Acridocarpus smeathmannii of Niedenzu in Engl. Pflanzenr. Malpighiac, 274, partly.

A climbing shrub with yellowish, or rusty, pubescent branchlets and inflorescence; flowers and fruits yellow.

Fr. Sud.: Koulikoro (Oct.) Chev. 3144! **G. C.:** Aboma F.R., Ashanti (fl. & fr. Nov.) Vigne FH 3437!

4. *Acridocarpus smeathmannii* (DC.) *Guill. & Perr.* — F.T.A. 1: 277, partly (var. α); Niedenzu l.c. 274, partly (excl. syn. *A. chevalieri* *Sprague*; excl. var. *staudtii* Engl.). *APD acc*

Heteropteris smeathmannii DC. (1824).

Large scandent shrub with abundant yellow flowers and reddish fruits.

Port. G.: Suzana to S. Domingos (fl. & fr. Mar.) Esp. Santo 2246! **S. L.:** Smeathmann! Freetown (Jan.) Johnston 48! Dalz 8086! Kent Smythe 247! Layah, Scarcies (Jan.) Sc. Elliot 4661! Kenema Thomas 7551! Musaia (fl. & fr. Feb.) Deighton 4211! **Lib.:** Dobli Isl., St. Paul R., Bequaert 26! Gbanga (Dec.) Baldwin 10523! Peahtah (Dec.) Baldwin 10614! **G. C.:** Koforidua (Dec.) Johnson 497! Achimota (fl. & fr. Feb.) Irvine 143! Sampa Vigne FH 3479! **Togo:** Lome Warnecke 401! **N. Nig.:** Abinsi Dalz.! **S. Nig.:** Lagos (Oct.) Barter 2137! 2217! Rowland! Dalz. 1264! Ibadan (fl. & fr. Jan., Feb.) Meikle 991! 1158! Idanre (fl. & fr. Jan.) Brenan 8678! Newi (Jan.) Kitson!

Also in **French Cameroons**.

5. *Acridocarpus staudtii* (Engl.) *Engl. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 271 (1928). *APD acc*

Acridocarpus smeathmannii var. *staudtii* Engl. Bot. Jahrb. 36: 251 (1905); Niedenzu l.c. 275.

Br. Cam.: Johann-Albrechtshöhe, by the lake (fl. & fr. Dec.–Jan.) Staudt 498!

6. *Acridocarpus plagiopterus* *Guill. & Perr.* — F.T.A. 1: 278; Chev. Bot. 95; Niedenzu l.c. 276. *APD acc*

Acridocarpus hirundo S. Moore in J. Bot. 1880: 1; F.W.T.A., ed. 1, 1: 273; Niedenzu l.c. 277.

Scandent shrub, up to 20 ft. high, with rusty puberulous branchlets, yellow or orange flowers, and reddish fruits.

Sen.: Perrottet 94! **Port. G.:** Canchungo (Apr.) Esp. Santo 1236! Bissau (fl. & fr. Feb.) Esp. Santo 1758! **Fr. G.:** Heudelot 761! Labé (fr. Apr.) Chev. 12375! Timbo (Nov.) Chev. 14767! **S. L.:** Don! Leicester Peak (fl. & fr. Dec.) Sc. Elliot 3870! Regent (fr. Jan.) Dalz. 8085! York Pass (Dec.) Dawe 414! Njala (Oct.) Deighton 4912! **Lib.:** Carder! Taniné (Sept.) Linder 824! Vonjama (fl. & fr. Feb.) Bequaert 84! Mt. Wolagwisa, 4,500 ft. (fr. Mar.) Bequaert 101!

7. *Acridocarpus macrocalyx* *Engl.* Bot. Jahrb. 36: 250 (1905); Niedenzu l.c. 277. *APD acc*

A large **forest** liane.

Togo: Kabo River F.R. (fl. Nov., fr. Dec.) St. C. Thompson FH 3672. **S. Nig.:** R. Jamieson, Sapoba (Sept.) Kennedy 1764! 1963! Oban Talbot! **Br. Cam.:** Mamfe (Mar.) Onochie FHI 30895!

Also in **French Cameroons**.

Acridocarpus sp.

Similar to *A. longifolius* but calyx with 3 glands instead of 1. More material required.

S. Nig.: Utanga, Obudu Div. (fl. & fr. Dec.) Keay & Savory FHI 25147!

Imperfectly known species.

2. RHINOPTERYS

Niendenzu in E. & P. Pflanzenfam. 3, 4: 352 (1897); Engl. Pflanzenr. Malpighiac. 279.

- 1 Sepals obovate to oblanceolate-obovate:.....2
 Sepals ovate; branchlets shortly pilose; leaves oblong, acute, 13 cm. long, 3–5.5 cm. broad, densely reticulate; racemes lax-flowered, densely pilose; petals 1.2 cm. long; samara semicordate, 6 cm. long and 3.5 cm. broad.[3. kerstingii](#)
- 2 Branchlets pubescent; leaves alternate, sessile, oblong-elliptic, or elliptic, rounded at base, rounded or very slightly acuminate at apex, 8–15 cm. long, 4–8 cm. broad, very coarsely reticulate and thinly pubescent beneath, with about 8–9 pairs of lateral nerves; racemes stout, about 30 cm. long, densely flowered; pedicels 2 cm. long, pubescent; petals nearly 1.5 cm. long; samara elliptic-orbicular, the wing all round the side of the fruit-body, slightly pubescent, 4 cm. long[1. spectabilis](#)
- Branchlets nearly glabrous; leaves alternate, subsessile, narrowly oblong or oblong-oblanceolate, subacute at base, triangular-acuminate, 10–17 cm. long, 2.5–4.5 cm. broad, coarsely reticulate and slightly pubescent beneath, with about 10 pairs of much-branched lateral nerves; racemes about 20 cm. long, thinly pubescent; pedicels 2 cm. long, pubescent; samara orbicular-elliptic, the wing all round one side of the fruit body, slightly pubescent, about 6 cm. long[2. angustifolia](#)

1. *Rhinopterys spectabilis* Niendenzu in E. & P. Pflanzenfam. 3, 4: 352 (1897); Engl. Pflanzenr. Malpighiac. 280.

*APD: Synonym of *Acridocarpus spectabilis* (Nied.) Doorn-Hoekm.*

Acridocarpus hemicyclopterus Sprague (1906).

Suffrutex, or shrub.

Gam.: Brown-Lester 47! 50! Ozanne 5! Genieri (Feb.) Fox 41!

2. *Rhinopterys angustifolia* Sprague in Kew Bull. 1922: 194.

*APD: Synonym of *Acridocarpus spectabilis* (Nied.) Doorn-Hoekm.*

Rhinopterys spectabilis subsp. *angustifolia* (Sprague) Niendenzu l.c. 281.

A small tree in **savannah**, with red-brown branchlets and white flowers.

G. C.: Lawra, N.T. (fr. Feb.) Macleod 815!

3. *Rhinopterys kerstingii* (Engl.) Niendenzu in Arb. Bot. Inst. Ak. Braunsberg 7: 20 (1921); Engl. Pflanzenr. Malpighiac. 280.

*APD: Synonym of *Acridocarpus spectabilis* (Nied.) Doorn-Hoekm.*

Acridocarpus kerstingii Engl. Bot. Jahrb. 43: 383 (1909).

Suffrutex, in **savannah**.

Fr. G.: Pobéguin 2143! **Togo:** Bangeli (fr. Mar.) Kersting 507.

***Rhinopterys* sp. A**

Straggling plant in **savannah**.

G. C.: Gambaga (fr. June) Akpabla 680.

More thorough field work is required to determine just how far the above species are really distinct.

Imperfectly known species.

3. FLABELLARIA

Cav. — F.T.A. 1: 282.

- 1 Climbing shrub; branchlets appressed-pubescent; leaves opposite, ovate or ovate-orbicular, obtuse or subacute, 10–14 cm. long, up to 10 cm. broad, glabrous above, appressed-silky-tomentose beneath; lateral nerves about 4–5 pairs; petiole 1.5–2 cm. long, tomentose; panicles terminal, lax, many-flowered; bracts oblanceolate; pedicels 8–10 mm. long; sepals closed in bud, 4 mm. long; petals entire, glabrous; wings of fruit together suborbicular, about 3–6 cm. diam. [paniculata](#)

Flabellaria paniculata Cav. — F.T.A. 1: 282; Niedenzu in Engl. Pflanzenr. Malpighiac. 38, t. 10. *APD acc*

A climbing shrub with grey-silky branchlets and leaves, and white to light pink flowers.

Sen.: Messira Berhaut 1792. **Port. G.:** Formosa (Apr.) Esp. Santo 1964! **Fr. G.:** Rio Nunez Heudelot 848! Kouroussa (fl. & fr. Mar.) Pobéguin 672! Diaguissa to Timbo (Apr.) Chev. 13441! **S. L.:** Afzelius! Erimakuna (Mar.) Sc. Elliot 5728! Limba (fr. Apr.) Sc. Elliot 5640! Kent (May) Deighton 5519! Musaia (fr. Apr.) Deighton 5431! **Lib.:** Sinoe Whyte! Baldwin 11558! **iv. C.:** Abégo Jolly 285! Mt. Goula, Danané (fr. Apr.) Chev. 21209! **G. C.:** Akropong (fl. & fr. Mar.) Johnson 904! Achimota (fr. Dec.) Irvine 1868! Dodowah (Feb.) Irvine 1974! **Togo:** Kokedjandi Kersting 621. **N. Nig.:** Nupe Barter 1337! **S. Nig.:** Lagos Foster 62! 63! Agbemina Barter 3422! Ibadan (Apr.) Meikle 1414! Degema Talbot 3722! Calabar Thomson 99! Ikwette, Obudu (Dec.) Keay & Savory FHI 25170! **Br. Cam.:** Mbo Ledermann 1521. **F. Po:** T. Vogel 99!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **A.-E. Sudan**, **Uganda**, **Tanganyika** and **Angola**.

4. STIGMAPHYLLON

A. Juss. in St.-Hil. Fl. Bras. Mer. 3: 48 (1832).

Brachypterys *A. Juss.* (1837) — F.W.T.A., ed. 1, 1: 273.

- 1 Branchlets finely appressed-pubescent; leaves opposite, lanceolate, obtusely pointed, shortly cuneate at base, about 7 cm. long and 2.5 cm. broad, minutely appressed-pubescent beneath; lateral nerves about 6 pairs, slender and inconspicuous; flowers few, at the ends of short lateral branchlets; pedicels about 2 cm. long, glabrous; sepals with 2 large contiguous glands in the lower part; petals with a long claw, suborbicular, about 1.5 cm. long, crenulate; stamens 10; styles 3, distinct; samaras 2–3 together, nut-like, with a very small wing [ovatum](#)

Stigmaphyllon ovatum (Cav.) Niedenzu in Ind. lect. Lyc. Braunsberg. p. aest. 1900: 31 (1900); Engl. Pflanzenr. Malpighiac. 515.

APD: *Synonym of Stigmaphyllon bannisterioides* (L.) C.E. Anderson

Banisteria ovata Cav. (1790).

Brachypterys ovata (Cav.) Small (1910) — F.W.T.A., ed. 1, 1: 273.

A soft-wooded straggling climber in mangrove swamps and among rocks on sandy sea shores; flowers yellow.

Fr. G.: Rio Nunez Whitfield! **S. L.:** Mahela (Nov., Dec.) Sc. Elliot 4089! T. S. Jones 49! Rokupr (fl. & fr. July) Jordan 54! Tombo (May) Deighton 2768! Kent (fr. Nov.) Tindall 21! Bonthe Isl. (Nov.) Deighton 2273!

Also in **Central Tropical America** and **East Tropical America**.

5. HETEROPTERIS

APD: *Synonym of Heteropteris Kunth*

Kunth Nov. Gen. Sp. Pl. 5: 163 (1822).

- Branchlets lenticellate; leaves opposite, oblong-elliptic, shortly acuminate, rounded at base, 12–20 cm. long, 5–8 cm. broad, thinly pubescent beneath, at length glabrous but densely papillose; lateral nerves about 10 pairs, much branched; petiole 1 cm. long, thicker at the base; panicles terminal, about 10 cm. long, rusty-tomentose; bracts ovate, 4 mm. long; calycine glands very large and fleshy; stamens 10; samaras 1–3, broadly obliquely elliptic, about 2.5 cm. long, tomentellous [leona](#)

Heteropteris leona (Cav.) Exell Cat. S. Tomé 123 (1944). *APD acc**Banisteria leona* Cav. (1790), partly — F.W.T.A., ed. 1, 1: 274.*Heteropteris africana* A. Juss. (1843) — F.T.A. 1: 276; Chev. Bot. 95; Niedenzu in Engl. Pflanzenr. Malpighiac. 375, incl. vars.

A climbing shrub with coriaceous leaves, yellow flowers and red-winged fruits; **chiefly in coastal districts.**

Port. G.: Catió (fl. & fr. July) Esp. Santo 2138! **Fr. G.:** Rio Nunez Heudelot 892! **S. L.:** Afzelius! Don! T. Vogel 62! Kent Smythe 245! Goderich (Apr.) Deighton 4752! Njala (fl. May–July, fr. Aug.–Sept.) Dawe 564! Deighton 1753! **Lib.:** Grand Bassa (fr. July) T. Vogel 117! Monrovia (fl. & fr. Apr.) Barker 1282! Sinoe Whyte! Baldwin 11556! **Iv. C.:** Assinié Chev. 17863. Bliéron (fl. & fr. Mar.) Chev. 19893; 19918. **G. C.:** Princes, W. Prov. (Jan.) Akpabla 798! **S. Nig.:** Lagos (Aug., Sept.) Dalz. 927! 1263! Akilla (Apr.) Jones & Onochie FHI 17413! Nun R. (fl. & fr. Aug., Sept.) Mann 462! Brass Barter 29! Oban Talbot 1271! **Br. Cam.:** Victoria Preuss 1332! Tiko (fl. & fr. Apr.) Maitland 1148! Barombi Preuss 282! Mamfe Mansfeld 19.

Also in **French Cameroons, Gabon, Belgian Congo, Angola, Principe** and **S. Tomé.**

6. TRIASPIS

Burchell — F.T.A. 1: 280.

- 1 Stipules persistent, foliaceous, reniform, 1–1.5 cm. long, silky below; leaves opposite, ovate to ovate-lanceolate, acuminate, rounded at base, 8–15 cm. long, 5–9 cm. broad, thinly long-appressed-pilose beneath; petiole about 1 cm. long; panicles rather lax-flowered, with large leafy bracts; pedicels about 1.5 cm. long; sepals elliptic, pubescent, 3 mm. long; petals glabrous; wings of fruit together orbicular, about 5–6 cm. diam., glabrous [1. stipulata](#)

Stipules small and deciduous; leaves ovate-elliptic, very shortly acuminate, cordate at base, 7–8 cm. long, 4.5–5.5 cm. broad, densely appressed-villous beneath; petiole 1.5 cm. long, tomentose; panicles rather small and densely flowered; pedicels about 1 cm. long, tomentose; sepals oblong, tomentose; petals glabrous; wings of fruit together suborbicular, cordate at base, about 2.5 cm. diam., glabrous [2. odorata](#)

1. **Triaspis stipulata** Oliv. F.T.A. 1: 281 (1868); Niedenzu in Engl. Pflanzenr. Malpighiac. 49. *APD acc*

A woody climber with brownish-pilose branchlets and inflorescence; flowers in abundant panicles; calyx pinkish brown, petals white to yellow, and pink.

Togo: Misahöhe (Nov.) Mildbr. 7323! **S. Nig.:** Lagos Rowland! Millen 71! Abeokuta Irving 99! Usonigbe F.R. (Nov.) Keay FHI 25583! Awgu (Nov.) Keay FHI 21532! **Br. Cam.:** Victoria (fl. & fr. Dec.–Feb.) Maitland 911! Dalz. 8173!

Also in **French Cameroons.**

2. **Triaspis odorata** (Willd.) A. Juss. — F.T.A. 1: 280; Niedenzu l.c. 45. *APD acc**Hiraea odorata* Willd. (1799).*Triaspis aurea* Niedenzu (1915) — l.c. 45.

A climbing shrub with rusty-tomentose branchlets and pink or reddish flowers.

S. L.: Afzelius. **G. C.:** Isert. Ada Thonning. Cape Coast Brass! Shai Plains (fl. & fr. Jan.) Johnson 575! Akropong (Oct.) Johnson 800! Mansu Cummins 9! Kumasi (fl. & fr. Dec.) Vigne FH 1778! Aboma F.R. (Nov.) Vigne FH 3436! **Togo:** Lome (fl. & fr. Nov.) Warnecke 251! Mildbr. 7511! Kpandu Baumann 328.

HUMIRIACEAE

Trees or shrubs. Leaves alternate, simple; stipules absent. Flowers hermaphrodite, actinomorphic. Sepals 5, imbricate, shortly or wholly connate. Petals 5, free, soon falling away, slightly imbricate-contorted. Stamens 10 or more, hypogynous, more or less connate in the lower part; anthers versatile, 2–4-celled, opening lengthwise. Disk annular and often toothed, or of separate glands, surrounding the base of the ovary. Ovary free, sessile, 5–7-celled; style simple; ovules 1–3, pendulous from the apex, anatropous. Fruit a drupe with rather thin fleshy pericarp and hard endocarp, sometimes with numerous resin-filled cavities. Seeds 1–2 in each cell; embryo straight in the middle of copious endosperm; cotyledons short.

A small family confined to tropical America and Africa.

Recognized by the exstipulate leaves, stamens 10 or more, partially connate, style undivided.

SACOGLOTTIS

Mart. Nov. Gen. & Sp. 2: 146 (1827). *Aubrya* Baill. — *F.T.A.* 1: 275.

Trees; leaves leathery, glabrous, toothed. Flowers in axillary cymes. Ovary 5-celled; style simple; ovules solitary. Fruit with a thick woody pericarp with resin-filled cavities.

- 1 A large tree, 25 m. or more; branchlets with the bark splitting lengthwise; leaves oblong-elliptic, shortly cuneate at base, obtusely acuminate, 10–15 cm. long, 3–6 cm. broad, coriaceous, crenulate, glabrous, reticulate on both surfaces, with rather numerous much-branched lateral nerves; petiole about 0.5 cm. long, swollen at the base; cymes axillary, many-flowered, about 1/2 as long as the leaves; pedicels very short, stout; calyx pubescent, 2 mm. long, with broad, almost truncate lobes; petals slightly imbricate, shortly pubescent except on the margin; fruit hard, ellipsoid, 3–4 cm. long, 2.5 cm. diam., with numerous unequal resin-filled cavities [gabonensis](#)

Sacoglottis gabonensis (Baill.) Urb. in *Mart. Fl. Bras.* 12, 2: 449 (1877); Aubrév. *Fl. For. C. Iv.* 1: 306, t. 123. *APD acc*

Aubrya gabonensis Baill.—*F.T.A.* 1: 275.

A. occidentalis Chev. *Bot.* 94, name only.

A forest tree, with red-brown shaggy bark; flowers yellow.

S. L.: Gola Forest (Jan.) Unwin & Smythe 55! **Lib.:** Dukwia R. (fr. Aug.) Linder 219! Cooper 274! Duport (Nov.) Linder 1469! **Iv. C.:** Dabou (Feb.) Chev. 16195! Abidjan Aubrév. 92! **G. C.:** Essiama Irvine 2321. Simpa Vigne FH 2800! **S. Nig.:** Lagos Moloney 30! Oni Sankey 8! Sapoba (Nov.) Keay FHI 28077! Brass Barter 68! Oban Talbot 1744! **F. Po:** Mann 1417!

Also in **French Cameroons**, **Gabon** and **Angola**. (See Appendix, p. 134.)

IXONANTHACEAE

Trees and shrubs. Leaves alternate, simple, entire or toothed, pinnately nerved; stipules very small, caducous. Flowers hermaphrodite, in axillary fascicles or cymes. Sepals 5, shortly connate, imbricate. Petals 5, free, contorted, persistent and indurated in fruit. Stamens 5–20, inserted on an annular disk or shortly united at base, hypogynous or subperigynous; filaments otherwise free; anthers 2-celled, short. Ovary 5–3-celled; ovules 2 in each cell, pendulous from the central axis; style simple or shortly 5–3-fid. Fruit a capsule, woody or coriaceous, septicidal, the carpels often spuriously septate. Seeds arillate, with fleshy endosperm.

OCHTHOCOSMUS

Benth. in *Hook. Lond. Journ. Bot.* 2: 366 (1843).

Phyllocosmus Klotzsch — *F.T.A.* 1: 272.

- 1 Leaves acuminate, with black glandular teeth on the margin of the acumen, oblong lanceolate or obovate, acute at base, 8–11 cm. long, 2–4 cm. broad, shining above; lateral nerves few, ascending, with numerous obscure fine parallel tertiary nerves; racemes of fascicles clustered, axillary, slender, up to 7 cm. long; rhachis puberulous; pedicels slender, fasciculate, 2–3 mm. long [1. africanus](#)
- Leaves rounded at the apex, shortly crenate-dentate nearly to the base, obovate-oblancoate, acute or obtuse at base, 8–15 cm. long, 2.5–6 cm. broad, rigidly coriaceous, dull or slightly shining, with about 10 pairs of lateral nerves rather obscure beneath and the tertiary nerves not evident; petiole swollen, transversely split; panicles clustered near the ends of the shoots, up to 15 cm. long; rhachis and pedicels glabrous, the latter 5 mm. long; flowers white, turning pink [2. chippii](#)

1. **Ochthocosmus africanus** Hook. f. in *Fl. Nigrit.* 240, t. 23 (1849); Aubrév. *Fl. For. C. Iv.* 1: 302.

*APD: Synonym of *Phyllocosmus africanus* (Hook. f.) Klotzsch*

Phyllocosmus africanus (Hook. f.) Klotzsch — F.T.A. 1: 273; Stapf 583; Chev. Bot. 94.

A small tree or shrub, with sarmentose branches, to 50 ft. high; flowers very abundant, small, white or yellowish, fragrant; capsules 1–2 seeded, 5–6 mm. long.

Port. G.: Mansoa (Oct.) Esp. Santo 2319! **Fr. G.:** Conrakry (Dec.) Chev. 25687. **S. L.:** Don! Hedde's Farm (Mar.) Lane-Poole 360! Kukuna (Jan.) Sc. Elliot 4665! Roruks (Sept.) Deighton 4844! And many other localities. **Lib.:** Grand Bassa (Aug.) Dinklage 2034! Gbanga (Sept.–Oct.) Linder 541! 1166! **iv. C.:** Abidjan (Aug.) Aubrév. 58! **G. C.:** Axim (Sept.) Vigne FH 4790! Otokpe (Sept.) Vigne FH 4005! **S. Nig.:** Sapoba Kennedy 1843! 2384! Obunike, Onitsha (Apr.) Chesters 168! **Br. Cam.:** R. Mente, Wum (fr. June) Ujor FHI 29259!

Also in **French Cameroons** and **Congo**.

2. *Ochthocosmus chippii* *Sprague & Hutch. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 134 (1927); Kew Bull. 1928: 29.

*APD: Synonym of *Phyllocosmus sessiliflorus* Oliv.*

Phyllocosmus sessiliflorus of Chev. Bot. 94, not of Oliv.

A shrub about 10 ft. high, flowers white turning pink.

G. C.: Axim (Apr.) Chipp 424! Princetown (Apr.) Chipp 171! Kickham to Essiama Fishlock 15! 41! Beyin (Nov.) Vigne 1451!

ERYTHROXYLACEAE

Trees, shrubs, or undershrubs. Leaves alternate, rarely opposite, simple, entire; stipules intrapetiolar, rarely extrapetiolar, often caducous. Flowers fasciculate, hermaphrodite, rarely subdioecious, hypogynous, actinomorphic. Calyx persistent, campanulate, lobes 5, imbricate. Petals 5, free, deciduous, imbricate, mostly ligulate on the inside. Stamens 10, in 2 series, more or less connate at the base; anthers ellipsoid, 2-celled, opening lengthwise. Ovary of 3 carpels, 3-celled, mostly two of the cells sterile, fertile cells 1–2-ovuled; ovules pendulous; styles 3, free or more or less connate; stigmas oblique, depressed-capitate or clavate. Fruit drupaceous; seeds with or without endosperm; embryo straight.

A small family sparsely represented in Africa.

Stipules mostly intrapetiolar; petals with a scale on the inside.

ERYTHROXYLUM

Browne — F.T.A. 1: 273. *APD acc*

Shrubs or small trees. Leaves alternate, entire; stipules intrapetiolar. Flowers small, pedicellate, in axillary fascicles. Sepals usually 5. Petals as many, imbricate, with a scale on the inner side. Stamens 10. Ovary 3–4-celled; styles 3 or 4. Fruit a drupe.

- 1 Leaves oblanceolate to narrowly obovate, slightly narrowed to the very obtuse emarginate apex, 3–8 cm. long, 2–3 cm. broad, shining above and reticulate on both surfaces; stipules triangular-ovate, keeled, 4 mm. long; flowers small, 1–4 in clusters on stout pedicels about 5 mm. long; sepals triangular, obtuse [1. emarginatum](#)

Leaves obovate, rounded at the apex, 3–6 cm. long, 1.5–2.5 cm. broad, slightly shining above and laxly reticulate on both surfaces; stipules curved inside the petiole, becoming hardened; flowers several in clusters, on rather slender pedicels about 1 cm. long; sepals triangular, acute; young fruits arcuate, about 1 cm. long .[2. mannii](#)

1. *Erythroxylum emarginatum* *Thonn.* — F.T.A. 1: 274; O. E. Schulz in Engl. Pflanzenr. Erythroxylac. 135; Aubrév. Fl. For. C. Iv. 1: 304. *APD acc*

A glabrous shrub or small tree; flowers white, fragrant; fruit red.

Fr. G.: Kouroussa Pobéguin 671! **G. C.:** Thonning. Accra Plains Irvine 424. Krepi (Jan.) Johnson 560! Afram Plains (fr. May) Kitson 1097! Abokobi (Oct.) Vigne FH 4260! **Dah.:** Abomey (Feb.) Chev. 23128! **N. Nig.:** Nupe Barter 1650! Kachiya (Feb.) Meikle 1205! **S. Nig.:** Ijaye Barter 3421! Olokemeji Foster 277! Idanre Hills (Oct.–Jan.) Keay FHI 22681! Brenan 8663!

Widespread in tropical Africa.

2. *Erythroxylum mannii* Oliv. F.T.A. 1: 274 (1868); O. E. Schulz l.c. 124, t. 22; Aubrév. l.c. 1: 304, t. 122. *APD acc*

A forest tree, to 80 ft. high and 6 ft. girth, with straight bole and open spreading crown, deciduous; profuse white flowers.

S. L.: Bagroo R. (Apr.) Mann 850! Gorahun (fl. & young fr. June) Small 719! **Iv. C.:** Aubrév. 662! 1379! **G. C.:** Ofin Headwaters (Apr.) Vigne FH 1907. **Br. Cam.:** Johann-Albrechtshöhe (Apr.) Staudt 941!

Also in **French Camerouns.**

***Erythroxylum coca* Lam.**

Besides the above indigenous species, the Cocaine plant, a native of tropical S. America, is cultivated in our area.

LEPIDOBOTRYACEAE

Trees, shrubs or climbers. Leaves alternate, pinnate trifoliate or unifoliate with a jointed petiole, leaflets entire, pinnately nerved; stipules and stipels caducous. Flowers hermaphrodite or unisexual, actinomorphic; in axillary or terminal panicles or slender or short catkin-like racemes. Sepals 5, imbricate, united in the lower part. Petals 5, imbricate, free. Stamens 10, inserted on the margin of a fleshy disk; filaments more or less connate at the base into a short tube, sterile in female flowers; anthers 2-celled, dorsifixed, opening by slits lengthwise. Ovary superior, 5- or 3-celled; styles 5 or 3, free or shortly connate at the base; ovules 2 in each cell, on axile placentas, collateral or superposed. Fruit berry-like, indehiscent or septicidally dehiscent. Seeds covered by a fleshy, sometimes lacinate aril, with endosperm; embryo straight or oblique, with 2 fleshy foliaceous cotyledons.

A family of three genera in tropical Asia and Africa.

LEPIDOBOTRYS

Engl. Bot. Jahrb. 32: 108 (1902).

- 1 Small tree; leaves alternate, unifoliate, oblong-elliptic, acuminate, 6–10 cm. long, 3–4.5 cm. broad, pinnately nerved; petiolule jointed at the base; stipules and stipels caducous, the former small and suborbicular, the latter oblong; flowers unisexual, dioecious, the males arranged in short dense sessile catkin-like axillary inflorescences; bracts and bracteoles small, hairy, persistent; female flowers fewer in short fascicle-like racemes; pedicels jointed at the apex, subpersistent; male flowers: sepals 5, imbricate, shortly connate at the base; petals 5, free, imbricate; stamens 10, inserted on the margin of a fleshy disk; rudimentary ovary small, with 3 stigmas; female flowers like the male but with sterile stamens; ovary 3-celled; ovule 2, collateral on axile placentas, pendulous; styles 3, connate at the base; capsule 1-seeded, dehiscing septicidally; seeds nearly covered by a fleshy aril; embryo straight [*staudtii*](#)

***Lepidobotrys staudtii* Engl.** *Bot. Jahrb.* 32: 108 (1902). *APD acc*

Small tree of forest.

S. Nig.: Sapoba (Nov.) Ross 221! Kennedy 2827! Kwale, Warri (Jan.) Ainslie FHI 2827! **Br. Cam.:** Johann-Albrechtshöhe Staudt 911!

Also in **French Camerouns, Ubangi-Shari, Gabon** and **Belgian Congo.**

CTENOLOPHONACEAE

Trees. Leaves opposite, undivided, oblong-elliptic, acuminate, pinnately nerved, coriaceous; stipules interpetiolar, united in pairs, deciduous. Flowers hermaphrodite, actinomorphic; in short terminal

panicles; bracts very small and caducous. Sepals 5, rounded, broadly elliptic, imbricate. Petals 5, free, oblong, imbricate. Stamens 10, hypogynous; filaments free, alternately shorter; anthers 2-celled, introrse, opening lengthwise. Ovary superior, 2-celled; style 2-fid at the apex; ovules 2 in each cell, collateral, pendulous from a rather long funicle attached to the central axis. Fruit woody, 1-seeded, splitting unilaterally. Seed pendulous from the slender free central axis, nearly covered by a fibrous comb-like aril.

A family with a single genus of two species, one in West Africa, the other in South-East Asia.

CTENOLOPHON

Oliv. in Trans. Linn. Soc. 28: 516 (1873).

- 1 Tree; with shortly stellate-pubescent branchlets; leaves coriaceous, broadly ovate to elliptic-ovate, obtuse at base, broadly acuminate, 4–9 cm. long, 2.5–5 cm. broad, glabrous; flowers in short terminal panicles, pedicels short; sepals suborbicular to broadly transverse elliptic, about 4 mm. broad; petals about 1 cm. long and 2 mm. broad, densely stellate-lepidote outside; fruit a bivalved capsule, about 2.5 cm. long and 8 mm. broad, with a single seed 1.5 cm. long, bearing a dorsal fibrillate aril [englerianus](#)

Ctenolophon englerianus *Mildbr.* in Notizbl. Bot. Gart. Berl. 8: 706 (1924); Kennedy For. Fl. S. Nig. 27; Exell & Mendonça in Consp. Fl. Angol. 1: 248. *APD acc*

Riparian forest tree, to 80 ft. high; flowers pink.

S. Nig.: Sapoba (Mar., Sept.) Kennedy 1574! 1689! Jones FHI 7442! Calabar (Apr.) Amachi FHI 24306!

Also in [Angola](#); the other species of the genus occur in S.E. Asia.

LINACEAE

Trees, shrubs, rarely herbs; branches sometimes climbing by hooks. Leaves simple, alternate or opposite; stipules present or absent, sometimes gland-like. Flowers actinomorphic, hermaphrodite. Sepals 4–5, free or partly united, imbricate. Petals free, contorted, fugacious. Stamens as many as and alternate with the petals, sometimes alternating with small staminodes; filaments connate at base; anthers introrse, 2-celled, opening lengthwise. Ovary superior, 3–5-celled, cells often again partially subdivided; ovules 2 in each cell, pendulous; styles 3–5, free or partly united, with simple capitate stigmas. Fruit a septicidal capsule. Seeds compressed, shining, with or without endosperm; embryo straight, cotyledons flat.

- 1 Woody shrubs, mostly scandent; stems often with recurved hooks; stipules deeply divided; leaves alternate; flowers 5-merous; sepals not lobed; petals longer than the sepals [1. Hugonia](#)
Delicate annual herb; leaves opposite, 3 mm. long or less; flowers 4-merous, sepals lobed or toothed at the apex; petals about equalling the sepals [2. Radiola](#)

1. HUGONIA

Linn. — F.T.A. 1: 270.

- 1 Flowers in leafless racemes or panicles, terminal above the leaves, or terminating leafless lateral shoots; outer sepals ovate, about 5 mm. long, tomentose outside; petals about 1 cm. long, glabrous; fruit globose, about 15 mm. diam., glabrous; stipules early caducous; leaves elliptic or ovate-elliptic, broadly rounded at base, subacute at apex, 12–22 cm. long, 5–11 cm. broad, distinctly crenate, with 12–18 pairs of lateral nerves: **2**
Flowers axillary among the leaves, in cymes or solitary, along the shoots or clustered towards the ends of the branches among numerous young leaves: **3**
2 Mature leaves densely tomentose beneath, venation obscured [1. spicata var. spicata](#)
Mature leaves puberulous to glabrescent beneath, venation not obscured [1a. spicata var. glabrescens](#)
3 Young branchlets, petioles and midribs glabrous; flowers in few-flowered axillary cymes towards the ends of the branches; outer sepals suborbicular, about 3 mm. long, pubescent outside; petals about 12 mm. long; stipules

- early caducous; leaves obovate-ob lanceolate, cuneate at base, obtuse at apex, 6–14 cm. long, 4–6 cm. broad, glabrous [2. obtusifolia](#)
- Young branchlets, petioles and midribs, and often leaf-surface as well, hairy, sometimes very densely so; outer sepals 5 mm. or more long: **4**
- 4** Outer sepals suborbicular, 5–6 mm. long, striate, with a broad membranous recurved margin, spreading in bud; petals 15–20 mm. long; flowers 2–5 together in axillary cymes; leaves oblong to obovate or oblanceolate, somewhat narrowed to the base, obtuse or subacute at apex, 7–14 cm. long, 3–7 cm. broad [3. platysepala](#)
- Outer sepals without a membranous margin, acute: **5**
- 5** Outer sepals spreading in bud; flowers in long-pedunculate pseudo-corymbs, axillary towards the ends of the branches; whole plant pilose with golden hairs; leaves obovate to obovate-ob lanceolate, long-cuneate at base, acute at apex, 11–23 cm. long, 5–9 cm. broad, coarsely dentate; stipules with triangular centre and long filiform lobes [4. talbotii](#)
- Outer sepals not spreading in bud: **6**
- 6** Petals densely pilose outside; flowers crowded at the ends of the shoots, amongst long-pectinate stipules and the young leaves, not axillary along the shoots; stems densely and thickly tomentose; leaves elongate-obovate, narrowed to the very short hirsute petiole, densely rusty-hirsute on midrib above and beneath and on the nerves beneath: **7**
- Petals glabrous; flowers mostly axillary along the shoots, rarely crowded at the apex as well; leaves not elongate-obovate, densely tomentose or shortly pubescent, not long-hirsute: **8**
- 7** Petals triangular, about 26 mm. long, 12 mm. broad at apex, narrowed gradually at the base into a small claw; stipules palmate, with 5–9 subulate, long-plumose segments, joined only at the base; leaves 12–30 cm. long, 5–10 cm. broad, gradually acuminate, margin entire, with 15–22 pairs of lateral nerves [5. macrophylla](#)
- Petals elongate-oblong, about 16 mm. long, 5 mm. broad at apex, abruptly long-clawed at base; stipules pinnately divided with a flattened, subglabrous central portion and 5–9 subulate, pubescent segments, not long-plumose; leaves 10–20 cm. long, 3.5–7.5 cm. broad, rounded at apex, with an abrupt short acumen, or mucronate; margin obscurely denticulate to dentate, with tufts of hairs at intervals all round the margin; 12–17 pairs of lateral nerves [6. rufipilis](#)
- 8** Branchlets and undersurface of leaves on young shoots pubescent with short brown hairs; stipules more or less persistent, pinnately divided into subulate lobes; leaves elliptic to oblanceolate, cuneate at base, acutely acuminate, 7–15 cm. long, 3–6 cm. broad, mature leaves glabrescent except for the midrib; flowers in short axillary 2–4-flowered cymes; flower buds very long-acuminate, sepals ovate-lanceolate about 10 mm. long, densely brown pubescent outside, becoming reflexed; petals triangular, 2–2.5 cm. long [7. planchonii](#)
- Branchlets and undersurface of leaves on young shoots, densely white-woolly-tomentose; flower-buds acute or shortly and bluntly beaked, sepals narrowly ovate, about 10 mm. long, white woolly-tomentose outside; flowers 2–3, shortly pedicellate in leaf-axils along the shoots: **9**
- 9** Mature leaves glabrous beneath except for the puberulous midrib and nerves, venation obvious; leaves elliptic, or oblong-elliptic, rounded or broadly cuneate at base, abruptly acuminate, 15–17 cm. long, 5–9 cm. broad, irregularly serrate [8. foliosa](#)
- Mature leaves densely white-tomentose or -tomentellous beneath, elliptic to oblong-elliptic, rounded or narrowed at base, acute to acuminate, 8–18 cm. long, 3–8 cm. broad, crenate-dentate; 7–16 pairs of lateral nerves [9. afzelii](#)

1. *Hugonia spicata* Oliv. var. *spicata* — F.T.A. 1: 270 (1868).

A woody climber, stems to 30 ft. long.

F. Po: (Jan.) Mann 224!

1a. *Hugonia spicata* var. *glabrescens* Keay in Bull. Jard. Bot. Brux. 26: 183 (1956). *APD acc*

Woody climber as above; sepals olive-brown, petals white.

S. Nig.: Okomu F.R. (Feb.) Brenan 9084! Onicha Olona (Oct.) Thomas 1875!

Also in **Belgian Congo**.

2. *Hugonia obtusifolia* C. H. Wright in Kew Bull. 1901: 119. *APD acc*

A scrambling shrub; flowers bright yellow, “waxy-looking”.

S. Nig.: Imo R. Kennedy 2563! Eket Talbot 3023! Cross R. (Jan.–Mar.) Johnston!

Also in **French Cameroons** and **Belgian Congo**.

3. *Hugonia platysepala* *Welw. ex Oliv.* F.T.A. 1: 272 (1868); Chev. Bot. 93. *APD acc*

Hugonia baumannii *Engl.* (1902); F.W.T.A., ed. 1, 1: 132.

Scandent shrub, flowers bright yellow; **mainly in regrowth forest.**

Fr. G.: Macenta (May) Collenette 11! **S. L.:** Limba (Apr.) Sc. Elliot 5504! 5523! Sherbro Sc. Elliot 5757! Njala (May) Deighton 667! Daru (Apr.) Deighton 3146! **Lib.:** Gola (Apr.) Bunting! St. Paul R., Dobli Isl. (Apr.) Bequaert 168! **Iv. C.:** Abiosso (Apr.) Chev. 17813! Dyolas (Apr.) Chev. 21118! **G. C.:** Kumasi (Mar., Apr.) Andoh FH 4170! Scholes 271! Pra R., Krobo (June) Chipp 238! **Togo:** Misahöhe (May) Baumann 530! **N. Nig.:** Koton Karifi (Apr.) Ainslie 394! **S. Nig.:** Sapoba Kennedy 2314! Kukuru (Apr.) Dundas FHI 21459! Obubra Rosevear 31/29! Degema Talbot 3753! **Br. Cam.:** Barombi Preuss 283! Bum, Bamenda (May) Maitland 1533! **F. Po:** Mann!

Extends to **A.-E. Sudan**, **Uganda** and **Angola**.

4. *Hugonia talbotii* *De Wild.* in Pl. Bequaert. 4: 287 (1927). *APD acc*

S. Nig.: Sapoba Kennedy 2250! Oron to Eket Talbot!

5. *Hugonia macrophylla* *Oliv.* F.T.A. 1: 271 (1868). *APD acc*

Hugonia macrophylla forma *acuminata* *De Wild.* l.c. 4: 273 (1927).

An extensive woody climber; leaves rather crowded at the ends of the branches.

S. Nig.: Degema Talbot! Calabar (Mar.) Thomson 78! Holland 88! Oban Talbot 1545!

[Pellegrin and De Wildeman record this species from Gabon, the latter regarding the Gabon specimen as a distinct forma obtusecuneato-apiculata De Wild. l.c.]

6. *Hugonia rufipilis* *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 132 (1927); Chev. Bot. 93, name only. *APD acc*

Scandent shrub with yellow flowers.

S. L.: Kenema Thomas 7928! Mamanasu Deighton 4066! Gola Forest Deighton 4099! **Lib.:** Grand Kola R. (Mar.) Baldwin 11210! **Iv. C.:** Bingerville Chev. 15443! 17266! **G. C.:** Axim (Feb.) Irvine 2224!

Also in **Belgian Congo**.

7. *Hugonia planchonii* *Hook. f.* — F.T.A. 1: 272; Chev. Bot. 93. *APD acc*

Hugonia acuminata *Engl.* (1902); Chev. Bot. 93.

Scandent shrub or straggling tree; flowers bright yellow.

Port. G.: Bissau (Mar.) Esp. Santo 1893! Cacine Esp. Santo 2119! **Fr. G.:** Pobéguin 818! Dalaba (Mar.) Chev. 18109! **S. L.:** T. Vogel 45! Bagroo R. (Apr.) Mann 873! Berria (Mar.) Sc. Elliot 5426! Kenema (May) Lane-Poole 245! Vevehun (Apr.) Deighton 1623! **Lib.:** Dukwia R. (May) Cooper 456! Ganta (fr. Sept.) Baldwin 9258! **G. C.:** Accra T. Vogel 27! Kwahu (Apr.) Johnson 670! Assuantsi Fishlock 32! Tafo (May) Kitson 1159! **Togo:** Kpandu (Mar.) Robertson 134! **S. Nig.:** Lagos (Apr.) Dalz. 1065! 1396! Ijaiye F.R. (May) Onochie FHI 21992! Oban Talbot 1640!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

8. *Hugonia foliosa* *Oliv.* F.T.A. 1: 271 (1868); Chev. Bot. 93.

APD: *Synonym of Hugonia afzelii* *R. Br. ex Planch.*

A woody climber.

S. L.: Bagroo R. (Apr.) Mann 816! **Iv. C.:** Byanouan to Soubiré (Mar.) Chev. 17739! **S. Nig.:** Akure F.R. Keay FHI 25584!

9. *Hugonia afzelii* *R.Br. ex Planch* — F.T.A. 1: 270; Chev. Bot. 93; Mildbr. in Fedde Rep. 41: 254 (1937). *APD acc*

Hugonia chevalieri *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 132 (1927); Kew Bull. 1928: 29.

A shrub, 15–18 ft. high, with long, loose branches; flowers yellow.

S. L.: Afzelius! Kasewe Hills F.R. (June) Deighton 5832! **Lib.:** Monrovia (Mar.) Dinklage 3069! **Iv. C.:** Guidéko (May) Chev. 16371! **G. C.:** Axim (Feb.) Akpabla 104!

Also in **Belgian Congo**.

1. **Hugonia dinklagei** *Engl. ex Mildbr.* in Fedde Rep. 41: 254 (1937), name only.

Lib.: Dinklage 2535.

Imperfectly known species.

2. **Hugonia sp. A.**

Leaves oblanceolate, 20–25 cm. long, 6–6.5 cm. broad, glabrous beneath; flowers and fruits not known.

S. L.: Thomas 4539!

Imperfectly known species.

3. **Hugonia sp. B.**

Small scandent shrub; leaves oblanceolate, 25–40 cm. long, 6–11 cm. broad, pubescent beneath, very densely so when young; flowers and fruits not known.

S. Nig.: Shasha F.R. Tamajong FHI 20287! Akure F.R. Keay FHI 25612!

Imperfectly known species.

2. RADIOLA

Hill — F.T.A. 1: 268.

- 1 A very small glabrous annual herb; leaves opposite, ovate or elliptic, about 4 mm. long and 2–3 mm. broad; flowers very small, numerous, in leafy dichotomous cymes; sepals ovate, acute; valves of the capsule tipped by the persistent styles [linoides](#)

Radiola linoides *Roth* Tent. Fl. Germ. 1: 71 (1788); Clapham, Tutin & Warburg Fl. Brit. Isl. 377. *APD acc*

Radiola millegrana *Sm.* (1800) — F.T.A. 1: 268.

A very small delicate annual, up to 3 in. high; petals white.

Br. Cam.: Cam. Mt., 7–12,000 ft. (Nov., Jan.) Mann 1334! 2021! Maitland 816! 1293!

Also in **Europe**, **Madeira**, **Teneriffe**, **N. Africa** and **temperate Africa**.

ZYGOPHYLLACEAE

Shrubs or herbs woody at the base, rarely trees; branches often jointed at the nodes. Leaves opposite or alternate, simple, 2-foliolate or pinnate, rarely 3-foliolate, not gland-dotted; stipules present, persistent, often spinescent. Flowers hermaphrodite, actinomorphic or zygomorphic. Sepals 5, rarely 4, free or rarely connate at the base, imbricate, rarely valvate. Petals 4–5, rarely absent, hypogynous, free, imbricate or contorted, rarely valvate. Disk mostly present. Stamens the same number to three times the number of the petals, often unequal in length; filaments free, often with a scale inside; anthers 2-celled, opening lengthwise. Ovary superior, sessile or rarely stipitate, usually 4–5-celled; cells rarely transversely locellate; style simple, short, or stigmas sessile; ovules 2 or more in each cell, axile. Fruits various. Seeds mostly with some endosperm; embryo as long as the seed, straight or slightly curved.

Mainly in the tropics and subtropics, often in the drier parts.

- 1 Fruits not drupaceous: **2**
Fruits drupaceous: **5**

- 2 Leaves pinnate, with 3–7 pairs of leaflets, anisophyllous; spreading herbs filaments without scales at the base, but the alternate ones each subtended by a gland: **3**
 Leaves 1–3-foliolate: **4**
- 3 Fruit dividing into usually 10 (twice as many as original carpels) 1-seeded nutlets [1. *Kallstroemia*](#)
 Fruit dividing into usually 5 carpels, each with 3–5 compartments, the compartments 1-seeded [2. *Tribulus*](#)
- 4 Unarmed shrublets with fleshy leaves; filaments each with a scale at the base; fruit sharply 5-angled, ellipsoid, opening lengthwise [3. *Zygophyllum*](#)
 Spiny diffuse subwoody annual; filaments without scales at the base; fruit pyramidal, opening from below into five 1-seeded cocci tipped by the persistent style [4. *Fagonia*](#)
- 5 Leaves simple; branchlets spiny; stamens (10–) 15; ovary and fruit 3-celled [5. *Nitraria*](#)
 Leaves 2-foliolate; branchlets often armed with supra-axillary spines; flowers in supra-axillary fascicles or racemes; stamens 10; ovary 5-celled; fruit a 1-seeded drupe [6. *Balanites*](#)

***Guaiacum officinale* Linn.**

A native of tropical America, known as “Lignum Vitae,” it is cultivated in our area.

1. KALLSTROEMIA

Scop. Introd. 212 (1777).

- 1 Stems diffuse or ascending, striate; stipules lanceolate, 3 mm. long; leaves 3–5 cm. long; petioles shorter than the leaflets; leaflets usually 3 pairs, obliquely elliptic or oval, rounded and mucronate at apex, 1–2 cm. long; pedicels in fruit about 2 cm. long, strongly ribbed and thickened upwards; sepals narrowly linear-lanceolate, hispid; petals yellow, obovate, 6–7 mm. long; fruit pyramidal, ribbed and muricate, beaked by the persistent style, strigose [pubescens](#)

Kallstroemia pubescens* (G. Don) Dandy in Kew Bull. 1955: 138. *APD acc

Tribulus pubescens G. Don Gen. Syst. 1: 769 (1831).

Kallstroemia caribaea Rydb. in N. Am. Fl. 25, 2: 111 (1910); Engl. in E. & P. Pflanzenfam. 19A: 177 (1931).

Tribulus maximus of F.T.A. 1: 284 and of F.W.T.A., ed. 1, 1: 136, not of Linn.

A spreading annual herb [of waste places; introduced](#).

G. C.: Cape Coast (July) Don! T. Vogel 58! Achimota Irvine 657! **S. Nig.:** Lagos (June) Dalz. 1039! A native of tropical America,

2. TRIBULUS

Linn. — F.T.A. 1: 283.

- 1 Stems diffuse and trailing, hirsute, slightly swollen at nodes; stipules subulate, caducous; petioles about as long as leaflets; leaves 2–5 cm. long; leaflets 5–7 pairs, oblong or elliptic, somewhat oblique, rather obtuse, 3–13 mm. long; pedicels in fruit about 1 cm. long, stout; sepals caducous; petals obovate, pale yellow, about 4 mm. long; fruit depressed, spiny, each carpel with two large rigid divergent spines and a few tubercles, thinly setose-pilose [terrestris](#)

Tribulus terrestris* Linn. — F.T.A. 1: 283; Chev. Bot. 96; Engl. in E. & P. Pflanzenfam. 19A: 176 (1931). *APD acc

APD: *Synonym of *Tribulus zeyheri* subsp. *macranthus* (Hassk.) Hadidi*

Tribulus saharae Chev. Bot. 96, name only.

A trailing herb, woody below, from pubescent to tomentose; [a pest of footpaths and fields](#).

Sen.: Sieber 14! Heudelot! **Fr. Sud.:** Timbuktu (July) Chev. 1287! **G. C.:** Accra (Mar.) Deighton 562! **Togo:** Lome Warnecke 12! **Dah.:** Debeaux 161! **Fr. Nig.:** Zinder (Oct.) Hagerup 589a! **N. Nig.:** Sokoto (Sept.) Moiser 98! Maiduguri (May) Ujor FHI 32966!

Also common throughout the tropical and warm temperate regions of the world.

3. ZYGOPHYLLUM*Linn.* — F.T.A. 1: 285.

- 1** Leaves 2-foliolate, opposite, fleshy, internodes short; flowers solitary or paired, axillary:.....**2**
 Leaves 1-foliolate, opposite, slightly fleshy; flowers solitary, axillary; fruits glabrous, globular, depressed at apex
 with the style persistent, deeply 5-angled, about 2 mm. long[3. simplex](#)
- 2** Fruits villous, linear, rounded at apex, 5-angled, about 10 mm. long [1. waterlotii](#)
 Fruits glabrous, oblong-ellipsoid, rounded at apex, 5-angled, about 5 mm. long [2. fontanesii](#)

- 1. *Zygophyllum waterlotii* Maire** in Bull. Soc. Hist. Nat. Afr. Nord 28: 348 (1937); Trochain Contrib. Étude Vég. Sénégal 386 (1940).

*APD: Synonym of *Tetraena gaetula* subsp. *waterlotii* (Maire) Beier & Thulin*

A fleshy shrublet.

Sen.: fide Trochain l.c.Also in **Mauritania** and **S.W. Sahara**.

- 2. *Zygophyllum fontanesii* Webb & Berth.** Phytog. Canar. 3, 1: 17, t. 1 (1836); Chev. Bot. 97; Berhaut Fl. Sen. 9.

*APD: Synonym of *Tetraena fontanesii* (Webb & Berthel.) Beier & Thulin*An undershrub about 1 ft. high with a woody rootstock; flowers white; **a maritime plant.****Sen.:** Oualo Berhaut 1355.Also in **Mauritania**, **N. Africa**, **Canary** and **Cape Verde Islands**.

- 3. *Zygophyllum simplex* Linn.** — F.T.A. 1: 285; Berhaut l.c. 76.

*APD: Synonym of *Tetraena simplex* (L.) Beier & Thulin*

A diffuse wiry undershrub a few inches high; flowers yellow.

Sen.: Gandiole Berhaut 1747.Also in **Cape Verde Islands**, through the arid regions of northern tropical Africa to **Arabia** and Baluchistan and in S.W. Africa.**4. FAGONIA***Linn.* — F.T.A. 1: 286.

- 1** A diffuse woody spiny annual, puberulous-glandular or nearly glabrous; leaves very variable, 1–3-foliolate, opposite, leaflets linear to lanceolate, acute, with a callous tip, bright green, up to 2 cm. long; stipules spinose, often longer than the leaves, very acute; flowers solitary, axillary; pedicels nearly 0.5 cm. long; sepals ovate, very acute, 3 mm. long; petals more than twice the length of the sepals, rose or lilac, narrowly clawed; fruit pyramidal, shortly pubescent, about 0.5 cm. long, tipped by the hard persistent style, opening from below into five 1-seeded cocci[cretica](#)

Fagonia cretica* Linn.** — F.T.A. 1: 287. *APD acc**APD: Synonym of *Fagonia tenuifolia* Hochst. & Steud. ex Boiss.*Fagonia bruguieri* DC.** — Berhaut Fl. Sen. 53, 75.

A variable desert plant sometimes forming meadows in hollow places.

Sen.: Gandiole Berhaut 1745.

Also throughout the warmer dry parts of the world.

5. NITRARIA

Linn. — F.T.A. 1: 288; Engl. in E. & P. Pflanzenfam. 19A: 178 (1931).

- 1 A shrub 2–3 m. high; branchlets becoming spiny; leaves mostly borne on short arrested branchlets, obovate, entire, 1.5–3 cm. long, up to 1 cm. broad, rather fleshy, glabrous; petiole slender, about 4 mm. long; flowers in short cymes, nearly sessile, the terminal ones pedicellate; sepals ovate-lanceolate, fleshy, slightly puberulous, about 1.5 mm. long; petals about twice as long; fruits narrowly conical, triangular, 1 cm. long, capped by the sessile stigma [retusa](#)

Nitraria retusa (Forsk.) Aschers. in Verh. Bot. Ver. Brandenb. 18: 94 (1876); Engl. l.c., fig. 85, H–P.
APD acc

Peganum retusum Forsk. (1775).

Nitraria senegalensis Lam. (1798) — F.W.T.A., ed. 1, 1: 484; Berhaut Fl. Sen. 135.

Nitraria tridentata Dest. (1798)—Chev. Bot. 97.

Nitraria schoberi of F.T.A. 1: 288.

A plant of dry and saline areas; commonly known as “Nitre Bush.”

Sen.: On banks of the lower R. Senegal (Jan.) Döllinger! Heudelot 432!

Extends from Mauritania and desert regions of northern Africa to Palestine and [Arabia](#).

6. BALANITES

Del. — F.T.A. 1: 314; Engl. in E. & P. Pflanzenfam. 19A: 179 (1931). *APD acc*

- 1 A forest tree; flowering branchlets mostly unarmed, sterile branchlets with simple or forked spines 1–4 cm. long; branchlets and petioles more or less densely, or sparingly, minutely puberulous; petioles 1–2.5 cm. long; petiolules 0.4–1.4 cm. long; leaflets broadly ovate, rounded or obtuse and often unequal at base, shortly acuminate, 5–8.5 (–12) cm. long, 4–6 (–7) cm. broad, glabrous or nearly so; flowers in supra-axillary puberulous or tomentellous pseudumbels; peduncles 0.5–1.8 cm. long, pedicels 1–1.7 cm. long; buds nearly globose, tomentellous; petals about 8 mm. long, more or less long-pilose inside; ovary tomentellous; fruits ellipsoid or ovoid-ellipsoid, about 4.5–10 cm. long, 3.5–5 cm. broad [L. wilsoniana](#)

A savannah tree; all branchlets with stout, rigid, simple spines up to 8 cm. long; branchlets and petioles pubescent and often glabrescent; petioles up to 1 cm. long; leaflets subsessile, obovate to orbicular-rhomboid, 0.7–5 cm. long and 0.4–4.5 cm. broad, pubescent beneath, then glabrescent; flowers in tomentose supra-axillary fascicles or rarely subracemose; pedicels up to 1 cm. long; buds ovoid tomentose; petals about 5 mm. long, glabrous inside; ovary tomentose; fruits broadly oblong-ellipsoid, rounded at each end, 3–4 cm. long, smooth or wrinkled, tomentose when young [2. aegyptiaca](#)

1. **Balanites wilsoniana Dawe & Sprague** in J. Linn. Soc. 37: 506 (1906); Aubrév. Fl. For. C. Iv. 2: 99, t. 166; Kennedy For. Fl. S. Nig. 152. *APD acc*

Balanites tieghemi A. Chev. (1912) — Chev. Bot. 105.

Balanites mayumbensis Exell (1927).

A [forest](#) tree to 120 ft. high, with high buttresses, sometimes spiny, continuing upwards as twisted fluting; young trees with forked spines up to 4 in. long; flowers greenish-yellow, ripe fruits yellow with strong smelling pulp and a single woody seed.

Iv. C.: Endé to Yaboisso, Morénou Chev. 22482! And other localities fide Chev. l.c. **G. C.:** Adeambra, W. Ashanti (young fr: May) Vigne FH 859! Mampong Scarp (Mar.) Vigne FH 1059! **Dah.:** Pedjilé to Pobé, Zagnanado Chev. 22920. **S. Nig.:** Sapoba (Dec.) Kennedy 1658! 1949! 1975! 2080!

Also in [French Cameroons](#), [Ubangi-Shari](#), [Gabon](#), [Cabinda](#), [Belgian Congo](#) and [E. Africa](#).

[A sterile specimen (Keay FHI 28198) from Afi River F.R., Ikom, S. Nig., may also be this species.]

2. **Balanites aegyptiaca** (Linn.) Del. in Descr. Égypt. Hist. Nat. 2: 221, t. 28, 1 (1813); F.T.A. 1: 315; Aubrév. Fl. For. Soud.-Guin. 366, t. 76, 1–5. *APD acc*

Ximenia aegyptiaca Linn. (1753).

Agialida senegalensis Van Tiegh. (1906).

A. barteri Van Tiegh. (1906).

A. tombouctensis Van Tiegh. (1906).

Balanites zizyphoides Mildbr. & Schlechter (1913).

A tree 20–30 ft. high, with greenish stems and branches and yellow edible fruits each with a single hard seed.

Sen.: Perrottet 1261. Dara Dubois 276! **Fr. Sud.:** Timbuktu (fl. & fr. July) Chev. 1197! **Port. G.:** Bafata (fl. & fr. Aug.) Esp. Santo 2722! **G. C.:** Ayikuma, Shai (fl. & fr. Feb.) Irvine 1978! Tamale (Apr.) Williams 145! Prang (fl. & fr. Jan.) Vigne FH 1553! **Togo:** N. Basari (fl. Jan., Feb., fr. July) Kersting 533! **Dah.:** Atacora Mts. Chev. 24073; 24230. **N. Nig.:** Zurmi (Apr.) Keay FHI 18013! Nupe Barter 739! Samae (Mar.) Foster 24! Yola (fr. Oct.) Shaw 105!

Widespread in the drier parts of tropical Africa, extending from Mauritania and the Central Sahara to Palestine, **Arabia** and India.

EUPHORBIACEAE

Trees, shrubs or herbs, occasionally with milky juice. Leaves alternate or rarely opposite, simple or digitately compound, sometimes reduced, mostly stipulate. Flowers unisexual, mostly monoecious. Sepals imbricate or valvate, or in very specialized inflorescences much reduced or absent. Petals absent or rarely present and sometimes united. Stamens 1–1,000, free or variously connate; anthers 2–4-celled, erect or inflexed in bud, opening lengthwise, rarely by pores. Rudimentary ovary often present in the male flowers. Ovary mostly 3-celled; styles free or united at the base; ovules solitary or paired, pendulous from the inner angle of the cells. Fruit a capsule or drupe. Seeds often with a conspicuous caruncle; endosperm copious, fleshy; embryo straight.

A large and heterogeneous family, mainly in the tropics and subtropics.

Flowers much reduced and mostly apetalous; allied to Sterculiaceae, Flacourtiaceae, Celastraceae, and perhaps Sapindaceae.

KEY TO THE TRIBES.

- 1 Male and female flowers not enclosed in a common involucre; stamens usually more than 1:.....2
Male and female flowers much reduced and enclosed in a common involucre; stamens 1; perianth usually absent or rim-like, rarely cupular; plants with milky juice4. *EUPHORBIEAE*
- 2 Ovary-cells 2-ovuled; plants without milky juice1. *PHYLLANTHEAE*
Ovary-cells 1-ovuled:.....3
- 3 Petals present; stamens 1-seriate, opposite the sepals; flowers very small in axillary fascicles; plants without milky juice2. *GALEARIEAE*
Petals present or absent; stamens 1–2-seriate, the outer alternate with the sepals or all more or less central, sometimes very numerous; plants with or without milky juice3. *CROTONEAE*

Tribe 1. — PHYLLANTHEAE.

- 1 Leaves digitately compound, opposite; leaflets stalked; flowers dioecious; petals absent; stamens 4–101. *Oldfieldia*
Leaves simple:.....2
- 2 Sepals of the male flowers valvate in bud; petals present (in our species), 5; stamens 5, connate in their lower part:3
Sepals of the male flowers imbricate in bud:.....4
- 3 Flowers in axillary fascicles or glomerules; ovary 2-celled; fruit drupaceous, 1–2-celled; tertiary nerves of the leaves usually parallel2. *Bridelia*
Flowers in short axillary racemes; ovary 3-celled; fruit capsular, 3-celled; tertiary nerves not parallel3. *Cleistanthus*
- 4 Petals present in the male flowers; stamens 5 (–6):.....5
Petals absent from the male flowers; stamens 2 to numerous:.....8
- 5 Inflorescence spicate, racemose or fasciculate:6

- Inflorescence paniculate, flowers dioecious; capsule ellipsoid, entire, loculicidal; stigmas reflexed, entire; leaves very unequal in size, borne on petioles of very unequal length [7. *Spondianthus*](#)
- 6 Styles absent; stigmas sessile, thick, entire; flowers monoecious, with conspicuous coriaceous bracts; filaments free; fruit capsular [4. *Amanoa*](#)
- Styles well-developed, usually divided; fruit a 3-lobed capsule; bracts not large and coriaceous: [7](#)
- 7 Flowers in axillary fascicles, monoecious; filaments shortly connate at the base [5. *Pentabrachion*](#)
- Flowers in spikes or racemes, dioecious; filaments free; fruit with 1 seed per cell; see also below [6. *Thecacoris*](#)
- 8 Male and female flowers not surrounded by an involucre of calycine bracts: [9](#)
- Male flowers in a globose head surrounded by calycine bracts; female solitary in an involucre of bracts; fruit indehiscent, containing 3–4 pyrenes [18. *Uapaca*](#)
- 9 Flowers in spikes or racemes (see also No. 16): [10](#)
- Flowers in fascicles or glomerules, or solitary in the leaf-axils, or (*Phyllanthus muellerianus* and *P. profusus*) in racemes of fascicles: [16](#)
- 10 Fruits not winged; disk present in both sexes, or rarely absent from the female; leaves not glandular beneath: [11](#)
- Fruits 2-celled, broadly winged, flat; leaves glandular beneath; male inflorescence a catkin-like spike, female shortly racemose; styles 2, free from the base [14. *Hymenocardia*](#)
- 11 Stems perennial; much-branched trees or shrubs: [12](#)
- Stems annual, mostly simple, arising from a woody rhizome; flowers dioecious; capsule 3-lobed [13. *Cyathogyne*](#)
- 12 Ovary 2-celled, each cell divided by a false septum; styles 2, connate at the base, undivided [8. *Martretia*](#)
- Ovary cells not divided; styles bifid or bilobed: [13](#)
- 13 Ovary 4-celled; male spikes fasciculate, axillary [9. *Apodiscus*](#)
- Ovary 2–3-celled: [14](#)
- Ovary 1-celled; fruit drupaceous; flowers small, in slender catkin-like inflorescences [12. *Antidesma*](#)
- 14 Bracts subtending the male flowers in 3 series, the middle bract cupular and enclosing the flower in bud; disk of the female flower adnate to the sepals; flowers dioecious; capsule large, septicidal [10. *Protomegabaria*](#)
- Bract subtending the male flowers solitary; disk in the female not adnate to the sepals: [15](#)
- 15 Fruits depressed-globose, 3-lobed, 3-celled, dehiscent into 2-valved cocci; see also above [6. *Thecacoris*](#)
- Fruits entire, 1-celled by abortion [11. *Maesobotrya*](#)
- 16 Disk in the male flowers central; fruit indehiscent; flowers dioecious; ovary and fruit 1–7-celled; stamens 4–30, filaments free, variously inserted around and in the folds of the disk; trees and shrubs [15. *Drypetes*](#)
- Disk in the male flowers not central; fruit usually dehiscent; ovary and fruit 3-celled; shrubs and herbs, rarely trees: [17](#)
- 17 Rudimentary ovary absent from the male flower; flowers usually monoecious; stamens 2–5, free or variously united [16. *Phyllanthus*](#)
- Rudimentary ovary present in the male flower, deeply 2–3-partite; flowers dioecious; stamens 5, free [17. *Securinega*](#)

Tribe 2. — GALEARIEAE.

- 1 Flowers small in axillary fascicles; fruit a small indehiscent drupe; rudimentary ovary present in the male flowers; shrub with pellucid-dotted leaves [19. *Microdesmis*](#)

Tribe 3. — CROTONEAE.

- 1 Leaves digitately compound, with separate leaflets; flowers paniculate: [2](#)
- Leaves simple, sometimes deeply lobed but not into separate leaflets: [3](#)
- 2 Petals absent; fruit capsular; the introduced Para rubber tree [20. *Hevea*](#)
- Petals present and connate; fruit indehiscent; indigenous tree, not rubber-producing; stipules broad, reniform, toothed [21. *Ricinodendron*](#)
- 3 Petals present in the male flowers: [4](#)
- Petals absent from the male flower: [14](#)
- 4 Anthers inflexed in bud; calyx-lobes valvate; male petals free; leaves often lepidote or stellate-pubescent beneath; flowers spicate or racemose [22. *Croton*](#)
- Anthers erect in bud: [5](#)
- 5 Male calyx-lobes imbricate: [6](#)
- Male calyx-lobes valvate: [8](#)
- 6 Flowers in axillary fascicles or the females solitary; shrub with narrow leaves; filaments partially connate; fruit a

- small capsule [23. *Clutia*](#)
- Flowers cymose or paniculate: **7**
- 7** Inflorescence bisexual; male petals free or united into a tube; stamens 8, filaments partially connate; shrubs or herbs with entire or digitately lobed leaves [24. *Jatropha*](#)
- Inflorescence unisexual; male petals free, imbricate; stamens 10–20, on a hairy receptacle; fruit a 3-lobed capsule; a shrub [25. *Mildbraedia*](#)
- 8** Herbs, monoecious; calyx splitting regularly into 5–7-lobes; filaments connate into a column: **9**
- Trees, shrubs and lianes, usually dioecious; calyx splitting irregularly into 2–3-lobes: **10**
- 9** Rudimentary ovary present in the male flowers; styles lacerate; flowers in lax axillary racemes; capsule covered with processes [26. *Caperonia*](#)
- Rudimentary ovary absent; style 2-fid; flowers in rather dense racemes from the axils of the upper leaves; capsule covered with stellate hairs or scales [27. *Chrozophora*](#)
- 10** Plants without stellate hairs or scales: **11**
- Plants with stellate hairs and/or scales at least on the inflorescence; leaves 2-glandular or multiglandular at the base; filaments free: **12**
- 11** Disk of male flowers with 5 glands outside the stamens and alternate with the petals; stamens 13–40, filaments (in our species) irregularly connate at the base; flowers in racemes or panicles [28. *Grossera*](#)
- Disk of male flowers without extrastaminal glands; stamens 20–30, filaments free; flowers in racemes [29. *Pseudagrostistachys*](#)
- 12** Lower surface of leaves concealed by a dense covering of silvery scales; stamens about 30, accompanied by an equal number of interstaminal glands; male petals free; inflorescence paniculate [30. *Cyrtogonone*](#)
- Lower surface of leaves not concealed by scales; stamens 7–25, not accompanied by interstaminal glands: **13**
- 13** Leaves pinnately nerved; plants with scales at least on the inflorescence; stamens 7–19; male petals mostly united (free in *C. preussii*); inflorescence racemose [31. *Crotonogyne*](#)
- Leaves palmately nerved; plants with stellate hairs, but without scales; stamens 10–25; male petals united; inflorescence paniculate [32. *Manniophyton*](#)
- 14** Male calyx closed in bud and enveloping the stamens; plants mostly without milky juice (but see Nos. 53 and 56): **15**
- Male calyx open in bud, not covering the stamens; plants mostly with milky juice: **40**
- 15** Calyx-lobes of male flowers valvate: **16**
- Calyx-lobes of male flowers imbricate: **36**
- 16** Styles free, or if connate into a column then continuous with the central axis: **17**
- Styles connate into a stout column and continuous with the body of the carpels: **33**
- 17** Filaments unbranched, usually free: **18**
- Filaments repeatedly branched, columnar below; anthers 2-celled; leaves peltate, palmately lobed; capsule smooth or echinate [49. *Ricinus*](#)
- 18** Anther-cells not long-cylindrical and worm-like: **19**
- Anther-cells long-cylindrical or worm-like; stamens 8 or fewer; flowers monoecious or rarely dioecious; female flowers within a variously toothed or lobed, sometimes foliaceous bract; styles often laciniate [48. *Acalypha*](#)
- 19** The anther-cells erect and separate, 2-celled: **20**
- The anther-cells pendulous, either separate or adnate to the connective: **22**
- 20** Buds perulate; flowers in racemes or glomerules; pedicels capillary, jointed near the base; stamens 2–60, free; capsule usually 2-lobed [33. *Erythrococca*](#)
- Buds not perulate: **21**
- 21** Flowers regularly distributed along the rhachis of the spikes or racemes; fruits 2-lobed; stamens 6–12, free; trees or shrubs [34. *Claoxylon*](#)
- Flowers in distant glomerules or spikelets on a filiform rhachis; stamens 3–20, free; fruits 3- or rarely 2-lobed; annual herbs [35. *Micrococca*](#)
- 22** Anthers 2-celled: **23**
- Anthers 4-celled: **32**
- 23** Leaves opposite; stamens without receptacular glands, numerous, free; flowers generally dioecious; plants with stellate hairs; leaves gland-dotted or not beneath [36. *Mallotus*](#)
- Leaves alternate: **24**
- 24** Stamens 7–8; flowers dioecious; styles simple: **25**

- Stamens 9–120: **27**
- 25** Interstaminal glands absent; male flowers paniculate or racemose; ovary 2- or 3-celled; styles 5–15 mm. long **37**.
Alchornea
- Interstaminal glands present; ovary 2- or 3-celled; styles not exceeding 1 mm. long, recurved: **26**
- 26** Flower spikes in large terminal panicles; interstaminal glands numerous, hairy; fruits dehiscent **38**.
Discoglypsemna
- Flower spikes fasciculate or solitary, from nodes on the old wood or sometimes axillary; glands among the outer stamens only; fruits indehiscent **39**. *Mareyopsis*
- 27** Leaves palmately nerved, orbicular-cordate; flowers in terminal panicles, usually dioecious; stamens 15–40; disk-glands extrastaminal; leaves glandular and stellate-pubescent beneath **40**. *Neoboutonia*
- Leaves pinnately nerved, not orbicular-cordate; flowers racemose or spicate, mostly monoecious: **28**
- 28** Stamens 9–25: **29**
- Stamens 30–120: **30**
- 29** Leaves with distinct petiole 1–5 cm. long, cuneate or obtuse at base; connective of stamens broad; styles plumose **41**. *Mareya*
- Leaves sessile, auriculate-cordate at base; connective of stamens narrow; styles lacerate at the tips **42**.
Crotonogynopsis
- 30** Leaves oblanceolate, with numerous lateral nerves; styles simple, often more or less connate: **31**
- Leaves obovate-elliptic, with 7–10 lateral nerves on each side of the midrib; styles bifid **45**. *Necepsia*
- 31** Ovary and fruit smooth **43**. *Argomuellera*
- Ovary and fruit with 6 wing- or horn-like appendages; see also below **44**. *Pycnocomma*
- 32** Stamens numerous; anther-cells superposed, connective produced; styles bifid; leaves not gland-dotted beneath **46**. *Cleidion*
- Stamens 1–6 (in our species); anther-cells collateral, connective not produced; styles simple; leaves gland-dotted beneath; fruits glandular-granular **47**. *Macaranga*
- 33** Flowers racemose or spicate, not in involucre heads: **34**
- Flowers in dense involucre heads; stamens 20–30, connate below; stems usually twining **52**. *Dalechampia*
- 34** Ovary 4-celled; stamens 8–40, free, mixed with interstaminal glands; racemes axillary or leaf-opposed **50**.
Tetracarpidium
- Ovary 3-celled: **35**
- 35** Stamens numerous; female flowers at the top of the inflorescence; stems not twining; see also above **44**.
Pycnocomma
- Stamens 3, free; female flowers at the base; stems often twining; plants often with stinging hairs **51**. *Tragia*
- 36** Leaves digitately lobed, rarely some simple; flowers monoecious, in terminal or subterminal racemes or panicles; calyx large, often coloured; stamens 10, in two series, free; cultivated plants **53**. *Manihot*
- Leaves not lobed, or rarely some slightly 3-lobed (see No. 56); calyx small; flowers dioecious: **37**
- 37** Calyx 4–6-lobed; stamens 8–30; anthers 2-celled: **38**
- Calyx 3-lobed; stamens 3; anthers 4-celled; male flowers in catkin-like spikes; female flowers in very short racemes or solitary; leaves opposite or alternate **57**. *Tetrorchidium*
- 38** Flowers in axillary and terminal panicles; leaves distinctly petiolate; stamens 8 or 10 in two series **54**.
Klaineanthus
- Flowers in fascicles or racemes up to 4 cm. long; stamens 18–30, filaments very short; **39**
- 39** Flowers in small leaf-opposed fascicles; leaves sessile or very shortly petiolate; plant without milky juice **55**.
Gelonium
- Flowers in axillary racemes; leaves distinctly petiolate, sometimes slightly 3-lobed; plant with milky juice ... **56**.
Hamilcoa
- 40** Flowers racemose, dioecious; stamens 15–32; calyx 5(-6)-lobed; ovary 1-celled; fruit indehiscent **58**.
Plagiostyles
- Flowers spicate, mostly monoecious, with a few female flowers below the male flowers at the base of the spike; stamens 2–3 (rarely 1 or 4); calyx 2–3(-5)-lobed; ovary 2–3-celled; fruits mostly dehiscent: **41**
- 41** Stamens free; spikes slender: **42**
- Stamens monadelphous; male flowers in densely ovoid or subglobose spikes **61**. *Maprounea*
- 42** Seeds strophiole; ovary 3-celled; fruits dehiscent **59**. *Sebastiania*
- Seeds not strophiole; ovary 2–3-celled; fruits dehiscent or indehiscent **60**. *Sapium*

Tribe 4. — EUPHORBIEAE.

- 1 Ovary (female flower) with a cup-like calyx at its base, half surrounded by 4 involucre formed of free bracts, containing the stamens; male flowers usually about 8 in each involucre, each consisting of a single stamen with a cup-like perianth at its base, jointed to the pedicel; fruit 3-lobed; trees [62. Anthostema](#)
- Ovary (female flower) enclosed in the same involucre as the stamens or in a separate involucre, the latter cupular or 4-angled, more or less lobed and often bearing variously shaped glands on the margin: **2**
- 2 Involucre 4-angled, divided into 4 compartments by 4 large partition-like glands, without glands on the margin; small tree with milky juice [63. Dichostemma](#)
- Involucre not 4-angled, with 1–8 distinct and often very conspicuous glands on the margin: **3**
- 3 Fruit a capsule; trees, shrubs, fleshy plants or small herbs [64. Euphorbia](#)
- Fruit indehiscent, drupaceous, thick and fleshy; trees with succulent angular branches [65. Elaeophorbia](#)

Hura crepitans Linn.

The Sandbox Tree, a native of tropical America is introduced.

Aleurites cordata (Thunb.) R.Br. ex Steud.

The Tung-oil tree, a native of S.E. Asia is introduced.

A. moluccana (Linn.) Willd.

The Candle Nut, probably native of the Malaya region but now widely cultivated in the tropics

Codiaeum variegatum (Linn.) Blume

Shrubs widely grown, in numerous varieties, for their coloured leaves, commonly called “Croton”

Hippomane mancinella Linn.

A native of central America is introduced.

Putranjiva roxburghii Wall.

A native of India is introduced.

Breynia nivos (W. G. Sm.) Small

Phyllanthus nivosus W. G. Sm.

Apparently a native of Polynesia, widely cultivated as a hedge-plant on account of its decorative foliage, the “Snow bush”

Pedilanthus tithymaloides (Linn.) Poit.

A native of tropical America is introduced.

1. OLDFIELDIA

Benth. & Hook. f. — F.T.A. 6, 1: 625; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 297 (1922).

- 1 Leaves opposite, digitately 5–8-foliolate; leaflets oblanceolate or oblong-elliptic, more or less acuminate, very acute at base, up to 17 cm. long and 6 cm. broad, glabrous; male flowers in axillary cymes; calyx pubescent; capsule depressed-globose, 2.5 cm. diam., woody [africana](#)

Oldfieldia africana Benth. & Hook. f. — F.T.A. 6, 1: 625; Chev. Bot. 561; Aubrév. Fl. For. C. Iv. 2: 22, t. 128. *APD acc*

A tall forest tree, up to 100 ft. or more in height, with straight bole of 50 ft. and girth 16 ft.; bark scaly, flaking; young branchlets rusty-puberulous; fruit hard, brown, nut-like, with 3 seeds.

S. L.: Oldfield! Welw. 478! Rotumba Isl. Kirk! Gola Forest (fl. & fr. Apr.–May) Small 621! 707! **Lib.:** Brewers Landing (fr. Nov.) Linder 1395! Dukwia R. (fr. May, Oct.) Cooper 88! 344! 439! **Iv. C.:** Malamalasso (Mar.) Chev. 16250!

2. BRIDELIA

Willd. — F.T.A. 6, 1: 611; Jablonszky in Engl. Pflanzenr. Euph. 8: 54–88 (1915).

- 1 Fruits 2-celled, subglobose, black, about 8 mm. diam.; branchlets pubescent; leaves oblong or oblanceolate,

rounded at apex, 3–11 cm. long, 1–5 cm. broad, stiffly coriaceous, more or less pubescent on the nerves beneath, very closely and strongly reticulate beneath, the lateral nerves continued to the margin [1. *scleroneura*](#)

Fruits 1-celled:2

- 2 Lateral nerves not continued to the margin to form a marginal nerve; branchlets flexuose, slightly pubescent; leaves oblong-elliptic, acuminate, 8–16 cm. long, 4–7 cm. broad, glabrescent on both surfaces, not prominently reticulate, drying black; fruits oblong-ellipsoid, about 6 mm. long, black[2. *atroviridis*](#)

Lateral nerves continued to the margin and forming a marginal nerve:3

- 3 Acumen of leaves conspicuously mucronate; leaves glabrous or glabrescent on both surfaces, veins inconspicuous beneath, lamina oblong-elliptic, long-acuminate, 7–14 cm. long, 4–6.5 cm. broad; branchlets glabrous or puberulous; tree in montane forest[3. *speciosa*](#)

Acumen of leaves not mucronate; branchlets and undersurface of leaves puberulous to pubescent or tomentose:4

- 4 Undersurface of leaves minutely puberulous with appressed hairs on the surface of the lamina as well as on the midrib, nerves and veins, sometimes also with longer hairs on the midrib and nerves, at length glabrescent; veins not prominent beneath; branchlets pubescent to glabrescent; leaves elliptic to obovate, acuminate, 4–17 (–30) cm. long, 1.5–8 (–12) cm. broad[4. *micrantha*](#)

Undersurface of leaves pubescent to pilose, the hairs not appressed; branchlets pubescent to tomentose:5

- 5 Hairs spread over the undersurface of the leaf and not confined to the nerves and veins; leaves elongate-elliptic to oblong-oblancheolate or oblong-lanceolate, gradually long-acuminate, 7–14 cm. long, 2–5.5 cm. broad, lateral nerves (8–) 10–13 on each side of the midrib; forest tree with black bark on stem and branches[5. *grandis*](#)

Hairs confined to the midrib, nerves and veins beneath, often very dense when young; venation very prominent beneath; leaves oblong, to oblong-obovate or suborbicular, shortly acuminate; bark more or less greyish-brown:6

- 6 Leaves (3–) 3.5–10.5 cm. long, (1.8–) 2.5–5.5 (–7) cm. broad; lateral nerves 5–9 on each side of the midrib; densely to rather sparsely pubescent beneath; savannah tree or shrub[6. *ferruginea*](#)

Leaves 6–20 cm. long, 3.8–10 cm. broad; lateral nerves 9–13 on each side of the midrib; indumentum on midrib and nerves redder (in dried specimens) and denser than on the veins; tree of fringing forest[7. *ndellensis*](#)

1. ***Bridelia scleroneura* Müll. Arg.** in Flora 47: 515 (1864); F.T.A. 6, 1: 614; Chev. Bot. 554. *APD acc*

Bridelia scleroneuroides Pax (1893).

Bridelia tenuifolia of Aubrév. Fl. For. Soud.-Guin. 179–182, t. 4.

A *savannah* shrub or tree, to 15 ft. high, or more; flowers in small axillary clusters, red in bud, yellow when open.

Fr. G.: Irébéléya to Timbo (Sept.) Chev. 18295. **iv. C.:** Boromo Aubrév. 2198. **G. C.:** Sambisi Kitson 544! Prang (June) Vigne FH 3903! **Togo:** Sansanné Mango Aubrév. 131d. **Fr. Nig.:** Gourma Chev. 24515. **N. Nig.:** Nupe Barter 908! Sokoto (May) Lely 827! Zaria (Aug.) Keay FHI 28009! Abinsi (Oct.) Dalz. 7841 Yola (fl. & fr. July) Dalz. 162! **S. Nig.:** Onitsha Barter 577!

Extends to A.-E. *Sudan*, E. Africa and *Belgian Congo*.

2. ***Bridelia atroviridis* Müll. Arg.** — F.T.A. 6, 1: 614; Chev. Bot. 553; Aubrév. Fl. For. C. Iv. 2: 34, t. 133, 1–3; Fl. For. Soud.-Guin. 179–182, t. 32, 3. *APD acc*

A *forest* shrub or tree, to 20 ft. high, with spiny stem.

S. L.: Buyabuya (fl. & fr. Feb.) Sc. Elliot 4778! Pendembu (July) Thomas 706! 739! **iv. C.:** Dimbokro (Apr.) Aubrév. 425! Agboville Aubrév. 551. **G. C.:** Tinte Hills, Wioso (fl. & fr. Dec.) Chipp 784! Aberem, Birrim (fr. Nov.) Fishlock 72! Asin-Edubiasi (Apr.) Andoh FH 3289! **Togo:** Atakpame Doering 236! **Dah.:** Sakété (fr. Jan.) Chev. 22850! **S. Nig.:** Ibadan to Abeokuta Schlechter 12356! Benin City (fl. Sept., fr. Jan., Sept.) Dennett 14! 43! Sapoba Kennedy 228! 1124! 2283! Ogwashi (fr. Nov.) Thomas 2031! Idumuje (fr. Jan.) Thomas 2163! **Br. Cam.:** Johann-Albrechtshöhe Staudt 948! Mamfe (fr. Aug.) Johnstone 145/31!

Also in *French Cameroons*, *Spanish Guinea*, *Belgian Congo*, *Uganda*, *Kenya*, *Tanganyika*, *S. Rhodesia* and *Angola*.

3. ***Bridelia speciosa* Müll. Arg.** — F.T.A. 6, 1: 618. *APD acc*

Tree, to 30 ft. high, in *montane forest*; flowers greenish-yellow.

S. Nig.: Mt. Kololshe, 4,800 ft., Obudu Div. (Dec.) Keay & Savory FHI 25127! **Br. Cam.:** Cam. Mt., 4,500–5,000 ft. (Dec.–Feb.) Mann 1215! Maitland 1201! Bamenda-Nkwe (fr. Apr.) Ujor FHI 30059! Bamenda, 6,000 ft. (Jan.) Keay & Lightbody FHI 28362!

Also in *Ubangi* (*fide Hutch.*).

4. **Bridelia micrantha** (*Hochst.*) *Baill.* — F.T.A. 6, 1: 620; Chev. Bot. 554; Aubrév. Fl. For. C. Iv. 2: 36, t. 132; Fl. For. Soud.-Guin. 179–182. *APD acc*

Candelabria micrantha *Hochst.* (1843).

Bridelia speciosa of Chev. Bot. 654-5 (fide Hutch.).

Bridelia mollis of Chev. Bot. 654-5 (fide Hutch.).

Bridelia tenuifolia of Chev. Bot. 654-5 (fide Hutch.).

Shrub or tree, to 60 ft. high, with a dense widely spreading crown; branches often spiny; in secondary forest regrowth and in savannahs of the moister regions.

Sen.: Sieber! Tambana, Sedhiou Chev. 2625. **Gam.:** Heudelot 38! **Fr. Sud.:** Birgo Dubois 20. **Port.G.:** Sedengal to Barro (fr. Aug.) Esp. Santo 3091! **Fr. G.:** Rio Nunez Heudelot 606! Kourousaa (Apr.) Pobéguin 683! **S. L.:** Bagroo R., (Apr.) Mann 883! Erimakuna (Mar.) Sc. Elliot 5397! Manjoro, Biriwa (Mar.) Deighton 5396! Rokupr (May) Jordan 259! **Lib.:** Robertsport (fr. Dec.) Baldwin 10940! **IV. C.:** Danipleu Aubrév. 1153! Aboisso (Apr.) Chev. 16302! **G. C.:** Aburi Hills (Feb.) Brown 931! Kwahu (Apr.) Johnson 657! Kumasi (Mar.) Vigne FH 1650! **Togo:** Amedzofe (Feb.) Irvine 159! **Dah.:** Nati-tingou Aubrév. 73d. **S. Nig.:** Lagos Rowland! Idi-Ishin, Ibadan (Mar.) Abubuka FHI 3036! Calabar Thomson 85! Oban Tatbot 2331! **Br. Cam.:** Buea (Dec.–Jan.) Deistel 615! Maitland 248! 903! Abo-nando (Mar.–Apr.) Rudatis 26! 46!

Widespread in tropical Africa and in S. Africa.

5. **Bridelia grandis** *Pierre ex Hutch.* in F.T.A. 6, 1: 1042 (1913). *APD acc*

Bridelia aubrevillei *Pellegr.* in Bull. Soc. Bot. Fr. 78: 683 (1931); Aubrév. Fl. For. C. Iv. 2: 36, 1. 133, 4–6.

A forest tree, to 100 ft. high, with black longitudinally fissured bark; aerial roots at the base of stem; spines on branches and on young trees.

S. L.: Colonial Reserve (fr. Jan.) King-Church 9! Bumpe (fr. Dec.) Deighton 4693! Kasewe (fr. Dec.) King 127! **Lib.:** Brewersville (fr. Nov.) Barker 1081! Peahtah (Oct.) Linder 1101! **IV. C.:** Fleury 12! Yapo (tr. Oct.) Chev. 22359! Agboville (fr. June) Serv. For. 423! Aubrév. 1391! **G. C.:** Axim (Mar.) Chipp 394! Sunyani Vigne FH 2472! **S. Nig.:** Onda, Omo F.R. Jones & Onochie FHI 16966! Sapoba Kennedy 2292!

Also in **Gabon** and **Belgian Congo**.

6. **Bridelia ferruginea** *Benth.* — F.T.A. 6, 1: 619, partly; Aubrév. l.c. 2: 34; Fl. For. Soud.-Guin. 181, t. 32, 1. *APD acc*

A savannah shrub or tree, to 20 ft. high, often with spines; flowers greenish-yellow, with reddish disk; the more sparsely pubescent forms come mainly from the moister regions.

Fr. Sud.: Bambana Tounba Chev. 559! Kayes to Nioro Aubrév. 3020. **Fr. G.:** Kouroussa (Apr.) Pobéguin 684! **S. L.:** Gberia Timbako (Oct.) Small 458! Loma Mts. (Apr.) Frith 22! **IV. C.:** Mt. Boko, Haut Sassan-dra (May) Chev. 21460! Dimbokro (Apr.) Aubrév. 426! Touba (Apr.) Aubrév. 1239! **G. C.:** Nebiowalli to Samboro (May) Kitson 769! Chama, Sekondl (Apr.) Chipp 189! Kumawo (June) Chipp 468! Funsu to Bofiana (Apr.) Kitson 548! **Togo:** Lome Warnecke 151! **Dah.:** Agouagon (fr. May) Cher. 23521! Cotonou (fr. Sept.) Chev. 4442! **N. Nig.:** Nupe Barter 1685! 1686! 1711! Zungeru (Aug.) Elliott 6! Bauchi Plateau (Feb., May) Lely P. 170! P. 302! Idah (Sept.) T. Vogel 62! **S. Nig.:** Lagos Rowland! Millen 104! Ibadan (fr. Nov.) Jones & Keay FHI 14171! Onitsha Dist. Rosevear 15/29! **Br. Cam.:** Bamenda (May) Lightbody FHI 26304!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo** and **Angola**.

7. **Bridelia ndellensis** *Beille* in Bull. Soc. Bot. Fr. 55, Mém. 8: 69 (1908). *APD acc*

Bridelia ferruginea var. *orientalis* *Hutch.* in F.T.A. 6, 1: 620 (1912); Aubrév. Fl. For. Soud.-Guin. 179–182, t. 32, 2.

Bridelia aubrevillei of F. W. Andr. in Fl. Pl. A.-E. Sud. 2: 56, not of Pellegr.

Tree of fringing forest in savannah regions, to 45 ft. high, with small stilt-roots and spiny stem and branches; flowers greenish-yellow.

Dah.: Birni (Feb.) Aubrév. 99d! **S. Nig.:** Old Oyo F. R., Oyo Prov. (Feb.) Keay FHI 16289!

Also in **Ubangi-Shari**, **A.-E. Sudan**, **Belgian Congo** and **Uganda**.

3. CLEISTANTHUS

Hook. f. — F.T.A. 6, 1: 621; Jablonszky in Engl. Pflanzenr. Euph. 8: 8 (1915).

- 1 Branchlets rusty-pubescent, then glabrescent, grey; leaves coriaceous oblong-lanceolate or oblong-elliptic, caudate-acuminate, 5–9 cm. long, 1.3–4 cm. broad, acumens 0.5–2 cm. long; flowers in short axillary rusty-tomentose racemes; bracts 2–5 mm. long; ovary densely rusty-tomentose; fruits subglobose, muricate [polystachyus](#)

Cleistanthus polystachyus *Hook. f. ex Planch.* — F.T.A. 6, 1: 624; Jablonszky l.c. 8: 47; Aubrév. Fl. For. C. Iv. 2: 54, t. 133, 7–9. *APD acc*

APD: Synonym of Cleistanthus ripicola J. Léonard

APD: Synonym of Cleistanthus libericus N.E. Br.

Cleistanthus libericus N.E. Br. — F.T.A. 6, 1: 624; Jablonszky l.c. 8: 46; Chev. Bot. 555; F.W.T.A., ed. 1, 1: 282.

A shrub or small tree, to 30 ft. high, in forest.

S. L.: Whitfield! Madina, Limba (Apr.) Sc. Elliot 5597! Laoma (Apr.) Aylmer 589! Falaba (Apr.) Aylmer 54! Njala (Apr.) Deighton 1138! **Lib.:** Sinoe Basin Whyte! Harbel Plantation, Kingsville (Mar.) Bequaert 159! **Iv. C.:** near Guidéko (June) Chev. 19023! Danané (Mar.) Aubrév. 1100! Nzo (Apr.) Aubrév. 1166! **G. C.:** Bonsasu (May) Vigne FH 1971! Amentia (Apr.) Vigne FH 2902! Kangkang (fr. Aug.) Moor 269! **S. Nig.:** Lower Enyong F.R., Calabar (fr. May) Onochie FHI 33213!

Also on **S. Tomé** and widespread in tropical Africa.

4. AMANOA

Aubl. — F.T.A. 6, 1: 630; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 195 (1922). *APD acc*

- 1 Flower clusters spicate; leaves oblong-lanceolate, obtusely acuminate, deltoid at the base, 9–18 cm. long, 3–6 cm. broad, rigidly coriaceous; lateral nerves 8–10 pairs, slightly raised beneath; capsule subglobose, about 2.5 cm. long; seeds shining [I. bracteosa](#)

Flower clusters solitary; leaves oblanceolate or oblong-elliptic, 8–23 cm. long, 2.5–9.5 cm. broad, coriaceous; lateral nerves 8–12 pairs, conspicuous below; capsule up to 3.8 cm. long [2. strobilacea](#)

1. **Amanoa bracteosa** *Planch.* — F.T.A. 6, 1: 631; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 200; Aubrév. Fl. For. C. Iv. 2: 54, t. 139. *APD acc*

A glabrous tree, up to 60 ft. high and 5 ft. diam., with stiff, bracteate, bright yellow, flower-spikes and hard-shelled fruit.

S. L.: Afzelius! Unwin & Smythe 12! Near Freetown Don! York Pass (fr. Apr.) Lane-Poole 78! Kambui F.R. (Apr., May) Lane-Poole 248! King 241! Magibisi to Baiima (fr. Sept.) Deighton 3064! **Lib.:** Monrovia (fr. June) Whyte! Baldwin 5909! Sinoe Basin Whyte! Loffa R., Grand Cape Mount (fr. Dec.) Baldwin 10939! **Iv. C.:** Sangouiné (fr. Jan.) Aubrév. 2107! Mt. Nimba Aubrév. 1144. Mt. Momy Aubrév. 1188.

2. **Amanoa strobilacea** *Müll. Arg.* — F.T.A. 6, 1: 631; Pax & K. Hoffm. l.c. 198, fig. 16. *APD acc*

A glabrous tree, 30 ft. high, with flowers in small bracteate sessile subglobose heads.

Lib.: Sinoe Basin Whyte! **G. C.:** Mumuni Camp, Prestea road, Enchi Dist. (Mar.) Andoh FH 5621! **Br. Cam.:** Cameroons R. (Jan.) Mann 745! 2220! Muyaku (fr. May) Maitland 1144!

Also in **French Cameroons** and **Cabinda**.

5. PENTABRACHION

Müll. Arg. in Flora 47: 532 (1864); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 188 (1922).

- 1 Small tree or shrub; branchlets and leaves glabrous or very nearly so; leaves oblong, rarely obovate, acute or

obtuse at base, long-caudate-acuminate, 9–24 cm. long, 3.5–11 cm. broad, strongly reticulate on both surfaces; petiole 2–7 mm. long; flowers monoecious in axillary fascicles, the females very few; sepals imbricate, about 2 mm. long; petals present, 1/3 length of sepals; male flowers with 5–6 stamens, filaments shortly connate at base, inserted within the disk, rudimentary ovary 3-partite; ovary 3-celled; capsule 3-lobed, about 1–2 cm. long and broad, on pedicel about 2.5 cm. long, glabrous outside; seeds 2 in each cell[reticulatum](#)

Pentabrachion reticulatum Müll. Arg. l.c. 47: 533 (1864); Pax & K. Hoffm. l.c. fig. 15. *APD acc*

Actephila reticulata (Müll. Arg.) Pax (1899) — F.T.A. 6, 1: 632.

A forest tree, to 25 ft. high, or shrub.

Br. Cam.: Mombo-Bakosi, Kumba (fr. May) Olorunfemi FHI 30556!

Also in **French Cameroons** and **Gabon**.

6. THECACORIS

A. Juss. — F.T.A. 6, 1: 658; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 8 (1922).

1 Ovary glabrous or nearly so:2

Ovary densely setose-pilose; leaves oblong-elliptic, unequally rounded or obtuse at base, acuminate, 18–34 cm. long, 8–15 cm. broad, with very sparse setose-hairs on midrib beneath; inflorescences up to 25 cm. long, densely pubescent on the rachis; petals absent from male flowers; capsules 3-lobed, about 9 mm. diam. [3. cf. annobonae](#)

2 Leaves minutely puberulous on the midrib beneath or glabrescent; petals absent from male flowers; leaves elliptic-lanceolate or elliptic-oblong, rarely oblong, unequally cuneate or sometimes rounded at base, long-acuminate, 9.5–27 cm. long, 3.2–12 (–15) cm. broad; male inflorescences very slender, 4–16 cm. long, sparingly pubescent; female inflorescences up to 18 cm. long in fruit; capsules 3-lobed, 6–7 mm. diam.[1. leptobotrya](#)

Leaves with setose hairs on the midrib beneath, sometimes very sparse; petals present in male flowers, linear-oblong, ciliate at apex; leaves elliptic or obovate-elliptic, cuneate to rounded at base, acuminate or obtuse at apex, 5–18 cm. long, 2–9 cm. broad; male inflorescences 2–8 cm. long, pubescent; female inflorescences up to 10 cm. long in fruit; capsules 3-lobed, about 9 mm. diam.[2. stenopetala](#)

1. **Thecacoris leptobotrya** (Müll. Arg.) Brenan in Kew Bull. 1952: 446 (1953). *APD acc*

Antidesma leptobotryum Müll. Arg. (1864) — F.T.A. 6, 1: 645; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 149.

Thecacoris gymnogyne Pax (1899) — F.T.A. 6, 1: 662; Pax & K. Hoffm. l.c. 15: 12.

Thecacoris obanensis Hutch. in F.W.T.A., ed. 1, 1: 283 (1928).

Thecacoris talbotae Hutch. l.c. (1928), excl. Chev. 19502.

A small forest tree, to 35 ft. high, or shrub; inflorescences drooping, with green axes and yellowish flowers.

S. Nig.: Oban Talbot 1503! 2330! s.n.! Kwa Falls, Calabar (Mar.) Brenan 9232! New Ndebiji (fr. May) Ujor FHI 30153! 30159! **Br. Cam.:** Korup F.R., Kumba (fr. June) Olorunfemi FHI 30638!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

2. **Thecacoris stenopetala** (Müll. Arg.) Müll. Arg. — F.T.A. 6, 1: 659; Pax & K. Hoffm. l.c. 15: 11. *APD acc*

Antidesma stenopetalum Müll. Arg. (1864).

Thecacoris chevalieri Beille (1910) — F.T.A. 6, 1: 660; Chev. Bot. 567; Pax & K. Hoffm. l.c.; F.W.T.A., ed. 1, 1: 283.

A forest shrub, 5–12 ft. high; flowers greenish-yellow.

S. L.: Bagroo R. (Apr.) Mann 833! Rowala (fr. July) Thomas 1034! Dumbuna (fl. & fr. Oct., fr. Jan.) Thomas 3132! 3322! 3324! Deighton 3593! Roruks (July, Nov.) Thomas 5783! Deighton 3262! **Lib.:** Monrovia (fl. & fr. Nov.) Dinklage 3291! 3292! Barker 1461! Kolahun (Nov.) Baldwin 10228! Loffa R., Boporo (fr. Dec.) Baldwin 10672! **Iv. C.:** Fort Binger to Mt. Niénokué (July) Chev. 19502 bis! Hana R., Mid. Cavally (Aug.) Chev. Malamalasso (Mar.) Chev. 17489. **G. C.:** Prestea (fl. & fr. Sept.) Vigne FH 3084! Simpa (May) Vigne FH 1954! Suhuma F.R., (fl. & fr. Nov.) Cansdale FH 3970! 3971! 3972! **Br. Cam.:** Mokonyong, Mamfe (fr. Nov.) Tamajong FHI 22117! Kembong F.R., Mamfe (fr. Mar.) Onochie FHI 31184! **F. Po:** T. Vogel 228!

Also in **Principe** and **S. Tomé**.

[*T. batesii* Hutch, from the **French Cameroons** is doubtfully distinct from this rather variable species.]

3. **Thecacoris cf. annobonae** Pax & K. Hoffm. l.c. 15: 9 (1922). *APD acc*

An understorey forest tree, to 30 ft. high; flowers greenish-yellow.

Br. Cam.: S. Bakundu F.R. (Jan.) Keay & Russell FHI 28679! Mungo R., Kumba (Apr.) Olorunfemi FHI 30531! Kiliwindi — Mamfe road (fr. July) Akuo FHI 15153!

(The type specimen from Annobon Island is not available but the description suggests that it may be conspecific with our material.)

7. SPONDIANTHUS

Engl. Bot. Jahrb. 36: 215 (1905); *F.T.A.* 6, 1: 1044; Pax & K. Hoffm. in *Engl. Pflanzenr. Euph.* 15: 13–15 (1922).

Megabaria Pierre ex Hutch. (1910) — *F.T.A.* 6, 1: 627.

- 1 Leaves obovate or elliptic, obtuse at apex, glabrous, up to 36 cm. long and 18 cm. broad, very unequal in size, borne on petioles of very unequal length; inflorescence terminal, paniculate; capsule ellipsoid, horny, 1.5–2 cm. long and 1–1.5 cm. broad; seeds ellipsoid, about 1 cm. long, red, shining:

Inflorescence pubescent, paniculate, terminal; leaves obovate or elliptic, obtuse, 9–18 cm. long, 4–11 cm. broad, glabrous, on petioles of very unequal length; lateral nerves 6–8 pairs; petiole up to 8 cm. long, wrinkled at the apex; capsule subsessile or shortly pedicellate, ellipsoid, horny, 2 cm. long, 1.5 cm. broad; seeds ellipsoid, 1 cm. long, red, shining *L. preussii* var. *preussii*

Inflorescence glabrous; leaves more or less as above, but with 6–14 lateral nerves; fruits ellipsoid, angular, 2.5 cm. long, red-brown, slightly pointed at the ends *L. preussii* var. *glaber*

1. **Spondianthus preussii** Engl. var. *preussii* — *Bot. Jahrb.* 36: 216 (1905); *Engl. in Notizbl. Bot. Gart. Berl.* 5: 241 (1911); *F.T.A.* 6, 1: 1044; Pax & K. Hoffm. l.c. 15: 13, fig. 2 (as var. *genuinus*); Aubrév. *Fl. For. C. Iv.* 2: 52, t. 138. *APD acc*

Megabaria trillesii Pierre ex Hutch. (1910), partly — *F.T.A.* 6, 1: 627, partly.

M. ugandensis of Chev. *Bot.* 586 and of *F.W.T.A.*, ed. 1, 1: 282, partly.

Tree, to 90 ft. high, in swampy areas within the rain forest; flowers cream.

Lib.: Fisherman's Lake, Grand Cape Mount (fr. Dec.) Baldwin 10894! Brewersville (fr. Dec.) Baldwin 10973! **IV. C.:** Agboville (fr. Nov.) Chev. 22381! Banco Martineau 309! Abidjan Aubrév. 123! Yapo (fr. Dec.) Aubrév. 590! **G. C.:** Atwabo (fr. Feb.) Irvine 2289! Aguna (Aug.) Vigne FH 1309! Benso (fr. Aug.) Andoh FH 5396! **Dah.:** Niaouli (fr. Feb.) Aubrév. 45d! **N. Nig.:** Ibaji-Ojoku F.R. (fr. Feb.) Taylor L. 10! **S. Nig.:** Akilla (fr. Jan.) Thornewill 204! Ama Ekpelima, Awka (Sept.) Jones FHI 6719! **Br. Cam.:** Victoria (young fr. Apr., Oct.) Maitland 600! 739! Likomba (Oct.) Mildbr. 10587! Johann-Albrechtshöhe (fl. Aug., fr. Dec.) Preuss 426; Staudt 778. **F. Po:** Bokoko de San Carlos (fr. Jan.) Guinea 834!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and (?) **Belgian Congo**.

- 1a. **Spondianthus preussii** var. *glaber* (Engl.) Engl. *Notizbl. Bot. Gart. Berl.* 5: 242 (1911); Pax & K. Hoffm. l.c.

APD: *Synonym of Spondianthus preussii subsp. glaber (Engl.) J. Léonard & Nkounkou*

Spondianthus glaber Engl. *Bot. Jahrb.* 36: 216 (1905).

Megabaria ugandensis Hutch. (1910) — *F.T.A.* 6, 1: 628.

Spondianthus ugandensis (Hutch.) Hutch. in *F.T.A.* 6, 1: 1044 (1913), partly; *F.W.T.A.*, ed. 1, 1: 282, partly; Aubrév. l.c.

Tree, to 80 ft. high, in fringing forest.

Fr. G.: Socoroula, Farana (Jan.) Chev. 20495! Dantilia (Mar.) Sc. Elliot 5390! **IV. C.:** Kani (fl. & fr. Feb.) Serv. For. 2826! 2827! **S. Nig.:** R. Ata, Bebi, Obudu Div. (Dec.) Keay & Savory FHI 25008! **Br. Cam.:** Ololo bush, Assumbo, Mamfe Div. (Feb.) Lobe Babute 5/37! Babungo to Babesse, Bamenda Prov. (Dec.) Ledermann 1981.

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Uganda**, **Tanganyika**, **Belgian Congo** and **Angola**.

8. MARTRETIA

Beille — F.T.A. 6, 1: 655; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 79 (1922).

- 1 Leaves lanceolate to ovate-elliptic, gradually acuminate, shortly cuneate at base, 10–22 cm. long, 3–9 cm. broad, glabrous, with 10–15 pairs of nerves slightly prominent on both surfaces; flowers dioecious; male racemes axillary, 5 cm. long; sepals 4; stamens 5–7; female sepals 5 or 6; ovary 2-lobed, each lobe slightly bifid; styles linear, undivided [quadricornis](#)

Martretia quadricornis *Beille* — F.T.A. 6, 1: 655; Chev. Bot. 585; Pax & K. Hoffm. l.c.; Aubrév. Fl. For. C. Iv. 2: 60, t. 142. *APD acc*

A small **forest** tree of swampy places, with glabrous branchlets.

S. L.: Mano Thomas 9913! Senihun, Kamagai (Sept.) Deighton 3051! Dimbaia, Samu (Sept.) Adames 251! **Iv. C.:** Bingerville (fr. Feb.) Chev. 17360! Dabou Chev. 16215. **S. Nig.:** Onitsha Dist. Cons. of For. OC 31!

Also in **Upper Ubangi region** and **Belgian Congo**.

9. APODISCUS

Hutch. — F.T.A. 6, 1: 1045; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 45 (1922). *APD acc*

- 1 A tree; branchlets glabrous; leaves oblong-elliptic, acuminate, subcuneate at base, 8–17 cm. long, 3–8 cm. broad, entire, leathery, glabrous; lateral nerves 8–14 pairs with intermediate ones less conspicuous; spikes bisexual, with 1–2 shortly pedicellate females towards the base; axis tomentose; male sepals tomentellous; stamens 5; ovary 4-celled, pubescent [chevalieri](#)

Apodiscus chevalieri *Hutch.* — F.T.A. 6, 1: 1046; Hook. Ic. Pl. 3032; Chev. Bot. 586; Pax & K. Hoffm. l.c. *APD acc*

A tree 25–30 ft. high.

Fr. G.: between Santa R. and Timbo (Mar.) Chev. 12588. By tributary of Bowali R. (Nov.) Chev. 14997! 15057!

10. PROTOMEGABARIA

Hutch. — F.T.A. 6, 1: 656; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 43 (1922).

- 1 Leaves pubescent on the midrib and lateral nerves beneath; rudimentary ovary bipartite; leaf-blade elongate-oblong or obovate, rounded or shortly acuminate, 15–37 cm. long, 8–15 cm. broad, thinly papery; lateral nerves 10–17 pairs; male racemes about 7 cm. long, slender; capsule subglobose or oblong-ellipsoid, 3–4 cm. diam. [1. stapfiana](#)

Leaves glabrous on the midrib and lateral nerves; rudimentary ovary undivided; otherwise more or less as above, but male racemes 10–13 cm. long [2. macrophylla](#)

1. **Protomegabaria stapfiana** (*Beille*) *Hutch.* in Hook. Ic. Pl. t. 2929 (1911); F.T.A. 6, 1: 656; Chev. Bot. 586; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 44; Aubrév. Fl. For. C. Iv. 2: 58, t. 141. *APD acc*

Maesobotrya stapfiana *Beille* (1910).

Spondianthus obovatus *Engl.* (1911).

A **forest** tree, to 80 ft. high, with stout glabrous branchlets, low branching and buttressed stem; **locally abundant** in swampy parts of the rain forest.

S. L.: Falaba-Pujehun (Mar.) Aylmer 18! Gorahun (Apr.) Deighton 3650! 4106! **Lib.:** Dukwia R. (fr. Mar.) Cooper 109! 294! Webo Dist. (fr. June–July) Baldwin 6215! 6672! **IV. C.:** Malamalasso (Mar.) Chev. 16249! Soubiré to Yaou, Sanvi (Mar.) Chev. 17782. **G. C.:** Kankan, E. Akim (Mar.) Johnson 596! Kwahu Dist. Thompson 92! Bawdia (fl. & fr. Apr.) Vigne 156! **S. Nig.:** Oban Talbot 2326! Calabar (Apr.) Ejiofor FHI 21889! **Br. Cam.:** Mamfe (Apr.) Ndep Enoh 42/38!

Also in **Gabon**.

2. *Protomegalaria macrophylla* Hutch. — F.T.A. 6, 1: 657; Pax & K. Hoffm. l.c. *APD acc*

Baccaurea macrophylla Pax (1899), not of Müll. Arg. (1866).

A forest tree, to 50 ft. high; like the preceding and perhaps only varietally distinct from it.

G. C.: Benso, Tarkwa (Apr.) Andoh FH 5474! **S. Nig.:** Oban Talbot! **Br. Cam.:** N. Korup F.R. (fr. June) Olorunfemi FHI 30654!

Also in **French Cameroons**, **Gabon**, **Principe** and **S. Tomé**.

11. MAESOBOTRYA

Benth. — F.T.A. 6, 1: 663; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 17–26 (1922).

- 1 Stipules foliaceous, falcate, up to 2.5 cm. long, persistent or subpersistent; leaves elliptic or oblong-elliptic, rounded at base, caudate-acuminate, 9–25 cm. long, 4–10 cm. broad, obscurely denticulate, setulose on the midrib and nerves beneath; male and female racemes, up to 17 cm. long in dense clusters on the older wood, the former sometimes extending on to the leafy shoots; ovary glabrous; fruits obovoid, 8–9 mm. long, about 7 mm. broad, glabrous [1. *dusenii*](#)
- Stipules not foliaceous, very small, symmetrical, soon caducous: **2**
- 2 Leaves distinctly pilose or setose on the upper surface; ovary glabrous; male inflorescences crowded on young woody shoots below the leaves; female inflorescences in clusters, arising from the stem and larger branches, up to 9 cm. long; fruits obovoid-ellipsoid, up to about 6 mm. long and 5 mm. broad; leaves elliptic to obovate-elliptic, mostly rounded at base, 11–25 cm. long, 7–10 cm. broad; branchlets, petioles and both surfaces of leaves hispid [2. *staudtii*](#)
- Leaves glabrous above except on the midrib; ovary glabrous or pilose: **3**
- 3 Ovary and fruit glabrous; axes of male racemes puberulous, usually sparingly so; male inflorescences mostly on young shoots among or just below the leaves or on bole; female inflorescences mostly on the bole and large branches; young branchlets, petioles and underside of midribs sparsely to distinctly pilose with weak, yellowish (in dried specimens) hairs; petioles up to 8 cm. long; lamina membranous elliptic to elliptic-obovate, gradually acutely acuminate, 7–22.5 cm. long, 2.7–10 cm. broad; fruits fleshy, about 12–14 mm. long and broad [3a. *barteri* var. *sparsiflora*](#)
- Ovary densely setose, fruit sparingly setulose; axes of male racemes densely pubescent: **4**
- 4 Midrib and main nerves beneath pale yellowish brown when dry, like the petioles and young shoots, sparsely to distinctly pilose; male and female inflorescences extending on to the bole, the female not normally found among the leaves; flesh surrounding the seed red; otherwise as above [3. *barteri* var. *barteri*](#)
- Midrib and main nerves beneath reddish when dry, densely pilose with long, patent hairs; petiole and young shoots patent-pilose; male and female inflorescences on the young shoots amongst the leaves; flesh surrounding the seed bright blue; leaves oblong-obovate or oblong-elliptic, abruptly acuminate, 7.5–17 cm. long, 4–7.5 cm. broad [4. *floribunda* var. *vermeulenii*](#)

1. *Maesobotrya dusenii* (Pax) Hutch. in F.T.A. 6, 1: 664 (1912); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 19, fig. 4, A.

APD: *Synonym of Maesobotrya vermeulenii* (De Wild.) J. Léonard

APD: *Synonym of Maesobotrya klaineana* (Pierre) J. Léonard

Staphysora dusenii Pax (1897).

A forest tree or shrub, to 45 ft. high; branchlets pilose; flowers and ripe fruits red.

S. Nig.: Eket Talbot! Calabar (Mar.) Brenan 9230! Oban Talbot 11! 16! 609! 1581! R. Njujua, Shakwa, Obudu (May) Latilo FHI 30931! **Br. Cam.:** S. Bakundu F.R. (fl. Apr., fr. June) Olorunfemi FHI 30544! Dundas FHI 8358! Mombo-Bakosi, Kumba Div. (fr. May) Olorunfemi FHI 30557! **F. Po:** Bokoko Mildbr. 6832.

Also in **French Cameroons**, **Spanish Guinea**.

2. *Maesobotrya staudtii* (Pax) Hutch. in F.T.A. 6, 1: 688 (1912); Pax & K. Hoffm. l.c. 15: 23, fig. 4, B–E. *APD acc*

Baccaurea staudtii Pax (1897).

A forest tree, to 25 ft. high; flowers white.

S. Nig.: Ikom Div. (fl. July, fr. May) Catterall 28! Latilo FHI 30981! Baleghete, Obudu Div. (May) Latilo FHI 30953! **Br. Cam.:** Victoria Preuss 1336! Likomba (fr. Oct.) Mildbr. 10546! Abonando, Mamfe (May) Rudatis 63! Nkom-Wum F.R., Bamenda (fr. June) Ujor FHI 29251!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

3. *Maesobotrya barteri* (Baill.) Hutch. var. *barteri* — in F.T.A. 6, 1: 669 (1912); Pax & K. Hoffm. l.c. 15: 24. *APD acc*

Pierardia barteri Baill. (1863–64).

A small forest tree with crooked bole, to 30 ft. high.

S. L.: Bumbuna (fr. Oct.) Thomas 3395! **S. Nig.:** Lagos (Apr., June, Dec.) Millen 32! 41! 153! Epe Barter 3289! 3296! Idanre Hills (Jan.) Brenan & Keay 8667! Sapoba (young fr. Nov.) Meikle & Keay 575! Okomu F.R. (Mar.) Richards 3284! Calabar (Feb.) Mann 2299! **Br. Cam.:** Kumba Div. (fr. May) Olorunfemi FHI 30581!

Also in **French Cameroons** and **Spanish Guinea**.

3a. *Maesobotrya barteri* var. *sparsiflora* (Sc. Elliot) Keay in Kew Bull. 1955: 139. *APD acc*

Maesobotrya sparsiflora (Sc. Elliot) Hutch. in F.T.A. 6, 1: 665 (1912); Chev. Bot. 565; Aubrév. Fl. For. C. Iv. 2: 62, t. 144.

Baccaurea sparsiflora Sc. Elliot (1894).

Maesobotrya floribunda var. *sparsiflora* (Sc. Elliot) Pax & K. Hoffm. l.c. 15: 20 (1922).

Maesobotrya edulis Hutch. & Dalz. F.W.T.A., ed. 1, 1: 284 (1928); Kew Bull. 1928: 299.

Baccaurea edulis A. Chev. Bot. 563, name only.

A straggling forest tree, to 30 ft. high; flowers reddish in bud; fruits red with a glaucous bloom.

Fr. G.: Farana (Mar.) Sc. Elliot 5311! Kouria, etc., fide Chev. l.c. **S. L.:** Lusenya (fr. Dec.) Sc. Elliot 4035! Sasseni, Scarcies (Jan.) Sc. Elliot 4543! Wallia (Jan.) Sc. Elliot 4746! Njala (fr. Oct.) Deighton 2532! **Lib.:** Dukwia R. (fr. Jan.) Cooper 53! Gbanga (fr. Sept.) Linder 736! Tappita (fl. & fr. Aug.) Baldwin 9066! 9107! **Iv. C.:** Agboville (fr. Nov.) Chev. 22376! Soubiré to Yaou (fr. Mar.) Chev. 17746! And several other localities fide Chev. l.c. **G. C.:** Tanosu (Feb.) Brent 7 dd! Aburi (fl. Aug., fr. Sept.) Johnson 1067! Deighton 3422 (partly)!

4. *Maesobotrya floribunda* Benth. var. *vermeulenii* (De Wild.) J. Léonard in Bull. Jard. Bot. Brux. 17: 258 (1945).

Baccaurea vermeulenii De Wild. (1910).

Tree, about 12 ft. high; flowers greenish-yellow; fruit dehiscent, exposing the bright blue flesh surrounding the seed.

S. Nig.: Oban (Mar.) Onochie FHI 34824! **Br. Cam.:** Bambui, Bamenda (fl. & fr. Jan.) Keay FHI 28420!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

12. ANTIDESMA

Linn. — F.T.A. 6, 1: 642; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 107 (1922). *APD acc*

- 1 Stipules laciniate, deeply 3–8-partite; leaves oblong to oblanceolate-elliptic, rounded at base, acuminate at apex, 10–25 cm. long, 4–11 cm. broad; racemes up to 25 cm. long; ovary glabrous; fruits ellipsoid, 5–7 mm. long: **2**
Stipules entire: **3**
- 2 Midribs and nerves beneath, petioles and branchlets shortly pubescent; lobes of stipules 3–6, lanceolate **1.**
laciniatum var. *laciniatum*
Midribs and nerves beneath, petioles and branchlets densely clothed with long spreading hairs; lobes of stipules 6–9, filiform, sometimes branched *la. laciniatum* var. *membranaceum*
- 3 Leaves mostly rounded, obtuse or very shortly and obtusely acuminate at apex, obovate, or obovate-elliptic, or obovate-oblong, 3–10.5 cm. long, 1.5–5 cm. broad, rarely larger, tomentose to nearly glabrous beneath; male inflorescences up to 8.5 cm. long, female up to 7.5 cm. long; fruits ellipsoid, 6–8 mm. long, 5–7 mm. broad; mostly in savannah **2. venosum**

Leaves mostly distinctly and often long and acutely acuminate, up to 25 cm. long and 12 cm. broad; male inflorescences up to 24 cm. long, female up to 42 cm. long; in rain forest and fringing forest outliers:4

- 4 Fruits 3–5 mm. long, 2–4 mm. broad; leaves usually rather densely pubescent beneath, more or less oblong-elliptic, 4–15 cm. long, 2–6 cm. broad; inflorescences up to 24 cm. long; mostly in fringing forest outliers ..3. [membranaceum](#)

Fruits 7–8 mm. long, 4–5 mm. broad; leaves sparingly pilose mainly on midrib and main nerves beneath; in rain forest:5

- 5 Leaves obovate to elliptic-oblongate, usually caudate-acuminate, 7–25 cm. long, 3–12 cm. broad; female inflorescences up to 42 cm. long, male up to 13 cm. long; female calyx cup-shaped, very shortly lobed4. [vogelianum](#)

Leaves elongate-oblong, usually rather broadly triangular-acuminate, 7·5–25 cm. long, 2·7–5·6 (–7) cm. broad; female inflorescences up to 11·5 cm. long, male up to 22 cm. long; female calyx deeply lobed5. [oblonga](#)

1. **Antidesma laciniatum** Müll. Arg. var. **laciniatum** in Flora 47: 520 (1864); F.T.A. 6, 1: 643; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 145, fig. 13 (as var. *genuinum*); Chev. Bot. 564. *APD acc*

Small forest tree, to 30 ft. high; flowers in pale red spikes; fruits red when ripe.

IV. C.: fide Chev. **I. C. S. Nig.:** Lagos Rowland! Osun F.R. (Apr.) Ejiofor FHI 26120! Okomu F.R. (fl. & fr. Jan., Feb.) Brenan 8906! 8927! Oban Talbot 612! 2336! **Br. Cam.:** Victoria (Feb.–Apr.) Preuss 1104! Schlechter 12363! Buea (fr. Mar.) Maitland 561! **F. Po.:** (Jan., Feb., June) Mann 201! 256! Barter! Ureka (Feb.) Guinea 2339!

Also in **French Cameroons**, **Spanish Guinea** and **Belgian Congo**.

- 1a. **Antidesma laciniatum** var. **membranaceum** Müll. Arg. **I. C.** (1864); F.T.A. 6, 1: 644; Chev. Bot. 564; Pax & K. Hoffm. **I. C.**

APD: *Synonym of Antidesma laciniatum subsp. membranaceum (Müll. Arg.) J. Léonard*

Antidesma laciniatum of Aubrév. Fl. For. C. Iv. 2: 60, t. 143, 2–6.

Fr. G.: Lola. to Nzo (Mar.) Chev. 20983! Macenta (May) Collenette 8! **S. L.:** Bagroo R. Mann! Kafogo, Limba (Apr.) Sc. Elliot 5607! Bandajuma (May) Aylmer 75! Gola Forest (fr. May) Small 695! **Lib.:** Peahtah (Oct.) Linder 964! Karmadun, Kolahun (Nov.) Baldwin 10180! Zuie, Boporo (fr. Dec.) Baldwin 10686! **IV. C.:** Abidjan Aubrév. 200! **G. C.:** Kwahu (Mar.) Johnson 637! Axim Dist. (Apr.) Chipp 153! Owabi (fr. Sept.) Andoh FH 4424! Kumasi (Oct.) Vigne 1395! **Togo:** Misahöhe Bauman 529.

Also in **French Cameroons**, **Spanish Guinea** and **Belgian Congo**.

2. **Antidesma venosum** Tul. in Ann. Sci. Nat., sér. 3, 15: 232 (1851); F.T.A. 6, 1: 646, partly; Chev. Bot. 565; Pax & K. Hoffm. **I. C.** 139, partly; Aubrév. **I. C.** 2: 60; Fl. For. Soud.-Guin. 182, t. 33, 4–5, partly. *APD acc*

APD: *Synonym of Antidesma rufescens Tul.*

A shrub or small tree, mostly in savannah; flowers yellow; ripe fruits black, edible; inflorescence often attacked by a gall insect and then more or less paniculate.

Gam.: Hayes! Albreda Leprieur! Perrottet 726! **Fr. Sud.:** Koulikoro & Bandiagara fide Aubrév. **I. C.** **Fr. G.:** Kouroussa (May) Pobéguin 246! Mamou, Timbo, Labé & Ditinn fide Aubrév. **I. C.** **S. L.:** Njala (fl. May, young fr. June) Deighton 2998! 3243! 4019! Musaia Sc. Elliot 5105! Erimakuna (Mar.) Sc. Elliot 5259! Batkanu (young fr. Apr.) Thomas 48! **IV. C.:** several localities fide Aubrév. **I. C.** **G. C.:** Afram Plains (May) Kitson 1119! Near Kumbungu (May) Kitson 754! 757! **Togo:** Kpandu (Apr.) Robertson 137! Lome Warnecke 468! **Dah.:** Savalou, Bassila & Djougou fide Aubrév. **I. C.** **Fr. Nig.:** Diapaga Chev. 24402. **N. Nig.:** Nupe Barter 1696! Kontagora (May) Dalz. 389! Riruwe F.R., Kano (Mar.) Onwudinjo FHI 22356! Randa (fl. & fr. June) Hepburn 64! Yola (May) Dalz. 200! **S. Nig.:** Lagos Dawodu 200! Olokemeji Foster 97! **Br. Cam.:** Nchan, Bamenda (Apr.) Maitland 1475!

Widespread in tropical and S. Africa.

3. **Antidesma membranaceum** Müll. Arg. in Linnaea 34: 68 (1865), excl. var. *molle*; in DC. Prod. 15, 2: 261 (1866), var. *glabrescens* only; F.T.A. 1: 645, partly; Chev. Bot. 564, partly; Pax & K. Hoffm. **I. C.** 141, partly. *APD acc*

Antidesma meiocarpum J. Léonard in Bull. Jard. Bot. Brux. 27: 260, fig. 23 (1945).

Antidesma venosum of F.T.A. 6, 1: 646, partly; of Pax & K. Hoffm. l.c. 139, partly; of F.W.T.A., ed. 1, 1: 284, partly; not of Tul.

A shrub or tree, up to 40 ft. high; flowers yellowish-green; ripe fruits blackish; **mostly in fringing forest in the savannah regions.**

Port. G.: Catió (July) Esp. Santo 2126! 2127! **Fr. G.:** Boulivel to Dalaba (fr. Sept.) Chev. 18683! **S. L.:** Binkolo (fr. Aug.) Thomas 1691! Erimakuna (Mar.) Sc. Elliot 5393! **Iv. C.:** Mt. Boho, Zoanlé (May) Chev. 21490! Ouodé to Gouréni, Toura country Chev. 21633! **G. C.:** Kintampo (fr. July) Chipp 527! Abetifi-Kwahu (Mar., Apr.) Johnson 634! 636! Mampong (fr. May) Kitson 557! Ejura (fr. Aug.) Chipp 748! **Togo:** Baumann 242! Bo Mts. Kersting A. 635! **N. Nig.:** Lokoja (fr. Aug.) Elliott 189! Nupe Barter 1557! **S. Nig.:** Olokemeji Foster 92! Ilaro Dist. (fr. Oct.) Onochie FHI 13528! Ibadan (fr. Aug.) Adekunle FHI 24215!

Also in **French Cameroons, Belgian Congo, Angola, Uganda, Tanganyika** and **Mozambique.**

[This is best distinguished from *A. venosum* and the following species by the very small fruits; male plants are often difficult to name.]

4. **Antidesma vogelianum** Müll. Arg. in Flora 47: 529 (1864); F.T.A. 6, 1: 645; Pax & K. Hoffm. l.c. 119. *APD acc*

Antidesma membranaceum of F.T.A. 6, 1: 645, partly; of Pax & K. Hoffm. l.c. 141, partly; not of Müll. Arg.

A shrub or tree, to 30 ft. high; inflorescences pendulous, very conspicuous; filaments bright red; ovary red; fruits red ripening to purple; **in rain forest.**

S. Nig.: Ibo country (fr. Aug.) T. Vogel 23! Eket Dist. (fr. May) Talbot 3072! 3114! Onochie FHI 32098! 32100! Aboabam, Ikom (Dec.) Keay FHI 28207! ObanTalbot 611! 670! **Br. Cam.:** Victoria Preuss 1321! Mamfe (young fr. Jan.) Maitland 1158! Abonando, Mamfe (Apr.) Rudatis 43!

Also in **French Cameroons, Gabon, Belgian Congo** and **E. Africa.**

5. **Antidesma oblonga** (Hutch.) Keay in Bull. Jard. Bot. Brux. 26: 184 (1956). *APD acc*

Maesobotrya oblonga Hutch. in F.T.A. 6, 1: 668 (1912); Pax & K. Hoffm. l.c. 22; F.W.T.A., ed. 1, 1: 283.

Antidesma membranaceum of Chev. Bot. 564, partly; of F.W.T.A., ed. 1, 1: 284, partly (Linder 802); not of Müll. Arg.

A shrub or small tree, 4–10 ft. high; inflorescences pendulous; flowers yellowish; fruits reddish; **in rain forest.**

Lib.: Kakatown Whyte! Gbanga (Sept.) Linder 568! 783! 802! Dukwia R. (fl. & fr. Feb.) Cooper 149! 158! 159! 212! Sangwin, Sinoe Co. (Mar.) Baldwin 11319! Gletown, Tchien Dist. (fr. July) Baldwin 6753! **Iv. C.:** Guidéko (fr. May) Chev. 16415! Mbago, Agnéby valley (fr. Feb.) Chev. 17129! Mid. Sassandra to Mid. Cavally (fr. June) Chev. 19204!

Antidesma sp.

A small tree, up to 25 ft. high; female inflorescences shorter than the leaves. Fruits and male flowers not known.

Br. Cam.: Buea, 3,000 ft. (Jan., Mar.) Maitland 191! 451! Bali-Ngemba F.R., Bamenda (June) Ujor FHI 30410!

Imperfectly known species.

13. CYATHOGYNE

Müll. Arg. — F.T.A. 6, 1: 653; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 40 (1922).

- 1 A herb; leaves obovate-elliptic, shortly acuminate, acute or subacute at base, 7–11 cm. long, 4–5 cm. broad, coarsely repand-dentate except in the lower third, glabrous or nearly so; lateral nerves 5–6 pairs; female racemes 4 cm. long[viridis](#)

Cyathogyne viridis Müll. Arg. — F.T.A. 6, 1: 654; Pax & K. Hoffm. l.c. 15: 41 (incl. var. *preussii*).

APD: Synonym of *Thecacoris viridis* (Müll. Arg.) G.L. Webster

APD: Synonym of *Thecacoris viridis* (Müll. Arg.) G.L. Webster

Cyathogyne preussii Pax (1897) — F.T.A. 6, 1: 655 (1912); F.W.T.A., ed. 1, 1: 284.

Forest herb, about 1 ft. high, from a horizontal rhizome.

S. Nig.: Umon Ndealichi F.R., Calabar (Apr.) Akpata FHI 3936! **Br. Cam.:** Victoria Preuss 1210!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

14. HYMENOCARDIA

Wall. ex Lindl. — F.T.A. 6, 1: 648; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 72–78 (1922).

- 1 Axis of the fruit projecting from the middle of an obscure sinus, the wings spreading horizontally; leaves elliptic to broadly ovate or rounded, cordate at base, obtuse at apex, 3.5–9 cm. long, 2.2–7 cm. broad, papery, midrib and lateral nerves pubescent beneath; male spikes 2.5–5 cm. long; fruits 2.5–3 cm. broad, 1.4–1.6 cm. long, reticulate, glabrous or pubescent [1. heudelotii](#)

Axis of the fruit not projecting from the middle of the sinus, the wings well-developed and ascending: **2**

- 2 Leaves ovate-elliptic, rounded at base, acuminate apex, papery, 3.5–8.5 cm. long, 1–4 cm. broad, laxly glandular beneath, hairy only in axils of nerves; wings of the cocci almost touching at the top, forming a very narrow sinus, fruits lyrate, 2–2.5 cm. long; forest species [2. lyrata](#)

Leaves elliptic oblong, obtuse or rounded at both ends, coriaceous, 4–9 cm. long, 1.5–3 (–4) cm. broad, densely glandular beneath, pubescent when young but usually becoming glabrous; wings of the cocci divergent, forming a broad sinus at the top; fruits obcordate, about 2.5 cm. long; savannah species [3. acida](#)

1. **Hymenocardia heudelotii** Müll. Arg. — F.T.A. 6, 1: 650; Chev. Bot. 567; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 74, fig. 8, C; Aubrév. Fl. For. C. Iv. 2: 48, t. 137, A, B, E; Fl. For. Soud.-Guin. 184, t. 34, 8–9. **APD acc**

Hymenocardia chevalieri Beille (1908) — F.W.T.A., ed. 1, 1: 286; Pax & K. Hoffm. l.c. 75, fig. 8, D; Aubrév. ll.c.; Berhaut Fl. Sen. 131.

Shrub or small tree, to 30 ft. high, **locally abundant in riverain forest**.

Sen.: Niokolo-Koba Berhaut 1471; 4502. **Fr. Sud.:** Kita Dubois 197! **Port. G.:** Salinho (fr. May) Esp. Santo 2488! Pirada, Gabu (fr. June) Esp. Santo 3038! **Fr. G.:** Heudelot 838! Konkouré to Timbo (Mar.) Chev. 12458! **S. L.:** Pujehun (fr. Apr.) Aylmer 66! Njala (fl. Mar., fr. Sept.) Deighton 1935! 1996! 5011! Musaia (fl. Mar., fr. Oct., Dec.) Sc. Elliot 5104! Thomas 2620! Deighton 4438! Berria to Falaba (Feb.) Sc. Elliot 4976! Madina, Limba (fr. Apr.) Sc. Elliot 5899! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Easmon! R. Volta below Kpong (fr. Apr.) Irvine 2886! **Togo:** Kete Krachi Vigne FH 3881! **N. Nig.:** Nupe Barter 1150! Lokoja Barter 383! Idah Barter 327! **S. Nig.:** Onitsha Jones FHI 4838!

Also in **Belgian Congo**.

[The specimens with pubescent fruits, previously named *H. chevalieri*, seem, at the most, no more than variably distinct from those with glabrous fruits. The forms are not otherwise distinguishable.]

2. **Hymenocardia lyrata** Tul. — F.T.A. 6, 1: 651; Pax & K. Hoffm. l.c. 15: 75, fig. 8, F; Aubrév. Fl. For. C. Iv. 2: 48, t. 137, C; Fl. For. Soud.-Guin. 184, t. 34, 6–7. **APD acc**

Hymenocardia beillei A. Chev. Bot. 567, name only.

Thouiniu? dicarpa Turcz. (1863).

Shrub or small tree, to 50 ft. high, **often in riverain forest**.

Sen.: Casamance (fr. Dec.) Heudelot 581! **Port. G.:** Bubaque, Bijagos (fr. Nov.) Esp. Santo 2329! **Fr. G.:** Dyeke (fr. Oct.) Baldwin 9671! **S. L.:** Smeathmann! Waterloo (fr. May) Deighton 2654! Mano Bonjema (fr. Apr.) Deighton 3711! 3712! Njala (fl. & fr. Apr.) Deighton 648! 1123! Rowala (fr. July) Thomas 1024! **Lib.:** Peahtah (fr. Oct.) Linder 902! Ganta (fr. May) Harley 1159! Browntown, Tchien (fr. Aug.) Baldwin 7052! Robertsport (fr. Dec.) Baldwin 10891! **Iv. C.:** Mt. Niénokué, Mid. Cavally Chev. 16454. And other localities fide Aubrév. ll.c. **G. C.:** Aframso (fr. Oct.) Vigne FH 4037! Otokpe (fr. Oct.) Vigne FH 4012!

[Milne-Redhead in Kew Bull. 1947: 46, described Deighton 3710 from Mano Bonjema and Deighton 3185 from Mano (Luawa), Sierra Leone as in all probability natural hybrids between *H. lyrata* and *H. heudelotii*. In addition Deighton 4284 from Njala may be a hybrid between these parents, and Linder 930 from Peahtah, Liberia has fruits which appear intermediate between *H. lyrata* and pubescent-fruited forms of *H. heudelotii*.]

3. *Hymenocardia acida* Tul. — F.T.A. 6, 1: 651; Chev. Bot. 566; Pax & K. Hoffm. l.c. 15: 76, fig. 9, A–D; Aubrév. Fl. For. C. Iv. 2: 48, t. 137, D; Fl. For. Soud.-Guin. 186, t. 34, 1–3. *APD acc*

A *savannah* shrub or small tree about 20 ft. high; branchlets becoming rusty-powdery when the bark peels off.

Sen.: Sedhiou (fr. Feb.) Chev. 2626! **Gam.:** Albreda Leprieur! **Fr. Sud.:** Guélla Chev. 311. **Port. G.:** Uno-Am-Onho (fr. May) Esp. Santo 2011! **Fr. G.:** Heudelot 779! Kourouasa (Feb.) Pobéguin 658! **S. L.:** Musaia (fl. Mar., fr. Mar.–Feb.) Deighton 5356! 5465! Kabala (Feb.) Deighton 4163! 4164! Talla Hills (Feb.) Sc. Elliot 4886! **Iv. C.:** Zoanlé Chev. 21489. **G. C.:** Abetifi-Kwahu Thompson 86! Kumawo (fr. June) Chipp 459! Grube (fr. Mar.) Rea FH 1667! **Togo:** Kpedsu (fr. Dec.) Howes 1050! Amedzofe (fr. May) Scholes 56! **Dah.:** various localities fide Chev. l.c. **N. Nig.:** Nupe Barter 1098! 1207! 1558! Kontagora (Jan., Feb.) Dalz. 78! Sokoto (Mar.) Lely 852! Bauchi (Jan.) Lely P. 61! **S. Nig.:** Lagos Moloney! Olokemeji (fr. Nov.) A. F. Ross 19! Ubiaja (fr. Aug.) Oyeade FHI 20402! **Br. Cam.:** Bamenda (fr. May) Maitland 1534!

Widespread in tropical Africa.

***Hymenocardia intermedia* Dinkl. ex Mildbr.** in Fedde Rep. 41: 255 (1937), name only. *APD acc*

Hymenocardia chevalieri of Pax & K. Hoffm. l.c. 15: 75, partly (Dinklage 2483).

Possibly *H. lyrata*, or a hybrid.

Lib.: Dinklage 2483; 2686.

Imperfectly known species.

15. DRYPETES

Vahl — F.T.A. 6, 1: 674; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 229–279.

Cyclostemon Blume (1825).

KEY TO SPECIMENS WITH MALE FLOWERS.

- 1 Stamens inserted around the margin of the disk, free, or enclosed by marginal folds but not in the central part of the disk; flowers in several- to many-flowered fascicles: **2**
 Stamens deeply enclosed by folds near the centre as well as at the margin of the much-folded disk; flowers axillary on leafy shoots; leaves distichous, with very short petioles, usually oblique and markedly unequal at the base (but see No. 24), margins usually serrate: **19**
- 2 Stamens inserted outside the thin cup-shaped disk, not enclosed by folds; flowers in axillary fascicles on leafy shoots; stamens 4–8; sepals 4, rarely 5, up to 3 mm. long; leaves cuneate or obtuse at base: **3**
 Stamens inserted between the marginal lobes of the disk; sepals usually 5: **8**
- 3 Sepals puberulous or tomentellous outside; stamens 4–6: **4**
 Sepals, disk, branchlets and leaves glabrous; sepals 4; stamens 7–8; leaves elliptic to elliptic-lanceolate, unequal at base, shortly acuminate, 5–19 cm. long, 2.5–9 cm. broad, entire *6. aframensis*
- 4 Disk glabrous within: **5**
 Disk and sepals pubescent within; leaves oblong to oblong-elliptic, caudate-acuminate, 7.5–12.5 cm. long, 3.5–4.5 cm. broad, entire, lateral nerves 10–11 on each side of midrib, with parallel secondary nerves; branchlets and petioles puberulous *5. paxii*
- 5 Sepals normally 5, tomentellous outside, puberulous within; stamens 4–6; leaves elliptic to lanceolate, obtusely acuminate, 10–25 cm. long, 5–10.5 cm. broad, crenate-serrulate to subentire, lateral nerves 5–7 on each side of midrib, long-ascending; branchlets and leaves glabrous or nearly so *1. pellegrii*
 Sepals normally 4; stamens 4; leaves up to 12 cm. long and 6 cm. broad, branchlets and petioles pubescent, rarely glabrous; leaves entire or subentire: **6**
- 6 Disk with a small conical projection in the middle; leaves rhomboid-lanceolate, shortly obtusely acuminate, 2.5–6 cm. long, 0.8–2.5 cm. broad, main lateral nerves 3–4 on each side of midrib *2. klainei*
 Disk without a conical projection in the middle; leaves up to 12 cm. long and 6 cm. broad: **7**
- 7 Leaves with numerous close, parallel, lateral nerves; lamina ovate-elliptic to elliptic-lanceolate, caudate-acuminate, 6–11 cm. long, 1.5–4.5 cm. broad *3. aubrevillei*
 Leaves with 4–7 main lateral nerves on each side of midrib, the secondary nerves and venation not parallel; lamina elliptic to elliptic-lanceolate, 3.5–12 cm. long, 1.5–6 cm. broad *4. leonensis*
- 8 Disk more or less plano-convex and rugose; sepals not exceeding 9 mm. long and 6 mm. broad; trees and shrubs

- to 25 m. high, not, so far as is known, smelling strongly of horse-radish:9
- Disk cup-shaped, the folded margins higher than the centre which has rudimentary linear styles; stamens about 30; sepals ovate, 12–16 mm. long, 8–10 mm. broad, densely brownish tomentellous; pedicels up to about 2 cm. long; flowers in axils of lower leaves and just below the leafy shoots; leaves more or less oblong, unequally obtuse or cuneate at base, abruptly acuminate, 11–24 cm. long, 3.6–7.5 cm. broad, crenate-dentate, glabrous; tree to 42 m. high, cut parts emitting a strong smell of horse-radish [18. gossweileri](#)
- 9 Stamens 4–22: 10
- Stamens about 30; sepals ovate, 7–8 mm. long, about 5 mm. broad, glabrous outside; flowers in fascicles on woody branches; branchlets angular, glabrous; petiole and leaves glabrous; leaves oblong-elliptic, unequal at base, one side cuneate or obtuse, the other rounded to cordate, gradually acuminate at apex, 26–40 cm. long, 8.5–13 cm. broad [17. staudtii](#)
- 10 Leaves more or less spiny-dentate, coriaceous, ovate-elliptic to oblong or oblong-lanceolate, rounded or obtuse, and often unequally sided at base, shortly acuminate, 3.5–11.5 cm. long, 1–5.5 cm. broad; branchlets and petioles shortly pubescent; flowers on main stem and branches, rarely among the leaves; sepals glabrous outside except for ciliate margins; stamens 10–15; disk glabrous [7. floribunda](#)
- Leaves not spiny-dentate: 11
- 11 Stamens 4–10: 12
- Stamens 12–22; flowers in fascicles on the main stem or on leafless branches: 16
- 12 Sepals oblong-lanceolate or oblong, about 3 mm. long and 1.5 mm. broad, glabrous or sparsely puberulous outside; stamens 4–6; flowers in fascicles on the branches among and below the leaves; stipules woody, subsistent, 6–10 mm. long; leaves oblong-elliptic, cuneate to obtuse at base, obtuse at apex, 30–43 cm. long, 9–15 cm. broad, glabrous, coriaceous, margin undulate, main lateral nerves 8–11 on each side of midrib [8. similis](#)
- Sepals orbiculate to orbicular-ovate, at least 2.5 mm. broad; stipules not woody; leaves up to 28 cm. long and 11 cm. broad: 13
- 13 Sepals puberulous outside; stipules early caducous; flower fascicles axillary on leafy twigs or just below the leaves; trees to 10 m. high: 14
- Sepals glabrous outside, except for the ciliate margins; stamens 8; flowers on the main stem; branchlets, petioles and midribs beneath densely pubescent, the latter glabrescent; stipules subulate, subsistent, about 5 mm. long; leaves lanceolate-elliptic to elliptic or oblong-obovate, unequal at base, one side cuneate, the other rounded or obtuse, rather long-acuminate, 10–28 cm. long, 4–8 cm. broad, denticulate to subentire; small tree, to 4 m. high [12. ivorensis](#)
- 14 Disk glabrous; leaves glabrous and coriaceous: 15
- Disk pilose in centre; stamens 8–10; branchlets, petioles and midribs beneath more or less densely pubescent at first, then glabrescent; leaves obovate-oblong to oblong-lanceolate, cuneate to obtuse at base, shortly acuminate, 9–23 cm. long, 2–10 cm. broad, crenate-dentate to subentire [11. principum](#)
- 15 Sepals 2.5–3 mm. long, 2.5 mm. broad; stamens 5–8; leaves oblong to oblong-elliptic, cuneate to obtuse at base, acuminate, 12–23 cm. long, 3.5–8.5 cm. broad, margin obscurely denticulate, main lateral nerves 5–6 on each side of midrib; flowers mostly below the leaves [9. aylmeri](#)
- Sepals about 3.5 mm. long and 3 mm. broad; stamens 9; leaves oblong-elliptic, obtuse to cuneate and unequal at base, shortly acuminate, 15–25 cm. long, 6.5–11 cm. broad, margin undulate, main lateral nerves 7–9 on each side of midrib; flowers among the leaves [10. femandopoana](#)
- 16 Stipules persistent, 5–10 mm. long; sepals ovate, about 6–9 mm. long and 4–6 mm. broad, sparingly pubescent outside; stamens 12–18; flowers on the main stem; leaves elongate-oblong to obovate-oblong, cuneate to obtuse at base, abruptly long-acuminate, 11–27 cm. long, 4–9 cm. broad, lateral nerves rather strong beneath and looping, impressed above, margin crenate [13. molundana](#)
- Stipules early caducous; sepals glabrous outside except for the ciliate margins; leaves with 4–7 main lateral nerves on each side of midrib: 17
- 17 Branchlets, petioles and leaves glabrous; sepals 5–7 mm. long, 5–5.5 mm. broad; disk and anthers pubescent; flowers on main stem and lateral branches; pedicels about 1.5 cm. long; leaves oblong to oblong-elliptic, cuneate at base, acutely acuminate, 10–20 cm. long, 4–8 cm. broad, margin subentire [14. afzelii](#)
- Branchlets and petioles pubescent; sepals up to 4 mm. long and broad; anthers glabrous; leaves subobtusate to rounded at base, margins denticulate: 18
- 18 Pedicels scarcely 3 mm. long; sepals 3.5 mm. long and 3 mm. broad; disk pubescent; leaves ovate-oblong to lanceolate-ovate, cuspidate-acuminate, 5–11 cm. long, 1.5–5.5 cm. broad, midrib pubescent above, glabrous beneath; flowers on the older branches [15. obanensis](#)
- Pedicels (5–) 10–12 mm. long; sepals 4 mm. diam.; disk glabrous; leaves oblong to obovate-lanceolate, acuminate, 9–20 cm. long, 2.5–7 cm. broad, midrib glabrous above, pubescent beneath; flowers on the main stem [16. preussii](#)
- 19 Pedicels 3.5–10 cm. long, slender; sepals 5, glabrous outside, stamens about 25; branchlets and leaves glabrous;

- leaves oblong-elliptic or elliptic-lanceolate, rounded at base with proximal side of the lamina inserted on the petiole slightly below the distal, acutely caudate-acuminate, 7–18 cm. long, 3.5–6.8 cm. broad . [19. capillipes](#)
- Pedicels up to 8 mm. long; stamens 8–15 (–20): **20**
- 20** Flowers distinctly pedicellate, solitary or 2–3 together: **21**
- Flowers sessile or subsessile, in dense glomerules; sepals 4, pubescent outside; stamens 8–10; branchlets and leaves glabrous; leaves obliquely oblong-lanceolate, proximal side of lamina inserted on the petiole below the level of the distal side, 6–11 cm. long, 3–5 cm. broad [24. tessmanniana](#)
- 21** Sepals tomentellous or villous outside; young branchlets densely pubescent to pilose: **22**
- Sepals glabrous outside except for the margins, 4; young branchlets sparingly pubescent to glabrescent: **23**
- 22** Proximal side of leaf-lamina narrowed to an obtuse or subcordate base inserted on the petiole below the much broader distal side which is rounded at base; lamina obliquely oblong or ovate, acutely caudate-acuminate, 5–11 cm. long, 2.5–4.5 cm. broad; branchlets spreading-pilose; sepals 5, villous [20. inaequalis](#)
- Proximal side of leaf-lamina broadly auriculate at base, but inserted on the petiole at the same level as the distal side which is rounded or subcordate at base; lamina ovate to oblong-lanceolate, gradually long-acuminate, 5–18 cm. long, 2–7.5 cm. broad; young lateral shoots with suborbicular amplexicaul basal leaves; branchlets spreading-pubescent; sepals 4, tomentellous [21. chevalieri](#)
- 23** Proximal side of leaf-lamina inserted on the petiole below the distal, both sides obtuse to subcordate; lamina ovate- to oblong-elliptic, caudate-acuminate, 4–12 cm. long, 1.5–6 cm. broad; pedicels up to 8 mm. long .. [22. gilgiana](#)
- Proximal and distal sides of the leaf-lamina inserted on the petiole at the same level, rounded to subcordate; lamina ovate to ovate-lanceolate, subacutely acuminate, 4–12 cm. long, 1.3–4.5 cm. broad; pedicels up to 2 mm. long [23. parvifolia](#)

KEY TO SPECIMENS WITH FEMALE FLOWERS AND FRUITS.

See also the following species whose female flowers and fruits are not yet known: No. 10 D. fernandopoana, No. 15 D. obanensis and No. 24 D. tessmanniana.

- 1** Ovary and fruit 5–7-celled; fruits 3.3–10 cm. diam., depressed-subglobose: **2**
- Ovary and fruit 1–3 (–4)-celled; fruits (where known) up to 2.7 cm. diam.; trees and shrubs up to 25 m. high, not, so far as is known, smelling strongly of horse-radish: **3**
- 2** Leaves 11–24 cm. long, 3.6–7.5 cm. broad, unequally obtuse or cuneate at base, abruptly acuminate; fruits 8–10 cm. diam. 5–6 cm. long, tomentellous; flowers in axils of lower leaves and just below the leafy shoots; tree to 42 m. high, cut parts emitting a strong smell of horse-radish [18. gossweileri](#)
- Leaves 26–40 cm. long, 8.5–13 cm. broad, unequal at base, one side cuneate or obtuse, the other rounded to cordate, gradually acuminate; fruits about 3.3 cm. diam., scurfy-puberulous; flowers on main stem; tree to 11 m. high, not, so far as is known, smelling strongly of horseradish [17. staudtii](#)
- 3** Ovary and fruit 3 (–4)-celled; flowers on main stem and older branches: **4**
- Ovary and fruit 1–2-celled: **6**
- 4** Fruits 3-lobed, ellipsoid, about 1.8 cm. long and 1.1 cm. diam., glabrous [16. preussii](#)
- Fruits subglobose, not lobed: **5**
- 5** Fruits glabrous, about 1.5 cm. diam.; leaves more or less spiny-dentate [7. floribunda](#)
- Fruits puberulous, 2–2.7 cm. diam.; leaves not spiny-dentate [12. ivorensis](#)
- 6** Ovary and fruit 2-celled: **7**
- Ovary and fruit 1-celled; fruits ellipsoid, glabrous; leaves glabrous, coriaceous: **21**
- 7** Pedicels 3.5–10 cm. long; flowers 1–2 in leaf-axils; fruits ellipsoid up to 2.2 cm. long and 1.7 cm. broad, minutely tomentellous, later glabrescent [19. capillipes](#)
- Pedicels up to 2.5 cm. long: **8**
- 8** Sepals normally 5: **9**
- Sepals normally 4; flowers mostly axillary on leafy shoots (but see No. 6): **14**
- 9** Flowers solitary in leaf-axils; branchlets, petioles and midribs beneath densely hairy; leaves serrate: **10**
- Flowers in fascicles in leaf-axils or on leafless branches or on main stem: **11**
- 10** Leaves subsessile, obliquely oblong or ovate, proximal side narrowed to an obtuse or subcordate base, inserted on the petiole below the much broader distal side which is rounded at base, acutely caudate-acuminate, 5–11 cm. long, 2.5–4.5 cm. broad; branchlets spreading-pilose; fruits subglobose, up to 3 cm. diam. densely villous, stigmas close together [20. inaequalis](#)
- Leaves with petiole up to 1 cm. long, oblong-ovate, unequal and rounded or obtuse at base, acuminate, 10–16 cm. long, 4–8 cm. broad; branchlets tomentose; ovary villous; styles linear, spreading; fruits not known [25. occidentalis](#)

- 11 Stipules persistent, 5–10 mm. long; sepals ovate, about 6–9 mm. long and 4–6 mm. broad, sparingly pubescent outside; flowers on the main stem; fruits ovoid, or ellipsoid, 2·8–3 cm. long, up to 2·4 cm. diam. [13. *molundana*](#)
Stipules caducous: **12**
- 12 Sepals glabrous outside except for the ciliate margins, 5–7 mm. long, 5–5·5 mm. broad; flowers on main stem and leafless branches; fruits ellipsoid, about 2 cm. long and 1·7 cm. diam., densely puberulous [14. *afzelii*](#)
Sepals puberulous or tomentellous outside; sepals up to 4 mm. long and broad: **13**
- 13 Sepals 2·5–3 mm. long; flower fascicles in axils of leaves; leaves elliptic to lanceolate, obtusely acuminate; branchlets and leaves glabrous or nearly so [1. *pellegrini*](#)
Sepals 4 mm. long; flower fascicles in axils of leaves and on leafless branches; leaves obovate-oblong to oblong-lanceolate, shortly acuminate; branchlets, petioles and midribs beneath more or less densely pubescent at first, then glabrescent [11. *principum*](#)
- 14 Outside of sepals and mature fruits glabrous; young branchlets sparingly pubescent to glabrescent or glabrous; fruits globose: **15**
Outside of sepals and mature fruits hairy; branchlets pubescent: **17**
- 15 Flowers in fascicles on woody branchlets; leaves with distinct petioles 4–6 mm. long, unequally cuneate at base; fruits with fleshy pericarp, about 1·2 cm. diam. [6. *aframensis*](#)
Flowers solitary, or 2–3 together, axillary on leafy shoots; leaves very shortly petiolate: **16**
- 16 Proximal side of leaf-lamina inserted on the petiole below the distal, both sides obtuse to subcordate; fruits hard, crustaceous, up to 1·8 cm. diam. [22. *gilgiana*](#)
Proximal and distal sides of leaf-lamina inserted on the petiole at the same level, rounded to subcordate; fruits with fleshy pericarp, up to 1·2 cm. diam. [23. *parvifolia*](#)
- 17 Leaves very unequal at base, proximal side broadly auriculate inserted on the petiole at same level as the distal side which is rounded or subcordate at base, subsessile, serrate, distichous; lamina ovate to oblong-lanceolate, gradually long-acuminate; branchlets spreading-pubescent; flowers solitary; fruits ovoid, 2-lobed stigmas separated, up to 2·5 cm. long, tomentellous [21. *chevalieri*](#)
Leaves cuneate to obtuse at base, distinctly petiolate, subentire or crenate; flowers a few together: **18**
- 18 Leaves with numerous close, parallel, lateral nerves, caudate-acuminate at apex: **19**
Leaves with 3–7 main lateral nerves on each side of midrib; secondary nerves not parallel: **20**
- 19 Lamina ovate-elliptic to elliptic-lanceolate; fruits globose, about 1·3 diam., tomentellous [3. *aubrevillei*](#)
Lamina oblong to oblong-elliptic [5. *paxii*](#)
- 20 Fruits 2-lobed, rugose and tomentose on the surface; leaves rhomboid-lanceolate, 2·5–6 cm. long, 0·8–2·5 cm. broad; main lateral nerves 3–4 on each side of midrib [2. *klainei*](#)
Fruits globose, tomentellous, about 1 cm. diam.; leaves elliptic to elliptic-lanceolate, 3·5–12 cm. long, 1·5–6 cm. broad; main lateral nerves 4–7 on each side of midrib [4. *leonensis*](#)
- 21 Leaves 30–43 cm. long, 9–15 cm. broad, main lateral nerves 8–11 on each side of midrib; sepals oblong-lanceolate or oblong, glabrous; fruits 1·2–1·5 cm. long [8. *similis*](#)
Leaves 12–23 cm. long, 3·5–8·5 cm. broad, main lateral nerves 5–6 on each side of midrib; sepals orbicular, pubescent; fruits about 1·5 cm. long [9. *aylmeri*](#)

1. *Drypetes pellegrini* Léandri in Bull. Soc. Bot. Fr. 81: 459 (1934). *APD acc*

Drypetes *vigne* Hoyle in Kew Bull. 1935: 257.

A forest tree, 25–40 ft. high, with spreading branches; locally abundant; flowers white.

IV. C.: Soubré (Jan.) Aubrév. 864! **G. C.:** Mampong Scarp (Mar.) Vigne FH 1062! S. Scarp F.R. (fr. May) Moor FH 2344! Atewa Range (Feb.) Vigne FH 4344! Konkong, E. Akim (young fr. Mar.) Johnson 595!

2. *Drypetes klainei* Pierre ex Pax in Engl. Bot. Jahrb. 43: 218–219 (1909); F.T.A. 6, 1: 681; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 252; Aubrév. Fl. For. C. Iv. 2: 42, t. 134, 4–5. *APD acc*

A forest tree, to 80 ft. high.

IV. C.: Tai, In flood-plain of R. Cavally (young fr. Apr.) Aubrev. 1209!

Also in **Gabon**.

3. *Drypetes aubrevillei* Léandri l.c. 81: 458 (1934); Aubrév. l.c. 2: 42, t. 134, 1–3. *APD acc*

A forest tree, to 45 ft., rarely to 80 ft. high.

S. L.: Kambui F.R. Sawyerr FHI 13559! **Lib.:** Dukwia R. (fr. May) Cooper 227! 458! R. Cess, Grand Bassa (Mar.) 12530! **Iv. C.:** Agnéby Avbrév. 2117! Tabou (fr. Dec.) Aubrév. 1667! Nimba Mts. (Mar.) Aubrév. 1146! Banco (Feb.) Aubrév. 885! Mt. Momy Aubrév. 1182!

4. **Drypetes leonensis** *Pax* in Engl. Bot. Jahrb. 43: 219 (1909), not of (Pax) Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 262 (1922); F.T.A. 6, 1: 682. *APD acc*

Drypetes hutchinsonii *Pax & K. Hoffm.* l.c. 15: 254 (1912).

Drypetes rowlandii *Pax* l.c. 43: 219 (1909).

Drypetes kamerunica *Pax & K. Hoffm.* l.c. 15: 254 (1922).

Drypetes urophylla *Pax & K. Hoffm.* l.c. (1922).

A forest tree, to 70 ft. high; flowers heavily scented.

Fr. G.: massif de Fon, Beyla (Aug.) Schnell 3313! **S. L.:** Duniya, Talla Hills (Feb.) Sc. Elliot 4981! **Lib.:** Truo, Sinoe (young fr. Mar.) Baldwin 11385! (?). **G. C.:** Mansiso (Mar.) Vigne 92! **Togo:** Mildbr. 7211. **S. Nig.:** Lagos Rowland! Olokemeji F.R. (fr. Mar.) A. F. Ross 99! Shasha F.R. (young fr. Jan.) A. F. A. Lamb 181! Okomu F.R. (young fr. Feb.) Onochie in Hb. Brenan 9141! Oluwa F.R. Kennedy 2474!

Also in **French Camerouns**.

[Brenan & Keay 8653 from the Idanre Hills, Nigeria, is close to this species but lacks mature flowers and fruits; better material is needed.]

5. **Drypetes paxii** *Hutch.* in F.T.A. 6, 1: 681 (1912); Pax & K. Hoffm. l.c. 15: 276. *APD acc*

A forest shrub or small tree.

Br. Cam.: Bimbria road, Victoria (Feb.) Maitland 423!

Also in **French Camerouns** and **Gabon**.

6. **Drypetes aframensis** *Hutch.* in F.T.A. 6, 1: 682 (1912); Pax & K. Hoffm. l.c. 15: 237. *APD acc*

A forest tree, to 40 ft. high; flowers white; fruits orange.

G. C.: Afram Plains (Mar.) Johnson 714! Pra-Anum F.R., Oda (fr. Apr.) C. J. Taylor FH 5270! Abrimasu F.R., Mampong (Feb.) Andoh FH 4734! 5633! **S. Nig.:** Gambari F.R., Ibadan W. D. MacGregor 584! Omo F.R., Ijebu Ode Prov. (Mar.) Jones & Onochie FHI 17010! 17013! 17544! Sunmoge (Mar.) Keay FHI 16062!

7. **Drypetes floribunda** (*Müll. Arg.*) *Hutch.* in F.T.A. 6, 1: 687 (1912); Pax & K. Hoffm. l.c. 15: 237; Aubrév. l.c. 2: 46, t. 136, 10. *APD acc*

Cyclostemon floribundus *Müll. Arg.* (1864) — Chev. Bot. 561.

Drypetes ovata *Hutch* l.c. 6, 1: 688 (1912); Pax & K. Hoffm. l.c.; F.W.T.A., ed. 1, 1: 287.

A cauliflorous tree, to 30 ft. high, in the drier parts of the forest regions, extending also into the savannah regions; flowers cream; fruits yellow when ripe.

Sen.: Ravin des Voleurs Berhaut 1313. **Port. G.:** Jangada, Xitoli (June) Esp. Santo 2267! **Iv. C.:** Danané (Apr.) Chev. 21289. Groumania Aubrév. 776; 787. **G. C.:** Achimota (fl. & fr. Apr.) Irvine 651! Milne-Redhead 5061! Agogo — Ejian road (Apr.) Vigne FH 1103! 1104! **Togo:** Lome Warnecke 154! **N. Nig.:** Idah Barter 1673! **S. Nig.:** Lagos Foster 80! Olokemeji (fl. Jan., fr. Mar.) Keay FHI 22469! 22533! Owo F.R. (Apr.) Jones FHI 3519!

Also in **Belgian Congo**.

8. **Drypetes similis** *Hutch.* in F.T.A. 6, 1: 679 (1912); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 267.

APD: *Synonym of Sibangea similis (Hutch.) Radcl.-Sm.*

A forest shrub or tree, to 20 ft. high.

S. Nig.: Oban Talbot 619! 1495! 1710! **Br. Cam.:** Kumba (Feb.) Smith 74/36!

Also in **French Camerouns**.

9. **Drypetes aylmeri** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 288 (1928); Kew Bull. 1928; 300. *APD acc*

Drypetes mottikoro Léandri in Bull. Soc. Bot. Fr. 81: 459 (1934); Aubrév. Fl. For. C. Iv. 2: 44, t. 136, 1–4.

A forest tree, to 40 ft. high, with white easily split timber; flowers yellow, profuse on the branches; fruits white, 1-seeded.

S. L.: Gerihun (Sept.) Aylmer 246! **Lib.:** Dukwia R. Cooper 315! (? — sterile). **Iv. C.:** Aubrév. 1659! 2081! Djibi (fl. Sept., fr. Dec.) Aubrév. 533! 1642! Azaguié (Sept.) Chev. 22274! **G. C.:** Ankasa F.R. (fr. Dec.) Vigne FH 3181! Subiri F.R., Benso (Sept.) Andoh FH 5567!

10. *Drypetes fernandopoana Brenan* in Kew Bull. 1953: 92. *APD acc*

Cyclostemon glomeratus Müll. Arg. (1864).

Drypetes glomerata (Müll. Arg.) Hutch. in F.T.A. 6, 1: 679 (1912); Pax & K. Hoffm. l.c. 15: 242; not of Griseb. (1857).

A forest shrub, about 20 ft. high, with glabrous terete branchlets.

F. Po: Mann 278!

11. *Drypetes principum* (Müll. Arg.) Hutch. in F.T.A. 6, 1: 684 (1912); Pax & K. Hoffm. l.c. 15: 241; Aubrév. l.c. 2: 43, t. 135, 9–10. *APD acc*

Cyclostemon principum Müll. Arg. (1864).

A forest tree, to 30 ft. high; flowers cream, borne on leafy shoots and the woody branches; fruits dark brown, velvety.

Fr. G.: Longuéry, Kouria (Dec.) Caille in Hb. Chev. 14826! **Lib.:** Ganta (May) Harley 1191! **Iv. C.:** Mt. Tonkoui Aubrév. 1007. Mt. Dou Aubrév. 1076. **G. C.:** Ofin Headwaters F.R. (Feb.) Vigne FH 3423! Akumadan (Oct.) Vigne FH 2554! 2555! **S. Nig.:** Omo F.R. (fl. Oct., fr. Feb.) Tamajong FHI 20982! Jones & Onochie FHI 17586! Akure F.R. (Oct., Nov.) Keay FHI 16246! Latilo FHI 15285! Oban Talbot 679! **Br. Cam.:** Victoria Winkler 551; 552. Johann-Albrechtshöhe Staudt 849! **F. Po:** San Carlos Mildbr. 6791.

Also in **French Cameroons** and **Principe**.

12. *Drypetes ivorensis* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 287 (1928); Kew Bull. 1928: 299; Aubrév. l.c. 2: 46, t. 135, 6–8. *APD acc*

Drypetes pierreana of Chev. Bot. 561, not of Hutch.

A small forest tree, to 15 ft. high; flowers greenish-yellow or white, on the main stem; fruits red, or yellow or orange.

Lib.: Dukwia R. (fr. May) Cooper 418! Truo, Sinoe (fr. Mar.) Baldwin 11387! 11396! Diebla, Webo (fr. July) Baldwin 6280! **Iv. C.:** between Mid. Sassandra and Mid. Cavally (July) Chev. 19227! Tèbo Yabas country (fr. July) Chev. 19416! **G. C.:** Subiri F.R., Benso (Sept.) Andoh FH 5562!

13. *Drypetes molunduana* Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 258 (1922). *APD acc*

A small forest tree, to 12 ft. high with deeply grooved pubescent branchlets; flowers greenish-yellow-white. in dense fascicles all down the main stem, not on the twigs.

S. Nig.: Onda, Omo F.R. (Feb.) Jones & Onochie FHI 16985! Okomu F.R. (Dec.) Brenan 3574! Oban Talbot 1645! **Br. Cam.:** S. Bakundu F.R. (Mar.) Brenan. 9296! 9297! 9310! 9311! Mayuku (Feb.) Dalz. 8239! Johann-Albrechtshöhe Staudt 739! 741.

Also in **French Cameroons**.

14. *Drypetes afzelii* (Pax) Hutch. in F.T.A. 6, 1: 685 (1912); Pax & K. Hoffm. l.c. 15: 249; Aubrév. l.c. 2: 46, t. 136, 5–9. *APD acc*

Cyclostemon afzelii Pax (1897).

A forest tree, to 80 ft. high; flowers on bole and branches, fragrant, male white or yellow, female green; fruits bright orange, abundant.

S. L.: Afzelius! Gerihun (Sept.) Aylmer 245! Jepihun (fr. Jan.) Smythe 236! Njala (fl. Oct., fr. Jan., Mar.) Deighton 1414! 2904! 4718! Dalz. 8102! Yonibana (Oct.) Thomas 4111! Kambui Hills (fl. Oct., fr. Dec.) Small 825! 854! **Lib.:** Yeh R., 2

miles above St. Paul R. (Oct.) Linder 990! **Iv. C.:** Mé Aubrév. 167. Guiglo Aubrév. 2075. **G. C.:** Enchie (Oct.) Tolmie FH 2381!

15. **Drypetes obanensis** *S. Moore* in Cat. Talb. 97 (1913); Pax & K. Hoffm. l.c. 15: 240. *APD acc*

A small forest tree with pubescent branchlets and crenate leaves; flowers small, colourless.

S. Nig.: Oban Talbot 677! 2310!

16. **Drypetes preussii** (*Pax*) *Hutch.* in F.T.A. 6, 1: 686 (1912); Pax & K. Hoffm. l.c. 15: 247. *APD acc*

Cyclostemon preussii Pax (1899).

A forest tree, to 65 ft. high; flowers yellow, borne on the stem.

S. Nig.: Oban Coombe 182! **Br. Cam.:** Barombi Preuss 23. S. Bakundu F.R. (fr. Aug.) Olorunfemi FHI 30739!

17. **Drypetes staudtii** (*Pax*) *Hutch.* in F.T.A. 6, 1: 688 (1912); Pax & K. Hoffm. l.c. 15: 263. *APD acc*

Cyclostemon staudtii Pax (1899).

A forest tree, to 40 ft. high; flowers heavily scented.

S. Nig.: Etemi, Omo F.R. (Mar.) Jones & Onochie FHI 16609! 16624! 16625! 17007! Ikom (fr. June) Latilo FHI 31851! Umon Ndealichi F.R., Calabar (young fr. May) Onochie FHI 33230! **Br. Cam.:** Meghom, Wum, Bamenda Prov. (fr. July) Ujor FHI 30488!

Also in **French Cameroons**.

18. **Drypetes gossweileri** *S. Moore* in J. Bot. 58: 271 (1920); Brenan in Kew Bull. 1952: 445. *APD acc*

Drypetes armoracia Pax & K. Hoffm. l.c. 15: 275 (1922).

Drypetes "arinozacia" of Kennedy For. Fl. S. Nig. 75.

Forest tree, to 125 ft. high, with straight clear bole; cut parts emitting a strong smell of horse-radish; flowers brownish-green.

S. Nig.: Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8474! 8475! Sapoba (fl. May, Dec., fr. June) Kennedy 1986! 2075!

Also in **French Cameroons**, **Cabinda** and **Belgian Congo**.

19. **Drypetes capillipes** (*Pax*) Pax & K. Hoffm. l.c. 15: 260 (1922); Brenan in Kew Bull. 1952: 444. *APD acc*

Lingelsheimia capillipes Pax (1909) — F.T.A. 6, 1: 691.

A forest shrub or small tree, to 12 ft. high, with grey branches; pedicels drooping; flowers greenish-white; ripe fruits rather hard and orange.

S. Nig.: Fowa, Omo F.R. (young fr. Mar.) Jones & Onochie FHI 17205! Okomu F.R. (fl. & fr. Dec.–Jan.) Brenan 8403! 8411! 8466! 8751!

Also in **French Cameroons** and **Belgian Congo**.

20. **Drypetes inaequalis** *Hutch.* in F.T.A. 6, 1: 684 (1912). *APD acc*

Cyclostemon leonensis Pax (1903).

Drypetes leonensis (*Pax*) Pax & K. Hoffm. l.c. 15: 262 (1922), not of Pax (1909).

A forest shrub, to 16 ft. high; branchlets angular, with spreading yellowish pubescence; fruit orange.

S. L.: Afzelius! Ninia, Talla Hills (fr. Feb.) Sc. Elliot 4895! **Lib.:** Ganta (fr. Feb., May) Harley 1184! Baldwin 11003!

21. **Drypetes chevalieri** *Beille* in Bull. Soc. Bot. Fr. 61, Mém. 8: 293 (1917); Aubrév. Fl. For. C. Iv. 2: 44, t. 135, 1–3. *APD acc*

A forest shrub or small tree, to 15 ft. high; flowers greenish-cream; ripe fruits bright orange, firmly fleshy.

Lib.: Ganta (fr. Apr., Sept.) Harley 1140! Baldwin 9249! **Iv. C.:** Danané (Apr.) Chev. 21290! Dyolas country (Apr.) Chev. 21128! And several other localities fide Beille l.c. **G. C.:** Awiabo (fr. Nov.) Vigne FH 1463! Banka (Sept.) Vigne FH 1369! Yakasi, Boin River F.R. (fr. Dec.) Vigne FH 3192! **S. Nig.:** Akinjare, Owo (fr. Mar.) Jones FHI 3068! Okomu F.R. (fl. Dec., fr. Jan.) Brenan 8409! 8436! 8757! 8892! Oban Talbot 678!

22. *Drypetes gilgiana* (Pax) Pax & K. Hoffm. l.c. 15: 261 (1922); Aubrév. l.c. 2: 43, t. 135, 4–5. *APD acc*

Cyclostemon gilgianus Pax (1903).

Lingelsheimia gilgiana (Pax) Hutch. (1912) — F.W.T.A., ed. 1, 1: 288; Chev. Bot. 587.

A small forest tree, to 30 ft. high, with pale grey-brown bark; flowers yellowish; ripe fruits bright scarlet or orange.

Port. G.: Ponte de Dada, Fulacunda (Oct.) Esp. Santo 2205! Pobresa, Cubisseque (fr. Feb.) Esp. Santo 2376! **S. L.:** Afzelius! Yonibana (Oct.) Thomas 4292! **Lib.:** Yeh R. (Oct.) Linder 992! Peahtah (Oct.) Linder 1075! Ganta (fr. Feb.) Baldwin 11019! **Iv. C.:** Akoupé (fr. Jan.) Serv. For. 1782! Man (fr. Mar.) Aubrév. 1045! **G. C.:** Jomura, Tano R. (fr. Jan.) Brent 6 DD! Amentia (Sept.) Vigne FH 1360! **Dah.:** Kétou to L. Azri Chev. 23033. **N. Nig.:** Kurmin Ninte, Jemaa Div. (Nov.) Keay FHI 21050! 22252! **S. Nig.:** Lagos (Oct.) Foster 353! Oshogbo (fr. Apr.) Millson 139! Mamu F.R., Ibadan (Oct.) Onochie FHI 8101! Omo F.R. (Oct.) Tamajong FHI 20977! **Br. Cam.:** Likomba (fr. Dec.) Mildbr. 10758!

Also in **French Cameroons**.

23. *Drypetes parvifolia* (Müll. Arg.) Pax & K. Hoffm. l.c. 15: 262 (1922). *APD acc*

Cyclostemon parvifolius Müll. Arg. (1864).

Lingelsheimia parvifolia (Müll. Arg.) Hutch. (1912) — F.W.T.A., ed. 1, 1: 288; Aubrév. l.c. 2: 44 (in note).

A shrub or small tree, with pale grey branches; ripe fruits red.

S. L.: Afzelius. **Iv. C.:** Guiglo Aubrév. 2025! Mt. Nienokoué Chev. 19453! **G. C.:** Agboho to Dedesu, Afram Plains (fr. May) Kitson 1124! Alabadi (fr. Apr.) Scholes 295! Akatin (Oct.) Vigne FH 4040! Kwabia (Oct.) Vigne FH 4022! **N. Nig.:** Nupe Barter 1032! 1700!

[Aubrév. 2025 has branchlets, petioles and pedicels more pubescent than the type, but it does not seem to me specifically distinct.]

24. *Drypetes tessmanniana* (Pax) Pax & K. Hoffm. l.c. 15: 262 (1922). *APD acc*

Cyclostemon tessmannianus Pax (1910).

Lingelsheimia tessmanniana (Pax) Hutch. in F.T.A. 6, 1: 692 (1912).

A forest shrub or small tree.

Br. Cam.: Likomba (Nov.) Mildbr. 10600!

Also in **Spanish Guinea**.

26. *Drypetes occidentalis* (Müll. Arg.) Hutch. in F.T.A. 6, 1: 683 (1912); Pax & K. Hoffm. l.c. 15: 276. *APD acc*

Cyclostemon occidentalis Müll. Arg. (1864).

A forest tree, 20 ft. high.

F. Po: Mann 1158!

***Drypetes* sp.**

Probably a new species near to *D. chevalieri* Beille; male flowers are required.

G. C.: Adeiso, E.P. (Mar.) Irvine 2413!

Imperfectly known species. I have seen a number of sterile specimens which have been provisionally referred to this genus, but cannot be named with any certainty. Field workers are reminded that both sexes of flowers and mature fruits should be collected whenever possible. — R.W.J.K.

***Drypetes sassandraensis* Aubrév.** Fl. For. C. Iv. 2: 48 (1936), French descr. only. (Iv. C.: Aubrév. 863! 1110!).

This is *Casearia bridelioides* Mildbr. ex Hutch & Dalz. (Samydaceae), a species not recorded from the Ivory Coast when Vol. I, part 1 of the revised Flora was published.

Excluded species.

Drypetes talbotii *S. Moore* in Cat. Talb. 97 (1913); Pax & K. Hoffm. l.c. 241.

The type specimen (Talbot 8 from Oban, Nigeria) consists of a leafy shoot of *Uvariopsis bakeriana* (Hutch. & Dalz.) Robyns & Ghesq. (Annonaceae) and detached cauliflorous inflorescences of a *Drypetes* which cannot be determined with any certainty. The name *D. talbotii* S. Moore must therefore, be rejected under Art. 76 of the International Code of Botanical Nomenclature (1952). A second specimen (Talbot 2337) cited in F.W.T.A., ed. 1 as *D. talbotii* consists of a leafy shoot of a *Napoleona* and very poor female flowers of a *Drypetes*. Excluded species.

Cyclostemon gabonensis of Chev. Bot. 561, not of Pierre.

The specimen cited (Iv. C.:Chev. 1993!) is *Diospyros canaliculata* De Wild. (Ebenaceae), and not a species of *Enantia* as suggested in F.W.T.A., ed. 1, 1: 286. Excluded species.

16. PHYLLANTHUS

Linn. — F.T.A. 6, 1: 692; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 60 (1931).

- 1 Flowering branchlets fasciculate; filaments all free; shrubs, often straggling or scandent, or sometimes arborescent; leaves glabrous: 2
- Flowering branchlets not in fascicles: 3
- 2 Sepals and stamens 5; sepals about 1.25 mm. long, not drying white; fruits depressed-globose, fleshy, about 3 mm. diam.; branchlets reddish-brown; barren leafy shoots crowded at the tops of the shoots and resembling pinnate leaves; flowers produced on clustered slender leafless racemes of fascicles arising in the axils of the leafy flowerless shoots and/or on the older leafless branchlets; leaves ovate or ovate-elliptic, usually rounded at base, subacute at apex, 2–7 cm. long, 1.5–4 cm. broad, glaucous beneath [1. muellerianus](#)
- Sepals and stamens 4 (–5); sepals about 1.5 mm. long, drying white; young fruits conical, beaked, fibrous; branchlets grey; barren leafy shoots and inflorescences similar to above, upper inflorescences all male and sometimes with a few leaves, lower ones often bisexual; leaves ovate, rounded, obtuse or slightly cuneate at base, acutely acuminate, 2.5–7 cm. long, 2–4 cm. broad, paler beneath [2. profusus](#)
- 3 Filaments free to the base or rarely (No. 5) some free and the others connate: 4
- Filaments connate the whole length or nearly so; stamens 2–3 (–4): 9
- 4 Disk of male flowers annular; large shrub to tree to 30 m. high, dioecious; male flowers numerous in fascicles in the leaf-axils, the females paired; sepals and stamens 4; filaments all free; fruits 3–4-lobed, about 8 mm. diam.; leaves ovate-elliptic to obovate-oblongate, rounded to cuneate at base, mostly rounded at apex, 2.5–10 cm. long, 2–4 cm. broad, glabrous or pubescent [3. discoideus](#)
- Disk of male flowers composed of separate glands; herbs, or shrubs up to 3 m. high: 5
- 5 Stamens and sepals 5, rarely 4: 6
- Stamens 3, free; sepals 6; plants dioecious, shrubby, to 2 m. high; leaves variable in shape, often oblong, ovate or orbicular, 8–30 mm. long, 4–21 mm. broad [7. alpestris](#)
- 6 Two or three of the filaments connate to the apex, the others free; fruits depressed-globose, about 7 mm. diam., 8–16-seeded, fleshy; 1 female flower and 2–3 or more males in each fascicle; leaves oblong or elliptic, rounded at both ends, 1.5–4 cm. long, 0.7–1.5 cm. broad; shrubs to 3 m. high: 7
- All the filaments quite free; leaves glabrous, glaucous beneath; fruits depressed-globose, about 2 mm. diam., capsular: 8
- 7 Stem and leaves crisped-pubescent [4. reticulatus var. reticulatus](#)
- Stem and leaves glabrous or nearly so [4a. reticulatus var. glaber](#)
- 8 Pedicels very slender, up to 2 cm. long; leaves obovate or elliptic-obovate, obtuse or slightly cuneate at base, rounded or subacute and slightly mucronate at apex, 8–15 mm. long, 6–12 mm. broad; small shrub, to 1.5 m. high [5. capillaris](#)
- Pedicels shorter and stouter, usually less than 3 mm. long; leaves oblong-lanceolate or linear-lanceolate, subacute at apex, up to 2 cm. long and 8 mm. broad; herb, to 0.5 m. high [6. pentandrus](#)
- 9 Stamens (2–) 3 (–4): 10
- Stamens 2; sepals 4 in male flower, (5–) 6 in female; flowers dioecious, the males several in each fascicle with numerous membranous laciniate bracts at the base, the females few or solitary; branches with membranous peeling bark; leaves elliptic to oblanceolate, obtuse or subcuneate at base, obtusely pointed at apex, 2.5–10 cm. long, 1–4 cm. broad; shrub to 2 m. high [20. petraeus](#)

- 10 Sepals of both sexes 5, those of the females in a single series; herbs, sometimes subwoody: 11
 Sepals of both sexes 6, those of the female often in two series: 14
- 11 Ovary prominently warted; curved back of seed marked with 12–14 fine longitudinal ridges; leaves oblong, 4–10 mm. long, 1.5–3 mm. broad; male flowers 2–3 together in lower leaf-axils of branches, female solitary in upper axils; disk of female flower stellate with 5 deep lobes; styles very short, deeply bifid [8. niruroides](#)
 Ovary smooth; curved back of seed marked with 5–10 longitudinal ridges: 12
- 12 Sepals in fruit about 2.5 mm. long, more or less embracing and subequalling the ripe fruit; back of seed with 9–10 faint longitudinal ridges; plant with few (up to 10) lateral branches; leaves oblong-elliptic to oblong-obovate, 5–9 mm. long, 3–5 mm. broad; flowers arranged as in No. 8; anther-thecae horizontally dehiscent; disk of female flowers shallowly 9-crenate; styles very short, deeply bifid at apex [9. nigericus](#)
 Sepals in fruit 0.75–1.5 mm. long, scarcely embracing and much shorter than the ripe fruit; back of seed with 5–7 more prominent longitudinal ridges; plants normally profusely branched: 13
- 13 Disk of female flowers annular, not lobed; stigmas quite sessile, closely packed into a minute circle at top of ovary, each stigma when viewed from above appearing reniform with an emarginate apex; anther-thecae dehiscent vertically; male flowers 1–2 together in lower axils of flowering branches, female solitary in upper axils; leaves elliptic-oblong, about 5 mm. long, 1.5–2 mm. broad [10. sublanatus](#)
 Disk of female flowers stellate with normally 5 deep radiating lobes; styles short but distinct, deeply bifid at apex, not forming a closely packed circle at top of ovary; anther-thecae with markedly oblique dehiscence; 1 female flower together with 1 male flower in each axil; leaves elliptic-oblong, 5–10 mm. long, 2–4.5 mm. broad [11. amarus](#)
- 14 Ovary warted; seeds transversely ridged; branchlets narrowly winged, asperulate; leaves oblong, rounded at base, shortly pointed and minutely mucronate at apex, 6–15 mm. long, margins asperulate; monoecious; flowers solitary and subsessile [12. urinaria](#)
 Ovary smooth; seeds longitudinally ridged: 15
- 15 Disk of female flowers consisting of separate glands; seeds marked with 9–10 fine longitudinal lines of dots on back; branchlets sharply angular; leaves linear to oblanceolate, up to 4 cm. long and 1.3 cm. broad; stipules broad and auriculate at base; male and female flowers sometimes together in the leaf-axils or the female solitary and larger [13. maderaspatensis](#)
 Disk of female flowers annular, saucer-shaped or cupular: 16
- 16 Seeds 1–1.25 mm. long, marked with 6–7 longitudinal lines on the back; herbs and shrublets up to 1.5 m. high: **17**
 Seeds 2.5–3 mm., dotted all over with minute papillae which can easily be scraped off; flowers monoecious, the males quite small, the females much larger with thick reticulate sepals; branches with membranous peeling bark; leaves elongate-oblong or oblong-elliptic, rounded at base, rounded or truncate at apex, 1–4.5 cm. long, 0.5–2.5 cm. broad; shrub to 3 m. high [19. beillei](#)
- 17 Disk of female flowers deeply toothed; styles very short; stem and branchlets glabrous; leaves oblong-elliptic, rounded at both ends, 6–14 mm. long, 2.5–5.5 mm. broad; flowers monoecious, solitary, the males in the lower, the females in the upper axils; annual herb [14. niruri](#)
 Disk of female flowers only slightly crenate or undulate: 18
- 18 Leaves suborbicular or rounded-obovate, mostly about 5 mm. diam.; stem, branchlets and often the leaves asperulate with numerous pointed papillae; 2–3 male flowers and 1 female together in each leaf-axil; styles distinct, spreading [15. rotundifolius](#)
 Leaves not as above; stem and branchlets glabrous or pubescent: 19
- 19 Stem densely puberulous, woody; branchlets winged, puberulous; leaves oblong-linear-lanceolate, 12–21 mm. long, 4–5.5 mm. broad; flowers monoecious, the males occupying most of the branchlet, usually a solitary female in the axil of the uppermost leaf [16. dusenii](#)
 Stem and branchlets glabrous, or nearly so; leaves more or less oblong to obovate, 8–25 mm. long, 4–11 mm. broad: 20
- 20 Stipules 2.5–4 mm. long, brownish, conspicuous; branchlets not or scarcely winged; leaves obovate or obovate-elliptic, subacute at base, rounded and mucronate at apex; flowers dioecious (? always); male flowers 1–3 in each leaf-axil, females solitary, sepals broad, enclosing the fruit; ovary sessile; shrublet, to 1.5 m. high, in montane areas [17. mannianus](#)
 Stipules up to 2 mm. long, not conspicuous; branchlets flattened and winged; leaves oblong, rounded at base, obtuse at apex; flowers monoecious; male flowers few together in axils of lower leaves, females solitary in upper axils and larger, sepals oblong-linear, not completely enclosing the fruit; ovary very shortly stipitate; ruderal herb [18. odontadenius](#)

1. *Phyllanthus muellerianus* (O. Ktze.) Exell in Cat. S. Tomé 290 (1944). *APD acc*

Diasperus muellerianus O. Ktze. (1891).

Kirganelia floribunda Baill. (1860), not of Spreng. (1826).

Phyllanthus floribundus Müll. Arg. (1863), not of Kunth (1817); F.T.A. 6, 1: 701; F.W.T.A., ed. 1, 1: 290; Chev. Bot. 556; Aubrév.

Fl. For. Soud.-Guin. 189.

A glabrous shrub or woody climber, sometimes arborescent, often armed with recurved stipular spines, with copious inflorescences of minute greenish flowers, and small berry-like red fruit.

Fr. Sud.: Bamako Waterlot 1368. Birgo Dubois 210. **Port. G.:** Granja, Catió (June) Esp. Santo 2088! **Fr. G.:** Rio Nunez Heudelot 659! Kouroussa (June) Pobéguin 264! 812! **S. L.:** Wilberforce (fr. Mar.) Johnston 96! Mofari, Scarcies R. (Jan.) Sc. Elliot 4402! Njala (fl. Mar., fr. Apr.) Deighton 1097! 1824! 4742! Batkanu (Jan.) Deighton 2863! **Lib.:** Tappita (fr. Aug.) Baldwin 9100! Flumpa, Sanokwele (fr. Sept.) Baldwin 9354! Kulo, Sinoe (fr. Mar.) Baldwin 11437! Soplma, Vonjama (Nov.) Baldwin 10111a! **Iv. C.:** Baoulé, Ferkéssédougou, Bobo Dioulasso and Kampti fide Aubrév. l.c. **G. C.:** Axim (Mar.) Chipp 395! Kumasi (fl. & fr. Feb.) Irvine 119! Assuantsi (Jan., Mar.) Fishlock 6! Irvine 1561! **Dah.:** Djougou Chev. 23875. **N. Nig.:** Nupe Barter 1666! Zungeru (July) Dalz. 64! **S. Nig.:** Lagos Rowland! Ibadan (Feb.) Meikle 1149! Okomu F.R. (Feb.) Brenan 9039! Old Calabar (Feb.) Mann 2262! **Br. Cam.:** Buea (Mar.) Maitland 499! **F. Po:** Mann 12!

Widespread in tropical Africa.

2. *Phyllanthus profusus* **N. E. Br.** in J. Linn. Soc. 37: 113 (1905); F.T.A. 6, 1: 704. *APD acc*

Phyllanthus wildemannii **Beille** in Bull. Soc. Bot. Fr. 61, Mém. 8: 293 (1917); Chev. Bot. 558; F.W.T.A., ed. 1, 1: 290 (excl. Irvine s.n. from Gold Coast).

Shrub with profuse white flowers.

Fr. G.: Conakry (Feb.) Chev. 12721! Los Isl. (Feb.) Chev. 13305! **Lib.:** Sinoe Basin Whyte! Kulo, Sinoe (Mar.) Baldwin 1430! Kakatown Whyte! Dukwia R. (Feb.) Cooper 246! **G. C.:** Birrim F.R. (Apr.) Vigne FH 2887!

3. *Phyllanthus discoideus* (**Baill.**) **Müll. Arg.** — F.T.A. 6, 1: 707; Aubrév. Fl. For. C. Iv. 2: 56, t. 140; Fl. For. Soud.-Guin. 187, t. 35, 1–3 (incl. var. pubescens).

APD: *Synonym of Margaritaria discoidea* (**Baill.**) **G.L. Webster** var. *discoidea*

Cicca discoidea **Baill.** (1860) Chev. Bot. 559.

Fluggea klaineana **Pierre** ex **A. Chev.** Bot. 559, name only.

F. obovata var. *luxurians* **Beille.**

A large deciduous shrub or tree, to 100 ft. high, in **moister parts of the savannah regions and drier parts of the forest; especially on old farmlands**; flowers yellowish-green.

Sen.: Leprieur! M'bidjem Thierry 209! **Gam.:** Heudelot 102. **Fr. Sud.:** Médinani Chev. 514. **Port. G.:** Botelhe, Caravela (May) Esp. Santo 2002! S. Domingos (fr. Aug.) Esp. Santo 3078! **Fr. G.:** Rio Nunez Heudelot 789! Moribadou to Niomorodougou (Mar.) Chev. 20944! Nzo (June) Collenette 40! **S. L.:** Bagroo R. Mann 882! Newton (Feb.) Deighton 5358! 5359! Kenema (Mar.) Lane-Poole 192! Musaia (fl. Mar., fr. Sept., Dec.) Deighton 5393! 5707! **Lib.:** Dukwia R. (fr. May) Cooper 436! Yratoke, Webo (fr. July) Baldwin 6239! **Iv. C.:** Anoumaba (fr. Nov.) Chev. 22348! Groumania Aubrév. 793! **G. C.:** Axim (Mar.) Chipp 418! Kintampo (Mar.) Dalz. 35! Akwapim Hills (Mar.) Irvine 1600! **Togo:** Sokode (Mar.) Kersting 29! **Dah.:** Poisson! **N.Nig.:** Nupe Barter 1498! Bauchi Plateau (Apr.) Lely P. 215! **S.Nig.:** Lagos Rowland! Olokemeji (Mar.) A. F. Ross 102! 117! Oban Talbot! **Br. Cam.:** Buea (Mar.) Maitland 443! Mopanya (fr. Apr.) Maitland 1138!

Widespread in tropical Africa.

4. *Phyllanthus reticulatus* **Poir.** var. *reticulatus* — F.T.A. 6, 1: 700; Aubrév. Fl. For. Soud.-Guin. 189. *APD acc*

Phyllanthus prieurianus **Müll. Arg.** — Chev. Bot. 558.

Erect or scrambling shrub, to 10 ft. high; flowers cream or reddish; fruits black when ripe; often growing by rivers.

Sen.: Leprieur! Sieber! **Fr. Sud.:** Sumpi (Aug.) Chev. 3461! Beragungu (fl. & fr. Feb.) Hagerup 312! Ansongo (fl. & fr. Mar.) De Wailly 5365! **Fr. G.:** Farana Chev. 20467. **S. L.:** Njala (fl. July, fl. & fr. Oct.) Deighton 739! 2539! Yetaya (Sept.) Thomas 2318! Mabonto (fr. Oct.) Thomas 3571! **G. C.:** R. Oti, Paliba (fl. & fr. Dec.) Adams & Akpabla GC 4114! **Dah.:** Djougou Chev. 23872. **N. Nig.:** Koton Karifi (fl. & fr. Nov.) Keay FHI 28087! Kano (fl. & fr. Aug.) Keay FHI 19180! Duchi, Bornu (Dec.) Elliott 143! Yola (fl. & fr. Dec.) Dalz. 161! **S. Nig.:** Ogun R., Olokemeji (fl. & fr. Nov.) Jones FHI 14232!

Widespread in tropical Africa.

4a. *Phyllanthus reticulatus* var. *glaber* Müll. Arg. — F.T.A. 6, 1: 701. *APD acc*

Shrub, by rivers; similar to the preceding.

S. L.: Njala (Sept.) Deighton 1997! Magbile (Dec.) Thomas 6127! Sasa, Tonko Limba (Sept.) Jordan 337! **IV. C.:** Tano R. (fr. Sept.) Chipp 347! **G. C.:** Kwitta Thonning. Juaso (fl. & fr. Aug.) Irvine 76! **S. Nig.:** Lagos Rowland! Millen 53! Lower Niger R. T. Vogel!

Widespread in tropical Africa.

5. *Phyllanthus capillaris* Schum. & Thonn. — F.T.A. 6, 1: 709; Chev. Bot. 556.

APD: Synonym of Phyllanthus nummulariifolius var. *capillaris* (Schumach. & Thonn.) Radcl.-Sm.

A small shrub, to 5 ft. high, with slender stems; flowers white, in small axillary fascicles, the female often solitary; in open grassy places.

Fr. G.: Ditinn Chev. 13533. **S. L.:** Erimakuna (Mar.) Sc. Elliot 5245! Zimmi (Nov.) Deighton 375! Rokupr (fl. & fr. May) Jordan 253! Bafodea (fl. & fr. Apr.) Deighton 5506! **Lib.:** Sinoe Basin Whyte! Gbanga (fl. & fr. Sept.) Linder 587! Nyaake, Webo (fl. & fr. June) Baldwin 6165! Flumpa, Sanokwele (fl. & fr. Sept.) Baldwin 9356! **IV. C.:** Té, Man (fl. & fr. July) Collenette 52! **G. C.:** Accra (fl. & fr. June) Dalz. 138! Kpokoase (Mar.) Irvine 199! **Togo:** Klingfall Kersting 649! Bismarckburg Büttner 333! **N. Nig.:** Bauchi Plateau (fl. & fr. Apr.) Lely P. 238! Hepham to Ropp (fl. & fr. July) Lely 371! **S. Nig.:** Lagos Rowland! Bonny (fl. & fr. Feb.) Kalbreyer 44! Aguku Thomas 835! Calabar (fl. & fr. Apr.) Holland 85! **Br. Cam.:** Cameroon R. (fl. & fr. Jan.) Mann 758! 2226! **F. Po:** Moka (fl. & fr. Jan.) Exell 838!

Widespread in tropical Africa.

6. *Phyllanthus pentandrus* Schum. & Thonn. — F.T.A. 6, 1: 710; Chev. Bot. 558. *APD acc*

APD: Synonym of Phyllanthus reticulatus Poir. var. *reticulatus*

A glabrous, much-branched woody herb, up to 18 in. high; flowers white, small, males 2–3 together in the lower axils on the branchlets; females solitary in the upper axils.

Sen.: Heudelot 466! Richard! **Gam.:** Genieri (fl. & fr. Feb.) Fox 81! 126! **Fr. Sud.:** Sindou (May) Chev. 870. San Chev. 2616. **Port. G.:** Praia Varela, Suzana (fl. & fr. Oct.) Esp. Santo 2283! Buruntuma, Gabu (fl. & fr. July) Esp. Santo 2705! **G. C.:** Atwabo Fishlock 75! Accra (fl. & fr. June) Irvine 1793! Aburi Anderson 2! **Togo:** Lome Warnecke 2! **Dah.:** Burton! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 462! **N. Nig.:** Nupe Barter! Sokoto (fl. & fr. Oct.) Dalz. 390! Bida (fl. & fr. Jan.) Meikle 1099! Katagum Dalz. 206! **S. Nig.:** Achalla, Onitsha (fl. & fr. Sept.) Onochie FHI 34058!

Widespread in tropical Africa.

7. *Phyllanthus alpestris* Beille — F.T.A. 6, 1: 712; Chev. Bot. 556. *APD acc*

Phyllanthus leonensis Hutch. (1917) — F.W.T.A., ed. 1, 1: 291.

Phyllanthus monticola Hutch. & Dalz. F.W.T.A., ed. 1, 1: 291 (1928).

Phyllanthus virgatus of Chev. Bot. 558.

Shrub to 6 ft. high, or suffrutex.

Fr. G.: Ditinn to Diaguissa (Apr.) Chev. 12907! Diaguissa (Apr.) Chev. 12943! Mt. Nzo (Mar.) Chev. 21006! 21030! Grandes Chutes (Dec.) Chev. 20241! 20317! Labé (Apr.) Chev. 12305! **S. L.:** Soukourala, foot of Mt. Tafaro (Jan.) Chev. 20586! Sugar Loaf Mt. (Nov.) Sc. Elliot 3962! Deighton 5637! 5638! York Pass Lane-Poole 424! Regent (Apr.) Sc. Elliot 5819! Sendugu (June) Thomas 580! Sankan-Biriwa (July) Edwardson 75! **IV. C.:** Nimba Mts. (fl. & fr. Aug.) Boughey GC 18095!

8. *Phyllanthus niruroides* Müll. Arg. — F.T.A. 6, 1: 715; Chev. Bot. 558. *APD acc*

APD: Synonym of Phyllanthus taylorianus Brunel ex Radcl.-Sm.

A glabrous subwoody herb, up to 2½ ft. high; flowers white, small, on short pedicels; a weed of cultivated land and waste ground.

Fr. G.: Kouria Chev. 14839. **S. L.:** Freetown Welw. 316! Kambia (fl. & fr. Dec.) Sc. Elliot 4346! Newton (fl. & fr. Sept.) Deighton 4878! Rokupr (fl. & fr. Apr., Aug.) Deighton 3019! Jordan 235! Bo (fl. & fr. June) Deighton 5102! **Lib.:** Gbanga

(fl. & fr. Sept.) Linder 522! Monrovia (fl. & fr. June, Nov.) Baldwin 5871! Barker 1462! Mt. Barclay (fl. & fr. Apr.) Bunting! **Togo**: Misahöhe Baumann 144 (partly). **S. Nig.**: Calabar (fl. & fr. July) Holland 44!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Tanganyika** and **S. Rhodesia**.

9. **Phyllanthus nigericus** *Brenan* in Kew Bull. 1950; 215. *APD acc*

Herb with slender stems decumbent at base; sepals pale green in centre, with white margins.

S. Nig.: Carter's Peak, Idanre, Ondo Prov. (fl. & fr. Jan.) Brenan & Keay 8693! **F. Po.**: Moka, 4,000 ft. (fl. & fr. Dec.) Boughey 15! Mioka, 5,000 ft. (fl. & fr. Dec.) Boughey 159!

[The Fernando Po specimens have the filaments rather less completely connate than in the type.]

10. **Phyllanthus sublanatus** *Schum. & Thonn.* — F.T.A. 6, 1; 715 (excl. spec. Ansell); Brenan l.c. 217. *APD acc*

A glabrous herb with slender subwoody stems; **a weed**.

Fr. Sud.: Sikasso (fl. & fr. May) Chev. 804! **S. L.**: Buyabuya, Scarcies R. (fl. & fr. Feb.) Sc. Elliot 4267! Rokupr (fl. & fr. Apr.) Jordan 228! 239! Makene (fl. & fr. Apr.) Deighton 5509! **G. C.**: Thonning. Kumbungu to Mabilo, N.T. (fl. & fr. May) Kitson! **Togo**: Togba Toto (fl. & fr. June) Howes 1005! **N. Nig.**: Jebba (fl. & fr. Dec.) Meikle 679! Abinsi (fl. & fr. Nov.) Dalz. 763! Onitsha Prov. Thomas 622!

Also in **Lower Shari**.

11. **Phyllanthus amarus** *Schum. & Thonn.* — F.T.A. 6, 1: 717; Chev. Bot. 556. *APD acc*

A glabrous herb with slender subwoody stems; **a weed**.

S. L.: Bonthe (fl. & fr. Nov.) Deighton 2265! Kent (fl. & fr. May) Deighton 2657! Rokupr (fl. & fr. Apr.) Jordan 237! Njala (fl. & fr. May) Deighton 1945! **Lib.**: Monrovia Whyte! Sinoe Basin Whyte! **IV. C.**: fide Chev. l.c. **G. C.**: Thonning. Axim (Jan.) Chipp 56! Accra Ansell! **N. Nig.**: Idah T. Vogel! **S. Nig.**: Lagos Dawodu 24! 365! Dalz. 1360! Sapoba Kennedy 2698! Awka Thomas 50! Calabar (fl. & fr. Mar.) Brenan 9210! **F. Po.**: T. Vogel!

Widespread in the tropics.

12. **Phyllanthus urinaria** *Linn.* — F.T.A. 6, 1: 721. *APD acc*

A herb with slender subwoody stems.

S. L.: Regent, on rocks (Dec.) Sc. Elliot 4102! Freetown (Dec.) Deighton 499! Moyamba (fl. & fr. Aug.) Deighton 2215! Sembehun (fl. & fr. Aug.) Deighton 3794! Rokupr (fl. & fr. Apr.) Jordan 238! **G. C.**: Benso, Tarkwa (fl. & fr. June) Andoh FH 5525! **S. Nig.**: Sapoba (fr. Sept.) Onochie FHI 34311!

A common tropical weed but apparently rare in Africa.

13. **Phyllanthus maderaspatensis** *Linn.* — F.T.A. 6, 1: 722; Chev. Bot. 557. *APD acc*

A woody undershrub or herb, of variable habit; glabrous or slightly asperulate; **a weed in cultivated ground**.

Sen.: Dakar (fl. & fr. May) Baldwin 5707! **IV. C.**: Koupéla, Mossi Chev. 24544. **G. C.**: Accra (fl. & fr. Mar., June, July) Dalz. 139! Deighton 561! Irvine 726! **Togo**: Yendi (fl. & fr. Dec.) Adams & Akpabla GC 4065! **N. Nig.**: Sokoto (Aug.) Dalz. 391!

Throughout the tropical and subtropical regions of the Old World.

14. **Phyllanthus niruri** *Linn.* — F.T.A. 6, 1: 731.

APD: *Synonym of Phyllanthus fraternus G.L. Webster*

APD: *Synonym of Phyllanthus amarus Schumach. & Thonn.*

A glabrous annual weed, up to about 18 in. high, with smooth sulcate stem and slightly winged branchlets.

Sen.: Perrottet! **N. Nig.**: Nupe Barter 825!

Common in India, but apparently rare elsewhere.

15. *Phyllanthus rotundifolius* Klein ex. Willd. — F.T.A. 6, 1: 731. *APD acc*

Phyllanthus niruri var. *genuinus* Beille — Chev. Bot. 557.

An annual herb, to 18 in. high; seeds dark brown.

Sen.: Trochain. **Fr. Sud.:** Sumpi (fl. & fr. Aug.) Chev. 3462! Timbuktu (fl. & fr. July) Hagerup 147! 158a!

Extends from Cape Verde Islands to India.

16. *Phyllanthus dusenii* Hutch. — F.T.A. 6, 1: 723. *APD acc*

Stems flexuous, about 1 ft. high, arising from a stout woody root, the flowering branchlets crowded towards the top.

S. Nig.: Oban Talbot 2323! **Br. Cam.:** Dusen 296! On rocks in Ndian R., Kumba (Mar.) Smith 85/36!

17. *Phyllanthus mannianus* Müll. Arg. — F.T.A. 6, 1: 730; Chev. Bot. 557.

APD: *Synonym of Phyllanthus bancilhonae Brunel & J.P. Roux*

APD: *Synonym of Phyllanthus gagnioevae Brunel & J.P. Roux*

Erect shrublet, to 4 ft. high, in montane forest, woodland and grassland; sepals white with broad green central line.

Fr. G.: Fouta Djallon fide Chev. l.c. **Iv. C.:** Mt. Gbon, Haut Cavally, 3,500 ft. (fl. & fr. May) Fleury in Hb. Chev. 21415! **Br. Cam.:** Cam. Mt., 5,000–9,000 ft. (fl. & fr. Nov.–Jan.) Mann 1231! 1998! Migeod 208! Mt. Mba Kokeka, Bamenda, 7,500 ft. (Jan.) Keay FHI 28407! L. Oku, Bamenda, 7,200 ft. (fr. Jan.) Keay FHI 28493!

18. *Phyllanthus odontadenius* Müll. Arg. — F.T.A. 6, 1: 727.

APD: *Synonym of Phyllanthus gagnioevae Brunel & J.P. Roux*

A subwoody herb, to 3 ft. high; a common weed.

Port. G.: Bissau (Nov.) Esp. Santo 897! **S. L.:** Njala (fl. & fr. May) Deighton. 639! Rokupr (fl. & fr. Apr.) Jordan 236! Bafodea (fl. & fr. Apr.) Deighton 5507! Musaia (fl. & fr. Dec.) Deighton 4480! **Lib.:** Kakatown Whyte! **G. C.:** Aburi Hills (fl. & fr. Oct.) Johnson 471! Kumasi Cummins 77! **S. Nig.:** Lagos (fl. & fr. July) Dalz. 1361! Ibadan (fl. & fr. Nov.–Apr.) Meikle 652! 1306! 1454! Okomu F.R. (fl. & fr. Feb.) Brenan 9135! 9148! Calabar (fl. & fr. Mar.) Brenan 9209! **Br. Cam.:** Buea (fl. & fr. July) Dundas FHI 15237! **F. Po:** Barter!

Extends to A.–E. **Sudan** and **Angola**, also on **S. Tomé**.

19. *Phyllanthus beillei* Hutch. in F.T.A. 6, 1: 733 (1912). *APD acc*

APD: *Synonym of Phyllanthus kerstingii Brunel*

Shrub, to 10 ft. high, with bright green leaves and white flowers; on rocks, and by streams in savannah.

S. L.: Sugar Loaf Mt., 1,800 ft. (Nov.–Dec.) Sc. Elliot 3961! Deighton 5635! York Pass Lane-Poole 438! Picket Hill, 2,100 ft. (Nov.) T. S. Jones 191! **Togo:** Kersting 44. **N. Nig.:** Kaduna (fr. Dec.) Meikle 781! Bauchi Plateau (Oct.) Lely P. 819! **S. Nig.:** Little Osse R. (Aug.) Symington FHI 5636!

Also in **French Cameroons** and **Upper Shari region**.

20. *Phyllanthus petraeus* A. Chev. ex Beille — F.T.A. 6, 1: 733. *APD acc*

A shrub, to 7 ft. high; flowers yellowish-green; in moist places by streams.

Fr. G.: between Santa R. and Timbo Chev. 12610. Kouria to Longuéry Caille in Hb. Chev. 14628; 14646. Kouria Caille in Hb. Chev. 14991! **S. L.:** Sasseni, Scarcies R. (Jan.) Sc. Elliot 4419! Wallia, Scarcies R. (Jan.) Sc. Elliot 4637! Mabum (Aug.) Thomas 1627! Njala (Feb., Oct.) Deighton 1087! 2535! **Lib.:** between Nua and St. John rivers, Tappita Dist. (Aug.) Baldwin 9140!

Phyllanthus sp.

Dioecious shrub, to 15 ft. high; flowers solitary in leaf-axils, pedicels slender, up to about 1 cm. long in fruit; sepals 6; stamens 3, filaments united for about half their length.

S. L.: Lane-Poole 443! Edge of grassfield, Russell (May) Deighton 2647! **Lib.:** Sanokwele (Sept.) Baldwin 9413! Monrovia (Dec.) Baldwin 10510!

Imperfectly known species.

Phyllanthus acidus (Linn.) Skeel

A native of India and Madagascar has been introduced and is cultivated for its fruit: "Indian Gooseberry".

17. SECURINEGA

Commers. in Juss. Gen. 388 (1789); Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 60 (1931).

Fluggea Willd. — F.T.A. 6, 1: 736.

- 1 Shrub or small tree; leaves elliptic or obovate, cuneate at base, up to 6 cm. long and 3 cm. broad, rigidly membranous, glabrous, often glaucous below; flowers dioecious, the males in axillary fascicles on slender pedicels up to 5 mm. long; stamens 5, free; rudimentary ovary tripartite; female disk annular; fruits depressed-globose, about 5 mm. diam.; seeds shining with several lines of pits on the back [virosa](#)

Securinega virosa (Roxb. ex Willd.) Baill. in Adansonia 6: 334 (1866).

APD: Synonym of Flueggea virosa (Roxb. ex Willd.) Voigt subsp. virosa

Phyllanthus virosus Roxb. ex Willd. (1805).

Fluggea virosa (Roxb. ex Willd.) Baill. (1858) — F.W.T.A., ed. 1, 1: 291.

F. microcarpa Blume (1825) — F.T.A. 6, 1: 736; Chev. Bot. 559.

Securinega microcarpa (Blume) Pax & K. Hoffm. ex Aubrév. Fl. For. Soud.-Guin. 190 (1950).

Up to 12 ft. high, with somewhat angular glabrous branchlets; fruit a small white berry; **locally common in open regrowth vegetation**. Liable to be mistaken for a species of *Phyllanthus*, but distinguished by the large tripartite rudimentary ovary in the male flower.

Sen.: Leprieur! Sieber 49! **Gam.:** Genieri (July) Fox 132! **Fr. Sud.:** various localities fide Aubrév. l.c. **Fr. G.:** Kouroussa (Apr.) Pobéguin 233! **S. L.:** Sc. Elliot! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Cape Coast Castle (July) T. Vogel 86! Accra Plains (Feb., Mar.) Brown 934! Irvine 215! Bjury (July) Chipp 498! Yegi (July) Pomeroy 1247! **Togo:** Lome Warnecke 297! Kpedsu (Dec.) Howes 1066! **Fr. Nig.:** Mainé Soroa Aubrév. **N. Nig.:** Nupe Barter 1496! Katagum Dalz. 207! Aguji, Ilorin Thornton! Bauchi Plateau (Aug.) Lely P. 656! **S. Nig.:** Lagos Rowland! Abeokuta Irving!

Widespread in tropical Africa, S. Africa, the Mascarene Islands, tropical and subtropical Asia, and in **Australia**.

18. UAPACA

Baill. — F.T.A. 6, 1: 634; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 298–311 (1922).

- 1 Stipules foliaceous, lanceolate to ovate, persistent or subpersistent, up to 3 cm. long and 2 cm. broad; young shoots pubescent; trees of swamps in rain forest: **2**
- Stipules linear or linear-subulate, mostly early caducous (but see No. 3): **3**
- 2 Leaves glabrous or with the midrib minutely puberulous beneath, oblanceolate or obovate-oblanceolate, cuneate to rounded at base, (8–) 19–48 cm. long, (3·2–) 7–17 cm. broad, main lateral nerves 8–14 pairs; petiole 1–7 cm. long; bracts glabrous; heads of male flowers about 12 mm. diam.; male calyx glabrous; ovary puberulous; fruits ovoid or subglobose, 2–2·5 cm. diam., warted, puberulous, 3-seeded [1. staudtii](#)
- Leaves shortly pilose beneath on midrib, nerves and veins, obovate to oblong-obovate, rounded to cordate at base, 16–50 cm. long, 10–25 cm. broad, main lateral nerves 10–20 pairs; petiole 3–10 cm. long, stout; bracts pubescent outside; heads of male flowers 8–10 mm. diam.; male calyx pubescent; ovary velutinous; fruits ovoid, 2·5–3 cm. long, (3–) 4-seeded [2. paludosa](#)
- 3 Leaves pilose beneath, especially on midrib and nerves; fruits globose: **4**
- Leaves glabrous or rather sparsely puberulous beneath: **5**

- 4 Stipules persistent, linear-subulate, up to 1 cm. long; branchlets pilose; leaves obovate-oblongate, rounded to cuneate at base, 6–16 (–27) cm. long, 2.7–7.5 (–12) cm. broad, main lateral nerves 7–9 (–12) pairs; petiole 1.5–3.8 (–7.5) cm. long; fruits about 2 cm. diam., glabrous [3. vanhouttei](#)
- Stipules early caducous; branchlets sparsely pubescent; leaves obovate to obovate-suborbicular, rounded at base, 7.5–17 cm. long, 4–11.5 cm. broad, main lateral nerves 6–10 pairs; petiole 2–4 cm. long; bracts obovate-oblongate, pilose outside; heads of male flowers about 5 mm. diam.; male calyx pilose; ovary pubescent; fruits 2–2.5 cm. diam., warted, pubescent, 3-seeded [4. chevalieri](#)
- 5 Calyx of male flowers pilose; heads of male flowers 5–6.5 mm. diam.; fruits subglobose up to about 2 cm. diam.: [6](#)
- Calyx of male flowers glabrous or ciliate on the margin; heads of male flowers 7–13 mm. diam.; fruits ovoid or ellipsoid, 2.5–5 cm. long, glabrous; leaves cuneate at base, glabrous: [7](#)
- 6 Ovary densely pubescent; fruits pubescent, always with a ring of long hairs at the base; stipules and young branchlets pubescent, usually rather densely so; leaves usually oblong-obovate, entire or irregularly undulate, cuneate, obtuse or rounded at base, 11–25 cm. long, 5–15.5 cm. broad, sparingly puberulous or glabrescent beneath, coriaceous, rough to the touch; petiole 1–8 cm. long; tree of savannah normally without stilt-roots, sometimes in fringing forest with stilt-roots [5. togoensis](#)
- Ovary glandular, glabrous or nearly so; fruits glabrous, warted; stipules and young branchlets glabrous, or pubescent and soon glabrescent; leaves obovate, markedly undulate, cuneate at base, 7–26 cm. long, 2.8–13 cm. broad, glabrous beneath, thinly coriaceous; petiole 1.5–7 cm. long; tree with stilt-roots, in rain forest [6. guineensis](#)
- 7 Heads of male flowers 7–8 mm. diam., bracts glabrous; fruits ellipsoid, 2.5–3.5 cm. long, 1.2–2.5 cm. diam., 3-seeded; leaves oblanceolate to obovate-oblong, 8–20 cm. long, 3–6.5 cm. broad, papery; petiole 1–3.8 cm. long: [8](#)
- Heads of male flowers about 13 mm. diam., bracts puberulous; calyx of male flowers ciliate on the margin; fruits ovoid about 5 cm. long and 4 cm. broad, 5-seeded; leaves oblanceolate to oblong-obovate, 9–30 cm. long, 3–15 cm. broad, thickly coriaceous; lateral nerves 5–8 pairs; petiole 2–4.5 cm. long; young shoots glabrous, not waxy [9. esculenta](#)
- 8 Leaves rounded or obtuse at apex, lateral nerves 10–15 pairs; tufts of reddish curly hairs in leaf-axils [7. heudelotii](#)
- Leaves acuminate at apex, lateral nerves 7–8 pairs; tufts of curly hairs absent [8. acuminata](#)

1. **Uapaca staudtii** Pax — F.T.A. 6, 1: 638; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 300. *APD acc*

Tree to 90 ft. high, with stilt-roots, in [swamp forest](#); flowers white or pale yellowish.

S. Nig.: Oni Sankey 14! Shasha F.R. (Apr.) Richards 3416! Boje, Ikom (May) Jones & Onochie FHI 17335! Okwango F.R., Obudu (May) Latilo FHI 30964! **Br. Cam.:** Victoria (fl. Apr., fr. Feb.) Preuss 1171! Maitland 397! 613! 630! Bambuko F.R., Kumba (fr. Sept.) Olorunfemi FHI 30773! **F. Po:** Bokoko Mildbr. 6854.

Also in [French Cameroons](#).

2. **Uapaca paludosa** Aubrév. & Léandri in Bull. Soc. Bot. Fr. 82: 50, fig. 1 (1935); Aubrév. Fl. For. C. Iv. 2: 30, t. 131.

APD: *Synonym of Uapaca mole Pax*

Uapaca guineensis of F.W.T.A., ed. 1, 1: 292, partly (Barter 1833, Talbot 3050).

Tree to 60 ft. high, with stilt-roots, in [swamp forest](#).

Iv. C.: Banco (fr. Jan., Aug.) Aubrév. 361! 502! 875! 1510! Tabou (Dec.) Aubrev. 1671! **G. C.:** Huniso Irvine 1062! **S. Nig.:** Omodofen, Ifon (Aug.) Farguhar 57! Okomu F.R. Brenan 9010! Sapoba Kennedy 1967! Brass Barter 1833! Eket Talbot 3050!

Also in [French Cameroons](#).

3. **Uapaca vanhouttei** De Wild. Et. Fl. Bas-et Moy. Congo 2: 275 (1908); Pax & K. Hoffm. l.c. 15: 303. *APD acc*

Tree, to 30 ft. high, in [rain forest](#).

S. Nig.: Aking, Oban (fr. Feb.) Aninze FHI 15429! Aboabam, Ikom (fr. May) Jones & Onochie FHI 18705! Oban Talbot 671!

Also in **Belgian Congo**.

4. **Uapaca chevalieri Beille** in Bull. Soc. Bot. Fr. 55, Mém. 8: 68 (1908); Aubrév. Fl. For. Soud.-Guin. 190–193.

APD: Synonym of Uapaca togoensis Pax

Uapaca togoensis Pax in Engl. Bot. Jahrb. 34: 371 (1904), partly (Sc. Elliot 4828 only); F.T.A. 6, 1: 638; F.W.T.A., ed. 1, 1: 292 (excl. distrib. Togo & Dah.); Aubrév. Fl. For. C. Iv. 2: 32, t. 130B.

Tree to 60 ft. high, **usually in wet places near streams**.

Fr. G.: Fouta Djallon: Ditinn to Diaguissa (Apr.) Chev. 12670! Kala to Dalana (fl. & fr. Apr.) Chev. 13477! Pita (Apr.) Pobéguin 2305! **S. L.:** Mt. Gonkwi, Talla (fr. Feb.) Sc. Elliot 4828! Worawaia (Apr.) Lane-Poole 3! Loma Mts. (Apr.) Jaeger 1309! Frith 21! L. Sonfon (Apr.) Deighton 5069! **Iv. C.:** Aubrév. 1131! Nimba Mts. Schnell!

5. **Uapaca togoensis Pax** in Engl. Bot. Jahrb. 34: 371 (1904), excl. Sc. Elliot 4828; in Engl. Pflanzenr. Euph. 15: 304 (excl. Sc. Elliot 4828, excl. syn. *APD acc*)

Uapaca chevalieri Beille F.W.T.A., ed. 1, 1: 292, in part only (distrib. Togo & Dah.).

Uapaca guignardi A. Chev. ex Beille (1908).

Uapaca somon Aubrév. & Léandri (1935); Aubrév. Fl. For. C. Iv. 2: 34; Fl. For. Soud.-Guin. 190–193, t. 45, 4–5.

Uapaca guineensis of F.T.A. 6, 1: 640 and of F.W.T.A., ed. 1, 1: 292, partly.

A tree to 40 ft. high, **common in savannah; growing also as a taller tree with stilt-roots in fringing forest in the savannah regions**; flowers yellow; ripe fruits orange-yellow; leaves shining dark green, clustered at the ends of the branches.

Fr. Sud.: Segouna Dubois 192c! **Port. G.:** Gabu (young fr. Oct.) Esp. Santo 3114! **Fr. G.:** Farma 325! Farana (fr. Feb.) Chev. 20633! Kouroussa Pobéguin 432. **S. L.:** Erimakuna (fr. Mar.) Sc. Elliot 5395! Musaia (fl. Sept., Oct., fr. Feb.) Thomas 2660! Deighton 4169! Small 205! Port Loko (fr. Feb.) Deighton 3609! Foot of Loma Mts. (Sept.) Jaeger 1991! **Iv. C.:** Bondoukou (fr. Jan.) Aubrév. 728! Tafiré (Dec.) Aubrév. 614! **G. C.:** Ejura (Aug.) Chipp 725! Kintampo (Nov.) Andoh FH 5436! **Togo:** Sokodé (fr. Mar.) Kersting 22! **Dah.:** Poisson. **N. Nig.:** Agaie (Nov.) Yates 24! 24a! Jos (Oct.) Costello 15/28! Katagum Dalz. 356! **S. Nig.:** Awba Hills, Ibadan Jones & Keay FHI 4893! Enugu (Sept.) Onochie FHI 34083! Bansara to Ikom (fr. Dec.) Keay FHI 28146! Obudu (young fr. Dec.) Keay & Savory FHI 25004! 25005! 25006! **Br. Cam.:** Babati Rudatis 36.

Also in **French Cameroons** and **Ubangi-Shari**.

[I have seen trees of this species in savannah woodland, in Ogoja Province, Nigeria, producing aerial roots. — R.W.J.K.]

6. **Uapaca guineensis Müll. Arg.** in Flora 47: 517 (1864); F.T.A. 6, 1: 640, partly; F.W.T.A., ed. 1, 1: 292, partly (excl. Sc. Elliot 5395, Yates 24, 24a, Barter 1833 and Talbot 3050); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 15: 306; Aubrév. Fl. For. C. Iv. 2: 30, t. 129, 7–10.

Uapaca bingervillensis Beille (1908).

A tree to 90 ft. high, with stilt-roots; **in rain forest; flowers yellow; fruit edible**.

S. L.: Unwin & Smythe 38! Kenema (Jan.) Thomas 7728! Mayoso (fr. Aug.) Thomas 1484! Mofari (Jan.) Sc. Elliot 4407! **Lib.:** Kakatown Whyte! Dukwia R. (fr. Feb.) Cooper 298! Gbanga (fr. Sept.) Linder 696! Cape Palmas (May) Hunting 1! **Iv. C.:** Chev. 15415! Rasso Aubrév. 562! Banco Aubrév. 616! **G. C.:** Simpa (May) Vigne FH 2010! Awiabo (Nov.) Vigne FH 1433. **S. Nig.:** Lagos Moloney! Nun R. Barter 2116! Brass Barter 1834! Itu (Oct.) King-Church 49! **Br. Cam.:** Victoria (fl. Apr., fr. Mar.) Maitland 596! 1141! **F. Po:** T. Vogel 194! Mann 74!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**, but specimens from **Uganda** recorded as this species appear to be distinct.

[Barter 1693 from Nupe, N. Nigeria which is one of the syntypes of *U. guineensis* Müll. Arg. is probably the fringing forest form of *U. togoensis* (see above), but the specimen lacks female flowers and fruits so its determination is somewhat doubtful.]

7. **Uapaca heudelotii Baill** — F.T.A. 6, 1: 639; Aubrév. l.c. 2: 29, t. 130; Pax & K. Hoffm. l.c. 15: 308, fig. 25. *APD acc*

Uapaca benguelensis of Chev. Bot. 562.

A forest tree, to 90 ft. high and 9 ft. girth, with stilt-roots; [always near water, in forest regions and in fringing forest in the savannah regions](#); flowers white or greenish.

Fr. Sud.: Diendema (Feb.) Chev. 423! **Fr. G.:** Fouta Djallon Heudelot 836! Ditinn (Apr.) Chev. 12702! **S. L.:** Moa R., Kambui F.R. (Mar.) Lane-Poole 327! Talla Hills (Feb.) Sc. Elliot 4946! Musaia (Feb.) Sc. Elliot 5150! Deighton 4239! 4240! **Lib.:** Dukwia R. (Feb.) Cooper 179! Zolopla, Sanokwele (fr. Sept.) Baldwin 9379! **Iv. C.:** Tano R. (fr. July) Chipp 300! Various localities fide Aubrév. l.c. **G. C.:** Zantana Kitson 560! Anibil, Ancobra R. (Mar.) Irvine 2390! **Togo:** fide Pax & K. Hoffm. l.c. **Dah.:** Djougou Chev. 23860. **N. Nig.:** Nupe Barter 1151! Agaie (Jan.) Yates 25! **S. Nig.:** Lagos Rowland! Oni R. Sankey 3! Calabar R. (Feb.) Mann 2268! **Br. Cam.:** fide Pax & K. Hoffm. l.c.

Also in [French Cameroons](#), [Spanish Guinea](#), [Gabon](#) and [Belgian Congo](#).

8. *Uapaca acuminata* (Hutch.) Pax & K. Hoffm. l.c. 15: 308 (1922). *APD acc*

Uapaca heudelotii var. *acuminata* Hutch, in F.T.A. 6, 1: 639 (1912), excl. Preuss 8 (see Pax & K. Hoffm. l.c.).

A tree, to 75 ft. high, in [rain forest](#).

S. Nig.: Ikom Catterall 74! Bendiga Ayuk, Ikom (fr. May) Jones & Onochie FHI 14127! **Br. Cam.:** Johann-Albrechtshöhe Staudt 577!

Also in [French Cameroons](#) and [Cabinda](#).

9. *Uapaca esculenta* A. Chev. ex Aubrév. & Léandri in Bull. Soc. Bot. Fr. 82: 52, fig. 2 (1935); Aubrév. Fl. For. C. Iv. 2: 30, t. 129, 1–6. *APD acc*

APD: Synonym of Uapaca pynaertii De Wild.

A large tree with stilt-roots in [rain forest](#); flowers yellow; fruits edible.

S. L.: Commendi — Gengaru road (Nov.) Aylmer 255! Kambui Hills (fr. Sept.) Edwardson 36! **Lib.:** Dukwia R. Cooper 147! **Iv. C.:** Yapo (Oct.) Chev. 22320! Abidjan Aubrév. 212! Banco Aubrév. 355! 498! And other localities fide Aubrév. l.c. **G. C.:** Simpa (fr. Feb.) Vigne FH 2803! **S. Nig.:** Jamieson R., Sapoba Kennedy 1876! 1895!

[*U. corbisieri* De Wild. from the Belgian Congo may well prove conspecific; it is the older name.]

A sterile species (Ogua FHI 7850) from Banki, Anchau Dist., Zaria Prov., N. Nigeria, appears to be different from all the above species. It may possibly be the same as *U. pilosa* Hutch. from central Africa; see also Mildbr. 9327 from Buar, [French Cameroons](#).

Doubtfully recorded species.

19. MICRODESMIS

Hook. f. ex Planch. — F.T.A. 6, 1: 741; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 3: 105 (1911).

- 1 Branchlets densely to sparsely pubescent; leaves more or less oblong or oblong-ovate, cuneate and unequal-sided at base, more or less caudate-acuminate, up to 15 cm. long and 5 cm. broad, dentate or subentire; flowers in axillary fascicles; fruit globose, muricate, about 7 mm. diam. [puberula](#)

Microdesmis puberula Hook. f. ex Planch. — F.T.A. 6, 1: 741; Pax & K. Hoffm. l.c. 3: 106, fig. 34; Chev. Bot. 568; Aubrév. Fl. For. C. Iv. 2: 63, t. 145. *APD acc*

APD: Synonym of Microdesmis keayana J. Léonard

Microdesmis zenkeri Pax (1897) — F.T.A. 6, 1: 742; F.W.T.A., ed. 1, 1: 292.

A forest shrub, or small tree to 50 ft. high; flowers greenish yellow or orange; fruits red; variable in indumentum and leaf-shape.

Fr. G.: Fouta Djallon Heudelot 832! Massadou, Macenta (May) Collenette 25! **S. L.:** Heddle's Farm (Dec.–Jan.) Lane-Poole 178! Kenema (Nov.) Deighton 436! Njala (fl. May–July, fr. Dec.) Deighton 692! 1857! Kakuna, Scarcies (Jan.) Sc. Elliot 4729! **Lib.:** Dukwia R. (Feb., Nov.) Cooper 124! 207! Ganta (Sept.) Baldwin 9225! Zeahtown (Aug.) Baldwin 6965! Tappita (Aug.) Baldwin 9058! **Iv. C.:** Binger-ville — Abidjan — Dabou region Chev. 15220! 15223! Azaguié (Sept.) Chev.

22285! **G. C.:** Axim Chipp! Aburi (Apr., May, Oct.) Johnson 479! 955! Kumasi Cummins 161! **Togo:** Misahöhe (Nov.) Mildbr. 7259! **Dah.:** Allada Chev. 23244! **N. Nig.:** Idah Barter 1640! **S. Nig.:** Lagos Foster 114! Ibadan (Oct.) Jones & Keay FHI 13785! Okomu F.R. (Dec.) Brenan 8394! Sapoba Kennedy 1414! Oban Talbot 692! Onitsha Barter 1805! Eket Talbot 3376! **Br. Cam.:** Victoria (Nov., Jan.) Kalbreyer 28! Maitland 779! Likomba (Oct.) Mildbr. 10588! Johann-Albrechtshöhe Staudt 545! **F. Po:** T. Vogel 169! 175!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Belgian Congo**, **Uganda** and **Angola**.

20. HEVEA

Aubl. — F.T.A. 6, 1: 743; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 102 (1931).

Leaves digitately trifoliolate; leaflets stalked, elliptic or elliptic-oblongate, acuminate, narrowed to the base, 8–20 cm. long, 2.5–8 cm. broad, entire, glabrous, often glaucous beneath; lateral nerves about 20 pairs, looped near the margin, prominent beneath; stalks of leaflets each with a large flat orbicular gland at the base, the glands almost merged into one; petiole up to 25 cm. long; panicles below the leaves on each young shoot; male flowers numerous, females fewer; capsule 3-lobed, about 4.5 cm. diam.; seeds broadly oblong or oblong-ellipsoid, about 2.5 cm. long, 2 cm. broad; testa mottled and speckled, slightly shining *brasiliensis*

Hevea brasiliensis (*Kunth*) *Müll. Arg.* — F.T.A. 6, 1: 743; Holl. 4: 585. *APD acc*

Siphonia brasiliensis *Kunth* (1825).

The Para rubber tree; cultivated in plantations in many parts of the forest regions; native of tropical S. America.

21. RICINODENDRON

Müll. Arg. — F.T.A. 6, 1: 744; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 3: 45 (1911).

- 1 Leaves digitately 3–5-foliolate; leaflets sessile, obovate to obovate-elliptic, acuminate, narrowed to the base, the lateral ones often smaller, 6–20 cm. long, 2.5–12 cm. broad, glandular-denticulate, stellate-puberulous when young; lateral nerves 10–16 pairs; petiole up to 20 cm. long; stipules large, foliaceous, persistent, suborbicular, up to 2.5 cm. long, deeply toothed; male panicles slender, about 30 cm. long; stamens 10; disk-glands erect; fruit 2-lobed, 2-celled, 2 cm. long, 3 cm. broad [*heudelotii*](#)

Ricinodendron heudelotii (*Baill.*) *Pierre ex Pax* in Engl. Pflanzenr. Euph. 3: 46, figs. 13, C–D, & 16 (1911). *APD acc*

APD: *Synonym of Ricinodendron heudelotii* (*Baill.*) *Pierre ex Heckel subsp. heudelotii*

APD: *Synonym of Ricinodendron heudelotii* var. *africanum*

Jatropha heudelotii *Baill.* (1860).

Ricinodendron africanum *Müll. Arg.* (1864) — F.T.A. 6, 1: 745; F.W.T.A., ed. 1, 1: 294; Aubrév. Fl. For. C. Iv. 2: 63, t. 146.

A large deciduous tree, to 150 ft. high; in drier types of forest, especially in secondary regrowth; inflorescence yellow-tomentose, petals white; fruits indehiscent, yellow.

Port. G.: Fulacunda (May) Esp. Santo 2032! **Fr. G.:** Fouta Djallon Heudelot 857! **S. L.:** Bagroo R. (Apr.) Mann 825! Njala (Apr.) Deighton 1121! Ky Yema (Apr.) Lane-Poole 24! **Lib.:** Dukwia R. (fr. May) Cooper 457! **Iv. C.:** Attéou to Mbago (Feb.) Chev. 16185! Mt. Kouan, Danané (fr. Apr.) Chev. 21250! Azaguié Chev. 22203! **G. C.:** Aburi (Dec.) Johnson 448! Bunsu, Akim (Mar.) Irvine 1755! Kumasi (Feb., Mar.) Vigne FH 1801! Andoh FH 5489! **S. Nig.:** Olokemeji F.R. (Mar.) A. F. Ross 128! Sapoba Kennedy 170! Oban Talbot 2333! **F. Po:** (Jan.) Mann 229!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea**, **Cabinda**, **Belgian Congo**, **A.-E. Sudan**, **Uganda**, **Tanganyika** and **Angola**.

22. CROTON

Linn. — F.T.A. 6, 1: 746; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 83 (1931).

- 1 Leaves digitately 3–5-lobed to near the base, up to 10 cm. long and broad; segments oblanceolate or obovate, acuminate, narrowed to the base, crenate or crenate-serrate; flowers monoecious, the lower half of the inflorescence consisting of subsessile female flowers, the upper part of much smaller males; fruit setose, 8 mm. long; herb, sometimes woody at base [1. lobatus](#)
- Leaves not lobed or rarely slightly so; mostly trees and shrubs (but see Nos. 2 & 3): **2**
- 2 Stems hirsute, densely covered with stellate hairs of which one or more rays are longer and more or less erect or deflexed, the others much shorter and appressed; flowers monoecious; racemes up to 5 cm. long, lower part with the female flowers, upper part with the much smaller males; herbs; leaves ovate, stellate-pubescent beneath, upper surface pilose with stellate hairs with only one long ray: **3**
- Stems not hirsute; trees and shrubs: **4**
- 3 Leaves serrate, the larger ones sometimes doubly crenate-serrate, 2.5–7 cm. long, 1–4.5 cm. broad, with a pair of long-stipitate glands at base; racemes up to 3 cm. long [2. hirtus](#)
- Leaves entire, up to 7.5 cm. long and 5 cm. broad, without glands at base [3. membranaceus](#)
- 4 Leaves densely covered beneath, at least when young, with silvery-grey, often fimbriate, scales or scale-like many-rayed stellate hairs: **5**
- Leaves glabrous or sparingly puberulous beneath, not scaly; petals absent from the female flowers, or very rudimentary; inflorescences, outside of flowers and fruits stellate-pubescent or glabrescent, not scaly: **9**
- 5 Leaves entire, permanently densely scaly beneath: **6**
- Leaves with obscurely serrate margins, undersurface densely covered with silvery fimbriate scale-like many-rayed stellate hairs, upper surface also with scale-like hairs; leaves ovate, cordate or rounded and with 2–4 stipitate glands at base, shortly and obtusely acuminate at apex, 6.5–18.5 cm. long, 4.5–13 cm. broad; petiole 3.5–12 cm. long; racemes normally unisexual, up to 25 cm. long, many-flowered [8. macrostachyus](#)
- 6 Upper surface of leaves entirely glabrous; petals well-developed in the female flowers; stamens 13–20; branchlets, undersurface of leaves and inflorescences densely covered with silvery and rust-coloured scales: **7**
- Upper surface of leaves with scales or stellate hairs: **8**
- 7 Racemes much abbreviated, giving the flowers a clustered appearance, up to 1 cm. long; leaves subverticillate, lanceolate, elliptic-lanceolate or ovate, obtuse at apex, 1.5–9 cm. long, 0.8–2.5 cm. broad, basal glands absent or very obscure; petiole up to 2.5 cm. long [4. pseudopulchellus](#)
- Racemes elongated, 3–15 cm. long; leaves not or scarcely verticillate, lanceolate, oblong-lanceolate or oblong-elliptic, acuminate or obtuse at apex, 4–15 cm. long, 1.5–6.5 cm. broad, with a pair of long-stipitate glands at base; petiole up to 4 cm. long [5. zambesicus](#)
- 8 Upper surface of leaves with orbicular unfringed scales; petals absent from the female flowers; stamens about 7; leaves oblong-lanceolate or elliptic-oblong, very acute at apex, 6–12 cm. long, 2–4 cm. broad; petiole up to 2.5 cm. long, with a pair of flat sessile glands at apex; branchlets, leaves and inflorescence densely covered with scales, those on undersurface of leaves fimbriate; racemes unisexual, terminal, up to 13 cm. long; capsule densely scaly [6. leonensis](#)
- Upper surface of leaves minutely stellate-puberulous, dark when dry, under-surface densely covered with silvery and rusty fimbriate scales; petals present in the female flowers; stamens about 30; leaves ovate-elliptic, cordate and with 2 large glands at base, acuminate at apex, 4–16 cm. long, 2–8 cm. broad; petiole 2.5–7.5 cm. long; branchlets and inflorescence densely scaly; flowers monoecious; racemes 7–20 cm. long; styles 3, each one 3 times bifid; fruits subglobose, about 9 mm. diam., scaly [7. sp. nr. mubango](#)
- 9 Leaves clustered on much-shortened branchlets, glabrous, entire, oblanceolate to obovate, rounded at apex, 1.3–4 cm. long, up to 1.8 cm. broad, membranous; male racemes very short, about 5-flowered, 6 mm. long; female flowers solitary on a branchlet separate from the males; stamens 5–6 [9. scarciensis](#)
- Leaves laxly arranged on more or less elongated branchlets, obscurely or distinctly toothed, glabrous or pubescent; stamens 10–12; racemes elongated: **10**
- 10 Petiole up to 1 (–3.2) cm. long; leaves lanceolate to elliptic, obtuse at both ends, crenate or serrate, 3–10.5 cm. long, 1.3–5.3 cm. broad, glabrous or pubescent, with a pair of shortly stipitate glands at the base; racemes up to 15 cm. long, slender, with female flowers at the base and males towards the top; calyx of female flowers up to 1.5 mm. long; fruits subglobose, 3-lobed, about 5 mm. diam. [10. nigritanus](#)
- Petioles 1.2–8.5 cm. long; racemes 15–42 cm. long; calyx of female flowers 2–5 mm. long: **11**
- 11 Basal glands on leaves long-stipitate, 2–3 mm. long; leaves elliptic to ovate-elliptic, rounded or cuneate at base, shortly and abruptly acuminate, crenate, 6–14 cm. long, 3.5–8 cm. broad; petiole 2–5.5 cm. long; racemes solitary, terminal, 28–42 cm. long, bisexual; calyx of female flowers 2–3 mm. long [11. penduliflorus](#)
- Basal glands on leaves sessile: **12**
- 12 Leaf-margin distinctly crenate or crenate-serrate; petiole 2–8.5 cm. long; lamina ovate to lanceolate-elliptic, obtuse or cuneate at base, rather long-acuminate, 8–19 cm. long, 4–9 cm. broad, lateral nerves 5–9 on each side of midrib; male racemes up to 40 cm. long; bisexual racemes up to 16 cm. long; calyx of female flowers about 5 mm. long; bracts 4–7 mm. long, subpersistent; fruits 3-lobed, about 2.7 cm. long and broad [12. longiracemosus](#)

Leaf-margin subentire, with sessile glands at intervals, often nearly hyaline; petiole 1·2–3 (–4) cm. long; lamina ovate, round to cuneate at base, abruptly acuminate, 5–9·5 cm. long, 3–6·5 cm. broad, lateral nerves 4–5 on each side of midrib; racemes bisexual, 15–27 cm. long; bracts up to 3 mm. long, mostly caducous; calyx of female flowers about 2 mm. long; fruits ovoid-ellipsoid, about 1 cm. long[3. dispar](#)

1. **Croton lobatus** Linn. — F.T.A. 6, 1: 750; Chev. Bot. 570.

APD: *Synonym of Jatropha glauca Vahl var. glauca*

APD: *Synonym of Astraea lobata (L.) Klotzsch*

An erect branched pubescent annual, 2–3 ft. high, sometimes woody at base.

Sen.: Heudelot 465! Cape Verde Brunner 163! **Gam.:** Hayes 588! Genieri (July) Fox 134! **Fr.Sud.:** Dendéla (Mar.) Chev. 631. Sikasso (Apr.) Chev. 750. **Port. G.:** Antula, Bissau (fl. & fr. Oct.) Esp. Santo 2550! **S. L.:** Kenema (fl. & fr. Nov.) Deighton 440! Bo (Jan.) Thomas 7424! **iv. C.:** Bingerville Chev. 17317. **G. C.:** Achimota (Nov.) Andoh FH 4468! Bomase (fl. & fr. Apr.) A. S. Thomas 181! Tamale (fl. & fr. Mar., Apr.) Williams 129! 815! **Dah.:** Burton! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 542! **N. Nig.:** Nupe Barter 1158! Sokoto (fl. & fr. Sept.–Nov.) Moiser 55! 129! Katagum Dalz. 211! 212! Yola Prov. (fl. & fr. May) Dalz. 158! **S. Nig.:** Lagos Moloney! Iguoriakhi, Benin (fl. & fr. Jan.) Brenan 8929! Awka Thomas 6! **F. Po.:** (fl. & fr. June) Mann 405!

Extends to **A.-E. Sudan**, **Abyssinia**, **Eritrea** and **Arabia**.

2. **Croton hirtus** L'Hérit. Stirp. Nov. 17, t. 9 (1784); Fawcett & Rendle Fl. Jamaica 4, 2: 285. *APD acc*

Croton glandulosus var. **hirtus** (L'Hérit.) Müll. Arg. In DC. Prod. 15, 2: 684.

Herb, to 2 ft. high; an **introduced weed**.

S. L.: Masanki (fl. & fr. Jan.) Deighton 4584! Newton (fl. & fr. June) Deighton 5551! Njala (fl. & fr. June) Deighton 6069!

Widespread in the West Indies and tropical America.

3. **Croton membranaceus** Müll. Arg. — F.T.A. 6, 1: 755. *APD acc*

A herb, or undershrub, up to 3 ft. high.

N. Nig.: near Lokoja Barter 615! Wuru, Nupe Barter 814! **S. Nig.:** Onitsha Barter 574!

4. **Croton pseudopulchellus** Pax — F.T.A. 6, 1: 755; Aubrév. Fl. For. Soud.-Guin. 195–196, t. 37, 8. *APD acc*

Shrub, to 12 ft. high.

Fr. Sud.: Fo (fr. June) Chev. 961! **N. Nig.:** near Gombe (Feb.) Thornevill 15!

Also in **Kenya**, **Tanganyika**, **Zanzibar**, **Portuguese East Africa** and **S. Rhodesia**,

5. **Croton zambesicus** Müll. Arg. in Flora 47: 483 (Oct. 1864); F.T.A. 6, 1: 758; Aubrév. l.c. 193–196, t. 37, 5–7.

APD: *Synonym of Croton gratissimus Burch. var. gratissimus*

Croton amabilis Müll. Arg. l.c. 47: 537 (Nov. 1864); F.W.T.A., ed. 1, 1: 296.

A small tree, 20–50 ft. high; branchlets sulcate; capsule scaly, 1/3 in. diam.; **often planted in villages and towns**.

Gam.: Georgetown (Jan.) Dalz. 8055! **S. L.:** Freetown (June) Daniell! Waterloo (Mar.) Kirk 27! Allen Town (Dec.) Dawe 410! **iv. C.:** Groumania (Jan.) Aubrév. 788! **G. C.:** Cape Coast Brass! Wenchi (Oct.) Vigne FH 2534! Mampong (July) Vigne FH 1222! **Togo:** Fulandi-Kedia Kersting A. 516! **Dah.:** Adjara, Porto Novo (Jan.) Chev. 22756! Djougou (fr. June) Chev. 23876! **Fr. Nig.:** Niamey to Zinder (Oct.) Hagerup 568! Gaya (Oct.) Aubrév. N. 20! **N. Nig.:** Ilorin Barter 3323! Kontagora (Feb.) Dalz. 281! Sokoto (Feb.) Lely 802! Bauchi Plateau (Jan.) Lely P. 105! **S. Nig.:** Lagos Punch 20! Foster 33! Abeokuta (Feb.) Irving 62! Okuni (Jan.) Holland 173! Oban Talbot 2302!

Widespread in tropical Africa.

6. *Croton leonensis* Hutch. in F.T.A. 6, 1: 1050 (1913). *APD acc*

A shrub, 5–6 ft. high; branchlets sulcate when young.

S. L.: Makunde, Limba (Apr.) Sc. Elliot 5716! Njala, in somewhat moist place (Feb.) Deighton 1086!

7. *Croton* sp. nr. *mubango* Müll. Arg. — F.T.A. 6, 1: 659; Aubrév. Fl. For. C. Iv. 2: 74, t. 152, 3–6. *APD acc*

A small tree, in forest.

Iv. C.: Anoumaba (Nov.) Chev. 22399! Nzi, Comoé (Jan.) Aubrév. 2121!

True *C. mubango* occurs in Belgian Congo and Angola

8. *Croton macrostachyus* Hochst. ex Del. in Ferret & Galinier Voy. Abyss. 3: 158 (1847); F.T.A. 6, 1: 772; Aubrév. Fl. For. Soud.-Guin. 193–196, t. 36, 4–5. *APD acc*

Croton guerzensiensis Beille in Bull. Soc. Bot. Fr. 61, Mém 8: 294 (1917); Chev. Bot. 570.

A tree, in savannah, up to 30–50 ft high; flowers white; fruit slightly 3-lobed, about 1/2 in. diam.

Fr. G.: Lola to Nzo, Guerze country (Mar.) Chev. 20979! Beyla Adam 124! **Iv. C.:** Danipleu (Mar.) Aubrév. 1150! 1151! **N. Nig.:** Bauchi Plateau (May) Lely P. 314! Pankshin Kennedy FHI 8064! **Br. Cam.:** Bamenda Prov.: Njinikom (May) Maitland 1506! Bambui (fr. Jan.) Keay FHI 28334! Kumbo (May) Johnstone 138/31!

Widespread in tropical Africa.

9. *Croton scarciesii* Sc. Elliot — F.T.A. 6, 1: 752; Chev. Bot. 571; Berhaut Fl. Sen. 129. *APD acc*

A shrub 2–10 ft. high, growing on rocks by streams, under water in the rainy season; capsule bristly with tubercle-based hairs.

Sen.: fide Berhaut l.c. **Port. G.:** Cusselinta, Chitole (fr. Dec.) Esp. Santo 3172! **S. L.:** Mofari, Scarcies (Jan.) Sc. Elliot 4432! Sasseni, Scarcies (Jan.) Sc. Elliot 4518! Njala, R. Taiya (Jan., May) Dalz. 8059! Deighton 505! 702! Makump (Jan.) Glanville 135! Mange, Bure (fl. & fr. Jan.) Jordan 851! 861! **Iv. C.:** Alépé to Malamalasso, R. Comoé (Mar.) Chev. 17513. Abiati (Mar.) Chev. 17539. **G. C.:** Pong Tamale (June) Vigne FH 3864!

10. *Croton nigritanus* Sc. Elliot in J. Linn. Soc. 30: 97 (1894); F.T.A. 6, 1: 770; Aubrév. Fl. For. Soud.-Guin. 193–196, t. 37, 3–4. *APD acc*

Croton chevalieri Beille (1910) — F.W.T.A., ed. 1, 1: 297.

Croton nudifolius Bak. & Hutch. (1912) — F.W.T.A., ed. 1, 1: 297.

Shrub, to 10 ft. high, with white flowers; usually in moist places by rivers.

Fr. G.: Farana (Mar.) Sc. Elliot 5379! 5380! Labé (May) Pobéguin 2115! Macenta Adam 84! **S. L.:** Kahreni, Limba (Apr.) Sc. Elliot 5583! Sasseni, Scarcies (Jan.) Sc. Elliot 4429! Njala (fl. & fr. Mar., May, July) Deighton 1088! 1098! 1952! 4020! 5013! Pujehun (Apr.) Aylmer 60! **Lib.:** Peahtah (Oct.) Linder 953! Dobl Isl., St. Paul R. Bequaert 21! **Iv. C.:** Prolo, Lower Cavally (fl. & fr. Aug.) Chev. 19861! **G. C.:** Zantana to Lungbunu (May) Kitson 728! **N. Nig.:** Lokoja T. Vogel 165!

11. *Croton penduliflorus* Hutch. in F.W.T.A., ed. 1, 1: 297 (1928); Kew Bull. 1928: 300. *APD acc*

Croton rubinoensis Aubrév. l.c. 195, t. 36, 1–3 (1950), French descr. only.

A tree to 70 ft. high; racemes pendulous.

S. L.: Kenema (May) Aylmer 138! Lane-Poole 269! Sendugu (June) Thomas 669! Danbara King 261! Bandajuma (May) Deighton 3729! Gola Forest (May) Small 651! **Iv. C.:** Rubino (young fr. Dec.) Serv. For. 2855! **G. C.:** Kwahu Plateau (May) Kitson 1170! Sra (June) Moor 305! Pepease (young fr. July) Akpabla 173! **S. Nig.:** Idanre F.R. (fr. July) Onochie FHI 33394! Onitsha Circle Cons. of For. 169!

12. *Croton longiracemosus* Hutch. in F.T.A. 6, 1: 1052 (1913). *APD acc*

Croton lehmbachii Hutch. l.c. (1913).

Tree, to 40 ft. high; flowers greenish-white; racemes apparently bisexual or entirely male.

Br. Cam.: Buea (fl. Mar., Apr., fr. June) Deistel! Lehmbach 19! Reder 24! Maitland 59! 465! 1107! Mimbria (Apr.) Maitland 1106! Moliko (Apr.) Hutch. & Metcalfe 86!

[Sankey 10 from Ondo Prov., Nigeria was cited as this species in the first edition, but it appears to be distinct. It is described as a tree 60–80 ft. high. The fruits which may or may not belong to the specimen are only about 7 mm. long. Further specimens are needed.]

13. *Croton dispar* N. E. Br. — F.T.A. 6, 1: 763. *APD acc*

Croton collenettei Hutch. & Dalz. F.W.T.A., ed. 1, 1: 297 (1928); Kew Bull. 1928: 300.

A straggling bush, to 10 ft. high (tree 25 ft. high fide Collenette); flowers cream.

Fr. G.: Macenta (May) Collenette 15! **S. L.:** Njala (fl. May–July, fr. Sept.) Deighton 670! 753! 1734! 2638–2641! Cole 61! Mayoso (fr. Aug.) Thomas 1416! Mattru to Sumbuya (June) Deighton 4775! **Lib.:** Monrovia Whyte! Tappita (fr. Aug.) Baldwin 9090! Vonjama (fr. Oct.) Baldwin 9895!

***Croton eluteria* (Linn.) Sw.**

A native of the Bahamas, has been introduced into Nigeria.

***Croton* sp. A.**

Forest tree, about 20 ft. high; fruits bright orange.

S. Nig.: Ubiaja (fr. Aug.) Onochie FHI 33254!

Imperfectly known species.

***Croton* sp. B.**

Fr. G.: Mt. Ziama, Nialé (young fr. May) Adam 47!

A poor specimen recorded as *C. oxypetalus* Müll. Arg. by Aubrév. Fl. For. Soud.-Guin. 196. Imperfectly known species.

23. CLUTIA

Linn. — F.T.A. 6, 1: 805; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 3: 50 (1911).

- 1** Young branchlets densely woolly-tomentose; leaves narrowly lanceolate, subacute, narrowed to the base, 6–12 cm. long, 1–2.5 cm. broad, membranous, densely pubescent on the nerves beneath; lateral nerves 11–15 pairs; flowers monoecious, several males and 1–2 females in each leaf-axil; male pedicels short, female up to 1.3 cm. in fruit, the latter subglobose, 6 mm. diam., thinly pubescent [8. kamerunica](#)

Clutia kamerunica* Pax — F.T.A. 6, 1: 805; Pax & K. Hoffm. l.c. 3: 58. *APD acc

An erect shrub, to 15 ft. high, with densely tomentose branchlets and small yellowish axillary flowers; **in streamside forest.**

Br. Cam.: Bamenda Prov.: Mt. Mba Kokeka, 6,000 ft. (fl. & fr. Jan.) Keay FHI 28385! Bafut-Ngemba F.R. (Aug.) Tamajong FHI 26895!

Also in **French Cameroons.**

24. JATROPHA

Linn. — F.T.A. 6, 1: 775; Pax in Engl. Pflanzenr. Euph. 1: 21 (1910).

- 1** Leaves not peltate: **2**
 Leaves peltate; orbicular-ovate, palmately 3–5-lobed, 10–20 cm. long and broad, lobes more or less ovate, entire, glabrous, pale and glaucous beneath; petiole about 10 cm. long, glabrous; cymes congested, long-pedunculate; stems much swollen at the base [8. podagrica](#)
- 2** Leaves penninerved and undivided or 3-lobed: **3**
 Leaves variously divided or digitately nerved, long-petiolate: **5**

- 3 The leaves sessile, linear or linear-lanceolate, 9–15 cm. long, up to 3 cm. broad, serrulate, or sometimes broader (6 cm.) and more coarsely toothed:4
 The leaves with petioles 0.5–2 cm. long; leaves ovate-oblong or ovate-elliptic, or 3-lobed in the upper half, 12–15 cm. long, 6–10 cm. broad, serrulate; flowers in terminal few-flowered panicles[3. *kamerunica* var. *trochainii*](#)
- 4 Leaves shortly pilose beneath; cymes short, few-flowered, with gland-tipped lacinate bracts[1. *neriifolia*](#)
 Leaves glabrous beneath; bracts linear, toothed[2. *atacorensis*](#)
- 5 Petioles furnished with numerous stipitate glands resembling the stipules; leaves digitately 3–5-lobed beyond the middle, up to 13 cm. in diam., lobes obovate or obovate-oblongate, gland-toothed and shortly pubescent; cymes pedunculate, lax; bracts linear-lanceolate, with stipitate glands on the margin[4. *gossypiifolia*](#)
 Petioles not glandular:6
- 6 Leaf-segments 11–12, pinnatisect or pinnately lobed, lobes acute, apex tailed, 10–15 cm. long, 2.5–5 cm. broad, more or less glaucous beneath; cymes 2.5–5 cm. long; peduncle up to 16 cm. long; sepals entire ...[5. *multifida*](#)
 Leaf-segments or lobes toothed or rarely entire; leaves glabrous or nearly so:7
- 7 Leaf-segments toothed, ovate, sharply 5–8-dentate; stipules divided into filiform glabrous gland-tipped segments; sepals entire or with a few glandular teeth[6. *chevalieri*](#)
 Leaves undulately 5-lobed or entire; stipules very small; sepals entire[7. *curcas*](#)
1. ***Jatropha neriifolia* Müll. Arg.** — F.T.A. 6, 1: 781; Pax in Engl. Pflanzenr. Euph. 1: 65. *APD acc*
 Stems pubescent, about 1 ft. high from a woody base, with viscid greenish sap; flowers small, brick-red.
N. Nig.: Nupe Barter 1679! Abinsi, on laterite (May) Dalz. 752!
2. ***Jatropha atcorensis* A. Chev.** in Bull. Soc. Bot. Fr. 58, Mém. 8: 206 (1912). Habit of the last. *APD acc*
Dah.: Somba country Chev. 24015. Farfa to Toukountouna (fr. June) Chev. 24070! Toukountouna to Kototengou Chev. 24129.
3. ***Jatropha kamerunica* var. *trochainii* Léandri** in Bull. Soc. Bot. Fr. 83: 525 (1936). *APD acc*
Jatropha kamerunica of Berhaut Fl. Sen. 164.
 An erect herb, to 21/2 ft. high, with a large carrot-like rhizome.
Sen.: Tambacounda (fl. June, Sept., fr. June) Berhaut 1655! Trochain 3636.
4. ***Jatropha gossypiifolia* Linn.** — F.T.A. 6, 1: 783; Pax l.c. 1: 26 (as var. *elegans* (Klotzsch) Müll. Arg.); Chev. Bot. 569; Berhaut Fl. Sen. 144. *APD acc*
 A shrub, up to 6 ft. high with stout glabrous branches and glandular, often purple-tinged foliage; flowers deep red-purple; planted in villages.
Sen.: fide Berhaut l.c. **Fr. Sud.:** Ouassai Chev. 515. **Fr. G.:** Conakry! **S. L.:** Kayima Kono (fl. & fr. July–Aug.) Dawe 532! Mano (May) Deighton 1761! Bonthe (fl. & fr. Feb.) Dalz. 942! **G. C.:** Cape Coast Castle (July) T. Vogel! Nkwanta (Jan.) Chipp 67! Accra (fl. & fr. Apr.) Bally 19! Don! **Togo:** Lome Warnecke 286! **Dah.:** Agouagon Chev. 23509! Dassa Zoumé Chev. 23645! **N. Nig.:** Abinsi Dalz.! **S. Nig.:** Lagos Dawodu 256! Yoruba country Barter 3353! Olokemeji (Apr.) Foster 273!
 Widely distributed in the tropics.
5. ***Jatropha multifida* Linn.** — F.T.A. 6, 1: 784; Pax l.c. 1: 40; Chev. Bot. 569. *APD acc*
 A shrub or tree, up to 20 ft. high with stout glabrous branches and coral-red flowers; [planted in villages](#).
Sen.: Roger! **S. L.:** Freetown Barter! Kambia, R. Scarcies (Jan.) Sc. Elliot 4708! Njala (May) Deighton 1987! **IV. C.:** Makougnie Chev. 16955! **G. C.:** Irvine 1414! **Togo:** Lome Warnecke 373! **S. Nig.:** Lagos Phillips 43! Annye, Benin (Sept.) Unwin 136!
 An American plant widely cultivated.
6. ***Jatropha chevalieri* Beille** — F.T.A. 6, 1: 788; Pax l.c. 1: 36; Chev. Bot. 569. *APD acc*

A shrub about 3 ft. high, with glabrous striate branches; fruit glabrous, 1/2 in. long, tipped by the base of the style.

Sen.: L. Panie-Foul (Jan.) Roger 143! Cape Verde Brunner 138! Niayes, on sand dunes near the sea (Dec.) Chev. 2629.

Also in **Mauritania**.

7. *Jatropha curcas* Linn. — F.T.A. 6, 1: 791; Pax l.c. 1: 77, fig. 30; Chev. Bot. 569; Berhaut l.c. 128, 143. *APD acc*

A shrub or small tree, up to 20 ft. high, with thick glabrous branchlets; flowers yellowish-green; fruit ellipsoid, scarcely lobed, about 1 in. long, black when ripe; commonly cultivated in our area.

Sen.: fide Berhaut l.c. **Fr. Sud.:** fide Chev. l.c. **S. L.:** Waterloo (June) Lane-Poole 259! Laminaiya (Apr.) Thomas 136! **Lib.:** Peahtah (Oct.) Linder 936! **Iv. C.:** Bobo-Dioulasso Chev. 912. **G. C.:** near Cape Coast Castle Cummins! Axim (Apr.) Chipp 427! Afram Plains (May) Kitson 1143! **Togo:** Lome Warnecke 358! **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 22873! Vom Dent Young 226! **S. Nig.:** Obu Thomas 121! Agulu Thomas 324! Oban Talbot 1372! **F. Po:** (Jan.) Mann 169!

An American plant, common in the tropics.

8. *Jatropha podagrica* Hook. in Bot. Mag. t. 4376 (1848); Pax l.c. 1: 44. *APD acc*

Stem up to 2 ft. high, much swollen at the base; flowers red; **cultivated in our area**.

S. L.: Njala (May) Deighton 1986! **G. C.:** fide Deighton. **S. Nig.:** Ibadan fide Keay.

A native of Central America.

25. MILDBRAEDIA

Pax — F.T.A. 6, 1: 798; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 3: 11 (1911).

- 1** A tree; young branches stellate-tomentellous, at length glabrous; leaves lanceolate-obovate or oblanceolate-elliptic, very obtuse at base, shortly and acutely acuminate, up to 15 cm. long, 1.5–6 cm. broad, acutely repand-dentate; lateral nerves 7–10 pairs; stipules subulate, setulose; male cymes few-flowered, the female cymules laxly racemose, only the terminal flower of each developed; stamens 20; ovary pubescent *paniculata*

Mildbraedia paniculata Pax — F.T.A. 6, 1: 800; Pax & K. Hoffm. l.c. 3: 12, fig. 2 (1911); Chev. Bot. 587.

APD: *Synonym of Plesiatropha paniculata (Pax) Breteler*

A **forest** shrub, to 10 ft. high; flowers greenish-white.

Lib.: Peahtah (Oct.) Linder 1124! Yangi (Sept.) Linder 847! Gletown, Tchien (fr. July) Baldwin 6917! **Iv. C.:** Kéeta, Oubi country Chev. 19332. Soubiré to Yaou Chev. 17802. Oubi to Fort Binger Chev. 19283.

Also in **Belgian Congo**.

26. CAPERONIA

St.-Hil. — F.T.A. 6, 1: 829; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 27 (1912).

A thorough revision of this, mainly American, genus is much needed. The treatment given by Prain (in F.T.A.) and by Pax & K. Hoffmann is by no means satisfactory; I suspect that far too many species have been described. — R.W.J.K.

- 1** Leaves palmately 5-nerved at the base, ovate, crenate, slightly cordate, acute, 8–11 cm. long, 4.5–6 cm. broad, sparingly hispid on the nerves; stipules caducous; racemes 4–6 cm. long; male petals subequal; female sepals 6; ovary bristly; fruit muricate *1. latifolia*
- Leaves pinnately nerved, narrowly lanceolate, serrate: **2**
- 2** Leaves linear, remotely serrate or sometimes subentire, up to 15 cm. long; young stems not or very sparsely clothed with gland-tipped hairs; racemes up to 15 cm. long; male petals unequal; female sepals 5–6 *2. senegalensis*

Leaves lanceolate, closely serrate, up to 15 cm. long and 3.5 cm. broad; young stems very densely setose with stiff gland-tipped hairs; racemes up to 7.5 cm. long; male petals unequal; female sepals 6 [3. palustris](#)

1. **Caperonia latifolia** Pax — F.T.A. 6, 1: 830; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 35. *APD acc*

A weak herb softly hispid in the upper parts, up to 3 ft. high; [in and by ponds](#).

S. Nig.: Okomu F.R., Benin (Dec.) Brenan 8587! **Br. Cam.:** Victoria Dusen 281.

Also in **S. Tomé** and (fide Prain) in S. America and the West Indies.

2. **Caperonia senegalensis** Müll. Arg. — F.T.A. 6, 1: 832; Pax & K. Hoffm. l.c. 40; Chev. Bot. 572.

APD: Synonym of Caperonia serrata (Turcz.) C. Presl

APD: Synonym of Caperonia serrata (Turcz.) C. Presl

Caperonia chevalieri Beille (1908) — Pax & K. Hoffm. l.c. 38.

A slender herb, erect or half procumbent, up to 3 ft. high, with small white flowers and roughly setose capsules; [usually in moist ground, sometimes a weed in rice fields](#).

Sen.: Bakel Leprieur. Casamance R. Perrottet 737. **Gam.:** Wallikunda (fl. Aug., Sept., fr. Sept.) Macluskie 11! 17! Kuntuar Ruxton 96! **Fr. Sud.:** Nafadié (fl. & fr. Jan.) Chev. 157! Sansanding (Feb.) Chev. 2623. Sarédina (May) Davey 134! **Fr. G.:** Tristao Isl. Parioisse 46. Ditinn Chev. 12999. **S. L.:** Scarcies R. (fl. & fr. Feb.) Sc. Elliot 4271! Rokupr (fl. & fr. Jan.) Deighton 2949! Kichom (July) Deighton 3756! **G. C.:** Walewale (fl. & fr. Dec.) Adams & Akpabla GC 4204! Burufo (fl. & fr. Dec.) Adams & Akpabla GC 4387! **Togo:** Lome Warnecke 430. Kpedsu (fl. & fr. Dec.) Howes 1044! **Dah.:** Savalou (May) Chev. 23709! **N. Nig.:** Nupe Barter! Zungeru (Aug.) Dalz. 65! Bida Dist. (fl. & fr. Dec.) Savory UCI 101! Kumu (fl. & fr. Oct.) Lely 669! Abinsi (fl. & fr. Nov.) Dalz. 783! **S. Nig.:** Lagos Rowland!

Also in **French Camerouns** and **Ubangi-Shari**.

3. **Caperonia palustris** (Linn.) St.-Hil. — F.T.A. 6, 1: 832; Pax & K. Hoffm. l.c. 33, figs. 1, A–B & 6, D–E; Chev. Bot. 572, partly.

APD: Synonym of Caperonia fistulosa Beille var. fistulosa

Croton palustris Linn. (1753).

Caperonia macrocarpa Pax & K. Hoffm. l.c. 39 (1912).

Caperonia fistulosa Beille (1908) — Pax & K. Hoffm. l.c. 37.

Caperonia hirtella Beille (1908) — Pax & K. Hoffm. l.c. 38.

A fairly stout herb, erect or half procumbent, up to 3 ft. high, with small white flowers and roughly setose capsules; [in moist ground](#).

Fr. Sud.: Gao (Sept.) Hagerup 367a! Cotaga (July) Chev. 1158. Sébi to Mopti (fl. & fr. Aug., Sept.) Chev. 15763. **G. C.:** R. Pawmpawm, E. of Anyaboni (fl. & fr. Dec.) Morton GC 6092! **N. Nig.:** Minna (fl. & fr. Dec.) Meikle 700! **S. Nig.:** Olokemeji (fl. & fr. Nov.) Keay FHI 14160! Awba Hills F.R., Ibadan (fl. & fr. Oct.) Jones FHI 5992! Lagos Rowland.

Widespread in tropical Africa, and in **S. Africa**, **Madagascar** and **S. America**.

27. CHROZOPHORA

Neck. — F.T.A. 6, 1: 834; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 17 (1912).

- 1 Prostrate undershrub, covered with soft white stellate hairs; leaves ovate, rounded or very obtuse at apex, long-petiolate, biglandular at base, 1.3–3 cm. long, 1–2 cm. broad; stipules subulate; racemes short, leafy at base; stamens 12–15; ovary tomentose; fruits stellate-tomentose, deeply 3-lobed; seeds rough [1. plicata](#)

Usually ascending or suberect undershrubs; fruits lepidote; stamens up to 10: **2**

- 2 Indumentum of the shoots and lower surface of the leaves very woolly; petioles fairly long; leaves ovate-rhomboid, 2.5–4 cm. long, up to 3 cm. broad, biglandular at base, sometimes slightly 3-lobed; sepals in fruit sometimes elongating to 6 mm. long [2. brocchiana](#)

Indumentum of the shoots and lower surface of the leaves short and close; petioles comparatively short; leaves

similar to preceding; sepals not elongating in fruit [3. senegalensis](#)

1. **Chrozophora plicata** (Vahl) A. Juss. ex Spreng. — F.T.A. 6, 1: 834 (incl. var. *obliquifolia* (Vis.) Prain); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 19. *APD acc*

Croton plicatus Vahl (1790).

Sen.: Dagana Leprieur. Podar Mathieu. **N. Nig.:** Kukawa (fl. & fr. Jan.–Feb.) E. Vogel 3! 32!

Extends to A.-E, **Sudan** and Abyssinia, Mozambique and Rhodesia; also in **Egypt** and **Palestine**.

2. **Chrozophora brocchiana** Vis. — F.T.A. 6, 1: 838 (incl. *C. senegalensis* var. *lanigera* Prain); Pax & K. Hoffm. l.c. 6: 20; Chev. Bot. 573. *APD acc*

A low undershrub with stout, more or less erect stems; scales covering the capsules whitish or violet-tinged; **in sandy soil**.

Sen.: Perrottet 42! Roger! Dagana Leprieur! Cape Verde Brunner 108! **Fr. Sud.:** Timbuktu Chev. 1302. **N. Nig.:** by the Niger Barter! Borgu Barter 812! Bornu Oudney!

Also in **Mauritania**, and extends to the Red Sea.

3. **Chrozophora senegalensis** (Lam.) A. Juss. ex Spreng. — F.T.A. 6, 1: 837; Pax & K. Hoffm. l.c. 6: 21; Chev. Bot. 573. *APD acc*

Croton senegalensis Lam. (1786).

A low undershrub, sometimes prostrate; flowers scarlet; capsules as in the preceding.

Sen.: Dagana (Apr.) Leprieur 1194! Walo and Cayor Heudelot 419! Dakar (fl. & fr. May) Baldwin 5751! **Gam.:** Kudang (fl. & fr. Jan.) Dalz. 8054! Yundum (fl. & fr. Dec.) Austin 26! **Fr. Sud.:** Bougouni (Apr.) Chev. 687. Sienso, San (Apr.) Chev. 1051. **G. C.:** Gambaga (fl. & fr. May) Vigne FH 3913! Navrongo (fl. & fr. May) Andoh FH 5175! Burufo (fl. & fr. Dec.) Adams GC 4414! **Dah.:** Atacora Mts. Chev. 24078. **N. Nig.:** Sokoto (fl. & fr. Oct., Dec.) Moiser 60! 114! Kano (fl. & fr. Mar.) Bally 5! Katagum (fl. & fr. July) Dalz. 205! Nguru (fl. & fr. June) Onochie FHI 23327!

Also in **Shari region**.

28. GROSSERA

Pax — F.T.A. 6, 1: 816; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 105 (1912); Cavaco in Bull. Mus. Hist. Nat. 21: 272 (1949).

- 1 Inflorescences paniculate, terminal and axillary, up to 22 cm. long, with pubescent axes, flowers in fascicles, with pedicels 3–7 mm. long; male calyx ovoid in bud, splitting into 3–4 valvate segments about 2 mm. long; petals 5, about 1 mm. diam.; disk-glands 5; stamens 13–16; leaves oblanceolate, obovate or elliptic, obtuse or cuneate at base, obtuse to obtusely acuminate at apex, margin with small glandular teeth, 8–30 cm. long, 3–12 cm. broad, sparingly pubescent on the midrib and nerves beneath, otherwise glabrous; petiole 2–7 cm. long, densely pubescent on the lower side [1. vignei](#)

Inflorescences racemose, terminal, up to 2 cm. long, sparingly pubescent, flowers 1–3 together, with pedicels 1–3 mm. long; male calyx ovoid in bud, about 2 mm. long; leaves narrowly elliptic, long-attenuate at base, gradually acuminate at apex, margin entire, up to 13 cm. long and 5.1 cm. broad, glabrous; petiole up to 1 cm. long, sparingly pubescent [2. baldwinii](#)

1. **Grossera vignei** Hoyle in Kew Bull. 1935: 259; Cavaco in Bull. Mus. Hist. Nat. 21: 276 (excl. distrib. Nigeria). “Espèce indéterminée”, Aubrév. Fl. For. C. Iv. 2: 82. *APD acc*

A dioecious **understorey forest** tree, 5–50 ft. high; flowers pale yellow or white.

Iv. C.: Man Aubrév. 1091. Danané Aubrév. 1034. Mudjika Serv. For. 2781. Lyola country, Haut Sassandra Chev. 21573. **G. C.:** Ofin Headwaters F.R. (Apr.) Vigne FH 1915! Mampong Scarp (Feb., Dec.) Vigne FH 2752! 4094! 4095! Abofaw (Nov.) Vigne FH 3135! Atewa Range (Feb.) Vigne FH 4343! Tano-Offin F.R. (Jan.) Lyon FH 2862! **Br. Cam.:** Missellele, Tiko (Jan.) Box 3565!

2. **Grossera baldwinii** Keay & Cavaco in Port. Acta Biol. (B), 6: 1, t. 1 (1955).

APD: Synonym of Cavacoa baldwinii (Keay & Cavaco) J. Léonard

A dioecious shrub, to 8 ft. high; female flowers green; male flowers yellow.

S. L.: between Gola F.R. boundary and Lalahun (Jan.) King 122b! **Lib.:** Grand Cape Mount Co.: Genna Tanyehun (Dec.) Baldwin 10747! Jabrocca (Dec.) Baldwin 12567!

29. PSEUDAGROSTISTACHYS

Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 96 (1912); Lebrun in Bull. Soc. Roy. Bot. Belg. 67: 97 (1934).

- 1 A small tree, 8 m. high, glabrous; stipules connate into a sheath, soon falling off and leaving a scar; leaves oblong-elliptic, acute, shortly cuneate at base, 17–40 cm. long, up to 15 cm. broad, glabrous, with 2 basal glands on the upper surface at base; lateral nerves 18–20 pairs, raised on both surfaces; racemes axillary, up to 7.5 cm. long; flowers white; bracts striate; stamens about 20, free; ovary densely pilose [africana](#)

Pseudagrostistachys africana (Müll. Arg.) Pax & K. Hoffm. l.c. 97, fig. 18 (1912); Exell Cat. S. Tomé 296. *APD acc*

Agrostistachys africana Müll. Arg. (1864) — F.T.A. 6, 1: 829.

S. Nig.: Ikwette Plateau, Obudu Div., 4,200 ft. (fr. Dec.) Keay & Savory FHI 25207! **F. Po:** 4,000 ft. (Nov.) Mann 582!

Also on **S. Tomé**.

30. CYRTOGONONE

Prain — F.T.A. 6, 1: 815; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 111 (1912).

- 1 A tree; branchlets and undersurface of the leaves densely silvery-lepidote; leaves long-petioled, elliptic to obovate, widely cuneate at base, abruptly acuminate, entire or lobulate-toothed, 15–25 cm. long, 8–13 cm. broad, with a pair of glands at base; flowers dioecious, in large terminal narrow panicles up to 30 cm. long; calyx globose in bud, at length splitting into 3 sepals, lepidote; stamens numerous, erect in bud; fruits 3-lobed, about 3.5 cm. long and 4 cm. broad, scurfy brown-tomentellous; seeds 3, about 2.5 cm. long and broad [argentea](#)

Cyrtogonone argentea (Pax) Prain — F.T.A. 6, 1: 815; Pax l.c. 6: 111, fig. 23; Prain in Hook. Ic. Pl. t. 3008. *APD acc*

Crotonogyne? argentea Pax (1903).

A forest tree, 30–100 ft. high; flowers white.

S. Nig.: Oban Talbot 1590! Afi River F.R., Ikom (May) Latilo FHI 30988! **Br. Cam.:** Likomba Mildbr. 10523! Bambuko F.R., Kumba (fr. Sept.) Olorunfemi FHI 30770! R. Metschum, Wum (young fr. July) Ujor FHI 29284!

Also in **French Cameroons** and **Spanish Guinea**.

[In the first edition this species was recorded from the Ivory Coast (fide Chev. Bot. 588) by error. The specimen upon which the record was based is *Crotonogyne caterviflora* N. E. Br., q.v.]

31. CROTONOGYNE

Müll. Arg. — F.T.A. 6, 1: 819; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 97 (1931); Pflanzenr. Euph. 6: 111 (1912).

Neomanniophyton Pax & K. Hoffm. l.c. 6: 115 (1912), see F.T.A. 6, 1: 1054.

- 1 Leaves elongate-oblancheolate, narrowed to a cordate-auriculate base, acuminate at apex, up to 55 cm. long, 5–13 cm. broad; leaves crowded; petioles up to 1.8 cm. long; racemes up to 60 cm. long, the flowers in both sexes occupying the greater part of the rachis; male pedicel longer than the calyx; male petals free; indumentum of plant lepidote [l. preussii](#)

- Leaves not cordate-auriculate at base, not crowded; female flowers few and solitary towards the apex of the raceme; male pedicel not longer than the calyx; male petals united:2
- 2 Indumentum lepidote only or none; ovary lepidote:3
- Indumentum of setae or stellate hairs or both, associated with or replacing the flattened scales; ovary setose:4
- 3 Bracts usually eglandular; leaves oblong, rounded at base, gradually acuminate, 10–17 cm. long, 4–7 cm. broad, very loosely scaly beneath; racemes 5–15 cm. long, the males sometimes in clusters on the old wood; female calyx-lobes eglandular2. *caterviflora*
- Bracts always 2-glandular; leaves obovate, long-narrowed to an acute base, abruptly and shortly acuminate, 16–28 cm. long, 5–10 cm. broad, with very few scales beneath; racemes up to 30 cm. long; female calyx-lobes with glands between3. *manniana*
- 4 Branchlets and stipules stellate-pubescent and sparingly lepidote; leaves oblong-obovate, abruptly narrowed into a distinct “pseudopetiole” longer than the petiole proper, shortly acuminate, 26–30 cm. long, 6–9 cm. broad; stipules ovate, acuminate, 5 mm. long; racemes very long; bracts 2-glandular; male calyx glabrous, female lepidote and densely stellate-pubescent4. *impedita*
- Branchlets, stipules, petioles, undersurface of leaves, racemes and calyces at least when young with stiff spreading hairs; stipules lanceolate, 0.6–1.5 cm. long; leaves acutely long-acuminate:5
- 5 Indumentum composed of scales and long stiff hairs; petioles 1.8–6 cm. long; lamina elliptic to oblanceolate, 15–23 cm. long, 3.5–9 cm. broad5. *chevalieri*
- Indumentum strigose, scales absent except on the inflorescence; petioles up to 1.2 cm. long; lamina elongate-obovate, 17–30 cm. long, 6–10 cm. broad6. *strigosa*
1. **Crotonogyne preussii** Pax — F.T.A. 6, 1: 821; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 113, fig. 24. *APD acc*
- Pycnocomma macrophylla* of F.W.T.A., ed. 1, 1: 307, partly (Talbot 691).
- A shrub or small tree, 10–25 ft. high, in *rain forest*; flowers greenish-yellow or white; inflorescence erect.
- S. Nig.:** Owena, Ondo Prov. (Mar.) Darko 190! Idanre F.R. (fl. & young fr. July) Onochie FHI 33380! Oban Talbot 691! 694. **Br. Cam.:** Victoria (Apr.) Preuss 1220. Likomba (Oct.) Mildbr. 10544! S. Bakundu F.R. (Jan., Mar.) Brenan 9455! Keay FHI 28564!
- Also in *French Cameroons*.
2. **Crotonogyne caterviflora** N. E. Br. — F.T.A. 6, 1: 821; Chev. Bot. 573. *APD acc*
- Neomanniophyton caterviflorum* (N. E. Br.) Pax in Engl. Pflanzenr. Euph. 6: 118 (1912).
- Cyrtogonone argentea* of Chev. Bot. 588, not of Prain.
- A *forest* shrub, to 18 ft. high, scaly.
- S. L.:** Yonibana (Oct., Nov.) Thomas 4136! 4889! 4890! Nyandehun (Apr.) Deighton 3667! Faiama (Jan.) Deighton 3874! **Lib.:** Dinklage 3362! Sinoe Basin Whyte! Moylakwelli (Oct.) Linder 1274! Ganta (Sept.) Baldwin 9227! 9306! Boporo Dist. (fl. Dec., fr. Nov.) Baldwin 10278! 10667! Bobei Mt. (fr. Sept.) Baldwin 9564! 9586! **IV. C.:** Malamalasso (Mar.) Chev. 17520!
3. **Crotonogyne manniana** Müll. Arg. — F.T.A. 6, 1: 822; Pax & K. Hoffm. l.c. 113. *APD acc*
- A *forest* shrub, to 12 ft. high, scaly; flowers whitish.
- G. C.:** Ankása F.R. (Dec.) Vigne FH 3183! **S. Nig.:** Eket Talbot 3258! Stubbs Creek F.R., Eket (May) Onochie FHI 32096! 32950! **F. Po.:** (Jan.) Mann 219! 220!
- [C. zenkeri Pax from French Cameroons and Gabon is probably conspecific with this species.]
4. **Crotonogyne impedita** Prain — F.T.A. 6, 1: 823. *APD acc*
- Neomanniophyton impeditum* (Prain) Pax l.c. 6: 116 (1912).
- A *forest* shrub, 6–8 ft. high.
- Br. Cam.:** Johann-Albrechtshöhe Büsgen 163.
- Also in *French Cameroons*.

5. *Crotonogyne chevalieri* (Beille) Keay in Kew Bull. 1955: 139. *APD acc**Neomanniophyton chevalieri* Beille in Bull. Soc. Bot. Fr. 61, Mém. 8: 295 (1917); Chev. Bot. 588.*Crotonogyne caterviflora* of F.W.T.A., ed. 1, 1: 299, partly (Chev. 17783).*Crotonogyne strigosa* of Aubrév. Fl. For. C. Iv. 2: 70, t. 151, 6–11.

A forest shrub, to 12 ft. high.

Iv. C.: Soubiré to Yaou, Sanvi (Mar.) Chev. 17783! Mt. Tonko (July) Chev. 19707! Soumié (Apr.) Aubrév. 448! **G. C.:** Konongo (Feb.) Akpabla 267! Opon Mansi F.R. (Oct.) Akpabla 921! Simpa (Feb.) Vigne FH 2780! Prestea (Sept.) Vigne FH 3093!**6. *Crotonogyne strigosa* Prain** in Kew Bull. 1912: 191 (May 1912); F.T.A. 6, 1: 826. *APD acc**Neomanniophyton ledermannianum* Pax & K. Hoffm. l.c. 6: 116 (Oct. 1912).*Crotonogyne ledermanniana* (Pax & K. Hoffm.) Pax & K. Hoffm. in op. cit. 7: 427 (1914).

A forest shrub, to 6 ft. high, all parts with stiff spreading hairs.

S. Nig.: Oban Talbot 658! 659! Kwa Falls, Calabar (Mar.) Brenan 9243!Also in **French Camerouns**.**32. MANNIOPHYTON***Müll. Arg.* — F.T.A. 6, 1: 818; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 6: 120 (1912).

- 1** A shrub or climber; branches scabrous with short stellate hairs; leaves polymorphous, entire and ovate or more or less 2–3-lobed, cordate at base, tips acutely acuminate, up to 25 cm. long and broad, 5-nerved at base, scabrous-setose with stellate hairs on both surfaces; male panicles slender, up to 25 cm. long; flowers small, clustered; stamens 10–20; female panicles much smaller; ovary densely setose; capsule deeply 3-lobed, about 2.5 cm. long, rusty-tomentose *fulvum*

***Manniophyton fulvum* Müll. Arg.** in J. Bot. 2: 332 (1 Nov. 1864); Léonard in Bull. Jard. Bot. Brux. 25: 290. *APD acc**Manniophyton africanum* Müll. Arg. in Flora 47: 531 (9 Nov. 1864); F.T.A. 6, 1: 818 (incl. var.); Pax & K. Hoffm. l.c. 121, fig. 25 A–E (incl. vars.); Chev. Bot. 572.

A forest shrub or climber; flowers pale yellow.

S. L.: Freetown (Dec.) Smythe 204! Pujehun (Feb.) Aylmer 9! Kenema (fl. & fr. Jan.) Thomas 7612! 7673! Mattru (Nov.) Deighton 2336! Yonibana (Oct., Nov.) Thomas 4899! **Lib.:** Monrovia Whyte! Grand Bassa (Oct.) Dinklage 1758! Peahtah (Oct.) Linder 981! Ganta (Dec.) Barker 1136! Belleyella, Boporo (fl. & fr. Dec.) Baldwin 10646! **Iv. C.:** Bouroukrou (Dec., Jan.) Chev. 16879. Grabo (July, Aug.) Chev. 19634. **G. C.:** Akwapim Hills (Oct.) Johnson 795! Foso Juaso F.R. (Apr.) Scholes 240! Ateiku (May) Vigne FH 1939! **S. Nig.:** Oluwa F.R. (Apr.) Symington FHI 3391! Ugbojiobo, Benin (May) Farquhar 3! Awka (July) Onyeagocha FHI 16556! Eket Talbot 3074! 3248! Calabar (fr. Feb.) Mann 2308! **Br. Cam.:** S. Bakundu F.R. (Apr.) Olorunfemi FHI 30540!Also in **French Camerouns, Principe, S. Tomé, Gabon, Spanish Guinea, Belgian Congo, A.-E. Sudan** and **Angola**.**33. ERYTHROCOCCA***Benth.* — F.T.A. 6, 1: 847; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 86 (1914).*Chloropatane* Engl. (1899).*Athroandra* (Hook. f.) Pax & K. Hoffm. l.c. 7: 76 (1914).

- 1** Branchlets armed with a pair of sharp stipular spines at the base of each leaf; leaves ovate or oblong, acuminate, 4–5 cm. long, 2–3 cm. broad, faintly crenate, glabrous; lateral nerves about 2 pairs; male racemes very short and slender; calyx globose in bud, glabrous; stamens 6–11; stigmas lacinate; fruits 1–3-lobed, sparingly setose *l. anomala*
- Branchlets not spiny; stigmas entire, smooth or papillose; stamens 24–30: **2**
- 2** Filaments longer than the anthers; branchlets long-pilose with spreading hairs; leaves very shortly petiolate, oblong-obovate, coarsely jagged-toothed, 5–15 cm. long, 1.5–5 cm. broad, membranous, pilose with stiff

- slender hairs on both surfaces; stipules small and hyaline; male pedicels up to 1 cm. long; sepals glabrous; stamens about 27; stigmas recurved and closely appressed on the ovary [2. membranacea](#)
- Filaments shorter than the anthers; branchlets pubescent, puberulous, often glabrescent, or glabrous: **3**
- 3** Undersurface of leaves remaining densely pilose or softly pubescent: **4**
- Undersurface of leaves puberulous and glabrescent, or glabrous: **5**
- 4** Leaves ovate-oblong, obtuse or cuneate at base, long-acuminate, 7–20 cm. long, 2.2–7 cm. broad, distantly crenate-serrate, densely pilose beneath; petiole 5–16 mm. long; stigmas lanceolate, spreading, style distinct; fruits 12–15 mm. broad [3. hispida](#)
- Leaves ovate, or ovate-lanceolate, obtuse at base, cuspidate-acuminate, 3–5 cm. long and nearly 2 cm. broad, denticulate, softly pubescent beneath; petiole about 6 mm. long; stigmas suborbicular, connate at base, smooth [4. chevalieri](#)
- 5** Male buds rounded; stigmas usually suberect or spreading; branchlets, petioles and leaves puberulous, at least when young: **6**
- Male buds ovoid, pointed; stigmas sessile, closely oppressed on the ovary; branchlets, petioles and leaves glabrous; leaves oblong-lanceolate, acuminate, 7–20 cm. long, 2.5–6 cm. broad, distantly serrulate; male pedicels subumbellate, up to 1.5 cm. long [8. mannii](#)
- 6** Stigmas subsessile, suborbicular, spreading, papillose; leaves ovate, 4–6.5 cm. long, 2.5–4 cm. broad, crenate; male pedicels up to 1 cm. long [6. africana](#)
- Stigmas on a distinct style, smooth; male pedicels slender, 1–2 cm. long: **7**
- 7** Stigmas suborbicular, small, much shorter than the style; leaves oblong to elliptic-obovate, 10–15 cm. long, 5–6 cm. broad, remotely toothed [6. welwitschiana](#)
- Stigmas ovate-lanceolate, longer than the style; leaves oblong-lanceolate, 8–15 cm. long, 3–5 cm. broad, glandular-dentate [7. pallidifolia](#)

1. *Erythrococca anomala* (Juss. ex Poir.) Prain in Ann. Bot. 25: 614 (1911); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 90. *APD acc*

Adelia anomala Juss. ex Poir. (1810).

Erythrococca aculeata Benth. (1849) — F.T.A. 6, 1: 858; Chev. Bot. 575.

A spiny shrub, 3–10 ft. high; fruit (as in the other species) usually 2-lobed and splitting to expose the pitted spherical seeds enclosed in a thin scarlet aril.

Fr. G.: Boquet Heudelot 856! **S. L.:** Smeathmann! Bagroo R. (Apr.) Mann 879! Mt. Aureole (Mar.) Dalz. 936! Ndilajula, Njala (Apr.) Deighton 3733! **Lib.:** Monrovia Whyte! Peahtah (Oct.) Linder 1052! 1097! Jabroke, Palipo (July) Baldwin 6605! **Iv. C.:** Bouroukrou, Capiékrou, Sanvi and Soubré fide Chev. l.c. **G. C.:** Achimota (July) Milne-Redhead 5128! Dunkwa (Sept.) Brown FH 2357! **Togo:** Kete Krachi (June) FH 3876! **N. Nig.:** Okene (young fr. Sept.) Symington FHI 5685! **S. Nig.:** Lagos Rowland! Olokemeji (Apr.) Foster 285! Ibadan (Apr.) Meikle 1432! Schlechter 13012! Oban Talbot! **Br. Cam.:** Victoria (Apr.) Maitland 624! Johann-Albrechtshöhe Staudt 466! **F. Po:** Mildbr. 6881; 6998.

2. *Erythrococca membranacea* (Müll. Arg.) Prain — F.T.A. 6, 1: 864. *APD acc*

Claoxylon membranaceum Müll. Arg. (1864).

Athroandra membranacea (Müll. Arg.) Pax & K. Hoffm. l.c. 7: 78 (1914).

A forest shrub, to 10 ft. high.

S. Nig.: Oloji area, Omo F.R., Ijebu Ode (fr. Apr.) Onochie FHI 15515! **Br. Cam.:** Cam. Mt., 4,000 ft. (Feb.) Mann 1197! Buea Lehm巴赫 212.

3. *Erythrococca hispida* (Pax) Prain — F.T.A. 6, 1: 873. *APD acc*

Claoxylon hispidum Pax (1894).

Athroandra hispida (Pax) Pax & K. Hoffm. l.c. 7: 84, fig. 13 (1914).

A shrub or tree, to 15 ft. high; flowers yellowish-green; in lower montane forest.

Br. Cam.: Cam. Mt., 4,000–5,000 ft. (fl. Nov.–May, fr. Jan.) Preuss 908! Dunlap 19! 100! Maitland 214! 677! Keay FHI 28649!

Also in French Cameroons.

4. *Erythrococca chevalieri* (Beille) Prain — F.T.A. 6, 1: 866; Chev. Bot. 575. *APD acc*

Claoxylon chevalieri Beille (1908).

Athroandra chevalieri (Beille) Pax & K. Hoffm. l.c. 7: 79 (1914).

A shrub.

Fr. G.: Labé Plateau (Apr.) Chev. 12296! Diaguissa (Mar.) Chev. 12643! Fassakoidou to Kesséridou (Feb.) Chev. 20811!
Dah.: Cabolé to Bassila, Savalou (May) Chev. 23786!

5. *Erythrococca africana* (Baill.) Prain — F.T.A. 6, 1: 866. *APD acc*

Trewia? africana Baill. (1860).

Claoxylon barteri Hook. f. (1862) — Chev. Bot. 576.

Athroandra africana (Baill.) Pax & K. Hoffm. l.c. 7: 79 (1914).

A shrub or small tree, with pale leaves, and slender, more or less pendulous, flower-racemes.

Sen.: Casamance R. Perrottet 748! **Port. G.:** Catió (June) Esp. Santo 2098! **S. L.:** Crawford's Isl. Afzelius. Bafodeya (Apr.) Sc. Elliot 5505! Mano (Apr.) Deighton 3957! **Lib.:** Sinoe Basin Whyte! Ganta Harley! **IV. C.:** Zaon to Ayame Chev. 17805 ter. Zaramou Chev. 1763! Cavally Basin Chev. 19987. **G. C.:** Sekondi (Nov.) Vigne FH 1404! Amentia (Mar.) Vigne FH 1857! Bunsu, Akim (Mar.) Irvine 1811! Mangvase (Feb.) Darko 244! **Dah.:** Koussi, Allada (Feb.) Chev. 23235! **S. Nig.:** Lagos Barter 2223! Rowland! Epe Barter 3285! Lekki (Feb.) Millen 163! Ipetu Foster 184! Yoruba forests Barter 3344!

6. *Erythrococca welwitschiana* (Müll. Arg.) Prain — F.T.A. 6, 1: 868. *APD acc*

Claoxylon welwitschianum Müll. Arg. (1864).

Athroandra welwitschiana (Müll. Arg.) Pax & K. Hoffm. l.c. 7: 81, fig. 12 (1914).

A forest shrub, 4–15 ft. high.

S. Nig.: Oban Talbot 663!

Also in **French Cameroons**, extending to **Belgian Congo** and **Angola**.

7. *Erythrococca pallidifolia* (Pax & K. Hoffm.) Keay in Kew Bull. 1955: 139. *APD acc*

Athroandra pallidifolia Pax & K. Hoffm. l.c. 7: 84 (1914).

A shrub, to 6 ft. high, on forest-margin.

F. Po: Musola Mildbr. 7060.

8. *Erythrococca mannii* (Hook. f.) Prain — F.T.A. 6, 1: 865. *APD acc*

Claoxylon mannii Hook. f. (1862).

Athroandra mannii (Hook. f.) Pax & K. Hoffm. l.c. 7: 78 (1914).

A shrub, 15 ft. high.

F. Po: Clarence Peak, 5,000 ft. (Dec.) Mann 260; 633!

34. CLAOXYLON

A. Juss. — F.T.A. 6, 1: 874.

Discoclaoxylon (Müll. Arg.) Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 137 (1914).

- 1 Leaves long-cuneate at base, elongate obovate-oblongate, 15–25 cm. long, 5–6.5 cm. broad, purplish when young, remotely denticulate, nearly glabrous beneath; male flowers in lax racemes; stamens 11–12 [1. pedicellare](#)

Leaves rounded or very widely cuneate at base, elliptic-obovate, 17–35 cm. long, 8–15 cm. broad, closely serrate, the petioles purplish when young; male flowers in rather close racemes resembling catkins when young; stamens (3–) 6–8 [2. hexandrum](#)

1. *Claoxylon pedicellare* Müll. Arg. — F.T.A. 6, 1: 874.

APD: *Synonym of Discoclaoxylon pedicellare* (Müll. Arg.) Pax & K. Hoffm.

Discoclaoxylon pedicellare (Müll. Arg.) Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 137 (1914).

A small tree with rather long-petiolate leaves and green glabrescent branchlets.

F. Po: Mann!

2. *Claoxylon hexandrum* Müll. Arg — F.T.A. 6, 1: 875; Aubrév. Fl. For. C. Iv. 2: 77, t. 151, 1–5.

APD: *Synonym of Discoclaoxylon hexandrum* (Müll. Arg.) Pax & K. Hoffm.

Discoclaoxylon hexandrum (Müll. Arg.) Pax & K. Hoffm. l.c. 7: 139, fig. 19 (1914).

A soft-wooded forest tree, to 60 ft. high, mostly in secondary regrowth; flowers greenish-yellow, ripe seeds red.

Lib.: Gbanga (Sept.) Linder 734! Peahtah (Oct.) Linder 1104! Ganta (Sept.) Baldwin 9240! **IV. C.:** Yapo (Oct.) Chev. B. 22363! Agboville Aubrév. 1927! **G. C.:** Manso, Akim (Dec.) Irvine 2688! Bobiri F.R. (fr. Feb.) Foggie FH 4948! Benso, Tarkwa (Dec.) Andoh FH 5393! **S. Nig.:** Omo F.R. (Mar.) Jones & Onochie FHI 17034! Okomu F.R. (Jan.–Mar.) Brenan 9119! Akpabla 1115! Oban Talbot 1352! **Br. Cam.:** Buea (Jan.–Mar.) Maitland 234! 403! Bali-Ngamba F.R. (fr. May) Ujor FHI 30350! **F. Po:** (Jan.) Mann 186!

Also in French Cameroons, Belgian Congo and (?) Uganda.

35. MICROCOCCA

Benth. — F.T.A. 6, 1: 876; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 131 (1914).

- 1 Annual herb; leaves ovate, acuminate, 2.5–5 cm. long, 1.5–2.5 cm. broad, obtusely crenate, glabrous or nearly so, sometimes purple-tinged; flowers monoecious, in slender axillary racemes, 5–8 cm. long; male sepals 3; stamens usually 6, intermixed with staminal glands; female sepals 3–5; fruit deeply 3-lobed, strigose
.....*mercurialis*

Micrococca mercurialis (Linn.) Benth. — F.T.A. 6, 1: 878; Pax & K. Hoffm. l.c. 7: 133, fig. 18, D–F; Chev. Bot. 576. APD acc

Tragia mercurialis Linn. (1753).

A weed of cultivation, 1/2–2 ft. high, stems simple or branched, pubescent, woody below.

Sen.: Perrottet 715! **Fr. G.:** Conakry (June) Chev. 4425. **S. L.:** Regent (Dec.) Sc. Elliot 4117! Kent (fl. & fr. May) Deighton 2658! Binkolo (fl. & fr. Aug.) Thomas 1695! 1874! Rokupr (fl. & fr. July) Jordan 49! **Lib.:** Monrovia Cinco (fl. & fr. Nov.) Linder 1552! **G. C.:** Owabi (fl. & fr. Apr.) Andoh FH 4189! **Togo:** Lome Warnecke 187! **N. Nig.:** Nupe Barter 1494! Lokoja (Sept., Nov.) T. Vogel 194! Dalz. 164! Abinsi (fl. & fr. Oct.) Dalz. 785! **S. Nig.:** Ibadan (fl. & fr. July) Ahmed & Chizea FHI 20002! **Br. Cam.:** Mamfe (fl. & fr. Apr.) Ejiofor FHI 29375!

Throughout tropical Africa, also in Madagascar and Asia.

36. MALLOTUS

Lour. — F.T.A. 6, 1: 927; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 145 (1914).

- 1 Leaves not golden-glandular beneath; stipules persistent, rigid-subulate; fruit bristly; leaf-blades ovate or ovate-elliptic, rounded or subcordate at base, acuminate, 10–18 cm. long, 8–10 cm. broad, often entire ..*1. subulatus*
Leaves golden-glandular beneath; stipules small, caducous; fruits smooth; leaf-blades broadly ovate, rounded to quite cordate at base, up to 18 cm. long and 10 cm. broad, often toothed, glabrescent or pubescent beneath ..*2. oppositifolius*

1. *Mallotus subulatus* Müll. Arg — F.T.A. 6, 1: 927; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 153; Chev. Bot. 580. APD acc

A dioecious forest shrub or small tree, 3–15 ft. high, with stellate-pubescent branchlets and racemes; flowers cream.

S. L.: Nganyama, Bo (fl. Dec., fr. Mar.) Deighton 3514! 3580! Zimi to Gorahun, Gola Forest (Mar.) Deighton 4107! **Lib.:** Jabrocra (fr. Dec.) Baldwin 10859! **IV. C.:** Abiosso Chev. 17825. **G. C.:** Axim (Dec.) Chipp 50! Princes (fr. Jan.) Akpabla 760! **S. Nig.:** Sapoba Kennedy 2090! Ubuluku (Dec.) Thomas 2074! 2075! Awka (Nov.) Keay FHI 22281! Umuahia (young

fr. Feb.) Carpenter 407! Oban Talbot 1311! **Br. Cam.:** Victoria (young fr. Feb.) Maitland 368! Tiko (Jan.) Dunlap 252! Kembong F.R., Mamfe (fr. Mar.) Onochie FHI 31175! **F. Po:** Mann 260!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

2. **Mallotus oppositifolius** (*Geisel.*) Müll. Arg — F.T.A. 6, 1: 928 (incl. vars.); Pax & K. Hoffm. l.c. 7: 158, fig. 23 A; Chev. Bot. 579. *APD acc*

Croton oppositifolius Geisel. (1807).

Mallotus beillei A. Chev. Bot. 579, name only.

A dioecious shrub or tree, 6–40 ft. high, common in forest regrowth and drier types of forest; flowers creamy-white.

Sen.: Berhaut 1256; 4337. **Gam.:** Hayes 550! **S. L.:** Farana to Falaba (Mar.) Sc. Elliot 4461! Makump (July) Thomas 888! Juring (Dec.) Deighton 443! Njala (fl. & fr. July) Deighton 759! 760! 761! **Lib.:** Dinklage. **Iv. C.:** Bouroukrou, Nzi & Mt. Dou fide Chev. l.c. **G. C.:** Cape Coast Brass! Bompata (May) Chipp 441! Accra (Apr., May) Dalz. 127! Bally 14! Dawa (May) Howes 905! **Togo:** Lome (Nov.) Warnecke. 51! 319! 7481! Aguna Kersting A. 290! **Dah.:** Zagnanado and Abomey fide Chev. l.c. **N. Nig.:** Nupe Barter 1702! 1742! Dogon Kurmi, Jemaa (Nov.) Keay FHI 22269! Abinsi Dalz. 725! **S. Nig.:** Lagos Rowland! Dawodu 75! 299! Abeokuta Barter 3381! Ibadan (fl. & fr. Apr.) Meikle 1465! 1466! Abo (Aug.) T. Vogel 31! 36! 48! Aguku Thomas 637! Calabar (July) Holland 51! **Br. Cam.:** Tiko (Jan.) Dunlap 251! Fonfuka, Bamenda (Apr.) Maitland 1763!

Widespread in tropical Africa and in **Madagascar**.

Several forms or varieties exist, but the treatments given in the Pflanzenreich and in the F.T.A. are not satisfactory and more thorough research is required.

37. ALCHORNEA

Sw. — F.T.A. 6, 1: 914; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 220 (1914). *APD acc*

Lepidoturus Boj. ex Baill. — F.T.A. 6, 1: 913; F.W.T.A., ed. 1, 1: 303.

- 1 Leaves without stipel-like appendages, but with sessile glands at the base; bracts up to 1 mm. long, inconspicuous; male flowers in panicles of spikes:2
 Leaves with a pair of stipel-like appendages and sessile glands at the base; bracts 4–6 mm. long, conspicuous; male flowers in simple spikes, 4–10 cm. long, from perulate buds on the 1-year-old shoots, appearing before the leaves; female spikes axillary on the young shoots, flowers very few; ovary 3-celled; styles 3; fruit 3-celled, about 8 mm. broad, smooth, glabrescent; leaves ovate-elliptic, rounded at base, acutely acuminate, crenate or subentire, 8–13 (–16) cm. long, 3–5 (–10) cm. broad, sparsely pilose beneath; petioles 1–4 (–7.5) cm. long; branchlets and young leaves purplish4. *laxiflora*
- 2 Petioles 5–14 cm. long; ovary 2-celled; styles 2; leaves broadly ovate, cordate at base, shortly acuminate, repand-dentate or subentire, 10–28 cm. long, 6.5–16.5 cm. broad, finely stellate-puberulous or glabrescent beneath; male panicles axillary, 8–36 cm. long; female inflorescences axillary, branched or simple; fruits 2-celled, about 1 cm. broad, stellate-pubescent1. *cordifolia*
 Petioles 0.5–3 cm. long; ovary 3-celled; styles 3; leaves not cordate at base; indumentum not stellate:3
- 3 Leaves elongate-obovate-oblancoelate, long-attenuated to the base, shortly acuminate, repand-denticulate, 14–31 cm. long, 6–12 cm. broad, lateral nerves 12–19 pairs; branchlets, petioles and undersurface of leaves minutely puberulous; male panicles 10–25 cm. long, terminal, axillary and on the old wood; female inflorescences terminal, simple or branched, up to 11–40 cm. long; fruits 3-celled, about 8–11 mm. broad, smooth, pubescent2. *floribunda*
 Leaves oblong-elliptic, rounded at base, obtusely acuminate, crenate or entire, 7–13 cm. long, 2.5–6 cm. broad, lateral nerves 7–10 pairs; branchlets, petioles and undersurface of leaves with spreading pilose hairs; male panicles up to 17 cm. long, terminal and axillary, female inflorescences terminal, simple or branched, up to 8 cm. long; fruits 3-celled, 8–9 mm. broad, tuberculate3. *hirtella*

1. **Alchornea cordifolia** (*Schum. & Thonn.*) Müll. Arg. in Linnaea 34: 170 (1865); Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 230, fig. 34, A–C; Chev. Bot. 577. *APD acc*

Schousboea cordifolia Schum. & Thonn. (1827).

Alchornea cordata Benth. (1849) — F.T.A. 6, 1: 915.

A shrub or small tree, erect or half climbing; flowers greenish-white; styles long and persistent on the ripening fruits in lax pendulous spikes or racemes.

Sen.: Roger! **Gam.:** Heudelot 345! Genieri (Feb.) Fox 28! **Fr. Sud.:** Banamiane (Jan.) Chev. 151! Moussaia (Feb.) Chev. 456! **Port. G.:** Esp. Santo 428! **Fr. G.:** Timbo (Jan.) Pobéguin 124! Kindia (Mar.) Chev. 12748. **S. L.:** Don! Hastings (young fr. Mar.) Kirk! Kenema (Jan.) Thomas 75208! Waterloo to York Pass (Jan.) Tindall 25! **Lib.:** Gbanga (fl. & young fr. Sept.) Linder 483! Nyaake, Webo (June) Baldwin 6158! Brewersville (Dec.) Barker 1107! **IV. C.:** various localities fide Chev. l.c. **G. C.:** Kumasi Cummins 179! Aburi (Jan.) Brown 937! Essuasú (Nov.) Chipp 3! 4! **Togo:** Akpafu-Todji St. C. Thompson FH 3682! **Dah.:** Le Testu 204; 205. **N. Nig.:** Kontagora (Dec.) Dalz. 88! Katagum Dalz. 405! Abinsi (Apr.) Dalz. 703! **S. Nig.:** Lagos Moloney! Benin City Dennett 69! Oban Talbot 682! 1319! **Br. Cam.:** Victoria (fl. & fr. Jan.) Maitland 181! Johann-Albrechtshöhe Staudt 551! **F. Po.:** (Nov., Dec.) T. Vogel 73! Mann 81!

Widespread in tropical Africa.

2. *Alchornea floribunda* Müll. Arg. — F.T.A. 6, 1: 916; Pax & K. Hoffm. l.c. 7: 239, fig. 36; Chev. Bot. 578, partly. *APD acc*

A leaning shrub or small tree, sometimes subscandent, to 30 ft. high; in forest undergrowth; flowers pale green.

Fr. Sud.: Moussaia fide Chev. l.c. (?). **Lib.:** Ganta (May, Sept.) Harley! Baldwin 9246! Bangee, Boporo (fr. Nov.) Baldwin 10358! Zeahtown (Aug.) Baldwin 69281 **IV. C.:** various localities fide Chev. l.c. **S. Nig.:** Okomu F.R. (Dec., Mar.) Brenan 8559! Eket Talbot 3284! Oban Talbot 2304! Boje, Ikom (fr. May) Latilo FHI 31803! **Br. Cam.:** Likomba (Apr.) Maitland 1103! Bulifambo (Mar.) Maitland 564! S. Bakundu F.R. (Mar.) Latilo in Hb. Brenan 9400! **F. Po.:** Mann 306!

Also in French Cameroons, Spanish Guinea, Gabon, Cabinda, Belgian Congo, Uganda and A.-E. Sudan.

3. *Alchornea hirtella* Benth. — F.T.A. 6, 1: 917; Pax & K. Hoffm. l.c. 7: 241; Chev. Bot. 579. *APD acc*

A forest shrub or tree, 2–30 ft. high; flowers reddish.

Sen.: Djikoy Adam 1042. **Port. G.:** Brene, Bissau (Jan.) Esp. Santo 1683! **Fr. G.:** Rio Nunez Heudelot 746! Banacoro (Feb.) Chev. 499. And other localities fide Chev. l.c. **S. L.:** Smeathmann! Kambia, Scarcies R. (Dec.) Sc. Elliot 4230! Njala (fl. Feb., Sept., fr. Mar.) Deighton 521! 2131! 2869! Musaia (fl. & fr. Dec.) Deighton 4415! Kambui Hills (Mar.) Small 516! **Lib.:** Grand Bassa (July) T. Vogel 35! Peahtah (Oct.) Linder 1085! Bushrod Isl. (Apr.) Barker 1299! 1300! Soplina Kolahun (Nov.) Baldwin 10021! **IV. C.:** various localities fide Chev. l.c. Also in French Cameroons, Spanish Guinea, Gabon, Belgian Congo, Uganda, Tanganyika and Angola.

[Winkler 664 from Victoria, cited as this species in the first edition is *Mareya micrantha* (Benth.) Müll. Arg.]

4. *Alchornea laxiflora* (Benth.) Pax & K. Hoffm. l.c. 7: 245, fig. 37 (1914). *APD acc*

Lepidoturus laxiflorus Benth. (1879) — F.T.A. 6, 1: 913; F.W.T.A., ed. 1, 1: 303.

A shrub or small tree, 15–20 ft. high, with leaves 3-nerved at the base.

N. Nig.: Naraguta Hill 33! Bauchi Plateau (Apr.) Lely P. 221! **S. Nig.:** Lagos Rowland! Ikirun (Feb.) Millson 135! Ibadan (Jan., Feb.) Ejiofor FHI 29399! Idanre Hills (Jan.) Brenan & Keay 8662! Benin City Unwin 39! Sapoba Kennedy 2403! **Br. Cam.:** Buea (Mar.) Maitland 454! Bambui, Bamenda (Apr.) Maitland 1463!

Also on S. Tomé and widespread in central, eastern and southern tropical Africa.

38. DISCOGLYPREMNA

Prain — F.T.A. 6, 1: 931; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 18 (1914).

- 1 Leaves long-petiolate, broadly elliptic or suborbicular, rounded or broadly cuneate at base, shortly and abruptly acuminate, 7–15 cm. long, 5–10 cm. broad, 3-nerved at the base, prominently nervose; flower-spikes paniculate, terminal, up to 20 cm. long, shortly pubescent; stamens 7–8, mixed with hirsute glands; fruits deeply 3-lobed, rather fleshy, slightly hairy [caloneura](#)

Discoglypremna caloneura (Pax) Prain — F.T.A. 6, 1: 932; Pax & K. Hoffm. l.c. 7: 19, fig. 1 (incl. vars.); Aubrév. Fl. For. C. Iv. 2: 78, t. 156. *APD acc*

Alchornea caloneura Pax (1909).

A forest tree, to 90 ft. high or more, with cylindrical stem; dioecious; flowers white; seeds bright red.

Fr. G.: Moussadougou to Lola, Guérzès (fr. Mar.) Chev. 20972! **S. L.:** Bo (Apr.) Deighton 3137! Tonboli F.R. (Nov.) Edwardson 255! **Lib.:** Dukwia R. (Nov.) Cooper 126! **Iv. C.:** Aubrév. 999! Abidjan Aubrév. 208! Morénou (fr. Dec.) Chev. 22531! **G. C.:** Ancobra R. (Dec.) Johnson 919! Esubompang (fr. Feb.) Chipp 100! Dunkwa (fr. Feb.) Vigne FH 213! Opon Valley (fr. Jan.) Irvine 1086! **Togo:** Okrabi (Dec.) St. C. Thompson FH 3701! **S. Nig.:** 70 miles east of Lagos Lamborn 123! Sapoba Kennedy 621! 1660! 2232! Ekpoma, Ishan (fr. June) Dundas FHI 21484! **Br. Cam.:** Victoria (Mar.) Maitland 590! Bisong Abang, Kumba (Apr.) Rosevear 1/36!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda**, **Belgian Congo** and **S. Tomé**.

39. MAREYOPSIS

Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 14: 13 (1919).

- 1 Shrub or tree, dioecious; branchlets and petioles shortly pubescent; leaves obovate, obovate-lanceolate or oblanceolate, cuneate or obtuse at base, long-acuminate, serrate-dentate, 14–32 cm. long, 6–13 cm. broad, puberulous beneath; spikes from nodes on the old wood, or females sometimes axillary, males several, females solitary, up to 20 cm. long; fruits indehiscent, depressed-globose, 3-lobed, up to 2.5 cm. broad and 1.5 cm. long [longifolia](#)

Mareyopsis longifolia (*Pax*) *Pax & K. Hoffm.* l.c. (1919). *APD acc*

Mareya longifolia *Pax* (1903) — F.T.A. 6, 1: 912.

A forest shrub or tree, to 30 ft. high.

S. Nig.: Uquo, Eket (young fr. May) Onochie FHI 33187! **Br. Cam.:** N. Korup F.R., Kumba (young fr. July) Olorunfemi FHI 30672!

Also in **French Cameroons** and **Belgian Congo**.

40. NEOBOUTONIA

Müll. Arg. — F.T.A. 6, 1: 918; *Pax & K. Hoffm.* in Engl. Pflanzenr. Euph. 7: 71–75 (1914).

- 1 Pubescence or scurf not continuous over the lower surface of the leaves:2
 Pubescence or scurf continuous and felted over the whole undersurface of the leaves; male calyx hairy; leaves orbicular-cordate, 10–20 cm. long and broad, entire, softly hairy on the nerves above; styles narrow, with 2 linear lobes; ovary and capsule densely velvety [4. velutina](#)
- 2 Leaves with long soft spreading hairs as well as scurf on the nerves beneath; male calyx pubescent:3
 Leaves without long hairs beneath; male calyx glabrous; leaf-blade suborbicular, shallowly cordate, 10–20 cm. long and broad; styles narrow, with 2 linear lobes [3. glabrescens](#)
- 3 Twigs and male panicles softly hairy with long simple hairs; leaves orbicular-cordate, crenate, 13–15 cm. long and broad [1. diaguissensis](#)
 Twigs and male panicles only scurfy-stellate-puberulous; leaves orbicular-cordate, entire, 10–20 cm. long and broad; styles narrow, with 2 linear lobes [2. mannii](#)

1. **Neoboutonia diaguissensis** *Beille* — F.T.A. 6, 1: 920; Chev. Bot. 579.

APD: *Synonym of Neoboutonia mannii Benth.*

Neoboutonia africana var. **diaguissensis** (*Beille*) *Pax & K. Hoffm.* in Engl. Pflanzenr. Euph. 7: 75 (1914).

A small tree.

Fr. G.: high plateau of Diaguissa (Apr.) Chev. 12691. Koumi (June) Pobéguin 1603! Labé, Ditinn, Dalaba and Toukan to Bouria fide Chev. l.c.

2. **Neoboutonia mannii** *Benth.* — F.T.A. 6, 1: 920; Exell Cat. S. Tomé 300 (q.v. for synonymy). *APD acc*

Neoboutonia africana var. **mannii** (*Benth.*) *Pax & K. Hoffm.* l.c. (1914).

A tree, to 70 ft. high, in [secondary forest regrowth](#); flowers yellowish-green.

S. Nig.: Ukpon F.R., Obubra (fr. July) Latilo FHI 31871! **Br. Cam.:** Buea (May) Deistel 643! Maitland 689! Big Kotto, Kumba Rosevear 90/37! **F. Po:** Mildbr. 6407.

Also in [French Cameroons](#), [Principe](#) and [S. Tomé](#).

3. *Neoboutonia glabrescens* Prain — F.T.A. 6, 1: 921.

APD: Synonym of Neoboutonia mannii Benth.

Neoboutonia africana Pax var. *glabrescens* (Prain) Pax & K. Hoffm. l.c. (1914).

A soft-wooded tree, to 55 ft. high, [growing in open spaces in forest](#).

Lib.: Dukwia R. (May) Cooper 438! **S. Nig.:** Shasha F.R. (Mar.) Richards 3203! Ikom Catterall 7! **Br. Cam.:** Bimbia Preuss 1288! Big Kotto, Kumba (June) Rosevear 89/37! Etawo, Mamfe (May) Ndep Enoh 48/38!

Also in [French Cameroons](#) and [Spanish Guinea](#).

4. *Neoboutonia velutina* Prain — F.T.A. 6, 1: 921.

APD: Synonym of Neoboutonia melleri (Müll. Arg.) Prain

Neoboutonia melleri Prain var. *velutina* (Prain) Pax & K. Hoffm. l.c. (1914).

A shrub or small tree, 15–20 ft. high with stellate-scurfy branchlets and panicles; flowers yellow; [in streamside forest](#).

Br. Cam.: Bamenda, 5,500 ft. Ledermann 1924! Bum Su, Bamenda (young fr. May) Maitland 1737! Nkom-Wum forest, Wum (fl. & fr. July) Ujor FHI 29279! 30474! Balibagam, Bamenda (fr. Jan.) Johnstone 277/32!

Also in [French Cameroons](#).

A thorough revision of this genus, which has a wide distribution in tropical Africa, is needed to determine how far the taxa recognized by Prain in the F.T.A. can still be maintained as distinct species.

41. MAREYA

Baill. — F.T.A. 6, 1: 910; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 14: 11 (1919).

- 1 Shrub or tree; branchlets and petioles puberulous or pubescent; leaves oblong-elliptic, obovate or oblanceolate, cuneate or obtuse at base, acuminate, slightly to coarsely toothed, 8–24 cm. long, 3–9 cm. broad, glabrous or pubescent beneath; flowers monoecious, in rather numerous interrupted spikes up to 39 cm. long; fruits 3-lobed, 3–4 mm. diam[micrantha](#)

Mareya micrantha (Benth.) Müll. Arg. in DC. Prod. 15, 2: 792 (1866), incl. vars.; Benth. in Hook. Ic. Pl. t. 1281; F.T.A. 6, 1: 911; Chev. Bot. 577. *APD acc*

APD: Synonym of Mareya congolensis (J. Léonard) J. Léonard

Acalypha micrantha Benth. (1849).

A. leonensis Benth. (1849).

Mareya leonensis (Benth.) Baill. (1874).

Mareya spicata Baill. (1860) — F.T.A. 6, 1: 911; Pax & K. Hoffm. l.c. 14: 11 (1919), incl. vars.; Chev. Bot. 577; F.W.T.A., ed. 1, 1: 303; Aubrév. Fl. For. C. Iv. 2: 76, t. 154.

A [forest](#) shrub or tree, up to 40 ft. high, rarely more; flowers white, or greenish; ripe fruits red.

Fr. G.: Landouma (Jan.) Heudelot 752! Kouria (Nov.) Caille in Hb. Chev. 14936! **S. L.:** Don! (May, June) T. Vogel 137! Barter! Wossin Highlands (fr. Mar.) Sc. Elliot 5055! Njala (Aug.) Dawe 567! Ronietta (Nov.) Thomas 5475! **Lib.:** Kakatown Whyte! Ganta (May) Harley! Nyandamolohou (Feb.) Bequaert 78! **Iv. C.:** Assikasso (Dec.) Chev. 22578! Rasso Aubrév. 146! **G. C.:** Koforidua (Dec.) Johnson 447! Aburi (Apr.) Howes 1187! Kwahu Plateau (fl. & fr. May) Kitson 1185! Begoro (Nov.) Beveridge 98! **Togo:** Misahöhe (Nov.) Mildbr. 7295! **S. Nig.:** Usonigbe F.R. (Oct.) A. F. Ross 257! Oban Talbot 45! 667! 2303! **Br. Cam.:** Victoria (Jan., Feb.) Winkler 664! Maitland 387! 605! Preuss 1319! Bulifambo, Buea (Mar.) Maitland 582! **F. Po:** (Jan., June) Mann 209! 235! 435! Goderich Bay (Nov., Dec.) T. Vogel 210! Daniell!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

42. CROTONOGYNOPSIS

Pax — F.T.A. 6, 1: 924; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 14 (1914).

- 1 Leaves crowded, sessile, elongate-oblongate, much narrowed to and auriculate-cordate at the base, about 30 cm. long and up to 8 cm. broad, rather coarsely dentate, glabrous; lateral nerves numerous; flowers dioecious, apetalous; male racemes fascicled on the old wood; pedicels pubescent, jointed above the base; calyx glabrous; stamens 12–15; female calyx ciliate; styles with lacinate tips [usambarica](#)

Crotonogynopsis usambarica Pax — F.T.A. 6, 1: 924; Pax & K. Hoffm. l.c. 7: 15. *APD acc*

A shrub or small tree, 12–30 ft. high, with yellowish bark.

Br. Cam.: Buea Deistel 218. Also in Tanganyika.

43. ARGOMUELLERA

Pax — F.T.A. 6, 1: 925; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 107 (1931). *APD acc*

Wettriaria (Müll. Arg.) O. Ktze. (1903).

- 1 Branchlets softly tomentose; leaves obovate-oblongate, acute, 20–40 cm. long, 5–13 cm. broad, sharply serrate, villous on the midrib and nerves beneath; lateral nerves numerous; racemes axillary, up to 20 cm. long; flowers monoecious, apetalous; male calyx splitting into 3–4 valvate segments; stamens numerous, inserted in pits of the fleshy receptacle; female sepals 5–6, imbricate; ovary densely pubescent; styles recurved, nearly free or shortly connate [macrophylla](#)

Argomuelleria macrophylla Pax — F.T.A. 6, 1: 925. *APD acc*

Wettriaria macrophylla (Pax) Pax in Engl. Pflanzenr. Euph. 7: 50, fig. 30, E–G (1914).

Pycnocomma hutchinsonii Beille in Bull. Soc. Bot. Fr. 61, Mém. 8: 295 (1917); Chev. Bot. 582, P. sassandrae Beille l.c. 296 (1917), fide Hutch.

A forest shrub, 2–12 ft. high.

S. L.: Tiama (Jan.) Dalz. 8103! Njala (Nov.–Feb.) Deighton 504! 2439! 3584! **iv. C.:** Morénou (Dec.) Chev. 22491; 22505! Zaranou (Mar.) Chev. 17634! Bâle to Digoualé Chev. 21502. **G. C.:** Atuma (Dec.) Vigne FH 3518! Bia F.R. (Feb.) Foggie FH 4444! **Br. Cam.:** Likomba (Nov.) Mildbr. 10618! 10776!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo**, **A.-E. Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **Angola**, **Nyasaland**, **N. and S. Rhodesia** and **Mozambique**.

44. PYCNOCOMA

Benth. — F.T.A. 6, 1: 955; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 52 (1914).

- 1 Styles connate nearly to the top; leaves oblanceolate, narrowed into a distinct petiole, acute, 20–40 cm. long, 3–8 cm. broad, remotely denticulate in the upper part, glabrous, strongly reticulate; bracts lanceolate, acuminate, spreading or recurved, about 6 mm. long, shortly pubescent; male pedicels up to 2 cm. long, 1–3 to each bract [1. angustifolia](#)

Styles connate only in the lower third; bracts concave, not recurved: **2**

- 2 Rhachis of inflorescence slightly pubescent or glabrescent; leaves elongate-oblongate, narrowed into a winged petiole at the base, acutely acuminate, up to 50 cm. long and 11 cm. broad, glabrous, laxly reticulate; bracts broadly ovate-rounded, shortly appressed-pubescent; male pedicels up to 2 cm. long; fruits shortly horned .. [2. macrophylla](#)

Rhachis of inflorescence rather densely pubescent; leaves obovate-oblongate, gradually narrowed to the base, rather long-acuminate, up to 45 cm. long and 10 cm. broad, rather closely reticulate; bracts broadly ovate, villous; male pedicels up to 2 cm. long, 1–3 to each bract; fruits with large horn-like wings. [3. cornuta](#)

1. **Pycnocoma angustifolia** *Prain* — F.T.A. 6, 1: 960; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 58. *APD acc*

Pycnocoma beillei *A. Chev.* Bot. 582, name only.

A shrub, glabrous except on the inflorescence, the leaves clustered towards the ends of the branchlets; racemes peduncled in the upper axils; capsule (young) velvety, at length glabrous, 4 cm. diam., each lobe with a pair of wing-like horns; **often in forest** undergrowth.

S. L.: Zimi (Apr.) Deighton 3631! Nyandehun (Apr.) Deighton 3656! **Lib.:** Kakatown Whyte! Begwai (Nov.) Bunting! Gletown, Tchien (July) Baldwin 6918! 6958! **Iv. C.:** various localities fide Chev. l.c. Mid. Sassandra to Mid. Cavally (young fr. July) Chev. 19269!

2. **Pycnocoma macrophylla** *Benth.* — F.T.A. 6, 1: 959; Pax & K. Hoffm. l.c. 7: 54, fig. 7, A–G (incl. vars.); Chev. Bot. 582. *APD acc*

APD: *Synonym of Pycnocoma insularum J. Léonard*

A shrub, about 8 ft. high, with long leaves clustered at the ends of the soft branchlets; capsule 3-lobed, velvety, with 6 horn-like wings.

Iv. C.: Agboville Aubrév. 1922! Yacassé to Adzopé, Attie (Dec.) Chev. 22665! **G. C.:** Banka F.R. (Dec.) Chipp 604! Pra River Station (Feb.) Vigne FH 1033! Benso (Apr.) Andoh FH 5476! **S. Nig.:** Oban Talbot! **Br. Cam.:** Victoria (fr. Dec.) Maitland 789! Likomba (Oct.) Mildbr. 10543! Kumba Büsgen 49. Ossidinge Rudatis 96. **F. Po.:** (Oct.) T. Vogel 18! Bokoko Mildbr. 6911.

Also in **French Cameroons** and **Belgian Congo**.

3. **Pycnocoma cornuta** *Müll. Arg.* — F.T.A. 6, 1: 958; Pax & K. Hoffm. l.c. 7: 56. *APD acc*

Pycnocoma brachystachya of F.T.A. 6, 1: 959, partly (Millen 149).

A stout shrub with leaves clustered at the ends of the branchlets.

G. C.: Farmar 424! Irvine 872! Aburi (Dec.) Eady! **N. Nig.:** Sanga River, Jemaa (fl. & young fr. Nov.) Keay FHI 22261! 22268! Kurmin Damisa, Jemaa (Nov.) Keay & Onochie FHI 21712! **S. Nig.:** Abeokuta, rocky places Barter 3385! Obumo Rock, Abeokuta Millen 149! Idanre Hills (Dec.) Brenan 8665! Idumuje (young fr. Jan.) Thomas 2173!

Pycnocoma brachystachya *Pax* in Engl. Bot. Jahrb. 43: 82 (1909); F.T.A. 6, 1: 959, partly; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 55. *APD acc*

Br. Cam.: Victoria (Sept.) Winkler 367.

Imperfectly known species.

45. NECEPSIA

Prain — F.T.A. 6, 1: 923; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 16 (1914).

- 1 Leaves obovate-elliptic, acutely acuminate, widely cuneate at base, 10–25 cm. long, 6–9 cm. broad, glabrous, remotely denticulate; lateral nerves about 10 pairs, with distinct parallel tertiary nerves; flowers monoecious, apetalous; spikes solitary, slender, about as long as the leaves; bracts clustered, persistent; stamens numerous, with pubescent glands between; styles fimbriate-papillose; fruits setose, 3-lobed, about 1 cm. diam. [afzelii](#)

Necepsia afzelii *Prain* — F.T.A. 6, 1: 923; Pax & K. Hoffm. l.c. 7: 17. *APD acc*

APD: *Synonym of Necepsia afzelii Prain var. afzelii*

A **forest** shrub or tree, to 40 ft. high; branchlets yellowish-pubescent, becoming glabrous.

S. L.: Afzelius. Thomas 7938! Colony F.R. (fl. & fr. Dec.) Vigne SL 27! Gorahun (fl. & fr. Apr.) Deighton 3651! Gola Forest (Mar.) Small 561! **Lib.:** Dukwia R. (Mar., Apr.) Cooper 76! 263! Gbanga (Sept.) Linder 450! Monrovia (Aug.) Baldwin 8021! **Iv. C.:** Grabo Chev. 19595! **Br. Cam.:** Bakundu to Meanja Winkler 1078.

Also in **French Cameroons**.

46. CLEIDION

Blume — F.T.A. 6, 1: 930; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 288 (1914).

- 1 Leaves shortly petiolate, oblong-obovate, narrowed to the base, 10–17 cm. long, 4–6.5 cm. broad, crenate, glabrous; male spikes simple; flowers clustered, sessile [gabonicum](#)

Cleidion gabonicum Baill. — F.T.A. 6, 1: 930; Pax & K. Hoffm. l.c. 7: 297. *APD acc*

A dioecious shrub or a tree reaching about 50 ft., with slightly pubescent branchlets and male inflorescences several inches long.

G. C.: Dansu R. (Dec.) Johnson 437! Tappa (Feb.) Chipp 101! Kumasi (Mar.) Chipp 141! Amentia (Dec.) Vigne FH 1493! Juaso (Feb.) Akpabla 285!

Also in **French Cameroons** and **Gabon**.

47. MACARANGA

Thouars — F.T.A. 6, 1: 932; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 298 (1914).

- 1 Leaves palmately 5–9-nerved from the more or less cordate and auricled base, lamina usually more or less distinctly digitately or palmately lobed; petioles 7–46 cm. long; stipules 2.5–5.5 cm. long (but see No. 3), 1–3 cm. broad; ovary 2-celled; fruits 2-lobed: **2**
- Leaves 3-nerved at base, or pinnately nerved, not lobed; stipules up to 2.5 cm. long; ovary, where known, 1-celled: **5**
- 2 Bracts subtending the flower-clusters 3–4 mm. long, glandular-denticulate to subentire, densely glandular-puberulous; leaves rather shallowly palmately 3-lobed, lobes acute or shortly acuminate, 13–60 cm. long and nearly as broad; male panicles 5–23 cm. long; female panicles about 8 cm. long, little branched [1. schweinfurthii](#)
- Bracts subtending the flower-clusters 5–10 mm. long, sinuate-dentate or deeply lacinate: **3**
- 3 Bracts loosely pubescent or pilose, deeply lacinate; leaves cordate to subtruncate at base, caudate-acuminate at apices of leaf and lobes: **4**
- Bracts densely tomentellous, sinuate-dentate; leaves very shallowly 3-lobed, rarely not lobed, lobes cuspidate, the lateral ones sometimes no bigger than large teeth, margin repand-dentate, deeply overlapping-cordate at base, 14–30 cm. long and broad; male panicles 7–14 cm. long; female panicles 8–13 cm. long [4. occidentalis](#)
- 4 Leaves usually rather deeply digitately 3–7-lobed, rarely not lobed, coriaceous, midrib and main nerves beneath sparingly pubescent, 13–32 cm. long and broad; stipules more than 2.5 cm. long; male panicles 15–30 cm. long; female flowers in spike-like racemes or narrow sparsely branched panicles, up to 14 cm. long; fruits 12–20 mm. broad [2. heterophylla](#)
- Leaves not lobed or only shallowly 3-lobed, membranous, midrib and main nerves beneath with long spreading hairs, 10–17 cm. long, 11–17 cm. broad; stipules lanceolate, about 1.5 cm. long; male panicles about 10–15 cm. long; female flowers in spike-like racemes, up to 6 cm. long; fruits 6–10 mm. broad [3. beillei](#)
- 5 Bracts well-developed, 2–10 mm. long, more or less persistent in the male panicles: **6**
- Bracts less than 2 mm. long, caducous: **10**
- 6 Bracts orbicular, entire, sometimes apiculate, 3–4 mm. long; leaves thickly coriaceous, orbicular-obovate to broadly elliptic, obtuse at the glandular-auricled base, obtuse to shortly acuminate at apex, margin shallowly repand-dentate especially towards the apex, 12–16 cm. long, 6–11 cm. broad; petiole stout 4–11 cm. long; male panicles 4–7 cm. long, rusty-tomentellous; female not known [5. staudtii](#)
- Bracts ovate, mostly dentate; leaves not as above, mostly rather thin: **7**
- 7 Leaves distinctly toothed, mostly ovate: **8**
- Leaves entire or at most undulate, elliptic-obovate to oblong-oblongeolate, broadly cuneate or rounded and usually auriculate-glandular at base, shortly acuminate, 7–16 cm. long, 4–9 cm. broad, minutely and closely glandular beneath; petiole 2–10 cm. long; branchlets, petioles and midrib beneath densely rusty-tomentellous at least when young; bracts 3–8 mm. long, entire or somewhat dentate; male panicles 5–8 cm. long, axillary, among the leaves; female panicles 2–6 cm. long; fruits obliquely ovoid or subglobose, about 5 mm. diam., with pedicels up to 2.5 cm. long [9. barteri](#)
- 8 Branchlets, petioles and midrib beneath pubescent or pilose with whitish hairs or nearly glabrous; bracts 2–5 mm. long, dentate: **9**

Branchlets, petioles and midrib beneath densely rusty-tomentellous at least when young; bracts 4–10 mm. long, dentate; stipules 5–6 mm. long, early caducous; leaves ovate to oblong, rounded to cuneate at base, acute to acuminate, margin coarsely repand-dentate, 8–20 cm. long, 3.5–12 cm. broad, densely covered with rather small glands beneath; petiole 1.5–10.5 cm. long; panicles up to 10 cm. long, axillary, among the leaves; fruits obliquely ovoid, 6–8 mm. long and broad; stamens 2, rarely 1 [8. monandra](#)

- 9 Stipules about 2.5 cm. long; branchlets, petioles and midrib beneath very sparsely pubescent or glabrescent; bracts 2–2.5 mm. long; leaves ovate to orbicular-ovate, rounded at base, long-acuminate, margin sinuate-dentate, 9–25 cm. long, 5.5–13 cm. broad; petiole 6–10 cm. long; male panicles 6–7 cm. long; female racemes 2–3 cm. long [6. paxii](#)

Stipules up to 1 cm. long, early caducous; branchlets, petioles and midrib beneath more or less densely pubescent or pilose with whitish hairs; bracts 3–5 mm. long; leaves very broadly ovate, rounded or truncate at base, shortly acuminate, margin coarsely repand-dentate, 9–18 cm. long, 6–15 cm. broad; very densely glandular beneath; petiole 3–18 cm. long; panicles up to 10 cm. long, usually borne on leafless parts of the stem; fruits globose, about 3 mm. diam. [7. hurifolia](#)

- 10 Branchlets, petioles and midrib beneath densely rusty-tomentellous at least when young, without spreading whitish hairs: **11**

Branchlets, petioles and midrib beneath with long spreading whitish hairs; leaves elliptic-oblong, rounded at base, rather long-acuminate, margin undulate, 6–14 cm. long, 3.5–6 cm. broad; petiole 0.7–6 cm. long; panicles 3–6 cm. long; fruits subglobose, about 3 mm. diam., with pedicels up to 6 mm. long [12. spinosa](#)

- 11 Leaves ovate or ovate-elliptic, rather long-acuminate at apex, margin distinctly repand-dentate, rounded at base, 7–15 cm. long, 3.5–8.3 cm. broad; petiole 1.5–8 cm. long; male panicles up to 6 cm. long; female flowers and fruits not known [10. sp. A](#)

Leaves oblong-oblongate, abruptly and shortly acuminate at apex, margin entire or undulate, or denticulate in the upper half, obtuse at base, 4.5–12 cm. long, 2–5.5 cm. broad; petiole 0.5–2 (–3) cm. long; panicles up to 5 cm. long; fruits subglobose, about 3 mm. diam., with pedicels up to 1 cm. long [11. heudelotii](#)

1. **Macaranga schweinfurthii** Pax in Engl. Bot. Jahrb. 19: 92 (1894); F.T.A. 6, 1: 935; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 313. *APD acc*

Macaranga rosea Pax (1899) — F.T.A. 6, 1: 935; F.W.T.A., ed. 1, 1: 306.

A straggling tree or shrub, in **forest**; fruits with a yellow granular covering.

S. Nig.: Oban Talbot 112! 1377! Kanyang, Ikom (fr. May) Latilo FHI 30991! **Br. Cam.:** Johann-Albrechtshöhe Büsgen 39.

Also in **French Cameroons, Ubangi-Shari, A.-E. Sudan, Uganda, Belgian Congo, Gabon, Angola, N. Rhodesia** and **Tanganyika**.

2. **Macaranga heterophylla** (Müll. Arg.) Müll. Arg. — F.T.A. 6, 1: 936; Pax & K. Hoffm. l.c. 7: 314; Chev. Bot. 580; Aubrév. Fl. For. C. Iv. 2: 70. *APD acc*

Mappa heterophylla Müll. Arg. (1864).

A **forest** shrub or tree, 10–30 ft. high; branchlets armed with spines; flowers tinged pink; fruits bilobed, hall-succulent, pink or red, dusted with sticky golden glands.

Sen.: Sindialone, Casamance Chev. 15770. **Port. G.:** Formosa (fr. Apr.) Esp. Santo 1970! **Fr. G.:** Santa to Timbo Chev. 12596; 12813. **R. Koukouré,** Kouria Chev. 15003. Mamou to Soya Chev. 20365. Batagya (Oct.) Small 495! **S. L.:** Afzelius! Don! Sugar Loaf Mt. Welw. 464! Barter! Heddle's Farm (Sept.) Lane-Poole 359! Kaballa (Sept.) Thomas 2588! **Lib.:** Reppue's Town (Aug.) Linder 363! Monrovia (Aug.) Baldwin 8011! Ganta (Sept.) Baldwin 12511! **IV. C.:** Abidjan Chev. 15250! Voguié (Jan.) Chev. 17136. **G. C.:** Ashanti Cummins 132! Foso, Cape Coast (Sept.) Chipp 568! Ankassa (Aug.) Chipp 326! Anyimam (fr. Jan.) Brent FH 401! **Togo:** Alvanyo (fl. Sept., fr. Nov.) St. C. Thompson FH 3565!

3. **Macaranga beillei** Prain — F.T.A. 6, 1: 939; Pax & K. Hoffm. l.c. 7: 326; Chev. Bot. 580; Aubrév. l.c. 2: 68, t. 149, 1–5. *APD acc*

A shrub or small tree, 10–16 ft. high; flowers yellow-green; fruits red; **in forest**.

IV. C.: Abidjan to Dabou Chev. 15551! Bingerville (fr. Dec.) Chev. 16050! Dabou (Feb.) Chev. 17213! Accrédiou (Feb.) Chev. 17067! Banco Martineau 306! Serv. For. 370!

[The specimen (Lecomte A. 89) from French Congo cited as this species in the F.T.A. appears to be *M. monandra* Müll. Arg.]

4. **Macaranga occidentalis** (Müll. Arg.) Müll. Arg. — F.T.A. 6, 1: 936; Pax & K. Hoffm. l.c. 7: 315. *APD acc*

Mappa occidentalis Müll. Arg. (1864).

A tree, 30–60 ft. high, at [margin of montane forest](#); stem and branches often with spines; flowers green; fruits with a yellow granular covering.

S. Nig.: Oban Talbot 1431! **Br. Cam.:** Cam. Mt., 2,500–6,000 ft. (Dec.–Feb.) Mann 771! 1189! 2155! Maitland 117! 296! Rosevear 29/37! Bali-Ngemba F.R., Bamenda (fr. May) Ujor FHI 30341! **F. Po:** Mann. 303! Moka (Feb.) Exell 850!

5. *Macaranga staudtii* Pax — F.T.A. 6, 1: 939; Pax & K. Hoffm. l.c. 7: 316. *APD acc*

A tree, to 50 ft. high, in swamp [forest](#).

S. Nig.: Osho, Omo F.R. Jones FHI 17281! Okomu F.R. Ebuade in Hb. Brenan 9056!

Also in [French Cameroons](#), [Gabon](#) and [Cabinda](#).

6. *Macaranga paxii* Prain — F.T.A. 6, 1: 939; Pax & K. Hoffm. l.c. 7: 326. *APD acc*

A [forest](#) shrub or small tree, to 30 ft. high; branches armed with patent white spines.

S. Nig.: Oban Talbot 610! Etomi, Ikom (young fr. May) Jones FHI 14120!

Also in [French Cameroons](#).

7. *Macaranga hurifolia* Beille in Bull. Soc. Bot. Fr. 55, Mém. 8: 80 (1908); Pax & K. Hoffm. l.c. 7: 327; Aubrév. l.c. 2: 68, t. 150. *APD acc*

Macaranga togoensis Pax (1909) — F.T.A. 6, 1: 939; Chev. Bot. 581.

Macaranga monandra of F.W.T.A., ed. 1, 1: 306, partly (Chipp 317).

A [forest](#) shrub or tree, to 40 ft. high; inflorescences greenish, mostly borne on leafless branches; branchlets armed with spines; fruits waxy-glandular.

S. L.: Scarcies R., Sasseni (Jan.) Sc. Elliot 4530! Njala (July) Deighton 725! Bumbuna (young fr. Oct.) Thomas 3904! Gola Forest (June) Small 732! **Lib.:** Du R. (July) Linder 73! Gbanga (fr. Sept.) Linder 498! Woeme, Vonjama (fr. Oct.) Baldwin 10079! **iv. C.:** Aubrév. 396! Bingerville-Abidjan-Dabou region (May, June) Chev. 15319; 15449. **G. C.:** Arnokokrom, W. Apollonia (Aug.) Chipp 317! Bataba, N. Beyin (July) Chipp 266! Boankro, Ashanti (May) Chipp 440! **Togo:** Döring 291. Misahöhe (Nov.) Mildbr. 7258! **S. Nig.:** Ajilite Millen 164! Okomu F.R. (Jan., Feb.) A. F. Ross 248! Brenan 9037! Idumuje (Jan.) Thomas 2186! Oban Talbot 610! **Br. Cam.:** Abonse, Bamenda (May) Johnstone 130/31!

8. *Macaranga monandra* Müll. Arg. — F.T.A. 6, 1: 940; Pax & K. Hoffm. l.c. 7: 327, fig. 53, A–D. *APD acc*

Macaranga zenkeri Pax (1897) — F.T.A. 6, 1: 940; F.W.T.A., ed. 1, 1: 306.

A [forest](#) shrub or tree, to 50 ft. high; inflorescences pinkish.

S. Nig.: Oban Talbot 2311! Old Calabar (young fr. Mar.) Holland 99! Ikom (young fr. June) Catterall 22! Shakwa, Obudu (fr. May) Latilo FHI 30927! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 522! S. Bakundu (Mar.) Onochie FHI 32055! Abonando (Mar.) Rudatis 12!

Also in [French Cameroons](#), [Gabon](#), [Spanish Guinea](#), [Belgian Congo](#), [Uganda](#), [Tanganyika](#) and [Angola](#).

9. *Macaranga barteri* Müll. Arg. — F.T.A. 6, 1: 942; Pax & K. Hoffm. l.c. 7: 329; Chev. Bot. 580; Aubrév. Fl. For. C. Iv. 2: 66, t. 147. *APD acc*

Macaranga rowlandii Prain (1910) — F.T.A. 6, 1: 942; Pax & K Hoffm l.c.; F.W.T.A., ed. 1, 1: 306.

Macaranga heudelotii of Chev. Bot 581, partly (Chev. 16197; 16279).

A [forest](#) shrub or tree, to 50 ft. high; branchlets armed with spines.

Fr. G.: Dyeke (fr. Oct.) Baldwin 9677! **S. L.:** Bumban, Limba (Apr.) Sc. Elliot 5668! Njala (May) Deighton 691! 5947! Yonibana (fr. Nov.) Thomas 5237! **Lib.:** Bonuta (fr. Oct.) Linder 889! Gletown (July) Baldwin 6779! Ganta (May) Harley 1196! **iv. C.:** Dabou (Feb.) Chev. 16197! Zaranou (Mar.) Chev. 16279! **G. C.:** Akwapim (fl. Aug., fr. June) Irvine 764! Johnson 748! Agogo (Apr.) Irvine 953! Vigne 1119! Essiama (Apr.) Williams 432! **Togo:** Misahöhe Baumann 162. **S. Nig.:** Lagos Millen 125! Rowland! Ijuwoye (Dec.) Millen 28! Ibadan South F.R. (Feb.) Keay & Meikle FHI 25666! Sapoba Kennedy 2321! Onitsha Barter 1654! Cross River Johnston!

Also in [Spanish Guinea](#).

10. *Macaranga* sp. A. *APD acc*

Possibly new, but more material required.

Macaranga monandra of F.W.T.A., ed. 1, 1: 306, partly (Aylmer 71), not of Müll. Arg.

A tree.

S. L.: Bandajuma (May) Aylmer 71! Giema, Koya (Dec.) Deighton 3844! **Lib.:** Fortsville (Mar.) Baldwin 11150!

11. *Macaranga heudelotii* Baill. — F.T.A. 6, 1: 945; Pax & K. Hoffm. l.c. 7: 331, fig. 53, E; Chev. Bot. 581, partly; Aubrév. l.c. 2: 68, t 149, 6–9.

APD: *Synonym of Macaranga barteri Müll. Arg.*

A shrub or tree, to 25 ft. high, **in swamp forest**; branchlets with patent spines; fruits covered with yellow scales.

Sen.: Cape Verde Leprieur. **Gam.:** Albreda Heudelot 106. **Fr. Sud.:** Medinani (Feb.) Chev. 513! **Port. G.:** Bissalanca, Bissau Esp. Santo 1662! **Fr. G.:** Rio Nunez Heudelot 784! Kindia (Mar.) Chev. 13028! **S. L.:** Scarcies R. (Dec.–Jan.) Sc. Elliot 4390! 4517! Erimakuna (Mar.) Sc. Elliot 5258! Sherbro (Feb.) Dalz. 938! Njala (Feb.) Deighton 1083! 1084! **Lib.:** Péahtah (Oct.) Linder 1077! Mao R., Maa (fl. & fr. Feb.) Bequaert 53! Jabrocca (Dec.) Baldwin 10862! Ganta (fr. Feb.) Baldwin 11026! **iv. C.:** fide Aubrév. l.c. **G. C.:** Essiama Fishlock 8! Tano R (Sept.) McAinsh FH 378! **Togo:** Lome Warnecke 455! **S. Nig.:** Lagos Moloney! Epe (fr Mar.) Barter 3271! Keay FHI 16058!

12. *Macaranga spinosa* Müll. Arg. — F.T.A. 6, 1: 944; Pax & K. Hoffm. l.c. 7: 331; Aubrév. l.c. 2: 66, t. 148. *APD acc*

A **forest** shrub or tree, to 40 ft. or more high; branchlets armed with spines.

Lib.: Nekabozu, Vonjama (fr. Oct.) Baldwin 9969! **iv. C.:** Abidjan Aubrév. 46! Man Aubrév. 1087. **S. Nig.:** Mamu River F.R., Awka (Feb.) Jones FHI 5014! Abaragba (Apr.) Jones FHI 1546! **Br. Cam.:** Johann-Albrechtshöhe Schultze 95; 97. **F. Po:** Mann 1160!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Angola**.

48. ACALYPHA

Linn. — F.T.A. 6, 1: 880; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 16: 12 (1924). *APD acc*

- 1 Male and female flowers on separate inflorescences; male racemes axillary, slender, female inflorescences terminal:2
- Male and female flowers on the same inflorescences or in the same leaf-axil; the males above the females:.....8
- 2 Female inflorescence paniculate, 10–36 cm. long, flowers pedicellate; stems pubescent; leaves ovate, subcordate at base, acuminate, 4–15 cm. long, 2·5–10 cm. broad, coarsely crenate-serrate, 5-nerved at base; petioles 5–16 cm. long; male racemes 6–14 cm. long [1. *racemosa*](#)
- Female inflorescence spicate, up to 15 cm. long, flowers sessile:3
- 3 Female spikes very short, ovoid; leaves more or less lanceolate, villous on both sides; stems very villous with reflexed hairs; styles laciniate:4
- Female spikes cylindrical, 5–15 cm. long; ovary without gland-tipped hairs; leaves more or less ovate:5
- 4 Styles 2–3 mm. long; leaves lanceolate to triangular-lanceolate, 4–8 cm. long, 1·5–2·5 cm. broad; petiole 1–1·5 cm. long [2. *senegalensis*](#)
- Styles 10–20 mm. long; ovary with gland-tipped hairs; leaves lanceolate, linear-lanceolate or oblong-lanceolate, 3·5–11 cm. long, 1–2 (–3·5) cm. broad; petiole 1·5–5·5 cm. long [3. *senensis*](#)
- 5 Bracts of the female flowers with numerous gland-tipped hairs on the teeth or within; bracts with short triangular teeth on either side of the acumen:6
- Bracts of the female flowers without gland-tipped hairs; bracts deeply divided into lanceolate lobes or laciniae:7
- 6 Styles bilobed and not laciniate; female bracts about 5-toothed on each side of the acumen; stems shortly pubescent; leaves ovate, rounded at base, caudate-acuminate, crenate-serrate, 3–6 cm. long, 2·5–4 cm. broad, softly pubescent beneath; petiole up to 4 cm. long [4. *nigritiana*](#)
- Styles laciniate; female bracts about 10-toothed on each side of the acumen, 8–12 mm. broad in fruit; stems

- shortly pubescent and sometimes villous; leaves ovate, rounded or subcordate at base, rather coarsely serrate, 5–15 cm. long, 3–10 cm. broad, spreadingly pilose beneath; petiole 1–13 cm. long [5. *ornata*](#)
- 7 Bracts of the female flowers about 7 mm. broad in fruit, with about 17 unequal lanceolate lobes up to about 1 mm. long, pubescent outside; female inflorescences terminal on short lateral branches; stems and petioles softly pubescent; leaves ovate rounded at base, acute at apex, crenate-serrate, up to 10 cm. long and 5 cm. broad, pubescent on both surfaces; petiole up to 3 cm. long [6. *sp. A*](#)
- Bracts of the female flowers 12–16 mm. broad in fruit, with 12–20 filiform laciniae 2–3 mm. long, densely hirsute; leaves ovate to ovate-lanceolate, rounded to cordate at base, gradually acuminate, crenate-serrate, 3–10 cm. long, 2.5–6 cm. broad, pubescent on both surfaces; petiole 3–6 cm. long [7. *manniana*](#)
- 8 Leaves with numerous raised resinous glands beneath, ovate-rhomboid, cuneate at base, acuminate, obtusely serrate, 6–9 cm. long, 1.5–5 cm. broad; petiole 2–4 cm. long; inflorescence bisexual axillary, the upper part male, with a few 2-flowered denticulate female bracts at the base enlarging in fruit to about 1.5 cm. broad .. [8. *ceraceopunctata*](#)
- Leaves without resinous glands beneath: [9](#)
- 9 Female bracts digitately 3-partite, with gland-tipped hairs on the margins; leaves ovate, subcordate at base, acuminate, crenate, 2–5 cm. long, 1.5–4 cm. broad, sparingly pubescent; petiole 1.5–7 cm. long; inflorescence very short, with 6–9 female flowers below; annual herb [9. *brachystachya*](#)
- Female bracts dentate, fimbriate or laciniate with numerous teeth: [10](#)
- 10 Annual herbs; leaves membranous; inflorescences axillary: [11](#)
- Shrub or small tree, 1.5–7 m. high; inflorescence bisexual, axillary, 2.5–12 cm. long, with 1–3 female flowers at the base; female bracts 4–6 mm. diam., repanddentate; leaves oblanceolate-elliptic, obovate or subrhomboid, more or less narrowed to the subcordate base, shortly caudate-acuminate, serrate, 8–20 cm. long, 3.5–10 cm. broad; petiole 2–8 cm. long [14. *neptunica*](#)
- 11 Female bracts fimbriate, with about 20 shortly ciliate teeth, ribbed; leaves ovate to rhomboid-ovate, obtuse to cordate at base, cuspidate-acuminate, crenate-serrate, 4–11 cm. long, 2–6 cm. broad, slightly scabrous; petiole 2–9 cm. long; inflorescences with about 10 female flowers in the lower part [10. *ciliata*](#)
- Female bracts crenate or dentate: [12](#)
- 12 Bracts of the female flowers pilose inside and outside, more or less triangular, narrowed to the base, in fruit about 6–7 mm. long and broad, with 8–9 teeth about 1.5 mm. long; stems and leaves pubescent and long-spreading pilose; leaves ovate, rounded at base, acute at apex, rather coarsely crenate-serrate, 2–7.5 cm. long, 1–4 cm. broad; petiole 0.8–5.5 cm. long; inflorescences with few to many female flowers in the lower part; bracts crowded in fruit [11. *sp. B*](#)
- Bracts of the female flowers glabrous or nearly so, except for the ciliate crenate or triangular dentate margins, broad at the base; stems and leaves shortly crisped-pubescent and sometimes with long hairs as well: [13](#)
- 13 Female bracts in fruit 4–4.5 mm. long, 7–8 mm. broad, dentate with 10–18 triangular teeth crowded and usually overlapping; leaves ovate, rounded at base, obtuse or subacute, lightly crenate, 2–5 cm. long, 1.3–3 cm. broad; petiole 2–6 cm. long [12. *crenata*](#)
- Female bracts in fruit up to 13 mm. long and broad, ovate when spread out, crenate, very laxly arranged; inflorescence about 2 cm. long, with 2–4 female flowers remote from the male; leaves ovate, obtuse at base, acute or subacute at apex, crenate, 1.5–6 cm. long, 1–3 cm. broad; petiole 1–7 cm. long [13. *segetalis*](#)

1. *Acalypha racemosa* Wall. ex Baill. Etud. Gén. Euphorb. 443 (1858). *APD acc*

Acalypha paniculata Miq. (1859) — F.T.A. 6, 1: 886; Chev. Bot. 577; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 16: 14, fig. 3; F.W.T.A., ed. 1, 1: 302.

A perennial herb or shrub, to 10 ft. high, with a copious female inflorescence of small flowers, often deep red in colour.

iv. C.: Bingerville Chev. 15348. **G. C.:** Kumasi (Jan.) Dalz. 141! Abofuo (July) Chipp 535! Begoro, Akim (fr. Apr.) Irvine 1192! **Togo:** Kratchi (May) Krause! **S. Nig.:** Lagos Dawodu 212! Odiani, Asaba (Aug.) Onochie FHI 33438! Agulu Thomas 1018! Oban Talbot 693! **Br. Cam.:** Ambas Bay (Feb.) Mann 767! Cam. Mt., 1,000 ft. (Dec.) Mann 1254! R. Malu, Wum (fl. & fr. July) Ujor FHI 30455! **F. Po:** Barter!

Widespread in tropical Africa and Asia.

2. *Acalypha senegalensis* Pax & K. Hoffm. l.c. 16: 79 (1924).

APD: *Synonym of Acalypha brachiata C. Krauss*

Perennial herb; stems to 16 in. high.

Sen.: Lecard 301. R. Bucoy Lecard 45.

[Hutchinson suggests this may be the same as *A. senensis*.]

3. *Acalypha senensis* *Klotzsch* — F.T.A. 6, 1: 888 (incl. var. *chariensis* (Beille) Hutch.); Chev. Bot. 577; Pax & K. Hoffm. l.c. 16: 79; Berhaut Fl. Sen. 167.

APD: *Synonym of Acalypha villicaulis Hochst. ex A. Rich.*

APD: *Synonym of Acalypha brachiata C. Krauss*

A hairy herb, 2–3 ft. or more high, woody at the base, with red-purple female flowers.

Sen.: Niokolo-Koba Berhaut 1544; 4595. **Fr. Sud.:** Dioubéba to Oualia (Dec.) Chev. 23. **Port. G.:** Buruntuma, Gabu (July) Esp. Santo 2700! **N. Nig.:** Farm Dutse (Oct.) Onwudinjoh FHI 24035! Bauchi Plateau (Aug.) Lely P. 660! Panyam (July) Lely 412! Matyoro Thornewill 135! Yola (May) Dalz. 159!

Widespread in tropical and southern Africa.

4. *Acalypha nigritiana* *Müll. Arg.* — F.T.A. 6, 1: 890; Pax & K. Hoffm. l.c. 16: 57.

APD: *Synonym of Acalypha ornata Hochst. ex A. Rich.*

A small shrub.

S. Nig.: Yoruba forests, Lagos Barter 3425!

[Hutchinson suggests this may be only a variety of *A. ornata*.]

5. *Acalypha ornata* *Hochst. ex A. Rich.* — F.T.A. 6, 1: 890; Pax & K. Hoffm. l.c. 16: 58. *APD acc*

A shrub, to 10 ft. high; **by streams and in open places.**

N. Nig.: Tilde Filani (fr. May) Lely 230! Bauchi Plateau (May) Lely P. 279! **S. Nig.:** Lagos Millen 20! 113! 135! Ajilite Millen 76! Olokemeji Foster 288! Idanre (fr. Apr.) Symington FHI 3357! **Br. Cam.:** Preuss 570!

Widespread in tropical Africa.

6. *Acalypha* sp. **A. APD acc**

Possibly new, but better material required.

Acalypha manniana of Chev. Bot. 576, not of Müll. Arg.

Fr. G.: Soumbalako to Boulivél, Fouta Djallon (fr. Sept.) Chev. 18652! **S. L.:** Yetaya (fl. & fr. Sept.) Thomas 2432!

7. *Acalypha manniana* *Müll. Arg.* — F.T.A. 6, 1: 893; Pax & K. Hoffm. l.c. 16: 70. *APD acc*

A slender, climbing shrub, to 6 ft. high, **at edge of forest**; flowers pinkish.

Br. Cam.: Cam. Mt., 3,000–5,700 ft. (fl. Nov.–Apr., fr. Feb.) Mann 1270! Maitland 210! 1305! Bamenda, 6,000 ft. (fl. & fr. Jan.) Migeod 425! Lakom (fl. & fr. Apr.) Maitland 1732! **F. Po:** Musola (Jan.) Guinea 1104! 1614! Moka, 3,500–4,000 ft. (Dec.) Boughey 65!

Also in **French Cameroons**.

8. *Acalypha ceraceopunctata* *Pax* — F.T.A. 6, 1: 896; Pax & K. Hoffm. l.c. 16: 136. *APD acc*

A shrub to 5 ft. high, **in savannah or fringing forest**; fruits hidden by the enlarged pale bracts, 3-lobed and dotted with yellow scale-like glands.

G. C.: Sirigu, N.T. (fr. Oct.) Vigne FH 4587! **N. Nig.:** Rimingata, Kano (fl. & fr. Aug.) Onwudinjoh FHI 24019! Katagum (fr. Sept.) Dalz. 209! Yola (June) Dalz. 151!

Also in the **French Cameroons**.

9. *Acalypha brachystachya* *Hornem.* — F.T.A. 6, 1: 899; Pax & K. Hoffm. l.c. 16: 101.

APD: *Synonym of Acalypha supera Forssk.*

A small slender-branched annual 6–12 in. high.

Br. Cam.: Buea Lehmbach 190; Preuss 1002!

Also from French Cameroons to Red Sea, Abyssinia, **Uganda**, **Belgian Congo**, **Angola** and E. Africa; also in tropical Asia.

10. **Acalypha ciliata Forsk.** — F.T.A. 6, 1: 901; Pax & K. Hoffm. l.c. 16: 98. *APD acc*

Acalypha fimbriata Schum. & Thonn. (1827) — Chev. Bot. 576.

Acalypha vahliana Müll. Arg. (1865) — Chev. Bot. 577.

An erect, slightly pubescent branched annual, to 21/2 ft. high.

Sen.: Roger 54! **Fr. Sud.:** Ouahigouya to Koro, Yatenga Chev. 24818. Diafarabé to Sansanding Chev. 2619. **Port. G.:** Ingora to Barro, S. Domingos (fl. & fr. Aug.) Esp. Santo 3087! **Fr. G.:** Mamou Chev. 15046. **S. L.:** Yetaya (fl. & fr. Sept.) Thomas 2398! Kukuna, Bramaia (fr. Oct.) Jordan 939! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 555! **Iv. C.:** Sokomanta to Sampleu, Dyola Chev. 21087. **G. C.:** Aburi Brown 414! Amentia Irvine 525! **Togo:** Lome Warnecke 368! Kpandu (fr. June) Andoh FH 5282! **N. Nig.:** Nupe Barter 1047! Zungeru (fr. Aug.) Dalz. 100! Bauchi Plateau (fr. July) Lely P. 400! Yola (fl. & fr. June) Dalz. 153! **S. Nig.:** Lagos Millen 58! Okomu F.R. (Feb.) Brenan 9171! Agulu Thomas 223! **Br. Cam.:** Rio del Rey Johnston!

Widespread in tropical Africa, in **Arabia** and in India; also in **Cape Verde Islands**,

11. **Acalypha sp. B.** *APD acc*

Possibly new, or else perhaps introduced. A weed up to 21/2 ft. high, well-branched and straggly.

S. L.: Tower Hill, Freetown (fl. & fr. June) Deighton 2988! Mano railway station (fl. & fr. Nov.) Deighton 3280!

12. **Acalypha crenata Hochst. ex A. Rich.** — F.T.A. 6, 1: 903; Pax & K. Hoffm. l.c. 16: 97. *APD acc*

An annual herb, 1–11/2 ft. high.

N. Nig.: Lokoja (fl. & fr. Nov.) Ansell! Barter! Dalz. 163! Aguji, Ilorin Thornton!

Also in **French Cameroons**, **A.-E. Sudan**, **Somaliland**, **Abyssinia** and **Uganda**.

13. **Acalypha segetalis Müll. Arg.** — F.T.A. 6, 1: 904; Pax & K. Hoffm. l.c. 18: 36; Berhaut l.c. 168. *APD acc*

Acalypha crenata of F.W.T.A., ed. 1, 1: 303, partly.

An annual herb, to 11/2 ft. high; flowers reddish; a weed.

Sen.: fide Berhaut l.c. **S. L.:** Musaia (fl. & fr. July) Deighton 4807! **Togo:** Misahöhe Baumann 227. **Dah.:** Le Testu 95. **N. Nig.:** Nupe Barter 1490! 1495! Zaria (fl. & fr. Aug.) Keay FHI 28014! Kyana, Nassarawa (fl. & fr. July) Hepburn 28! Nabardo (fl. & fr. May) Lely 214! Bauchi Plateau (fl. & fr. June) Lely P. 335. Vom Dent Young 225! **S. Nig.:** Lagos Millen 37! **Br. Cam.:** Bamenda Prov. (May) Maitland 1761! Mamfe (fl. & fr. Apr.) Ejiofor FHI 29374!

Widespread in tropical Africa.

14. **Acalypha neptunica Müll. Arg.** — F.T.A. 6, 1: 907; Pax & K. Hoffm. l.c. 16: 109. *APD acc*

A forest shrub. The only specimen from our area has one twig with long spreading hairs on the stem and leaves, while the other twigs have a short curly indumentum; two varieties may be represented here.

G. C.: Akatui (Oct.) Vigne FH 4029!

Also widespread in central and eastern Africa.

Acalypha hispida Burm.

A native of tropical Asia, it is cultivated.

Acalypha wilkesiana Müll. Arg.

A native of tropical Asia, it is cultivated.

Acalypha sp.

Herb, about 1 ft. high, in [montane forest](#); leaves reddish below. Female flowers and fruits apparently solitary and sessile in the leaf-axils. More material required.

S. Nig.: Ikwette Plateau, Obudu, 5,200 ft. (fr. Dec.) Keay & Savory FHI 25264!

Imperfectly known species.

49. RICINUS

Linn. — F.T.A. 6, 1: 945; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 11: 119 (1919).

- 1** Leaves alternate, long-petiolate, orbicular in outline, peltate, up to 60 cm. broad, deeply palmately lobed; lobes 7 or more, glandular-toothed, glaucous, glabrous, green or reddish; stipules large, ovate, connate into a sheath and enclosing the bud; flowers in large panicles, the males below, the females above; capsule smooth or prickly, about 2.5 cm. diam.; seeds mottled[communis](#)

Ricinus communis *Linn.* — F.T.A. 6, 1: 945; Pax & K. Hoffm. l.c. 11: 119, fig. 29, q.v. for varieties and forms.

The common castor-oil plant, widely cultivated and very variable; several varieties are distinguished with variously prickly fruits.

50. TETRACARPIDIUM

Pax in Engl. Bot. Jahrb. 26: 329 (1899).

Angostylidium (*Müll. Arg.*) *Pax & K. Hoffm.* in Engl. Pflanzenr. Euph. 9: 17 (1919).

- 1** Leaves ovate, abruptly acuminate, rounded at base, about 10 cm. long, 4.5–5 cm. broad, crenulate, 3-nerved at base, glabrous; petiole up to 5 cm. long; male flowers in narrow raceme-like panicles about as long as the leaves, with 1–2 females near the base; pedicels jointed above the base; sepals glabrous; stamens about 40; style very stout, at length quadrangular, with 4 spreading stigmas; ovary 4-lobed; capsule about 7 cm. across, 4-winged, ridged between the wings[conophorum](#)

Tetracarpidium conophorum (*Müll. Arg.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 307 (1928); Kew Bull. 1928: 300 (q.v. for full synonymy). *APD acc*

Plukenetia conophora *Müll. Arg.* (1864) — F.T.A. 6, 1: 949; Chev. Bot. 582.

Angostylidium conophorum (*Müll. Arg.*) *Pax & K. Hoffm.* l.c. 9: 17, fig. 5 (1919).

Cleidion preussii (*Pax*) *Bak.* (1910) — F.T.A. 6, 1: 931.

A climbing shrub 10–20 ft. long, glabrous; male flowers deciduous, leaving the females at the base of the raceme. Cultivated for its oil-rich fruits. Apparently not indigenous in Sierra Leoné.

S. L.: Sc. Elliot 4118! Alien Town (Dec.) Deighton 3304! Port Loko (Jan.) Deighlon 4041! Njala (Jan) Deighton 5018!

Dah.: Saketé (Jan.) Chev. 22870! **S. Nig.:** Igbajo Dist. (Jan.) Latilo FHI 31764! Modakeke Foster 205! Sapoba (Aug.)

Kennedy 1731! Ibuzo (Nov.) Thomas 1997! Aguku Thomas 888! Oban Talbot 615! 1371! 1384! 2307! **Br. Cam.:** R.

Cameroon (Jan.) Mann 2202! Victoria (Feb.) Maitland 184! 375! Barombi Preuss 420! **F. Po:** Mildbr. 6968.

Also in [French Cameroons](#), [Spanish Guinea](#), [Gabon](#) and [Belgian Congo](#).

51. TRAGIA

Linn. — F.T.A. 6, 1: 964; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 9: 32 (1919).

- 1** Female flower on a long slender pedicel as long as the male raceme; female calyx hardly accrescent in fruit; leaves ovate-oblong, rounded or subcordate at the base, acute at the apex, 5–7.5 cm. long, 2–4 cm. broad, serrate, slightly bristly; fruits deeply 3-lobed, 7 mm. broad, bristly-pilose[I. volubilis](#)
- Female flowers on very short pedicels (sometimes extending in fruit); female calyx usually accrescent in fruit: **2**
- 2** Leaves linear or linear-lanceolate, sessile or subsessile; inflorescence long and slender, 15 cm. or more:**3**

- Leaves lanceolate to ovate-elliptic, distinctly petiolate; inflorescence usually rather short:.....4
- 3 Racemes unisexual; leaves 4–5 cm. long, 1 cm. broad, nearly glabrous, slightly serrulate near the apex; stems glabrescent[2. akwapimensis](#)
- Racemes bisexual; leaves acute, 4–5 cm. long, 1 cm. broad, softly pubescent on both sides and with stinging hairs, sharply serrate; stems pilose; female calyx-segments 3, pectinately toothed[3. wildemanii](#)
- 4 Female calyx-lobes 3 (rarely 4–5) in a single series, orbicular-ovate, pectinate all round, densely setose:.....5
- Female calyx-lobes 6, usually more or less distinctly 2-seriate:.....6
- 5 Leaves ovate, deeply cordate at base, long-caudate-acuminate, up to 12 cm. long and 6.5 cm. broad, margins rather coarsely serrate, densely setose-pilose on both surfaces; petioles up to 5 cm. long[4. senegalensis](#)
- Leaves triangular-lanceolate, widely cordate at base, acute but scarcely acuminate at apex, 6–14.5 cm. long, 1–4.2 cm. broad, margins serrate, often only denticulate in the upper part of the leaves, setose-pubescent, very shortly so above, more or less glabrescent; petioles up to 2.5 cm. long[5. vogelii](#)
- 6 Calyx-lobes of female flowers without a foliaceous apex, deeply pectinate:7
- Calyx-lobes of female flowers with a foliaceous undivided apex, entire or variously lobed or pectinate below: .8
- 7 Leaves sharply serrate; stem, petioles and leaves with pungent setose hairs; leaves ovate, cordate at base, acutely acuminate, 5–14 cm. long, 2.5–9 cm. broad; petioles 2–10 cm. long[6. benthami](#)
- Leaves subentire; stem, petioles and leaves without pungent setose hairs, minutely puberulous or glabrescent; leaves oblong-lanceolate or ovate-elliptic, cordate or subhastate at base, acutely acuminate, 8–20 cm. long, 2.5–8 cm. broad; petioles 2.5–6 cm. long[7. preussii](#)
- 8 Female calyx-lobes pectinately divided on each side into 4–6 teeth below the foliaceous apical portion:.....9
- Female calyx-lobes with 0–1 (–2) teeth on each side below the foliaceous apical portion: 10
- 9 Lateral teeth of female calyx-lobes bristly with numerous white stinging hairs; leaves ovate-oblong, widely cordate, acutely acuminate, slightly toothed, 6–13 cm. long, 2.5–6 cm. broad, bristly pubescent mainly on the nerves[8. tenuifolia](#)
- Lateral teeth of female calyx-lobes setose but not bristly; leaves ovate-lanceolate, cordate at base, acute at apex, entire or undulate, 6–10 cm. long, 2–4.5 cm. broad, bristly pilose on both surfaces[9. chevalieri](#)
- 10 Claw of female calyx-lobes at least twice as long as the terminal 1 mm. diam. foliaceous apical portion which is entire or with 1 tooth on each side at base, the calyx-lobes 2.5–3.5 mm. long in fruit; leaves oblong-oblongate to ovate, cordate or truncate at base, rather long-acuminate, margin coarsely and irregularly toothed or subentire, 4–12 cm. long, 1.5–5.3 cm. broad, bristly pilose on both surfaces[10. laminularis](#)
- Claw of female calyx-lobes less than twice as long as the 3–4 (–6) mm. broad terminal foliaceous apical portion, the calyx-lobes 6–10 (–13) mm. long in fruit: 11
- 11 Leaves glabrous except for a few appressed hairs on the nerves above and very sparingly pubescent nerves beneath; ovate-elliptic, deeply cordate, obtusely acuminate, entire, 6–10 cm. long, 2–3.5 cm. broad; female calyx-lobes obovate, entire, sparingly hirsute[11. polygonoides](#)
- Leaves pilose or pubescent on both surfaces: 12
- 12 Female calyx-lobes densely bristly but without teeth below the broad foliaceous apical portion; leaves ovate-elliptic, to obovate-elliptic, rather shallowly cordate at base, acutely acuminate, margin shortly crenate or serrate, 4.5–8 cm. long, 1.8–4.8 cm. broad, shortly bristly-pilose above, rather densely pubescent beneath [12. spathulata](#)
- Female calyx-lobes setose but not bristly, with a tooth (or rarely 2) each side below the broad foliaceous apical portion; leaves elliptic to obovate-elliptic or oblong-elliptic, more or less narrowed to the obtuse or narrowly cordate base, acuminate, margin usually serrate in the upper half, 6.5–16 cm. long, 2.5–9.5 cm. broad, rather densely bristly-pilose on both surfaces[13. sp. A](#)

1. **Tragia volubilis** Linn. — F.T.A. 6, 1: 969; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 9: 47–50 (as var genuina), fig. 14; Chev. Bot, 583. *APD acc*

A slender twiner armed with stinging hairs.

S. L.: Kuru (Apr.) Sc. Elliot 5514! Rowala (July) Thomas 1156! Sewa River ferry, Nganyama (fl. & fr. Nov.) Deighton 4660! **IV. C.:** Soubre Chev. 19134. Zagoué to Soucourala Chev. 21577. **S. Nig.:** Chama6 Beauvois. Awka Thomas 1325; 1332. **F. Po:** (Dec.) Mann 75!

Extends to **Belgian Congo** and **Angola**; also widespread in tropical America from whence it has probably been introduced to Africa.

2. **Tragia akwapimensis** Prain — F.T.A. 6, 1: 992; Pax & K. Hoffm. l.c. 9; 87. *APD acc*

Stems suberect from a woody base, 1 1/2–2 ft. high, branched, sparingly armed with stinging hairs; dioecious.

G. C.: A buri Andersen 54!

3. **Tragia wildemanii** Beille — F.T.A. 6, 1: 993; Pax & K. Hoffm. l.c. 9: 92; Chev. Bot. 588. *APD acc*

Erect from a woody base, 1–1 1/2 ft. high, sparingly branched, softly pubescent and armed with stinging hairs.

Fr. Sud.: Katou (Mar.) Chev. 539. **Fr. G.:** Timbo to Farana Chev. 13307.

4. **Tragia senegalensis** Müll. Arg. — F.T.A. 6, 1: 999, partly; Pax & K. Hoffm. l.c. 9: 92, partly; Chev. Bot. 583; F.W.T.A., ed. 1, 1: 308, partly. *APD acc*

Tragia angustifolia of Chev. Bot. 583.

A twiner, in **savannah regions**; flowers yellow-green with stinging hairs on inflorescence.

Gam.: Albreda, in ricefields Leprieur! **Fr. G.:** Timbo Maclaud 30! **S. L.:** Musaia (Mar. July, Aug., Dec.) Deighton 4482! 4798! 5395! Jordan 497! **G. C.:** Salaga Krause! **Togo:** Kekejandé Kersting A. 615. Kete Krachi Zech 301. **Dah.:** Massé to Kétou, Zagnanado (fl. & fr. Feb.) Chev. 23009! Atacora Mts. Chev. 23943.

5. **Tragia vogelii** Keay in Kew Bull. 1955: 139. *APD acc*

Tragia angustifolia Benth. (1849) — F.T.A. 6, 1: 999; Pax & K. Hoffm. l.c. 9: 93; F.W.T.A., ed. 1, 1: 308; not of Nutt. (1837).

Tragia senegalensis of F.T.A. 6, 1: 909, partly; of Pax & K. Hoffm. l.c. 9: 92, partly; of Chev. Bot. 583; of F.W.T.A., ed. 1, 1: 308, partly; not of Müll. Arg.

Erect, then scrambling or twining stems from a perennial stock; in **savannah, especially on rocky hillsides**.

N. Nig.: Nupe Barter 1732! Kontagora (Jan.) Meikle 1080! Addaenda, R. Niger (Sept.) T. Vogel 108! Lokoja (fl. & fr. Sept.) Parsons 45! Jones FHI 5000! Yola (fl. & fr. Apr.) Dalz. 157! **S. Nig.:** Lagos Dawodu 205!

Also in **French Camerouns**.

6. **Tragia benthami** Bak. — F.T.A. 6, 1: 984. *APD acc*

Tragia cordifolia of Benth. (1849) — Pax & K. Hoffm. l.c. 9: 76; not of Vahl (1790).

Tragia kassiliensis Beille (1910) — Chev. Bot. 583.

Herbaceous climber or trailer, with stinging hairs.

Iv. C.: Gotoro to Diahbo (July) Chev. 22037! Kassilé (Jan.) Chev. 17050! **G. C.:** Cape Coast (July) T. Vogel 53! Aburi (July–Aug.) Deighton 3383! Irvine 845! Owabi (fl. & fr. May) Andoh FH 4202! **Togo:** Misahöhe Baumann 283. **Dah.:** Adja Onéré Le Testu 11; 12. **S. Nig.:** Abeokuta Millen 80! Isijere, Ibadan (fl. & fr. Nov.) Keay FHI 28140! Oban Talbot 613! **Br. Cam.:** Cam. Mt., 1,000 ft. (fl. & fr. Dec.) Mann 1255! Buea (fr. Nov.–Jan.) Maitland 238! Migeod 104! **F. Po:** Clarence (fr. Oct.) T. Vogel 26!

Also in **French Camerouns** and extends to A.-E. **Sudan, Uganda, Belgian Congo, Angola** and E. Africa.

7. **Tragia preussii** Pax — F.T.A. 6, 1: 989; Pax & K. Hoffm. l.c. 9: 75. *APD acc*

Stems twining; apparently without stinging hairs.

S. Nig.: Oban Talbot 624! **Br. Cam.:** Victoria Winkler 343. Barombi Preuss 467!

Also in **Belgian Congo**.

8. **Tragia tenuifolia** Benth. — F.T.A. 6, 1: 973; Pax & K. Hoffm. l.c. 9: 96. *APD acc*

Stems twining; flowers greenish, the female calyx-lobes with white stinging hairs.

Fr. G.: Dyeke (fl. & fr. Oct.) Baldwin 9652! **S. L.:** Bagroo R. (fl. & fr. Apr.) Mann 834! Kambia (Jan.) Sc. Elliot 4371! Yonibana (Nov.) Thomas 4731! 4838! Gola Forest, Gaura (fl. & fr. Dec.) King 93b! Gegbwema — Gorahun road, Tunkia (fl. & fr. Dec.) Deighton 3826! **Lib.:** Nékabozu, Vonjama (Oct.) Baldwin 9970! Pallilah, Gbanga (fl. & fr. Sept.) Baldwin 13227! **G. C.:** Abetifi (fl. & fr. Jan.) Irvine 1696! **Togo:** Bismarckburg Kling 140. Misahöhe Baumann 534. **N. Nig.:** Neill's Valley, Jos (fl. & fr. June) Lely 265! **S. Nig.:** 70 miles east of Lagos Lamborn 260! Ibadan (fl. & fr. Feb.) Meikle 1130!

Okomu F.R. (Dec.) Brenan 8435! Onitsha (fl. & fr. Dec.) Thomas 1855! **Br. Cam.:** Johann-Albrechtshöhe Büsgen 52. Bonge Dusen 318.

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Uganda** and **S. Tomé**.

9. **Tragia chevalieri** *Beille* — F.T.A. 6, 1: 972; Pax & K. Hoffm. l.c. 9: 95; Chev. Bot. 583. *APD acc*

A slender twiner armed with stinging hairs.

Iv. C.: Guidéko (June) Chev. 16471! **S. Nig.:** Ajilite Millen 172! Oban Talbot 1494!

[The type specimen is extremely poor, and the other two specimens cited above which were originally identified by Prain for the F.T.A. are little better. Better material is needed to decide whether this is really a good species.]

10. **Tragia laminularis** *Müll. Arg.* — F.T.A. 6, 1: 971; Pax & K. Hoffm. l.c. 99. *APD acc*

Stem slender, woody and erect below, twining above, armed with stinging hairs.

S. L.: Afzelius; Smeathmann! Hill Station, Freetown (fl. & fr. May) Deighton 1126! Sugar Loaf Mt. (fl. & fr. Nov.) Deighton 5622!

11. **Tragia polygonoides** *Prain* — F.T.A. 6, 1: 970; Chev. Bot. 583; Pax & K. Hoffm. l.c. 9: 98. *APD acc*

A slender twiner without stinging hairs.

Iv. C.: Bouroukrou (Dec., Jan.) Chev. 16860.

12. **Tragia spathulata** *Benth.* — F.T.A. 6, 2: 971; Pax & K. Hoffm. l.c. 9: 98, fig. 22, A–B. *APD acc*

A slender pubescent twiner armed with stinging hairs; capsule densely bristly.

S. L.: Njala (Nov.) Deighton 2548! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 702! **G. C.:** Cape Coast (July) T. Vogel 8! Odumase, Krobo Plains (fl. & fr. Aug.) Johnson 1089! Aburi (fl. & fr. Aug.) Deighton 3396! Ananekurum (fl. & fr. Jan.) Irvine 634! Gida Abdulker Krause! **Togo:** Misahöhe Baumann 450 (partly). **S. Nig.:** Abeokuta Irving 72! Olokemeji (fl. & fr. Apr., Aug.) Foster 278! Symington FHI 5065!

13. **Tragia sp. A.**

Possibly this is *T. mildbraediana* Pax & K. Hoffm. l.c. 96, fig. 22, C–E (1919), but the type has presumably been destroyed and the female calyx-lobes in our material do not match the figure in the *Pflanzenreich* very well. A twiner with bristly-pilose stems and leaves, stinging: **in forest vegetation**.

S. L.: Bumbuna (fl. & fr. Oct.) Thomas 3174! Mabonto (Oct.) Thomas 3570! Bobobu, Giewahun (fl. & fr. Dec.) Deighton 3808! Peri, Gaura (fl. & fr. Oct.) Deighton 5199! 5200! **Lib.:** Soplima, Vonjama (fl. & fr. Nov.) Baldwin 10019! Yahun, Kolahun (fl. & fr. Nov.) Baldwin 10213! **S. Nig.:** Akure F.R. (fl. & fr. Oct.) Keay FHI 25478! Owam F.R., Benin (fl. & fr. Nov.) Meikle 515! Okomu F.R., Benin (fl. & fr. Jan.) Brenan 8853!

Imperfectly known species.

Tragia monadelpha *Schum. & Thonn.* *Beskr. Guin. Pl.* 404 (1827); Pax & K. Hoffm. l.c. 9: 100. *APD acc*

The type specimen could not be traced at Copenhagen in 1954.

G. C.: Aquapim Thonning.

Imperfectly known species.

52. DALECHAMPIA

Linn. — F.T.A. 6, 1: 952; Pax & K. Hoffm. in *Engl. Pflanzenr. Euph.* 12; 3 (1919).

- 1 Involucral bracts ovate, entire; leaves ovate and not lobed or deeply 3-lobed; stipules subulate-lanceolate; female sepals accrescent, pinnatifid *1. ipomoeifolia*
 Involucral bracts 3-lobed and serrulate; stipules ovate-lanceolate; female sepals as above *2. scandens*

1. **Dalechampia ipomoeifolia** *Benth.* — F.T.A. 6, 1: 953; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 12: 39; Chev. Bot. 584. *APD acc*

APD: Synonym of Dalechampia parvifolia Lam. var. parvifolia

A slender twiner with pubescent stems and flowers in close clusters within two leafy bracts.

S. L.: Bumbuna (Oct.) Thomas 3752! Njala (fr. Jan.) Deighton 2965! Segbwema (Dec.) Deighton 3463! **Lib.:** Monrovia (fl. & fr. July) Linder 23! Yratoke, Webo (July) Baldwin 6252! **Iv. C.:** Bouroukrou Chev. 16783. Zaranou Chev. 17637. **G. C.:** Princes (fr. Jan.) Akpabla 764! Sutah, Ashanti Cummins 48! Achimota (fr. Aug.) Irvine 861! **Togo:** Kpandu Robertson 69! **S. Nig.:** Lagos (Dec.) Dalz. 1270! Hagerup 836! Lower Niger T. Vogel 9! Degema Talbot 3802! Eket Talbot 3365! Oban Talbot 683!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

2. **Dalechampia scandens** *var. cordofana* (*Hochst. ex Webb*) *Müll. Arg.* in DC. Prod. 15, 2: 1245 (1866); F.T.A. 6, 1: 954 (incl. *var. parvifolia*); Pax & K. Hoffm. l.c. 10: 34; F. W. Andr. Fl. Pl. A.-E. Sud. 2: 61, fig. 22.

APD: Synonym of Dalechampia parvifolia Lam. var. parvifolia

Dalechampia cordofana *Hochst. ex Webb* (1849).

Like the last but with leaves always deeply 3–5-partite.

Sen.: Dakar Adanson. Dagana Perrottet 740. Richard Tol Lelièvre.

Also in **Cape Verde Islands**, **Chad area** and widespread in north-eastern, central and southern tropical Africa and in **Arabia**.

53. MANIHOT

Mill. — F.T.A. 6, 1: 839; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 174 (1931).

- | | | |
|---|---|--|
| 1 | Leaves peltate; fruits without wings or ridges; bracts small | <i>1. glaziovii</i> |
| | Leaves not peltate; fruits with 6 distinct wings or ridges: | 2 |
| 2 | Bracts large and leafy, at first concealing the flowers: | 3 |
| | Bracts small, not longer than the pedicels: | 4 |
| 3 | Fruits dehiscent | <i>2. piahyensis</i> |
| | Fruits indehiscent | <i>3. teissonnieri</i> |
| 4 | Lobes of the leaves sometimes more or less lobulate, the middle lobe the longest with the midrib continued to the top, abruptly acuminate; rubber plant | <i>4. dichotoma</i> |
| | Lobes of the leaves entire; food plants | <i>5. esculenta</i> |

1. **Manihot glaziovii** *Müll. Arg.* — F.T.A. 6, 1: 839; Holl. 4: 598; Chev. Bot. 574.

The Ceara rubber tree, native of Brazil, cultivated for rubber and planted as an ornamental tree.

2. **Manihot piahyensis** *Ule* — F.T.A. 6, 1: 840; Holl. 4: 600.

A shrub or small tree, Piahy rubber, native of Brazil; cultivated.

3. **Manihot teissonnieri** *A. Chev.* — F.T.A. 6, 1: 841; Chev. Bot. 574.

Similar to the last; cultivated in French West Africa.

4. **Manihot dichotoma** *Ule* — F.T.A. 6, 1: 841; Holl. 4: 597.

The Jequié rubber tree, native of Brazil, cultivated as a rubber plant.

5. **Manihot esculenta** *Crantz* *Inst. Rei Herb.* 1: 167 (1766).

Manihot utilissima *Pohl* (1828) — F.T.A. 6, 1: 842 (incl. vars.); Holl. 4: 600; Chev. Bot. 574; F.W.T.A., ed. 1, 1: 300 (incl. var.).

A shrub 6–10 ft. high, glabrous, with digitate leaves glaucous beneath, and tuberous roots; very variable in colour of bark, tint of foliage, etc. Cassava, a cultivated food-plant; native of Brazil.

54. KLAINETHUS

Pierre ex Prain — F.T.A. 6, 1: 963; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 408 (1914).

- 1 Tree; branchlets pubescent when young, at length glabrous; leaves oblong or obovate, obtuse to cuneate at base, shortly acuminate, entire, 10–32 cm. long, 4–12 cm. broad, glabrous; petiole 2.5–5 cm. long, distinctly pulvinate and geniculate at apex; panicles axillary and terminal, puberulous and often with long spreading hairs as well; flowers about 2 mm. long; sepals strongly imbricate; petals absent; male flower with 8 or 10 stamens in two series, surrounded by a ring of 4 or 5 extrastaminal glands alternate with the outer stamens and opposite the sepals, rudimentary ovary usually 3-lobed; female flowers with cupular, denticulate and 4–5-lobed disk, staminodes often present, ovary 3-celled, style 3, deeply 2-partite; capsule trigonous-sub-orbicular about 1.5 cm. long and broad, glabrous and shining outside, dehiscent; seeds solitary in each cell, clothed with a yellow fleshy aril [gaboniae](#)

Klaineanthus gaboniae *Pierre ex Prain* — F.T.A. 6, 1: 963; Hook. Ic. Pl. t. 2985; Pax & K. Hoffm. l.c.

APD: Synonym of Klaineanthus gabonii Pierre

A forest tree, 30–90 ft. high, with rough, fluted bole; flowers white; fruits bright red.

S. Nig.: Sapoba Kennedy 2268! 2280! 2312! Oban (fr. May) Ujor FHI 31800! Uwet Odot F.R., Itu (fr. May) Onochie FHI 33223! Obudu Dist. (May) Latilo FHI 30922! Ikom Dist. (fr. May, June) Latilo FHI 30998! 31827! **Br. Cam.:** S. Bakundu F.R. (fr. Aug.) Olorunfemi FHI 30711! Near Mungo R., Kumba Dist. (Apr.) Olorunfemi FHI 30532!

Also in **French Cameroons**, **Gabon** and **S. Tomé**.

55. GELONIUM

Roxb. — F.T.A. 6, 1: 947; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 4: 14 (1912).

- 1 A glabrous shrub or treelet with flexuous branchlets, angular when young; leaves sessile or very shortly petiolate, oblanceolate, obovate or oblong-elliptic, rounded to subcordate at base, shortly acuminate to subcaudate-acuminate, acumen itself obtuse, 10–18 cm. long, 3.5–8 cm. broad; flowers dioecious, subsessile, in small, leaf-opposed fascicles; male flowers 3–6 per fascicle, sepals 5–6, imbricate, the outer 3 suborbicular and about 3 mm. diam.; stamens 20–30, with short filaments; female flowers apparently 1–2 per fascicle; ovary glabrous, 3-celled, ovules solitary in each cell; capsule depressed 3-lobed, about 1.4 cm. diam., seeds suborbicular [occidentale](#)

Gelonium occidentale *Hoyle* in Kew Bull. 1935: 258.

APD: Synonym of Suregada occidentalis (Hoyle) Croizat

A forest shrub or treelet, to 10 ft. high; outer sepals green, inner sepals and stamens creamy-white.

G. C.: Mampong Scarp (fl. & fr. Feb., Dec.) Vigne FH 2754! 2755! 4092! 4093! Ofin Headwaters F.R. (Oct.) Vigne FH 3124! **N. Nig.:** Kurmin Damisa, Jemaa (Nov.) Keay & Onochie FHI 21725! **S. Nig.:** Etemi Odo, Ijebu Ode Prov. (Nov.) Tamajong FHI 20992! Akure F.R. (Nov.) Keay & Trochain FHI 25605! Owo (May) Jones FHI 3567!

56. HAMILCOA

Prain — F.T.A. 6, 1: 1000; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 419 (1914).

- 1 A glabrous shrub; leaves nearly sessile or long-petiolate on the same branch, entire or slightly 3-lobed; lamina elliptic- or ovate-oblong to lanceolate, rounded to subacute at base, caudate-acuminate, 10–26 cm. long, 3.5–10 cm. broad; petiole up to 6 cm. long; racemes axillary, 6–8-flowered, up to 4 cm. long; male sepals imbricate, about 3 mm. long, petals and rudimentary ovary absent; stamens 18–30, subsessile; female sepals 1 mm. long, disk urceolate, ovary 3-celled, glabrous, style thick, with 3 free stout stigmas; capsule deeply 3-lobed, about 1.2 cm. long and 2.2 cm. broad; seeds solitary in each cell, large, with smooth mottled testa [zenkeri](#)

Hamilcoa zenkeri (*Pax*) *Prain* — F.T.A. 6, 1: 1000; Hook. Ic. Pl. t. 3009; Pax & K. Hoffm. l.c. *APD acc*

Plukenetia zenkeri Pax (1909).

A scandent forest shrub, stems 20–30 ft. high, or tree to 45 ft. high (fide Brenan), with white latex.

Br. Cam.: S. Bakundu F.R., Kumba (fl. Mar., fr. Mar., Aug.) Brenan 9430! Olorunfemi FHI 30705!

Also in **French Cameroons**.

57. TETRORCHIDIUM

Poepp. & Endl. Nov. Gen. & Sp. 3; 23 (1842); Pax in Engl. Pflanzenr. Euph. 4: 29 (1912); Pax & K. Hoffm. l.c. 14: 53 (1919).

Hasskarlia Baill. (1860) — F.T.A. 6, 1: 846; Pax l.c. 7: 416 (1914).

- 1 Plants entirely glabrous; leaves of the upper branchlets alternate, lower leaves sometimes opposite, leaf-base cuneate; inflorescences leaf-opposed: 2

Plants pubescent on branchlets, petioles and inflorescences; leaves mostly opposite, elongate-oblong-elliptic to oblong-elliptic, cuneate to obtuse at base, long-acuminate, 8–19 cm. long, 2.5–8 cm. broad, margin irregularly serrate or undulate; male inflorescences 4.5–11 cm. long, interpetiolar, the spike interrupted; female flowers not known; shrub, to 2.5 m. high 3. *oppositifolium*

- 2 Male inflorescences 3.5–9.5 cm. long, flowers crowded; leaves oblong-elliptic to obovate, cuspidate-acuminate, 8–22 cm. long, 4–11 cm. broad, margin entire or denticulate; female flowers solitary or few; shrub, or a tree to 25 m. high 1. *didymostemon*

Male inflorescences up to 6 mm. long, flowers crowded; leaves obovate to oblanceolate, long-acuminate, 3–8 cm. long, 1–3 cm. broad, markedly serrate in the upper half; female flowers not known; shrub, or a tree to 6 m. high 2. *minus*

1. *Tetrorchidium didymostemon* (Baill.) Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 14: 53 (1919); Aubrév. Fl. For. C. Iv. 2: 77, t. 155. *APD acc*

Hasskarlia didymostemon Baill. (1860) — F.T.A. 6, 1: 846; Chev. Bot. 575.

A shrub or a tree up to 80 ft. high with zigzag branchlets, pale yellowish-green foliage and slender yellow male flower-spikes; in secondary forest regrowth.

Fr. G.: Fouta Djallon (Apr., May) Heudelot 835! **S. L.:** Berria, Falaba (Mar.) Sc. Elliot 5430! Freetown (Mar.) Dalz. 960! Zimmi (Nov.) Deighton 383! Rokupr (fl. & young fr. May) Jordan 242! **Lib.:** Dukwia R. (fr. May) Cooper 437! Gbanga (Sept.) Linder 806! Kingsville (Mar.) Bequaert 163! **Iv. C.:** Bouroukrou (fr. Dec., Jan.) Chev. 16862! Bingerville (fr. Feb.) Chev. 15321! 16219! **G. C.:** Kumasi (Mar.) Chipp 138! Obuasi (Nov.) Chipp 589! Oda (Sept.) Fishlock 52! **Togo:** Misahöhe (Nov.) Mildbr. 7227! Amedzofe (Feb.) Irvine 176! **S. Nig.:** Nikrowa (Dec., Jan.) A. F. Ross 240! Brenan 8400! Brass Barter 1848! Eket Talbot! Obanliko, Obudu (fl. & fr. Apr.) Latilo FHI 30904! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 594! S. Bakundu F.R. (Mar.) Onochie FHI 31191! 31200! **F. Po:** Mildbr. 7051.

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Uganda**, **Tanganyika**, **Angola** and **S. Tomé**.

2. *Tetrorchidium minus* (Prain) Pax & K. Hoffm. l.c. (1919).

APD: *Synonym of Tetrorchidium didymostemon* (Baill.) Pax & K. Hoffm.

Hasskarlia minor Prain (1912) — F.T.A. 6, 1: 1055.

A glabrous shrub or small tree, to 20 ft. high, with very slender branchlets.

There are no collectors' notes to support Prain's statement that this plant is a herb.

S. L.: near Pendembu (Apr.) Sc. Elliot 5680! **S. Nig.:** Okeigbo, Ondo Prov. (Feb.) Jones & Onochie FHI 14714! Benin (Feb.) Onochie FHI 31172! Degema Talbot 3795!

3. *Tetrorchidium oppositifolium* (Pax) Pax & K. Hoffm. l.c. (1919). *APD acc*

Hasskarlia oppositifolia Pax (1909) — F.T.A. 6, 1: 847; Chev. Bot. 576.

A forest shrub, to 9 ft. high; flowers cream.

Lib.: Sinoe Basin Whyte! Monrovia Dinklage 2213. Jaurazon (Mar.) Baldwin 11450! Nyaake, Webo (June) Baldwin 6108!
IV. C.: Mt. Copé, Grabo (July) Chev. 19695. **S. Nig.:** Oban Talbot 617! 640! 664! Kwa Falls, Calabar (Mar.) Brenan 9233!
Br. Cam.: Kembong F.R., Mamfe (Mar.) Onochie FHI 32051!

Also in **Gabon**.

58. PLAGIOSTYLES

Pierre — F.T.A. 6, 1: 170 & 1001; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 7: 420 (1914).

- 1 Branchlets glabrous; leaves oblong-elliptic, abruptly acuminate, slightly cuneate or rounded at base, 15–20 cm. long, 5–7 cm. broad, obscurely toothed, thinly coriaceous, markedly reticulate; lateral nerves 5 pairs; petiole 1–1.5 cm. long, pulvinate at base and apex; flowers dioecious; male racemes about 5 cm. long; pedicels up to 8 mm. long; stamens 15–21, anthers papillous; fruit transversely oblong, 2 cm. across, with a lateral stigma [africana](#)

Plagiostyles africana (Müll. Arg.) Prain in Kew Bull. 1912: 107; Pax & K. Hoffm. l.c. 7: 421. *APD acc*

Daphniphyllum africanum Müll. Arg. (1864).

Plagiostyles klaineana *Pierre* (1897) — F.T.A. 6, 1: 171 & 1001.

A forest tree, 30–50 ft. high, with pale yellow-green viscid sap.

S. Nig.: Oban Talbot! **Br. Cam.:** S. Bakundu F.R. (Mar.) Brenan 9330! Barombi Preuss 421! Johann-Albrechtshöhe Staudt 496.

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **French** and **Belgian Congo**.

59. SEBASTIANIA

Spreng. — F.T.A. 6, 1: 1007; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 5: 88 (1912).

- 1 Shrub; leaves oblong-lanceolate, caudate-acuminate, rounded at base, 6–13 cm. long, 3–5 cm. broad, minutely denticulate with glandular teeth; male spikes branched, axillary, about 1/4 as long as the leaves, female inflorescences mixed with the male; stamens 2–4; ovary smooth [1. inopinata](#)
- Herb; leaves linear, not acuminate, narrowed at base, 3–6 cm. long, up to 0.8 cm. broad, closely serrulate and cartilaginous on the margin; spikes simple, terminal or leaf-opposed, short; stamens 3; ovary and fruit muricate with 2 rows of bristles on each cell [2. chamaelea](#)

1. **Sebastiania inopinata** Prain — F.T.A. 6, 1: 1007; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 5: 120, fig. 23.

APD: Synonym of Duvigneaudia inopinata (Prain) J. Léonard

A glabrous forest shrub, 8–15 ft. high.

Br. Cam.: R. Cameroon (Jan.) Mann 755! 2225!

Also in **French Cameroons**.

2. **Sebastiania chamaelea** (Linn.) Müll. Arg. — F.T.A. 6, 1: 1008; Pax & K. Hoffm. l.c. 5: 116 (as var. *africana*); Chev. Bot. 584. *APD acc*

Tragia chamaelea Linn. (1753).

A more or less woody herb, glabrous, branched, 1–2 ft. high.

G. C.: Achimota (June) Irvine 569! **Togo:** Lome Warnecke 186! Agome Schlechter 14965! **Dah.:** Ouidah to Adjounja Chev. 23461. Agouagon Chev. 23519. **N. Nig.:** Nupe Barter 1492! Zungeru (July) Dalz. 72! Lokoja (Sept.) Ansell! Parsons! Abinsi (fr. Nov.) Dalz. 748! Yola (fr. Sept.) Dalz. 160! **S. Nig.:** Lagos Dawodu 287! Ibadan (fl. & fr. July) Onochie FHI 7566! Awka Dist. Thomas 711! 1064!

Also in **French Cameroons** and **Ubangi-Shari**; widely spread throughout S.E. Asia to N. Australia.

60. SAPIUM

Browne — F.T.A. 6, 1: 1009; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 5: 199 (1912).

- 1 Ovary and fruit normally 2-celled, rarely 3- or 1-celled; fruits tardily dehiscent or indehiscent; trees 7–35 m. high:2
- Ovary and fruit normally 3-celled, dehiscent; glabrous shrubs and suffrutices:3
- 2 Fruits 2-lobed, about 8–10 mm. broad, on pedicels up to 3.3 cm. long; female flowers on pedicels 3–5 mm. long at the base of the more or less puberulous 5–12 cm. long spikes; leaves elliptic or oblong-elliptic, obtuse to rounded at base, acute or shortly acuminate at apex, 4–15 cm. long, 1.6–7.2 cm. broad, margin crenate, with 1 or 2 pairs of sessile glands near the base; petioles up to 1 cm. long [1. ellipticum](#)
- Fruits not 2-lobed, ovoid to subglobose, 15–18 mm. broad, on short pedicels; female flowers subsessile or very shortly pedicellate at the base of puberulous 6–9 cm. long spikes; leaves oblong-elliptic, obtuse to rounded at base, subacuminate, 7.5–15 cm. long, 4–6.5 cm. broad, margin crenate, with a pair of sessile glands near the base; petioles 1–3 cm. long [2. aubrevillei](#)
- 3 Leaves long-acuminate; forest shrubs:4
- Leaves not or only slightly acuminate; savannah suffrutices; male flowers solitary in each bract; fruits not horned:5
- 4 Valves of the fruits each with a projecting dorsal wing or horn; male flowers several to each bract; leaves elongate-elliptic to oblanceolate-elliptic, rounded at base, 6.5–21 cm. long, 2.5–5.5 cm. broad, margin entire or subentire; petioles 0.5–12 cm. long; fruits about 1.2 cm. diam [3. cornutum](#)
- Valves of the fruits without dorsal wings or horns; male flowers solitary in each bract; leaves oblanceolate rounded to cuneate at base, caudate-acuminate, 5–22 cm. long, 4–7 cm. broad, margin crenulate or subentire; petioles 1–1.6 cm. long; fruits about 1 cm. diam. [4. guineense](#)
- 5 Leaves elliptic to obovate-elliptic:6
- Leaves linear or oblong-linear, acute, 2–4.5 cm. long, up to 1 cm. broad, nerves scarcely visible, margin cartilaginous and undulate with a pair of glands on each side at the base; spikes slender, up to 10 cm. long; fruits 7–8 mm. diam. [7. dalzielii](#)
- 6 Lateral nerves about 12 on each side of midrib; leaves 4–13 cm. long, 3–5 cm. broad, margin denticulate, biglandular at the base; spikes 1–5 cm. long; fruits about 2 cm. diam. [5. grahamii](#)
- Lateral nerves 3–5 on each side of midrib, obscure; leaves 2.5–3 cm. long, 1.5–2 cm. broad, margin minutely denticulate, not glandular at the base; spikes 4–6 cm. long [6. faradianense](#)

1. **Sapium ellipticum** (Hochst.) Pax in Engl. Pflanzenr. Euph. 5: 253, fig. 49 (1912); Chev. Bot. 584, partly; Aubrév. Fl. For. C. Iv. 2: 80, t. 157; Aubrév. Pl. For. Soud.-Guin. 196, t. 38, 5–8.

APD: *Synonym of Shirakiopsis elliptica* (Hochst.) Esser

Sclerocroton ellipticus Hochst. (1845).

Excoecaria manniana Müll. Arg. (1864).

Sapium mannianum (Müll. Arg.) Benth. ex Pax (1893) — F.T.A. 6, 1: 1016.

A tree, 25–120 ft. high with drooping branches; flowers yellow-green; fruits orange-green, tardily dehiscent; in savannah and in streamside forest in both savannah and forest regions.

Fr. G.: Farana (fl. Jan., fr. Mar.) Chev. 20441! Sc. Elliot 5342! Pita Pobéguin 864. **S. L.:** Kabala (Jan.) King 187b! Kurusu (fr. Apr.) Sc. Elliot 5508! Musaia (fr. Apr.) Deighton 5476! **IV. C.:** Ferkéssédougou, Bondoukou, Bobo Dioulasso & Fétékoro fide Aubrév. l.c. **G. C.:** S. Fomang Su F.R. (Jan.) Vigne FH 2693. **Togo:** Sokode Kersting 391! **Dah.:** Atacora Mts. Chev. 24151. **N. Nig.:** Kaduna (Dec.) Meikle 748! S. Zaria Shaw 104! Jos (Oct., Nov.) Keay FHI 21030! 21426! **S. Nig.:** Shasha F.R. Lancaster 10! Ondo (Mar.) Lamb 115! **Br. Cam.:** Buea (fl. Dec., fr. Mar.) Maitland 116! 459! **F. Po:** Mildbr. 6783.

Widespread in tropical Africa and in Natal.

2. **Sapium aubrevillei** Léandri in Bull. Soc. Bot. Fr. 81: 449 (1934); Aubrév. Fl. For. C. Iv. 2: 80, t. 158.

APD: *Synonym of Shirakiopsis aubrevillei* (Leandri) Esser

Sapium ellipticum of Chev. Bot. 584, partly (Chev. 16190).

A forest tree of medium to large size, bole up to 4 ft. diam.; fruit a drupe.

Iv. C.: Mbago, Agnéby valley (fr. Feb.) Chev. 16190! Mt. Tonkoui Aubrév. 1004! Mt. Momy Aubrév 1184. Taï Aubrév. 1210.

3. *Sapium cornutum* Pax — F.T.A. 6, 1: 1013; Pax l.c. 5: 246.

APD: *Synonym of Sclerocroton cornutus (Pax) Kruijt & Roebers*

A forest shrub, to 10 ft. high; spikes pendulous red; fruits reddish.

S. L.: Njala (fl. Feb., May, fr. Feb.) Deighton 635! 4700! Nganyama Tikonko (fr. Nov.) Deighton 5262! **Lib.:** Gbanga (fr. Sept.) Linder 563! Mecca, Boporo (fr. Nov.) Baldwin 10433! 10439!

Also in **French Cameroons**, **Spanish Guinea**, **French Congo** and **Belgian Congo** and **Angola**.

4. *Sapium guineense* (Benth.) O. Ktze. — F.T.A. 6, 1: 1011.

APD: *Synonym of Excoecaria guineensis (Benth.) Müll. Arg.*

Stillingia guineensis Benth. (1849).

Excoecaria guineensis (Benth.) Müll. Arg. (1863) — Pax l.c. 5: 164; Chev. Bot. 585.

E. comoensis (Beille) A. Chev. Bot. 584.

A forest shrub, usually 2–5 ft. high.

S. L.: Smeathmann! Freetown (Dec.) Sc. Elliot! Dalz. 975 (partly)! Sugar Loaf Mt. (fl. & fr. Nov.) Deighton 5643! **Lib.:** Monrovia Dinklage 2418. **Iv. C.:** Bettié (Mar.) Chev. 17577! And other localities fide Chev. l.c. **S. Nig.:** Oban Talbot 666! **Br. Cam.:** Likomba (fl. & fr. Oct.) Mildbr. 10548! Johann-Albrechtshöhe Staudt 609.

Also in **French Cameroons**, **French** and **Belgian Congo** and **Principe**.

5. *Sapium grahamii* (Stapf) Prain in F.T.A. 6, 1: 1012 (1913); Chev. Bot. 584.

APD: *Synonym of Excoecaria grahamii Stapf*

Excoecaria grahamii Stapf (1906) — Pax l.c. 5: 164; Chev. Bot. 585.

A savannah suffrutex sending up half-woody stems to 2 ft. high from a creeping rootstock, with milky juice; capsule pale, crustaceous, breaking up into three 2-valved cocci.

Fr. Sud.: Pénia (May) Chev. 823. **Fr. G.:** Kollangui Chev. 12200. **Iv. C.:** Gampela to Ouagadougou Chev. 24661. **G. C.:** Gambaga (fl. & fr. Apr.) Graham! Kintampo (Mar.) Dalz. 37! Tumu (fl. & fr. Apr.) Vigne FH 3783! **Togo:** Gabotawe Kersting 276. Basari Kersting 605. **Dah.:** Djougou Chev. 23895!

6. *Sapium faradianense* (Beille) Pax in Engl. Pflanzenr. Euph. 5: 247 (1912); F.T.A. 6, 1: 1012.

APD: *Synonym of Microstachys faradianensis (Beille) Esser*

Excoecaria faradianense Beille (1910) — Chev. Bot. 585.

A small savannah suffrutex with slender woody stems.

Sen.: Karakoro to Niana, Casamance (Feb.) Chev. 2611. **Fr. G.:** Faradiana (Mar.) Chev. 640!

7. *Sapium dalzielii* Hutch. in Kew Bull. 1917: 234; Pax l.c. 17: 204 (1924).

APD: *Synonym of Microstachys dalzielii (Hutch.) Esser*

A savannah suffrutex with slender, slightly branched 1–2 ft. high, erect stems, leafy from base to apex.

G. C.: Tamale (fl. & fr. Dec.) Adams & Akpabla GC 4157! **N. Nig.:** Katsina Ala (June) Dalz. 749!

61. MAPROUNEA

Aubl. — F.T.A. 6, 1: 1002; Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 5: 174 (1912).

- 1 Leaves membranous, laxly reticulate, ovate or ovate-elliptic to lanceolate, 3.5–9.5 cm. long, 1.7–4 cm. broad, glaucous beneath; petiole 7–10 mm. long, slender; male inflorescences ovoid, 5 mm. long, shortly pedicellate, usually with 2 or more pedicellate female flowers below; stamens 2; capsule globose, 3-lobed; seeds rugulose, scarcely 4 mm. long, with a caruncle as large as the body of the seed; tree of forest or savannah [1. membranacea](#)

Leaves thinly coriaceous, closely and conspicuously reticulate, ovate, oblong-ovate, lanceolate or orbicular-ovate, 1.5–5.5 cm. long, 1.5–3 cm. broad, glaucous beneath; petiole 7–15 mm. long, slender; male inflorescences oblong, 3–12 mm. long, with 1–3 pedicellate female flowers below; stamens 2–3; capsule globose, 3-lobed; seeds smooth, 6–8 mm. long, with a caruncle less than 1/4 the size of the body of the seed; savannah tree [2. africana](#)

1. **Maprounea membranacea** Pax & K. Hoffm. in Engl. Pflanzenr. Euph. 5: 178, fig. 33 (1912); F.T.A. 6, 1: 1002; Kennedy For. Fl. S. Nig. 82. *APD acc*

A tree, up to 50 ft. high, **usually in forest, but sometimes in savannah**; inflorescence and fruit red.

S. Nig.: Ajebandele, Omo F.R. (Apr.) Onochie FHI 15536! Sapoba Kennedy 2301! Udi Plateau (Feb., Mar.) Ainslie! Cons. of For. 102! Eket Talbot 3253! Akparabong to Adijinkpon, Ikom (young fr. June) Latilo FHI 31821!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

2. **Maprounea africana** Müll. Arg. — F.T.A. 6, 1: 1004; Pax & K. Hoffm. l.c. 5: 178 (incl. vars); Aubrév. Fl. For. Soud.-Guin. 198, t. 38, 2–4. *APD acc*

A **savannah** tree, up to 20 ft. high, rarely more.

N. Nig.: Tambari Hill, Birnin Gwari Keay FHI 28053! Anara F.R., Zaria fide Keay. **Br. Cam.:** Mai Idoanu, Gashaka Dist. (Feb.) Latilo & Daramola FHI 34474!

Also in **French Cameroons**, **Ubangi-Shari** and widespread in central and east Africa.

62. ANTHOSTEMA

- A. Juss.** — F.T.A. 6, 1: 607; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 207 (1931). *APD acc*

- 1 Leaves cuneate at base, elliptic with rounded margins, obtusely acuminate, 7.5–13 cm. long, 3–4.5 cm. broad, with numerous lateral nerves spreading at right angles; flowers cymose; cymes subsessile, axillary, rather densely flowered; fruits deeply 3-lobed, nearly 2.5 cm. broad [1. senegalense](#)

Leaves rounded or very broadly cuneate at base, oblong with more or less straight margins, 8–15 cm. long, 2.5–4.5 cm. broad; cymes rather densely flowered; fruits up to 3 cm. broad [2. aubryanum](#)

1. **Anthostema senegalense** A. Juss. — F.T.A. 6, 1: 607; Chev. Bot. 553; Aubrév. Fl. For. C. Iv. 2: 20–22. *APD acc*

A **forest** tree with glabrous branchlets and rather leathery leaves; juice milky.

Sen.: Leprieur! Sangalkans (young fr. Oct.) Berhaut 996! **Gam.:** Abuko (Jan.) Dalz. 8057! **Fr. Sud.:** Fangala Kouta (fl. Nov., fr. Dec.–Jan.) Dubois 218! Moussaia Chev. 406. Nono Chev. 429. **Fr. G.:** Heudelot 592! Tristao Isl. Paroisse 1! **S. L.:** Kessewe F.R. (fr. Feb.) Macdonald 6! Njala (Oct.) Deighton 1342! Ronietta (Nov.) Thomas 5416! Newton (Nov.) T. S. Jones 290! **Lib.:** Monrovia (Nov.) Linder 1409! Grand Bassa Dinklage 1769! Duport (Oct.) Barker 1442! **Iv. C.:** fide Chev. l.c.

2. **Anthostema aubryanum** Baill. — F.T.A. 6, 1: 608; Aubrév. l.c. 2: 20–22, t. 127 (?). *APD acc*

A **forest** tree, 30–40 ft. high or more, with glabrous branchlets; leaves shining above; juice milky; **in swamp forest**.

Iv. C.: fide Aubrév. l.c. **G. C.:** W. Apollonia (Aug.) Chipp 324! Abosso (Aug.) Vigne FH 3027! **S. Nig.:** Ajilite to Addo Millen 178! Sapoba (Aug., Sept.) Kennedy 1737! Ajayi FHI 26923!

Also in **Gabon**, **Cabinda** and **Principe**.

63. DICHOSTEMMA

Pierre — F.T.A. 6, 1: 605; Pax & K. Hoffm. in E. & P. Pflanzenfam. 19C: 207 (1931).

- 1 A small tree or climber; branchlets glabrous; leaves obliquely oblong-lanceolate, shortly cuneate at base, acuminate, 7–16 cm. long, 2.5–6 cm. broad, entire, glabrous, glaucous beneath; lateral nerves 6–8 pairs, looped; panicles terminal, up to 40 cm. long, puberulous; involucre cup-like, obtusely 4-angled, up to 5 mm. broad; male flowers reduced to a single stamen; fruits depressed-quadrangular, 4-lobed, 3 cm. broad, rusty-tomentellous [glaucescens](#)

Dichostemma glaucescens *Pierre* — F.T.A. 6, 1: 606. *APD acc*

A forest tree, to 40 ft. high, or said sometimes to be climbing; with abundant milky juice; flowers yellow.

S. Nig.: Oban (young fr. May) Talbot 2328! Ujor FHI 31792! New Ndebiji, Calabar (May) Ejiofor FHI 21890! **Br. Cam.:** Victoria to Kumba (fr. Aug.) Dundas FHI 8403!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

64. EUPHORBIA

Linn. — F.T.A. 6, 1: 470.

- 1 Herbs, annual or perennial, or suffrutices; rarely fleshy, but never prickly: 2
Shrubs or trees, with fleshy glabrous stems, often prickly (except Nos. 22–24): 22
- 2 Inflorescences appearing directly from the apices of fleshy underground or partially exposed stems 1–1.5 cm. thick; peduncles 2–4 cm. long, involucre glabrous, 2–3 mm. diam.; leaves appearing later, few, oblanceolate, up to 14 cm. long and 4 cm. broad [21. бага](#)
Inflorescences not as above: 3
- 3 Leaves all strictly opposite, usually markedly unequal at base, up to 5 cm. long and 2 cm. broad; stipules present, mostly conspicuous; mostly erect or prostrate annual herbs, but some perennial (see Nos. 1 and 13): 4
Leaves alternate below, but opposite or whorled above where they subtend inflorescences, usually exceeding 5 cm. long and 1 cm. broad; stipules absent or glandular; mostly erect perennial herbs: 16
- 4 Ovary and capsule hairy: 5
Ovary and capsule glabrous: 10
- 5 Involucre borne in dense, rather long-pedunculate, axillary and terminal leafless glomerules; stems rather coarsely spreading-pilose with yellowish hairs over a shorter indumentum; leaves obliquely ovate to lanceolate, rounded on one side, cuneate on the other at base, acute at apex, up to 5 cm. long and 2 cm. broad, serrate [2. hirta](#)
Involucre solitary or on short leafy lateral branches: 6
- 6 Capsules pubescent only on the angles; stems subglabrous except for a line of short curly hairs on the upper side; seeds with minute sharp transverse ridges; leaves broadly elliptic to elliptic-oblong, obtuse or rounded at apex, mostly 4–8 mm. long [12. prostrata](#)
Capsules with the hairs not confined to the margins; stems pubescent or tomentose: 7
- 7 Stems erect, sparingly branched; leaves lanceolate, very unequal at base, 20–40 mm. long and 6–13 mm. broad, serrulate or subentire; stems and inflorescences, at least when young, densely woolly-tomentose; capsules, 2–2.5 mm. broad, densely tomentose [9. convulvuloides](#)
Stems more or less prostrate, or ascending, well-branched; leaves more or less oblong-elliptic, 2.5–14 mm. long, 3–8 mm. broad; 8
- 8 Capsules all exserted from the involucre on well-developed pedicels; capsules 1.5–2 mm. long and broad; seeds usually with a whitish waxy coat; stems pubescent or pilose all round; 9
Capsules mostly included at the base in the involucre which is thus distended at maturity, pedicels very short; capsules about 1 mm. long and broad; stems pilose mainly on the upper side; stipules lanceolate, conspicuous; leaves conspicuously serrulate, rounded to obtuse at apex, 2.5–10 mm. long, 1–6 mm. broad [11. thymifolia](#)
- 9 Glands on the involucre with broad petal-like appendages; stems, leaves and inflorescences very densely long spreading-pilose; stipules minute; leaves conspicuously serrulate, rounded at apex, 7–14 mm. long, 3–8 mm. broad [8. scordifolia](#)
Glands on the involucre without broad appendages; stems, leaves and inflorescences with curly pubescence; stipules well-developed; leaves subentire or minutely serrulate, 3–12 mm. long, 1.5–8 mm. broad [7. aegyptiaca](#)

- 10** Leaves suborbicular, 3–5 mm. long and broad, subcordate at base, emarginate at apex; stipules united into a white, glabrous, membranous scale; glabrous annual with prostrate branches; involucre solitary at the ends of the shoots [6. *serpens*](#)
- Leaves not suborbicular: **11**
- 11** Stems arising annually after fires from a woody rootstock, flowering when only a few centimetres high but eventually attaining up to 16 cm. long, sparingly puberulous; lower leaves more or less oblong, 3–9 mm. long, 2–5 mm. broad, upper leaves linear-lanceolate, 12–24 (–30) mm. long, 2.5–4 mm. broad, entire except at the very tip; involucre solitary, axillary, with peduncles elongating to 13 mm. long [13. *kerstingii*](#)
- Stems not as above: **12**
- 12** Leaves not or very obscurely nerved at the base, linear-lanceolate, cordate on one side at base, toothed towards apex, 3–21 mm. long, 1–4 mm. broad; involucre solitary, peduncles short; erect glabrous annual [10. *polycnemoides*](#)
- Leaves with distinct lateral nerves at the base; involucre in cymes: **13**
- 13** Perennial glabrous herb of seashore; stems dark purplish, prostrate, with short internodes (usually 1–2.5 cm. long); leaves glaucous, oblong-elliptic, cordate on one side at base, rounded and mucronate at apex, 5–20 mm. long, 3.5–10 mm. broad, entire; stipules deeply dentate; involucre several together [1. *glaucophylla*](#)
- Annual herbs; main stems erect, with internodes 2–5 cm. long, or if procumbent with shorter internodes then puberulous: **14**
- 14** Involucre few in lax slender dichotomously branched cymes accompanied by leafy bracts; stipules short, ciliate, broad in outline; stem and leaves often pubescent when young, glabrescent, leaves obliquely obovate-oblong or oblong, rounded on one side, acute on the other at base, rounded to subacute at apex, up to 2.8 (–4) cm. long, and 1.3 (–1.8) cm. broad, distinctly serrulate; capsules about 2 mm. broad [4. *hyssopifolia*](#)
- Involucre in several- to many-flowered rather close cymes: **15**
- 15** Stems erect, like the leaves quite glabrous; stipules ovate to lanceolate, about 1 mm. long; leaves obliquely lanceolate-elliptic, unequally rounded and obtuse at base, obtuse or subacute at apex, up to 3.5 cm. long and 1.2 cm. broad, serrulate; capsules about 1.3–1.4 mm. broad [3. *glomerifera*](#)
- Stems decumbent, like the undersurface of leaves rather densely pubescent; stipules ovate, scarcely 1 mm. long; leaves obliquely oblong-elliptic, unequally rounded and cuneate at base, obtuse or subacute at apex, up to 12 mm. long and 5 mm. broad, serrulate; capsules about 1.4 mm. broad [5. *sp. A*](#)
- 16** Involucre solitary, 6–9 mm. diam., with 5 broad flap-like glands transversely elliptic with crenulate margins; perennial herbs in savannah, sending up annual shoots to 30 cm. long from a woody stock; stem and leaves glabrous, subsucculent; leaves rounded or subacute at apex, usually mucronulate, lateral nerves inconspicuous beneath: **17**
- Involucre in terminal cymes or umbels; involucral glands mostly not as above, but see No. 16; habit of plant not as above: **18**
- 17** Peduncles 2–6 mm. long; leaves broadly linear to elongate-elliptic, narrowed to an obtuse subsessile base, 5–14 cm. long, 1–2 cm. broad [14. *ledermanniana*](#)
- Peduncles 8–26 mm. long; leaves obovate to obovate-oblongate, long-cuneate at base, 4–8 cm. long, 2.5–3.5 cm. broad [15. *kouandenensis*](#)
- 18** Involucre in lax several- to many-rayed umbels or cymes; each involucre normally with 4–5 glands: **19**
- Involucre in close terminal cymes; each involucre with only a single large fleshy substipitate gland; introduced annual weeds; leaves variable in shape and size, upper leaves sometimes panduriform; often with whitish or red blotches at the base of the upper leaves and bracts; stipules glandular [18. *heterophylla*](#)
- 19** Ovary not tuberculate: **20**
- Ovary densely and conspicuously tuberculate; leaves numerous, varying from linear-lanceolate to elliptic or subsessile, those of the whorl below the inflorescence usually shorter and broader than the stem leaves; bracts broadly ovate, about 1 cm. long and broad; capsule far-exserted, about 6 mm. broad [20. *depauperata*](#)
- 20** Leaves obovate or broadly oblanceolate; few; glands of the involucre not crescent-shaped or 2-horned: **21**
- Leaves lanceolate or narrowly oblanceolate, numerous; 4–10 cm. long, 1–2.5 cm. broad; leafy bracts ovate, up to 4 cm. long; glands of the involucre crescent-shaped or 2-horned; capsule 3–4 mm. broad [19. *schimperiana*](#)
- 21** Bracts subtending the involucre about 3 cm. long, rounded-ovate, subcoriaceous; glands of the involucre flap-like, denticulate on the margin; leaves subcoriaceous, apiculate, 7–15 cm. long, 3–5.5 cm. broad, with rather obscure lateral nerves; capsule 1.5 cm. broad [16. *macrophylla*](#)
- Bracts subtending the involucre about 1 cm. long, broadly obovate, mucronate at apex; glands of the involucre with 2–5 filiform forked processes; leaves slightly acuminate, 10–15 cm. long, 4–6 cm. broad, with several pairs of distinct lateral nerves [17. *cervicornu*](#)
- 22** Inflorescences and leaves and spines when present, arranged spirally, or inflorescences terminal; stems more or less terete; leaves present, often well-developed (except No. 23), crowded towards the ends of the branches, normally deciduous: **23**

- Inflorescences and spines, and leaves when present, arranged along 3–6 angles or wings of the branchlets which are not terete (note however that old branches may become more or less terete); spine-shields with a pair of well-developed or vestigial spines: **28**
- 23** Spines absent, or sometimes (No. 24) with solitary spines rudimentary or present only on young plants: **24**
- Spines present, well-developed: **26**
- 24** Flowering branchlets 0.25–0.6 cm. diam.; leaves linear up to 0.7 cm. broad, with a single main nerve: **25**
- Flowering branchlets 2.5–4 cm. diam. with leaves in 8–10 spiral ranks; leaves obovate-spathulate, long-cuneate at base, usually widely emarginate at apex, 5–14 cm. long, 3–7 cm. broad, pinnately nerved; involucre shortly pedunculate, usually paired, axillary, numerous at the ends of the shoots; fruits deeply 3-lobed, about 5–6 mm. diam., glabrous, each coccus subglobose; fruiting pedicels about 5–12 mm. long [24. *poissoni*](#)
- 25** Involucres unisexual, with stout peduncles up to 2 mm. long, solitary in upper leaf-axils; ovary and fruit pubescent; leaves numerous, usually deciduous, up to 10 cm. long and 7 mm. broad [22. *balsamifera*](#)
- Involucres bisexual, with slender peduncles 6–20 mm. long, arranged in terminal umbels; ovary and fruit glabrous; leaves rather sparse and early deciduous, up to 3 cm. long and 2.5 mm. broad [23. *lateriflora*](#)
- 26** Spines solitary, subulate from a very broad shield-like base, about 1 cm. long, glaucous grey; stems 1–2 cm. diam., with leaves (as far as can be judged from available material) in 4–5 spiral ranks; leaves oblong-spathulate, sometimes 2-lobed at apex, or mucronate, subentire or fringed, 5–11.5 cm. long, 1.5–5 cm. broad; involucre and fruits apparently as in No. 24 but more scattered [25. *unispina*](#)
- Spines paired: **27**
- 27** Flowering branchlets 2–5 cm. diam.; fruits subglobose or ovoid about 15 mm. long and 12 mm. broad, on rather short pedicels; seeds oblong, about 8 mm. long and 3 mm. broad; leaves triangular-obovate to spathulate, rounded or truncate at the apex and mucronate or emarginate, up to 7 cm. long and 6 cm. broad [26. *paganorum*](#)
- Flowering branchlets 1–1.5 cm. diam.; fruits deeply 3-lobed, about 3 mm. long and 5 mm. broad, on pedicels 5–7 mm. long; seeds subglobose about 1.5 mm. diam.; leaves spathulate to triangular-obovate, dentate to lacerate at apex, 2–5 cm. long, 1.5–2 cm. broad [27. *sudanica*](#)
- 28** Leaves present, deciduous, fleshy-coriaceous, spathulate-obcordate, up to 17 cm. long and 12 cm. broad; branchlets 3–5-angled, not or scarcely winged, not segmented; involucre solitary or paired, protogynous, on a common peduncle 2–4.5 cm. long; fruits trigonous, about 1 cm. long, with sides about 1.4 cm. wide; fruiting pedicels up to 1.3 cm. long, recurved [28. *desmondi*](#)
- Leaves absent, or very rudimentary and caducous; branchlets 3–4 (–6)-winged, segmented; involucre protandrous, on common peduncles up to only 1 cm. long, even in fruit: **29**
- 29** Calyx of female flower truncate; fruits sharply 3-angled, about 5 mm. long, with sides about 1 cm. wide, slightly concave, without subsidiary lobes; fruiting pedicels about 4 mm. long [29. *deightonii*](#)
- Calyx of female flower lacinate; fruits 3-angled, about 7 mm. long, with sides about 1.2 cm. wide each with fleshy subsidiary lobes while ripening; fruiting pedicels about 3 mm. long [30. *kamerunica*](#)

1. *Euphorbia glaucophylla* Poir. — F.T.A. 6, 2: 499.

APD: *Synonym of Euphorbia trinervia Schumach. & Thonn.*

Perennial herb with prostrate branches; woody stems dark purplish, leaves pale green; [just above high-water-mark on sandy seashores.](#)

Sen.: Perrottet! Sieber 18! **Gam.:** Bathurst Don! **Port. G.:** Paia Varela, Suzana (fl. & fr. Oct.) Esp. Santo 2288! **S. L.:** Lumley (fl. & fr. Aug.) Jordan 778! Yele, Turtle Isl. (fl. & fr. Nov.) Deighton 2323! Mahera (fl. & fr. Nov.) Deighton 5672! **Lib.:** Grand Bassa Dinklage 2094! T. Vogel 54! Cess R. (fl. & fr. Mar.) Baldwin 11298! **G. C.:** Hall Assinie (fl. & fr. July) Chipp 271! Teshi (fl. & fr. Nov.) Irvine 808! **S. Nig.:** Victoria Beach, Lagos (fl. & fr. Mar.) Dalz. 1357! Nun R. (fl. & fr. Aug.) T. Vogel 10!

Also along the coast from French Cameroons to [Angola](#).

2. *Euphorbia hirta* Linn. — F.T.A. 6, 1: 496; Schnell in Ic. Pl. Afr. t. 6. *APD acc*

Euphorbia pilulifera of Chev. Bot. 552.

An erect or decumbent herb, to 18 in. high, sometimes purple-tinged; [a common weed.](#)

Sen.: Dakar (fl. & fr. May) Baldwin 5706! **Fr. Sud.:** Oualia Chev. 30. **Fr. G.:** Kouroussa Chev. 389. **S. L.:** Freetown Welw. 288! Kenema (fl. & fr. Nov.) Deighton 404! Rokupr (fl. & fr. June) Jordan 271! Musaia (fl. & fr. Apr.) Deighton 5455! **Lib.:** Grand Bassa (fl. & fr. July) T. Vogel 38! Ganta Harley! Kakatown Whyte! **IV. C.:** Bingerville Chev. 16072. **G. C.:** Axim (Apr.) Chipp 421! Aburi (fl. & fr. Nov.) Brown 386! **Togo:** Lome Warnecke 39! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 535! **N. Nig.:** Sokoto (fl. & fr. Nov.) Moiser 29! Zaria (fl. & fr. Mar.) Hill 45! Katagum Dalz. 414! **S. Nig.:** Lagos

MacGregor 360! Okomu F.R. (fl. & fr. Feb.) Brenan 9147! **Br. Cam.:** Amba Bay (fl. & fr. Apr.) Hutch. & Metcalfe 135! **F. Po:** T. Vogel 2! Mann 237!

Widespread in tropical and subtropical countries.

3. *Euphorbia glomerifera* (Millsp.) Wheeler in Contrib. Gray Hb. 127: 78 (1939). *APD acc*

Chamaesyce glomerifera Millsp. (1913).

Euphorbia hypericifolia Linn. (1753), partly, and of various authors, including F.W.T.A., ed. 1, 1: 312, partly.

An erect, branched annual herb, to 18 in. high; **an introduced weed**.

Sen.: St. Louis (fl. & fr. May–June) Chev. 3495! **S. L.:** Hill Station (fl. & fr. May) Deighton 2688! **Lib.:** Monrovia (fl. & fr. June) Baldwin 5881! **G. C.:** Aburi Gardens (fl. & fr. June, Sept.) Deighton 3418! Irvine 2830!

A native of tropical America.

4. *Euphorbia hyssopifolia* Linn. Syst., ed. 10: 1048 (1759). *APD acc*

Euphorbia brasiliensis Lam. (1786) — Boissier in DC. Prod. 15, 2: 24.

Euphorbia hypericifolia of F.T.A. 6, 1: 498, partly, and of F.W.T.A., ed. 1, 1: 312, partly, not of Linn.

An erect, branched, rather graceful, annual herb, to 18 in. or more high; **an introduced weed**.

S. L.: Hill Station (fl. and fr. May) Deighton 5350! Musaia (fl. & fr. July) Deighton 4809! Mateboi, Sanda Tenraran (fl. & fr. Nov.) Jordan 823! **Lib.:** Cape Palmas (fl. & fr. July) Ansell! **G. C.:** Black Volta R. (fl. & fr. Dec.) Adams GC 4455! **S. Nig.:** Ogurude (fl. & fr. Jan.) Holland 267! **Br. Cam.:** Preuss 1236!

Also in **French Cameroons** and on the islands of **Principe** and **S. Tomé**; a native of tropical America.

5. *Euphorbia* sp. **A.** *APD acc*

Better material required; **perhaps an introduced weed**. A decumbent annual herb.

Euphorbia hypericifolia of F.W.T.A., ed. 1, 1: 312, partly.

G. C.: Accra (fl. & fr. May) Dalz. 140!

6. *Euphorbia serpens* H. B. & K. — F.T.A. 6, 1: 511. *APD acc*

A prostrate spreading annual, 2–7 in. long, glabrous.

S. L.: Freetown (June) T. Vogel 29!

A native of tropical America.

7. *Euphorbia aegyptiaca* Boiss. — F.T.A. 6, 1: 507, partly; Chev. Bot. 550.

APD: *Synonym of Euphorbia forsskalii* J. Gay

Euphorbia granulata of Chev. Bot. 551.

A prostrate herb, stems up to 1 ft. long; **on river banks and other sandy places**.

Sen.: Perrottet 744! R. Senegal, Galam Heudelot 226! Dagana Leprieur! **Fr. Sud.:** Timbuktu (fl. & fr. July, Aug.) Chev. 1283! Hagerup 170! **G. C.:** Red Volta R., Nangodi (fl. & fr. Dec.) Adams & Akpabla GC 4281! **N. Nig.:** Nupe Barter 316! 834! Katagum Dalz. 306! Kukawa (fl. & fr. Jan.) E. Vogel 2! Yola Dalz. 154!

Also in **Cape Verde Islands**, the drier parts of Africa, and in **Arabia**, **Syria** and **N. India**.

8. *Euphorbia scordifolia* Jacq. — F.T.A. 6, 1: 501; Chev. Bot. 552. *APD acc*

Euphorbia thymifolia of Chev. Bot. 552.

An erect or prostrate herb with rather woody stems and root; densely tomentose on all parts; **a weed**.

Sen.: Heudelot 474! Perrottet 177! Roger! Sieber 17! Sor Isl. Brunner 11a! **Fr. Sud.:** Timbuktu Hagerup 125! Chev. 1281; 1282. **IV. C.:** Lower Comoé Chev. 17584. **N. Nig.:** Lokoja (fl. & fr. Aug.) Elliott 195! Kukawa (fl. & fr. Jan.) E. Vogel 6! Bure, L. Chad (fl. & fr. Dec.) Elliott 109!

Also in **Cape Verde Islands** and **Mauritania**; extending to A.-E. **Sudan** and Red Sea.

9. *Euphorbia convolvuloides* *Hochst. ex Benth.* in Hook. Fl. Nigrit. 499 (1849); F.T.A. 6, 1: 495; Chev. Bot. 551. *APD acc*

A usually erect herb with branches drooping at the tips, to 2 ft. high, usually tinged pink; in savannah and waste places.

Sen.: Berhaut 1225. Upper Senegal R. Lecard 136. **Iv. C.:** Bobo Dioulasso Chev. 906. Sassandra and Bafing R. confluence Chev. 21780. **G. C.:** Damongo, N.T. (fl. & fr. July) Andoh FH 5194! Tamale (fl. & fr. Dec.) Adams GC 4150! **Togo:** Yendi (fl. & fr. Dec.) Adams GC 4062! **Dah.:** Atacora Mts. Chev. 24017. **N. Nig.:** Sokoto (fl. & fr. Aug.) Dalz. 393! 394! Nupe Barter 1489! Stirling Hill Ansell! Bauchi Plateau (fl. & fr. Aug.) Lely P. 655! **S. Nig.:** Lagos Dawodu 272! Olokemeji (fl. & fr. Sept.) Keay FHI 25388!

Extends to A.-E. **Sudan** and E. Africa.

10. *Euphorbia polycnemoides* *Hochst. ex Boiss.* — F.T.A. 6, 1: 506; Chev. Bot. 552. *APD acc*

An erect, slender, usually much-branched annual herb, to 18 in. high; stems often tinged crimson, leaves glaucous; in savannah and as a farm weed.

Sen.: Niokolo-Koba Berhaut 1393. **Fr. Sud.:** Koulikoro Chev. 3466. **G. C.:** Deloro to Tankara, N.T. (fl. & fr. Dec.) Adams GC 4326! **Fr. Nig.:** Gourma Chev. 24512. Zinder Hagerup 606! **N. Nig.:** Sokoto (fl. & fr. Aug.) Dalz. 395! Moiser 99! Liruwen-Kano Hills Carpenter! Anara F.R., Zaria (fl. & fr. July) Keay FHI 25971! Jos (fl. & fr. Aug.) Keay FHI 12710!

Extends to the Red Sea and into E. Africa.

11. *Euphorbia thymifolia* *Linn.* Sp. Pl. 1: 454 (1753); Chev. Bot. 552. *APD acc*

APD: *Synonym of Euphorbia scordifolia Jacq.*

Euphorbia burmanniana Gay (1847), partly; Berhaut Fl. Sen. 66.

(?) *E. afzelii* *N.E. Br.* in F.T.A. 6, 1: 506 (1911); F.W.T.A., ed. 1, 1: 312.

Euphorbia aegyptiaca of F.T.A. 6, 1: 501, 507, partly, and of F.W.T.A., ed. 1, 1: 312, partly.

Euphorbia scordifolia of F.T.A. 6, 1: 501, 507, partly, and of F.W.T.A., ed. 1, 1: 312, partly.

A prostrate herb; leaves often purplish; involucre glands red; an introduced weed.

Sen.: Leprieur! **S. L.:** Afzelius! Sc. Elliot 4636! Freetown (fl. & fr. May) Deighton 1190! Ninia, Talla Hills Sc. Elliot 4993! Rokupr (fl. & fr. June) Jordan 272! Kenema (fl. & fr. Nov., Jan.) Deighton 419! Thomas 7593! 7727! **Iv. C.:** Bettie to Mbasso, Lower Comoé (fl. & fr. Mar.) Chev. 17584! **G. C.:** Accra (fl. & fr. Mar.) Deighton 571! **N. Nig.:** Kano (fl. & fr. Dec.) Hagerup 649! **S. Nig.:** Olokemeji, Ogun R. (fl. & fr. Dec.) Meikle 925! Ijaiye F.R., Ogun R. (fl. & fr. Mar.) Keay FHI 21185! Sapoba Kennedy 2333! 2684! **Br. Cam.:** Rio del Rey Johnston!

Widespread in the warmer parts of the world.

12. *Euphorbia prostrata* *Ait.* — F.T.A. 6, 1: 510, 1036; Chev. Bot. 552. *APD acc*

A prostrate spreading herb; stems slender 2–8 in. long radiating from the tough root; a weed of footpaths, etc.

Sen.: Farmer 8! **Fr. G.:** Conakry Maclaud 15. **S. L.:** Don! T. Vogel! Freetown (fl. & fr. Feb.) Deighton 5312! Murray Town (fl. & fr. Aug.) Deighton 5756! **Lib.:** Cape Palmas Dinklage 67. **Iv. C.:** Malamalasso Chev. 17530. **G. C.:** Aburi (fl. & fr. Nov.) Johnson 238! Adafo Krause 96. **S. Nig.:** Lagos (fl. & fr. May, Nov.) Dalz. 1358! Meikle 500! Millen 23! Idanre (fl. & fr. Jan.) Brenan 8741! Ogwashi (fl. & fr. Dec.) Thomas 2062! Calabar (fl. & fr. May) Holland 123! **F. Po:** Mann 213!

A native of tropical America; widespread as a weed in the tropics.

13. *Euphorbia kerstingii* *Pax* — F.T.A. 6, 1: 500. *APD acc*

Euphorbia polycnemoides of F.W.T.A., ed. 1, 1: 312, partly (Dalz. 33).

A perennial, with short annual stems arising from the woody rootstock after grass fires in savannah.

G. C.: Kintampo (fl. & fr. Nov.) Dalz. 33! **Togo:** Trogoode, Königsdorf (Jan.) Kersting 35. Kete Krachi Zech 45. **S. Nig.:** between Iggetti and Kishi, Oyo Prov. (Feb.) Collier FHI 16272!

14. *Euphorbia ledermanniana* *Pax & K. Hoffm.* in Engl. Bot. Jahrb. 45: 241 (1910); F.T.A. 6, 1: 524. *APD acc*

Euphorbia calva *N.E. Br.* in F.T.A. 6, 1: 522 (1911); F.W.T.A., ed. 1, 1: 312.

Perennial herb in *savannah*, sending up rather fleshy shoots from a woody stock after grass fires.

N. Nig.: Mando, Birnin Gwari (fr. Aug.) Keay FHI 28001! Kyana, Nassarawa (fl. & fr. Mar.) Hepburn! Bauchi Plateau (Mar.) Lely P. 190! Katsina Ala (June) Dalz. 754!

Also in *French Cameroons*.

16. *Euphorbia kouandenensis* *Beille* in Bull. Soc. Bot. Fr. 61, Mém. 8: 296 (1917); Chev. Bot. 552. *APD acc*

Perennial *savannah* herb, like the preceding.

G. C.: Bahare, Gambaga (June) Akpabla 668! **Togo:** Yendi (fr. May) Akpabla 518! **Dah.:** Kouandé (June) Chev. 24248!

16. *Euphorbia macrophylla* *Pax* — F.T.A. 6, 1: 529. *APD acc*

Erect perennial, 11/2 ft. or more high, with a whorl of 3–5 leaves below the umbel of bracteate involucre; lower leaves alternate.

Sen.: Tambacounda Berhaut 1656; 2954; 3267. **G. C.:** Gambaga, N.T. (fr. Aug.) Norman!

Also in *A.-E. Sudan* and *Tanganyika*.

17. *Euphorbia cervicornu* *Baill.* — F.T.A. 6, 2: 528. *APD acc*

Erect, perennial, 2–3 ft. high, with rather soft half-woody branches, glabrous.

S. Nig.: Calabar R. (Feb.) Mann 2315!

Also in *Belgian Congo* and *S. Tomé*.

18. *Euphorbia heterophylla* *Linn.* Sp. Pl. 1: 453 (1753); Berhaut Fl. Sen. 196. *APD acc*

Euphorbia geniculata *Orteg.* (1797) — Milne-Redhead in Kew Bull. 1948: 457.

A rather lax erect annual weed, to 3 ft. high; locally abundant. In most specimens from our area the upper leaves and bracts are either entirely green, or with whitish blotches at the base, or tinged purplish on the petiole, nerves and margins; Deighton 4505 and Meikle 877 are specimens of the form with red or orange blotches which is sometimes cultivated.

Sen.: cult. fide Berhaut l.c. **S. L.:** Njala, cult. (fl. & fr. Oct.) Deighton 4505! **Lib.:** Monrovia (fl. & fr. May) Barker 1320!

G. C.: Amanase, Suhum (fl. & fr. Apr.) Hughes 80! **N. Nig.:** Jebba (fl. & fr. Dec.) Hagerup 715! Zaria (fl. & fr. Aug.) Keay FHI 28024! Kafanchan (fl. & fr. Apr.) Jones FHI 6425! **S. Nig.:** Ibadan (fl. & fr. Nov., Dec.) Meikle 655! 877! 878!

A native of tropical and subtropical America, now widespread in the tropics.

19. *Euphorbia schimperiana* *Scheele* in Linnaea 17: 344 (1843); F.T.A. 6, 1: 533. *APD acc*

Euphorbia ampla *Hook. f.* (1862) — F.T.A. 6, 1: 532; F.W.T.A., ed. 1, 1: 312.

Stems 2–4 ft. high, probably perennial; leaves alternate with a whorl of 4–10 below the umbel; in *montane vegetation*.

Br. Cam.: Cam. Mt., 5,000–9,000 ft. (fl. & fr. Nov.–Mar.) Mann 1265! 2006! Maitland 197! Mildbr. 10829! Manenguba Mt. Thornbecke. Bafut-Ngemba F.R., Bamenda, 5,500–7,000 ft. (fl. & fr. Jan.) Keay FHI 28348! Tiku FHI 22243! Banso Ledermann 2017.

Widespread in tropical Africa, from Abyssinia to S. Rhodesia, also in *Arabia*.

20. *Euphorbia depauperata* *Hochst. ex A. Rich.* — F.T.A. 6, 1: 537. *APD acc*

Rootstock perennial, woody; stems 2 to several, herbaceous, or, if not burnt by fires, enduring for 2 or more years and becoming woody and leafless below simple or branched, 4 to 36 in. high; in *montane grassland*.

S. L.: Bintumane Peak, 5,500 ft. (Jan.) Glanville 469! **Iv. C.:** Nimba Mt., 4,500 ft. Schnell 3535! **Br. Cam.:** Bamenda Prov.: Banso, 6,000 ft. Ledermann 2006. Lakom, 6,000 ft. (June) Maitland 1502! Bambili (fr. Aug.) Ujor FHI 29979!

Widespread in tropical Africa.

21. **Euphorbia бага** *A. Chev.* in Rev. Bot. Appliq. 13: 569, fig. 18 (1933). *APD acc*

A perennial herb with stout rootstock and short erect underground or partially exposed stems; inflorescences appearing when leafless; flowers red. The association of Lely P. 63 (a specimen with flowers but no leaves) with Chev. 935 (the type specimen which has leaves but no flowers) is only tentative; specimens showing both leaves and flowers from the same plant are needed to confirm this.

iv. C.: Banankolidoro to Bama, Bobo Dioulasso Chev. 935! **N. Nig.:** on flat-topped lateritic hills, Bauchi Plateau (Jan.) Lely P. 63!

22. **Euphorbia balsamifera** *Ait.* Hort. Kew., ed. 1, 2: 137 (1789); Chev. Bot. 550; Chev. in Rev. Bot. Appliq. 13: 545; Aubrév. Fl. For. Soud.-Guin. 177; Schnell in Ic. Pl. Afr. t. 28. *APD acc*

Euphorbia sepium *N.E. Br.* in F.T.A. 6, 1: 551, 1040 (1911).

Euphorbia rogeri *N.E. Br.* l.c. 551 (1911); F.W.T.A., ed. 1, 1: 313.

A low shrub with glabrous succulent branches; **commonly grown in hedges in dry regions**; leaves deciduous, or evergreen on plants growing in especially favourable situations.

Maur.: fide Chev. l.c. **Sen.:** Farmar 54! Sor Isl. Brunner 21. Lampsor and Maka (Dec.–Jan.) Roger! Cayor & Dakar Paroisse 43. **Fr. Sud.:** Danga Chev. 1315. Gao (Feb.) De Wailly 4673! **G. C.:** Yendi (fr. May) Akpabla 541! **Togo:** Kersting 739. **Dah.:** Dassa-Zoumé Chev. 23620! **Fr. Nig.:** fide Aubrév. l.c. **N. Nig.:** Sokoto Dalz. 528! Katsina to Daura Sampson 8! Katagum Dalz. 320!

Also in the **Canary Islands** and **Rio de Oro**; apparently not known east of L. Chad.

[The record from Lagos in the first edition is based on a sterile leafless specimen which may well be *E. lateriflora*.]

23. **Euphorbia lateriflora** *Schum. & Thonn.* — F.T.A. 6, 1: 552; Chev. in Rev. Bot. Appliq. 13: 546; Aubrév. l.c.; Monod in Mém. I.F.A.N. 18: 19. *APD acc*

A low shrub with smooth-glaucous more or less erect branches; flowers yellow; **commonly grown in hedges**; leaves usually deciduous.

S. L.: Newton Deighton 1958! **G. C.:** Chama (Apr.) Chipp 188! Achimota Irvine 1010! **N. Nig.:** Sokoto Dalz. 392! Katsina (Feb.) Meikle! Kano (Mar., Oct.) Bally! Keay FHI 21139! Katagum Dalz. 327! Jos (Mar.) Hill 21! Pedong, Jos (fl. & fr. Dec.) Monad 9705! **S. Nig.:** Epe Barter 3309! Ibadan fide Keay. **Br. Cam.:** Gwoza, Dikwa Div. (fr. Dec.) McClintock 58!

[The record from Kratschi, Togoland, given in the first edition seems to be based on a mistranslation of the Danish phrase “I Krati” which means “In thickets”; Thonning does not cite an exact locality. This species is close to the common and variable S. African species known as *E. mauritanica* Linn.; comparison of living specimens would be desirable in determining the taxonomic status of the W. African plant; *E. nubica* N.E. Br. of north-eastern Africa is also close.]

24. **Euphorbia poissoni** *Pax* — F.T.A. 6, 1: 560; Chev. Bot. 552; Chev. in Rev. Bot. Appliq. 13: 549; Aubrév. l.c. 177. *APD acc*

An erect shrub to 6 ft. high, with candelabriform branching; branches silvery-grey, stout; leaves pale green, deciduous; flowers pale greenish with red stamens; **on rocky hills in savannah and planted; sometimes with rudimentary spines, or with spines present only on young plants.**

Fr. G.: Pobéguin. **iv. C.:** Mossi fide Chev. l.c. **G. C.:** Anderson! Tamale Bally 5192! **Togo:** various localities Kersting 88; 91; 414; 574. **Dah.:** Poisson. Bassila, Savalou Chev. 23792. **Fr. Nig.:** Gourma fide Chev. l.c. **N. Nig.:** 44 miles from Katsina on Daura road (Apr.) Meikle 1370! Gwari Hill, Minna Meikle! Mile 36 on Ilorin-Jebba road (fl. & fr. Dec.) Meikle 682! Lokoja (fl. & fr. Dec.) Dalz. 917! Near Jos Batten-Poole FHI 12894! Kasaje to Lom Barter 1491!

[The forms with rudimentary spines may be distinguished from *E. unispina* by the stouter flowering branchlets which have the leaves in 8–10 spiral ranks instead of about 5, by the smaller spines, and by the more numerous inflorescences densely clustered at the ends of the shoots.]

25. **Euphorbia unispina** *N.E. Br.* in F.T.A. 6, 1: 561 (1911); Chev. in Rev. Bot. Appliq. 13: 550; Aubrév. l.c. 178. *E. “venenifica”* of Chev. l.c. 549, partly; of Aubrév. l.c. 178, partly. *APD acc*

An erect shrub to 10 ft. high with candelabriform branching; **on rocky hills in savannah.**

Fr. Sud.: Sikasso to Bobo Dioulasso (June) Chev. **Iv. C.:** Soucourala to Sanrou Chev. 21583! **G. C.:** Navrongo (fr. Oct.) Vigne FH 4616! **Togo:** Loso Kersting 569. Difale (fr. Dec.–Feb.) Kersting A. 573! **N. Nig.:** Katagum Dalz. 329! **Br. Cam.:** Gwoza, Dikwa Div. (Jan.) McClintock 142!

[Certain forms of *E. poissoni* may be confused with this species; see note under *E. poissoni*.]

26. **Euphorbia paganorum** A. Chev. in Rev. Bot. Appliq. 13: 556, fig. 16 (1933); op. cit. 28: 351, t. 8; Aubrév. l.c. 178. *APD acc*

A low fleshy shrub, with pale green stems and brown spines.

Fr. Sud.: Souloula, Bougouni (Mar.) Chev. 672! Sindou rocks, Sikasso (fr. Jan.) Chev. **N. Nig.:** Zaria (fl. buds Feb.) Milne-Redhead 5039! Ibeto, Kontagora (fl. buds Jan.) Meikle 1049!

27. **Euphorbia sudanica** A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 4: 589, fig. 2 (1932); Rev. Bot. Appliq. 13: 554, t. 9 & fig. 15; Aubrév. l.c. 178; Berhaut Fl. Sen. 3,122. *APD acc*

APD: *Synonym of Euphorbia paganorum* A. Chev.

Euphorbia trapaefolia A. Chev. l.c. 556, t. 10 (1933); Aubrév. l.c.

Euphorbia tellieri A. Chev. l.c. 555 (1933); Aubrév. l.c. 178.

A fleshy shrub, to 6 ft. high; on rocky hills in dry savannah.

Sen.: Berhaut 258; 4270. Bakel Trochain 1097. **Fr. Sud.:** Koulikoro (fl. & fr. Mar.) Chev. 26023! 44039! Koulouba Chev. 45093! Gao to Ansongo Chev. 43180 bis! **Fr. Nig.:** Kodjar rocks, Gourma Chev. 24417! Niamey (cult. in Paris, fls. June) Tellier!

28. **Euphorbia desmondi** Keay & Milne-Redhead in Kew Bull. 1955: 139. *APD acc*

A shrub or tree, with erect rather stiff branching and large deciduous leaves; inflorescences reddish; involucrel-glands dull crimson; ovary pale green with bright red stigmas.

N. Nig.: about 33 miles from Katsina on Kano road (fl. & fr. Dec.) Meikle 813! Jos Batten-Poole FHI 12893! Barges, Plateau Prov. (fl. & fr. Dec.) Monod! Pedong, Plateau Prov. (Dec.) Monod 9709! **Br. Cam.:** Gwoza, Dikwa Div. (fr. Dec.) McClintock 68!

29. **Euphorbia deightonii** Croizat in Kew Bull. 1938: 58. *APD acc*

A shrub forming large clumps, apparently without a distinct trunk; bracts tinged reddish, involucrel-glands green; fruits dull red; often planted.

S. L.: Njala (Nov., Jan.) Deighton 2609! 3109! 3985! **G. C.:** Achimota (fl. & fr. July) Milne-Redhead 5118! **S. Nig.:** Ikare (fl. & fr. Oct.) G. Burton!

30. **Euphorbia kamerunica** Pax — F.T.A. 6, 1: 586; Chev. in Rev. Bot. Appliq. 13: 565; Croizat in Kew Bull. 1938: 53–56; Aubrév. l.c. 177. *APD acc*

Euphorbia barteri N.E. Br. in F.T.A. 6, 1: 597 (1912); Croizat l.c.

Euphorbia kamerunica var. **barteri** (N.E. Br.) A. Chev. in op. cit. 28: 348 (1948), as to name.

Euphorbia garuana N.E. Br. (1912).

A shrub or tree with candelabriform branching, to 25 ft. high or more, normally with a distinct trunk; often planted in towns and villages.

N. Nig.: Ketsa Rock, Jebba (shrivelled fls. & frts. Mar.) Barter 1012! Meikle 1314! **Br. Cam.:** Barombi (Sept.) Preuss 511! Mamfe (fr. Jan.) Keay FHI 28323!

Also in French Cameroons.

- Euphorbia pulcherrima** Willd. ex Klotzsch

An introduced species, it is cultivated.

- Euphorbia milii** Des Moul.

Euphorbia splendens Boj. ex Hook.

An introduced species, it is cultivated.

- Euphorbia tirucalli** Linn.

An introduced species, it is cultivated.

1. **Euphorbia purpurascens** *Schum. & Thonn.* Beskr. Guin. Pl. 252 (1827); Boissier in DC. Prod. 15, 2: 22, cites this as *E. indica* Lam. (1786); this is probably correct, but the Thonning specimen, which I have seen, is too poor for certainty. No comparable material has been collected in our area since Thonning's specimen (1799–1802).

APD: *Synonym of Euphorbia indica* Lam.

G. C.: Thonning!

Imperfectly known species.

2. **Euphorbia** sp. *APD acc*

Near to *E. ledermanniana* and *E. kouandenensis* but probably new; further material desired.

Fr. G.: Kandika (Apr.) Roberty 17578!

Imperfectly known species.

65. ELAEOPHORBIA

Stapf — F.T.A. 6, 1: 604; Croizat in Bull. Jard. Bot. Brux. 15: 109 (1938).

- 1 Peduncles forked, with a sessile involucre in the fork, sometimes with the lateral branches forked again; common peduncles 2.5–4.5 cm. long, axillary, in threes, lateral branches of inflorescence 1–2 cm. long; fruits ellipsoid, with a very short stipe, usually about 2–3 cm. long and 1.5–1.8 cm. broad; involucre with 5 transversely oblong, denticulate lobes and 5 fleshy similar-shaped glands; male flowers numerous; female solitary, subsessile; branchlets fleshy, armed with pairs of broad-based prickles about 5 mm. long; leaves oblanceolate to obovate, sometimes widely emarginate at apex, up to 25 cm. long and 9 cm. broad, fleshy, entire *1. drupifera*

Peduncles not forked, each with a solitary involucre, axillary, in threes, up to 5.8 cm. long in fruit; fruits ellipsoid or obovoid-ellipsoid, 3.5–4 cm. long, 2.8–3.5 cm. diam., with a stipe 4–7 mm. (or rarely 12–20 mm.) long; leaves up to 30 cm. long and 7.5 cm. broad; otherwise similar to above *2. grandifolia*

1. **Elaeophorbia drupifera** (*Thonn.*) *Stapf* in Hook. Ic. Pl. t. 2823 (1906); F.T.A. 6, 1: 604, partly; Croizat in Bull. Jard. Bot. Brux. 15: 113. *APD acc*

Euphorbia drupifera *Thonn.* (1827) — Chev. in Rev. Bot. Appliq. 13: 560, partly.

Elaeophorbia neriifolia of Chev. in op. cit. 28: 348, partly, not of (Linn.) Chev.

A tree with woody stem and fleshy branches containing abundant, very caustic, white latex; branched low down in *open situations* but with a long clear bole in *forest*; 10–50 ft. or more high; ripe fruits yellow.

G. C.: Eady! Accra Plains (fl. & fr. Feb.) Johnson 605! 1053! Achimota (fr. Mar.) Milne-Redhead 5051! Newtown (fr. July) Chipp 279! Aburi Gardens (July) Deighton 3446! **Togo:** N. of Yendi fide Morton. **Dah.:** Poisson. **S. Nig.:** Gambari, Ibadan (Oct.) W. D. MacGregor 548! Ezi (Feb.) Thomas 2345! Ikare (fl. & young fr. Oct.) G. Burton!

2. **Elaeophorbia grandifolia** (*Haw.*) *Croizat* l.c. 109 (1938). *APD acc*

Euphorbia grandifolia *Haw.* (1812).

Euphorbia leonensis *N.E. Br.* in F.T.A. 6, 1: 563 (1911); F.W.T.A., ed. 1, 1: 313.

Elaeophorbia drupifera of F.T.A. 6, 1: 604, partly; of Aubrév. Fl. For. C. Iv. 2: 20, t. 126; and of various other authors in part, not of (Thonn.) *Stapf*.

Euphorbia drupifera of Chev. in Bev. Bot. Appliq. 13: 560, partly.

Elaeophorbia neriifolia of Chev. in op. cit. 28: 348, partly.

A tree, to 40 ft. high, with woody stem and fleshy branches containing abundant very caustic latex; *mainly in forest*, more branched when in open conditions; ripe fruits yellow.

Fr. G.: Fouta Djallon (fl. & young fr. Apr.) Chev. 12882! 12905! 13443! **S. L.:** Regent (Dec.) Sc. Elliot 4112! MacDonald Town (cult. Njala, fl. June, July, fr. July) Deighton 5110a! 5110b! Bambuibu Deighton 5047! Pandobu, Luawa (cult. Njala, fl. July, Sept., Dec., fr. Dec.) Deighton 5111! 5136! 5721! Silema, Dodo (fl. & fr. Apr.) Deighton 3954! Kangahun, near

Jama, Kowa (fr. Feb.) Deighton 5048! **Iv. C.:** Guiglo Aubrév. 2048! Agnéby Aubrév. 2118! **G. C.:** Akropong, W.P. (May) Vigne 191! Kibbi Morton.

Also in **Ubangi-Shari**.

ROSACEAE

Trees, shrubs or herbs. Leaves various, simple or compound, alternate or rarely opposite; stipules mostly present and paired, sometimes adnate to the petiole. Flowers actinomorphic or subzygomorphic, usually hermaphrodite. Calyx free or adnate to the ovary; lobes imbricate. Petals present, rarely absent, imbricate. Stamens usually numerous; filaments free or connate; anthers small, 2-celled. Carpels 1 or more, free or connate, superior or inferior; styles free or rarely connate. Ovules 2 or more in each carpel, superposed. Fruit superior or inferior, drupaceous, pomaceous, follicular or achenial. Seeds without endosperm.

A cosmopolitan family rather poorly represented in the tropics.

Distinguished from Ranunculaceae by the perigynous type of flower and absence of endosperm. The tribe Chrysobalanaceae closely connects with the Caesalpiniaceae.

- 1 Herbs with prostrate, not prickly, stems; carpels more than 1:2
 Scrambling shrubs with prickly stems and compound leaves; ovary apocarpous, carpels numerous on a subglobose torus[3. Rubus](#)
 Trees or shrubs; carpels usually solitary:3
- 2 Leaves digitately lobed; calyx without setiform bracts; petals 0; stamens usually 4; carpels 5, free, not all fertile[1. Alchemilla](#)
 Leaves pinnately lobulate; calyx-tube surrounded with setiform bracteoles; petals 5, small; stamens about 10; carpels 5–10, more or less consolidated with the calyx-tube[2. Neurada](#)
- 3 Style or stigma terminal; flowers in simple racemes[4. Pygeum](#)
 Style basal or gynobasic:4
- 4 Flowers actinomorphic; ovary at the base and in the centre of the receptacle (calyx-tube); stamens inserted all round the receptacle:5
 Flowers zygomorphic; ovary inserted laterally near the mouth of the receptacle (calyx-tube):6
- 5 Petals present; flowers hermaphrodite, in short cymes[5. Chrysobalanus](#)
 Petals absent; flowers polygamous, in panicles[6. Afrolicania](#)
- 6 Carpels 2-celled[7. Parinari](#)
 Carpels 1-celled:7
- 7 Stamens free or united only at the base[8. Hirtella](#)
 Stamens united into a long unilateral strap-shaped bundle[9. Acioa](#)

Eriobotrya japonica (Thunb.) Lindl.

A native of China and Japan, it is sometimes cultivated in our area.

Prunus persica (Linn.) Batsch

A native of China and Japan, it is sometimes cultivated in our area.

1. ALCHEMILLA

Linn. — **F.T.A. 2: 377. APD acc**

- 1 Leaves usually with 5 short lobes rounded and dentate at apex, the sinuses not reaching half the radius of the leaf; petioles of radical leaves 2.5–7.5 cm. long; petioles of cauline leaves 1–3 cm. long; inflorescences up to 15 cm. long, but normal inflorescences often absent; subsessile flowers hidden under the stipules of the stolons very frequent[1. cryptantha](#)
 Leaves usually with 7 elliptic-lanceolate lobes, the sinuses reaching more than half the radius of the leaf, margin dentate almost to the base of the lobes; petioles of radical leaves 4–18 cm. long; petioles of cauline leaves 3–5 cm. long; inflorescences in axillary many-flowered cymes 10–15 cm. long, or in a panicle up to 35 cm. long; subsessile flowers under the stipules absent or very rare[2. kiwuensis](#)

1. *Alchemilla cryptantha* Steud. ex A Rich. — F.T.A. 2: 377; Hauman in Fl. Congo Beige 3: 7 (1952).
APD acc

Alchemilla tenuicaulis Hook. f. — F.T.A. 2: 378; F.W.T.A., ed. 1, 1: 314.

Low creeping herb; flowers greenish-yellow.

Br. Cam.: Cam. Mt., 5,000–12,000 ft. (Dec.–Mar.) Mann 1984! Maitland 485! 842! 1294! Brenan 9391a! Bamenda, 6,000 ft. (Jan.) Migeod 448! Belo, Bamenda (Apr.) Maitland 1760! L. Oku, Bamenda, 7,700 ft. (Jan.) Keay FHI 28467! **F. Po:** 7,500 ft. Mann 1447! Moka (Jan.) Guinea 1967!

Widespread on the mountains of eastern and central Africa from Abyssinia to Transvaal, of S. Tomé and of Madagascar.

2. *Alchemilla kiwuensis* Engl. Bot. Jahrb. 46: 129 (1911); Hauman l.c. 6, t. 1. *APD acc*

Herb with trailing stems; flowers pale green.

Br. Cam.: below Liwonge, Cam. Mt., 6,600 ft. (Mar.) Brenan 9549!

Also on the mountains of **Belgian Congo**, **Uganda**, **Kenya**, **Tanganyika** and S. Rhodesia.

2. NEURADA

Linn. — F.T.A. 2: 381.

- 1 A woody tomentose annual with short spreading prostrate branches, the fruit persisting around the base of the stem; leaves pinnately lobulate or deeply toothed, rather long-petiolate, about 1·5 cm. long, densely white-woolly-tomentose; flowers axillary, solitary, roundish, surrounded with setiform bracteoles; fruit woody, orbicular, about 1·5 cm. diam., spinose *procumbens*

Neurada procumbens Linn. — F.T.A. 2: 382; Chev. Bot. 253. *APD acc*

Fr. Sud.: Timbuktu (June–Aug.) Hagerup 126! 240! Chev. 1343!

Common in desert regions from Mauritania, across N. Africa to India.

3. RUBUS

Linn. — F.T.A. 2: 374; Gustafsson in Arkiv. för Bot. 26A, 7: 1–68 (1934); Bull. Jard. Bot. Brux. 13: 267–276 (1935); Kew Bull. 1938: 177–187.

Most of the West African Rubi bear their inflorescences on leafy branches arising from axils of the leaves of a primary or main stem (turion). This main stem appears to be usually suberect or scandent. In order that this difficult genus may be better understood and to facilitate accurate determination, collectors should be careful not only to preserve an inflorescence but also a piece of the main stem bearing at least one leaf. Care should be taken to ensure that the main stem and inflorescence belong to the same plant. Notes on the fruits are much desired (e.g. colour and whether separating from receptacle as in the raspberry or adhering to it as in the blackberry).

- 1 Carpels at least 100, forming an elongate-ovoid fruit 1·5–2 cm. long; flowers solitary or few together; petals suborbicular, about 1 cm. long, showy; branchlets laxly villous, prickles few, recurved; leaves pinnate, those of main stems usually with 5–7 (rarely 9–11) leaflets, those of branches usually with 5 leaflets (uppermost with 3, or simple); leaflets ovate- or oblong-lanceolate, rounded at base, coarsely biserrate, hairy and green beneath *1. rosifolius*
- Carpels much fewer; panicles many-flowered, prickly; petals small, often caducous, or absent: **2**
- 2 Lower surface of leaves obscured by a dense pilose-tomentum or by a dense tomentellous felt, the leaves consequently white beneath: **3**
- Lower surface of leaves clearly visible between the hairs, the leaves consequently green beneath; branchlets shortly tomentose, with recurved prickles; leaves pinnate, mostly with 5–7 (rarely 9) leaflets; leaflets narrowly ovate, rounded at base, biserrate, pilose mainly on the nerves beneath, usually glabrous (rarely pilose) above; carpels pubescent *5. pinnatus* var. *afrotropicus*
- 3 Lower surface of leaves densely pilose-tomentose; leaves mostly trifoliate; leaflets ovate-rotundate, cordate at base, coarsely biserrate, pilose above; branchlets pilose, prickles recurved; panicles stout with prickles extending on to base of sepals; carpels glabrous *2. apetalus*

Lower surface of leaves densely and closely white-tomentellous with longer pilose hairs as well; leaves mostly pinnate, 5-foliolate, upper leaves sometimes trifoliolate:4

- 4 Branchlets, leaf-rachides and inflorescence densely villous; upper surface of leaflets pilose; leaflets ovate-elliptic, rounded or subcordate at base, coarsely biserrate; upper pair of lateral leaflets very shortly petiolulate; branchlets with numerous large recurved prickles; prickles extending on to base of sepals; carpels glabrous .3. [*exsuccus*](#)

Branchlets, leaf-rachides and inflorescence tomentellous and shortly pilose; upper surface of leaflets almost glabrous except for the nerves; leaflets ovate-elliptic, obtuse or rounded at base, coarsely biserrate; upper pair of leaflets distinctly petiolulate; branchlets with recurved prickles; carpels pubescent4. [*fellatae*](#)

1. **Rubus rosifolius** Sm. Pl. Ic. Hact. Ined. 3, t. 60 (1791); Gustafsson in Arkiv. för Bot. 26A, 7: 11. *APD acc*

Flowers white; fruit red, edible but rather insipid. Cultivated and often naturalized in certain localities within our area.

Br. Cam.: Buea Dundas FHI 15232! Bamenda (fl. & fr. Dec.) Egbuta FHI 3764! **F. Po:** Moka (fl. & fr. Dec.) Boughey 112!

A native of Asia (? also of Mascarene Isls. and the Cape).

2. **Rubus apetalus** Poir. var. (?) — F.T.A. 2: 374. *APD acc*

Petals usually absent; fruit edible.

N. Nig.: Bauchi Plateau Lely 731!

[This specimen cited and illustrated in F.W.T.A., ed. 1 as *R. apetalus* Poir. is not identical with the other specimens of the species at Kew, but may well be a variety of this widespread species. — R.W.J.K.]

3. **Rubus excsuccus** Steud. ex A. Rich. Tent. Fl. Abyss. 1: 256 (1848); Gustafsson l.c. 36.

APD: *Synonym of Rubus apetalus Poir. var. apetalus*

Low scrambling bramble; sepals green; petals caducous; stamens crimson; fruit black when ripe.

Br. Cam.: Bambui, Bamenda (Jan.) Keay FHI 28338!

Also in [Uganda](#), [Kenya](#), [Abyssinia](#), [Nyasaland](#) and [S. Rhodesia](#).

4. **Rubus fellatae** A. Chev. in Bull. Soc. Bot. Fr. 54, Mém. 8: 18 (1907); Chev. Bot. 253. *APD acc*

Rubus interjungens of Gustafsson in Bull. Jard. Bot. Brux. 13: 269, partly.

Fruits red when ripe, edible.

Fr. G.: Ditinn to Diaguissa (fr. Apr.) Chev. 12905! Macenta (fl. & fr. Oct.) Baldwin 9850! **S. L.:** Bintumane, 5,400 ft. (fl. & fr. Jan.) Nichols 1! **Lib.:** Mt. Wolagwisi, Pandamai, 4,500 ft. (fl. & fr. Mar.) Beguaert 115! Nekabozu, Vonjama (fl. & fr. Oct.) Baldwin 9965! **Iv. C.:** Mt. Dou, 4,000 ft. (May) Chev. 21481!

[This species is not mentioned in the papers by Gustafsson cited above, but a specimen (Chev. 12908) from French Guinea is cited as *R. interjungens* Gust. (1934). The two species may prove to be identical. — R.W.J.K.]

5. **Rubus pinnatus** Willd. — F.T.A. 2: 374; Gustafsson in Arkiv. för Bot. 26A, 7: 45. *APD acc*

Rubus pinnatus var. afrotropicus (Engl.) C. E. Gust. l.c. 46 (1934).

APD: *Synonym of Rubus pinnatus Willd.*

Rubus pinnatus subsp. afrotropicus Engl. Pflanzenw. Afr. 3, 1: 292 (1915).

Scandent shrub, to 15 ft. high; sepals grey-green; petals small, mauve-pink; stamens deep red-mauve; fruits red when ripe, edible.

Fr. G.: Cabara, near Liberian border Baldwin 9855! **Lib.:** Vonjama (fr. Oct.) Baldwin 9952! **Br. Cam.:** Cam. Mt., 4,000–9,000 ft. (fl. & fr. Nov.–Apr.) Mann 1221! 2026! Brenan 9578! Bali, Bamenda (May) Ujor FHI 30393! **F. Po:** 7,000 ft. Mann 295! Mioka (Dec.) Boughey 155!

Widespread on the mountains of tropical Africa, also on S. Tomé and Annobon; the species also occurs in S. Africa, Ascension and St. Helena.

4. PYGEUM

APD: Synonym of Prunus L.

Gaertn. — F.T.A. 2: 373.

- 1 Tree to 25 m. or more, with dark longitudinally fissured bark; leaves elliptic or oblong, shortly acuminate, 8–13 cm. long, 3–5 cm. broad, crenate, glabrous, thinly coriaceous; lateral nerves 7–8 pairs; petiole 1–2 cm. long; flowers small in simple racemes shorter than the leaves arising from the lower part of the branchlets; pedicels spreading, up to 5 mm. long; petals woolly on the margin; fruit dry, depressed-globose, 1–1.5 cm. diam., glabrous, with a short style [africanum](#)

Pygeum africanum *Hook. f.* — F.T.A. 2: 373.

APD: Synonym of Prunus africana (Hook. f.) Kalkman

Flowers white; petioles red.

Br. Cam.: Cam. Mt., 7,000–7,500 ft. (Dec., Jan.) Mann 1207! 2165! L. Bambulue, Bamenda, 7,000 ft. (Jan.) Keay FHI 28377! **F. Po:** Mildbr. 7151.

Widely distributed in the mountainous parts of tropical Africa, extending south to [Angola](#) and Transkei (Cape Prov.).

5. CHRYSOBALANUS

Linn. — F.T.A. 2: 365.

- 1 Leaves orbicular to obovate-orbicular, usually widely emarginate at the apex, never acuminate, rounded or slightly cuneate at base, 5–9 cm. long, 3.5–6 cm. broad, thick and leathery, glabrous, reticulate on both surfaces; petiole about 3 mm. long; flowers very few in axillary cymes, appressed-tomentose; bracts ovate; petals obovate, glabrous; filaments pilose; fruit indehiscent, obovoid, glabrous, about 2.5 cm. long [1. orbicularis](#)

Leaves more or less acuminate, obovate to oblong, conspicuously narrowed to the base: [2](#)

- 2 Leaves broadly obovate, shortly and obtusely acuminate, 5–10 cm. long, 3–5 cm. broad, closely reticulate and often shining, glabrous; flowers more numerous and smaller than above, often becoming galled; fruit obovoid, dehiscent from the base, ribbed, crustaceous [2. ellipticus](#)

Leaves oblong or oblong-elliptic, conspicuously acuminate, cuneate at the base, 7–12 cm. long, 3.5–5 cm. broad, obscurely reticulate, glabrous; flowers few and small, similar to those of *C. ellipticus*; fruit obovoid, more or less 5-ribbed, pubescent when young [3. atacorensis](#)

1. **Chrysobalanus orbicularis** *Schum.* *Beskr. Guin. Pl.* 232 (1827); *Aubrév. Fl. For. C. Iv.* 1: 137, t. 48 B; *Hauman in Bull. Jard. Bot. Brux.* 21: 172 (1951); *Fl. Congo Beige* 3: 34.

APD: Synonym of Chrysobalanus icaco L. subsp. icaco

Chrysobalanus icaco of F.T.A. 2: 365; not of Linn.; *Chev. Bot.* 250.

A shrub or small tree of the coastal areas; flowers white or pinkish; fruit plum-like, deep red-purple; [always near the sea.](#)

Sen.: Sieber 31! **Gam.:** Dawe 77! Sukuto (Jan.) Dalz. 8042! **Port. G.:** Esp. Santo 707! **Fr. G.:** Los Isl. (May) Pobéguin 1211! **S. L.:** Lumley Beach (Aug.) Deighton 18! Yele, Turtle Isl. (Nov.) Deighton 2330! **Lib.:** Cape Palmas (July) T. Vogel 34! Grand Bassa (July) T. Vogel 8! Monrovia Whyte! Sinkor (Sept.) Barker 1066! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Axim (Feb.) Irvine 2308! **Togo:** Lome Warnecke 382! **Dah.:** Cotonou (Mar.) Debeaux 350! **S. Nig.:** Badagri (Nov.) A. F. Ross 168! Lagos (Oct.) Dalz. 981!

Extends along the coast to [Angola](#).

2. *Chrysobalanus ellipticus* Soland. ex Sabine — F.T.A. 2: 366; Hauman in Fl. Congo Beige 3: 35; Aubrév. l.c. 1: 138, t. 48 A.

APD: *Synonym of Chrysobalanus icaco* L. subsp. *icaco*

A shrub or tree up to 30 ft. high, in habit like the preceding; usually in coastal areas.

Port. G.: Empacaca, Canchungo (Apr.) Esp. Santo 1947! **Fr. G.:** Heudelot 897! **S. L.:** Don! Mahela (Dec.) Sc. Elliot 4181! Kumrabai (Dec.) Thomas 6919! Goderich (Apr.) Deighton 4750! Yele, Turtle Isl. (Nov.) Deighton 2331! **Lib.:** Grand Bassa Ansell! Dukwia R. (Feb.) Cooper 191! Duport (Nov.) Linder 1478! Monrovia (Dec.) Baldwin 10500! **Iv. C.:** Dabou Aubrév. 899! **G. C.:** Ancobra R. (July) Chipp FHI Beyin (July) Chipp 309! **S. Nig.:** Epe (May) Thompson 2! Olokemeji Foster 296! Nun R. (Sept.) Barter 2100! Mann 498! **Br. Cam.:** Preuss 1267! 1284! Victoria (Jan.) Kalbreyer 30! **F. Po:** San Carlos (Jan.) Guinea 800!

Extends along the coast to **Belgian Congo** and (?) **Angola**.

3. *Chrysobalanus atacorensis* A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 169 (1912); Aubrév. Fl. For. Soud.-Guin. 199, t. 38, 1; Hauman l.c. 36.

APD: *Synonym of Chrysobalanus icaco* subsp. *atacorensis* (A. Chev.) F. White

A shrub or tree, up to 40 ft. high, branching low down; in galley forests and fresh-water swamp forest.

Dah.: Atacora Mts. (June) Chev. 24175! **S. Nig.:** Jamieson R., Sapoba (Nov.–Jan.) Kennedy 1729! Brenan 8935!

Also in **Ubangi-Shari** and **Belgian Congo**.

For the purposes of this edition I have followed Hauman's treatment in Fl. Congo Beige 3: 34 (1952). Further investigation, especially in the field, is, however, needed to determine just how far the above species are really distinct and whether or not they should be regarded as subspecies or varieties of the American *C. icaco* Linn.

6. AFROLICANIA

Mildbr. in Notizbl. Bot. Gart. Berl. 7: 483 (1921). *APD acc*

- 1 A medium-sized tree; branchlets soon glabrous and purplish; leaves elliptic, cuneate at base, acutely acuminate, 7–14 cm. long, 3–6 cm. broad, glabrous, laxly reticulate; petiole 5 mm. long; stipules subulate, persistent, 5–7 mm. long; inflorescence a slender terminal panicle; flowers very small, in small cymes on the main branches, softly tomentose; stamens about 20; fruit ovoid, 3–4 cm. long, warty[elaeosperma](#)

Afrolicania elaeosperma Mildbr. in Notizbl. Bot. Gart. Berl. 7: 483 (1921); Aubrév. Fl. For. C. Iv. 1: 138, t. 49, 1–5.

APD: *Synonym of Licania elaeosperma* (Mildbr.) Prance & F. White

Homalium zenkeri Gilg ex Mildbr. l.c. 484, name only.

Parinarium glabrum of F.W.T.A., ed. 1, 1: 317, partly.

A tree with drooping branches and foliage, and greenish-white flowers; young leaves densely white-tomentellous, older leaves glabrous.

S. L.: Yoni and Walai, Bonthe Isl. (fr. Mar., June) Deighton 1971! 2465a–f! Njala (Nov.) Deighton 1508! **Lib.:** Grand Bassa (fl. Aug., fr. Feb.) Dinklage 1969! 2761! **Iv. C.:** (fl. Nov., fr. Aug.) Aubrév. 1494; 1651. **G. C.:** Half Assinie (fr. July) Chipp 299! Ankasa F.R. (Dec.) Vigne FH 3176! **S. Nig.:** Eba Isl. (Jan.) Thornevill 195! 201! Eket Talbot 3098!

Also in **French Cameroons** and **Gabon**.

7. PARINARI

Aubl. — F.T.A. 2: 366; Hauman in Bull. Jard. Bot. Brux. 21: 184–198 (1951).

- 1 Sepals rounded; flower buds not enclosed by a pair of bracts as long as themselves; stamens 15–20, or more: ...2

- Sepals acute; flower-buds 2–3 together, enclosed by a pair of bracts as long as themselves; inflorescence and flowers densely tomentose; fertile stamens 7–8; leaves with 12 or more pairs of lateral nerves prominent beneath; undersurface white tomentose with prominent close reticulation: **10**
- 2** Flowers in much-branched cymes; fertile stamens at least 20; leaves glabrous or more or less densely hairy beneath, and not strongly and closely reticulate; lateral nerves few (less than 13) and rather distant: **3**
- Flowers in terminal, subspiciform few-branched panicles; inflorescence and flowers densely tomentose; fertile stamens 15; leaves ovate or elliptic, cordate at base, rounded or subacute at apex, 10–25 cm. long, 5–15 cm. broad, densely white-tomentellous and conspicuously reticulate beneath with 15–20 pairs of prominent lateral nerves; fruit ellipsoid, about 5 cm. long, finely warted [8. *macrophylla*](#)
- 3** Receptacle (calyx-tube) 3–15 mm. long: **4**
- Receptacle (calyx-tube) 3–4 cm. long, strongly curved; inflorescence and exposed parts of flower glabrous; leaves elliptic or obovate-elliptic, obtuse and slightly decurrent at base, abruptly acuminate, 12–34 cm. long, 4.5–11 cm. broad, glabrous [7. *gabunensis*](#)
- 4** Undersurface of leaf green or grey, glabrous or hairy: **5**
- Undersurface of leaves, even when mature, covered with a dense reddish-brown tomentellous felt; leaves rather broadly oblong-elliptic, rounded or subcordate at base, shortly acuminate, 10–23 cm. long, 4.5–12 cm. broad; inflorescence and outside of flowers densely reddish-brown tomentose; receptacle conical, 12–15 mm. long [6. *chrysophylla*](#)
- 5** Leaves obtuse at apex, or very shortly and obtusely acuminate, rounded or obtuse at base, oblong or elliptic, 8–16 cm. long, 5–9 cm. broad; basal glands conspicuous; inflorescence and outside of flowers densely tomentose; receptacle about 8 mm. long, sepals about 4 mm. long; fruits broadly ovoid-ellipsoid, 2–2.5 cm. long, puberulous; savannah trees: **6**
- Leaves distinctly acuminate: **7**
- 6** Mature leaves glabrous or sparingly pilose beneath [1. *polyandra* var. *polyandra*](#)
- Mature leaves with a cottony white felt beneath [1a. *polyandra* var. *cinerea*](#)
- 7** Leaves not denticulate towards the apex, cuneate to rounded at base; without a bracteole at the base of the receptacle: **8**
- Leaves denticulate towards the apex, cordate at base; receptacle densely tomentose, 3–5 mm. long, accompanied by a more or less persistent bracteole; leaves elliptic, 7–16 cm. long, 4–7 cm. broad, lower surface with a thin cottony felt when young [5. *aubrevillei*](#)
- 8** Receptacle elongate-turbinate, at least 5 mm. long, glabrous; exposed outer surfaces of sepals glabrous: **9**
- Receptacle very shortly turbinate, about 3 mm. long; inflorescence branches and outside of flowers densely pubescent or tomentose; leaves more or less mealy-puberulous all over the lower surface, elliptic, 7–12 cm. long, 3.5–6 cm. broad; basal glands conspicuous [4. *robusta*](#)
- 9** Receptacle 6–7 mm. long; branches of inflorescence puberulous; carpels solitary; leaves elliptic, cuneate at base, 6–11 cm. long, 3–4.5 cm. broad; basal glands obscure [2. *glabra*](#)
- Receptacle about 1 cm. long; branches of inflorescence glabrous; carpels 2–3; leaves ovate-elliptic, cuneate to rounded at base, 8–13 cm. long, 3.5–8.5 cm. broad; basal glands more or less conspicuous [3. *kerstingii*](#)
- 10** Receptacle (calyx-tube) 2–5 mm. long; lateral nerves 15–25 pairs; inflorescence and flowers silky-tomentose: **11**
- Receptacle (calyx-tube) about 8 mm. long; lateral nerves about 12 pairs; inflorescence a terminal corymbose, much-branched cyme, shorter than the leaves, like the flowers shortly tomentose; leaves broadly elliptic, cuneate to cordate at base, rounded at apex, 6–10 cm. long, 5–7 cm. broad; young fruits ovoid, about 2 cm. long, slightly pubescent [12. *benna*](#)
- 11** Leaves rounded at apex, rounded or slightly cuneate at base (sometimes cordate on coppice shoots), oblong-elliptic, 5–17 cm. long, 3–8 cm. broad; inflorescence a lax open many-flowered panicle; fruit ovoid, up to 3.5 cm. long; a savannah tree or shrub [9. *curatellifolia*](#)
- Leaves conspicuously acuminate, narrowed at base, elliptic or ovate-elliptic to lanceolate, 5–12 cm. long, 2–5 cm. broad; flowers in a leafy terminal panicle; fruit obliquely ellipsoid, 3–4 cm. long; a forest tree [10. *excelsa*](#)
- Leaves shortly acuminate, cordate at base, ovate-oblong, 5–10 cm. long, 2.5–5 cm. broad; flowers in a leafy terminal panicle; fruit ellipsoid, about 3 cm. long; a forest tree [11. *congensis*](#)

1. *Parinari polyandra* Benth. var. *polyandra* — F.T.A. 2: 370; Aubrév. Fl. For. Soud.-Guin. 207, t. 40, 6–7, incl. var. *villosa* Aubrév.; Hauman in Bull. Jard. Bot. Brox. 21: 187.

*APD: Synonym of *Maranthes polyandra* (Benth.) Prance*

Savannah tree, to 25 ft. high; leaves coriaceous, dark green and glossy above; flowers white or pink in flattened corymbs; fruits deep red to blackish purple.

G. C.: Ejura (fr. Aug.) Chipp 724! Masera (Apr.) Thompson 69! Yegi (July) Pomeroy FH 1243! Bujan to Sekaii (Apr.) Kitson 561! Yendi (fl. & fr. Feb.) McLeod 814! **Togo:** Sokode (fl. Apr., fr. Oct.) Kersting 84! A. 690! **Dah.:** Zagnanado (Feb.) Chev. 23103! **N. Nig.:** Nupe Barter 1105! Kontagora (Feb.) Dalz. 278! Bida (Jan.) Meikle 1018! Lokoja (fl. & fr. Mar.) Elliott 39! **S. Nig.:** Idah (Sept.) T. Vogel 3! Olokemeji (Mar.) A. F. Ross 141! Ogoja Dist. Rosevear 53/29!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan**.

1a. **Parinari polyandra var. cinerea** Engl. Bot. Jahrb. 17: 87 (1893); Hauman l.c. 188.

APD: Synonym of Maranthes polyandra (Benth.) Prance

Parinari polyandra var. argentea Aubrév. l.c. 207 (1950).

Togo: Gleibusse 3565. **S. Nig.:** Lagos Foster 23! Ibode Bere Road (fr. May) Denton 8!

Also in **A.-E. Sudan**.

2. **Parinari glabra** Oliv. F.T.A. 2: 370 (1871); Hauman l.c. 186; Fl. Congo Beige 3: 54.

APD: Synonym of Maranthes glabra (Oliv.) Prance

Parinari vassonii A. Chev. Bot. 250, name only.

Parinari kerstingii of Aubrév. Fl. For. C. Iv. 1: 148, t. 51 and of F.W.T.A., ed. 1, 1: 317, partly.

A forest tree, up to 100 ft. high and 12 ft. girth; calyx green; petals white; fruit ovoid, somewhat flattened, about 1 1/2 in. long.

S. L.: Bobobu (June) Aylmer 577! Yoni, Bonthe Isl. (Mar.) Deighton 2482! **Lib.:** Gbanga (Sept.) Linder 538! Dukwia R. (May) Cooper 454! Harbel, Montserrado (July) Baldwin 6661! **IV. C.:** Yapo Chev. 22328! Banco Aubrév. 627! Abidjan Chev. 127! **G. C.:** Abosso (Aug.) Vigne FH 981! Dunkwa (Oct.) Vigne FH 162! **S. Nig.:** Okomu F.R. (Jan.-Mar.) A. F. Ross 193! Brenan 9126! Sapoba Kennedy 2129! Awka Thomas 108!

Also in **French Cameroons**, **Ubangi-Shari**, **Spanish Guinea** and **Belgian Congo**.

[The specimens cited above, other than those from Nigeria, differ from the type by having the young branchlets covered with shortly puberulous and long-pilose hairs; they may represent a distinct variety.]

3. **Parinari kerstingii** Engl. Bot. Jahrb. 46: 140, t. 3 (1911); Hauman in Bull. Jard. Bot. Brux. 21: 186; Fl. Congo Beige 3: 56; F.W.T.A., ed. 1, 1: 317, partly (excl. syn.).

APD: Synonym of Maranthes kerstingii (Engl.) Prance

Tree to 60 ft. high, in **fringing forests in the savannah regions**; flowers white.

Togo: Sokode-Basari (fl. & fr. Jan., Feb.) Kersting A. 320! A. 547! Atakpame (Feb.) Doering 297. **N. Nig.:** Bauchi Plateau (Jan.) Lely 737! P. 119! Batten-Poole 106! **S. Nig.:** Nsukka (fl. & fr. Feb.) Cousens FHI 7456! Udi (Feb.) Chesters 193!

Also in **French Cameroons**, **Ubangi-Shari** and **Belgian Congo**.

4. **Parinari robusta** Oliv. F.T.A. 2: 370 (1871); Aubrév. Fl. For. C. Iv. 1: 150, t. 52, 1-5; Hauman in Bull. Jard. Bot. Brux. 21: 186 (N.B. — var. glabrifolia Hauman is var. robusta).

APD: Synonym of Maranthes robusta (Oliv.) Prance

Tree, to 40 ft. high, or more; **in coastal areas and swamp forest**.

IV. C.: Sassandra, Abidjan, Bingerville, etc., fide Aubrév. l.c. **G. C.:** Abbontiakoon (July) Brown 1! **S. Nig.:** Badagri (Nov.) A. F. Rose 171! Lagos (Feb.) Dalz. 1338! Nun R. (fl. & fr. Sept.) Mann 481! Okeluseh (Nov.) Farquhar 42! Onitsha Unwin 72! Abokam (Jan.) Holland 200!

5. **Parinari aubrevillei** Pellegr. in Bull. Soc. Bot. Fr. 78: 140 (1931); Aubrév. l.c. 1: 150, t. 53; Hauman l.c. 187.

APD: Synonym of Maranthes aubrevillei (Pellegr.) Prance

Parinari polyandra of F.W.T.A., ed. 1, 1: 317, partly.

Parinari robusta of F.W.T.A., ed. 1, 1: 317, partly.

A large forest tree.

S. L.: Kambui (Oct.) King 283! Aylmer 252! **IV. C.:** Azaguié (Sept.) Chev. 22355! Dakpadou (Oct.) Aubrév. 847!

6. *Parinari chrysophylla* Oliv. F.T.A. 2: 369 (1871); Aubrév. l.c. 152, t. 54 B; Hauman l.c. 187.

APD: Synonym of Maranthes chrysophylla (Oliv.) Prance subsp. chrysophylla

Forest tree, to 75 ft. high, with very characteristic rusty-brown indumentum on lower surface of leaves.

Lib.: Dukwia R. (Mar.–May) Cooper 297! 446! Sangwin (Mar.) Baldwin 11331! **IV. C.:** Tabou Aubrév. 1678! **G. C.:** Prestea Vigne FH 3081! **S. Nig.:** Oban Talbot! Afi River F.R. Jones FHI 14147! Keay!

Also in French Cameroons and Gabon.

7. *Parinari gabunensis* Engl. Bot. Jahrb. 27: 87 (1893); Hauman l.c. 187; Fl. Congo Beige 3: 58.

APD: Synonym of Maranthes gabunensis (Engl.) Prance

A glabrous forest tree, to 60 ft. high.

Br. Cam.: Kumba to Banga (Mar.) Brenan 9470!

Also in French Cameroons, Gabon and Mayumbe.

8. *Parinari macrophylla* Sabine — F.T.A. 2: 369; Aubrév. Fl. For. Soud.-Guin. 206, t. 39, 1–3; Hauman in Bull. Jard. Bot. Brux. 21: 189.

APD: Synonym of Neocarya macrophylla (Sabine) Prance

Shrub or tree to 30 ft. high, with stout densely tomentose branchlets, and gnarled bole; flowers crowded, white or pinkish; fruit rough-skinned edible; on sandy beaches and also inland in the driest savannah regions.

Sen.: Sieber 24! Döllinger 30! Panie-Foul Perrottet! St. Louis Roger! **Gam.:** Brown-Lester 219! Genieri Fox 82! **Port. G.:** Pussubé, Bissau (Mar.) Esp. Santo 1154! **Fr. G.:** Farmar 303! **S. L.:** DonI Bawbaw (Dec., Jan.) Smythe 219! Lane-Poole 44! Gbap (Feb.) Dawe 470! Lumley (Feb., Aug.) Deighton 15! Jones FHI 12581! Fotani, Simiria (Apr.) Glanville in Hb. Deighton 2492! **Lib.:** Monrovia (Apr., June) Whyte! Bequaert 181! Baldwin 5844! Barker 1242! Congotown (July) Linder 45! **N. Nig.:** Sokoto (fl. all year) Lely 804! Foster 1! Katagum Dalz. 324!

Also recorded very doubtfully from S. Tomé.

9. *Parinari curatellifolia* Planch. ex Benth. — F.T.A. 2: 368; Aubrév. l.c. 253, t. 39, 4–6; Hauman l.c. 193; Fl. Congo Belge 3: 66. *APD acc*

A savannah tree, to 25 ft. high, with black fissured bark; leaves pale green beneath; petals white.

Sen.: Heudelot 362! Fouladou, Casamance Etesse 63. **Fr. Sud.:** Arbala Dubois 63. **Port. G.:** Farim (Apr.) Esp. Santo 2451! Coiada, Gabu (June) Esp. Santo 2507! **Fr. G.:** Kouroussa (Feb.) Pobéguin 653! **S. L.:** Falaba (Mar.) Sc. Elliot 5108! Manankon, Musaia (Apr.) Deighton 5427! **IV. C.:** Baoulé, Ferkéssédougou, Bondoukou and Nzi Comoé, fide Aubrév. l.c. **G. C.:** Jema (Feb.) Brown FH 2159! Durimo to Yijia (Mar.) Kitson 939! Bujan to Sekaii (Apr.) Kitson 919! **Togo:** Ho (Feb.) Howes 1106! Kete Krachi (Jan.) Vigne FH 1535! **Dah.:** Poisson! Zagnanado (Feb.) Chev. 23016! **N. Nig.:** Nupe Barter 1106! Patti Lokoja (fl. Jan., fr. Sept.) T. Vogel 177! Elliott 224! Kontagora (Jan.) Dalz. 86! Bauchi Plateau (Jan.) Lely P. 13! Otobi, Idoma (Feb.) Jones FHI 702! **S. Nig.:** Lagos (Feb.) Foster 24! Olokemeji (Feb.) Ejiofor FHI 31768!

Also in French Cameroons, Ubangi-Shari, A.-E. Sudan, Uganda and Belgian Congo.

10. *Parinari excelsa* Sabine — F.T.A. 2: 367; Aubrév. Fl. For. C. Iv. 1: 146, t. 50 B; Hauman in Bull. Jard. Bot. Brux. 21: 191. *APD acc*

***Parinari holstii* Engl.** (1895) — Hauman l.c. 191; Fl. Congo Belge 3: 59.

***Parinari elliotii* Engl.** (1899).

***Parinari tenuifolia* A. Chev.** (1909) — F.W.T.A., ed. 1, 1: 318; Aubrév. l.c.

A large evergreen forest tree with pale tomentose branchlets and inflorescence; fruit rough-skinned, sometimes eaten.

Sen.: Berhaut 1787. **Gam.:** Dawe 84! **Port. G.:** Pussubé (Feb.) Esp. Santo 1134! **Fr. G.:** Rio Nunez Heudelot 633! Conakry (Jan.) Dalz. 8384! Konkouré to Timbo (Mar.) Chev. 12486! Kouria (Jan.) Chev. 15109! **S. L.:** Don! Bagroo R. (Apr.) Mann 885! Njala (Jan., Feb.) Deighton 514! 1568! Berria, Falaba Sc. Elliot 4998! **Lib.:** Dukwia R. (Feb.) Cooper 270! **Iv. C.:** Fleury 6! Dabou Chev. 16204! Azaguié Chev. 22295! **G. C.:** Prestea Green FH 899! Axim (Jan.) Vigne FH 4845! Subirisu (Feb.) Thompson 14! Obuasi (fr. Sept.) Vigne FH 926! **S. Nig.:** Oni Sankey 19! Sapoba Kennedy 1643! Okigwi Cousens FHI 4856!

Widespread in tropical Africa.

11. *Parinari congensis* F. Didr. Kjoeb. Vidensk. Medd. 197 (1854); Hauman in Bull. Jard. Bot. Brux. 21: 192; Fl. Congo BeLge 3: 62, t. 3. *APD acc*

***Parinari subcordata* Oliv.** F.T.A. 2: 367 (1871); F.W.T.A., ed. 1, 1: 318; Aubrév. l.c. 148.

An evergreen tree, to 100 ft. high; on river banks and in fringing forest in savannah country; flowers white, with a pink tinge, fragrant.

Fr. G.: R. Dentilla (fr. Mar.) Sc. Elliot 4274! **S. L.:** Njala (Nov.) Deighton 4953! Bonjema (fr. Sept.) Deighton 4634! **Iv. C.:** Touba Aubrév. 1241! **G. C.:** Grube (Jan.) Vigne FH 1548! SENCHI, R. Volta (fr. Apr.) Irvine 2876! **Togo:** R. Tamboma Kersting A. 683! **Dah.:** Le Testu 416! **N. Nig.:** Nupe Barter 1001! 1694! Jebba (Dec.) Hagerup 722! R. Benue (Dec.) Dalz. 718! **S. Nig.:** Olokemeji (Nov.) Jones FHI 14231! Old Oyo F.R. Keay FHI 16269! Enyon Creek, Arochuku (Sept.) Corbin 50!

Also in Congo Basin and Ubangi.

12. *Parinari benna* Sc. Elliot in J. Linn. Soc. 30: 78 (1894); Aubrév. Fl. For. Soud.-Guin. 207, t. 40; Hauman in Bull. Jard. Bot. Brux. 21: 194.

APD: Synonym of Bafodeya benna (Scott-Elliot) Prance

Parinari mobola of Chev. Bot. 251.

A savannah shrub or small tree to 20 ft. high; flowers white with pink centre.

Sen.: Kaolak Kaichinger. **Fr. G.:** Farmar 181! 228! Kindia (Mar.) Chev. 13068! Follo, Kouria (Dec.) Chev. 14824! Mamou (Mar.) Dalz. 8386! **S. L.:** Talla Hills (Mar.) Sc. Elliot 5052! Bafodeya (Apr.) Sc. Elliot 5480! Jigaya (fr. Sept.) Thomas 2723! Musaia (fl. & fr. Mar., fr. Sept.) Deighton 5445! Small 277! 330!

***Parinari* sp.**

Rain forest tree to 95 ft. high; near *P. congensis* F. Didr., but leaves larger and stipules foliaceous, up to 3 in. long; flowers and fruits not known.

Br. Cam.: S. Bakundu F.R. Ejiofor FHI 15253! Olorunfemi FHI 30502!

Imperfectly known species.

8. HIRTELLA

Linn. Sp. Pl. 1: 34 (1753); A. Chev. in Bull. Mus. Hist. Nat. Sér. 2, 3: 192–195 (1931).

- 1 Stipules large, ovate, 2–4 cm. long, 1.5–2 cm. broad; leaves oblong, obtuse at base, acuminate at apex, 15–20 cm. long, about 10 cm. broad, petiole 1–1.2 cm. long; panicles glabrous; receptacle 5–6 mm. long; staminodes united into a narrow tongue, denticulate at apex [1. conrauana](#)
- Stipules small, linear-oblong, up to 1 cm. long and 2 mm. broad; inflorescences rusty-pubescent: **2**
- 2 Leaves large, oblong-ovate, cordate at base, rounded and abruptly apiculate at apex, 18–40 cm. long, 8–18 cm. broad, subsessile or petiole up to 5 mm. long; inflorescence a panicle of long racemes, up to 40 cm. long; receptacle about 12 mm. long; staminodes united into a narrow tongue, denticulate at apex [2. fleuryana](#)
- Leaves smaller, up to 20 cm. long and 8 cm. broad; receptacle 3–5 mm. long; staminodes in the form of a comb: **3**
- 3 Leaves rounded or subcordate at base, broadly oblong-lanceolate, acute or rounded at apex, 10–20 cm. long, 4–8 cm. broad; inflorescence a terminal many-flowered ample panicle, up to 20 cm. long; receptacle about 3 mm. long [3. butavei](#)
- Leaves cuneate at base, narrowly obovate-elliptic, gradually acuminate, 8–18 cm. long, 3–5 cm. broad; flowers in axillary, lax, few-flowered racemes, up to 8 cm. long; receptacle about 5 mm. long [4. cupheiflora](#)

1. *Hirtella conrauana* (Engl.) A. Chev. in Bull. Mus. Hist. Nat. Sér. 2, 3: 194 (1931).

APD: *Synonym of Magnistipula conrauana* Engl.

Magnistipula conrauana Engl. Bot. Jahrb. 36: 226 (1905); Hauman in Bull. Jard. Bot. Brox. 21: 174.

A glabrous shrub.

Br. Cam.: Bangwe (Mar.) Conrau 65.

2. *Hirtella fleuryana* A. Chev. l.c. 192 (1931).

APD: *Synonym of Magnistipula zenkeri* Engl.

Parinari fleuryana (A. Chev.) Aubrév. Fl. For. C. Iv. 1: 153 (1936).

Magnistipula fleuryana (A. Chev.) Hauman l.c. 175 (1951).

Forest tree, to 45 ft. high; in swampy places; flowers white, fragrant; inhabited by ants.

Lib.: Zwedru, Tchien (Aug.) Baldwin 7017! Sarbo, Webo (July) Baldwin 12522! IV. C.: Gagnoa to Issia, Sassandra (fl. & fr, Oct.) Chev.

3. *Hirtella butayei* (De Wild.) Brenan in Trop. Woods 86: 4 (1946); Hauman in Fl. Congo Belge 3: 41, t. 2.

APD: *Synonym of Magnistipula butayei subsp. sargosii* (Pellegr.) F. White

APD: *Synonym of Magnistipula butayei* De Wild. subsp. *butayei*

Magnistipula butayei De Wild. (1908).

Parinari sargosii Pellegr. (1920) — Aubrév. Fl. For. C. Iv. 1: 152, t. 54 A.

P. tisserantii Aubrév. & Pellegr. (1950) — Aubrev. Fl. For. Soud.-Guin. 208, t. 39, 7–14.

Forest tree, to 100 ft. high.

IV. C.: Guiglo to Toulépleu Aubrév. 1231!

Also in Ubangi-Shari, Gabon and Belgian Congo.

4. *Hirtella cupheiflora* (Mildbr.) Mildbr. ex A. Chev. l.c. 195 (1931); Hauman in Bull. Jard. Bot. Bros. 21: 184.

APD: *Synonym of Magnistipula cupheiflora* Mildbr. subsp. *cupheiflora*

Magnistipula cupheiflora Mildbr. in Notizbl. Bot. Gart. Berl. 7: 57 (1921).

A medium-sized forest tree, with irregular bark and rough bole.

S. L.: Gola East F.R. (Oct.) D. G. Thomas 118! King 172!

Also in French Cameroons.

9. ACIOA

Aubl. Pl. Gui. 2: 698 (1775); De Wild. in Bull. Jard. Bot. Brux. 7: 188 (1920). APD acc

Griffonia Hook. f. (1865) — F.T.A. 2: 371.

- | | | |
|---|--|----|
| 1 | Calyx-tube glabrous or very shortly and thinly pubescent outside: | 2 |
| | Calyx-tube densely tomentose outside: | 10 |
| 2 | Bracteoles on the pedicels more or less ovate, entire, not or rarely slightly gland-toothed: | 3 |
| | Bracteoles on the pedicels deeply gland-toothed or palmatisect: | 6 |
| 3 | Inflorescence a simple raceme, rarely the racemes more than 1 in the leaf-axils; the bracts usually much larger than the bracteoles: | 4 |

- Inflorescence a panicle; the bracts scarcely larger than the bracteoles; leaves broadly elliptic, slightly cuneate at base, 12–16 cm. long, 5–8 cm. broad, glabrous; lateral nerves 7 pairs; stipules obliquely ovate, nervose; calyx-tube (receptacle) up to 1.5–2 cm. long, puberulous; staminal column 2–5 cm. long [4. mannii](#)
- 4 Calyx-tube (receptacle) distinctly puberulous outside, 1–5 cm. long; branchlets glabrescent; leaves elliptic, cuneate at base, 6–10 cm. long, 3.5–5 cm. broad, glabrous; lateral nerves 4–5 pairs; stipules subulate, entire; flowers numerous, small; staminal column 1.5–2 cm. long [1. barteri](#)
- Calyx-tube (receptacle) quite glabrous outside; leaves more or less scabrid above: **5**
- 5 Leaves cuneate at base; characters otherwise much as in *A. barteri* [2. scabrifolia](#)
- Leaves rounded at base, ovate-lanceolate or oblong-lanceolate, gradually acuminate, 6–15 cm. long, 2.5–6 cm. broad, more or less hispid on the nerves; lateral nerves 5–6 pairs; stipules ovate-lanceolate, toothed at base; axis of inflorescence up to 3 cm. long; flowers crowded; calyx-tube (receptacle) 1.5–2 cm. long; fruit broadly ovoid, 3 cm. long, tomentose [3. whytei](#)
- 6 Lateral nerves up to 8 pairs; leaves ovate or shortly elliptic: **7**
- Lateral nerves 10–16 pairs; leaves elongate-oblong, cordate at base, up to 30 cm. long and 10 cm. broad, glabrous or hirsute on nerves beneath; stipules ovate or ovate-lanceolate, foliaceous; branchlets with long spreading hairs; bracteoles deeply palmatisect with gland-tipped segments; calyx-tube (receptacle) 2.5–3.5 cm. long, glabrous; staminal column 4 cm. long; fruit ovoid, 6–7 cm. long, tomentose and bristly [9. klaineana](#)
- 7 Bracteoles divided to the base, gland-tipped; leaves ovate, rounded at the base, acutely acuminate, 6–11 cm. long, 4–5.5 cm. broad, long-pilose on the nerves beneath; lateral nerves 6 pairs; branchlets bristly hairy; stipules very small; axis of inflorescence 4 cm. long; bracteoles lacinate nearly to the base, gland-tipped; calyx-tube (receptacle) glabrous, 1.5 cm. long, falling away and leaving long peg-like persistent pedicels; staminal column 1.5 cm. long [5. unwinii](#)
- Bracteoles divided up to the middle: **8**
- 8 Calyx-tube (receptacle) glabrous outside; bracts not glandular; stipules entire: **9**
- Calyx-tube (receptacle) setose-pilose outside; bracts as well as the bracteoles with glandular teeth; stipules with glandular teeth; leaves ovate-elliptic to lanceolate, rounded to broadly cuneate at base, gradually acutely acuminate, 5.5–11.5 cm. long, 1.7–4 cm. broad; branchlets and undersurface of leaves setose-pilose; fruit ovoid, 2–3.5 cm. long, 2–3 cm. broad, densely tomentellous and with longer hairs. [8. johnstonei](#)
- 9 Leaves rounded or subcuneate at base, more or less elliptic, shortly acuminate, 7–13 cm. long, 4–6 cm. broad, pubescent on the nerves; lateral nerves about 7 pairs; bracteoles ovate, with short glandular teeth; stipules linear-subulate; branchlets with short hairs; calyx-tube glabrous, 2.5 cm. long; staminal column 2 cm. long [6. rudatisii](#)
- Leaves subcordate at base, oblong, abruptly acuminate, 6–10 cm. long, 3–4 cm. broad, the midrib with long spreading hairs; bracteoles with long gland-tipped teeth; branchlets spreadingly pilose; calyx-tube glabrous, 2 cm. long; staminal column 3 cm. long [7. hirsuta](#)
- 10 Leaves cordate at base: **11**
- Leaves rounded or slightly cuneate at base; hairs on the calyx-tube fairly long: **12**
- 11 Midrib rather densely pubescent beneath; hairs on the calyx-tube very short; bracts and bracteoles conspicuous; leaf-blades oblong-elliptic, abruptly acuminate, 10–15 cm. long, 5–7 cm. broad; lateral nerves about 7 pairs; stipules subulate; calyx-tube 2–2.5 cm. long; staminal column about 3.5 cm. long; fruits ellipsoid, about 4 cm. long, tomentose with short hairs and also sparsely pilose with long hairs [10. pallescens](#)
- Midrib glabrous beneath; leaves broadly oblong-elliptic, shortly acuminate, about 15 cm. long, 8–9 cm. broad, with about 7 pairs of lateral nerves; inflorescence paniculate; calyx-tube 1 cm. long; staminal column 2.5 cm. long, shortly pubescent [11. eketensis](#)
- 12 Inflorescence racemose: **13**
- Inflorescence dichotomously cymose; leaves broadly elliptic, rounded at base, shortly acuminate, up to 15 cm. long and 9 cm. broad, glabrous, with about 8 pairs of lateral nerves; branchlets lenticellate; calyx 1.5 cm. long, softly pubescent; staminal column 2 cm. long [14. dichotoma](#)
- 13 Inflorescence lax-flowered, the axis about 10 cm. long; bracts ovate-lanceolate, 5–6 mm. long, glabrous inside; bracteoles ovate-lanceolate, conspicuous; leaf-blades oblong-elliptic, 8–15 cm. long, 5–6.5 cm. broad; midrib glabrescent; lateral nerves 8 pairs; stigmas ovate, long-acuminate; calyx-tube 3 cm. long; staminal column 3 cm. long [12. dinklagei](#)
- Inflorescence rather close-flowered, the axis 3–4 cm. long; bracts subulate; about 2 mm. long, hairy all over; bracteoles minute; leaf-blades elliptic, acutely acuminate, 9–14 cm. long, 4–7 cm. broad; midrib tomentose beneath; lateral nerves about 10 pairs; stipules lanceolate, short; calyx-tube 2 cm. long; staminal column 3 cm. long [13. talbotii](#)

1. *Acioa barteri* (*Hook. f. ex Oliv.*) *Engl. Bot. Jahrb.* 28: 382 (1899); *De Wild. in Bull. Jard. Bot. Brux.* 7: 210. *Griffonia. barteri* *Hook. f. ex Oliv. F.T.A.* 2: 373 (1871).

APD: Synonym of Dactyladenia barteri (Hook. f. ex Oliv.) Prance & F. White

Acioa tenuiflora Dinkl. & Engl. (1899).

Acioa eketensis of F.W.T.A., ed. 1, 1: 320, partly (Kitson s.n.).

A shrub or small tree, with slender branches more or less climbing; leaves dark glossy green, reddish-brown when dry; flowers greenish-white, fragrant; fruit 1 1/2 in. long, green, turgid, tubercled, more or less pear-shaped and pointed; **sometimes planted**.

S. L.: Makeni (introduced from Nigeria in 1938; fl. Mar.) Deighton 4259! **Lib.:** Grand Bassa Dinklage 2101! Gbanga (Sept.) Linder 613! Gbau, Sanokwele (Sept.) Baldwin 9398! Tappita (Aug.) Baldwin 9108! **iv. C.:** Banco Aubrév. 375! **G. C.:** Benso, Tarkwa (fl. Aug., fr. Nov.) Andoh FH 5388! **S. Nig.:** Lagos (fl. Oct.-Feb., fr. Mar.) Barter 2183! Dalz. 1013! Agege Kitson! Agulu Thomas 177! Calabar (Jan.) Thomson 66! Eket Talbot 3338! Oban Talbot 1372! 1625!

Also in **Belgian Congo (?)**.

2. *Acioa scabrifolia* *Hua* in Bull. Mus. Hist. Nat. 3: 328 (1897); De Wild. l.c. 206; Aubrév. Fl. For. C. Iv. 1: 154, t. 55.

APD: Synonym of Dactyladenia lehmbachii (Engl.) Prance & F. White

APD: Synonym of Dactyladenia scabrifolia (Hua) Prance & F. White

APD: Synonym of Dactyladenia staudtii (Engl.) Prance & F. White

APD: Synonym of Dactyladenia letestui (Letouzey) Prance & F. White

Acioa lehmbachii Engl. (1899), fide Hutch. & Dalz.

A tree up to 30 ft. high; flowers white, sometimes pink.

Fr. G.: Timbo (Mar.) Miquel 24. R. Konkouré, Kouria (Sept., Dec.) Chev. 14889! Pobéguin K. 14! **S. L.:** Ninia, Talla Hills (Feb.) Sc. Elliot 4894! Mamboma (Nov.) Deighton 3779! Makali (Feb.) Deighton 4056! Musaia (fl. Dec., fr. Apr.) Deighton 4477! 5405! **Lib.:** Peahtah (Oct.) Linder 1114! 1117! Zigida, Vonjama (Oct.) Baldwin 10010! Kondessu, Boporo (fr. Dec.) Baldwin 10665! Gbanga (Dec.) Baldwin 10515! **iv. C.:** fide Aubrév. l.c. **Br. Cam.:** Buea Lehmbach 115 (possibly distinct).

3. *Acioa whytei* *Stapf* in J. Linn. Soc. 37: 97 (1905); De Wild. l.c. 204.

APD: Synonym of Dactyladenia whytei (Stapf) Prance & F. White

Acioa stapfiana *De Wild.* l.c. 204 (1920); F.W.T.A., ed. 1, 1: 320.

Shrub or small tree, to 30 ft. high, branchlets slender, long and pendulous; flowers white.

S. L.: Sherbro (Oct.) Garret! Kafogo, Limba (Apr.) Sc. Elliot 5521! Bumbuna (fr. Oct.) Thomas 3358! Njala (Sept.) Deighton 1319! Bo F.R. (Aug.) Small 191! Pujehun, Valunia (July) Deighton 580! **Lib.:** Monrovia Whyte! Kakatown Whyte! Moala (fr. Nov.) Linder 1381! Grand Cape Mount (fr. Dec.) Baldwin 10780! 10823!

4. *Acioa mannii* (*Oliv.*) *Engl.* l.c. 381 (1899); De Wild. l.c. 210.

APD: Synonym of Dactyladenia mannii (Oliv.) Prance & F. White

Griffonia mannii *Oliv.* F.T.A. 2: 372 (1871).

A climbing shrub or small tree, 15–20 ft., with glabrous branchlets.

Br. Cam.: Buea (Mar.) Maitland 467! Johann-Albrechtshöhe (Jan., Mar.) Staudt 513! 888! Sonje-Pflamung (Feb.) Winkler 1104! **F. Po:** Mann 1427!

5. *Acioa unwinii* *De Wild.* l.c. 198 (1920).

APD: Synonym of Dactyladenia dewevrei (De Wild. & T. Durand) Prance & F. White

APD: Synonym of Dactyladenia smeathmannii (Baill.) Prance & F. White

Acioa parvifolia of F.W.T.A., ed. 1, 1: 320, partly.

A shrub, hairy at first, but becoming more or less glabrous; flowers white.

S. L.: Buri town, on sea beach (Dec.) Unwin & Smythe 36! Ronietta (Nov.) Thomas 5621! **S. Nig.:** Sapoba (Oct.) Kennedy 2058! FHI 892! A. F. Ross 210!

6. **Acioa rudatisii** *De Wild.* l.c. 215 (1920).

APD: Synonym of Dactyladenia lehmbachii (Engl.) Prance & F. White

A forest tree, to 60 ft. high.

S. Nig.: Bateria Jones FHI 18992! Calabar Robb! **Br. Cam.:** Buea (Mar., May) Deistel 654! Maitland 440! 545! 659! Abonando (Mar.) Rudatis 30!

7. **Acioa hirsuta** *A. Chev. ex De Wild.* l.c. 200 (1920).

APD: Synonym of Dactyladenia hirsuta (A. Chev. ex De Wild.) Prance & F. White

A tenuiflora of Chev. Bot, 263, not of Dinkl. & Engl.

Iv. C.: Grabo (Aug.) Chev. 19738! Taté to Tabou (Aug.) Chev. 19818!

8. **Acioa johnstonei** *Hoyle* in Kew Bull. 1932: 268; l.c. 1947: 71.

APD: Synonym of Dactyladenia johnstonei (Hoyle) Prance & F. White

A small tree or shrub at edge of forest, or in savannah.

Br. Cam.: Bum, Bamenda (Jan.) Johnstone 74/31! Fonfuka, Bamenda (June) Maitland 1401!

9. **Acioa klaineana** *Pierre ex De Wild.* l.c. 196 (1920).

APD: Synonym of Dactyladenia campestris (Engl.) Prance & F. White

A shrub or tree; inflorescence copious, up to 6 or more inches long.

S. Nig.: Eket Talbot 3123! 3153! Oban (fr. May) Talbot 1529! Ujor FHI 31795! **Br. Cam.:** Barombi Preuss 263!

Also in **French Camerouns** and **Gabon**.

10. **Acioa pallescens** *Baill.* in Adansonia 7: 224 (1867); De Wild. l.c. 207.

APD: Synonym of Dactyladenia pallescens (Baill.) Prance & F. White

Griffonia pallescens (Baill.) Oliv. F.T.A. 2: 372, incl. vars.

A small tree or shrub, more or less climbing, with pale silky racemes of white flowers and brown fruits.

S. Nig.: Calabar (Feb.) Thomson 2! Mann 2288! Itu (Feb., Apr.) Holland 35! Smith 75! Oban Talbot 1599! Degema Talbot! **Br. Cam.:** Johann-Albrechtshöhe Staudt 618! 944!

Also in **French Camerouns** and **Spanish Guinea**.

11. **Acioa eketensis** *De Wild.* l.c. 214 (1920).

APD: Synonym of Dactyladenia eketensis (De Wild.) Prance & F. White

Branchlets glabrous.

S. Nig.: Eket Talbot 3239!

12. **Acioa dinklagei** *Engl.* Bot. Jahrb. 26: 381 (1899); De Wild. l.c. 211.

APD: Synonym of Dactyladenia dinklagei (Engl.) Prance & F. White

A tall shrub or tree, with drooping tomentose branchlets and hoary racemes of white flowers.

Lib.: Grand Bassa (Sept.) Dinklage 2023! Tchien Dist. (Aug.) Baldwin 6980! 7078! **G. C.:** Sa, Bonsa R., Tarkwa (Aug.–Sept.) Vigne FH 156! 973!

13. **Acioa talbotii** *Bak. f.* in Cat. Talb. 29 (1913); De Wild. l.c. 206.

APD: Synonym of Dactyladenia staudtii (Engl.) Prance & F. White

A small tree, about 20 ft. high, with pale tomentose branchlets and brownish-velvety inflorescence.

S. Nig.: Oban Talbot 1533!

14. **Acioa dichotoma** *De Wild.* l.c. 216 (1920).

APD: Synonym of Dactyladenia dichotoma (De Wild.) Prance & F. White

Branchlets tomentose.

S. Nig.: Eket, along the rivers Talbot 3048!

Acioa parvifolia *Engl.* Bot. Jahrb. 26: 380 (1899); De Wild. l.c. 198.

S. L.: Afzelius.

[I have been unable to study the type of this species, but from the description it does not seem to be the same as *A. unwinii* De Wild. as stated in F.W.T.A., ed. 1. — R.W.J.K.]

Imperfectly known species.

CHAILLETIACEAE

Small trees or shrubs, sometimes climbing. Leaves alternate, simple; stipules present. Flowers small, mostly hermaphrodite, actinomorphic or slightly zygomorphic. Sepals 5, free or partially connate, imbricate. Petals mostly 2-lobed or 2-partite, free or united with the stamens into a tube. Stamens 5, alternate with the petals, free or united; anthers 2-celled, opening lengthwise, the connective often dorsally thickened. Hypogynous glands opposite to the petals, free or connate. Ovary superior to quite inferior, 2–3-celled; style mostly simple, 2–3-fid at the apex; ovules 2 in each cell, pendulous. Fruit a drupe, dry or rarely fleshy, sometimes the epicarp splitting. Seeds without endosperm; embryo large, straight.

A small tropical family.

With the aspect of some Rosaceae; recognized by the usually bilobed petals; peduncles sometimes adnate to the petiole.

- 1 Petals equal, free, or rarely united; fertile stamens 5; peduncle free, or sometimes adnate to the petiole [1. Dichapetalum](#)

Petals unequal, 1 or 2 of them larger than the others, united into a tube; fertile stamens 2 or 3; peduncle always adnate to the petiole [2. Tapura](#)

1. DICHAPETALUM

Thouars Nov. Gen. Madag. 23 (1806).

Chailletia *DC.* (1811) — F.T.A. 1: 339.

Icacinopsis *Roberty* (1953).

Sepals sparingly puberulous; petals about as long as the sepals; cymes short; branchlets and leaves glabrous or nearly so; leaves more or less oblong-elliptic, acute to rounded at base, gradually long-acuminate, 9–15 cm. long, 3–5–6 cm. broad, lateral nerves 5–6 pairs, prominently looped well within the margin [27. nitidulum](#)

Sepals densely white-tomentellous:

Branchlets puberulous; lower inflorescences often borne on short axillary lateral shoots with small leaves, hence appearing free from the petioles; leaves oblong or elliptic, cuneate at base, obtusely acuminate, 10–15 cm. long, 4–6 cm. broad, glabrous; axils of main lateral nerves beneath often with small glands and tufts of hair; fruits ellipsoid, 3–4 cm. long, hoary, not beaked and not ridged [29. toxicarium](#)

- Branchlets densely rusty-tomentose; flowers all subfasciculate at the apex of the petiole of well-developed leaves; leaves oblong-elliptic, obtuse to cuneate at base, obliquely acuminate, 9–15 cm. long, 4–8 cm. broad, glabrous; fruits ellipsoid, about 3 cm. long, tomentellous, long-beaked, longitudinally ridged [30. rudatisii](#)
- Branchlets rusty-pilose; leaves rounded to subcordate at base, oblong-lanceolate, gradually long-acuminate, 7–14 cm. long, 3–7 cm. broad; cymes rather few-flowered; petals bilobed; fruits ellipsoid rusty pilose [31. longitubulosum](#)
- Branchlets finely puberulous; leaves cuneate at base, narrowly elliptic, long-caudate-acuminate, 5.5–12 cm. long, 1.7–4 cm. broad; cymes many-flowered; petals entire [32. sp. A.](#)
- 1** Petals free: **2**
- Petals united into a tube with the stamens; cymes subsessile:
- 2** Stipules pinnatisect, about 1 cm. long; branchlets densely tomentose; sepals reflexed; petals deeply lobed; inflorescences lax, well-branched: **3**
- Stipules entire: **4**
- 3** Peduncle never adnate to the petiole; inflorescence a large terminal paniculate cyme about 15 cm. long; leaves with a close-felted indumentum beneath, elliptic-obovate, cordate at base, shortly acuminate, 10–15 cm. long, 5–8 cm. broad [1. petersianum](#)
- Peduncle adnate to the petiole; inflorescence a lax, divaricate paniculate cyme; leaves densely pubescent beneath, but with the surface visible between the hairs; oblong-elliptic, rounded or subcordate at base, gradually acuminate, 9–17 cm. long, 4–9 cm. broad [2. angolense](#)
- Cymes lax, with the free portion of the peduncle at least 4 mm. long, lower peduncles free from the petioles; flowers apparently very small (but not known at maturity); branchlets nearly glabrous; leaves oblong-elliptic or obovate-oblong, shortly cuneate, abruptly and shortly acuminate, 4–8 cm. long, 2–4 cm. broad, glabrous and shining [28. chrysobalanoides](#)
- Cymes short and dense, peduncle less than 4 mm. long; flowers at least 4 mm. long:
- 4** Leaves with a close-felted whitish indumentum beneath, the hairs entirely covering the lower surface: **5**
- Leaves glabrous, or laxly pilose or pubescent beneath: **6**
- 5** Midrib and lateral nerves beneath covered with long spreading hairs quite different from the whitish wool of the surface; leaves elliptic or oblong, unequally rounded at base, shortly acuminate, 5–12 cm. long, 3–5 cm. broad; cymes short, crowded, pedunculate [3. argenteum](#)
- Midrib and lateral nerves beneath covered with the same close-felted whitish indumentum as the lower surface; leaves oblong-elliptic to oblong-oblongeolate or obovate, obtuse at base, acutely acuminate, 6–17 cm. long, 3–7 cm. broad, lateral nerves 6–9 pairs, prominent beneath; cymes crowded, with a peduncle 0.5–3 cm. long [4. pallidum](#)
- 6** Peduncle never adnate to the petiole: **7**
- Peduncle (or at least the upper ones) actuate to the petiole:
- 7** Petals entire (or shortly bifid), about as long as the 6–7 mm. long erect sepals; leaves elliptic or slightly obovate-oblong, rounded to cuneate at base, bluntly acuminate, 7–12 cm. long, 4–7 cm. broad, glabrous, coriaceous; branchlets rusty-tomentellous; cymes lax, pedunculate, sometimes borne on leafless shoots [5. barkeri](#)
- Petals more or less deeply bilobed, usually longer than the sepals (but see No. 12); sepals erect or reflexed, usually less than 5 mm. long: **8**
- 8** Inflorescences pedunculate and more or less laxly cymose: **9**
- Inflorescences sessile, or densely subcapitate and pedunculate: **14**
- 9** Leaves cordate to subcordate at base; branchlets glabrous or nearly so; leaves very broadly elliptic, obtuse to acute at apex, 7–15 cm. long, 5–10 cm. broad, slightly pubescent on the nerves beneath; cymes few-flowered, about 1.5 cm. long, bracteate [6. subcordatum](#)
- Leaves not cordate at base: **10**
- 10** Sepals reflexed; cymes very slender; branchlets and leaves glabrous or nearly so; leaves shining, with about 6 pairs of lateral nerves prominently looped beneath: **11**
- Sepals not reflexed: **12**
- 11** Petals about 2 mm. long; pedicels very short; leaves oblong-elliptic, subacute at base, acutely acuminate, 7–12 cm. long, 3–5 cm. broad; cymes many-flowered [7. zenkeri](#)
- Petals 3–4 mm. long; pedicels about 5 mm. long; leaves oblong-oblongeolate or obovate-oblong, acutely acuminate, 6–12 cm. long, 2–5 cm. broad; cymes rather few-flowered [8. cymulosum](#)
- 12** Pedicels scarcely 1 mm. long; sepals broadly oblong; petals about 3 mm. long, shortly bilobed; cymes relatively short and densely flowered; sometimes subcapitate, more usually branched and often borne on leafless shoots thus appearing paniculate; leaves obovate-elliptic to oblongeolate, obtuse to rounded or sometimes cuneate at base, shortly obtusely acuminate, 8–16 cm. long, 3–7 cm. broad, pubescent beneath (rarely nearly glabrous); stigma deeply 3-lobed; fruit ellipsoid, 1–1.5 cm. long [9. guineense](#)
- Pedicels 2–3 mm. long; sepals narrowly oblong; petals about 4 mm. long, deeply bilobed and much narrowed

- below; cymes lax, well-branched and usually at least 3 cm. long; stigma shortly or deeply 3-lobed:..... **13**
- 13** Cymes few-flowered, slender; leaves oblong-elliptic, 6–14 cm. long, 2.5–6 cm. broad, with 5–6 lateral nerves prominent beneath and conspicuously looped well within the margin, usually drying green [10. oblongum](#)
- Cymes many-flowered, large and lax; leaves broadly elliptic or obovate, 10–22 cm. long, 5–11 cm. broad, with 6–7 lateral nerves more or less prominent beneath and looped near the margin, usually drying brownish [11. floribundum](#)
- 14** Inflorescences subcapitate and pedunculate: **15**
- Inflorescences sessile, or very nearly so: **19**
- 15** Petals equal to or shorter than the sepals; pedicels longer than the flowers; peduncle stout, up to 2 cm. long and 2 mm. broad; branchlets, inflorescences, flowers and petioles densely tomentose; leaves broadly oblong-elliptic to oblong-obovate, acute to cordate at base, acuminate, 8–18 cm. long, 5–10 cm. broad, strongly and rather closely reticulate beneath; stigma very shortly 3-fid [12. reticulatum](#)
- Petals longer than the sepals; pedicels shorter than the flowers; stigma 3-lobed:..... **16**
- 16** Leaves cordate at base: **17**
- Leaves not cordate at base: **18**
- 17** Leaves spreadingly pilose on the nerves of both surfaces even when mature, obovate-elliptic, 6–10 cm. long, 4–5 cm. broad; peduncle 0.5–2 cm. long; cymes rather few-flowered; stamens and style much longer than the petals [13. umbellatum](#)
- Leaves almost glabrous on both surfaces when mature, rather strongly reticulate beneath; cymes many-flowered, usually sessile, but sometimes with a peduncle up to 1 cm. long; stamens and style about as long as the petals; for other characters see below [17. johnstonii](#)
- 18** Stamens and style much longer than the petals; peduncles always branched, but sometimes appearing subcapitate; for other characters see above [9. guineense](#)
- Stamens and style about as long as the petals; peduncles 2–5 cm. long, usually unbranched; leaves obovate-elliptic, rounded to obtuse at base; acutely acuminate, 8–13 cm. long, 3.5–5.5 cm. broad [14. tomentosum](#)
- 19** Leaves cordate and often glandular at the base: **20**
- Leaves not cordate at base: **24**
- 20** Flowers sessile or subsessile; petals only a little longer than the sepals; for other characters see below [22. heudelotii](#)
- Flowers distinctly pedicellate: **21**
- 21** Young stems, midrib and main lateral nerves beneath very long spreading-pilose; petals only a little longer than the sepals; leaves oblong, unequally cordate at base, obtuse or shortly acuminate at apex, 8–20 cm. long, 3.5–7.5 cm. broad, with 6–10 pairs of looped main lateral nerves; fruits densely velutinous, up to 3 cm. diam. and 2 cm. long [15. martinequi](#)
- Young stems, midrib and main lateral nerves beneath not long spreading-pilose; petals considerably longer than the sepals: **22**
- 22** Leaves oblong-obovate, long-acuminate, 8–15 cm. long, 3.5–6 cm. broad, main lateral nerves 4–5 pairs, setulose on the nerves beneath [16. linderi](#)
- Leaves oblong-elliptic, shortly acuminate or obtuse, 5–15 cm. long, 2.5–6 cm. broad, main lateral nerves about 7 pairs, almost glabrous beneath when mature; for other characters see above [17. johnstonii](#) **23**
- [@](#)
- 23** Leaves obovate-elliptic, long-acuminate, 10–25 cm. long, 5–10 cm. broad, main lateral nerves 6–10 pairs, almost glabrous beneath [18. subauriculatum](#)
- Flowers pedicellate: **26**
- 24** Sepals reflexed; petals only shortly bilobed; branchlets and leaves sparsely puberulous; leaves oblong-elliptic, cuneate at base, shortly acuminate, 6–10 cm. long, 2.5–4 cm. broad, main lateral nerves 4–5 pairs; flowers pedicellate in sessile clusters [19. staudtii](#)
- Sepals not reflexed; petals deeply bilobed; branchlets mostly hispid or tomentose, or if sparsely pubescent or glabrous then leaves much larger than above: **25**
- 25** Branchlets very hispid with spreading, rather long hairs, or densely tomentose:
- Branchlets glabrous or shortly appressed-pubescent; leaves glabrous or very nearly so:
- 26** Branchlets softly tomentose; leaves more or less elliptic, shortly acuminate, 5–14 cm. long, 2.5–5.5 cm. broad, sparingly puberulous on the 5–6 pairs of lateral nerves beneath [20. kumasiense](#)
- Branchlets and undersurface of leaves hispid with long spreading hairs; leaves oblong-elliptic, acutely acuminate, 6–8 cm. long, 2–3 cm. broad; lateral nerves about 6 pairs conspicuously looped and prominent beneath **21**.
- acutisepalum **27**
- [@](#)

- 27** Flowers sessile; **28**
 Leaves elongate-oblong, very shortly cuneate, acuminate at apex, 18 cm. long, 6–7 cm. broad; lateral nerves 6–7 pairs; flowers few, crowded, distinctly pedicellate; petals bilobed to the middle **25. thomsonii** **30**
 **@**
- 28** Leaves rounded at base: **29**
 Leaves cuneate and unequal-sided at base, oblong, gradually acuminate, 11–15 cm. long, 4–5 cm. broad, loosely pubescent beneath; lateral nerves about 8 pairs **24. ferrugineum**
- 29** Lateral nerves 5–6 pairs; leaves oblong, rather narrow and subauriculate at base, acuminate and mucronate at apex, 7–14 cm. long, 2.5–4.5 cm. broad, glabrous beneath except on the nerves; branchlets loosely tomentose **22. heudelotii**
 Lateral nerves about 10 pairs; leaves as above; branchlets very densely tomentose **23. scabrum**
- 30** Leaves elliptic, rounded at base, obtusely acuminate, 12–15 cm. long, 6–7.5 cm. broad, leathery; lateral nerves 5–6 pairs; flowers numerous, clustered, with rather slender pedicels; petals bilobed 1/3 their length **26. obanense**

1. *Dichapetalum petersianum* Dinkl. & Engl. in Engl. Bot. Jahrb. 46: 572 (1912).

*APD: Synonym of *Dichapetalum angolense* Chodat*

An erect shrub with more or less pendulous branchlets, softly tomentose.

Lib.: Grand Bassa (Aug.) Dinklage 1970! Monrovia (July) Dinklage 2231. Sarbo, Webbo (young fr. July) Baldwin 6392!

2. *Dichapetalum angolense* Chodat in Bull. Herb. Boiss. 3: 672 (1895). *APD acc*

Dichapetalum ferrugineo-tomentosum Engl. (1896); Chev. Bot. 120.

Shrub, up to 12 ft.

IV. C.: Dabou Chev. 15560 bis! **S. Nig.:** Oban (May) Ujor FHI 31795! **Br. Cam.:** Buea (fr. Apr.) Dunlap 157! Maitland 1173!

Also in **French Cameroons**, **Gabon** and **Angola**.

3. *Dichapetalum argenteum* Engl. Bot. Jahrb. 33: 82 (1902).

*APD: Synonym of *Dichapetalum bangii* (Didr.) Engl.*

Chailletia rufipilis of F.T.A. 1: 342, partly, not of Turcz.

A climbing shrub, up to 15–20 ft. long; calyx green; petals white.

Br. Cam.: Cameroons R. (Jan.) Mann 747!

Also in **French Cameroons**, **Gabon** and **Cabinda**.

4. *Dichapetalum pallidum* (Oliv.) Engl. in E. & P. Pflanzenfam. 3, 4: 249 (1896); Chev. Bot. 121. *APD acc*

Chailletia pallida Oliv. F.T.A. 1: 343 (1868).

Dichapetalum liberiae Engl. & Dinkl. in Engl. Bot. Jahrb. 33: 84 (1902); Chev. Bot. 120; F.W.T.A., ed. 1, 1: 324.

Dichapetalum warneckeii Engl. l.c. 83.

Dichapetalum cinereum Engl. l.c. 85; Chev. Bot. 119.

Dichapetalum whytei Stapf in Johnston Lib. 2: 586 (1906).

Dichapetalum bussei Engl. Bot. Jahrb. 46: 574, fig. 1 (1912).

Dichapetalum albidum A. Chev. Bot. 119, name only.

A shrub, erect or scandent; branchlets pale yellowish tomentose.

Fr. G.: R. Konkouré, Kouria (July) Chev. 15086! Konanké country (Feb.) Chev. 20826. Kindia (Mar.) Chev. 13368. **S. L.:** Mabum (fr. Aug.) Thomas 1604! Mayoso (Aug.) Thomas 1431! Mabonto (young fr. July) Deighton 3269! Pujehun (young fr. July) Deighton 5794! **Lib.:** Kakatown Whyte! Grand Bassa (May) Dinklage 1832! Nekabozu, Vonjama (fr. Oct.) Baldwin 9961! Gbanga (Sept.) Linder 674! **IV. C.:** Grabia (June) Chev. 19159! **G. C.:** Axim (Feb.) Irvine 2229! Assuantsi (Apr.) Scholes 282! **Togo:** Lome (Nov., Dec.) Warnecke 13! Mildbr. 7520! Kpeme (fl. & fr. Jan.) Busse 3639! **Dah.:** Sakété (Jan.) Chev. 22821. Abomey Chev. 23161. **S. Nig.:** Lagos Moloney! Millen 5! Apapa (Dec.) Dalz. 1336! Epe (Apr.) Barter 3299! Jones & Onochie FHI 17428!

Also in **French Cameroons** and **Gabon**.

The following specimens seem to represent a distinct variety with tuberculate fruits: S. L.: Gbesebu, Njala (fr. Sept.) Deighton 3792! Gola Forest (fr. Apr.) Deighton 3639! Taiama (fr. Oct.) Deighton 4504! Lib.: Peahtah (fr. Oct.) Linder 897! Mecca, Boporo (fr. Nov.) Baldwin 10420! Kolahun Dist. (fr. Nov.) Baldwin 10163! 10206! G. C.: Kumasi (July) Vigne 3290!

5. *Dichapetalum barteri* Engl. Bot. Jahrb. 23: 134 (1896). *APD acc*

Icacinopsis annonoides Roberty in Bull. I.F.A.N. 15: 1420, fig. 6 (1953).

A tree, to 35 ft. high, with dense bushy crown; flowers cream; fruit apparently tuberculate.

G. C.: Cape Coast Castle (Nov.) Roberty 12829! Komenda (fr. Jan.) Andoh FH 5597! **S. Nig.:** Onitsha Barter 1781! Orlu (Dec.) Jones FHI 6202! Agulu (Nov.) Keay FHI 25593! Udi (Nov.–Feb.) Jones FHI 7431! Keay FHI 22280!

Also in **French Cameroons**.

6. *Dichapetalum subcordatum* (Hook. f.) Engl. in E. & P. Pflanzenfam. 3, 4: 349 (1896).

APD: *Synonym of Dichapetalum madagascariense Poir. var. madagascariense*

Chailletia subcordata Hook. f. — F.T.A. 1: 341.

A shrub about 15 ft. high, with puberulous branchlets and fairly large leaves.

F. Po: (June, Nov.) T. Vogel 207! Mann 432!

7. *Dichapetalum zenkeri* Engl. Bot. Jahrb. 23: 138 (1896). *APD acc*

A climbing shrub; branchlets yellowish-tomentellous becoming glabrous; flowers small, white, fragrant.

S. Nig.: Oban Talbot 1360! 1631!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

8. *Dichapetalum cymulosum* (Oliv.) Engl. in E. & P. Pflanzenfam. 3, 4: 349 (1896); Chev. Bot. 120. *APD acc*

Chailletia cymulosa Oliv. F.T.A. 1: 340 (1868).

A shrub, sometimes climbing; branchlets pubescent, becoming glabrous; fruit plum-like, 1–1½ in. long, glabrous.

IV. C.: Dabou (Feb.) Chev. 17165! **Br. Cam.:** Cameroons R. (Jan.) Mann 2200!

Also in **French Cameroons** and **Gabon**.

9. *Dichapetalum guineense* (DC.) Keay in Kew Bull. 1955: 137 (q.v. for full synonymy).

APD: *Synonym of Dichapetalum madagascariense Poir. var. madagascariense*

Ceanothus? guineensis DC. (1825).

Rhamnus paniculatus Thonn. (1827).

Chailletia flexuosa Oliv. F.T.A. 1: 340 (1869).

C. floribunda var. *β.* Oliv. F.T.A. 1: 341.

Dichapetalum flexuosum (Oliv.) Engl. (1896) — F.W.T.A., ed. 1, 1: 324; Aubrév. Fl. For. C. Iv. 2: 4, t. 125, A.

Dichapetalum paniculatum (Thonn.) De Wild. (1919).

Dichapetalum rowlandii Hutch. & Dalz. F.W.T.A., ed. 1, 1: 324 (1928).

Dichapetalum bocageanum of Chev. Bot. 119.

A shrub or small tree; flowers cream, fragrant; fruits bright orange, tomentose.

S. L.: Kafogo (Apr.) Sc. Elliot 5601b! Rowala (July) Thomas 1017! **IV. C.:** Aubrév. 1129! Dyolas (fr. May) Chev. 21549!

G. C.: Thonning! Accra Plains (Jan.–Apr.) Brown 935! Dalz. 124! Irvine 1964! Kpong-Bomm (Apr.) A. S. Thomas M. 5!

Jimira F.R. (Aug.) Andoh FH 4418! **Togo:** Lome (Nov.) Warnecke 88! Mildbr. 7482! **Dah.:** Porto Novo (Mar.) Chev.

23332! Zagnanado (Mar.) Chev. 23298! **S. Nig.:** Lagos Barter 2142! Rowland! Abeokuta Irving! Barter 3355! 3372! Ibadan (fl. Dec.–Apr., fr. Mar., Apr.) Meikle 1259! 1463! Keay FHI 25681! 25696!

10. *Dichapetalum oblongum* (Hook. f.) Engl. l.c. 3, 4: 349 (1896); Chev. Bot. 121. *APD acc**Chaillietia oblonga* Hook. f. — F.T.A. 1: 342.

A shrub, more or less scandent; flowers white, fragrant; fruits yellow, tomentellous, wrinkled, oblanceolate to ovate, up to 1 1/2 in. long.

S. L.: Njala (fl. Mar., fr. Jan–Mar.) Deighton 4701! 4714! 5349! Bumbuna Thomas 3457! **Lib.:** Kannadhun, Kolahun (Nov.) Baldwin 10162! Tawata, Boporo (Nov.) Baldwin 10331! Barclayville (fr. Mar.) Baldwin 11117! **IV. C.:** Aboisso (Apr.) Chev. 17908! **G. C.:** Axim (fr. Feb.) Irvine 2227! Senchi (Oct.) Vigne FH 4051! **N. Nig.:** Igala Div., Kabba (fl. & fr. Feb.) Jones FH 5019! **S. Nig.:** Akilla (ft. Jan.) Onochie FHI 20671! **Br. Cam.:** Likomba (Nov.) Mildbr. 10686! **F. Po:** (Nov., Dec.) Ansell! T. Vogel 36! 113! Barter 2056! Mann 46!

Also in **French Cameroons**.

[The specimens from Sierra Leone and Liberia tend to have the branchlets clothed with long-spreading hairs, broader based leaves, and ovate fruits; they may prove to represent a distinct species, but there appear to be intermediates.]

11. *Dichapetalum floribundum* (Planch.) Engl. l.c. 3, 4: 348 (1896); Bot. Jahrb. 23: 137, incl. var. *preussii* Engl. *APD acc**Dichapetalum floribundum* Planch. — F.T.A. 1: 340, partly (excl. vars.).

Small tree, or shrub, often scandent, with grey or ochrey-pubescent branchlets; flowers white.

S. Nig.: R. Njujua, Obudu (May) Latilo FHI 30932! **Br. Cam.:** Buea (Mar.) Preuss 904! Maitland 446! Moliko (Apr.) Hutch. & Metcalfe 85! Mamfe (Apr.) Babute Cam. 34/88! **F. Po:** (June, Nov., Dec.) T. Vogel 105! 137! 175! Barter! Mann 16!

12. *Dichapetalum reticulatum* Engl. Bot. Jahrb. 33: 82 (1902). *APD acc**Dichapetalum cordifolium* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 324 (1928); Kew Bull. 1928: 380.

Scandent shrub with densely tomentose branchlets and inflorescences and rather large leaves.

S. Nig.: Ibadan South F.R. (Mar.) Chizea FHI 24485! Akure Foster 192! Udo, Ubijaja (young fr. May) Umana FHI 29104!

Also in **French Cameroons**.

13. *Dichapetalum umbellatum* Chodat in Bull. *APD acc*

Herb. Boiss. 3: 671 (1895).

A woody climber with short branchlets spreading at right angles; flowers creamy-white.

S. Nig.: Ajilite Millen 167! Okomu F.R. (Feb.) Brenan 9140! Akpabla 1087!

Also in **Angola**.

14. *Dichapetalum tomentosum* Engl. Bot. Jahrb. 23: 138 (1896). *APD acc**Dichapetalum acutifolium* Engl. l.c. 136 (1896); F.W.T.A., ed. 1, 1: 325.

Scandent shrub or woody climber, rusty-pilose; calyx pale green; petals cream, turning yellow; fruit obliquely ovoid, about 1 in. long, rusty-tomentose.

S. Nig.: Abontakon, Ikom (Dec.) Keay FHI 28172! **Br. Cam.:** Victoria (Apr., May) Preuss 1103! Maitland 663! Barombi (Apr.) Preuss 55!

Also in **Gabon**.

15. *Dichapetalum martineau* Aubrév. & Pellegr. in Aubrév. Fl. For. C. Iv. 2: 4, t. 124, 7-10 (1936), French descr. only.*APD: Synonym of *Dichapetalum heudelotii* var. *ndongense* (Engl.) Breteler*

A small tree in the understorey of rain forest; fruits orange.

IV. C.: Banco (fl. June, fr. Aug.) Martineau 290! Serv. For. 483!

16. **Dichapetalum linderi** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 324 (1928); Kew Bull. 1928: 380.

APD: Synonym of Dichapetalum heudelotii (Planch. ex Oliv.) Baill. var. heudelotii

Low bush; flowers yellowish.

Lib.: Suen (Nov.) Linder 1407!

17. **Dichapetalum johnstonii** Engl. l.c. 23: 14! (1896).

APD: Synonym of Dichapetalum heudelotii (Planch. ex Oliv.) Baill. var. heudelotii

A shrub, sometimes climbing; young branchlets densely rusty-tomentose, becoming glabrous; inflorescence close-clustered.

G. C.: Axim (Feb.) Irvine 2260! **S. Nig.:** Ebute Metta (Nov.) Millen 22! Cross R. (Apr.) Johnston! Oban Talbot 1763! Eket Talbot!

18. **Dichapetalum subauriculatum** (Oliv.) Engl. in E. & P. Pflanzenfam. 3, 4: 349 (1896).

APD: Synonym of Dichapetalum heudelotii (Planch. ex Oliv.) Baill. var. heudelotii

Chaillertia subauriculatum Oliv. F.T.A. 1: 344 (1868).

A shrub 6–8 ft. high; branchlets slightly puberulous, becoming soon glabrous.

S. Nig.: Calabar (Feb.) Mann 2260! **Br. Cam.:** Bimbia (Feb.) Maitland 394! Buea (Mar.) Maitland 573!

19. **Dichapetalum staudtii** Engl. Bot. Jahrb. 23: 139 (1896). *APD acc*

Scrambling shrub; petals greenish-cream.

S. Nig.: Omo F.R. (Mar.) Jones & Onochie FHI 17037!

Also in **French Cameroons**.

20. **Dichapetalum kumasiense** Hoyle in Kew Bull. 1932: 260. Straggling shrub.

APD: Synonym of Dichapetalum heudelotii (Planch. ex Oliv.) Baill. var. heudelotii

G. C.: Kumasi (Mar.) Vigne 1635! **Togo:** Okrabi, Hohoe Dist. (Nov.) St. C. Thompson FH 3700! **S. Nig.:** Shasha F.R. (young fr. Apr.) Tamajong FHI 16848!

21. **Dichapetalum acutisepalum** Engl. l.c. 23: 140 (1896).

APD: Synonym of Dichapetalum heudelotii (Planch. ex Oliv.) Baill. var. heudelotii

A rusty hairy shrub.

S. L.: near Kurusu (Apr.) Sc. Elliot 5526!

22. **Dichapetalum heudelotii** (Planch. ex Oliv.) Baill. Hist. des Pl. 5: 140 (1874); Chev. Bot. 120. *APD acc*

Chaillertia heudelotii Planch. ex Oliv. F.T.A. 1: 344 (1868).

A shrub, branchlets and young leaves rusty-hairy.

Fr. G.: Heudelot 770! Fouta Djallon (Mar.) Chev. 12599. **S. L.:** Bagroo R. (Apr.) Mann 800! Njala (Mar.–May) Deighton 1580! 2999! Dodo (Apr.) Deighton 3918! Gima, Valunia (Apr.) Deighton 5859!

23. **Dichapetalum scabrum** Engl. Bot. Jahrb. 33: 86 (1902).

APD: Synonym of Dichapetalum heudelotii var. longitubulosum (Engl.) Breteler

A climbing shrub; branchlets yellow-tomentose.

Br. Cam.: Johann-Albrechtshöhe (Jan.) Staudt 542.

24. *Dichapetalum ferrugineum* Engl. Bot. Jahrb. 23: 139 (1896).

*APD: Synonym of *Dichapetalum heudelotii* (Planch. ex Oliv.) Baill. var. heudelotii*

A shrub with densely rusty-tomentose branchlets.

Br. Cam.: Victoria (May) Preuss 1275!

25. *Dichapetalum thomsonii* (Oliv.) Engl. in E. & P. Pflanzenfam. 3, 4: 349 (1896).

*APD: Synonym of *Dichapetalum madagascariense* Poir. var. madagascariense*

Chailletia thomsonii Oliv. F.T.A. 1: 342 (1868).

A small tree.

S. Nig.: Calabar Thomson 79!

26. *Dichapetalum obanense* (Bak. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 1: 324 (1928). *APD acc*

Dichapetalum thomsonii var. *obanense* Bak. f. in Cat. Talb. 19 (1913).

A shrub or small tree; petals orange.

S. Nig.: Oban Talbot 1627!

27. *Dichapetalum nitidulum* Engl. & Ruhl. in Engl. Bot. Jahrb. 33: 77 (1902).

*APD: Synonym of *Dichapetalum gabonense* Engl.*

Small tree.

S. Nig.: Oban Talbot **Br. Cam.:** Missellele, Tiko (Jan.) Box 3552!

Also in **French Cameroons**.

28. *Dichapetalum chrysobalanoides* Hutch. & Dalz. F.W.T.A., ed 1, 1: 325 (1928); Kew Bull. 1928: 380.

*APD: Synonym of *Dichapetalum madagascariense* Poir. var. madagascariense*

S. L.: Sc. Elliot! Magbile (Dec.) Thomas 6019! 6110! 6119!

29. *Dichapetalum toxicarium* (G. Don) Baill. Hist. des Pl. 5: 139 (1874); Chev. Bot. 121; Aubrév. Fl. For. C. Iv. 2: 6, t. 125 B. *APD acc*

Chailletia toxicaria G. Don (1824) — F.T.A. 1: 341, incl. var. *elliptica* Oliv.

Dichapetalum suboblongum Engl. (1912), partly (Sc. Elliot 5601a).

A shrub or small tree, glabrous except for the hoary-inflorescence and fruit.

Fr. G.: Heudelot 651! 814! Pobéguin 2017! Boké Chillou! **S. L.:** Don! T. Vogel 100! R. Bagroo (Apr.) Mann 826! Regent (Apr.) Sc. Elliot 5820! Kafogo (Apr.) Sc. Elliot 5601a! Mofari (fl. & fr. Jan.) Sc. Elliot 4401! 4408! Rokupr (Apr.) Jordan 231! Gola Forest (Apr.) Small 573! **Lib.:** Vonjama (fr. Oct.) Baldwin 9885! Gletown, Tchien (fr. July) Baldwin 6947a! Tappita (fr. Aug.) Baldwin 9113! **Iv. C.:** Guldéko (May) Chev. 16408; and various other localities fide Chev. l.c. **G. C.:** Axim (fl. Feb., fr. Aug.) Beavan FH 3129! Irvine 2162! Pamu-Berekum F.R. (Sept.) Vigne FH 2485! Dompim, Bonga Su (May) Jackson FH 1979!

30. *Dichapetalum rudatisii* Engl. Bot. Jahrb. 46: 582 (1912). *APD acc*

A shrub, erect or climbing.

S. Nig.: Degema Talbot! Oban Talbot 19! 482! **Br. Cam.:** Abonando, Mamfe (Mar.) Rudatis 16!

Also in **French Cameroons**.

31. *Dichapetalum longitubulosum* Engl. Bot. Jahrb. 33: 90 (1902).

*APD: Synonym of *Dichapetalum heudelotii* var. *longitubulosum* (Engl.) Breteler*

Scandent shrub, to 12 ft. high; branchlets rusty-hirsute; calyx pale green; petals cream, becoming yellow at tips; fruit bright orange with white hairs.

S. Nig.: Bendiga Ayuk, Ikom (fl. & fr. Dec.) Keay FHI 28165!

Also in **French Cameroons**.

32. *Dichapetalum* sp. A. *APD acc*

Near to *D. integripetalum* Engl., but probably new. Understorey tree, to 15 ft. high. Better specimens required.

S. Nig.: Okwango F.R., Obudu (May) Latilo FHI 30960!

1. *Dichapetalum affinis* Planch. ex Benth. in Fl. Nigrit. 276 (1849). *APD acc*

Included in *D. toxicarium* (G. Don) Baill. by Oliver (F.T.A. 1: 341), but probably distinct. Perfect flowers and mature fruits not known.

F. Po: T. Vogel 149!

Imperfectly known species.

2. *Dichapetalum* sp. B. *APD acc*

Liane; flowers white. Near *D. umbellatum* Chodat.

S. Nig.: Shasha F.R. (May) Richards 3461! Ross 91!

Imperfectly known species.

3. *Dichapetalum* sp. C. *APD acc*

“Straggling climbing shrub in forest.”

G. C.: Abosso (Aug.) Vigne FH 3033!

Imperfectly known species.

4. *Dichapetalum* sp. D. *APD acc*

Shrub 10 ft. high; flowers white. Probably near *D. heudelotii*.

Port. G.: Catió (June, July) Esp. Santo 2092! 2101!

Note. A number of specimens of this difficult genus have come to hand since the above key was sent to the printer and it is evident that there is still a lot more work to be done before the genus is satisfactorily understood in our area.

2. TAPURA

Aubl. — F.T.A. 1: 344.

Leaves 2.5–10 cm. long, 1.2–4 cm. broad, main lateral nerves 4–6 on each side of the midrib, lamina elliptic to elliptic-lanceolate, shortly cuneate at base, gradually sub-acuminate, pubescent to glabrescent beneath; flowers on pedicels about 2 mm. long; peduncle more or less free from the petiole in its upper part; corolla with 1 or 2 larger bilobed petals, and 3 or 2 smaller bilobed petals, and a single lanceolate or bifid petal; fertile stamens 2; fruit 3-lobed, about 4 mm. long [*2. fischeri*](#)

Leaves 10–22 cm. long, 4–11 cm. broad, main lateral nerves 3–4 on each side of the midrib, lamina obovate-elliptic, shortly cuneate at base, abruptly acuminate, puberulous only on the nerves beneath, laxly reticulate; flowers shortly pedicellate, clustered; peduncle completely adnate to the petiole; corolla with 2 large bilobed petals and 3 small lanceolate petals; fertile stamens 3; fruit ellipsoid, about 3 cm. long [*1. africana*](#)

1. *Tapura africana* Oliv. F.T.A. 1: 344 (1868). *APD acc*

A forest tree, to 80 ft. high; flowers yellow.

S. Nig.: Aboabam, Ikom (fl. & fr. May) Latilo FHI 30978! Cross River North F.R., Ikom (fl. & fr. June) Latilo FHI 31829!

Br. Cam.: Bimbiam Road, Victoria (Apr.) Maitland 611! 614! **F. Po:** Mann 1161!

2. *Tapura fischeri* Engl. Pflanzenw. Ost-Afr. C. 423 (1895). *APD acc*

***Tapura africana* Engl.** l.c. 235 (1895), not of Oliv.

Small much-branched tree, to 40 ft. high; flowers white.

IV. C.: Akakoumouekron (Dec.) Chev. 22562! **G. C.:** Afram Headwaters F.R. (Apr.) Andoh. FH 4733! Ijang F.R., Ashanti (Apr.) Williams 255! **S. Nig.:** Olokemeji (Apr.) A. F. Ross 145!

Also in **A.–E. Sudan, Belgian Congo, Kenya, Uganda** and **Tanganyika**.

\$/eflora

CAESALPINIACEAE

Trees, shrubs or very rarely herbs or scramblers. Leaves pinnate or bipinnate, rarely simple or 1-foliolate; stipels mostly absent. Flowers mostly showy, racemose, spicate or rarely cymose, zygomorphic, rarely subactinomorphic; bracteoles sometimes large and enclosing the flower in bud. Sepals 5, or the two upper connate, mostly free, imbricate or valvate, sometimes much reduced and then replaced by the large bracteoles. Petals 5 or fewer or absent, the adaxial (upper) one inside in bud, the others variously imbricate. Stamens mostly 10, rarely numerous, free or variously connate; anthers various, sometimes opening by terminal pores. Ovary superior, 1-celled, of 1 carpel. Seeds with or without endosperm and large embryo.

Mainly tropical and subtropical.

Recognized amongst its allies by the adaxial petal being inside the others in bud. A large number of the African genera have a much-reduced calyx, a condition then compensated for by the large pair of opposite valvate bracteoles which completely envelop the flower in bud. These bracteoles may easily be mistaken for a true calyx.

- 1 Leaves simple or unifoliolate:2
- Leaves compound; 2 or more foliolate:9
- 2 Leaves more or less deeply bilobed:3
- Leaves not bilobed:4
- 3 Plants monoecious, flowers hermaphrodite; ovules and seeds in 1 series [1. Bauhinia](#)
- Plants dioecious, flowers unisexual; ovules in several series; seeds scattered in the pulp of the subwoody indehiscent fruits [2. Piliostigma](#)
- 4 Petals present:5
- Petals absent or if present then sepals absent or much reduced:7
- 5 Calyx with 4–5 distinct lobes in bud; petals 5; stamens 10:6
- Calyx in one piece and closed in bud, splitting irregularly; petals 6; stamens 14–41; flowers in short racemes or umbels [4. Baphiopsis](#)
- 6 Fruits inflated, bladder-like; flowers numerous in pyramidal racemes, at length reflexed; calyx with 5 lobes, united at the base into a long tube [3. Griffonia](#)
- Fruits not bladder-like; flowers in very short few-flowered racemes; sepals 4, free, imbricate [22. Zenkerella](#)
- 7 Bracteoles not valvate, early caducous; sepals 4, well-developed; see also below [30. Guibourtia](#)
- Bracteoles valvate completely enclosing the bud, persistent; sepals absent or much-reduced:8
- 8 Flowers in racemes; petal 1 (or 2–3), well-developed, or absent; fertile stamens 3–6 (–7–8); ovary stipitate; fruits without longitudinal ridges [49. Cryptosepalum](#)
- Flowers in narrow panicles; petals (4–) 5, filiform; fertile stamens (4–) 5; ovary subsessile; fruits with 1–2 longitudinal ridges [60. Didelotia](#)
- 9 Leaves once pinnate:10
- Leaves bipinnate:55
- 10 Bracteoles not valvate, usually early caducous; leaflets alternate or opposite:11
- Bracteoles valvate, well-developed, completely enclosing the bud, persistent (except in *Tamarindus*); leaflets opposite, mostly without translucent dots; flowers arranged in more than 2 ranks:41
- 11 Calyx in one piece and closed in bud, splitting irregularly; stamens 16 to very numerous; petals 0 or 1, rarely 3; ovary stipitate; fruits indehiscent; leaves with an odd terminal leaflet (imparipinnate):12
- Calyx with the sepals, lobes or teeth distinct in bud, splitting regularly; stamens mostly 10 or less, rarely more: 14
- 12 Flowers with a single large posterior petal, rarely with a pair of minute lateral petals; fruits cylindrical with numerous seeds; ovary shortly stipitate; stamens numerous, anthers basifixed; leaflets 5–19, without translucent glands [5. Swartzia](#)
- Flowers without petals; fruits subglobose or ovoid; ovary long-stipitate; anthers dorsifixed; leaflets 18–38, with translucent glands:13
- 13 Stamens very numerous, inserted halfway up the campanulate calyx-tube; racemes (in our species) arising on the woody shoots before the leaves; savannah trees [6. Cordyla](#)
- Stamens 12–18, inserted round the edge of the disk at the base of the open calyx; racemes arising on young shoots with the leaves; rain forest tree [7. Mildbraediodendron](#)
- 14 Petals all deeply bilobed to below the middle, the lobes narrow or ligulate; fruit flat, elliptic, indehiscent, winged

- all round, 1–2-seeded; leaves with an odd terminal leaflet (imparipinnate), stipels well-developed [8. *Amphimas*](#)
- Petals present or absent, not as above; stipels absent: **15**
- 15** Anthers attached at or near the base, often opening by terminal pores, sometimes dorsifixed in which case 2–3 of the filaments are bent into the form of a hook and the fruits are cylindrical with transverse partitions (certain species of *Cassia*): **16**
- Anthers attached at the middle, never opening by pores; filaments never bent into the form of a hook: **19**
- 16** Leaves with an odd terminal leaflet (imparipinnate): **17**
- Leaves without an odd terminal leaflet (paripinnate): **18**
- 17** Fruit an elongate, woody, dehiscent pod with a ridge near each margin of the valves; inflorescence a stout simple raceme, or panicle of racemes; sepals 4, the largest one encircling the others in bud; stamens 4 (–5), with the adaxial pair more or less connate [9. *Duparquetia*](#)
- Fruit drupaceous, indehiscent, orbicular or ovoid; inflorescence a panicle of cymes; sepals 5, subequal; stamens 2, or 4–5, free [10. *Dialium*](#)
- 18** Petals 3; fertile stamens 2; fruit thin, flat, elliptic, indehiscent, several-seeded [11. *Distemonanthus*](#)
- Petals 5; stamens 10, fertile or partly abortive; fruits various [12. *Cassia*](#)
- 19** Sepals subvalvate in bud (i.e. valvate, but with very narrow membranous, slightly imbricate margins), or sepals reduced to short teeth; flowers often arranged distichously: **20**
- Sepals imbricate in bud; flowers usually arranged in more than 2 ranks: **27**
- 20** Petals 5, well-developed, subequal in length: **21**
- Petals absent; sepals 4; stamens 10, free: **25**
- 21** Sepals 4, well-developed: **22**
- Sepals 5, teeth-like or up to 1 mm. long, calyx-tube campanulate; petals up to 7 mm. long; leaflets opposite: . **24**
- 22** Flowers relatively small; receptacle very short; sepals up to 1.5 cm. long; leaflets with translucent dots, alternate: **23**
- Flowers large; receptacle elongate; sepals at least 7 cm. long; stamens 10, of which 9 are connate into a tube at the base; leaflets without translucent dots, opposite or alternate [15. *Baikiaea*](#)
- 23** Stamens 10, free; lateral nerves mostly joined to a marginal nerve; leaflets not, or very obscurely, emarginate at apex [13. *Gilletiodendron*](#)
- Stamens 10, of which 9 are connate into a tube at the base; lateral nerves looping before the margin; leaflets usually emarginate at apex [14. *Tessmannia*](#)
- 24** Flowers in long narrow panicles; disk fleshy, campanulate, bearing the petals and 10 equal stamens; seeds up to 15 [16. *Chidlowia*](#)
- Flowers in spike-like racemes; disk absent; 5 stamens long, 5 stamens short; seeds 1–2 [17. *Kaoue*](#)
- 25** Young shoots with long, rolled, stipule-like scales opposite the leaves, leaving an almost annular scar on the stem after falling; leaflets alternate; disk absent; ovules 10–12; fruits indehiscent, with a proximal wing [18. *Hyiodendron*](#)
- Young shoots without long, stipule-like leaf-opposed scales; ovules 2 (rarely 4–7); fruits not winged: **26**
- 26** Disk absent; fruits indehiscent, drupaceous, with fibrous mesocarp; leaflets alternate [19. *Detarium*](#)
- Disk present; fruits dehiscent; seeds arillate; leaflets opposite to alternate [20. *Copaifera*](#)
- 27** Petals present; leaflets opposite: **28**
- Petals absent; leaflets alternate or opposite: **35**
- 28** Corolla of 5 petals subequal in length: **29**
- Corolla of 1–5 petals very unequal in length: **30**
- 29** Stipe of the ovary free, inserted at the base of the shallow receptacle; sepals 4–5 [21. *Cynometra*](#)
- Stipe of the ovary completely adnate to one side of the tubular receptacle; sepals 4 [23. *Schotia*](#)
- 30** Fertile stamens 7 (–8); 1 petal well-developed with a long claw, the other 4 minute or absent; fruit thick, woody; seeds black, with red, orange or yellow arils; petiolules twisted [24. *Afzelia*](#)
- Fertile stamens 10 (rarely 16–26): **31**
- 31** Bracteoles not petaloid; leaflets not emarginate at apex: **32**
- Bracteoles petaloid, coloured, ovate or lanceolate: **34**
- 32** Leaflets 3 or more pairs; flowers in well-developed racemes or panicles; bracteoles sepal-like, imbricate, surrounding the buds: **33**
- Leaflets 1 pair; 1 petal well-developed, not clawed, the other 4 minute; flowers in very short racemes; buds

- obovoid, not surrounded by the minute bracteoles [27. *Eurypetalum*](#)
- 33** Petiolules twisted; 3 petals well-developed, clawed, the other 2 (or rarely 1) small or minute; fruit woody [25. *Loesenera*](#)
- Petiolules not twisted; petals not clawed; 1 petal well-developed and the other 4 minute, or 3 petals well-developed and the other 2 minute; fruit with coriaceous valves, 1-seeded [26. *Daniellia*](#)
- 34** Leaflets emarginate; flowers distichous; disk present as a swelling prominent at the base of the receptacle; stipe of ovary completely adnate to one side of the receptacle; petals 5, 3 large and 2 smaller (in our species) [28. *Plagiosiphon*](#)
- Leaflets not emarginate (except in *H. aubrevillei*); flowers not arranged distichously; disk absent or very obscure; stipe of ovary adnate to one side of the receptacle only in the lower part; petals 3–5, unequal, or absent; see also below [29. *Hymenostegia*](#)
- 35** Leaflets with translucent dots; ovary sessile, or with stipe not fused to the side of the receptacle; stamens 4, or (8–) 10 (–12); fruits mostly indehiscent: **36**
- Leaflets without translucent dots; ovary stipitate, with the stipe adnate in its lower part to the side of the receptacle; sepals 4 (rarely 5); fruits dehiscent: **39**
- 36** Stamens (8–) 10 (–12), free: **37**
- Stamens 4, united below; sepals 4; disk present; ovary shortly stipitate; fruits indehiscent, flat, papery, 1–2-seeded; leaflets 4–10, alternate [33. *Stemonocoleus*](#)
- 37** Disk present, fleshy: **38**
- Disk absent; sepals 4 (–5); ovary stipitate; fruits indehiscent, with a proximal wing; leaflets 6–10, alternate .. [32. *Gossweilerodendron*](#)
- 38** Sepals 4; ovary sessile or stipitate; fruits thin and indehiscent, or thick and dehiscent with arillate seeds; leaflets always 1 pair, opposite; see also above [30. *Guibourtia*](#)
- Sepals 5 (–6); ovary sessile; fruits indehiscent, sometimes with a proximal wing; leaflets 1 pair, or leaflets up to 9, subopposite or alternate [31. *Oxystigma*](#)
- 39** Leaflets alternate, petiolules twisted; disk present; stamens 8–10; bracteoles not petaloid [34. *Crudia*](#)
- Leaflets opposite; disk absent or very obscure; stamens 8–10, or 16–26; bracteoles linear to linear-oblong, petaloid: **40**
- 40** Stamens 8–10; leaflets 5–20 pairs [35. *Talbotiella*](#)
- Stamens 16–26; leaflets 3–4 pairs; petals apparently absent in *H. talbotii*, for other species see above [29. *Hymenostegia*](#)
- 41** Stamens very numerous; anthers deeply sagittate; bracteoles with a gland-like knob at the apex; sepals 4; petals 5, subequal [36. *Polystemonanthus*](#)
- Stamens up to 15: **42**
- 42** Sepals well-developed: **43**
- Sepals absent or much reduced: **52**
- 43** Androecium of 10 (–13) stamens, all fertile, exserted and subequal in length: **44**
- Androecium of 3 large, fertile, exserted stamens, the others reduced, included, staminodal or absent, rarely of 9 large fertile stamens (*Gilbertiodendron splendidum*): **48**
- 44** Receptacle elongated into a tube 2.5–18 mm. long; sepals not ciliate, petals 5: **45**
- Receptacle flat or only slightly concave; sepals 5, free, densely ciliate; stamens 10, of which 9 are connate at the base; flowers up to 2 cm. long: **47**
- 45** Sepals 5, free; leaflets up to 5 pairs, at least 6 cm. long, rhachis not winged: **46**
- Sepals 3, free and 2 united; stamens 10, of which 9 are connate at the base; petals 5, subequal in length; flowers less than 1 cm. long; leaflets 12–18 pairs, up to 3.5 cm. long, rhachis narrowly winged between the leaflets [39. *Microberlinia*](#)
- 46** Stamens 10 (–13), free to the base; petals scarcely exceeding the bracteoles, subequal in length (in our species); flowers not exceeding 2 cm. in length [37. *Isobерlinia*](#)
- Stamens 10, of which 9 are connate at the base; petals much exceeding the bracteoles, subequal in length or the lateral ones smaller than the posterior; flowers 4 cm. or more long [38. *Berlinia*](#)
- 47** Leaflets with conspicuous translucent dots, 2–5 pairs; posterior petal well-developed, clawed, lateral petals minute [40. *Julbernardia*](#)
- Leaflets without conspicuous translucent dots, 1 pair; all petals minute [41. *Paraberlinia*](#)
- 48** Leaflets more than 3 cm. long; fruits dehiscent; large stamens not unilateral, free or shortly united: **49**
- Leaflets up to 3 cm. long; fruits indehiscent; the 3 large stamens unilateral and united up to the middle [46. *Tamarindus*](#)

- 49** Intrastaminal tube absent; leaflets without marginal glands; fruits without longitudinal ridges: **50**
 Intrastaminal tube present (see fig. 152), bearing staminodes some of which may be reduced to mere protuberances or absent; leaflets with glands on or near the margin: **51**
- 50** Petals not blue; stipe of ovary up to 1 mm. long; bracteoles up to 1.5 cm. long, tomentellous to puberulous outside; fruits with more or less prominent transverse ridges; petiolules not twisted [42. *Anthonothea*](#)
 Petals blue; stipe of ovary 10–12 mm. long; bracteoles 2.5 cm. or more long, glabrous; fruits without transverse ridges; petiolules twisted [43. *Paramacrolobium*](#)
- 51** Fruits without longitudinal ridges; leaflets 1 pair; stipels present; glands near the margin of the leaflets [44. *Pellegriniodendron*](#)
 Fruits with longitudinal ridges; leaflets 2 or more pairs; stipels absent; glands actually on the margins of the leaflets [45. *Gilbertiodendron*](#)
- 52** Fertile stamens (8–) 10 (–18), almost free, or connate at base, or 9 connate and 1 free: **53**
 Fertile stamens 3–6 (–7–8), free: **54**
- 53** Sepals 0–5; petal 1, well-developed (in our species), the other 4 minute [47. *Monopetalanthus*](#)
 Sepals and petals not differentiated; tepals 0–10 [48. *Brachystegia*](#)
- 54** Flowers in racemes; petal 1 (–2–3), well-developed, or absent; fertile stamens 3–6 (–7–8); ovary stipitate; fruits without longitudinal ridges [49. *Cryptosepalum*](#)
 Flowers in narrow panicles; petals (4–) 5, filiform; fertile stamens (4–) 5; ovary subsessile; fruits with 1–2 longitudinal ridges [50. *Didelotia*](#)
- 55** Sepals free to the base or nearly so; leaflets opposite or alternate: **56**
 Sepals connate into a campanulate tube; leaflets alternate: **60**
- 56** Common petiole normally developed, not ending in a spine; rhachis not leaf-like: **57**
 Common petiole very short, ending in a sharp spine; rhachis of pinnae flat and leaf-like, leaflets very small .. [55. *Parkinsonia*](#)
- 57** Branchlets and often the leaf-rhachis prickly; sepals imbricate: **58**
 Branchlets and leaf-rhachis not prickly: **59**
- 58** Fruits indehiscent, flat and thin, with an intramarginal nerve, not prickly; stipules small and inconspicuous .. [51. *Mezoneuron*](#)
 Fruits (in our species) dehiscent, not flat, prickly; stipules leafy, bilobed, usually persistent [52. *Caesalpinia*](#)
- 59** Sepals valvate; petals red, with long claws; fruits many-seeded; leaflets small, opposite, very numerous [53. *Delonix*](#)
 Sepals imbricate; petals yellow, shortly clawed; fruits 1–2-seeded; leaflets relatively large, alternate .. [54. *Bussea*](#)
- 60** Fruits 1-seeded, indehiscent, flat and thin; ovules 1–2 [56. *Burkea*](#)
 Fruits 2–18-seeded; ovules 6–20: **61**
- 61** Fruits dehiscent, valves subcoriaceous to woody-leathery, with projecting sutures; seeds 2–10 [57. *Erythrophleum*](#)
 Fruits indehiscent, valves thickly woody with thick projecting sutures; seeds 10–18 [58. *Pachyelasma*](#)

Brownea spp.

From tropical America is represented.

Haematoxylum campechianum Linn.

The “Logwood,” from tropical America is represented.

Peltophorum pterocarpum (DC.) Backer

P. ferrugineum (Decne.) Benth.

A native of tropical Asia and Australia, this species is represented.

P. dasyrrhachis (Miq.) Kurz ex Bak.

A native of the East Indies is represented.

Trachylobium verrucosum (Gaertn.) Oliv.

A “Copal tree” from East Africa is represented.

1. BAUHINIA

Linn. — F.T.A. 2: 285. *APD acc*

- 1 Leaves very small, bilobed almost to the base, rarely over 2 cm. long, lobes semicircular, glaucous, glabrous; petiole about 1/3 as long as the leaf; racemes few-flowered; calyx spathaceous, the limb twice as long as the tube, finely puberulous; petals spathulate; stamens 10, all perfect, filaments hairy at the base; anthers thinly pilose; ovary long-stipitate, glabrous; fruit linear, curved, obliquely constricted, 6–9 cm. long, glabrous[rufescens](#)

Bauhinia rufescens Lam. — F.T.A. 2: 289; Aubrév. Fl. For. Soud.-Guin. 214, t. 41, 6–9. *APD acc*

Bauhinia adansoniana of Guill. & Perr. 1: 265, partly (notes only), see Pellegrin in Bull. Soc. Bot. Fr. 74: 622 (1927).

Piliostigma rufescens (Lam.) Benth. (1852).

A much-branched shrub or small tree, up to 25 ft. high, with white flowers and blackish, often twisted, several-seeded pods which persist on the plants a long time; branchlets often armed with pointed short lateral shoots; [in the drier savannahs especially on river banks, and sometimes planted in villages.](#)

Sen.: Roger! Perrottet 259! Walo Heudelot! **Fr. Sud.:** Fô (fl. & fr. June) Chev. 959! Ansongo (fl. & fr. Mar.) De Wailly 5364! Timbuktu (fl. & fr. July) Chev. 1182! Hagerup 278! **Port. G.:** Canchungo (fl. & fr. Feb.) Esp. Santo 1321! **Fr. G.:** Timbo Pobéguin 101. **S. L.:** Manna Dawe 514! Kukuna, Bramaia (Sept.) Jordan 343! **IV. C.:** Kaya, Ouagadougou & Bobo Dioulasso fide Aubrév. l.c. **G. C.:** Navrongo (fl. & fr. Apr.) Vigne FH 3755! **Dah.:** Kouandé to Konkobiri Chev. 24244. **Fr. Nig.:** Zinder (fl. & fr. Sept.) Hagerup 617! **N. Nig.:** Sokoto (Dec.) Ryan 36! 65! Wawa, Borgu Barter 734! Katagum (fl. & fr. July) Dalz. 32! Kukawa (fl. & fr. Jan.) E. Vogel 26! **S. Nig.:** Abeokuta (fl. & fr. Jan.) Rowland!

Extends to A.–E. **Sudan.**

Bauhinia acuminata Linn.

Bauhinia monandra Kurz

Bauhinia purpurea Linn.

Bauhinia racemosa Linn.

Bauhinia tomentosa Linn.

Bauhinia variegata Linn.

2. PILIOSTIGMA

Hochst. in Flora 29: 598 (1846); Milne-Redhead in Hook. Ic. Pl. t. 3460 (1947).

Elayuna Raf. Sylva Tellur. 145 (1838).

- 1 Leaves glabrous beneath, 5–8 cm. long, 5–11 cm. broad; inflorescence with racemose branches, or racemose; mature fruit glabrous, pruinose[1. reticulatum](#)
- Leaves finely pubescent beneath, 7.5–16 cm. long, 10–18 cm. broad; inflorescence narrowly paniculate; mature fruit shortly ferrugineous pubescent[2. thonningii](#)

1. **Piliostigma reticulatum** (DC.) Hochst. (1846) — Milne-Redhead in Hook. Ic. Pl. sub. t. 3460. *APD acc*

Bauhinia reticulata DC. (1825) — F.W.T.A., ed. 1, 1: 330; Aubrév. Fl. For. Soud.-Guin. 214, t. 41, 1.

B. benzoin Kotschy (1868).

B. glabra A. Chev. Bot. 226, names only.

B. glauca A. Chev. Bot. 226, names only.

Elayuna biloba Raf. (1838).

Tree, to 30 ft. high, with spreading crown; petals white; [in the drier savannah regions.](#)

Sen.: Perrottet 66! Roger! Cape Verde Brunner 114! **Fr. Sud.:** & **IV. C.:** various localities fide Aubrév. l.c. **G. C.:** Akpabla 708! **Fr. Nig.:** Niamey (Oct.) Hagerup 546! **N. Nig.:** Zamfara F.R. (fr. Apr.) Keay FHI 16161! 18036! Katagum (Oct.) Dalz. 33! Duchi, Bornu (fl. & fr. Dec.) Elliott 114! Kukawa (fr. Feb.) E. Vogel 50!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan.**

2. **Piliostigma thonningii** (Schum.) Milne-Redhead in Hook. Ic. Pl. t. 3460 (1947). *APD acc*

Bauhinia thonningii Schum. (1827) — F.W.T.A., ed. 1, 1: 330; Aubrév. l.c. 215, t. 41, 2–5; Wilczek in Fl. Congo Belge 3: 275, t. 22.

Shrub or small tree, to 25 ft. high; often of crooked growth and occasionally scrambling; petals white; [in savannah regions moister than those of the preceding species.](#)

Sen.: Derrien 10! Heudelot 159! Bignona, Casamance Aubrév. 3030. **Gam.:** Dawe 61! **Fr. Sud.:** Kaarta Dubois 51! **Port. G.:** Safim, Bissau (fr. Jan.) Esp. Santo 1672! **Fr. G.:** Sabodougou, Touba (July) Collenette 62! **S. L.:** Senneya, Scarcies (fr. Jan.) Sc. Elliot 4658! Musaia (Sept.) Deighton 4887! Kotahun (Oct.) Glanville 16! **IV. C.:** Koudougou & Kampti fide Aubrév. l.c. **G. C.:** Aquapim Thonning! Shai Plains (fl. & fr. Jan.) Johnson 573! Ejura (Aug.) Chipp 734! Wanki (June) Chipp 481! Tamale Anderson 26! **Togo:** Lome Warnecke 435! Kpedsu (fr. Dec.) Howes 1071! **Dah.:** Poisson! **N. Nig.:** Nupe Barter 981! Zaria (Oct.) Keay FHI 21424! Zungeru (Aug.) Elliott 4! Bauchi Plateau (May) Lely P. 303! **S. Nig.:** Lagos MacGregor 231! Abeokuta Irving! Olokemeji (Aug.) Punch 5! **Br. Cam.:** Lakka, Bamenda (June) Maitland 1570!

Widespread in tropical Africa from Abyssinia to Transvaal.

The areas occupied by these two species are well-marked, *P. reticulatum* occurring in the drier and *P. thonningii* in the moister savannah regions. At Zaria in N. Nigeria where the areas overlap Milne-Redhead (l.c.) noted a mixed population with strong indications of hybridity.

3. GRIFFONIA

Baill. in Adansonia 6: 188 (7 Oct., 1865); Taub. in E. & P. Pflanzenfam. 3, 3: 147 (1892).

Bandeiraea Welw. ex Benth. in Benth. & Hook. f. Gen. Pl. 1: 577 (1865, about 19 Oct.); F.T.A. 2: 284; F.W.T.A., ed. 1, 1: 328.

- 1 Calyx-tube softly tomentose outside, about 1 cm. long; leaves more or less ovate, rounded or widely cordate at base, rounded or shortly obtusely acuminate at apex, 6–12 cm. long, 3–6 cm. broad, glabrous and shining, prominently 3-nerved at base; inflorescence softly tomentose, with a curled hook-like branch at base; fruits obliquely oblong, inflated, up to 4–5 cm. long, blackish and reticulate; stipe slender, 1–1.5 cm. long, pubescent *1. simplicifolia*

Calyx-tube glabrous outside, about 3 cm. long; leaves oblong-elliptic, a little cuneate at base, slightly acuminate at apex, 6–14 cm. long, 3–6 cm. broad, glabrous, less prominently 3-nerved at base; inflorescence glabrous, without a modified branch at base; fruits probably smaller than above, but otherwise similar *2. physocarpa*

1. *Griffonia simplicifolia* (Vahl ex DC.) Baill. in Adansonia 6: 197 (1866). *APD acc*

Schotia simplicifolia Vahl ex DC. (1825).

Bandeiraea simplicifolia (Vahl ex DC.) Benth. in Trans. Linn. Soc. 25: 306 (1865); F.T.A. 2: 285; F.W.T.A., ed. 1, 1: 328; Chev. Bot. 228; Pellegr. Lég. Gab. 135.

A hard-wooded shrub, usually climbing, with greenish flowers and inflated black pods.

Lib.: Ganta (Oct.) Harley! Tchien Dist. (Aug.) Baldwin 9023! 9024! **IV. C.:** San Pedro Thoiré 318! Bouroukrou (fr. Dec.) Chev. 16543. Sassandra Port Chev. 17939. **G. C.:** Christianborg & Aquapim Thonning. Cape Coast (fl. & fr. Oct.) Brass! Howes 992! Winnebah (Sept.) Dalz. 95! Accra Moloney! Kumasi Cummins 134! Aburi Hills (Oct.) Johnson 475! Anwhiaso F.R. (Sept.) Vigne 226! **Togo:** Lome (Nov.) Warnecke 231! Mildbr. 7510! Kpeve (Oct.) Williams 712! **S. Nig.:** Epe (Feb.) Millen 158! Ijebu Ode (Aug.) Punch!

Also in **Gabon**.

2. *Griffonia physocarpa* Baill. l.c. 6: 188 (7 Oct., 1865). *APD acc*

Bandeiraea tenuiflora Benth. l.c. 25: 307 (1865, after 2 Nov.); F.T.A. 2: 285; F.W.T.A., ed. 1, 1: 328; Pellegr. l.c. 136.

A climbing or erect shrub; calyx yellow or red, petals green with dull red markings.

S. Nig.: Umuahia (fl. & fr. Sept.) Carpenter 69! Ikom (fl. & fr. Dec.) Keay FHI 28160! Oban (Apr.) Ejiofor FHI 21877! **Br. Cam.:** Johann-Albrechtshöhe Staudt 951! **F. Po:** Mann 1163!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

4. BAPHIOPSIS

Benth. ex Bak. — F.T.A. 2: 256. *APD acc*

- 1 A tree; leaves unifoliate, broadly elliptic or ovate-elliptic, obtusely acuminate, 9–20 cm. long, 4–10 cm. broad, closely reticulate on both surfaces, glabrous; lateral nerves 5–6 pairs; petiolule 1–4 cm. long, pulvinate and transversely rugose at each end; flowers in very short axillary racemes; axis of inflorescence up to 2.5 cm. long, slender, shortly pubescent; pedicels up to 1 cm. long, slightly pubescent; buds broadly ellipsoid, hairy at the tip, about 3.5 mm. long; calyx closed in bud, at length splitting irregularly; petals 6, about as long as the

calyx, subequal; stamens 16–18, short, free; ovary sessile, 2-ovuled; fruits not known[parviflora](#)

Baphiopsis parviflora *Benth. ex Bak.* in F.T.A. 2: 256 (1871); Bak. f. Leg. Trop. Afr. 2: 590; Gilbert & Boutique in Fl. Congo Belge 3: 554. *APD acc*

An understorey forest tree, 20–50 ft. high; flowers white, with an unpleasant smell.

Br. Cam.: Amba Bay (Jan.) Mann 715! Likomba (Oct.) Mildbr. 10561!

Also in **Gabon**, **Belgian Congo**, **Uganda** and **Tanganyika**.

5. SWARTZIA

Schreb. — F.T.A. 2: 256.

- 1 Leaflets obtuse or emarginate, not apiculate, alternate or opposite, lanceolate to elliptic, 3–7 cm. long, 1.5–4.5 cm. broad, closely reticulate above, thinly pubescent beneath; flowers few in short racemes; pedicels up to 4 cm. long, tomentose; calyx globose in bud, finally splitting to the base and spreading or reflexed; petal normally 1, orbicular, about 2.5 cm. broad, shortly clawed, densely villous outside; stamens numerous, free; anthers unequal, oblong; ovary shortly stipitate; fruit up to 30 cm. long, cylindrical, glabrous, black; seeds numerous; savannah species [1. madagascariensis](#)

Leaflets apiculate, alternate, lanceolate, 5–9 cm. long, 3–4.5 cm. broad, glabrous; flowers in lax axillary racemes, peduncles about 20 cm. long, pedicels 1–2 cm. long, shortly appressed-pubescent; flowers and fruits similar to the last species; rain forest species [2. fistuloides](#)

1. **Swartzia madagascariensis** *Desv.* — F.T.A. 2: 257; Bak. f. Leg. Trop. Afr. 2: 605; Aubrév. in Fl. For. Soud.-Guin. 302, t. 60, 5–8; Gilbert & Boutique in Fl. Congo Belge 3: 551; Berhaut Fl. Sen. 42.

APD: Synonym of Bobgunnia madagascariensis (Desv.) J.H. Kirkbr. & Wiersema

A tree, 20–30 ft. high with conspicuous white sweetly-scented flowers, and pods a foot long rather like those of *Cassia sieberiana*.

Sen.: fide Berhaut l.c. **Gam.:** Sounders 45! **Fr. Sud.:** Bougouni (Apr.) Chev. 675! **Port. G.:** Gabu (June) Esp. Santo 2506! **Fr. G.:** Kouroussa (Apr.) Pobéguin 185! **iv. C.:** Bobo Dioulasso, Banfara and Tiengara fide Aubrév. l.c. **G. C.:** Bujan (Apr.) Kitson 506! 922! Parria (May) Kitson 574! 743! Gambaga Akpabla 732! **Dah.:** Atacora Mts. Chev. 23948. **N. Nig.:** Nupe Barter 1649! Sokoto (June) Dalz. 531! Katsina (May) MacElderry FHI 16468! L. Chad (May) E. Vogel 95!

Widespread in tropical Africa and the Mascarene Islands.

2. **Swartzia fistuloides** *Harms* in Engl. Bot. Jahrb. 45: 305 (1910); Bak. f. l.c. 605; Aubrév. Fl. For. C. Iv. 1: 280, t. 110; Gilbert & Boutique l.c.

APD: Synonym of Bobgunnia fistuloides (Harms) J.H. Kirkbr. & Wiersema

A forest tree to 80 ft. high; the one petal of each flower white or pale pink.

iv. C.: Abengourou to Bondoukou Aubrév. 709! Agboville Aubrév. 1497! 1913! **S. Nig.:** Sapoba Kennedy 1696! **Br. Cam.:** Abonando, Mamfe (May) Rudatis 65!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

6. CORDYLA

APD: Synonym of Dupuya J.H. Kirkbr.

Lour. — F.T.A. 2: 257; Milne-Redhead in Fedde Rep. 41: 227 (1937).

- 1 A tree; leaflets opposite or subopposite, about 9–10 pairs, ovate, obtuse, 5–6 cm. long, 2–2.5 cm. broad, glabrous or slightly pubescent, often glaucous; rachis and petiolules pubescent; flowers in rather dense softly woolly-tomentose racemes up to about 8 cm. long; pedicels about 1 cm. long; calyx closed in bud, at length splitting

7. MILDBRAEDIODENDRON Flora of West Tropical Africa CAESALPINIACEAE

into 4–5 lobes; petals none; stamens numerous, nearly free; ovary long-stipitate, glabrous, multiovulate; fruit stipitate, ellipsoid, about 5 cm. long, 2–3-seeded [pinnata](#)

Cordyla pinnata (*Lepr. ex A. Rich.*) *Milne-Redhead* c89f3 l.c. 232 (1937); Aubrév. Fl. For. Soud.-Guin. 304, t. 61, 1–3. *APD acc*

Calycandra pinnata *Lepr. ex A. Rich.* (1831).

Cordyla africana of F.T.A. 2: 257, partly; of Chev. Bot. 219; of F.W.T.A., ed. 1, 1: 370, partly; of Bak. f. Leg. Trop. Afr. 2: 606, partly; not of Lour.

A tree 40–50 ft. high, with corky bark, grey pubescent branchlets, pale foliage and white or yellow flowers (stamens, not petals) appearing on one-year-old shoots before the leaves; [in savannah](#).

Sen.: Heudelot 367! Sedhiou (Feb.) Chev. 3537! Trochain 1403. Kaolack Kaichinger 63. **Gam.:** Brown-Lester 70! Dawe 41! Pirie 37! Gounat Perrottet 32. Georgetown (Jan.) Dalz. 8029! **Fr. Sud.:** Ségou to Barouéli Chev. 44017. Diondiou Chev. 1006.

1. **Cordyla sp. A.** See *Milne-Redhead* l.c. 228.

Leaves minutely pubescent beneath; fruit poisonous.

Togo: Basari Kersting A. 517!

Imperfectly known species.

2. **Cordyla sp. B.** See *Milne-Redhead* l.c.

Leaves minutely pubescent beneath.

N. Nig.: Abinsi. Dalz. 705!

Imperfectly known species.

3. **Cordyla sp. C.**

Leaves with a few long curled hairs beneath.

Iv. C.: Batié (fl. & fr. Feb.) Serv. For. 2837!

[Aubrév. in Fl. For. Soud.-Guin. 306, cites this as *C. richardii* Planch, ex *Milne-Redhead*, but it appears to me to be an undescribed species. Further material of this and of the other imperfectly known species is much needed. — F.N.H.]

7. MILDBRAEDIODENDRON

Harms in *Mildbr. Wiss. Ergebn.* 1907–08, 2: 241 (1911).

- 1 A large tree; leaflets alternate or opposite, 12 — 19 on each side of rachis, lanceolate to oblong, 2.5–5 cm. long, nearly 1 cm. broad, pellucid-punctate and minutely pubescent on both surfaces; flowers few in short racemes about 3 cm. long; rachis and calyx on both sides covered with bright yellow appressed pubescence; calyx subglobose in bud, splitting into usually 3 broad, deltoid lobes, subequal, more or less reflexed; about 4 mm. long; petals absent; stamens 12–18 in a ring on the margin of the disk, filaments about 12 mm. long, anthers small, ovate, dorsifixed; ovary stipitate, oblong, 1–8-ovuled, glabrous; fruit stipitate, obliquely ellipsoid, up to 10 cm. diam., coriaceous outside, fleshy inside, with 4–5 transversely arranged seeds [excelsum](#)

Mildbraedi dendron excelsum *Harms* l.c., t. 27 (1911); Bak. f. Leg. Trop. Afr. 2: 607. *APD acc*

A tall [forest](#) tree with buttresses, a straight trunk and spreading crown; leaves deciduous, reappearing with the flowers.

G. C.: Bosumkese, Sunyani Dist. (Dec.) Lawton FH 5769! **Br. Cam.:** Issongo (Nov.) Mildbr. 10643!

Also in **French Cameroons**, **A.-E. Sudan** and **Belgian Congo**.

8. AMPHIMAS

Pierre ex Harms in Nat. Pflanzenfam. Nachtr. 3: 157 (1906). *APD acc*

- 1 Branchlets stout, rusty-tomentellous; leaflets 5–6 pairs, opposite or subopposite, lanceolate to narrowly obovate, rounded or broadly acuminate and mucronate, 6–12 cm. long, 2–3.5 cm. broad, glabrous, with rather numerous slender lateral nerves; stipels filiform, about 7 mm. long; panicles bracteate; bracts ovate, acuminate, about 7 mm. long, tomentellous; fruits flat, oblong-elliptic, 15–18 cm. long, 4–6 cm. broad, the body lanceolate and reticulate, surrounded by a smooth wing about 2 cm. broad; seed solitary, reniform, about 2 cm. broad

.....[pterocarpoides](#)

Amphimas pterocarpoides *Harms* in Fedde Rep. 12: 12 (1913); Bak. f. Leg. Trop. Afr. 3: 609; Aubrév. Fl. For. C. Iv. 1: 280, t. 111; Wilczek in Fl. Congo Belge 3: 548, t. 40. *APD acc*

A forest tree, to 150 ft. high, with cylindrical stem and spreading crown; slash with a red exudate; flowers white, fragrant; fruits papery.

Fr. G.: Kissidougou (fr. Feb.) Chev. 20716! **S. L.:** Colony F.R. Formah 27! Njala (fl. Oct., Nov., fr. Feb.) Deighton 4914! 4952! 5351! **Lib.:** Banga (Oct.) Linder 1227! Monrovia Cooper 123! 354! **IV. C.:** Guiglo Aubrév. 1896! And other localities fide Aubrév. l.c. **G. C.:** Anwhiaso F.R. Vigne FH 225! Kumasi Vigne FH 1390! Insuta (fr. Jan.) Chipp 62! Aburi (fr. Jan.) Irvine. 1900! **S. Nig.:** Lagos Foster 160!

Also in **French Cameroons**, **Belgian Congo** and **A.-E. Sudan**.

9. DUPARQUETIA

Baill. c89f4 in Adansonia 6: 189 (7 Oct., 1865); Taubert in E. & P. Pflanzenfam. 3, 3: 166 (1892).

Oligostemon Benth. in Benth. & Hook. f. Gen. Pl. 1: 570 (1865, about 19 Oct.); F.T.A. 2: 267; F.W.T.A., ed. 1, 1: 330; not of Turcz. (1858).

- 1 Shrub or small tree; young parts rusty-pubescent; leaves pinnate; leaflets 3 pairs, opposite, ovate or elliptic to oblanceolate, abruptly acuminate, rounded at base, 6–12 cm. long, 4–6 cm. broad, pubescent beneath, the terminal leaflet larger and more obovate; racemes terminal, erect, many-flowered; pedicels up to 2 cm. long; sepals 4, the outer enclosing the others and about 2 cm. long, tomentellous; petals 5, veiny, unequal; stamens 4, the adaxial pair more or less connate; anthers 1.3 cm. long, acuminate; fruit 10 cm. long, dehiscent, with 4 ridges, glabrous[orchidacea](#)

Duparquetia orchidacea *Baill.* in Adansonia 6: 189, t. 4 (7 Oct., 1865); Steyaert in Fl. Congo Belge 3: 545. *APD acc*

Oligostemon pictus Benth. in Trans. Linn. Soc. 25: 305, t. 39 (1865, alter 2 Nov.); F.T.A. 2: 267; Chev. Bot. 221; F.W.T.A., ed. 1, 1: 330.

A shrub, usually scandent, or small tree, to 20 ft. high, with showy pink and white flowers.

Lib.: Kakatown Whyte! Sinoe Basin Whyte! Dukwia R. (fl. Oct., Nov., fr. Feb.) Cooper 64! 135! 245! Harbel (fl. & fr. Dec.) Bequaert 13! **IV. C.:** Cavally Basin Chev. 19563; 19642. Grabo Chev. 19766. **G. C.:** Essuasu (fl. & fr. Nov.) Chipp! Tarkwa (Sept.) Dalz. 97! Anaje, Sekondi (Oct.) Howes 977! **S. Nig.:** Calabar Williams 22! Cross R. (fl. & fr. Jan.) Holland 249! Oban Talbot 1709! **Br. Cam.:** Victoria to Kumba (fl. & fr. Apr.) Olorunfemi FHI 30533! Cameroons R. (Jan.) Mann 751! 2210!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

10. DIALIUM

Linn. — F.T.A. 2: 282; Steyaert in Bull. Soc. Roy. Bot. Belg. 84: 29–45 (1951).

- 1 Leaflets usually 5, rarely 3 or 7, usually alternate, sometimes subopposite:2
Leaflets 11–17 (rarely up to 21), opposite or subopposite; lateral leaflets oblong rounded at base, acute or obtuse at apex, 1.5–5 cm. long, 0.6–2.5 cm. broad, terminal leaflet elliptic more or less acute at each end, 3–6 cm. long, 1.3–2 cm. broad; rachis 7–13 cm. long, together with petiolules and undersurface of leaflets rusty pubescent; petals absent; stamens 2, filaments straight; fruits subglobose, 1.5–2 cm. diam., densely tomentellous, brown[5. dinklagei](#)

- 2 Reticulation of leaflets lax, lateral nerves about 4 pairs; leaflets 2–7 cm. long, 2–4 cm. broad, rhachis 3.5–5 cm. long; lateral leaflets ovate, obtuse to rounded or subcordate at base, obtusely acuminate at apex, terminal leaflet elliptic, acute at base; rhachis, petioles and undersurface of leaflets pubescent; petals absent; stamens 4–5, filaments straight; fruits subglobose, 1.2–1.5 cm. diam., densely tomentellous, brown [1. pobeguinii](#)
- Reticulation of leaflets close, lateral nerves 8–15 pairs; petals 1 (rarely 2), caducous; stamens 2, rarely 3: **3**
- 3 Stamens with straight filaments; fruits suborbicular, flattened, 2–2.5 cm. diam., densely velvety-tomentellous, black; leaflets elliptic to lanceolate, 3–12 cm. long, 1.5–5 cm. broad, rounded or obtuse at base, obtuse or shortly and obtusely acuminate at apex, often puberulous beneath; rhachis 4–12 cm. long [2. guineense](#)
- Stamens with bent filaments; leaflets glabrous and shining: **4**
- 4 Fruits glabrous, suborbicular, flattened, 1.7–2 cm. diam.; leaflets elliptic to oblong- or ovate-elliptic, cuneate at base, rather long-acuminate, 7–13 cm. long, 2–5 cm. broad; rhachis 4–7 cm. long [3. aubrevillei](#)
- Fruits densely tomentellous, obovoid to subglobose, slightly flattened, about 2.5 cm. long and 1.5 cm. broad; leaflets oblong-elliptic or sometimes obovate, cuneate at base, acuminate at apex, 8–23 cm. long, 3.5–8 cm. broad; rhachis 8–17 cm. long [4. pachyphyllum](#)

1. **Dialium pobeguinii** *Pellegr.* in Bull. Soc. Bot. Fr. 88: 449 (1941); Aubrév. Fl. For. Soud.-Guin. 217, t. 46, 7–8; Steyaert in Bull. Soc. Roy. Bot. Belg. 84: 37. *APD acc*

Dialium ovatum *Hutch. & Dalz.* in Dalz. Us. Pl. W.T.A. 190 (1937), name only.

Tree, to 45 ft. high, on river banks close to water; flowers white.

Fr. G.: R. Koumi (June) Pobéguin 1629. Labé Chev. 12383. **S. L.:** Njala (fl. June, fr. Mar.) Deighton 1752! 1823! Batkanu (fr. Jan.) Deighton 2849!

2. **Dialium guineense** *Willd.* — F.T.A. 2: 283; Aubrév. Fl. For. C. Iv. 1: 206; Steyaert l.c. 39. *APD acc*

Forest tree, to 60 ft. high, but often shrubby, [sometimes persisting in savannah vegetation](#); flowers small in copious brownish flat panicles; petals white or pinkish; fruits black, seeds embedded in reddish pulp.

Sen.: Heudelot 584! Casamance (fl. & fr. Apr.) Perrottet 299! Cape Verde to St. Louis (Mar.) Döllinger 39! R. Salum Brunner 135! N'guer (Oct.) Chev. 2944! **Gam.:** Hayes 503! Saunders 18! **Port. G.:** Esp. Santo 1624! Formosa (fr. Apr.) Esp. Santo 1977! **Fr. G.:** Kouroussa (fl. & fr. Oct.) Pobéguin 584! Fouta Djallon (Sept., Oct.) Maclaud 447! Chev. 18252! 20165! **S. L.:** Smeathmann! Don! Regent Sc. Elliot 4178! Njala (fr. Feb.) Deighton 1933! Rokupr (fl. & fr. Nov., Dec.) Jordan 703! 713! **Lib.:** Gbanga (Sept.) Linder 768! **Iv. C.:** Morénou Chev. 22427. Abidjan Aubrév. 108. Rasso Aubrév. 150! 559! **G. C.:** Cape Coast Hove! Sekondi (Nov.) Vigne FH 1400! Accra Plains (fl. Oct., fr. Mar.) Brown 371! Howes 1138! Larte Hills (Nov.) Johnson 808! Abokobi (Oct.) Vigne FH 4257! **Togo:** Lome (Nov.) Warnecke 211! Mildbr. 7494! **Dah.:** Cotonou Chev. 4440. **N. Nig.:** Agaie (Dec.) Yates 17! Lokoja (Sept.) Ansell! T. Vogel 168! Naraguta (Dec.–Jan.) Lely 735! P. 12! **S. Nig.:** Abeokuta Irving 77! Ogba (young fr. Dec.) Unwin 174! Onitsha Barter 1795!

Also in **Principe** and **S. Tomé**.

3. **Dialium aubrevillei** *Pellegr.* in Bull. Soc. Bot. Fr. 80: 463 (1933); Aubrév. l.c. 1: 206, t. 76, A; Steyaert l.c. 41. *APD acc*

Forest tree, to 200 ft. high, with buttresses; flowers white.

S. L.: Gola North F.R. (young fr. Nov.) King 294! Colony F.R. (fr. Nov.) Vigne 10! **Lib.:** Du R. (Aug.) Linder 214! **Iv. C.:** Abidjan Aubrév. 191! Djibi Aubrév. 534. Basse Me Martineau 219. **G. C.:** Tanosu (Sept.) Chipp 360! Asiakwa (fr. Jan.) Brent 398! Benso, Tarkwa (fr. Aug.) Andoh FH 5386!

[Aubréville (l.c.) records probable hybrids between this species and *D. guineense* Willd.]

4. **Dialium pachyphyllum** *Harms* in Engl. Bot. Jahrb. 53: 468 (1915); Steyaert l.c. 42; Fl. Congo Belge 3: 538. *APD acc*

Forest tree, to 65 ft. high; petals yellow; fruits blackish-brown.

S. Nig.: Ikom (fr. July) Catterall 15!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

5. **Dialium dinklagei** *Harms* in Engl. Bot. Jahrb. 26: 275 (1899); Aubrév. l.c. 1: 204, t. 75; Steyaert in Bull. Soc. Roy. Bot. Belg. 84: 37; Fl. Congo Belge 3: 544. *APD acc*

Dialium staudtii Harms l.c.; F.W.T.A., ed. 1, 1: 337.

Forest tree, to 65 ft. high with buttressed stem and spreading crown with pendulous branches; flowers greenish-yellow or greenish-brown; fruits brown.

Fr. G.: Kissidougou (fr. Feb.) Chev. 20709! **S. L.:** Potoru, Barri (fr. Apr.) Deighton 1666! Kailahun (fr. Apr.) Deighton 3138! Njala (Sept.) Deighton 5171! **Lib.:** Grand Bassa (May) Dinklage 1813! Du R. (July) Linder 68! Brewerville (June) Barker 1322! Harbel, Farmington R. (fr. Mar.) Baldwin 11097. **IV. C.:** Abidjan (Sept.) Aubrév. 112! Dabou Chev. 16206! **G. C.:** Aburi (Aug.) Johnson 1087! Dunkwa (Aug.) Vigne 972! Kumasi (Mar.) Andoh FH 5636! **S. Nig.:** Sapoba (May) Kennedy 766! Afikpo (Oct.) Espley 11! **Br. Cam.:** Johann-Albrechtshöhe Staudt 492!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

11. DISTEMONANTHUS

Benth. — F.T.A. 2: 282.

- 1 A large tree; leaves pinnate; leaflets 9–11, alternate, ovate-lanceolate to narrowly lanceolate, acutely acuminate, rounded at base, 5–10 cm. long, 2–4 cm. broad, slightly pubescent beneath, with numerous conspicuous lateral nerves; flowers in lax paniculate cymes; bracts small and deciduous; pedicels pubescent; sepals 5, the outer 3 valvate, about 1 cm. long; petals 3, narrow, a little longer than the calyx; fertile stamens 2, anthers opening by pores; ovary tomentose; fruit narrowly elliptic, acute, flat, about 9 cm. long and 3.5 cm. broad, at length glabrous [benthamianus](#)

Distemonanthus benthamianus Baill. Hist. des Pl. 2: 135 (1870); Engl. Pflanzenw. Afr. 3, 1: 492, fig. 263; Aubrév. Fl. For. C. Iv. 1: 202, t. 74; Kennedy For. Fl. S. Nig. 90. *APD acc*

Distemonanthus laxis Oliv. F.T.A. 2: 282 (1871).

A **forest** tree, to 120 ft. high, with conspicuous orange to red bark, particularly on the upper bole and branches.

S. L.: King 248! Daru (fr. Apr.) Deighton 3215! Roruks Deighton 4139! **IV. C.:** fide Aubrév. l.c. **G. C.:** Dunkwa (fl. May, fr. July, Aug.) Chipp 714! Vigne FH 907! Brent 885! Kumasi (fr. Mar.) Vigne FH 1653! Bunsu, Akim (fr. Mar.) Irvine 1804! Duabayie (fr. Mar.) Thompson 26! Koforidua (Oct.) Vigne FH 4265! **Togo:** Atakpame Doering. **S. Nig.:** Okomu F.R. (fr. Jan.) Richards & Onochie 8888! Benin City (Jan.) Dennett 50! Sapoba (Sept.–Nov.) Kennedy 406! 1615! Oban Talbet 1497! **Br. Cam.:** Johann-Albrechtshöhe Staudt 638! 926! Likomba Mildbr. 10738!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

12. CASSIA

Linn. — F.T.A. 2: 268; *Benth.* in Trans. Linn. Soc. 27: 503–591 (1871).

- 1 Leaflets 1 pair, sessile, obovate, very unequal at base, 7–22 mm. long, 5–14 mm. broad; petiole up to 5 mm. long, eglandular; stems prostrate, like the leaves long-spreading-pilose; stipules foliaceous, obliquely ovate, persistent, 5–12 mm. long; flowers axillary, solitary or paired; pedicels longer than the leaves, up to 3.5 cm. long in fruit; fruits flat, linear-oblong, slightly curved, 1.8–3.5 cm. long, 2.5–4 mm. broad, valves thin, pubescent, the septae clearly visible from the outside, curling on dehiscence; seeds 8–16 [1. rotundifolia](#)
- Leaflets 2 or more pairs: [2](#)
- 2 Leaflets sessile; petioles with at least one gland towards the top but below the lowest pair of leaflets; leaflets up to 2.6 cm. long and 6 mm. broad; flowers solitary, or in few-flowered racemes, usually supra-axillary (the peduncle adnate to the stem); fruits flat, linear-oblong, slightly curved, valves thin, curling on dehiscence; seeds in 1 series: [3](#)
- Leaflets petiolulate; petiole and rhachis with or without glands; leaflets less than 15 pairs, more than 1.5 cm. long and 1 cm. broad, never linear, at most lanceolate; flowers axillary or terminal; fruits indehiscent or dehiscent, valves not curling on dehiscence (except in *C. absus*): [6](#)
- 3 Leaflets (3–) 4–6 (–12), narrowly and obliquely oblong, midrib nearly central, unequal at base, rounded and mucronate at apex, 7–18 (–25) mm. long, 2.5–6 mm. broad, petiole and rhachis 1.8–3.5 (–7.8) cm. long, petiole with a stipitate gland about 1 mm. long just below the lowest pair of leaflets; flowers solitary, supra-axillary; pedicels up to 3.8 cm. long in fruit; fruits about 3.5 cm. long and 4 mm. broad, pubescent; seeds about 12 [2. jaegeri](#)

- Leaflets 10–70 pairs:4
- 4 Rhachis of leaf channelled above between each pair of leaflets:5
- Rhachis of leaf with a serrated ridge along the top, having a tooth between each pair of leaflets; leaflets asymmetrical, 30–70 pairs, linear, obliquely acute and mucronate at apex, 2–8 mm. long, 0.7–2 mm. broad; rhachis and petiole 4–9 cm. long, petiole with a sessile gland just below the lowest pair of leaflets; flowers solitary, or 2–3 together, supra-axillary; pedicels 1–2 cm. long; fruits 3–5 cm. long; seeds 13–24 [5. mimosoides](#)
- 5 Midrib central, leaflets symmetrical or nearly so, 10–18 pairs, oblong-elliptic, rounded and apiculate at apex, 15–26 mm. long, 5–6 mm. broad; rhachis and petiole about 7 cm. long, petiole with an ellipsoidal gland about 2 mm. long; racemes very short, 5–6-flowered, solitary, or paired with one raceme axillary and the other supra-axillary; pedicels 1–3 mm. long; fruits 2.5–4 cm. long; seeds about 10[3. nigricans](#)
- Midrib lateral, leaflets asymmetrical, 25–30 pairs, oblong-linear, obliquely acute and mucronate at apex, 9–17 mm. long, 1.5–4 mm. broad; rhachis and petiole 7–14 cm. long, petiole with a sessile gland just below the lowest pair of leaflets; flowers solitary or 2–3 together, supra-axillary, pedicels about 1 cm. long; fruits 6–7.5 cm. long; seeds 14–20[4. kirkii](#)
- 6 Petiole and rhachis without glands:7
- Petiole and rhachis with conspicuous glands:16
- 7 Stems not viscid-glandular; leaflets 3 pairs, or more; valves of fruit not curling on dehiscence, or fruit indehiscent:8
- Stems and leaves viscid-glandular-pubescent; leaflets 2 pairs, close together at the end of a 3–5 cm. long petiole; lamina obliquely obovate or elliptic, 1.5–3 cm. long, 1–1.5 cm. broad; flowers in terminal or leaf-opposed racemes; fruits oblong, 2.5–4 cm. long, 7–8 mm. broad, strigose, valves curling on dehiscence[15. absus](#)
- 8 Filaments of 2–3 lower stamens much longer than the petals, bent into the shape of a hook; anthers dorsifixed; fruits more or less terete, with numerous transverse septae:9
- Filaments of all stamens straight and shorter than the petals; fruits flat or winged:12
- 9 Petals pink or white; bracts caducous; inflorescences terminating short axillary branches, racemose or subcorymbose, 5–12 cm. long, with about 20 flowers; pedicels about 4.5 cm. long; fruits indehiscent, straight, subterete or slightly compressed dorsally, up to 90 cm. long and 2–3 cm. diam., with a longitudinal septum, the seeds thus in 2 series; leaflets 7–10 pairs, elliptic to elliptic-ovate, acute or shortly acuminate at apex, 6–8 cm. long, 2.5–3.5 cm. broad; petiole and rhachis up to about 30 cm. long[6. mannii](#)
- Petals yellow; bracts more or less persistent:10
- 10 Flowers in racemes up to 40 cm. long, pedicels up to 5 cm. long; fruits indehiscent:11
- Flowers in terminal bracteate corymbs, the lower pedicels the longest and up to 10 cm. long; fruits dehiscent along one suture, seeds in 1 series; leaflets 5–9 pairs, ovate-elliptic, cuneate at base and long petiolulate, acute or slightly acuminate at apex, 3–4.5 cm. long, 1–2.5 cm. broad; petiole and rhachis up to 26 cm. long [9. arereh](#)
- 11 Fruits with a longitudinal septum, the seeds thus in 2 series; fruit straight, subterete or slightly compressed dorsally, 60–70 cm. long, 2.5–3 cm. broad, 2–2.5 cm. thick; bracts obliquely lanceolate, about 1 cm. long, densely velutinous; pedicels velutinous; leaflets 6–12 pairs, oblong-lanceolate, obtuse at apex, 3–10 cm. long, 1–4 cm. broad; petiole and rhachis up to 35 cm. long[7. aubrevillei](#)
- Fruits without a longitudinal septum, the seeds thus in 1 series; fruits seldom straight, terete, 50–80 cm. long, about 1.5 cm. diam.; bracts linear-lanceolate, 1–2 cm. long, pubescent; pedicels pubescent; leaflets 5–8 pairs, elliptic or oblong, shortly subacute or emarginate at apex, 5–10 cm. long, 2.5–5 cm. broad; petiole and rhachis up to 20 cm. long[8. sieberiana](#)
- 12 Rhachis narrowly winged, with a transverse ridge connecting the leaflets; leaflets 8–14 pairs, oblong to obovate, rounded at each end, 5–15 cm. long, 3–8 cm. broad; petiole and rhachis up to 60 cm. long; flowers in erect dense, terminal racemes, with large enveloping bracts; fruits straight, oblong, 15–25 cm. long, about 1.8 cm. broad, each valve with a prominent broad crenate wing along the middle[10. alata](#)
- Rhachis not winged; fruits flat not winged:13
- 13 Fruits 10 cm. long or more, up to 1.5 cm. broad, straight, attached centrally; leaflets at least 5 cm. long; petiole and rhachis up to about 30 cm. long:14
- Fruits up to 6 cm. long, 1.8–2.5 cm. broad, broadly oblong, attached towards the ventral suture; leaflets up to 4 cm. long; petiole and rhachis up to about 16 cm. long; flowers in simple racemes:15
- 14 Flowers in dense, erect, spike-like terminal racemes; leaflets 4–5 pairs, elliptic, more or less narrowed at each end, 6–12 cm. long, 3.5–6 cm. broad; fruits about 10–12 cm. long and 1.5 cm. broad, with transverse ridges, indehiscent[11. podocarpa](#)
- Flowers in panicles of axillary or terminal corymbs, numerous at the ends of the shoots; leaflets 8–12 pairs, oblong-elliptic, more or less rounded at each end, usually emarginate and mucronate at apex, 5–6 cm. long, 2–2.5 cm. broad; fruits 15–30 cm. long, about 1 cm. broad, dehiscent[12. siamea](#)
- 15 Fruits with an undulate crest up the middle of each valve, curved, 3.5–5.5 cm. long, about 2 cm. broad; leaflets 5–6 pairs, obliquely oblong-obovate, rounded and mucronate at apex, 1.5–4 cm. long, 0.8–2.5 cm. broad[13. italica](#)

Fruits without an undulate crest, more or less straight, 4–6 cm. long, 1.8–2.5 cm. broad; leaflets 3–9 pairs, elliptic-lanceolate or lanceolate, 1.5–3.5 cm. long, 0.5–1.2 cm. broad [14. *senna*](#)

16 Glands on the rachis at the insertion of 1 or several pairs of leaflets: **17**

Glands towards the base of the petiole only; leaflets acuminate; seeds in 1 series; racemes few-flowered: **20**

17 Leaflets 5–8 pairs, elliptic, rounded at each end, emarginate and mucronate at apex, 2–5 cm. long, 1–3 cm. broad; petiole and rachis to 20 cm. with a slender club-shaped gland between each pair of leaflets; flowers in corymbose racemes, clustered towards the end of the branches; fruits subtergird and subtorulose at maturity, beaked at apex, 10–15 cm. long, 5–8 mm. diam.; seeds in 1 series [16. *singueana*](#)

Leaflets 3–5 pairs, or if more then seeds in 2 series and fruits not subtorulose: **18**

18 Fruits subcylindrical, 1–1.5 cm. diam., 7–10 cm. long; seeds in 2 series, transversely arranged; inflorescences 4–10-flowered axillary or terminal racemes; leaflets 3–6 pairs: **19**

Fruits more or less compressed, 3–6 mm. broad, 15–25 cm. long, curved, valves longitudinally ridged; seeds in 1 series, arranged longitudinally; inflorescences 2-flowered, axillary, or flowers solitary; leaflets 3 pairs, obovate, mucronate at apex, up to 6 cm. long and 3 cm. broad; petiole and rachis up to 15 cm. long, with a gland at the insertion of the lowest pair, or 2 lowest pairs, of leaflets [19. *tora*](#)

19 Leaflets acutely acuminate at apex, ovate-elliptic to lanceolate, 4–9 cm. long, 2–5 cm. broad; petiole and rachis 10–20 cm. long, with a gland between each pair of leaflets [17. *laevigata*](#)

Leaflets rounded and often mucronate at apex, obovate, 1.5–3 cm. long, 1–2 cm. broad; petiole and rachis 3–7 cm. long, with a gland at the insertion of the lowest pair of leaflets only [18. *bicapsularis*](#)

20 Leaflets and fruits glabrous, or shortly pubescent: **21**

Leaves, stem and fruits long-pilose or hirsute; leaflets 4 pairs, lanceolate or ovate-lanceolate, 4–7 cm. long, 1.5–2.5 cm. broad; fruits flattish, about 12 cm. long and 5 mm. broad, very densely long-hirsute [22. *hirsuta*](#)

21 Leaflets 5–9 pairs, the top pair not the largest, narrowly lanceolate, very acute, 4–7 cm. long, 1.5–2 cm. broad; fruits subtergird with prominent sutures, 7–8 cm. long, about 1 cm. broad, shortly beaked [20. *sophera*](#)

Leaflets 4–5 pairs, the top pair the largest, broadly lanceolate or ovate, 3.5–10 cm. long, 2–4 cm. broad; fruits flattish, up to 14 cm. long, abruptly beaked [21. *occidentalis*](#)

1. *Cassia rotundifolia* Pers. Syn. 1: 456 (1805); Benth. in Trans. Linn. Soc. 27: 570. *APD acc*

Subwoody herb, with prostrate branches up to 18 in. long radiating from the rootstock; flowers yellow; fruits blackish-brown when ripe; **a weed locally common, introduced into our area.**

G. C.: Afringba, Keta (fl. & fr. Sept.) Akpabla 335! **N. Nig.:** Zaria (fl. & fr. Dec.) Daggash FHI 31406! 51 miles SE of Ilorin Clarke 24! **S. Nig.:** Lagos (fl. & fr. Aug.) Rowland! Abeokuta (fl. & fr. Feb.) Burt B. 32! Ibadan (fl. & fr. Aug.) Chizea FHI 20021! A native of tropical America.

2. *Cassia jaegeri* Keay in Bull. I.F.A.N. 18: 375 (1956). *APD acc*

Cassia grantii* var. *pilosula of Berhaut Fl. Sen. 33, not of Oliv.

Slender subwoody herb, erect, to 3 ft. high.

Sen.: without precise locality Berhaut 1232. **Fr. Sud.:** Kita (fl. & fr. Oct.) Jaeger! **S. L.:** Musaia (fr. Dec.) Deighton 4424!

3. *Cassia nigricans* Vahl — F.T.A. 2: 280; Benth. l.c. 577; Chev. Bot. 223; Steyaert in Fl. Congo Belge 3: 518.

APD: Synonym of Chamaecrista nigricans (Vahl) Greene

A woody herb or undershrub, up to 4 or 5 ft. high, with small yellow flowers.

Sen.: Heudelot 256! **Gam.:** Park! Pirie 326! **Fr. Sud.:** Bilma (fl. & fr. Dec.) E. Vogel! Toukoto (fl. & fr. Dec.) Chev. 71! Gao (Sept.) Hagerup 361! **Port. G.:** Sama, Bafata (fl. & fr. Jan.) Esp. Santo 437! **G. C.:** Ahinsa, Kumasi (fi. & fr. Oct.) Darko 415! Gambaga (fl. & fr. Sept.–Dec.) Vigne FH 4586! Adams & Akpabla GC 4219! 4242! **Dah.:** Atacora Mts. Chev. 24119. **N. Nig.:** Sokoto Moiser! Kano (fl. & fr. Feb.) Dalz. 339! Kontagora (fl. & fr. Oct.) Dalz. 21! Anara F.R. (Sept.) Olorunfemi FHI 24358! Kukawa (Jan.) E. Vogel 21!

Widespread in tropical Africa, also in **Arabia** and India.

[Barter 534 cited as this species in F.W.T.A., ed. 1, 1: 335, is a species of *Aeschynomene*.]

4. *Cassia kirkii* Oliv. F.T.A. 2: 281 (1871); Benth. l.c. 580; Steyaert l.c. 525, t. 38. *APD acc*

Erect shrub, to 5 ft. high; flowers yellow. Steyaert (l.c.) distinguishes 3 varieties: var. *kirkii* — stems with long, spreading, woolly hairs mixed with the shorter appressed hairs; var. *guineensis* Steyaert — stems with appressed hairs only; var. *glabra* Steyaert — plant quite glabrous. The first two varieties occur in our area, but several specimens are intermediate.

S. L.: Jigaya (Nov.) Thomas 2785! Jokibu (fl. & fr. Nov.) Deighton 3781! **Lib.:** Bakratown (Oct.) Linder 876! Jabroke, Webo (fr. July) Baldwin 6678! Ganta (fl. & fr. Sept.) Harley! **G. C.:** Miles! Ejura (Nov.) Vigne FH 3472! Darko 750! Accra (fl. & fr. May) Irvine 2838! **N. Nig.:** Naraguta, Bauchi Plateau (Aug.) Lely 538! P. 747! Vom Dent Young 86! **S. Nig.:** Ibadan (Sept., Oct.) Adekunle FHI 24221! Ondo (Sept.) Keay FHI 22563! Newi, Onitsha (Oct.) Jones FHI 6804! Eket Talbot! **Br. Cam.:** Buea (fr. Dec.) Maitland 810! Bamenda, 5,000 ft. (fl. & fr. Feb.) Migeod 459! L. Bambulue, Bamenda (Sept.) Ujor FHI 30207! **F. Po:** Moka (Dec.) Boughey 83!

Widespread in tropical Africa.

5. *Cassia mimosoides* Linn. Sp. Pl. 1: 379 (1753); F.T.A. 2: 280, partly; Benth. l.c. 579; Chev. Bot. 222; Steyaert l.c. 514, t. 37.

APD: Synonym of Chamaecrista mimosoides (L.) Greene

Herb or low shrub to 5 ft. high, or diffuse; flowers yellow; a variable plant, locally common on sandy soil.

Sen.: Perrottet 283! Heudelot 251! Casamance fide Chev. l.c. **Gam.:** Wallikunda (Aug.) Macluskie 7! Kuntaur Ruxton 81! 133! **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Tristao Isl. Paroisse 49! **S. L.:** Bonthe Isl. (fl. & fr. Nov.) Deighton 2278! Nyaflanda, Masakoi (Sept.) Deighton 2234! Roruks (fl. & fr. Sept.) Deighton 4842! Juring (fl. & fr. Dec.) Deighton 330! **Lib.:** Monrovia (fl. & fr. May–Dec.) Linder 1522! Baldwin 5810! 10502! Sinkor (fl. & fr. July–Sept.) Barker 1064! 1385! **Iv. C.:** R. Férédougouba, Touba (July) Collenette 63! And fide Chev. l.c. **G. C.:** Cape Coast (July) T. Vogel 78! Amansare (fl. & fr. July) Chipp 521! Tamale Anderson 33! **Togo:** Lome Warnecke 37! Sokode-Basari Schröder 65! **Dah.:** fide Chev. l.c. **Fr. Nig.:** Niamey (Oct.) Hagerup 465! **N. Nig.:** Pandiaki (Sept.) Ansell! Nupe Barter 1619! 1627! Sokoto (Sept., Nov.) Moiser 13! 113! Biu (Aug., Sept.) Noble 8! 17! **S. Nig.:** Lagos MacGregor 155! Ondo (Sept.) Keay FHI 22564! Sobo Plains, Jesse (Sept.) Butler-Cole 20! **Br. Cam.:** Bambuko F.R. (Sept.) Olorunfemi FHI 30775!

Widespread in tropical Africa and Asia.

6. *Cassia mannii* Oliv. F.T.A. 2: 272 (1871); Benth. l.c. 514; Milne-Redhead in Hook. Ic. Pl. t. 3368 (1938), partly (excl. Aubrév. 655); Pellegr. Lég. Gab. 94; Steyaert l.c. 499, t. 35. *APD acc*

A forest tree, to 80 ft. high, deciduous; petals pink or white; flowers sweet-scented.

S. Nig.: Umu-Akpo, Owerri (Nov.) Rosevear 20/28! **Br. Cam.:** Victoria Bot. Gdns. (Dec.) Winkler 602!

Also in French Cameroons, Gabon, Belgian Congo, Uganda, A.–E. Sudan, S. Tomé and Príncipe.

7. *Cassia aubrevillei* Pellegr. in Bull. Soc. Bot. Fr. 94: 5 (1947); Lég. Gab. 94. *APD acc*

Cassia sp. aff. *mannii* of Aubrév. Fl. For. C. Iv. 1: 210, partly (excl. descr. fls.), t. 77, 1–3 only.

A forest tree, to 2 ft. diam., bole without buttresses, deciduous; petals yellow.

Iv. C.: Adikokoi, Mid. Comoé (fr. Jan.) Aubrév. 655! Mudjika (May) Serv. For. 2785!

Also in Gabon.

8. *Cassia sieberiana* DC. — F.T.A. 2: 270; Benth. l.c. 516; Chev. Bot. 224 (incl. var. *saheliensis*); Aubrév. Fl. For. Soud.-Guin. 217, t. 45, 1–3; Steyaert l.c. 500. *APD acc*

Cassia kotschyana Oliv. F.T.A. 2: 271 (1871).

A tree, to 50 ft. high, with pendulous laburnum-like yellow flower-racemes, and black fruits; flowering in dry season, often when leafless; common in savannah.

Sen.: Sieber! **Gam.:** Heudelot 348! Albreda (Mar.) Perrottet 281! Genieri (Feb.) Fox 80! **Fr. Sud.:** Koulouba, Bamako (Mar.) Waterlot 1067! **Port. G.:** Prabis, Bissau (Feb.) Esp. Santo 1840! **Fr. G.:** Kouroussa (Feb.) Pobéguin 123! **S. L.:** Bagroo R. (Apr.) Mann 799! Kukuna (Jan.) Sc. Elliot 4645a! Giema (Mar.) Dawe 459! Njala (Mar.) Deighton 1096! **Lib.:** Zigida (Mar.) Bequaert 137! **Iv. C.:** Bouroukrou Aubrév. 913. Man Aubrév. 947. **G. C.:** Fiapere (Feb.) Chipp 79! Kintampo Dalz. 42! Lawra (Mar.) MacLeod 829! **Dah.:** Sakété (Jan.) Chev. 22815! **N. Nig.:** Sokoto (May) Lely 813! Nupe Barter

1171! Agaie (Feb.) Yates 40! Katagum Dalz. 332! Abinsi (June) Dalz. 586! Musgu (May) E. Vogel 72! **S. Nig.:** Abeokuta (Jan.) Rowland! Agbemia, Egbaland Barter 3361! Olokemeji (Feb.) Obaseki FHI 27911!

Also in **Ubangi-Shari, A.-E. Sudan, Uganda, Belgian Congo** and **Tanganyika**.

9. **Cassia arereh Del.** — F.T.A. 2: 270; Benth. l.c. 517; Aubrév. l.c. 221, t. 45, 4–5. **APD acc**

Savannah tree, to 30 ft. high, with corymbose yellow flowers and brown cylindrical pods 1–2 ft. long, splitting lengthwise.

N. Nig.: Sokoto (Feb.) Lely 847! Garin Gwenchi, 30 miles E. of Zaria (Mar.–Apr.) Ryan 39! Anara F.R. (fr. May) Keay FHI 22987! Bauchi Plateau (Mar.) Lely P. 199! Biu (Mar.) Kennedy FHI 8052! Yola (fl. & fr. Mar.) Dalz. 8!

Extends to Abyssinia and the Red Sea.

10. **Cassia alata Linn.** — F.T.A. 2: 275; Benth. l.c. 550; Chev. Bot. 222; Aubrév. l.c. 221, t. 44, 4–5; Steyaert l.c. 507.

APD: *Synonym of Senna alata (L.) Roxb.*

A soft-wooded shrub, up to 15 ft. or more high, with yellow flowers in stout dense erect racemes; fruits black when ripe; **in villages and clearings, chiefly in forest regions.**

Sen.: Berhaut 1783. **Fr. Sud.:** fide Chev. l.c. **Fr. G.:** Conakry (Jan.) Maclaud! **S. L.:** Barter! Ronietta (Nov.) Thomas 5575! Sembihun (fr. Dec.) Deighton 350! Kagbantama, Kasse (fl. & fr. Dec.) T. S. Jones 50! **Lib.:** Gbanga (Sept.) Linder 809! Robertsport (Dec.) Baldwin 10960! **IV. C.:** fide Chev. l.c. **G. C.:** Kumasi Cummins 6! Anwhiaso F.R. (July) Foggie FH 4439! **N. Nig.:** Yola (Oct.) Shaw 106! **S. Nig.:** Ibadan (Oct.) Newberry 138! Okomu F.R. (Jan.) Napoleon in Hb. Brenan 8793! Oban Talbot 184!

A native of America, widely spread in the tropics.

11. **Cassia podocarpa Guill. & Perr.** — F.T.A. 2: 276; Benth. l.c. 552; Chev. Bot. 224; Aubrév. l.c. 219, t. 42, 3. **APD acc**

A glabrous shrub, up to 15 ft. high, with rather dense racemes of yellow flowers and thin flat pods; **locally common on old farmland, mainly in forest regions.**

Sen.: Kounoun (fr. Mar.) Perrottet. **Port. G.:** Esp. Santo 409! **Fr. G.:** Karkandy Heudelot 794. Kouroussa Pobéguin 966. **S. L.:** Afzelius! Sherbro Sc. Elliot 5854! Regent (fl. & fr. Dec.) Sc. Elliot 4098! Commendi (Nov.) Aylmer 259! Njala (fl. & fr. Nov.) Deighton 1850! **Lib.:** Kakatown Whyte! Peahtah (Oct.) Linder 941! Harbel (fl. & fr. Dec.) Bequaert 1! Ganta (Oct.) Harley! **IV. C.:** Niangbo, Ferkéssédougou & Baoulé fide Aubrév. l.c. **G. C.:** Aburi (fl. & fr. Oct., Nov.) Johnson 466! Afram Plains (fr. Jan.) Chipp 596! **S. Nig.:** Lagos Barter 2203! Olokemeji Foster 152! Ibadan (fl. Oct., fr. Dec.) Jones FHI 13763! 14701! Ibuzo (Nov.) Thomas 1991! **F. Po:** (fl. & fr. Dec.) Mann 638!

12. **Cassia siamea Lam.** Encycl. Méth. Bot. 1: 648 (1783); Benth. l.c. 549; Steyaert l.c. 506.

APD: *Synonym of Senna siamea (Lam.) H.S. Irwin & Barneby*

A tree, to 70 ft. high; flowers yellow; frequently planted for fuel, sometimes subsponaneous.

Sen.: Berhaut 128. **S. L.:** Deighton 402! **IV. C.:** Abengourou Aubrév. 677! **G. C.:** Achimota Irvine 1416! **Dah.:** Porto Novo (Jan.) Chev. 22710! **N. Nig.:**, **S. Nig.:** & **Br. Cam.:** many localities fide Keay.

A native of tropical Asia, now widely spread in the tropics.

13. **Cassia italica (Mill.) Lam. ex F. W. Andr.** Fl. Pl. A.-E. Sud. 2: 117, fig. 49 (1952).

APD: *Synonym of Cassia italica (Mill.) Spreng.*

APD: *Synonym of Senna italica Mill.*

Senna italica Mill. (1768).

Cassia aschrek Forsk. (1775) — F.W.T.A., ed. 1, 2: 606.

Cassia obovata Collad. (1816) — F.T.A. 2: 277; Benth. l.c. 553; Chev. Bot. 223; F.W.T.A., ed. 1, 1: 335; Aubrév. l.c. 217, t. 42, 1.

Undershrub, often with herbaceous branches from a woody stock, more or less glaucous. Italian Senna.

Sen.: (Jan.) Roger! Walo Perrottet 277! 279! **Fr. Sud.:** Timbuktu (fl. & fr. July) Chev. 1263! Hagerup 267a! Ségou Chev. 3342. **Fr. Nig.:** Gourma Chev. 24480. Agades De Wailly 4938. **N. Nig.:** Zurmi (fl. & fr. Apr.) Keay FHI 15667! Bichikki (fl. & fr. May) Lely 174! Katagum (fl. & fr. July) Dalz. 4! Kalkala, L. Chad Golding 67! Kukawa E. Vogel 13!

Widespread in the dry regions of Africa; extends to N.W. India.

14. **Cassia senna** *Linn.* Sp. Pl. 1: 377 (1753); F. W. Andr. l.c. 118, fig. 50.

APD: Synonym of Senna alexandrina Mill.

Cassia acutifolia *Del.* (1802) — F.T.A. 2: 278; Benth. l.c. 553; F.W.T.A., ed. 1, 1: 335.

Senna acutifolia (*Del.*) *Batka* Monogr. Senn. 41 (1866).

An undershrub with pale more or less zigzag branchlets and erect racemes of yellow flowers. Alexandrian Senna.

Fr. Sud.: Aïr (Nov.) Francis Rodd. Timbuktu fide *Batka* l.c. **N. Nig.:** Sokoto fide *Batka* l.c.

Also in **Sahara**, **Upper Egypt**, **A.-E. Sudan** and **Somaliland**.

15. **Cassia absus** *Linn.* — F.T.A. 2: 279; Benth. l.c. 558; Chev. Bot. 221; Steyaert l.c. 507.

APD: Synonym of Chamaecrista absus (L.) H.S. Irwin & Barneby

A viscid herb or weak shrub, 1–2 ft. or more high, erect or prostrate; flowers small, red or yellow, petals dark veined; **in waste places**.

Sen.: Heudelot 414! Walo Perrottet 280! Ziguinchor, Casamance Chev. 3343. **Gam.:** Kuntaur Ruxton 132! **Fr. Sud.:** Koulikoro Chev. 3344. **Fr. G.:** Kouria Chev. 14776. **S. L.:** Kitchom (fl. & fr. Dec., Jan.) Sc. Elliot 4315! Deighton 960! Musaia (fl. & fr. Sept.–Dec.) Deighton 4426! 4851! Fintonia (Sept.) Deighton 5178! Jigaya (fl. & fr. Nov.) Thomas 2742! **IV. C.:** Mossi (Aug.) Chev. 24723. Bingerville Chev. 20072. **G. C.:** Accra (fl. & fr. May) Brown 57! Irvine 1761! Tamale (fl. & fr. Aug.) Williams 842! **Dah.:** Cotonou (fl. & fr. Apr.) Debeaux 147! **Fr. Nig.:** Niamey Hagerup 545! **N. Nig.:** Sokoto Lely 107! Nupe Barter 1620! Idah (Sept.) T. Vogel 13! Anara F.R. (May) Keay FHI 22997! Katagum (fl. & fr. Sept.) Dalz. 1! Blu (fl. & fr. Aug.) Noble 12! Dikwa (Aug.) E. Vogel 68!

Widespread in tropical Africa, Asia and Australia.

16. **Cassia singueana** *Del.* Cent. Pl. Afr. 28 (1826); Aubrév. l.c. 217, t. 42, 2 (incl. var. *kethulleana* (De Wild.) Ghesq.); Steyaert l.c. 509.

APD: Synonym of Senna singueana (Delile) Lock

Cassia goratensis *Fres.* (1839) — F.T.A. 2: 273; Chev. Bot. 222.

A shrub, or small tree, up to 30 ft. high, with copious yellow flowers.

Fr. Sud.: Negala (Jan.) Chev. 163! Kati Chev. 170. Bamako Waterlot 1465. **IV. C.:** Koudougou Aubrév. 2150. **G. C.:** Lawra (Nov.) Vigne FH 4661! Burufo (Dec.) Adams GC 4434! **Fr. Nig.:** Gourma (July) Chev. 24175! Niamey (Oct.) Hagerup 561! **N. Nig.:** Katsina (fl. & fr. Mar.) Meikle 1347! Kontagora (Jan.) Dalz. 29! Bauchi Plateau (fl. & fr. Jan.) Lely P. 142! Katagum (fl. & fr. Dec.) Dalz. 3! Musgu (fr. May) E. Vogel 96! Yola (Oct.) Shaw 79!

Widespread in tropical Africa.

17. **Cassia laevigata** *Willd.* — F.T.A. 2: 275; Benth. l.c. 527; Steyaert l.c. 511.

APD: Synonym of Senna septemtrionalis (Viv.) H.S. Irwin & Barneby

APD: Synonym of Cassia septemtrionalis Viv.

A glabrous shrub, 6–10 ft. high, with smooth green branchlets and fairly large yellow flowers; **introduced and subsontaneous in some places**.

S. L.: (fr. June) T. Vogel 126! **G. C.:** Begoro, Akim (Mar.) Irvine 1181! Abetifi Kwahu (June) Irvine 308! **Br. Cam.:** Bamcui (fl. & fr. Jan.) Keay FHI 28339! **F. Po.:** (fr. Nov.) T. Vogel 200! Mann 1168!

A native of tropical America, widespread in the tropics.

18. *Cassia bicapsularis* Linn. Sp. Pl. 1: 376 (1753); Benth. l.c. 525; Steyaert l.c. 511.

APD: *Synonym of Senna bicapsularis* (L.) Roxb.

A shrub, to about 5 ft. high, with yellow flowers; introduced, sometimes used in hedges, subspontaneous in some places.

Sen.: Berhaut 374. S. L.: Dublin, Banana Isl. (fr. May) Deighton 2760! G. C.: Kumasi (fl. & fr. Feb.) Chipp 116! Akroful Cummins 35! Inundated flats 5 miles N. of Saltpond (Mar.) Irvine 1542!

A native of tropical America, widespread in the tropics.

19. *Cassia tora* Linn. — F.T.A. 2: 275; Benth. l.c. 535; Chev. Bot. 225; Steyaert l.c. 512. ?*C. rogeonii* Ghesq. in Rev. Bot. Appliq. 14: 238 (1934).

APD: *Synonym of Cassia obtusifolia* L.

APD: *Synonym of Senna tora* (L.) Roxb.

An undershrub, 3–10 ft. high, with yellow flowers in pairs or singly.

Sen.: Talmy! Gam.: Pirie 51! Fr. Sud.: Saredina (May) Davey 94! Port. G.: Bissau (fl. Oct., fr. Dec.) Esp. Santo 1080! 2553! Fr. G.: Kouria (Oct.) Chev. 14985! S. L.: Port Loko (Dec.) Thomas 6692! Luti (fr. Feb.) Deighton 5008! Mano (Nov.) Deighton 1434! Musaia (Sept.) Small 270! Lib.: Cape Palmas T. Vogel 12! G. C.: Accra Brown 432! Kumasi (Nov.) Vigne FH 4081! Offinso (Oct.) Darko 722! Togo: Lome Warnecke 283! Fr. Nig.: Niamey (Oct.) Hagerup 485a! N. Nig.: Nupe Barter 1630! Katagum (fl. & fr. Nov.) Dalz. 2! Panyam (July) Lely 417! Dikwa (fl. & fr. Nov.) H. B. Johnston 80! 91! S. Nig.: Sapoba Kennedy 1652! Newi, Onitsha (Oct.) Jones FHI 608! F. Po: T. Vogel 38!

Widespread in the tropics.

20. *Cassia sophera* Linn. — F.T.A. 2: 274; Benth. l.c. 532; Chev. Bot. 225.

APD: *Synonym of Senna sophera* (L.) Roxb.

A weak shrub, 3–5 ft. high, with yellow flowers in short racemes or fascicles; introduced and found mainly in villages and farmlands; very close to the next species.

S. L.: York (May) Deighton 2687! Waterloo (June) Lane-Poole 304! Lib.: Vahun, Kolahun (fl. & fr. Nov.) Baldwin 10230! Iv. C.: Ebrinahoué to Diangobo (fl. & fr. Dec.) Chev. 22623! G. C.: Cape Coast (July) T. Vogel 24! Tarkwa (fl. & fr. Jan.) Chipp 61! Accra Plains (fl. & fr. Apr.) Bally 28! N. Nig.: Share, Ilorin (Mar.) Ejiofor FHI 19844! Bassa (Oct.) Lamb 86! S. Nig.: Lagos Punch 74! Ibadan (Oct.) Newberry 89! F. Po: T. Vogel 211! Mann 69!

A native of India, widespread in the tropics.

21. *Cassia occidentalis* Linn. — F.T.A. 2: 274; Benth. l.c. 532; Chev. Bot. 224; Aubrév. l.c. 221, t. 44, 1–2; Steyaert l.c. 513; Ic. Pl. Afr. t. 7.

APD: *Synonym of Senna occidentalis* (L.) Link

A glabrous herb or undershrub, woody below, annual or of 2–3 years' duration; found mainly near villages; much like the preceding.

Sen.: Perrottet 285! Heudelot 479! Tamboukané Chev. 3341. Fr. Sud.: Timbuktu (fl. & fr. July) Hagerup 153! Ansongo (Apr.) De Wailly 5038! And various localities fide Chev. l.c. Fr. G.: Kankan to Kouroussa Chev. 15742. Dalaba (Apr.) Chev. 18156. S. L.: Sherbro Sc. Elliot 5786! Samaia (fl. & fr. May) Thomas 232! Rowala (fl. & fr. Sept.) Thomas 1100! Lib.: Gbanga (Sept.) Linder 656! Ganta (fl. & fr. Oct.) Harley! Bonuta (fl. & fr. Oct.) Linder 872! Iv. C.: Bobo Dioulasso (May) Chev. 94! G. C.: Amorkrom (fl. & fr. Dec.) Chipp 38! Togo: Lome Warnecke 208! Fr. Nig.: Niamey to Gao Ryff! Dah.: Abomey Chev. 23284. N. Nig.: Barter 1602! Sokoto (Oct.) Moiser 122! Lely 142! Yo, N. Bornu (Dec.) Elliott 150! Kukawa (fl. & fr. Feb.) E. Vogel 55! S. Nig.: Lagos Dawodu 44! Okomu F.R. (fl. & fr. Feb.) Brenan 9170! Awka Thomas 4! F. Po: T. Vogel 21!

Widespread in the tropics.

22. *Cassia hirsuta* Linn. Sp. Pl. 1: 378 (1753); Benth. l.c. 534; Steyaert l.c. 513.

APD: Synonym of Senna hirsuta (L.) H.S. Irwin & Barneby

Undershrub, to 7 ft. high; flowers yellow; **introduced and found mainly near habitation.**

Fr. G.: Macenta (fl. & fr. Oct.) Baldwin 9848! **Lib.:** Diebla, Webo (fl. & fr. July) Baldwin 6346! **G. C.:** Offinso (fl. & fr. Nov.) Darko 640! **S. Nig.:** Ibadan (July) Tamajong FHI 16761! A native of tropical America, introduced into Africa.

Cassia auriculata Linn.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia fistula Linn.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia fruticosa Mill.

Cassia bacillaris Linn. f.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia ligustrina Linn.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia multijuga Linn.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia spectabilis DC.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia surattensis Burm. f.

Cassia glauca Lam.

A species with yellow flowers, it is cultivated in gardens in our area.

Cassia grandis Linn. f.

A species with pink flowers, it is cultivated in gardens in our area.

Cassia javanica Linn.

A species with pink flowers, it is cultivated in gardens in our area.

Cassia roxburghii DC.

A species with pink flowers, it is cultivated in gardens in our area.

Cassia nodosa Buch.-Ham. ex Roxb.

A species with pink flowers, it is cultivated in gardens in our area.

13. GILLETIODENDRON

Vermoesen Man. Ess. For. Congo Belge 85 (1923); Léonard in Bull. Jard. Bot. Brux. 21: 402 (1951).

Cymometra *Roberty* (1954).

- 1 Leaflets 9–20 on each side of the rhachis, linear, 0.7–1.8 cm. long, 0.2–0.5 cm. broad; fruits 3.5–5 cm. long, 2–2.5 cm. broad, valves woody [1. glandulosum](#)
- Leaflets 4–6 (rarely 3 or 7) on each side of the rhachis, rhombic-elliptic, often obliquely so, 1.5–7.2 cm. long, 0.6–3.5 cm. broad; fruits 2.5–4 cm. long, 1.5–2.5 cm. broad, valves coriaceous [2. kisantuense](#)

1. *Gilletiodendron glandulosum* (*Portères*) *J. Léonard* in Bull. Jard. Bot. Brux. 21: 404, t. 4 (1951).

APD acc

Cynometra glandulosa *Portères* in Rev. Bot. Appliq. 19: 785, t. 5 (1939); Aubrév. Fl. For. Soud.-Guin. 227, t. 46.

Cynometra glandulosa (*Portères*) *Roberty* (1954).

Evergreen tree, to 65 ft. high; fruits with prominent glands.

Fr. Sud.: Kita Massif (fl. July, fr. Oct.) Dubois 105; Chev. 28934; Jaeger 14!

2. *Gilletiodendron kisantuense* (Vermoesen ex De Wild.) J. Léonard l.c. 405, t. 109 (1951). *APD acc*

Cynometra kisantuense Vermoesen ex De Wild. Pl. Bequaert 3: 99 (1925).

C. pierreana of Aubrév. Fl. For. C. Iv. 1: 244 & 246, t. 93 C, not of Harms.

Forest tree, to 50 ft. high.

Iv. C.: Morénou, Daoukrou Chev. 22492. Also in Gabon and Belgian Congo.

14. TESSMANNIA

Harms in Engl. Bot. Jahrb. 45: 295 (1910); Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 35–55 (1950).

- 1 Outside of sepals, and usually the pedicels and rhachis of inflorescence, covered with glandular excrescences as well as with hairs; pedicels 0.5–1.2 cm. long; the 4 larger petals 1.7–2.5 cm. long; leaflets 7–12, alternate, elliptic or oblong-elliptic, obtuse or acuminate and slightly emarginate at apex, 3.5–9.5 cm. long, 1.5–4.5 cm. broad; fruits obliquely suborbicular or oblong, 4.5–6 cm. long, 3.5–5 cm. broad, flattened, glabrescent, studded with large spinescent warts *L. africana*

Outside of sepals, pedicels and rhachis of inflorescence densely pubescent, but without glandular excrescences; pedicels 1.5–2 cm. long; the 4 larger petals 2.5–3 cm. long; leaflets 4–6, alternate, obliquely obovate-oblongate to narrowly elliptic, 4–10 cm. long, 1.8–4 cm. broad; fruits obliquely oblong-elliptic, 5–7 cm. long, 3–3.5 cm. broad, flattened, densely tomentose; studded with small glandular warts *2. baikiaeoides*

1. *Tessmannia africana* *Harms* in Engl. Bot. Jahrb. 45: 295, t. 2 (1910); Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 41; Fl. Congo Belge 3: 288. *APD acc*

Large forest tree, to 160 ft. high with tall straight cylindrical bole; calyx green; petals and filaments white.

Br. Cam.: S. Bakundu F.R. (fl. Apr., fr. Jan.) Ejiofor FHI 29316! Keay!

Also in **Spanish Guinea**, **Gabon**, **French Congo** and **Belgian Congo**.

2. *Tessmannia baikiaeoides* *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 336 (1928); Kew Bull. 1928: 382; Aubrév. Fl. For. C. Iv. 1: 252, t. 96, 1–2. *APD acc*

Forest tree, to 7 ft. in girth; with slight buttresses and smooth, round straight bole.

S. L.: York Pass (Dec.) Aylmer 137! For. Dept.! Dodo Hills F.R. (fr. Jan.) Sawyerr FHK 13576! **Iv. C.:** Mt. Dou Aubrév. 1046.

15. BAIKIAEA

Benth. — F.T.A. 2: 309. *APD acc*

- 1 Leaflets 2–5, alternate or subopposite, obliquely oblong-elliptic, gradually acuminate and rather blunt, base rounded and umbonately thickened on one side, 12–30 cm. long, 4.5–8 cm. broad, entire, leathery, glabrous, with indistinct nerves; petiolules 1 cm. long, transversely wrinkled; stipules small, scale-like; flowers few, nodding, clustered at the tips of the twigs, densely velvety in bud; pedicels stout, 2 cm. long, velvety; calyx-tube turbinate; lobes broadly linear, up to 11 cm. long, velvety outside, at length recurved; petals up to 20 cm. long, obovate, hairy down the middle, the upper petal yellow inside, the others white, veiny; stamens 10, upper one free, the others unequally connate and pubescent below; anthers 1.3 cm. long; ovary long-stipitate, densely villous; fruit flat, curved, large, wrinkled and finely velvety *insignis*

Baikiaea insignis *Benth.* — F.T.A. 2: 309; Bot. Mag. t. 8819; Léonard in Fl. Congo Belge 3: 298, t. 23. *APD acc*

A tree, up to 80 ft. high, in rain forest, with very large flowers.

S. Nig.: Lagos Colony (Feb.) Moloney 6! Punch! Oban Talbot 1749! R. Imo Kennedy 2556! Afi River F.R. Keay FHI 28684! **Br. Cam.:** Victoria (Jan.) Maitland 1307! **F. Po.:** (Mar.) Mann 2342!

Also in **French Cameroons**, **Gabon**, **French Congo** and **Belgian Congo**, **Uganda** and **Angola**.

16. CHIDLOWIA

Hoyle in *Kew Bull.* 1932: 101 (1932).

- 1** A tree, wholly glabrous; leaves paripinnate, leaflets 4–6 pairs, opposite or subopposite, the lowest ovate, the middle pairs oblong-elliptic, the distal pair obovate-elliptic, 4–12 cm. long, 2–5 cm. broad, cuneate to rounded and oblique at base, rather abruptly long-acuminate, main lateral nerves 5–7 on each side of midrib, lower surface dull; panicles very slender, pendulous, 1–2 together on the old wood or occasionally terminal on young branchlets, to 40 cm. long, lateral branchlets numerous, up to 4 mm. long, 5–7-flowered; pedicels 3–3.5 mm. long; calyx campanulate, 2 mm. long, with 5 short rounded teeth; disk fleshy, campanulate, bearing 5 subequal petals and 10 stamens; fruit oblong-linear, acute at both ends, up to 60 cm. long and 6 cm. broad, valves coriaceous-woody and very elastic, dehiscing along both sutures; seeds up to 15, suborbicular, flat [.sanguinea](#)

Chidlowia sanguinea *Hoyle* l.c. 101, t. 1 (1932); Aubrév. *Fl. For. C. Iv.* 1: 98. *APD acc*

Forest tree, to 80 ft. high, locally abundant; flowers wine-red in very slender, long, pendulous panicles.

S. L.: York Pass (Feb.) Aylmer 102! Lane-Pools 447! Kenema (Apr.) Aylmer 225! Kambui (May) Lane-Poole 198! Gola Forest (young fr. Mar.) Small 558! **IV. C.:** Aubrév. 929! And various localities fide Aubrév. l.c. **G. C.:** Ofin Headwaters F.R. (Mar.) Vigne FH 1056! Juaso (fl. Jan., fr. June) Irvine 386! Vigne FH 1796! Puso Puso (Jan.) Scholes 447!

Also in **Gabon**.

17. KAOUE

Pellegr. in *Bull. Soc. Bot. Fr.* 80: 464 (1933).

- 1** A large tree; leaflets 3–4 pairs, the lowest pair elliptic, smaller, the uppermost pair broadly oblanceolate, 8–25 cm. long, 3–9 cm. broad, glabrous, reticulate, with 5–8 pairs of lateral nerves, rhachis 6.5–20 cm. long; flowers small, in spikes 6–10 cm. long, crowded at the ends of the branches; sepals 5, valvate, united into a tube; petals 5, conspicuous in bud; stamens 10, 5 long and 5 short; fruit dehiscent, woody, flat, more or less falcate, with 1–2 large seeds near the apex, gradually tapered below, up to 18 cm. long and 4.5 cm. broad [.stapfiana](#)

Kaoue stapfiana (*A. Chev.*) *Pellegr.* l.c. 465 (1933); Aubrév. *Fl. For. C. Iv.* 1: 252, t. 97.

APD: *Synonym of Stachyothyrsus stapfiana* (*A. Chev.*) *J. Léonard & Voorh.*

Oxystigma stapfiana *A. Chev.* in *Bull. Soc. Bot. Fr.* 58, Mém. 8: 166 (1912); Chev. *Bot.* 234; F.W.T.A., ed. 1, 1: 336.

A **forest** tree, to 100 ft. high, with buttresses and sometimes with aerial roots; flowers white.

S. L.: Mahwe R., Zimi (Apr.) King 178! Gola Forest (Apr., May) Small 590! 710! **Lib.:** Dukwia R. (Mar.) Cooper 256! Logantown, New Cess R. (Mar.) Baldwin 1184! Paynesville (Apr.) Barker 1244! Mecca, Cape Grand Mount Co. (fr. Dec.) Baldwin 10843! **IV. C.:** Cavally Basin (July) Chev. 19528! Aubrév. 1305. Tabou Aubrév. 1672!

18. HYLODENDRON

Taub. in *E. & P. Pflanzenfam.* 3, 3: 386 (1894).

- 1** Tree up to 32 m. high; branchlets glabrous; leaves pinnate; leaflets alternate, about 7 pairs, oblong, acuminate, rounded or obtuse at base, 10–12 cm. long, 3–5 cm. broad, with numerous lateral nerves on each side of the midrib prominent on both surfaces; stipules very long, leathery, linear, 5–6 cm. long, closely longitudinally striate, glabrous; flowers small, in short lateral racemes, covered in bud by leathery, closely imbricate, striate, broadly ovate bracts, minutely ciliate on the margin; fruits narrowly oblong, slightly curved, flat, 10–12 cm. long, 2–3 cm. broad, laxly reticulate, 1–2-seeded, glabrous [.gabunense](#)

Hylo dendron gabunense *Taub.* l.c.; Kennedy *For. Fl. S. Nig.* 92; Léonard in *Fl. Congo Belge* 3: 302.

APD acc

Tall thin boled **forest** tree with sharp buttresses armed with woody spines.

S. Nig.: Sapoba (fr. Aug.) Kennedy 1127! **Br. Cam.:** Victoria (Apr.) Winkler 1164! Maitland 609! N. Korup F.R. (fr. July) Olorunfemi FHI 30693! Johann-Albrechtshöhe Staudt 939.

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

19. DETARIUM

Juss. — F.T.A. 2: 312.

- 1 Leaflets rounded and usually emarginate at apex, oblong-elliptic, 6–12, alternate:2
 Leaflets acuminate at apex, ovate to oblong-elliptic, 8–20, alternate; lamina 4–8 cm. long, 2–4.5 cm. broad, with numerous translucent gland-dots; inflorescence lax, calyx in bud glabrous outside; fruits subglobose, slightly flattened, 7–8 cm. diam.3. *macrocarpum*
- 2 Calyx in bud densely pubescent outside; inflorescences congested; leaflets thickly coriaceous, usually about 7–11 cm. long and 3.5–5 cm. broad, but sometimes smaller, with numerous translucent gland-dots; fruits suborbicular and flattened, about 4 cm. diam. and 2.5 cm. thick, not very fleshy; often forming small abortive or galled fruits1. *microcarpum*
 Calyx in bud glabrous or sparsely pubescent outside; inflorescences lax; leaflets thinly coriaceous or papery, usually 4–6 cm. long and 2.5–3 cm. broad, with rather few translucent gland-dots; fruits subglobose, slightly flattened, about 5–6 cm. diam. and 3.5–4 cm. thick, fleshy2. *senegalense*

1. **Detarium microcarpum** *Guill. & Perr.* Fl. Seneg. 271, t. 59, p (1832); Aubrév. & Trochain in Bull. Soc. Bot. Fr. 84: 487–494 (1938); Aubrév. Fl. For. Soud.-Guin. 229, t. 47, 1–2. *APD acc*

Detarium senegalense of F.T.A. 2: 313, partly, and of F.W.T.A., ed. 1, 1: 338, partly, not of Gmel.

Savannah tree, to 30 ft. high, with reddish-brown scaly bark; leaves glaucous beneath; flowers cream in dense inflorescences; fruits edible, branchlets deciduous; **a plant of the drier savannahs.**

Sen.: Tielimane, Cayor fide Guill. & Perr. l.c. **Gam.:** Albreda fide Guill. & Perr. l.c. **Fr. Sud.:** Bamako (Sept.) Waterlot 1398! Sébékoro, Kita (Apr.) Dubois 146! **Port. G.:** Cajambarim to Fajanquito (Oct.) Esp. Santo 2300! **Fr. G.:** Kouroussa (Aug.) Pobéguin 427! **Iv. C.:** Samankono, Ferkéssédougou & Léo fide Aubrév. l.c. **G. C.:** Ejura (Aug.) Chipp 769! Tolmie FH 4423! Yendi (July) Pomeroy 1342! Amansare (July) Chipp 515! Yeji (July) Vigne FH 1221! **Togo:** Kersting 13! **Fr. Nig.:** Gaya Aubrév. 22. **N. Nig.:** Nupe Barter 1073! Zungera (July) Dalz. 94! Kaduna (May) Keay FHI 25801! Bauchi Plateau (Aug.) Lely P. 627! Yola (Apr.) Dalz. 5! **S. Nig.:** Rosevear 35/29! Ihapo (May) Denton 26!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan**.

[Ogua FHI 7822 from Anchau, N. Nigeria is possibly a distinct, small-leaved variety.]

2. **Detarium senegalense** *J. F. Gmel.* in Linn. Syst. Nat., ed. 13, 2: 700 (1791); Guill. & Perr. l.c. 269, t. 59, a–o; Aubrév. & Trochain l.c.; Aubrév. Fl. For. Soud.-Guin. 229; F.T.A. 2: 313, partly; F.W.T.A., ed. 1, 1: 338, partly. *APD acc*

Detarium heudelotianum *Baill.* (1866) — Aubrév. Fl. For. C. Iv. 1: 266, t. 104.

Forest tree, 30–120 ft. high, with large crown; leaves bright green; flowers creamy white; fruits edible or poisonous (in the form known as *D. heudelotianum* Baill.); **in the forest regions and in forest outliers in the moister savannah regions.**

Sen.: Cape Verde (Mar.–May) Perrottet! Portudal (Feb.) Döllinger 47! **Gam.:** Brown-Lester 1! Hayes 512! Albreda fide Guill. & Perr. l.c. **Port. G.:** Safrin, Bissau (Mar.) Esp. Santo 1904! **Fr. G.:** Rio Nunez Heudelot 575! 822! Tristao Isl. Paroisse 68! Kouroussa (Apr.) Pobéguin 689! Ditinn (Apr.) Chev. 12992! Fourboia, Farana (Feb.) Chev. 20644! **S. L.:** Bandajuma (Feb.) Lane-Poole 160! Gene, Njala (Feb.) Deighton 3110a! 3110b! Kambia (fr. Oct.) Small 478! **Lib.:** Dukwia R. (fr. Apr.) Cooper 401! **Iv. C.:** Dinderesso, Abidjan, Gaoua to Banfara, & Morénou fide Aubrév. l.c. **Togo:** Blita Kersting A. 538! **N. Nig.:** Agaie (Jan.–Feb.) Yates 31! **S. Nig.:** Sapoba (Nov.) Kennedy 1883! 1934! Degema Talbot!

Also in **Ubangi-Shari**, **Belgian Congo** and **A.-E. Sudan**.

3. **Detarium macrocarpum** *Harms* in Engl. Bot. Jahrb. 30: 78 & fig. (1901); Pellegr. Lég. Gab. 133, t. 4, 9. *APD acc*

Forest tree, to 180 ft. high, with large buttresses.

S. Nig.: Afi River F.R., Ikom (fr. Dec.) Keay FHI 28234!

Also in **French Cameroons** and **Gabon**.

20. COPAIFERA

Linn. Sp. Pl., ed. 2, 1: 557 (1762); Léonard in Bull. Jard. Bot. Brux. 19: 391–398 (1949).

- 1 Leaflets 10–14 (rarely to 18), opposite, or subopposite, oblong or elliptic, rounded and emarginate and very slightly apiculate at apex, 1·8–4·3 cm. long, 1·1–2·6 cm. broad, rhachis 6–13 cm. long; mature leaflets without translucent dots; inflorescence 3–12 cm. long; fruit obliquely oblong, 3·2–3·8 (–4·5) cm. long, 2·4–3 cm. broad, with a single large seed covered by a waxy red aril [1. salikounda](#)

Leaflets 20–40, alternate or subopposite, oblong, rounded and emarginate and very slightly apiculate at apex, 1·5–4 (–6) cm. long, 1–1·8 (2·3) cm. broad, rhachis 13–25 cm. long; mature leaflets with translucent dots; inflorescence 8–30 cm. long; fruit and seed similar to above [2. mildbraedii](#)

1. **Copaifera salikounda** *Heckel* in Ann. Fac. Sci. Marseille 3, 4: 4, t. 16 (1893); Aubrév. Fl. For. C. Iv. 1: 262, t. 102; Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 58. *APD acc*

APD: Synonym of Copaifera religiosa J. Léonard

Detarium chevalieri *Harms* (1909).

A large forest tree, often more or less gregarious, with rugose bark; pods brown, woody.

Fr. G.: Lower Koukouré Paroisse. Sombouya Maclaud. **S. L.:** Sherbro Poisson! Baiima, Gbo (fr. May) Deighton 5768! **Iv. C.:** Bingerville (Feb.) Chev.! Abidjan Aubrév. 499! **G. C.:** Evans 15! Owabi (fr. Nov.) Vigne FH 2592! Amentia (fr. Dec.) Vigne FH 1491!

2. **Copaifera mildbraedii** *Harms* in Notizbl. Bot. Gart. Berl. 8: 147 (1922); Léonard l.c. 65, with photo; Fl. Congo Belge 3: 307. *APD acc*

Copaifera salikounda of Kennedy For. Fl. S. Nig. 95, not of Heckel.

Large forest tree, to 200 ft. high, with clean cylindrical bole.

S. Nig.: Sapoba (fr. Feb.) Kennedy 2093! 2306! Urhuehue Keay FHI 21591! **Br. Cam.:** Likomba Mildbr. 10572! S. Bakundu F.R. (fr. Feb.) Ngalamé FHI 24807!

Also in **Ubangi-Shari**, **French Cameroons**, **Gabon** and **Belgian Congo**.

21. CYNOMETRA

Linn. — F.T.A. 2: 316.

- 1 Leaflets 6–10 pairs, more or less truncate or emarginate, oblong, up to 3 cm. long and 1·5 cm. broad: **2**
 Leaflets 4–1 pairs: **3**
- 2 Leaflets about 10 pairs, shortly pubescent on the midrib beneath; flowers very small, in panicles shorter than the leaves; pedicels 5–8 mm. long, shortly pubescent; bracts ovate, long-acuminate, about 6 mm. long .. [1. hankei](#)
 Leaflets about 6 pairs, glabrous beneath, otherwise more or less as in the preceding [2. leonensis](#)
- 3 Leaflets 3–4 pairs, acuminate: **4**
 Leaflets 1 pair (very rarely 2 pairs): **5**
- 4 Acumen very short and abrupt; bracts shortly pubescent; leaflets very obliquely oblanceolate, the uppermost pair the longest, up to 12 cm. long and 3·5 cm. broad, leathery, stiff, reticulate, nerves equally prominent on both sides; inflorescence short and dense; fruits about 4–6 cm. diam. [3. megalophylla](#)
 Acumen rather long and gradual, deeply emarginate; bracts glabrous and closely striate; leaflets obliquely obovate-oblanceolate, the uppermost pair the largest, up to 6 cm. long and 2·5 cm. broad, glabrous; inflorescence very short and densely bracteate; pedicels rather densely pubescent; fruits elliptic, about 4 cm. long, very rugose [4. mannii](#)

- 5 Leaflets deeply emarginate, not acuminate, obovate-elliptic, up to 9 cm. long and 4 cm. broad, glabrous and shining; flowers subfasciculate; pedicels up to 1.5 cm. long, softly pubescent; bracts small, strongly striate; fruits shortly falcate, 3.5 cm. long, 2 cm. broad, wrinkled [5. vogelii](#)

Leaflets acuminate, broadly sickle-shaped, 6–10 cm. long, 2–4 cm. broad, glabrous; flowers small and rather crowded in short cymes; pedicels very short, rusty-pubescent; bracts small; fruits broadly oblong, about 9 cm. long and 5 cm. broad, slightly nervose [6. ananta](#)

1. **Cynometra hankei** Harms in Notizbl. Bot. Gart. Berl. App. 21: 39 (1911); Pellegr. Lég. Gab. 106; Léonard in Bull. Jard. Bot. Brux. 21: 392, t. 106; Fl. Congo Belge 3: 318, t. 20 & photo. **APD acc**

Forest tree, to 150 ft. high; rhachis of leaves slightly winged between the leaflets; flowers white.

S. Nig.: Eket Talbot 3279! Oban Talbot 1639! **Br. Cam.:** Banga, Kumba Keay! Ejiofor FHI 29361!

Also in **French Camerouns** and **Belgian Congo**.

2. **Cynometra leonensis** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 331 (1928); Kew Bull. 1928: 381; Léonard in Bull. Jard. Bot. Brux. 21: 392. **APD acc**

A large forest tree, near water; flowers small, white.

S. L.: Yandahun (Jan.) Unwin & Smythe 52! Bandama (Mar.) Aylmer 576! Kenema (fl. Mar., fr. Apr.) Aylmer 136! King 10! Njala (Dec., Mar.) Deighton 1106! 1861! **Lib.:** Dobli Isl., St. Paul. R. Bequaert 25!

3. **Cynometra megalophylla** Harms in Engl. Bot. Jahrb. 26: 262 (1899); Aubrév. Fl. For. C. Iv. 1: 244, 246, t. 93 A; Pellegr. l.c. 110; Léonard l.c. 385, t. 102, 103. **APD acc**

A large riverside and forest tree, the trunk sometimes divided near the base; young foliage drooping, often wine-red; flowers white; fruits warted.

S. L.: Afzelius. **Iv. C.:** Bettié, Lower Comoé (fr. Mar.) Chev. 17259! Groumania Aubrév. 784! **G. C.:** Anamabou Hove! Cape Coast (Dec.) Taylor FH 5448! Pra R. (fl. Dec., fr. Apr.) Johnson 926! Vigne FH 937! Odumasi Johnson 122! Dixcove (fr. Apr.) Chipp 181! Achimota (fr. Feb.) Irvine 2002! **Dah.:** Zagnanado (Feb.) Chev. 23105! **S. Nig.:** Lagos Foster 48! Ebute Metta (May) Millen 69! Olokemeji Kennedy 148!

[The specimen recorded by Harms from Sierra Leone may well have been a duplicate from Hove's gathering which Afzelius apparently studied; the species is not otherwise known from Sierra Leone.]

4. **Cynometra mannii** Oliv. F.T.A. 2: 317 (1871); Pellegr. l.c. 109; Léonard l.c. 386, t. 102; Fl. Congo Belge 3: 313, t. 18 A. **APD acc**

A tree of river banks and fringing forest, up to 60 ft. high, the trunk sometimes short and divided near the base, occasionally prop-rooted; young foliage red, leaflets notched at the tip like a claw-hammer; flowers small, white.

S. Nig.: Oban Talbot 1708! Calabar Thomson 1! **Br. Cam.:** Ambas Bay (Jan.) Mann 707! Victoria (Mar.) Kalbreyer 83! Kumba Lobe FHI 2803!

Also in **French Camerouns**, **Gabon**, **S. Tomé** and **Belgian Congo**.

5. **Cynometra vogelii** Hook. f. — F.T.A. 2: 317; Chev. Bot. 235; Aubrév. Fl. For. C. Iv. 1: 246, t. 93 B; Fl. For. Soud.-Guin. 227; Léonard in Bull. Jard. Bot. Brux. 21: 384, t. 102. **APD acc**

A tree of spreading habit sometimes attaining 60 ft. in height, or branching almost to the base.

Sen.: Niéri-ko Berhaut 1292. **Gam.:** Heudelot 340! **Fr. Sud.:** various localities fide Chev. l.c. **Port. G.:** R. Corubal, Jangada (fl. Jan., fr. June) Esp. Santo 2268! 2363! **Fr. G.:** Rio Nunez Heudelot 699! Kadé Pobéguin 1998. Kouroussa Pobéguin 644. **S. L.:** Scarcies R., Mofari (Jan.) Sc. Elliot 4434! Kasanko, Mafore (Dec.) T. S. Jones 53! Mano Smythe 67! Njala (Dec.) Deighton 1862! Bumpé (Nov.) Deighton 4944! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Yeji, R. Volta (young fr. July) Pomeroy FH 1244! Prang, R. Pra (fr. Jan.) Vigne FH 1544! **N. Nig.:** Lokoja (fl. & fr. Sept.) Ansell! T. Voyel 105! Nupe Barter 901! Abinsi (Dec.) Dalz. 714! **S. Nig.:** Illushi Farquhar 54! Akilla Kennedy 2005! Aboh Barter 296! Aguleri (Sept.) Chesters OC 27!

6. **Cynometra ananta** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 331 (1928); Kew Bull. 1928: 381; Aubrév. Fl. For. C. Iv. 1: 244, t. 92; Léonard l.c. 397. **APD acc**

A tall **forest** tree, the crown covered with light grey flowers; often gregarious.

Lib.: Dukwia R. (fr. July) Cooper 411! **Iv. C.:** Abidjan Aubrév. 189! **G. C.:** Ancobra River Basin (Nov.) Chipp 11! Dunkwa (fr. June) Vigne 875!

Cynometra trinitensis *Oliv.*

A native of the W. Indies, it has been cultivated in our area.

22. ZENKERELLA

Taub. in E. & P. Pflanzenfam. 3, 3: 386 (1894); Léonard in Bull. Jard. Bot. Brux. 21: 408 (1951).

- 1 Leaves 1-foliolate; leaflet very shortly petiolulate, elliptic, shortly acuminate, rounded at base, 7–14 cm. long, 4–7 cm. broad, glabrous; racemes very short and glomerule-like, few-flowered; pedicels 1.5–3 mm. long; sepals 4–5 mm. long, glabrous; petals 5 [citrina](#)

Zenkerella citrina **Taub.** l.c. 386 (1894); Léonard l.c. 410, t. 110. **APD** *acc*

Cynometra citrina (**Taub.**) **Harms** (1915) — Bak. f. Leg. Trop. Afr. 3: 757; Pellegr. Lég. Gab. 112.

C. leptoclada **Harms** (1915) — F.W.T.A., ed. 1, 1: 331, fide Bak. f. l.c. and fide Pellegr. l.c.; type specimen destroyed, see Léonard l.c. 412.

A shrub or small tree with white flowers.

S. Nig.: Oban Talbot 1303! **F. Po:** Clarence Peak (Aug.) Mildbr. 6346.

Also in **French Cameroons** and **Gabon**.

23. SCHOTIA

Jacq. — F.T.A. 2: 309.

- 1 A tree 8–10 m. high; branchlets often swollen and hollow under each node (occupied by ants); leaves paripinnate, 2–4 pairs, opposite, the lowest pair at the base of the petiole, obliquely oblong-elliptic, obtusely caudate-acuminate, unequal-sided at base, 10–18 cm. long, 4.5–7 cm. broad, with about 8 pairs of prominently looped lateral nerves, glabrous; racemes lateral, solitary or 2–3 together, very short, densely flowered; pedicels 2–3 mm. long, bracteolate; calyx-tube 7–8 mm. long, puberulous; lobes 4, nearly as long as the tube, ovate-elliptic; petals 5, subequal; stamens 10, shortly coherent at the base; filaments glabrous; ovary and gynophore pilose; ovules 4–5 [africana](#)

Schotia africana (**Baill.**) **Keay** in Kew Bull. 1953: 490 (1954).

APD: *Synonym of Leonardoxa africana* (**Baill.**) **Aubrév.**

Humboldtia africana **Baill.** (1870).

Schotia humboldtioides *Oliv.* F.T.A. 2: 310 (1871); **Harms** in Notizbl. Bot. Gart. Berl. App. 20: 50 & fig.; F.W.T.A., ed. 1, 1: 331; Bak. f. Leg. Trop. Afr. 3: 710.

Theodora africana (**Baill.**) **Taub.** (1892).

Calyx green, petals purple.

S. Nig.: Oban Talbot 1440! **Br. Cam.:** Cameroons R. (Jan.) Mann 726! R. Bombe, Kumba Obiorah FHI 29511! Iwasa, Kumba (Mar.) Sangama 12/38!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

24. AFZELIA

Sm. — F.T.A. 2: 301; Léonard in Reinwardtia 1: 61–66 (1950). **APD** *acc*

- 1 Receptacle 5–7 mm. long; petal 13–15 mm. long; flowers numerous in spreading panicles; fruits oblong, straight or only slightly curved, 12–17 cm. long, 5–8 cm. broad, valves not curling after dehiscence, seeds arranged in a more or less straight row down the middle of the valves so that points of attachment are some way from the

upper suture; seeds 2–2.3 cm. long, with a cupular aril covering 1/4 to 1/3 of the seed; leaflets 3–5 pairs, broadly elliptic, acuminate or obtuse to rounded at apex, 5–15 cm. long, 3.5–8.5 cm. broad, glabrous, conspicuously reticulate on both surfaces; rhachis 10–30 cm. long, petiolules 4–10 mm. long [1. africana](#)

Receptacle 1–3.5 cm. long; petal 2.5–6.5 cm. long; valves of fruit curling after dehiscence: **2**

- 2** Leaflets pubescent beneath, 5–10 pairs, oblong or oblong-lanceolate, rounded or emarginate or rarely subacute at apex, 2–6.2 cm. long, 0.9–2.5 cm. broad, reticulate on both surfaces, shining above, matt beneath; rhachis 6–20 cm. long; petiolules 2–3 mm. long; receptacle 1.5–2 cm. long; petal 2.5–4 cm. long, with the claw rather densely pubescent; fruits pale brown, matt, obliquely elliptic, reniform, 13–20 cm. long, 9–13 cm. broad, valves 1.5–2 cm. thick, curling after dehiscence; seeds 3–4.5 (–5.5) cm. long, with a cupular, slightly 4-lobed aril not covering more than 1/4 of the seed [2. pachyloba](#)

Leaflets glabrous beneath; petiolules 3–7 mm. long; fruits black and shining, oblong, curved; seeds attached close to the upper suture; arils 2-lobed, covering about 1/2 one side of seed and 3/4 to 4/5 of the other side: ... **3**

- 3** Bracts large, up to 1 cm. long, persistent up to the time of flowering or longer, soon reflexed; receptacle 1–1.5 cm.; petal 3–4 cm. long, red; leaflets 3–5 pairs, oblong, slightly curved, obtuse or rounded at apex, 6–11 cm. long, 3–4 cm. broad, shining above, matt beneath, rather faintly reticulate; rhachis 5.5–15 cm. long; fruits 7–10 cm. long, 4–4.5 cm. broad; seeds 1.5–2 cm. long [3. bracteata](#)

Bracts caducous before flowering, usually very small and inconspicuous; receptacle 1.5–4 cm. long; leaflets conspicuously reticulate on both surfaces: **4**

- 4** Tall tree; leaflets 5–8 pairs (rarely 4), oblong, acuminate to obtuse or rounded at apex, 5–13 (–20) cm. long, 2.5–5.7 (–7) cm. broad; rhachis 14–27 cm. long; receptacle 1.5–4 cm. long; petal 3.4–5 cm. long, 2–3.5 cm. broad, with a pubescent claw; fruits 8–19.5 cm. long, 5.5–8 cm. broad; seeds 2.5–4.5 cm. long [4. bipindensis](#)

Small tree or shrub; leaflets 3–5 pairs (rarely 6), elliptic or elliptic-lanceolate or elliptic-obovate, generally rather oblique, acuminate at apex, 4.5–16 cm. long, 2.2–7.3 cm. broad; rhachis 6–18 cm. long; receptacle 1–2 cm. long; petal (3.8–) 4–6.5 cm. long, (2.2–) 2.5–4 cm. broad, with a glabrous or slightly pubescent claw; fruits 6–15 cm. long, 3–6 cm. broad; seeds 2–3.1 cm. long [5. bella var. bella](#)

Tall tree; leaflets 4–6 pairs, obliquely oblong-elliptic, obtusely acuminate, 4–9 cm. long, 1.5–3.8 cm. broad; rhachis 10–15 cm. long; petal (2.3–) 3.4–3.8 (–4.3) cm. long, (1.2–) 1.9–2.1 cm. broad, with a pubescent claw; fruits up to 12 cm. long and 5 cm. broad, often smaller and only 1–3-seeded [5a. bella var. gracilior](#)

1. Afzelia africana Sm. — F.T.A. 2: 302; Kennedy For. Fl. S. Nig. 100; Aubrév. Pl. For. C. Iv. 1: 214; For. *APD acc*

Trees & Timbers Brit. Emp. 2: 15, fig. 2; Léonard in Fl. Congo Belge 3: 355, fig. 27 C.

A tree, to 100 ft. high, **in savannah, in fringing forest and in the drier parts of the forest regions**; flowers very fragrant, green, except for the petal which is white with reddish markings; fruits and seeds black, shining; aril orange.

Sen.: Samatite, Casamance (Mar., Apr.) Perrottet 293! **Fr. G.:** Heudelot 767! **Port. G.:** Empandja, Bissau (Mar.) Esp. Santo 1508! **S. L.:** Musaia (fl. Mar., fr. Apr.) Sc. Elliot 5106! Deighton 5475! Rokupr (Mar.) Jordan 774! Koyeima (fl. & fr. Mar.) Deighton 3141! **Iv. C.:** Anoumaba (fr. Nov.) Chev. 22346! And various localities fide Aubrév. I.c. **G. C.:** Afram Plains (fl. & fr. Apr.) Johnson 698! Kintampo W. T. S. Brown FH 2160! Bjury (fr. July) Chipp 510! Tamale (Feb.) McLeod 809! **Togo:** Atakpame (fr. Nov.) Mildbr. 7457! Kete Kratchi (fl. & fr. Apr.) Kitson! **Dah.:** Poisson 98! Abomey (Feb.) Chev. 23154! **N. Nig.:** Nupe Barter 1218! Zaria (Apr.) Collier! Lokoja (May) Elliott 234! Katagum Dalz. 425! **S. Nig.:** Lagos Rowland! Foster 10! Olokemeji (Feb.) Ejiofor FHI 31767! **Br. Cam.:** Mufung, Bamenda (Feb.) Johnstone 79/31!

Also in **Ubangi-Shari, French Cameroons, A.-E. Sudan, Uganda, Belgian Congo** and **Tanganyika**.

2. Afzelia pachyloba Harms in Engl. Bot. Jahrb. 49: 426 (1913); Léonard l.c. 3: 351, fig. 27 A. *APD acc*

Afzelia zenkeri Harms l.c. 427 (1913); F.W.T.A., ed. 1, 1: 344.

Afzelia caudata Hoyle in Kew Bull. 1933: 170, partly (fruits & seeds only).

Forest tree, to 140 ft. high; petal white with reddish markings; fruits pale brown, dull; seeds black and shining with yellow aril.

S. Nig.: Olomitutu, Shasha F.R. (Feb.) Ross 25! Akilla Kennedy 2375 (partly)! Alagum, Omo F.R. (fr. Feb.) Jones & Onochie FHI 16716! Ondo Dist. (seed Mar.) Unwin 91! Okomu F.R. (fr. Mar.) A. F. Ross 197! Oban Talbot 1468!

Also in **French Cameroons, Gabon, Cabinda** and **Belgian Congo**. (See Appendix, pp. 173–174.)

3. Afzelia bracteata T. Vogel ex Benth. in Hook. Ic. Pl. t. 790 (1848); F.T.A. 2: 301; Aubrév. l.c. 216, t. 80 B.

APD: Synonym of Afzelia parviflora (Vahl) Hepper

Forest tree, to 50 ft. high, with spreading crown; petal red; seeds black and shining with red aril; usually found by streams.

Fr. G.: Fouta Djallon Heudelot 882! **S. L.:** Smeathmann! Freetown (June–July) T. Vogel! Bagroo R. (Apr.) Mann 890! Talla Hills (Apr.) Sc. Elliot 5533! Kumrabai Mamila (fr. Nov.) Deighton 4950! Rokupr (Apr.) Jordan 241! Daru (Apr.) Deighton 3214! Makump (July) Thomas 911! Gola Forest (June) Small 733! **Lib.:** Cess R., Grand Bassa (Mar.) Baldwin 11266! Suen, Montserrado (fr. Nov.) Baldwin 10461! **Iv. C.:** Tabou valley Aubrév. 1325.

[The record of this species from Morénou (Ivory Coast) in F.W.T.A., ed. 1, 1: 344 refers to Chev. 22478 which is *A. bella* var. *gracilior* (q.v.).]

4. *Afzelia bipindensis* Harms l.c. 426 (1913); Kennedy l.c. 101; For. Trees & Timbers Brit. Emp. 2: 21, fig. 3; Léonard l.c. 3: 355, t. 26, fig. 27 D. *APD acc*

Afzelia caudata Hoyle l.c. (1933), partly (flowers and leaves).

Tall forest tree, to 130 ft. high; petal with red-purple claw and white crumpled lamina turning pink; seeds black and shining with orange aril.

S. Nig.: Okomu F.R. (Jan.) Brenan 8889! Sapoba (Feb.–May) Kennedy 1128! McIntosh FHI 12413! Oban Talbot 1650.

Also in French Cameroons, Ubangi-Shari, Gabon, Belgian Congo and Angola.

[The leaves of *A. caudata* Hoyle (W. D. MacGregor 540 and Kennedy 2375) both from S. Nigeria are from seedlings and they are conspicuously caudate-acuminate. They appear, however, to be only the juvenile stage of *A. bipindensis*. The flowers of MacGregor 540 agree well with those of *A. bipindensis* and the fruits of Kennedy 2375 are evidently *A. pachyloba*.]

5. *Afzelia bella* Harms var. *bella* — l.c. 425 (1913); Kennedy l.c. 101; Léonard l.c. 3: 358, fig. 27 F. *APD acc*

Afzelia africana of F.T.A. 2: 302, partly.

Shrub or small tree, to 35 ft. high, deciduous; petal white with red markings; seeds black and shining with orange aril.

S. Nig.: Ogba Kennedy 399! Sapoba Kennedy 1618! 2722! Owam R. (Sept.) Unwin 127! Aguku Thomas 917! Eket Talbot! Calabar (July) Holland 56! **Br. Cam.:** Victoria (Oct.) Maitland 742! Banga (Aug.) Olorunfemi FHI 30713! Mamfe (Apr.) Lobe Babute 47/38!

Also in French Cameroons, Gabon and Belgian Congo.

- 5a. *Afzelia bella* var. *gracilior* Keay in Kew Bull. 1954: 266. *APD acc*

Afzelia microcarpa A. Chev. in Vég. Util. 5: 172 (1909), name only; Aubrév. in Rev. Bois et For. Trop. 30: 54 (1954).

Afzelia bella of F.W.T.A., ed. 1, 1: 344, partly, and of Aubrév. Fl. For. C. Iv. 1: 214, t. 79, not of Harms.

Afzelia bracteata of F.W.T.A., ed. 1, 1: 344, partly (Chev. 22478).

Tall forest tree, to 120 ft. high; seeds black and shining with red aril.

Iv. C.: Dabou (fr. Feb.) Chev. 16207! Morénou (Dec.) Chev. 22478! Abidjan Aubrév. 88! **G. C.:** Ancobra R. (fr. Jan.) Thompson 7! Jamang (fr. Apr.) Vigne 96! Axim (fr. Feb.) Irvine 2151! Kumasi (fl. Oct., fr. Nov.) Andoh FH 5811! 5815!

25. LOESENTERA

Harms in E. & P. Pflanzenfam. Nachtr. 1: 197 (1897); Engl. Bot. Jahrb. 26: 268 (1899); Léonard in Bull. Jard. Bot. Brux. 21: 429 (1951).

- 1 Inflorescence racemose-paniculate; receptacle about 4 mm. long; leaves mostly with 3 pairs of slightly falcate, elliptic to elliptic-oblong leaflets, rounded to broadly cuneate at base, acuminate at apex, 8–10 cm. long, 3–3.5 cm. broad; fruit not known *L. talbotii*
- Inflorescence racemose, terminal, receptacle 6–9 mm. long; leaves with 3–4 pairs of leaflets, the end pair the largest, the lowermost ovate-lanceolate, about 4–5 cm. long, the uppermost obliquely oblong-oblancoate, 6–8 cm. long, acute to acuminate at apex; fruits woody, broadly oblong, oblique at base, acuminate, about 17 cm.

long and 7 cm. broad, light-brown-tomentellous [2. *kalantha*](#)

1. *Loesenera talbotii* *Bak. f.* in J. Bot. 67: 195 (1929); Léonard in Bull. Jard. Bot. Brux. 21: 432. *APD acc*

A forest tree (?).

S. Nig.: Oban Talbot 1459!

2. *Loesenera kalantha* *Harms* in E. & P. Pflanzenfam. Nachtr. 1: 197 (1897); Engl. Bot. Jahrb. 26: 26 (1899); Aubrév. Fl. For. C. Iv. 1: 201, t. 91, 3–5; Léonard l.c. *APD acc*

A tall shrub or tree up to 65 ft. high; leaves pale-rusty beneath; flowers pinkish.

Lib.: Grand Bassa (Apr.–May) Dinklage 1634! 1805! Du R. (fr. July) Linder 129!

26. DANIELLIA

Benn. — F.T.A. 2: 299.

- 1 Flowers white or greenish-white; filaments glabrous, free; 1 petal well-developed, 8–16 mm. long, 2–6 mm. broad, the other 4 petals minute, up to 2 mm. long; flowers in rather flattened panicles, the rhachides, pedicels and receptacles glabrous; sepals 1.5–2 cm. long, 0.8–1.2 cm. broad; leaflets 4–11 pairs, ovate, unequal-sided and acute to subcordate at base, obtusely acuminate, 6.5–17 cm. long, 3.5–10 cm. broad, glabrous, or pubescent mainly on nerves beneath and becoming glabrescent; fruit obliquely elliptic, flat, 5–9.5 cm. long, 2.5–5 cm. broad, glabrous [1. *oliveri*](#)

Flowers blue to reddish-purple; filaments pilose below and more or less united at base; 3 petals well-developed (1 rather smaller than the other 2) the other 2 petals minute: [2](#)

- 2 Leaves with spreading hairs on the rhachides, petiolules and midribs beneath; leaflets 5–9 pairs, oblong to elliptic or lanceolate, unequal-sided and acute to subcordate at base, acuminate, 5–13 cm. long, 2–5 cm. broad; inflorescence glabrous or nearly so; receptacle and pedicel together 1.5–2 cm. long, glabrous; sepals 1.2–2 cm. long, glabrous outside except at the apex [2. *pynaertii*](#)

Leaves entirely glabrous: [3](#)

- 3 Inflorescence, pedicels, outside of receptacle and exposed parts of sepals glabrous or nearly so; ovary glabrous: [4](#)
Inflorescence, pedicels, outside of receptacle and exposed parts of sepals densely pubescent; ovary densely pubescent, at least on the margins, sooner or later glabrescent; sepals 1.2–1.7 cm. long, 6–11 mm. broad; pedicel and receptacle together 1–1.5 cm. long, receptacle distinctly turbinate; filaments 2–3 cm. long; leaflets 6–9 pairs, oblong, unequal-sided at base, acuminate, in crown foliage 6–11 cm. long, 2.5–3.5 cm. broad, considerably larger in saplings, etc. [5. *ogea*](#)

- 4 Sepals 1.6–2.2 cm. long, 11–17 mm. broad; pedicel and receptacle together 1.5–2 cm. long, receptacle conical; filaments 3–4.3 cm. long; leaflets 7–9 pairs, oblong or oblong-elliptic, unequal-sided at base, rather abruptly acuminate, in crown foliage 6–9 cm. long, 2.5–3.5 cm. broad, in saplings, etc., up to 19 cm. long and 6 cm. broad [3. *thurifera*](#)

Sepals 1–1.2 cm. long, about 8 mm. broad; pedicel and receptacle together about 1.2 cm. long, receptacle distinctly turbinate; filaments 2–2.7 cm. long; leaflets about 8 pairs, oblong, unequal-sided at base, rather abruptly acuminate, 6–12 cm. long, 2.5–4 cm. broad [4. *oblonga*](#)

1. *Daniellia oliveri* (*Rolfe*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 341 (1928); Kew Bull. 1928: 382; Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 118; Aubrév. Fl. For. Soud.-Guin. 235, t. 46, 3–6; Léonard in Fl. Congo Belge 3: 348, t. 26. *APD acc*

Paradaniellia oliveri *Rolfe* in Kew Bull. 1912: 96 (q.v. for synonymy).

Daniellia thurifera of F.T.A. 2: 300, partly, not of *Benn.*; Chev. Bot. 231.

Daniellia thurifera var. *chevalieri* *J. Léonard* in Bull. Jard. Bot. Brux. 19: 407 (1949), partly (leaves only).

A large savannah tree, to 100 ft. high, with copious rather flat panicles of white, scented flowers and smooth pale flat 1-seeded fruits of horny consistence, tardily dehiscent.

Sen.: Heudelot 364! Koulaye-Kouraye (Feb.) Chev. 2968! 2969 (partly)! Bignona, Casamance Serv. For. 44. *Gam.*: Genieri (Feb.) Fox 27! *Fr. Sud.*: Kita region (Jan.–Feb.) Chev. 96; Dubois 7. *Port. G.*: Bissau (fl. Jan., fr. Apr.) Esp. Santo 1514! 1675! *Fr. G.*: Kouroussa Pobéguin 861. Fouta Djallon Maclaud 40. Mabina, Boké Chillou! *S. L.*: Musaia (fr. Feb.) Deighton 4217! Magbuke Deighton 4083. *Iv. C.*: fide Aubrév. l.c. *G. C.*: Kwahu (fr. Jan.) Chipp 623! Krobo Plains (Dec.) Johnson

501! **Togo:** Yendi Williams 421! Kete Kratchi (Jan.) Vigne FH 1530! **Dah.:** Adja-Ouere Poisson 21. **N. Nig.:** Nupe Barter 978! Kontagora (fl. & fr. Dec.) Dalz. 16! Lokoja (fl. & fr. Dec.) Elliott 14! Bauchi Plateau Lely P. 62! **S. Nig.:** Lagos Foster 151! Ishan (fr. Jan.) Dennett 102! Onitsha (fl. & fr. Feb.) Johnson!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo**, **A.-E. Sudan** and **Angola**.

[The specimen “Mann 978” (in Hb. Paris), cited by Léonard l.c. 120–121 and said to come from Fernando Po, is almost certainly Barter 978 from Nigeria; Mann 978 at Kew is in fact *Parinari chrysophylla* Oliv., from Gabon. I have seen in the Paris herbarium a number of Mann’s and Barter’s specimens on which the labels have been interchanged in this way. — R.W.J.K.]

2. ***Daniellia pynaertii* De Wild.** in Ann. Mus. Congo Belge, sér. 5, 3: 193 (1910); Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 109; Fl. Congo Belge 3: 343. **APD acc**

***Daniellia pubescens* Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 341 (1928); Kew Bull. 1928: 382.

Forest tree, to 110 ft. high; flowers mauve, very abundant.

S. Nig.: Lagos Moloney!

Also in **French Cameroons (?)**, **Gabon** and **Belgian Congo**.

3. ***Daniellia thurifera* Benn.** in Pharm. Journ. 14: 252 (1854); F.T.A. 2: 300, partly; Aubrév. Fl. For. C. Iv. 1: 210, t. 78 A; Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 98, partly (excl. syn. *D. oblonga* Oliv.). **APD acc**

APD: *Synonym of Daniellia oblonga* Oliv.

Daniellia oblonga of Chev. Bot. 231, partly, not of Oliv.

***Daniellia caillei* A. Chev.** Bot. 230, name only.

Forest tree, to 150 ft. high.

Port. G.: Catió (fr. June) Esp. Santo 2099! **Fr. G.:** Longuery (Dec.) Caille in Hb. Chev. 14827! **S. L.:** Afzelius! Daniell! Melville! Waterloo (Oct.) Lane-Poole! Commendi to Gengaru (Nov.) Aylmer 256! **Lib.:** Dukwia R. (Oct.) Cooper 77! 95! **Iv. C.:** Yapo Chev. 22360! Abidjan Aubrév. 197! **G. C.:** Awiabo, Axim (Nov.) Vigne FH 1422!

4. ***Daniellia oblonga* Oliv.** F.T.A. 2: 301 (1871). **APD acc**

Daniellia thurifera of F.W.T.A., ed. 1, 1: 341 and of Léonard l.c. and partly, not of Benn.

Forest tree to 200 ft. high, flowers blue.

S. Nig.: Iso Bendiga to Bendiga Afl, Ikom (Dec.) Keay! **Br. Cam.:** Likomba (Dec.) Mildbr. 10759! **F. Po:** Barter 2074!

5. ***Daniellia ogea* (Harms) Rolfe ex Holl.** in Kew Bull. Add. Ser. 9: 268 (1911); Rolfe in Kew Bull. 1912: 97; Leonard in Publ. I.N.É.A.C., Sér. Sci. 45: 102, t. 11 C; Keay in Kew Bull. 1953: 491–492. **APD acc**

***Cyanothyrsus ogea* Harms** in Engl. Bot. Jahrb. 26: 270 (1899).

***Daniellia caudata* Craib ex Holl.** l.c. 268 (1911), partly (flowers only, the leaves are *Clitandra barteri* Stapf); Craib in Kew Bull. 1912: 94; F.W.T.A., ed. 1, 1: 341; Léonard l.c. 97, t. 11 A.

***Daniellia punchii* Craib ex Holl.** l.c. 269 (1911), partly (flowers only, the leaves are *Crudia* sp.); Craib l.c. 95; F.W.T.A., ed. 1, 1: 341; Léonard l.c. 102, t. 11 B.

***Daniellia fosteri* Craib ex Holl.** l.c. 268 (1911); Craib l.c. 95; F.W.T.A., ed. 1, 1: 341; Léonard l.c. 106.

***Daniellia similis* Craib ex Holl.** l.c. 269 (1911); Craib l.c. 95; F.W.T.A., ed. 1, 1: 341; Aubrév. Fl. For. C. Iv. 1: 212, t. 78 B; Léonard l.c. 108.

***Daniellia thurifera* var. *chevalieri* J. Léonard** in Bull. Jard. Bot. Brux. 19: 407 (1949), partly (flowers only, the leaves are *D. oliveri*).

Forest tree, to 180 ft. high, with clean cylindrical bole and very short rounded buttresses; flowers blue to purple.

Sen.: Koulaye-Kouraye (fl. & young fr. Feb.) Chev. 2969 (partly)! **Port. G.:** Teixeira Pinto (Jan.) D’Orey 175! **S. L.:** Gola Forest (ft. & fr. Jan.) Unwin & Smythe 45! **Lib.:** Gbanga (Oct.) Linder 1233! **Iv. C.:** Agboville Aubrév. 2775! **G. C.:** Imp. Inst.! Ashanti (Feb.) Armitage 107! Birrim (fl. & fr. Nov.) Chipp 670! Owabi (Dec.) Lyon FH 2644! Mpraeso Beveridge FH 3210! **S. Nig.:** Ijebu Ode Millen 191! Millson 37! Ibadan F.R. (Nov.) Punch 115! Mamu F.R. (Dec.) Foster 156! Agogidigbo (fl. & fr. Dec.) Unwin 179! Sapoba (Dec.–Jan.) Kennedy 328! 1981! Okomu F.R. (Jan.) Onochie in Hb. Brenan 8817! Degema Talbot 3677! **F. Po:** (Jan.) Mann 166!

Also in **Gabon**.

27. EURYPETALUM

Harms in Engl. Bot. Jahrb. 45: 293 (1910).

- 1 A glabrous tree; petioles 3–9 mm. long with a subulate caducous tip between the 2–4 mm. long turgid petiolules; leaflets 1 pair, lanceolate or oblong-lanceolate, somewhat falcate, unequally cuneate or obtuse at base, gradually acuminate up to 2.5 cm. long; flowers in solitary or paired axillary, glabrous racemes up to 2.5 cm. long; pedicels slender, 1.5–2 cm. long; bracts and bracteoles much reduced, caducous; sepals 4, unequal, about 5 mm. long, one ovate and rather larger than the others which are oblong; large petal about 6 mm. long and 10 mm. broad, the other 4 petals minute; stamens 10, with subulate filaments, shortly connate at base; fruit stipitate, oblong, up to about 10 cm. long and 4 cm. broad, valves thin, glabrous [unijugum](#)

Eurypetalum unijugum *Harms* in Engl. Bot. Jahrb. 49: 222 (1913); Bak. f. Leg. Trop. Afr. 3: 770; Pellegr. Lég. Gab. 114. *APD acc*

Forest tree, to 70 ft. high.

Br. Cam.: S. Bakundu F.R. (fr. Dec.) Ejiofor FHI 29308! Ezeilo FHI 29551!

Also in **French Cameroons** and (?) **Gabon**.

28. PLAGIOSIPHON

Harms in E. & P. Pflanzenfam. Nachtr. 1: 194 (1897); Engl. Bot. Jahrb. 26: 263 (1899); Léonard in Bull. Jard. Bot. Brux. 21: 425 (1951).

- 1 Branchlets rusty-tomentose; leaflets 8–12 pairs, narrowly oblong, emarginate at apex, 6–18 mm. long, 2–5 mm. broad; flowers in short racemes; pedicels about 6 mm. long; bracteoles ovate about 8 mm. long and 6 mm. broad; petals 5, 3 large (or rarely 4) and 2 smaller (or rarely 1); stamens 10; ovary stipitate the stipe adnate up to the apex of the receptacle, ovules 2; fruits oblong-elliptic, about 6 cm. long and 3 cm. broad; rusty-tomentose [emarginatus](#)

Plagiosiphon emarginatus (*Hutch. & Dalz.*) *J. Léonard* l.c. 426 (1951). *APD acc*

Monopetalanthus emarginatus *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 342 (1928); Kew Bull. 1928: 397.

Hymenostegia emarginata (*Hutch. & Dalz.*) *Milne-Redhead ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 606 (Feb. 1936); Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 82: 603 (Apr. 1936); Aubrév. Fl. For. C. Iv. 1: 250, t. 95 B.

Tripetalanthus emarginatus (*Hutch. & Dalz.*) *A. Chev.* in Rev. Bot. Appliq. 26: 597, t. 19 A (1946).

Forest tree, to 100 ft. high; flowers white; **by river banks**.

S. L.: Morro R. (fr. Jan.) Unwin & Smythe 42! Njala (fl. July–Sept., fr. Jan.) Deighton 1950! 2836! Bumpe (fl. July, fr. Nov.) Deighton 4835! 4927! **Lib.:** St. John R., Tappita (Aug.) Baldwin 9139! **IV. C.:** Sassandra & Cavally Basins Aubrév. 860! 2798!

A sterile specimen (Keay s.n.) of a tall tree from Banga in the British Cameroons probably represents another species of this genus; flowering and fruiting material is required.

29. HYMENOSTEGIA

(*Benth.*) *Harms* in E. & P. Pflanzenfam. Nachtr. 1: 193 (1897); Léonard in Bull. Jard. Bot. Brux. 21: 433 (1951).

- 1 Leaflets 1–2 pairs, rhachis winged; the lower pair of leaflets (if present) smaller and more or less ovate-rhombic, about 3 cm. long, the upper pair obliquely obovate, narrowed at both ends, obtusely acuminate, 7–10 cm. long, 2–5 cm. broad, glabrous; racemes about as long as the leaves; pedicels up to 1 cm. long; bracteoles broadly ovate, 6–12 mm. long; petals 5, 3 larger, 2 much smaller; stamens 10; fruits obliquely obovate, 7–9 cm. long, 3–3.5 cm. broad [l. afzelii](#)

- Leaflets 3–10 pairs (rarely 2), rhachis not winged:2
- 2 Petals 5, 3 larger, 2 very much smaller; stamens 10; bracteoles ovate, about 1·7 cm. long and 1·1 cm. broad; pedicels up to 1·5 cm. long; leaflets 3–4 pairs (rarely 2), oblong-elliptic, obtuse and slightly emarginate at apex, 2·5–9 cm. long, 1–4 cm. broad, finely pubescent beneath; fruits subtrapezoid, 8–10 cm. long, 4–5 cm. broad2. *aubrevillei*
- Petals 3, 1 or 2 of which are large and 2 or 1 very small, or absent:3
- 3 Stamens 10; flowers with only 1 larger petal; bracteoles oblong-elliptic about 1 cm. long; pedicels 2–2·5 cm. long; leaflets 3–4 pairs, obliquely oblong-ob lanceolate, triangular-acuminate, 4–8 cm. long, 2–3·5 cm. broad, glabrous; fruits not known3. *gracilipes*
- Stamens 16–26; flowers with 2 larger petals and 1 smaller petal or absent; bracteoles lanceolate or linear-oblong:4
- 4 Leaflets 3–4 pairs, obliquely oblong, obtusely acuminate, 8–15 cm. long, 3·5–5 cm. broad; pedicels 1–2 cm. long, glabrous; bracteoles linear-oblong, acute, about 2 cm. long; petals either absent or very minute 4. *talbotii*
- Leaflets 8–10 pairs, oblong, obtusely acuminate, 4–8 cm. long, 1·5–2·5 cm. broad; racemes very densely flowered; pedicels about 2 cm. long, velutinous; bracteoles linear-ob lanceolate, about 1 cm. long, pilose outside; petals 3, 2 larger and 1 minute5. *bakeriana*
1. **Hymenostegia afzelii** (*Oliv.*) *Harms* in E. & P. Pflanzenfam. Nachtr. 1; 193 (1897); Chev. Bot. 235; Aubrév. Fl. For. C. Iv. 1: 248, t. 94 A; For. Trees & Timbers Brit. Emp. 2: 24, fig 4; Léonard in Bull. Jard. Bot. Brux. 21: 438. *APD acc*
- Cynometra afzelii* *Oliv.* F.T.A. 2: 318 (1871).
- A forest tree, to 60 ft. high; bracteoles white, lilac or pinkish; petals yellow.
- Fr. G.:** Farana Chev. 13432! **S. L.:** Afzelius. **Lib.:** Monrovia Whyte! **IV. C.:** Indenié (Dec.) Chev. 22646! Tabou Aubrév. 1682! And other localities fide Aubrév. l.c. **G. C.:** Cape Coast (Nov.) Brass! Vigne 946! Akyease (Oct.) Fishlock 62! Dunkwa (Jan.) Dalz. 68! Aburi Hills (Nov.–Mar.) Johnson 615! 621! **Togo:** Misahöhe (Nov.) Mildbr. 7340! **S. Nig.:** Lagos Moloney! Sapoba Kennedy 413! Oban Talbot 1309! 1720! Ikom Catterall 70! **Br. Cam.:** Likomba Mildbr. 10537!
- Also in **French Cameroons**.
2. **Hymenostegia aubrevillei** *Pellegr.* in Bull. Soc. Bot. Fr. 80: 464 (1933); Aubrév. l.c. 250, t. 94 B; Léonard l.c. 440. *APD acc*
- Brachystegia eurycoma* of F.W.T.A., ed. 1, 1: 348, partly (Chev. 16283).
- Forest tree of medium size with short bole and dense rounded crown; by river banks; bracteoles mauve, sepals white, petals reddish.
- IV. C.:** Abidjan (Nov.–May) Aubrév. 83! Zaranou Chev. 16283! **G. C.:** Krokosana (Feb.) Cansdale FH 3985!
3. **Hymenostegia gracilipes** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 332 (1928); Kew Bull. 1928: 381; Léonard l.c. 442. *APD acc*
- APD:* *Synonym of Tetraberlinia tubmaniana J. Léonard*
- Riverside forest tree, to 45 ft. high; flowers white.
- G. C.:** Sa, Bonsa R. (July, Aug.) Vigne FH 154! 978! 4765! Obin Vigne FH 1280!
- [A sterile specimen (Fobes LF 1) from Bomi Hills, Montserrado, Liberia, also appears to be this species.]
4. **Hymenostegia talbotii** *Bak. f.* in J. Bot. 67: 196 (1929); Léonard l.c. 442. *APD acc*
- A forest tree (?).
- S. Nig.:** Eket Dist. Talbot 3141!
5. **Hymenostegia bakeriana** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 332 (1928); Kew Bull. 1928: 381; Léonard l.c. 442. *APD acc*
- Cynometra longituba* of Bak. f. in Cat. Talb. 127, not of Harms.
- A tree with rather densely pubescent branchlets; flowers red (?) or drying reddish.

S. Nig.: Oban Talbot 1567!

30. GUIBOURTIA

Benn. in J. Linn. Soc. 1: 149 (1857); Léonard in Bull. Jard. Bot. Brux. 19: 391–406 (1949); op. cit. 20: 269–284 (1950).

- 1 Bracteoles persistent forming a calyx-like cup at the base of the ellipsoidal flower bud; fruits indehiscent, flat, thin; seeds not arillate; leaflets glabrous:2
Bracteoles caducous:3
- 2 Leaflets with 3–5 prominent longitudinal nerves from the base, the strong nerves not arranged pinnately; lamina falcate, cuneate or unequal at base, obtusely acuminate, 3–12 cm. long, 1.5–5 cm. broad; petiole 3–5 mm. long; stipules foliaceous, 5–7 mm. long, subpersistent; fruits obliquely elliptic, 3.8–4.2 cm. long, 2.7–3 cm. broad, with a nerve parallel to the margin on one side [1. copallifera](#)
Leaflets with pinnately arranged strong lateral nerves; lamina ovate-falcate, strongly asymmetrical, one side cuneate, the other rounded at base, acute or acuminate at apex, 6.5–20 cm. long, 3–8 cm. broad; petiole 1.5–3 cm. long; stipules early caducous; fruits suborbicular or elliptic, 2.2–3.8 cm. long, 1.8–2.9 cm. broad, with a rather indistinct nerve running all round parallel to the margin [2. demeusei](#)
- 3 Buds globose; fruits, where known, indehiscent, flat, thin; seeds, where known, not arillate; young leaflets pubescent on nerves beneath:4
Buds, where known, ellipsoidal; fruits dehiscent, thick, without marginal or longitudinal nerves; seeds arillate; leaflets glabrous:5
- 4 Leaflets with 2 strong longitudinal ascending nerves on one or both sides of the midrib; upper leaves usually 2-foliolate with falcate leaflets up to 11.5 cm. long and 3–9 cm. broad, long- or caudate-acuminate at apex; lower leaves 1-foliolate with an ovate to ovate-rhombic leaflet, rounded at base, long-acuminate at apex, 7–13 cm. long, 4–7 cm. broad; petioles 3–4 mm. long; fruits not known [3. dinklagei](#)
Leaflets with 5–9 pinnately arranged strong lateral nerves; leaves all 2-foliolate with falcate leaflets, one side cuneate, the other obtuse at base, acuminate at apex, 5–10 cm. long, 1.5–5 cm. broad; petiole 4–10 mm. long; fruits obliquely rhombic-elliptic, 4–6 cm. long, 2.5–3.5 cm. broad, with a prominent curved nerve towards the upper margin dividing the narrow winged portion from the reticulate body of the fruit [4. ehie](#)
- 5 Bark of branchlets exfoliating in thin reddish-brown pieces; rhachis of inflorescence up to 1.5 mm. diam.; fruits black when dry, 2–2.5 cm. long, 1.7–1.8 cm. broad, with a stipe 2–7 mm. long; leaflets elliptic-falcate, abruptly acuminate at apex 6–11.5 cm. long, 2.5–5.5 cm. broad; petiole 1.5–2.5 cm. long [5. pellegriniana](#)
Bark of branchlets not exfoliating in thin pieces; rhachis of inflorescence more than 2 mm. diam.; fruits reddish-brown when dry:6
- 6 Leaflets coriaceous, acumen about 5 mm. long; fruits with very short pedicel and 3–5 mm. long stipe; body of fruit 3–3.5 cm. long, 2–2.5 cm. broad; leaflets falcate, 7–15 cm. long, 3–6 cm. broad; petiole 1.5–2.5 cm. long [6. tessmannii](#)
Leaflets membranous, abruptly acuminate, acumen 5–20 mm. long; fruits with pedicel about 2 mm. long and stipe 9–11 mm. long; body of fruit 2.6–2.8 cm. long, 1.7–1.8 cm. broad; leaflets falcate-elliptic, 5–13 cm. long, 2–5 cm. broad; petiole 1.2–2.7 cm. long [7. leonensis](#)

1. *Guibourtia copallifera* Bern. in J. Linn. Soc. 1: 150 (1857); Léonard in Publ. I.N.É.A.C., Sér. Sci. 45: 72. *APD acc*

Copaifera guibourtiana Benth. (1865) — F.T.A. 2: 314; F.W.T.A., ed. 1, 1: 338 (excl. syn. *C. ehie* A. Chev.); Aubrév. Fl. For. C. Iv. 1: 262, t. 103 B; Kennedy For. Fl. S. Nig. 96.

C. copallifera (Benn.) Milne-Redhead in Kew Bull. 1934: 400; Aubrév. in Agron. Trop. 3: 18 (1948).

C. vUILLETIANA A. Chev. in Bull. Soc. Bot. Fr. 61, Mém. 8: 258 (1917).

Guibourtia vUILLETIANA (A. Chev.) A. Chev. (1950).

Copaifera vUILLETII A. Chev. Bot. 234, name only; Aubrév. Fl. For. C. Iv. 1: 260.

A tree to 80 ft. high, or shrub; flowers white; sometimes planted.

Fr. Sud.: Koulikoro Vuillet in Hb. Chev. 28936! Kita Dubois 223! **Port. G.:** Empacaca, Canchungo (fr. Apr.) Esp. Santo 1939! **Fr. G.:** Conakry Maclaud! Boké Chillou! **S. L.:** Goderich & Lumley (Aug.) Daniell 2! R. Scarcies Sc. Elliot 4537! Kenema (fr. Dec. — planted) Burns! Deighton 3570! Mano (Oct. — planted) Deighton 3793! **IV. C.:** Ferkéssédougou Aubrév. 2271. **S. Nig.:** Farquhar 53! Olokemeji (planted) Onochie FHI 8147! Benin City (planted) Kennedy 2253!

[Farquhar 53 from S. Nigeria has no precise locality; it was probably collected from an introduced tree; the species is not, apparently, indigenous in Nigeria.]

2. **Guibourtia demeusei** (*Harms*) *J. Léonard* in Bull. Jard. Bot. Brux. 19: 403 (1949); Publ. I.N.É.A.C., Sér. Sci. 45: 82; Fl. Congo Beige 3: 361. *APD acc*

Copaifera demeusei *Harms* in Engl. Bot. Jahrb. 26: 264 (1899); not of F.W.T.A., ed. 1, 1: 338.

A forest tree, to 130 ft. high; flowers white.

Br. Cam.: Victoria (fr. Oct.) Maitland 755! Likomba Mildbr. 10753! 10768!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **French Congo** and **Belgian Congo**.

3. **Guibourtia dinklagei** (*Harms*) *J. Léonard* in Bull. Jard. Bot. Brux. 19: 403 (1949); Publ. I.N.É.A.C., Sér. Sci. 45: 72. *APD acc*

Copaifera dinklagei *Harms* in Engl. Bot. Jahrb. 26: 265 (1899); F.W.T.A., ed. 1, 1: 338.

Guibourtia liberiensis *J. Léonard* in Bull. Jard. Bot. Brux. 20: 276, fig. 27, E & 28 (1950).

A glabrous shrub or small tree, to 15 ft.; flowers white.

Lib.: Sim! Banks of Biso R., Grand Bassa (Aug.) Dinklage 1695! Cess R., Grand Bassa (Mar.) Baldwin 11235!

4. **Guibourtia ehie** (*A. Chev.*) *J. Léonard* in Bull. Jard. Bot. Brux. 19: 404 (1949); Publ. I.N.É.A.C., Ser. Sci. 45: 78. *APD acc*

Copaifera ehie *A. Chev.* in Bull. Soc. Bot. Fr. 61, Mém. 8: 258 (1917); Bot. 234; Aubrév. Fl. For. C. Iv. 1: 264, t. 103 A; Pellegr. Lég. Gab. 117.

C. guibourtiana of F.W.T.A., ed. 1, 1: 338, partly (*Chev.* 22447).

Forest tree, to 150 ft. high, with buttresses and straight bole; flowers white, scented.

Iv. C.: Morénou (fr. Nov.) Chev. 22447! Adikokoi Aubrév. 658. Guigio Aubrév. 2038. **G. C.:** Adiembra, Ashanti (fl. & fr. Oct.) Vigne FH 4916! Jimira F.R. (fl. Oct., fr. Jan.) Vigne FH 3115! **S. Nig.:** Okomu F.R. Hide 30/37! Ikom Catterall 73! Afi River F.R. (fr. May) Jones & Onochie FHI 17313! Latilo FHI 30996!

Also in **Gabon**.

5. **Guibourtia pellegriniana** *J. Léonard* in Bull. Jard. Bot. Brux. 19: 405, fig. 38 (1949); op. cit. 20: 273; Publ. I.N.É.A.C., Sér. Sci. 45: 75. *APD acc*

Copaifera demeusei of F.W.T.A., ed. 1, 1: 338, not of *Harms*.

Large forest tree.

S. Nig.: Old Calabar Milne! **Br. Cam.:** S. Bakundu F.R. Ejiofor FHI 15252!

Also in **Gabon**, **French Congo**, and **Cabinda**.

6. **Guibourtia tessmannii** (*Harms*) *J. Léonard* in Bull. Jard. Bot. Bmx. 19: 404 (1949); op. cit. 22: 271; Publ. I.N.É.A.C., Ser. Sci. 45: 74. *APD acc*

Copaifera tessmannii *Harms* in Notizbl. Bot. Gart. Berl. 5: 181 (1910); Pellegr. Lég. Gab. 116, t. 6, fig. 9.

A large forest tree.

Br. Cam.: Likomba (Dec.) Mildbr. 10771! Mbalange, Kumba (fr. Jan.) Rosevear 1/33!

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

7. **Guibourtia leonensis** *J. Léonard* in Bull. Jard. Bot. Brux. 20: 271, fig. 27, C–D (1950). *APD acc*

Forest tree, to 80 ft. high.

Port. G.: S. Domingos (fr. Jan.) D'Orey 174! Suzana (fr. Mar.) D'Orey 354! **S. L.:** Kambui Hills Wallace 89! 114! 147! Dambaye (young fr. Sept.) Edwardson 133!

Harms in E. & P. Pflanzenfam. Nachtr. 1: 195 (1897); Léonard in Bull. Inst. Roy. Col. Belg. 21: 744–753 (1950).

- 1 Fruits not winged, bulky, bilobed at apex, up to 7.5 cm. long, 6.5 cm. broad and 3.5 cm. thick, irregularly knobbly, pericarp woody, containing numerous small resinous cavities; leaflets 1 pair, or occasionally 3–4 leaflets, oblong, rounded at both ends, 7–15 cm. long, 3–5 cm. broad, rhachis up to 3 cm. long [1. mannii](#)

Fruits samaroid, ovate-lanceolate to lanceolate, 8–13 cm. long, 2–4 cm. broad, the proximal part consisting of the well-developed wing 6–10 cm. long, pericarp with prominent longitudinal nerves; leaflets 5–9 (rarely 2), alternate or rarely subopposite, elliptic or elliptic-lanceolate, slightly falcate, acute at base, acuminate at apex, 4–14 cm. long, 1.5–4 cm. broad, rhachis up to 16 cm. long [2. oxyphyllum](#)

1. **Oxystigma mannii** (Baill.) *Harms* in E. & P. Pflanzenfam. Nachtr. 1: 195 (1897); Engl. Bot. Jahrb. 26: 264; Engl. Pflanzenw. Afr. 3, 1: 437, t. 241; Léonard in Bull. Inst. Roy. Col. Belg. 21: 748.

APD: *Synonym of Prioria mannii* (Baill.) Breteler

Copaifera? *mannii* Baill. (1866).

Hardwickia? *mannii* (Baill.) Oliv. F.T.A. 2: 316 (1871).

Eriander engleri H. Winkl. (1908).

Macrobium diphylum of F.W.T.A., ed. 1, 1: 347, not of *Harms*.

A forest tree, to 80 ft. high with glabrous branchlets and spike-like racemes of white or pinkish flowers; in freshwater swamps.

S. Nig.: Eket Talbot s.n.! 3014! Calabar R., (fl. Jan–Mar., fr. Oct.) Holland, 92! Espley 1! Kennedy 1812! Br. Cam.: Cameroons R. (Jan.) Mann 754! 2194! Victoria (Nov.–Jan.) Winkler 669! Maitland 109! 786! 1150!

Also in French Cameroons and Spanish Guinea.

2. **Oxystigma oxyphyllum** (*Harms*) J. Léonard l.c. 753, fig. 1, B, fig. 2, G–H (1950); Fl. Congo Beige 3: 373.

APD: *Synonym of Prioria oxyphylla* (*Harms*) Breteler

Pterygopodium oxyphyllum *Harms* in Engl. Bot. Jahrb. 49: 439 (1913); Kennedy For. Fl. S. Nig. 84; Pellegr. Lég. Gab. 128.

A forest tree, to 150 ft. high; similar to *Gossweilerodendron*.

S. Nig.: S. Ondo Prov. Kennedy 2422! Ainslie 10!

Also in French Cameroons, Gabon, Cabinda and Belgian Congo.

32. GOSSWEILERODENDRON

Harms in Notizbl. Bot. Gart. Berl. 9: 457 (1925).

- 1 A large tree; branchlets glabrous; leaves pinnate; leaflets alternate, with an end one, oblong-elliptic, obtuse or obtusely pointed, 4–9 cm. long, 2–4 cm. broad, densely pellucid-glandular, otherwise glabrous; racemes spiciform, simple or branched, up to 10 cm. long; axis slightly pubescent; calyx slightly pubescent; petals absent; stamens 8–10, free, filaments hairy at the base; ovary stipitate, villous; ovule solitary, pendulous; fruit 1-seeded, with a broad basal oblique wing about 8 cm. long and 3.5 cm. broad, the fruit body ellipsoid, about 2.5 cm. long [balsamiferum](#)

- Gossweilerodendron balsamiferum** (Verm.) *Harms* l.c. fig. 9, F–L (1925); Kennedy For. Fl. S. Nig. 93; Léonard in Fl. Congo Beige 3: 375, t. 28.

APD: *Synonym of Prioria balsamifera* (Vermoesen) Breteler

Pterygopodium balsamiferum Verm. (1923).

Forest tree, to 200 ft. high, with cylindrical bole without buttresses or basal thickening; crown spreading with light foliage; flowers in whitish spikes, the sepals pellucid-dotted; fruit samara-like with the seed at the distal end.

S. Nig.: Benin (fr. June) St. Barbe Baker! Sapoba (fl. Dec.–Jan., fr. Mar.) Kennedy 327! 554! 1677! Udi (Jan.–Feb.) Chesters 201! Degema Dist. Chesters OC 25!

Also in **Cabinda** and **Belgian Congo**.

33. STEMONOCOLEUS

Harms in Engl. Bot. Jahrb. 38: 77 (1907).

- 1 A tree, wholly glabrous; leaflets 4–10, alternate, oblong or elliptic, rounded or obtuse at base, rounded and emarginate at apex, 5–11 cm. long, 3–5 cm. broad, with 6–10 lateral nerves, prominulous above and beneath; rhachis 6–15 cm. long; inflorescence a panicle of short racemes; flowers 3–4 mm. long, crowded towards the ends of the racemes, pedicels up to 2 mm. long; flower buds covered by an ovate bract and two small bracteoles; calyx tubular with 4 lobes; petals absent; stamens 4, united below; fruit indehiscent, a large papery samara, oblong or oblong-elliptic, cuneate and twisted at base, rounded at apex, 12–16 cm. long, 4–8 cm. broad; seeds 1–2, flat, suboblong, 1.5–2 cm. long [micranthus](#)

Stemonocoleus micranthus *Harms* l.c. fig. 7 (1907); Aubrév. Fl. For. C. Iv. 1: 258, 1. 101; Kennedy For. Fl. S. Nig. 87; Pellegr. Lég. Gab. 127, t. 3, 4. *APD acc*

Forest tree, to 150 ft. high, with large straight bole and buttresses.

iv. C.: Abidjan Aubrév. 29! Banco Aubrév. 372! **S. Nig.:** Benin (fl. & fr. Jan.) Lancaster FHI 2887! Sapoba (fl. Oct., fr. Dec.) Kennedy 2490! 2544! Akpaka F.R., Onitsha (Dec.) Chester 182! Ukpok, Onitsha (fl. & fr. Aug.) Cousens FHI 6932! Awka (Aug.) Cousens FHI 6933! Calabar Mackay 227/38!

Also in **French Cameroons** and **Gabon**.

34. CRUDIA

Schreb. — F.T.A. 2: 312.

- 1 Leaflets quite glabrous beneath; stipules persistent, lanceolate, 2–2.5 cm. long; leaflets 5–11, oblong-elliptic to obovate-elliptic, falcate, cuneate and unequal at base, obtusely acuminate, 5–10 cm. long, 2–4.5 cm. broad; pedicels slender, 1.5–2.5 cm. long, glabrous, with 2 small bracteoles towards the base; sepals obovate, about 5 mm. long; ovary densely woolly; fruits shortly oblong to suborbicular, bulgy, densely tomentose outside, 5–10 cm. long, 5–6 cm. broad, containing 1–2 large seeds; seeds ellipsoid to suborbicular, 4.5–6.5 cm. long, 4–5 cm. broad, 2–2.8 cm. thick, brown, glabrous, the contents loose within the testa when dry [1. senegalensis](#)

Leaflets minutely puberulous beneath (good lens needed); fruits relatively flat: [2](#)

- 2 Pedicels glabrous, 5–18 mm. long, with minute bracteoles at the base; stipules persistent, ovate-lanceolate, up to 3 cm. long and 2.5 cm. broad; leaflets 5–7, broadly elliptic, obtuse at base, obtusely acuminate, 8–13 cm. long, 2.5–7 cm. broad; fruits oblong, transversely nerved, minutely puberulous or glabrescent, 15–18 cm. long, 4–6 cm. broad, containing 3–4 seeds; seeds suborbicular or reniform, flat, 3.5–4.5 cm. diam., about 0.5 cm. thick [2. klainei](#)

Pedicels puberulous, with 2 bracteoles towards the middle; stipules caducous; [3](#)

- 3 Flowering pedicels 1–2.2 cm. long; leaflets 5–9, ovate to oblong-elliptic, obtuse or rounded at base, abruptly long caudate-acuminate, 6–15 cm. long, 2.5–5.5 cm. broad; fruits oblong, tomentose, to 30 cm. long and 6–7 cm. broad, containing 2–5 seeds [3. gabonensis](#)

Flowering pedicels 4–6 mm. long; leaflets 6–8, oblong to oblong obovate, obtuse to rounded at base, shortly and obtusely acuminate, up to 10 cm. long and 4.5 cm. broad, the lower leaflets smaller than the upper ones and sometimes less than 1 cm. long and broad; fruits broadly and obliquely oblanceolate, minutely puberulous or glabrescent, about 16 cm. long and up to 6 cm. broad [4. sp. A](#)

1. **Crudia senegalensis** *Planch. ex Benth.* — F.T.A. 2: 312, partly; Chev. Bot. 233; Pellegr. Lég. Gab. 129; Berhaut Fl. Sen. 35. *APD acc*

Crudia sp. aff. **senegalensis** of Aubrév. Fl. For. C. Iv. 1: 256, 1. 100 A.

Forest tree, to 60 ft. high, with spreading crown; often by rivers.

Sen.: banks of R. Gambia fide Berhaut l.c. **Port. G.:** Bor, Bissau (Feb.) Esp. Santo 1787! Fulacunda (young fr. May) Esp. Santo 2028! **Fr. G.:** Rio Nunez Heudelot 708! **S. L.:** Afzelius! Masao R., Potoro (Oct.) Fisher 41! Gene, Kamagai (fr. Feb.,

Apr.) Deighton 3363! 4764! Bandajuma ferry (Oct.) King 223! **Lib.:** Fisherman's Lake (Dec.) Baldwin 10895! Buchanan, Grand Bassa (young fr. Mar.) Baldwin 11174! **Iv. C.:** Aubrév. 1692! 1695! And various localities fide Aubrév. l.c.

[G. C.: Axim Irvine 2222! S. Nig.: Lagos Punch! — these, and other specimens from S. Nigeria lack flowers and fruits and cannot, therefore, be determined certainly. The type specimen of *Daniellia punchii* Craib ex Holl. consists of the leaves of this *Crudia* mixed with the flowers of *Daniellia ogea* (Harms) Rolfe ex Holl. (q.v.),]

Also in **Gabon**.

2. ***Crudia klainei* Pierre ex De Wild.** in Bull. Jard. Bot. Brux. 7: 250 (1920); Aubrév. l.c. 1: 256, t. 99, 100 B; Kennedy For. Fl. S. Nig. 92; Pellegr. l.c. **APD acc**

Crudia senegalensis of Oliv. in Hook. Ic. Pl. t. 2378, and of F.T.A. 2: 312, partly, not of Planch, ex Benth.

Tree to 25 ft. high, with spreading crown, in **freshwater swamp forest by creeks and lagoons**; stipules purple; calyx mauve, filaments and ovary pale green, anthers yellow.

Iv. C.: Ile de Petit Bassam (fr. June) Aubrév. 538! **S. Nig.:** Lagos Millen 130! Epe Barter 3270! Eba Isl. (fr. Jan.) Thornewill 242! Sapoba (Nov.) Kennedy 412! A. F. Ross 226! Nun R. (Sept.) Mann 500! Eket Talbot 3240! **F. Po:** Mann 14!

Also in **French Cameroons** and **Gabon**.

3. ***Crudia gabonensis* Pierre ex Harms** in Notizbl. Bot. Gart. Berl. App. 21: 49 (1911); De Wild. l.c. 7: 248 (1920); Pellegr. l.c. C. sp. aff. *gabonensis* of Aubrév. l.c. 1: 256, 1. 100 C. **APD acc**

APD: *Synonym of Crudia zenkeri Harms ex De Wild.*

Forest tree to 80 ft. high, with straight bole and buttresses.

Iv. C.: Djibi Aubrév. 856! **G. C.:** Dunkwa (Sept.) Vigne FH 4740!

Also in **Gabon**.

4. ***Crudia* sp. A. **APD acc****

Crudia klainei of F.W.T.A., ed. 1, 1: 337, partly (Dalz. 8246), not of Pierre ex De Wild. Tall forest tree.

Noted in MS. by Harms as a new species; further material and a thorough revision of the genus are needed before deciding whether it is really new.

S. Nig.: Oban Talbot 580! **Br. Cam.:** Bibundi, very common (Nov.) Mildbr. 10645! Victoria to Buea (fr. Feb.) Dalz. 8246!

Also in **French Cameroons**.

35. TALBOTIELLA

Bak. f. in J. Bot. 52: 2 (1914); Léonard in Bull. Jard. Bot. Brux. 21: 445 (1951).

- 1 A shrub up to 6 m. high; leaves paripinnate; leaflets about 15–20 pairs, opposite, 1.3–1.5 cm. long, auriculate on the lower side, obtuse at apex, glabrous; racemes axillary and terminal, slender, softly pilose; pedicels 1.5 cm. long, very slender, pilose; flowers about 5 mm. long; bracteoles linear; sepals glabrous, elliptic; stamens 8–10, free; ovary stipitate, villous [1. *eketensis*](#)

A tree; leaves paripinnate; leaflets about 6 pairs, opposite, about 2 cm. long and 1 cm. broad, auriculate on the lower side, rounded at apex, glabrous; racemes axillary, about 3 cm. long, pilose, with thick leathery perulae at the base; pedicels 1 cm. long, pubescent; sepals glabrous; stamens 8–9; ovary stipitate, villous [2. *gentii*](#)

1. ***Talbotiella eketensis* Bak. f.** in J. Bot. 52: 2, t. 529 (1914); Leg. Trop. Afr. 3: 768. **APD acc**

A bushy shrub with dark glossy leaves when mature; white flowers with orange stamens and pink bracteoles.

S. Nig.: Ibeno, at the estuary of the Kwa Ibo River Talbot 3188! Degema Talbot 3625!

2. ***Talbotiella gentii* Hutch. & Greenway** in F.W.T.A., ed. 1, 1: 337 (1928); Kew Bull. 1928: 382; Bak. f. Leg. Trop. Afr. 3: 769. **APD acc**

A heavy-foliaged tree, to 50 ft.; flowers pink and white.

G. C.: Irvine 957! N. Scarp, Kwahu (Dec.) Gent FH 184! Abetifi, Kwahu (fr. June) Thompson 87! Huhunia A. S. Thomas D 57!

36. POLYSTEMONANTHUS

Harms in E. & P. Pflanzenfam. Nachtr. 1: 197 (1897).

- 1 Tree with rusty -tomentellous branchlets and inflorescence; leaves simply paripinnate; leaflets about 6 pairs, opposite, oblong, abruptly acuminate, rounded at base, 5–12 cm. long, 2.5–5 cm. broad, glabrous above, finely rusty-puberulous beneath; lateral nerves 10–12 pairs, prominent beneath; panicles terminal; bracteoles large, persistent for a long time, enclosing the flower-bud, valvate, 2–2.5 cm. long, with a gland-like horn at the apex; sepals 4, imbricate, silky-villous outside; petals 5, subequal; stamens very numerous; ovary shortly stipitate, villous; fruit about 13 cm. long, 3 cm. broad, scythe-shaped, acute at one side [dinklagei](#)

Polystemonanthus dinklagei *Harms* l.c. 1: 197 (1897); Engl. Bot. Jahrb. 26: 273, t. 7, D–F; Bak. f. Leg. Trop. Afr. 3: 693. *APD acc*

Flowers fairly large in a stout paniced raceme, sweet-scented; petals white; stamens very numerous.

Lib.: Grand Bassa (Sept.) Dinklage 1687! 1755! **IV. C.:** Aubrév. 2812! 2813!

37. ISOBERLINIA

Craib & Stapf in Kew Bull. Add. Ser. 9: 266 (1911); Kew Bull. 1912: 93; Troupin in Bull. Jard. Bot. Brux. 20: 302–309 (1980).

- 1 Branchlets, leaflets and inflorescence softly tomentellous; leaflets 4 pairs, ovate or elliptic, rounded at apex and base, 8–15 cm. long, 5–9 cm. broad, with 7–8 pairs of lateral nerves; stipules very large and cordate-auriculate, unequally 2-lobed at the apex, about 3.5 cm. long and broad, tomentose, soon falling off; bracts ovate, tomentose, 7–8 mm. long; flowers subsessile, obovoid in bud, the two enclosing bracteoles about 1.3 cm. long, densely tomentose; petals subequal, scarcely exceeding the bracteoles; fruit woody, obliquely oblong, flat, about 25 cm. long and 8 cm. broad, brown-velvety-pubescent [1. dalzielii](#)

Branchlets and leaflets glabrous; leaflets usually 3 pairs and subopposite or occasionally more numerous and alternate, ovate or elliptic, unequally rounded or slightly cuneate at base, up to 20 cm. long and 10 cm. broad, shining and closely reticulate on both sides, with 6–7 pairs of lateral nerves; bracts ovate, keeled, tomentellous, about 4 mm long; flowers subsessile; bracteoles about 1 cm. long, thick, tomentellous outside; petals and fruit as above, but the latter glabrous or nearly so [2. doka](#)

1. **Isoberlinia dalzielii** *Craib & Stapf* in Kew Bull. Add. Ser. 9: 267 (1911); Kew Bull. 1912: 93; Aubrév. Fl. For. Soud.-Guin. 232; Troupin in Bull. Jard. Bot. Brux. 20: 307.

APD: *Synonym of Isoberlinia tomentosa (Harms) Craib & Stapf*

Berlinia dalzielii (*Craib & Stapf*) *Bak. f.* Leg. Trop. Afr. 3: 690 (1930); Aubrév. Fl. For. C. Iv. 1: 216.

Savannah tree, to 60 ft. high, with grey or ochraceous tomentellous foliage and branchlets, bark exuding a red resin, comparatively small fragrant flowers and large 5–6-seeded pods which burst with curling valves scattering the seeds; **gregarious, usually on stony ground.**

Fr. Sud.: Bamako to Bougouni Aubrév. **Fr. G.:** Siguiri (Nov.) Jac.-Fel. 1413! **IV. C.:** Aubrév. 630! Boromo Aubrév. 2151. **G. C.:** Gambaga Scarp, Sakogu (Dec.) Adams GC 4240! Yijia to Pong Kitson 570! **Togo:** Sokodé to Basari Kersting A. 702! **Dah.:** Parakou Poisson 50! **N. Nig.:** Zamfara F.R. (fr. Apr.) Keay FHI 16141! Kontagora (Nov.) Dalz. 26! Zaria Prov. (fr. Apr.) Collier! Anchau (Nov.) Keay FHI 21672! Bauchi Shaw 96! **S. Nig.:** Oid Oyo Keay FHI 16280!

Also in **French Cameroons, Ubangi-Shari.**

2. **Isoberlinia doka** *Craib & Stapf* in Kew Bull. Add. Ser. 9: 267 (1911); Kew Bull. 1912: 94; Hook. Ic. Pl. t. 3003; Aubrév. Fl. For. Soud.-Guin. 232, t. 48; Troupin l.c. 20: 303. *APD acc*

Berlinia doka (*Craib & Stapf*) *Bak. f.* l.c. 3: 688 (1930); Aubrév. Fl. For. C. Iv. 1: 216.

B. kerstingii Harms (1915).

B. chevalieri De Wild. (1925).

B. angolensis of Chev. Bot. 230, not of Welw. ex Benth.

Savannah tree, to 60 ft. high, with glabrous shining foliage; flowers white; gregarious.

Fr. Sud.: Koumana (Mar.) Chev. 612! Birgo Dubois 48! **Fr. G.:** Siguiri Pobéguin 880! Chev. 302! Kankan Chev. 583! Kouroussa Pobéguin 189! **IV. C.:** fide Aubrév. Il.c. **G. C.:** Kintampo (Mar.) Dalz. 45! Aframsu, Kwahu (young fr. Jan.) Chipp 638! Kulmasa to Jagalo (Feb.) Kitson 568! Samboro to Basisan (May) Kitson 569! **Togo:** Kersting A. 389. **Dah.:** Badagba Poisson 105! **N. Nig.:** Sokoto Prov. Dalz. 334! Katagum Dalz. 364! Zaria (Apr.) Lamb 51! Kontagora (Feb.) Dalz. 12! Bauchi Plateau (May) Lely P. 287! **S. Nig.:** Oyo-Iseyin Road (Feb.) Keay FHI 22478!

Also in **French Cameroons, Ubangi-Shari, A.-E. Sudan, Uganda** and **Belgian Congo**.

38. BERLINIA

Soland. ex Hook. f. — F.T.A. 2: 292; Keay in Kew Bull. 1954: 267. *APD acc*

- 1 Petals more or less subequal in length, all about 6–8 cm. long, limb of posterior petal broader than the others; inflorescence a stout terminal simple raceme; bracts at least 1·6 cm. long, conspicuous in the unopened part of the inflorescence; calyx-tube glabrous or sparingly puberulous outside; fruits glabrous:2
- Petals very unequal in length, the posterior one much longer and broader than the others; inflorescence a cluster of racemes or sparingly branched panicles; bracts up to 0·5 cm. long; fruits tomentellous or minutely puberulous, rarely glabrous:3
- 2 Bracts 5–7 cm. long, 1·8–2·5 cm. broad, enclosing the flower-buds until opening, the unopened part of the inflorescence thus head-like and wrapped in the imbricating bracts; bracteoles elliptic-ob lanceolate, 5–8 cm. long, 1–2 cm. broad, sparingly puberulous to glabrous within; pedicels 1–3 cm. long; leaflets 4–5 pairs, subopposite, obovate-elliptic rounded or obtuse at base, acuminate, 10–36 cm. long, 4–13·5 cm. broad, with 10–15 pairs of lateral nerves; rhachis up to 30 cm. long, petiolules 6–10 mm. long; fruits with stipe 2–2·5 cm. long, oblong, 27–36 cm. long, 9–10 cm. broad, upper suture 1 cm. broad, marked by a double groove .. [1. bracteosa](#)
- Bracts up to 2·7 cm. long and 1·4 cm. broad, enclosing only the very young buds, the older buds thus conspicuous; bracteoles obovate-ob lanceolate, 4–5 cm. long, 1·5–2 cm. broad, densely puberulous to tomentellous within; pedicels 2–4·8 cm. long; leaflets 4–5 pairs (rarely 1–3), subopposite, obovate-elliptic to oblong-elliptic, rounded or obtuse at base, acuminate, 9–25 cm. long, 3·2–9 cm. broad, with 10–13 pairs of lateral nerves; rhachis up to 30 cm. long, petiolules up to 1 cm. long; fruits with stipe 2–3 cm. long, oblong, 28–36 cm. long, 9–11 cm. broad, upper suture grooved [2. occidentalis](#)
- 3 Bracteoles densely silky-villous inside, tomentellous outside, about 3 cm. long; calyx-tube glabrous or pubescent; posterior petal about 4–6 cm. long; leaflets 3–6 pairs, elliptic-obovate or oblong-elliptic, subfalcate, acuminate at apex, 8–16 cm. long, 3–6 cm. broad, puberulous or nearly glabrous beneath; fruits 20–30 cm. long, 5–7 cm. broad, tomentellous [3. grandiflora](#)
- Bracteoles shortly pubescent, puberulous, or nearly glabrous inside, usually more densely hairy outside:4
- 4 Calyx-tube and lobes glabrous or sparingly puberulous outside, or rather densely puberulous down one side only:5
- Calyx-tube and lobes (at least in part) densely tomentose outside; bracteoles puberulous or tomentellous within; inflorescences densely tomentellous:8
- 5 Bracteoles 1·8–2·2 (–2·7) cm. long, 0·8–1·1 cm. broad; calyx-tube 7–8 mm. long; posterior petal 4·5–5 cm. long, 2·5–3 cm. broad; inflorescence a cluster of racemes, up to 10 cm. long, pedicels 1–1·5 cm. long; inflorescence and outside of bracteoles finely puberulous, the surface usually being clearly visible between the hairs; leaflets 2–3 pairs, thinly coriaceous, obliquely oblong or obovate-oblong or oblanceolate-oblong, (6–) 12–25 cm. long, (3·5–) 4·5–9·5 cm. broad, the upper pair larger than the lower pair or pairs; fruits not known [4. auriculata](#)
- Bracteoles 3–4·2 cm. long, 1–2·1 cm. broad; calyx-tube 1–1·7 cm. long; posterior petal 3·5–6 cm. broad; pedicels 1·2–3·5 cm. long:6
- 6 Outside of bracteoles densely minutely tomentellous; leaflets papery or very thinly coriaceous:7
- Outside of bracteoles very finely puberulous; leaflets thickly coriaceous, (1–) 2–3 pairs, oblong, 10–25 cm. long, 5–13 cm. broad; bracteoles 3·5–3·8 cm. long and 1·7–2·1 cm. broad; posterior petal 6·5–7 cm. long and 4·5–6 cm. broad; fruits 33–47 cm. long, 11–12 cm. broad, minutely pustulate, nearly glabrous [7. coriacea](#)
- 7 Leaflets (2–) 3–5 pairs, the surfaces discolorous when dry, ultimate venation usually obscure, obliquely oblong to oblong-ovate, acuminate and usually emarginate at apex, 5·5–12 (–17) cm. long, 3–6·5 (–9) cm. broad; bracteoles 3–3·7 cm. long, 1–1·5 cm. broad; calyx-tube usually more or less puberulous; posterior petal 4·5–5 cm. long, 3·5–4·5 cm. broad; fruits up to 45 cm. long and 9 cm. broad, minutely scurfy-puberulous [5. confusa](#)
- Leaflets 2 (–3) pairs, the surfaces concolorous when dry, ultimate venation prominulous on both surfaces, oblong-elliptic or oblong-obovate, shortly and obtusely acuminate, 10–16 cm. long, 6–8 cm. broad; bracteoles

3.7–4.2 cm. long, 8–11 mm. broad; calyx-tube usually with a densely puberulous line down the back; posterior petal 4–4.5 cm. long, about 5 cm. broad; fruits about 32 cm. long, and 8–9 cm. broad, densely yellow-brown tomentellous [6. *congolensis*](#)

- 8 Bracteoles 2.3–2.8 cm. long, 1–1.5 cm. broad; pedicels 1.4–2.8 cm. long; posterior petal (3.4–) 4–4.5 (–5) cm. long, 2.5 cm. broad, deeply 2-lobed; inflorescence to about 16 cm. long; leaflets (2–) 3–5 pairs, oblong-elliptic, to obovate-elliptic or ovate-elliptic, often long-acuminate at apex, 7–25 cm. long, 3–10 cm. broad [8. *tomentella*](#)

Bracteoles 4.5–6 cm. long, 1.4–2.8 cm. broad; pedicels 4–6 cm. long; posterior petal 6–7 cm. long, 5.5–8 cm. broad; inflorescence up to 30 cm. long; midrib and lateral nerves puberulous beneath: [9](#)

- 9 Bracteoles obovate, 4.5–4.8 cm. long, 2–2.8 cm. broad; leaflets 4–6 pairs, narrowly oblong-elliptic to obovate-elliptic, long-acuminate at apex, 5.5–18 cm. long, 2.8–8 cm. broad; young fruits brown-puberulous, not known at maturity [9. *craibiana*](#)

Bracteoles oblanceolate, about 6 cm. long and 1.4 cm. broad; leaflets 3–4 pairs, elliptic-lanceolate, very long-tapered-acuminate at apex, up to 16 cm. long and 6 cm. broad; fruits not known [10. *hollandii*](#)

1. ***Berlinia bracteosa* Benth.** — F.T.A. 2: 294; Bak. f. Leg. Trop. Afr. 3: 686; Pellegr. Lég. Gab. 62. **APD acc**

***Westia bracteosa* (Benth.) J. F. Macbr.** in Contrib. Gray Herb. n.s. 3, 59: 20 (1919).

***Macroberlinia bracteosa* (Benth.) Hauman** (1952) — Fl. Congo Beige 3: 386.

Forest tree, to 80 ft. high; glabrous except on the hoary puberulous inflorescence; flowers white, crowded in a stout terminal raceme.

S. Nig.: Oban Talbot 1312! An River F.R. (June) Jones & Onochie FHI 17340! Cross River North F.R. (fr. Dec.) Keay FHI 28153! **Br. Cam.:** Victoria (Jan., Feb.) Winkler 1087! Deistel 460! Maitland 276! Likomba Mildbr. 10729! Barombi Preuss 330! Bai Mauya, Kumba (fr. June) Rosevear 92/37! **F. Po:** Mann 1434!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

2. ***Berlinia occidentalis* Keay** in Kew Bull. 1954: 269. **APD acc**

***Berlinia acuminata* Soland. ex Hook. f.** in Fl. Nigrit. 326 (1849), partly (Ansell spec.); F.T.A. 2: 293, partly (Ansell spec.).

Berlinia bracteosa of F.W.T.A., ed. 1, 1: 343, partly (spec. ex Axim); of Aubrév. Fl. For. C. Iv. 1: 222, t. 82, B; not of Benth.

Berlinia grandiflora of F.W.T.A., ed. 1, 1: 343, partly (spec. ex S.L., Lib. & G.C.): of Bak. f. l.c. 686, partly; not of (Vahl) Hutch. & Dalz.

Forest tree, to 80 ft. high; flowers white, in a stout terminal raceme; fruits dark brown, glabrous.

S. L.: Kambui (Apr.) Lane-Pooh 244! Southern Prov. (Apr.) Deighton 1151! Gorahun (June) Small 725! **Lib.:** Bassa Cove Ansell! Dukwia R. (fl. Feb., fr. July) Linder 1731 Cooper 177! 217! Sasstown (Mar.) Baldwin 11604! White Plains (fl. Apr., fr. Nov.) Barker 1271! Baldwin 10458! **Iv. C.:** Aboisso (Apr.) Chev. 16300! Abidjan Aubrév. 100! **G. C.:** Axim Burton & Caimeron! Princetown (fl. & fr. Apr.) Chipp 173!

3. ***Berlinia grandiflora* (Vahl) Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 343 (1928), partly (as to syn. only); Kew Bull. 1928: 398; Bak. t. l.c. 686, partly; Keay l.c. 269. **APD acc**

APD: *Synonym of Berlinia phenacoa Mackinder*

***Westia grandiflora* Vahl** in Skrivt. Nat. Selsk. 6: 118 (1810).

***Berlinia acuminata* Soland. ex Hook. f.** in Fl. Nigrit. 326 (1849), partly (Heudelot spec., and most of description).

***Berlinia heudelotiana* Baill.** in Adansonia 6: 185, t. 3, 8–9 (1866); F.W.T.A., ed. 1, 1: 343; Bak. 1. l.c. 3: 684 (incl. var. *foliosa* Bak. f.); Aubrév. l.c. 220, t. 81; Pellegr. l.c. 63, partly; Hauman l.c. 3: 396.

***Berlinia acuminata* var. *heudelotiana* (Baill.) Oliv.** F.T.A. 2: 294 (1871).

Tree to 70 ft. high, or shrub, **usually in fringing forest**; bracts and calyx pale green, petals white; fruits cinnamon-brown, tomentellous.

Fr. Sud.: Bamako (Apr.) Waterlot 1108! Hagerup 40a! **Fr. G.:** Bangalan, Upper R. Pongo Heudelot 886! Kouroussa Pobéguin 861! **S. L.:** Mano (Apr.) Deighton 4021! Mange Bure (Feb.) Deighton 34911 **Iv. C.:** Bouaké to Tiébissou Aubrév. 826! **G. C.:** Ajura (May) Vigne FH 1167! Lissa to Lambussie (Mar.) Kitson 572! Gambaga (Mar.) Williams 489! Salaga to Tamale (Apr.) Dalz. 1! Bole (May) Vigne FH 8834! Wa to Black Volta (Apr.) Kitson! **Togo:** Kersting 33! Misahöhe Baumann 122! Hohoe (fl. & fr. Feb.) Beveridge FH 2925! Kpandu Robertson 106! **Dah.:** Whydah Isert! **N. Nig.:** S. Sokoto Prov. (June) Lely 819! Zungeru (Apr.) Dalz. 34! Zaria Prov. (Apr.) Collier! Wamba (Mar.) Thornehill 53! **S. Nig.:** Lagos (fl. & young fr. Feb.) Foster 6! Ijaye Barter 3327! Benin City Dennet 62! Ubulubu (Jan.) Thomas 2263! Akpaka F.R., Onitsha (fr. Apr.) Chesters 20! Ekwolobia, Awka (Nov.) Keay FHI 22707! Ikodu, Ahoada (Feb.) Chesters 9! 10! Ikom

Catterall 52! **Br. Cam.:** Munkep, Bamenda Prov., 3,000 ft. (Feb.) Johnstone 35/31! Munken, Bamenda Prov., 3,000 ft. (Feb.) Johnstone 77/31!

Also in **Ubangi-Shari**, **French Cameroons** and **Belgian Congo**.

4. **Berlinia auriculata** *Benth.* — F.T.A. 2: 294; F.W.T.A., ed. 1, 1: 343, in part only; Bak. f. l.c. 682, partly; Pellegr. l.c. 64 (excl. ref. Aubrév. Fl. For. C. Iv.). *APD acc*

Berlinia heudelotiana of Pellegr. l.c. 63, partly.

Westia auricuiata (*Benth.*) *J. F. Macbr.* (1919).

Forest tree, to 30 ft. high (“large tree”, fide Chesters), with low spreading crown; flowers white.

S. Nig.: Degema (Feb.–Mar.) Talbot 3611! Chesters 11! 12! 13! 14! Eket Talbot 3341! Port Harcourt (Jan.) Jones FHI 6196! Old Calabar Robb! Oban Talbot 79! 1556! **Br. Cam.:** Rio del Rey Johnston! B. Cameroons (Jan.) Mann 2195!

Also in **French Cameroons** and **Gabon**.

5. **Berlinia confusa** *Hoyle* in Kew Bull. 1934: 184; Keay l.c. 271. *APD acc*

Berlinia acuminata of Fl. Nigrit. 326 (1849), partly (ref. Hb. Banks, ms.); Bak. f. l.c. 683 (excl. var. *velutina*); Aubrév. Fl. For. C. Iv. 1: 220, t. 82, A; not of Soland. ex Hook. f.

Berlinia auriculata of F.W.T.A., ed. 1, 1: 343, partly, not of Benth.

Forest tree, 40–120 ft. high; petals white; fruits pale brown.

S. L.: Smeathmann! Hangha (May) Lam-Poole 229! Laoma (Apr.) Aylmer 223! Njala (Apr.) Deighton 647! Peri, Guara (Mar.) King 330! Mongheri, Lunia (Apr.) King 234! Gola Forest (fr. May) Small 711! **Lib.:** Monrovia Whyte! Dukwia R. (Feb.) Cooper 218! 283! Fisherman’s Lake (Dec.) Baldwin 10892! **Iv. C.:** Aubrév. 3! Bingerville (Feb.) Chev. 17269! **G. C.:** Burton & Cameron! Kumasi (Mar., Apr.) Vigne FH 1055! 1676! Tano Anwia F.R. (Jan.) Andoh FH 5634! **S. Nig.:** Sapoba Kennedy 800! Usonigbe F.R. (fl. Aug., fr. Nov.) Adekunle FHI 22647! Meikle & Keay 560! Cross R. McLeod! Eket Talbot 3340! Calabar (Mar.) Smith 54!

Also in **French Cameroons** and **Gabon**.

6. **Berlinia congolensis** (*Bak. f.*) *Keay* in Kew Bull. 1954: 271. *APD acc*

Berlinia heudelotiana var. *congolensis* *Bak. f.* Leg. Trop. Afr. 3: 684 (1930).

Berlinia auriculata of F.W.T.A., ed. 1, 1: 343, partly (Talbot 3110).

Berlinia acuminata of Pellegr. Leg. Gab. 64, partly (Le Testu 1713).

Forest tree, to 120 ft. high; fruits mustard-brown; on swampy ground by rivers.

S. Nig.: Shasha F.R. (fl. Apr.–May, fr. May) Richards 3408! 3487! Ross 179! Eket Talbot 3110!

Also in **Gabon**, **Cabinda** and **Belgian Congo**.

7. **Berlinia coriacea** *Keay* l.c. 272 (1954). *APD acc*

Berlinia grandiflora of Kennedy For. Fl. S. Nig. 98.

Shrub or small **forest** tree, to 40 ft. high; in marshy places.

S. Nig.: Fowa, Omo F.R. (Mar.) Jones & Onochie FHI 17031! Jamieson R., Sapoba Kennedy 16561 1694! 1992! 2180!

8. **Berlinia tomentella** *Keay* l.c. 273 (1954). *APD acc*

Berlinia acuminata var. *velutina* *A. Chev. ex Bak. f.* l.c. 684 (1930); Chev. Bot. 229, name only.

Berlinia auriculata of Aubrév. l.c. 222, t. 83, not of Benth.

Forest tree, to 50 ft. high; flowers white; in wet places.

S. L.: Pujehun (Apr.) Aylmer 61! **Lib.:** Mnanulu, Webo (June) Baldwin 6050! Sarbo, Webo (fl. & fr. July) Baldwin 6376! 6402! **Iv. C.:** Soubré (June) Chev. 19149! Djibi (June) Aubrév. 1360! **G. C.:** Essuas (May) Vigne 116! Kumasi (July) Vigne FH 3009! Ayawura, N.W. Axim (July) Chipp 258! Nkawkaw (Feb.) King-Church 7!

9. **Berlinia craibiana** *Bak. f.* in Cat. Talb. 27 (1913); Leg. Trop. Afr. 3: 686; Pellegr. l.c. 65. *APD acc*

Berlinia preussii *De Wild.* (1925).

Berlinia acuminata of F.T.A. 2: 293, partly (Mann and Thomson spec.).

Berlinia grandiflora of F.W.T.A., ed. 1, 1: 343, partly (spec. ex Abukpani).

Forest tree, to 100 ft. or more high; bracteoles pale green, petals white.

S. Nig.: Sapoba (Jan.) Kennedy 1970! 2098! 2677! Ahoada (Jan.) Chesters 23! Abukpani, N. of Calabar (Feb.) McLeod! Old Calabar (fl. & young fr. Feb.) Mann 2302! Thomson 13! Oban Talbot 1520! 1524! 1584! 1732! **Br. Cam.:** Preuss 1317! R. Cameroons (Jan.) Mann 733! Kumba (Jan.) Jeme 4/38!

Also in **French Cameroons** and **Gabon**.

(Specimens from N. Rhodesia have been named *B. craibiana*, but they are not identical with our material.)

10. **Berlinia hollandii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 343 (1928); Kew Bull. 1928: 398; Bak. f. l.c. 682. *APD acc*

Forest tree, 20–30 ft. high.

S. Nig.: Old Calabar (May) Holland 10! Itu Holland 30!

39. MICROBERLINIA

A. Chev. in *Rev. Bot. Appliq.* 26: 588 (1946).

- 1 A large tree; branchlets pubescent; leaflets opposite, 12–18 pairs, oblong, with the midrib oblique and the very short petiolule close to the rounded proximal side at the base, distal side of base of leaflets held near the rhachis, apex rounded and emarginate, 1.5–3.5 cm. long, 8–10 mm. broad, both surfaces glabrous, lateral nerves numerous and rather close; rhachis 15–18 cm. long, narrowly winged between the petioles; stipules deciduous, foliaceous, ovate-lanceolate, 1.5–2 cm. long, 4–8 mm. broad; panicles axillary, with a more or less straight 8–16 cm. long central rhachis, bearing secundly and alternately 8–12 lateral racemes of up to 3 cm. in length; flowers crowded, pedicels up to 3 mm. long; bracteoles obovate, 4–7 mm. long, tomentellous outside, sparsely puberulous within; receptacle tube 3.5 mm. long, glabrous; sepals 4, oblong-lanceolate, the posterior sepal formed by the fusion of 2 and so a little broader than the others; petals 5, subequal, oblong-spathulate; pods oblong woody, flat, 16 cm. long, 4 cm. broad, the upper suture thickened and marked by a ridge running parallel to, and 5–10 mm. from, it; seeds 3–4 *bisulcata*

Microberlinia bisulcata *A. Chev.* l.c. 26: 589, t. 21 B (1946); Pellegr. *Lég. Gab.* 67. *APD acc*

Berlinia bisulcata (*A. Chev.*) *Troupin* (as *bifurcata* by error) in *Bull. Jard. Bot. Brux.* 20: 302 (1950).

Forest tree, to 130 ft. high; with extensive buttresses; bracteoles pale green, petals and stamens white.

Br. Cam.: Kennedy 3127! Malende (Mar.) Maitland 1067! Bikom FHI 12228! Mbalange (Jan.) Lobe Babute 57/36! S. Bakundu F.R. (Mar.) Brenan 9319!

Also in **French Cameroons**.

40. JULBERNARDIA

Pellegr. in *Boissiera* 7: 298 (1943).

- 1 Leaflets usually 3 pairs (rarely 2 or 4), with the lowest pair inserted close to the base of the 4–11 cm. long rhachis, petiolules twisted; leaflets elliptic to obovate-elliptic, acute at each end, 4–20 cm. long, 2–8.5 cm. broad, the lowest pair always the smallest, glabrous, with numerous translucent gland-dots; inflorescence and outside of flowers densely golden-brown tomentose; flowers with pedicels 3–5 mm. long; sepals 5, free, subequal; petals 5, of which 4 are minute and the other is obovate, about 17 mm. long and 6 mm. broad; fruit a flat woody pod, obtuse at apex, 12–20 cm. long, 4.5–5.5 cm. broad, glabrous; seeds 1–5 *seretii*

Julbernardia seretii (*De Wild.*) *Troupin* in *Bull. Jard. Bot. Brox.* 20: 312, fig. 32 (1950); Hauman in *FI Congo Beige* 3: 400, fig. 32. *APD acc*

Berlinia seretii *De Wild.* (1907); Bak. f. *Leg. Trop. Afr.* 3: 690.

Julbernardia ogoouensis *Pellegr.* (1943) — *Lég. Gab.* 69.

Forest tree, to 130 ft. high, with buttresses; flowers strongly scented; petals white or light pink.

S. Nig.: Oban Talbot 1586! **Br. Cam.:** Victoria to Kumba road (Mar.) Onochie FHI 32084! S. Bakundu F.R. (Apr.) Ejiofor FHI 29310!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

41. PARABERLINIA

Pellegr. in Bull. Soc. Bot. Fr. 90: 79 (1943).

- 1 Leaflets 1 pair, narrowly oblong-falcate, unequal at base, gradually acute at apex, 10–17 cm. long, 3–4 cm. broad, glabrous, petiole about 8 mm long, petiolules very short; inflorescence and outside of flowers densely golden-brown tomentose; flowers mostly sessile or with pedicels up to 5 mm. long; sepals 5, free, subequal; petals 5, minute; fruit a flat woody pod, 13–15 cm. long, 4–4.7 cm. broad, glabrous, seeds 2–3 [bifoliolata](#)

Paraberlinia bifoliolata *Pellegr.* in Bull. Soc. Bot. Fr. 90: 79 (1943); Lég. Gab. 68.

APD: *Synonym of Julbernardia pellegriniana Troupin*

Julbernardia pellegriniana *Troupin* in Bull. Jard. Bot. Brux. 20: 311 (1950).

Forest tree, to about 150 ft. high, with buttresses and straight bole.

Br. Cam.: Banga, Kumba Div. (fl. buds Mar., fr. Aug.) Brenan 9312! Ejiofor FHI 15255! Olorunfemi FHI 30706!

Also in **Gabon**.

42. ANTHONOTHA

P. Beauv. Fl. Oware 1: 70 (1806). *APD acc*

- 1 Leaflets glabrous beneath (or if puberulous then inflorescence very long); inflorescences mostly very long, narrow and pendulous:2
 Leaflets very shortly tomentellous or tomentose, or pubescent beneath; inflorescence usually up to 35 cm. long:8
- 2 Leaf-rhachis winged, 4–28 cm. long; leaflets 2–4 pairs, the lowest pair very close to the stem, elliptic-oblongate, gradually narrowed to the base, acuminate at apex, 8–32 cm. long, 3.5–11 cm. broad; inflorescence borne on the trunk and older branches, pendulous, axis 30–90 cm. long, lateral branches very short; bracteoles 9–10 mm. long; petals 5, subequal, 11–12 mm. long; fruit oblong, about 23 cm. long and 7.5 cm. broad, brown-tomentellous, with 6–8 seeds1. [leptorrhachis](#)
 Leaf-rhachis not winged:3
- 3 Petals 4–6, subequal:4
 Petals 5, of which 3 are 0.7–2 cm. long and subequal, and the other 2 minute:7
- 4 Inflorescence generally under 20 cm. long; bracteoles 7–8 mm. long; leaflets 2–3 pairs, elliptic to lanceolate-elliptic, generally cuneate at base, gradually caudate-acuminate at apex, 7–18.5 cm. long, 3–7 cm. broad, with 5–6 pairs of arcuate, ascending, lateral nerves, rather prominent beneath; rhachis 4–10 cm. long; fruits not known2. [isopetala](#)
 Inflorescence 20–120 cm. long:5
- 5 Stipules persistent, oblanceolate, obtuse, leathery, 5–7 mm. long; leaflets 2 pairs, ovate to obovate, rounded to cuneate at base, 7–12.5 cm. long, 4–6 cm. broad, with about 5 pairs of arcuate, ascending, lateral nerves, prominent beneath; rhachis 3.5–5.5 cm. long; axis of inflorescence about 30 cm. long, lateral branches up to 4.5 cm. long; bracteoles about 1 cm. long; petals 5; fruits not known3. [elongata](#)
 Stipules very early caducous or small and inconspicuous:6
- 6 Lateral nerves or leaflets 9–16, prominent beneath and conspicuously looped near the margin; leaflets 2–3 pairs, elliptic to obovate-lanceolate, obtuse at base, shortly acuminate at apex, 9–27 cm. long, 4–9 cm. broad, puberulous to glabrescent; rhachis 6.5–16 cm. long; axis of inflorescence 25–90 cm. long; lateral branches up to 1.5 cm. long; bracteoles 7–11 mm. long; petals 5, 8–9 mm. long; fruits obliquely oblong, about 10 cm. long and 3 cm. broad, densely tomentellous, with numerous transverse ridges; seeds 3–44. [nigerica](#)
 Lateral nerves of leaflets 7–9, not conspicuously looped; leaflets 3 (rarely 4) pairs, mostly obovate or elliptic rounded or obtuse at base, shortly acuminate or rounded at apex, upper leaflets 15–20 cm. long, 6–8 cm. broad, lower leaflets 6.5–10 cm. long, 3.5–5 cm. broad; rhachis 9–20 cm. long; inflorescences on shoots with reduced leaves arising from older twigs, axis 25–60 cm. long, lateral branches up to 7 cm. long, rather distant; bracteoles 1–1.4 cm. long; petals 4–5, 1–1.5 cm. long; fruits not known5. [obanensis](#)
- 7 Bracteoles about 1 cm. long; developed petals up to 2 cm. long; inflorescence axis to 120 cm. long, with lateral branches up to 4 cm. long; leaflets 2–3 pairs, obovate-oblongate to oblong-oblongate, cuneate at base,

- acuminate at apex, upper pair up to 22 cm. long and 9.5 cm. broad, lower pair up to 7 cm. long and 3.5 cm. broad; fruit not known [6. *ernae*](#)
- Bracteoles 5–8 mm. long; developed petals 7–8 mm. long; inflorescence axis 22–45 cm. long, with very short lateral branches; leaflets 2–3 pairs, ovate or oblong-elliptic, rounded to cuneate at base, acuminate at apex, 4.5–12 cm. long, 2.5–5 cm. broad, lateral nerves 4–6 pairs; mature fruit not known [7. *explicans*](#)
- 8 Petals 4, all developed and subequal, up to 8 mm. long, or only 1–3 developed and the others minute; leaflets reddish-brown pubescent beneath especially near midrib and nerves, sometimes eventually almost glabrous; leaflets 2–4 pairs, ovate to elliptic, rounded to obtuse at base, gradually caudate-acuminate, 7–18 cm. long, 3–5 cm. broad, with 5–8 pairs of lateral nerves, ascending, arcuate, looped and rather prominent beneath; rhachis 3–12 cm. long; flowers numerous in terminal panicles 5–15 cm. long; bracteoles 7–10 mm. long; fruits oblong, thick, 10–12 cm. long, 4–5.5 cm. broad; seeds 1–2, large [8. *vignei*](#)
- Petals 5, only the posterior one developed, the other 4 minute; leaflets very shortly tomentellous, or tomentose beneath: [9](#)
- 9 Undersurface of leaflets ferrugineous-tomentose, with lateral nerves prominent; branchlets densely ferrugineous-tomentose: [10](#)
- Undersurface of leaflets very shortly tomentellous and silvery; lateral nerves only slightly prominent beneath; leaflets usually 3 pairs, elliptic, oblong or obovate, up to 30 cm. long and 12 cm. broad; branchlets grey, puberulous or glabrescent; inflorescences on young or 1–2 year old shoots: [11](#)
- 10 Bracteoles 5–8 mm. long; posterior petal 7–8 mm. long; inflorescence axillary, terminal or on old wood, axis 8–35 cm. long, with numerous lateral racemes or panicles 2–12 cm. long; leaflets 2–5 pairs, elliptic, obovate-elliptic or oblong, rounded or obtuse at base, shortly acuminate at apex or more often appearing rounded by the destruction of the tip, 6–38 cm. long, 4–13.5 cm. broad, densely ferrugineous-tomentose beneath, with 12–24 pairs of lateral nerves prominent beneath; rhachis 5–35 cm. long; fruits oblong, thick, 3.5–12 cm. long, 4.5–6 cm. broad, 1.5–3 cm. thick, tomentellous, with numerous prominent anastomosing ridges, tardily dehiscent, valves not curling; seeds 1–3, large [9. *fragrans*](#)
- Bracteoles 11–12 mm. long; posterior petal up to 1.5 mm. long; inflorescences on the wood of several seasons' growth, axis 9–30 cm. long, with rather isolated lateral racemes up to 6 cm. long; leaflets 4–7 pairs, more or less elongate-oblong, rounded or obtuse at base, caudate-acuminate, 15–28 cm. long, 5–7 cm. broad, densely silky-tomentose beneath, with 9–16 pairs of lateral nerves, rhachis 25–30 cm. long; fruits not known [10. *lamprophylla*](#)
- 11 Upper suture of fruit about 5 mm. broad, not broader than the lower; fruits more or less flattened, 15–23 cm. long, 4–6.5 cm. broad, usually rather dark brown tomentellous, 2–7-seeded, tardily dehiscent; inflorescences 2–28 cm. long, rather laxly flowered; bracteoles 6–11 mm. long; leaflets acuminate to long-acuminate [11. *macrophylla*](#)
- Upper suture of fruit at least 1.2 cm. broad, distinctly broader than the lower; fruits stout, 7–15 cm. long, 3.5–8 cm. broad, pale brown-tomentellous, 1–4-seeded, apparently indehiscent, on short stout stipes; inflorescences up to 4 cm. long, very densely flowered; bracteoles 5–6 mm. long; leaflets very short acuminate or more often appearing rounded by the destruction of the tip [12. *crassifolia*](#)

1. *Anthonotha leptorrhachis* (Harms) J. Léonard in Bull. Jard. Bot. Brux. 25: 202 (1955).

APD: *Synonym of Isomacrolobium leptorrhachis* (Harms) Aubrév. & Pellegr.

Macrolobium leptorrhachis Harms in Engl. Bot. Jahrb. 33: 157 (1902); Pellegr. Lég. Gab. 46.

Forest tree, to 50 ft. high, cauliflorous.

Br. Cam.: S. Bakundu F. R. (young fr. Aug.) Olorunfemi FHI 30737!

Also in French Cameroons.

2. *Anthonotha isopetala* (Hanns) J. Léonard l.c. 202 (1955).

APD: *Synonym of Isomacrolobium isopetalum* (Harms) Aubrév. & Pellegr.

Macrolobium isopetalum Harms in Engl. Bot. Jahrb. 40: 25 (1907); Pellegr. l.c. 44.

Small forest tree; flowers white.

Br. Cam.: Mamfe (Feb.) Lobe Babute 6/37!

Also in French Cameroons and Gabon.

3. *Anthonotha elongata* (Hutch) J. Léonard l.c. 202 (1955).

APD: Synonym of Isomacrolobium obanense (Baker f.) Aubrév. & Pellegr.

Macrolobium elongatum Hutch. in Kew Bull. 1916: 229.

A small branching tree with long narrow finely brownish-puberulous pendulous inflorescences of white flowers.

S. L.: Pujehun (Feb.) Lane-Poole 161!

4. *Anthonotha nigerica* (Bak. f.) J. Léonard l.c. 202 (1955).

APD: Synonym of Isomacrolobium nigericum (Baker f.) Aubrév. & Pellegr.

Macrolobium leptorrhachis var. *nigericum* Bak. f. in Cat. Talb. 29 (1913); Leg. Trop. Afr. 3: 671.

M. nigericum (Bak. f.) J. Léonard in Fl. Congo Belge 3: 416 (1952).

Small forest tree.

S. Nig.: Oban Talbot 582!

Also in Belgian Congo.

5. *Anthonotha obanensis* (Bak. f.) J. Léonard in Bull. Jard. Bot. Brux. 25: 203 (1955).

APD: Synonym of Isomacrolobium obanense (Baker f.) Aubrév. & Pellegr.

Macrolobium obanense Bak. f. in Cat. Talb. 28 (1913); Leg. Trop. Afr. 3: 670.

Forest tree, to 32 ft. high, with long, pendulous dark brown inflorescences; petals white.

S. Nig.: Idanre Hills (Oct.) Brenan 8669! Ubulubu (Jan.) Thomas 2260! Utanga, Obudu Div. (Dec.) Keay & Savory FHI 25143! Oban Talbot 1428! 1468! Degema Talbot 3714!

6. *Anthonotha ernae* (Dinkl.) J. Léonard l.c. 202 (1955).

APD: Synonym of Isomacrolobium obanense (Baker f.) Aubrév. & Pellegr.

Macrolobium ernae Dinkl. in Fedde Rep. 42: 157 (1937).

Shrub or small tree, near the coast.

Lib.: Zinkor, Monrovia (Feb.) Dinklage 2805.

7. *Anthonotha explicans* (Baill.) J. Léonard l.c. 202 (1955).

APD: Synonym of Isomacrolobium explicans (Baill.) Breteler

Vouapa explicans Baill. in Adansonia 6: 181 (Oct. 1865).

Macrolobium heudelotii Planch. ex Benth. in Trans. Linn. Soc. 25: 308 (Nov. 1865); F.T.A. 2: 298; Chev. Bot. 228; F.W.T.A., ed. 1, 1: 347, partly (excl. Sc. Elliot 4800 and frt. descr.); Aubrév. Fl. For. Soud.-Guin. 239, t. 49, 1–2.

M. explicans (Baill.) Keay in Kew Bull. 1953: 490 (1954).

Scandent shrub or small tree to 25 ft. high.

Fr. G.: Fouta Djallon Heudelot 738! Kindia fide Chev. l.c. **S. L.:** Afzelius! Blama, Juring (Dec.) Deighton 309! **Lib.:** Dukwia R. (Oct.) Cooper 100!

8. *Anthonotha vignei* (Hoyle) J. Léonard l.c. 203 (1955).

APD: Synonym of Isomacrolobium vignei (Hoyle) Aubrév. & Pellegr.

Macrolobium vignei Hoyle in Kew Bull. 1933: 171.

M. sp. aff. obanense of Aubrév. Fl. For. C. Iv. 1: 236, t. 89.

Forest tree, with spreading crown, to 80 ft. high; petals white; fruits velvety, dark brown.

S. L.: Gola Forest (Apr.) Small 624! 628! 635! **Lib.:** Grand Bassa Dinklage 1972! Lakrata (Apr.) Bequaert 187! Sarbo (fr. July) Baldwin 6384! Brewersville (fr. Dec.) Baldwin 10948! Suen (fr. Nov.) Baldwin 10450! **IV. C.:** Banco, Toulépleu &

Tabou fide Aubrév. l.c. **G. C.:** Dompim, Axim (Nov.) Vigne FH 1968! Bonsa R. (fr. Nov.) Vigne FH 1397! Bonsa Su (May) Vigne FH 1997!

9. *Anthonotha fragrans* (Bak. f.) Exell & Hillcoat in Bol. Soc. Brot. 29: 39 (1955). *APD acc*

Macrobium fragrans Bak. f. in J. Bot. 66, Suppl. Polypet. 140 (1928); Léonard in Fl. Congo Belge 3: 419, photo 15.

M. chrysophylloides Hutch. & Dalz. F.W.T.A., ed. 1, 1: 347 (1928); Kew Bull. 1928: 400; Aubrév. Fl. For. C. Iv. 1: 228, t. 84.

Large tree of **rain forest**, to 120 ft. high with straight bole, smooth bark, only slight buttresses; foliage dense, rusty beneath.

S. L.: Commendi-Gengaru road (Nov.) Aylmer 261! Gengelu, Kambui F.R. (fl. & young fr. Feb.) King 112! 147! Gola Forest Small 667! **Lib.:** Dukwia B. (fr. Feb.) Cooper 283 (partly)! **IV. C.:** Bébou to Mbasso, Mid. Comoé Chev. 22648! Abidjan Aubrév. 47! 80! **G. C.:** Siahua (fr. Mar.) Chipp 135! Axim (fr. Feb.) Vigne FH 2824! **S. Nig.:** Cross River North F.R., Ikom (fr. Dec.) Keay FHI 28155!

Also in **French Cameroons**, **Cabinda** and **Belgian Congo**.

10. *Anthonotha lamprophylla* (Harms) J. Léonard in Bull. Jard. Bot. Brux. 25: 202 (1955). *APD acc*

Macrobium lamprophyllum Harms in Engl. Bot. Jahrb. 30: 85 (1901).

Forest shrub or tree, to 40 ft. high, with brown-silky usually elongated inflorescences of white flowers borne on woody branches.

S. Nig.: Oban Talbot 1272! 1656! Onochie FHI 7726!

Also in **French Cameroons**.

11. *Anthonotha macrophylla* P. Beauv. Fl. Oware 1: 70, t. 42 (1806). *APD acc*

Vouapa macrophylla (P. Beauv.) Baill. (1865), incl. var. heudelotiana Baill. (1865).

Macrobium palisotii Benth. (1865) — F.T.A. 2: 297.

M. macrophyllum (P. Beauv.) J. F. Macbr. in Contrib. Gray Herb., n.s. 3, 59: 21 (1919); Bak. f. Leg. Trop Afr. 3: 672; Aubrév. Fl. For. C. Iv. 1: 230, t. 85 B; Léonard in Fl. Congo Belge 3: 422, t. 31.

M. heudelotii of F.W.T.A., ed. 1, 1: 347, partly (Sc. Elliot 4800 and frt. descr.).

Forest shrub or tree; petals white, turning yellow.

Fr. G.: Pobéguin 840! Rio Nunez Heudelot 753! Kouria (Nov.) Chev. 14937! **S. L.:** Freetown (Dec.) Sc. Elliot 3826! Kora R. (young fr. Feb.) Sc. Elliot 4800! Rokupr (fl. Dec., fr. Mar.) Jordan 406! 742! Njala (Dec.) Deighton 4691! Musaia (fr. Apr.) Deighton 5477! Bintumane (Jan.) Glanville 450! **Lib.:** Kakatown Whyte! Fortsavage (fr. Mar.) Baldwin 11147! Dime (fr. Feb.) Barker 1217! Gbanga (Dec.) Baldwin 10518! Beiden (Nov.) Baldwin 10278a! **G. C.:** Akyease (Oct.) Fishlock 73! Kwahu (fl. & young fr. Jan.) Irvine 1727! **N. Nig.:** Lokoja Barter 1624 (partly)! **S. Nig.:** Lagos (Dec.) Millen 30! Okomu F.R. (Jan–Feb.) Brenan 8755! 9121! Sapoba Kennedy 2145! Ubiaja (Nov.) Keay FHI 28125! Mt. Koloishe, Obudu (Dec.) Keay & Savory FHI 25130! Degema Talbot 3655! **Br. Cam.:** Victoria (Apr.) Maitland 623! Abonando (Mar.) Rudatis 28! **F. Po:** Barter! Mann 259!

Extends to **Belgian Congo** and **Angola**.

12. *Anthonotha crassifolia* (Baill.) J. Léonard in Bull. Jard. Bot. Brux. 25: 202 (1955). *APD acc*

Vouapa crassifolia Baill. in Adansonia 6: 179 (1865).

Macrobium crassifolium (Baill.) J. Léonard in op. cit. 24: 61 (1954); not of A. Chev. Bot. 228 (1920), name only.

M. heudelotianum of Aubrév. l.c. 1: 230, t. 85 C; Fl. For. Soud.-Guin. 241; not *M. heudelotianum* (Baill.) Aubrév. l.c. (1936), based on *Vouapa macrophylla* var. heudelotiana Baill. (1865) which is *A. macrophylla* P. Beauv.

Tree to 80 ft. high; **in forest and savannah woodland**.

Fr. Sud.: Kita Dubois 185! **Port. G.:** Buba (Nov.) Esp. Santo 1280! Candamá, Chitole (fr. Feb.) Esp. Santo 2884! **Fr. G.:** Rio Nunez Heudelot 753 bis. Kouroussa (Nov.) Pobéguin 588! **S. L.:** Port Loko (Nov.) King 224! Rokupr (fl. Dec., fr. Mar.) Jordan 405! 714! 717! Musaia (fr. Apr.) Deighton 5414! Makene (fr. Mar.) Deighton 3898! **Lib.:** Linder 62! **IV. C.:** Banco Martineau 330! **S. Nig.:** Sapoba Kennedy 2600! Onypende to Odesige, Obubra (fr. Apr.) Jones FHI 12571!

Anthonotha sp.

Tall tree, locally frequent. Better material required.

S. Nig.: Degema Talbot 3656! **Br. Cam.:** Cam. 46/36! Litoka, Cam. Mt. Maitland 1076!

Imperfectly known species.

Macrobium crassifolium A. Chev. Bot. 228, name only, not of (Baill.) J. Léonard.

The specimen lacks flowers and is probably not an *Anthonotha*.

Fr. G.: Labé Chev. 12373!

Imperfectly known species.

43. **PARAMACROLOBIUM**

J. Léonard in Bull. Jard. Bot. Brux. 24: 348 (1954).

- 1 Bracteoles 2.5–3.7 cm. long, glabrous outside; pedicels 1.5–3 cm. long; stipe of ovary 1–1.2 cm. long; petals blue, 5, of which the posterior is 3–4.7 cm. long and 1–2.3 cm. broad, the 2 lateral ones 2–3 cm. long and 1–2.5 mm. broad, the 2 anterior ones filiform 3–7 mm. long; petiolules twisted; leaflets 3–5 pairs (rarely 2), elliptic to oblong, unequal at base, acuminate at apex, 2–15 cm. long, 1–6 cm. broad, subcoriaceous, glabrous; rhachis 5–22 cm. long; stipules intrapetiolar, oblong; fruits obliquely oblong, 10–20 cm. long, 3.5–6 cm. broad, glabrous, finely warted but without transverse ridges; seeds 3–8 [coeruleum](#)

Paramacrolobium coeruleum (Taub.) J. Léonard l.c. (1954). *APD acc*

Vouapa coerulea Taub. (1894).

Macrobium coeruleum (Taub.) Harms in Engl. Pflanzenw. Afr. 3, 1: 475 (1915); Léonard in Fl. Congo Belge 3: 412.

M. coeruleoides De Wild. (1907); Bak. f. Leg. Trop. Afr. 3: 679; Aubrév. Fl. For. Soud.-Guin. 239, t. 49.

M. dawei Hutch. & Burt Davy in F.W.T.A., ed. 1, 1: 347 (1928); Kew Bull. 1928: 398.

Forest tree, to 120 ft. high; petals blue.

Fr. G.: Ditinn Cochet 51. Kindia Pobéguin 1265; 1289. S. L.: Dawe 28! Bunkababe (May) Lane-Poole 121! Kenema (June) Aylmer 88! Tabe (young fr. Sept.) Deighton 3059! Njala (fl. & fr. May) Small 27! 28!

Also in French Cameroons, Ubangi-Shari, French Congo and Belgian Congo, Kenya and Tanganyika.

44. **PELLEGRINIODENDRON**

J. Léonard in Bull. Jard. Bot. Brux. 25: 203 (1955).

- 1 Tree; branchlets glabrous; stipules triangular, about 3 mm. long; leaves glabrous with a single pair of leaflets; petiole about 5 mm. long, with a pair of stipellae at the top, subtending the very short petiolules; leaflets obliquely oblong-ob lanceolate, unequal at the base (proximal side rounded, the distal side cuneate), rounded towards the apex, apex itself twisted, usually shortly acuminate and with a horny mucro, 6–23.5 cm. long, 1.5–7.5 cm. broad; both surfaces of leaves strongly reticulate, with two glands within the margin on each side; panicles terminal, composed of densely flowered racemes 2–3 cm. long; axis of racemes marked by the scars of the fallen pedicels and the short thick bracts; pedicels 6–8 mm. long; bracteoles 7–8 mm. long; sepals 5, lanceolate, subequal, about 3 mm. long; petals 5, the posterior one with a 3–4 mm. long claw and a 2-lobed limb, each lobe suborbicular and about 4 mm. broad, the other 4 petals similar to the sepals; fertile stamens 3, with an intrastaminal ring bearing staminodes; fruits obliquely oblong, flat, 9–10 cm. long, 3.5–4.5 cm. broad, valves glabrous, with no ridges, curling on dehiscence; seeds 1–3 [diphyllum](#)

Pellegriniodendron diphyllum (Harms) J. Léonard l.c. (1955).

APD: *Synonym of Gilbertiodendron diphyllum* (Harms) Estrella & Devesa

Macrobium diphyllum Harms in Engl. Bot. Jahrb. 30: 84 (1901); Aubrév. Fl. For. C. Iv. 1: 232, t. 86; Pellegr. Lég. Gab. 48.

M. reticulatum Hutch. in Chipp, Gold Coast Trees 20 (1913), name only.

Understorey forest tree, to 80 ft. high; pedicels and bracteoles pink, large petal white, stamens red.

IV. C.: Banco & Agboville (fl. Nov., fr. Dec.) Aubrév. 368; 508; 509. G. C.: Tanosu (Dec.) Chipp 35! Ankassa, W. Applonia Chipp 327! Tano Rapids (fr. Sept.) Chipp 376! Axim (fr. Feb.) Irvine 2182!

Also in French Cameroons and Gabon.

45. GILBERTIODENDRON

J. Léonard in Bull. Jard. Bot. Brux. 22: 188 (1952).

- 1 Bracteoles 3–5 cm. long, or more; sepals 4 or 5; stamens 3 or 9; posterior petal 9–15 cm. long, 5.5–15 cm. broad: [2](#)
 Bracteoles up to 2 cm. long; sepals 5; stamens 3; posterior petal up to 3 cm. long and broad: [4](#)
- 2 Stamens 9; bracteoles 4.5–5 cm. long, or more, 2.5–3 cm. broad; sepals 4; posterior petal 9–15 cm. long and broad, pink; pedicels 4–5.5 cm. long; stipules ovate-lanceolate, connate for 1/2 their length, 5–9 cm. long, with reniform appendages 4–10 cm. diam.; leaflets 2–4 pairs, the upper leaflets up to 55 cm. long and 16 cm. broad, the lowest leaflets as little as 8 cm. long and 3 cm. broad; fruits oblong, up to 60 cm. long and 13 cm. broad, dark brown-tomentellous, with 3 strong longitudinal ridges [1. splendidum](#)
 Stamens 3; bracteoles 3–4.5 cm. long; posterior petal white or yellow; stipules without appendages: [3](#)
- 3 Leaflets 2 pairs; sepals 4; bracteoles 3.5–4.5 cm. long, 2–2.7 cm. broad, puberulous outside; posterior petal about 10 cm. long (including the 2.5 cm. long claw) and 12.5 cm. broad, yellow; pedicels 3–3.5 cm. long; stipules ovate-lanceolate, connate, 2–4 cm. long, 1.3–2 cm. broad; upper leaflets 22–45 cm. long, 8–16 cm. broad, lower leaflets 9–21 cm. long, 5–9 cm. broad; fruits with 2 longitudinal ridges (not known at maturity) [2. grandiflorum](#)
 Leaflets 4–7 pairs; sepals 5; bracteoles 3–3.5 cm. long, 2–2.3 cm. broad, densely tomentellous outside; posterior petal 10–12 cm. long (including the 3–6 cm. long claw) and 5.5–7 cm. broad, 2-lobed, white; pedicels 1.5–4 cm. long; stipules ovate-lanceolate, 3–3.5 cm. long, 0.8–1.2 cm. broad; leaflets 8–25 cm. long, 4–9 cm. broad; fruits oblong-obovate, up to 12 cm. long and 5 cm. broad (? at maturity) glabrescent, with 2 longitudinal ridges [3. ivorense](#)
- 4 Bracteoles 1–2 cm. long: [5](#)
 Bracteoles 0.5–0.6 cm. long: [11](#)
- 5 Pedicels 2–4 cm. long; posterior petal wine-red, 1.7–2.8 cm. long (including the 0.7–1 cm. long claw), 2.5–2.8 cm. broad; stipules ovate-lanceolate, 2–8 cm. long, 1.6–4 cm. broad, with 2 reniform appendages, one 0.6–2.5 cm. long, 1–4.3 cm. broad, the other smaller; leaflets 3 pairs (more rarely 2, or 4–5), densely papillose beneath and usually puberulous by the midrib, 9–30 (–50) cm. long, 3.5–18 cm. broad; rhachis 2–15 cm. long; fruit oblong to oblong-obovate, 15–30 cm. long, 6–9 cm. broad, densely brown-tomentellous, with 1 longitudinal ridge [4. dewevrei](#)
 Pedicels up to 2 cm. long; colour (where known) of standard petals white or cream: [6](#)
- 6 Stipules and/or stipular appendages more or less persistent: [7](#)
 Stipules and appendages very early caducous, or absent: [10](#)
- 7 Leaflets 2–4 pairs; fruits with 1–2 longitudinal ridges: [8](#)
 Leaflets 4–7 pairs, up to 25 cm. long and 7 cm. broad, glabrous beneath, rhachis 10–25 cm. long, soon glabrous; stipules up to 5 cm. long and 1 cm. broad, with reniform appendages, 1.7–2.2 cm. diam., more or less persistent; pedicels 1.5–2 cm. long; tomentellous; bracts subpersistent; bracteoles 1–1.3 cm. long; posterior petal about 2 cm. long (including the 1 cm. long claw), deeply 2-lobed, with the lobes about 1 cm. broad; fruit oblong, up to 30 cm. long and 9 cm. broad, tomentellous to glabrescent, with 2–3 strong longitudinal ridges [8. bilineatum](#)
- 8 Stipules up to 1 cm. long, with reniform appendages up to 3 cm. diam.; leaflets 2–3 (rarely 4) pairs, puberulous by midrib beneath; posterior petal about 2–8 cm. long (including the 1 cm. long claw), deeply 2-lobed, with the lobes 1.3–1.4 cm. broad; fruit glabrescent: [9](#)
 Stipules 1–5 cm. long, without reniform appendages; leaflets 3–4 pairs, up to 22 cm. long and 7.5 cm. broad with numerous looped lateral nerves very prominent beneath, midrib glabrous beneath, rhachis stout, 8–12 cm. long, glabrous; pedicels 1–1.5 cm. long, hirsute; bracteoles about 1 cm. long; posterior petal 1.6 cm. long (including the 0.6 cm. long claw), deeply 2-lobed, with the lobes about 1 cm. broad; fruit glabrescent [7. demonstrans](#)
- 9 Fruit with 1 longitudinal submedian ridge, up to 20 cm. long and 5 cm. broad; rhachis of leaves hirsute, 1.5–8 cm. long; leaflets 9–22 cm. long, 3.5–9 cm. broad; pedicels 1.2–2 cm. long, hirsute; bracteoles 1.2–1.6 cm. long [5. limba](#)
 Fruit with 2 longitudinal ridges (one submedian, the other submarginal), 10–12 cm. long, about 5 cm. broad; rhachis of leaves glabrous, 1.5–18 cm. long; leaflets 6.5–30 cm. long, 2–10.5 cm. broad; pedicels 1–1.5 cm. long, shortly tomentose; bracteoles 1–1.4 cm. long [6. mayombense](#)
- 10 Leaflets 3–5 pairs; midrib glabrous beneath; leaflets up to 18 cm. long and 5.5 cm. broad, glossy, rhachis 7–20 cm. long, glabrous; bracts very early caducous; pedicels about 1.5 cm. long; bracteoles about 1 cm. long; fruit oblong, up to 25 cm. long and 6 cm. broad, glabrescent, with 1 longitudinal ridge and occasionally a second less distinct ridge near the upper margin [9. preussii](#)
 Leaflets 7 pairs; midrib hirsute beneath; leaflets up to 15 cm. long and 4.5 cm. broad with numerous looped

lateral nerves prominent beneath; rhachis 26 cm. long, hirsute; pedicels and bracteoles each about 1.3 cm. long; fruit not known [10. obliquum](#)

- 11** Leaflets 2 pairs; stipules caducous (not seen); leaflets obovate to oblanceolate, up to 18 cm. long and 7 cm. broad, sometimes much smaller, but upper pair always larger than the lower, glabrous, rhachis 1–4 cm. long; pedicels 1.2–1.4 cm. long; posterior petal about 1.6 cm. long (including the 0.5 cm. long claw), 2-lobed, the lobes about 0.6 cm. broad; ovary glabrous except for the villous margins; fruit glabrescent, with 1 longitudinal ridge (not known at maturity) [11. aylmeri](#)

Leaflets 5–9 pairs, usually 7; stipules broadly ovate, about 1 cm. long, with reniform appendages; leaflets oblong to ovate-oblong, 2–7.5 cm. long, 1.3–3.5 cm. broad, with a single gland on the distal margin just above the petiole; pedicels 1.2–1.8 cm. long; posterior petal about 0.6 cm. long (including the 0.3 cm. long claw), 2-lobed, the lobes about 0.5 cm. diam.; ovary hirsute; fruit not known [12. brachystegioides](#)

1. Gilbertiodendron splendidum (A. Chev. ex Hutch. & Dalz.) J. Léonard in Bull. Jard. Bot. Brux. 24: 59 (1954). *APD acc*

Berlinia splendida A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 343 (1928); Kew Bull. 1928: 398; Chev. Bot. 230, name only.

Macrolobium splendidum (A. Chev. ex Hutch. & Dalz.) Pellegr. in Bull. Soc. Bot. Fr. 77: 667 (1931); Aubrév. Fl. For. C. Iv. 1: 236, t. 88.

Forest tree, to 80 ft. high; petals pink; in swamp forest.

S. L.: Kenema (fr. Oct.) King 284! Bagbe, Gola Forest (fl. June, fr. May) Small 706! 721! **Iv. C.:** Tébo (July) Chev. 19387! Massa-Mé Aubrév. 136! **G. C.:** Namachere, E. of Tarkwa (May) Chipp 234! Ajakwa Chipp 206! Cape Coast Dist. (May–June) Vigne FH 936! Bonsasu, Dompim Vigne FH 1970!

2. Gilbertiodendron grandiflorum (De Wild.) J. Léonard l.c. 22: 190 (1952); Fl. Congo Belge 3: 433. *APD acc*

Macrolobium grandiflorum De Wild. (1914), partly.

Forest tree, to 50 ft. high; petals lemon-yellow; in swamp forest by rivers.

Br. Cam.: Tedji, Bamenda (May) Johnstone 321!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

3. Gilbertiodendron ivorense (A. Chev.) J. Léonard l.c. 24: 58 (1954). *APD acc*

Berlinia ivorensis A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 165 (1912).

Macrolobium ivorense (A. Chev.) Pellegr. in Bull. Soc. Bot. Fr. 69: 745 (1923); Aubrév. l.c. 1: 234.

M. chevalieri Harms (1922) — F.W.T.A., ed. 1, 1: 347.

Forest tree, to 65 ft. high, with clear bole and no buttresses; petals white.

Lib.: Mt. Barclay (June) Bunting 168! Dukwia R. (May) Cooper 427! R. Cess, Grand Bassa (fr. Mar.) Baldwin 11271! Jabroke, Webo (July) Baldwin 6426! Gletown, Tchien (July) Baldwin 6752! **Iv. C.:** Grabo (July) Chev. 19645! Tabou Aubrév. 1298.

[The specimens from Sierra Leone (Sc. Elliot 4221 and Thomas 498) cited as this species in F.W.T.A., ed. 1, 1: 347 are very doubtful. They are sterile except for detached fruits on Thomas 498 which probably do not belong to this species.)

4. Gilbertiodendron dewevrei (De Wild.) J. Léonard l.c. 22: 190 (1952); Fl. Congo Belge 3: 429, photo 15. *APD acc*

Macrolobium dewevrei De Wild. (1904) — Kennedy For. Fl. S. Nig. 102.

Forest tree, to 125 ft. high, with clear bole and no buttresses, bark yellowish-brown, scaly; petals wine-red; gregarious, often in swamp forest.

S. Nig.: Sapoba (Jan.) Kennedy 2121! 2548! Richards 3917! Degema Talbot 3737!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, French and **Belgian Congo** and **Angola**.

5. Gilbertiodendron limba (Sc. Elliot) J. Léonard l.c. 24: 59 (1954). *APD acc*

Macrolobium limba Sc. Elliot in J. Linn. Soc. 30: 77 (1894); F.W.T.A., ed. 1, 1: 347; Aubrév. l.c. 1: 234.

Forest tree, to 40 ft. high, with spreading crown and drooping branches; flowers white; in wet places.

Fr. G.: fide Aubrév. l.c. **S. L.:** Kurusu, Limba (Apr.) Sc. Elliot 5539! Kafogo, Limba (Apr.) Sc. Elliot 5606! Giehun (Apr.) Aylmer 222! Kafoko (fr. Sept.) Thomas 2111! **IV. C.:** Abidjan Aubrév. 26! **G. C.:** Saduso, Huni Valley (fl. & fr. May) Chipp 220! 221! Kwae, Obuaal — Kibbi road (fr. Feb.) Brent 405! Kumasi (Mar.) Vigne FH 1093! Pra Anum F.R. (Mar.) Andoh FH 4339! Bobiri F.R. (Mar.) Andoh FH 4960!

6. **Gilbertiodendron mayombense** (*Pellegr.*) *J. Léonard* in Bull. Jard. Bot. Brux. 22: 191 (1952); Fl. Congo Beige 3: 431. *APD acc*

Macrobium mayombense *Pellegr.* in Bull. Mus. Hist. Nat. 26: 552 (1920); Lég. Gab. 54.

Forest tree, to 65 ft. high; posterior petal white or cream with chocolate markings (colour not however recorded from our area).

S. Nig.: Sapoba Kennedy 2238! 2252! 2549!

Also in **Gabon**, **Cabinda**, **French Congo** and **Belgian Congo**.

7. **Gilbertiodendron demonstrans** (*Baill.*) *J. Léonard* l.c. 22: 190 (1952). *APD acc*

Vouapa demonstrans *Baill.* (1865).

Macrobium demonstrans (*Baill.*) *Oliv.* F.T.A. 2: 299 (1871).

M. demonstrans var. **talbotii** *Bak. f.* in Cat. Talb. 28 (1913).

M. talbotii (*Bak. f.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 347 (1928); Kew Bull. 1928: 398.

Forest tree, 20–25 ft. high; or scandent shrub.

S. Nig.: Oban Talbot 1284! 1504!

Also in **Gabon**.

8. **Gilbertiodendron bilineatum** (*Hutch. & Dalz.*) *J. Léonard* l.c. 24: 58 (1954). *APD acc*

Macrobium bilineatum *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 347 (1928); Kew Bull. 1928: 399; Aubrév. l.c. 1: 234, t. 87.

Forest tree, to 100 ft. high, with yellowish-grey, flaking bark; petals white; **gregarious, often in moist places**.

S. L.: Kahreni, Limba (Apr.) Sc. Elliot 5588! Falaba Burbridge 475! Yama Creek, Scarcies R. (fr. Mar.) Jones SLFD 652! Joru, Gaura (Nov.) King 295! 308! Bumbuna (Jan.) King 310! Bagbe, Gola Forest (fr. May) Small 703! 709! **IV.**

C.: Yacasse, Attié (fl. & young fr. Dec.) Chev. 22662! **G. C.:** Enchi (fl. & young fr. Dec.) Vigne FH 3166! Dompim, Axim (Nov.) Vigne FH 1396!

9. **Gilbertiodendron preussii** (*Harms*) *J. Léonard* l.c. 24: 59 (1954). *APD acc*

Macrobium preussii *Harms* in Engl. Bot. Jahrb. 26: 272 (1899); F.W.T.A., ed. 1, 1: 347.

Forest tree, to 100 ft. high, with straight bole and yellow flaking bark.

S. L.: Gola Forest (fr. May) Small 85! **Lib.:** Dukwia R. (Oct.) Cooper 94! Tawata, Boporo (Nov.) Baldwin 10283! **G. C.:** Mansi R., Bawdia (Dec.) Vigne FH 3144! Jema (Dec.) Vigne FH 3159! **Br. Cam.:** L. Barombi (Aug.) Preuss 449! Bopo, Kumba (fr. Mar.) Lobe FHI 24808!

10. **Gilbertiodendron obliquum** (*Stapf*) *J. Léonard* l.c. 24: 59 (1954). *APD acc*

Macrobium obliquum *Stapf* in J. Linn. Soc. 37: 96 (1905); F.W.T.A., ed. 1, 1: 347.

A shrub with rusty panicles of white flowers.

Lib.: Sinoe Basin Whyte!

11. **Gilbertiodendron aylmeri** (*Hutch. & Dalz.*) *J. Léonard* l.c. 24: 57 (1954). *APD acc*

Macrobium aylmeri *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 347 (1928); Kew Bull. 1928: 399.

Small **forest** tree, **often near the sea**.

S. L.: Colonial Reserve, Freetown (Jan., Dec.) King-Church 8! Vigne 13! Commendi (Nov.) Aylmer 263! York (Nov.) Lane-Poole 80! John Obey Lane-Poole 423! Burl (Dec.) Unwin & Smythe 9!

12. **Gilbertiodendron brachystegioides** (*Harms*) *J. Léonard* l.c. 24: 58 (1954). *APD acc*

Macrobium brachystegioides Harms in Engl. Bot. Jahrb. 40: 24 (1907).

Forest tree, to 120 ft. high.

Br. Cam.: Mbalange to Bombe (Jan.) Lobe Babute 51/36!

Also In French Cameroons.

Gilbertiodendron sp. A.

S. Nig.: Ekang stream, Oban Gray 8/11!

Imperfectly known species.

46. TAMARINDUS

Linn. — F.T.A. 2: 307.

- 1 A large tree; leaves paripinnate; leaflets 12–15 pairs, opposite, narrowly oblong, unequally rounded at base, rounded or emarginate at apex, 2–3 cm. long, 0.8–1 cm. broad, glabrous and rather strongly reticulate, often glaucous; rhachis glabrous or pubescent; flowers in small terminal glabrous racemes; pedicels about 5 mm. long, jointed at the apex; bracts nearly as long as the flower-bud, concave, deciduous; sepals 4, 7 mm. long; petals 3, 1 posterior, 2 lateral, slightly exceeding the calyx; fertile stamens 3, alternating with small staminodes; ovary stipitate; fruit curved, oblong, about 10 cm. long, minutely scaly, inner part pulpy, intersected by fibres [indica](#)

Tamarindus indica Linn. — F.T.A. 2: 308; Chev. Bot. 232; Aubrév. Fl. For. Soud.-Guin. 226, t. 57, 6–7.
APD acc

Commonly cultivated; also in savannah, especially on termite mounds.

Sen.: Thiés Chev. 2949. Fr. Sud.: Oualia (fr. Dec.) Chev. 40! Port. G.: Pefine, Bissau Esp. Santo 1701! Fr. G.: Kouroussa Chev. 15644. S. L.: Kahreni to Port Loko (Apr.) Sc. Elliot 5801! Kamalu (May) Thomas 319! Lib.: Fortsville (fr. Mar.) Baldwin 11140! IV. C.: Dotou Chev. 2178! G. C.: Bjury. July) Chipp 496! Lawra (fl. & fr. Mar.) MacLeod 836! Tamale (Apr.) Vigne 1710! Dah.: Dassa Zoumi (May) Chev. 23619! Savalou (May) Chev. 23744! Fr. Nig.: fide Aubrév.; l.c. N. Nig.: Zamfara F.R. (fl. & fr. May) Keay FHI 16177! Bauchi Plateau (Mar.) Lely P. 186!

Widespread in the tropics.

47. MONOPETALANTHUS

Harms in E. & P. Pflanzenfam. Nachtr. 1: 195 (1897).

- 1 Leaflets about 20 pairs, opposite, oblong, broadly auriculate on the lower side, curved to a small black sublateral tip at apex, 3 cm. long, 0.8 cm. broad, rather closely reticulate beneath, glabrous; rhachis densely fulvous-tomentose, the leaflets contiguous; stipules persistent, 3 cm. long, produced into a broad base, closely venosestriate, glabrous; racemes about 5 cm. long, densely velvety all over; pedicels 5–7 mm. long; bracteoles 8 mm. long; petal 1/2 as long again; young fruit densely villous [1. pteridophyllus](#)
- Leaflets about 20 pairs, as above, but much smaller, up to 1 cm. long and 2–5 mm. broad, rounded at apex, glossy above, venose beneath; rhachis slightly pubescent; racemes cone-like when young, covered with densely overlapping striate fringed bracts, the uppermost silky-tomentose; bracteoles 3–4 mm. long, pubescent; petal a little longer; stamens 8 [2. compactus](#)

1. *Monopetalanthus pteridophyllus* Harms in E. & P. Pflanzenfam. Nachtr. 1: 195 (1897); Engl. Bot. Jahrb. 26: 266 (1899); Pellegr. in Bull. Soc. Bot. Fr. 89: 119; Leonard in Fl. Congo Belge 3: 443, fig. 37 A, B.

APD: Synonym of *Aphanocalyx pteridophyllus* (Harms) Wieringa

Forest tree, to 120 ft. high; flowers white in axillary rusty-tomentose racemes; by rivers.

S. L.: Taia R., Njala Dawe 562! Njala (Aug.) Deighton 1209! Pewa, Gola Forest Small 7351 Lib.: St. John's R., Grand Bassa (Aug.) Dinklage 1720! Farmington R., Harbel (fr. Mar.) Baldwin 11099!

Also in [Belgian Congo](#).

2. **Monopetalanthus compactus** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 342 (1928); Kew Bull. 1928: 397; Pellegr. l.c. 120.

APD: Synonym of Aphanocalyx microphyllus subsp. compactus (Hutch. ex Lane-Poole) Wieringa

Large [forest](#) tree.

[S. L.](#): Falaba (Apr.) Aylmer 30! Giehun (Apr.) Aylmer 226!

1. **Monopetalanthus sp. A.** “Toubaouate” of Aubrév. Fl. For. C. Iv. 1: 242, t. 95 A.

Large [forest](#) tree; stipules caducous; leaflets 15–30 pairs, emarginate at apex, midrib central; flowers not known.

[Iv. C.](#): Olodio to Grabo Avubrév. 1321!

Imperfectly known species.

2. **Monopetalanthus sp. B.**

[Forest](#) tree to 70 ft. high; stipules persistent, leafy; leaflets 28–32 pairs, rounded or slightly emarginate at apex, midrib central; flowers and fruits unknown.

[S. Nig.](#): Obutong, Calabar Onochie FHI 7798! Orem, Calabar Ejifor FHI 21893!

Imperfectly known species.

3. **Monopetalanthus sp. C.**

[Forest](#) tree or shrub; stipules caducous; leaflets 19–30 pairs, rounded or obtuse at apex, midrib diagonal from the corner of the base; flowers not known.

[Br. Cam.](#): FHI 12029!

Imperfectly known species.

48. BRACHYSTEGIA

Benth. — F.T.A. 2: 305.

- 1 Leaflets progressively larger from base to apex of the whole leaf, the terminal pair usually distinctly the largest, obliquely elliptic to obovate, glabrous or rarely puberulous; if leaflets obliquely lanceolate, then rarely more than 6 pairs, often less than 5 pairs:2
- Leaflets progressively larger from the base to the middle of the whole leaf, thence usually slowly decreasing to the smaller terminal pair; leaflets mostly obliquely lanceolate, narrowed to the obtuse or acuminate apex, very rarely oblanceolate or obovate, usually with stiff, spreading hairs on the midrib beneath; fruit as in *B. laurentii* but smaller:4
- 2 Basal pair of leaflets relatively very minute and appearing vestigial, 0.7–1 cm. long, shortly petiolulate, inserted at or very shortly above the apex of the pulvinus, usually early caducous but leaving a pair of minute scars; remaining leaflets 3–4 (–6) pairs, the terminal pair (6–) 7–10 (–15) cm. long, (2–) 3–5 (–6) cm. broad, obliquely lanceolate to obovate, more or less falcate and often acuminate, the middle pairs usually smaller or at least narrower; fruit (15–) 20–25 (–30) cm. long, (5–) 6–8 (–11) cm. broad, smooth, dark purplish or reddish brown, woody, upper suture broadly winged [1. laurentii](#)
- Basal pair of leaflets not relatively minute and not appearing vestigial, sessile like the others, normally persistent; if petiole very short and basal pair of leaflets very small (*B. nigerica*), then terminal pair rarely more than 5 cm. long, leaflets usually 7 or more pairs, and fruit rarely exceeding 14 cm. long and 5 cm. broad, coriaceous:3
- 3 Leaflets (4–) 5 (6) pairs, those of the terminal pair 5–10 (–15) cm. long, (2.5–) 3–5 (–7) cm broad, elliptic to oblanceolate; common petiole (10–) 13–20 (–30) mm. long; fruit woody, transversely nervose, rather pale brown, normally 16–22 cm. long, 5–6 cm. broad, the upper suture with a conspicuous spreading wing 5–6 mm. broad on each side [2. eurycoma](#)
- Leaflets (5–) 6–8 (–9) pairs, those of the terminal pair (2–) 3–5 (–7) cm. long, (1–) 1.5–2 (–3.5) cm. broad, broadly elliptic to obovate; common petiole 4–7 mm. long; fruit thickly coriaceous, smooth, dark purplish

brown, normally 12–14 cm. long, 4–5 cm. broad, the wing of the upper suture not conspicuous, 2–3 mm. broad on each side [3. nigerica](#)

- 4 Leaflets (6–) 8–10 (–12) pairs, mostly obliquely cuneate at base; usually 2, at most 3, nerves departing fanwise beside the midrib on the broader side of the base of the leaflet; style leaving the ovary at a right angle; staminal tube scarcely 0.5 mm. long, outside the disk-like rim of the receptacle-cup [4. leonensis](#)

Leaflets (5–) 6–7 (–8) pairs, mostly obliquely rounded or subcordate at base; usually 3, more rarely 4, nerves departing fanwise beside the midrib on the broader side of the base of the leaflet; style leaving the ovary at an angle of about 45°; staminal tube more or less irregular, 2–3.5 mm. long, gradually narrowed within to the obscure rim of the receptacle-cup. [5. kennedyi](#)

1. **Brachystegia laurentii** (*De Wild.*) *Louis ex Hoyle* in Fl. Congo Belge 3: 461 (1952). *APD acc APD acc*

Macrobium laurentii *De Wild.* Miss. Laur. 99, t. 37 (1905).

Brachystegia zenkeri *Harms* in Engl. Bot. Jahrb. 45: 298 (1910); Burt Davy & Hutch. in Kew Bull. 1923: 167; Bak. f. Leg. Trop. Afr. 3: 732.

A large, heavy-crowned, **forest** tree, to 150 ft. high, locally common near water, with cylindrical bole attaining 80 ft. high and 9 ft. girth; bark hard, tough, fibrous, at first smooth, silvery-grey, later brownish-grey, rough and flaking.

Br. Cam.: S. Bakundu F. R., Kumba (fr. Feb.) Ngalame FHI 24805!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

[The Cameroons (*B. zenkeri*) and Gabon forms of the species differ from some Belgian Congo forms in having fewer, more pointed leaflets and more slender, glabrous rachis, while the little-known flowers are smaller and the perianth more reduced, but the differences hardly warrant specific rank.]

2. **Brachystegia eurycoma** *Harms* in Engl. Bot. Jahrb. 49: 424 (1913); Burt Davy & Hutch, l.c.; F.W.T.A., ed. 1, 1: 348, partly; Bak. f. l.c. 731, partly; Kennedy For. Fl. S. Nig. 103. *APD acc*

A large-crowned **forest** tree, to 120 ft. high, **common on stream-banks**, with buttressed bole to 25 ft. in girth and grey-green bark rough with woody flakes, red when cut, exuding red and yellow gum.

S. Nig.: Ikirun Millson! Oshogbo Millson! Ijaiye F. R., Ibadan (Apr.) Onochie FHI 21983! Makori, Ibadan (May) Tamajong FHI 23263! Owo F.R., Ondo (Apr.) Jones FHI 3477! Uteru, Onitsha Chesters In FHO A .124/30 e-h! Asaba Leslie 40! Arochuku (fr. Feb.) Cons. of For. 28! 31! Enugu (Mar.) Irvine 3608! **Br. Cam.:** Asu R., Bamenda Johnstone 289!

Also in **French Cameroons**.

3. **Brachystegia nigerica** *Hoyle & A. P. D. Jones* in Kew Bull. 1947: 68. *APD acc*

Brachystegia eurycoma of F.W.T.A., ed. 1,1: 348, partly, not of Harms.

A large **forest** tree, to 120 ft. high and 12 ft. girth with spreading crown, **gregarious near water**; bark smooth and dark at first, later flaking in large. irregular patches, red and fibrous when cut.

S. Nig.: Gambari, Ibadan Ladipo FHI 19061! Oluwa F.R., Ondo (fr. Feb.) Jones FHI 14732! Usonigbe F.R. (fr. Nov.) Meikle & Keay 569! Sapoba Kennedy 1842! Ubiaroko, Kwale (fr. Dec.) Ainslie 15! Onitsha Unwin 66! Awka (Jan.) Prior! Thomas 78! Afl River F.R. (fr. May) Latilo FHI 31802! Port Harcourt (fr. Dec.) Chesters 18! 19!

4. **Brachystegia leonensis** *Burt Davy & Hutch.* in Kew Bull. 1923: 166; Bak. f. Leg. Trop. Afr. 3: 724; Aubrév. Fl. For. C. Iv. 1: 242. Not of Topham in Kew Bull. 1930: 358; not of Kennedy l.c. 103.

A large **forest** tree, to 160 ft. high and 6 ft. girth, with wide-buttressed or non-buttressed, cylindrical bole and smooth or scaling, grey-green bark exuding brown resin; **occurs on ridges and in valleys near water**.

S. L.: King 277! Wallace 158! 179! Bandama Aylmer 200! Kambul (Mar., Apr.) Lane-Poole 188! Edwardson 71! 72! Wallace 141! Small 900! **Lib.:** Du R. (fr. Aug.) Linder 229! **Iv. C.:** Grabo (fr. May) Aubrév. 1288! 1301! Nekaounie, Tabou Aubrév. 1810!

[“Two distinct types” of this species are suspected by Small.]

5. **Brachystegia kennedyi** *Hoyle* in Bull. Jard. Bot. Brux. 26: 183, fig. 44 (1955). *APD acc*

Brachystegia leonensis of Kennedy l.c. 102, not of Burtt Davy & Hutch.

Brachystegia eurycoma of Appendix, p. 176, partly.

A huge forest tree, to 174 ft. high and 221/2 ft. girth above buttresses at 16 ft. from the ground, with cylindrical bole and grey-brown bark smooth at first, later assured into large, flaking pieces, bright red when cut.

S. Nig.: Sapoba (fr. Nov.) Keay FHI 28067! Kennedy 1747! 1840! 2233! 2451! Meikle & Keay 681! Umuahia Cousens FHI 4853! Afi River F.R., Jones A Onochie FHI 5845! 17315! Etomi, Ikom (fr. May) Jones FHI 18874! Arochuku (Apr.) Cons. of For. 146! 148! (See Appendix, pp. 176,177.)

49. CRYPTOSEPALUM

Benth. — F.T.A. 2: 303.

Pynaertiodendron De Wild. (1915).

- 1 Leaves pinnate; leaflets asymmetrical:2
 Leaves 1-foliolate; leaflet symmetrical, ovate, caudate-acuminate, up to 7 cm. long and 2.5 cm. broad, completely glabrous; petiole glabrous; pedicels slender, 5–10 mm. long, glabrous[5. pellegrinianum](#)
- 2 Leaflets 10–15 pairs, narrowly oblong, auriculate on one side, truncate or emarginate at apex, small, 10–14 mm. long and 3–4 mm. broad, glabrous, midrib median; rhachis pubescent; pedicels very slender, up to 13 mm. long, glabrous[1. staudtii](#)
 Leaflets 1–3 pairs, larger, the midrib near the inner side:.....3
- 3 Leaflets 2, rarely 3, pairs, very obliquely ovate, shortly acuminate, the lower pair small, the upper ones up to 5 cm. long and 2 cm. broad, midrib pubescent or puberulous on both surfaces, principally in the lower part; inner side of leaflet ciliate; petiole and rhachis pubescent; pedicels up to 10 mm. long, glabrous[2. tetraphyllum](#)
 Leaflets 1 pair:.....4
- 4 Leaflets small, obliquely elliptic, obtusely pointed, 1.8–2.2 cm. long, 8–9 mm. broad, slightly ciliate on the margin and midrib, at length glabrous; petiole pubescent; pedicels slender, 6–10 mm. long, glabrous.[3. minutifolium](#)
 Leaflets large, obliquely ovate, long-acuminate, 5–6 cm. long, 20–27 mm. broad, glabrous, except for some hairs at the base of the midrib on the upper surface; petiole glabrous; pedicels slender, 6–10 mm. long, hairy[4. diphyllum](#)

1. *Cryptosepalum staudtii* Harms in Engl. Bot. Jahrb. 26; 267 (1899). *APD acc*

A shrub with glabrous branchlets, perulate buds, multifoliolate leaves, and numerous racemes at the end of short foliate lateral branchlets.

Br. Cam.: Johann-Albrechtshöhe (Mar.) Staudt 907!

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

2. *Cryptosepalum tetraphyllum* (Hook. f.) Benth. — F.T.A. 2: 303; Aubrév. Fl. For. C. Iv. 1: 238, t. 90, A. *APD acc*

Cynometra? *tetraphylla* Hook. f. (1849).

A big timber tree with hard wood, with puberulous branchlets, perulate buds, quadrifoliolate leaves, and short axillary racemes with white or pinkish flowers; pods suborbicular, glabrous, flat, up to 4 cm. high and 6 cm. broad, with very lateral peduncle.

Fr. G.: Boke (Apr.) Chillou! Ymbo (Apr.) Pobéguin 1555! Mamou Aubrév. 3027! **S. L.:** Barter! Don! Sugar Loaf (Apr., May) Sc. Elliot 5781! Talla Hills, Ninia (Feb.) Sc. Elliot 4893! Kurusu (Apr.) Sc. Elliot 5525! Bumbu Lane-Poole 169! Makene — Kabala road (Mar., Apr.) Deighton 5022! Gola Forest (Apr.) Small 562! **Lib.:** mouth of Sinoe R., Greenville (Mar.) Baldwin 11561. **Iv.C.:** Abidjan Aubrév. 12! Guiglo Aubrév. 2026!

3. *Cryptosepalum minutifolium* (A. Chev.) Hutch. & Dalz. F.W.T.A., ed. 1,1: 348 (1928); Kew Bull. 1928: 400; Aubrév. l.c. t. 90, B. *APD acc*

Hymenostegia minutifolia A. Chev. in Bull. Soc. Bot. Fr. 58, Mem. 8: 165 (1912).

A montane forest tree, 80–100 ft. high, with bole of 50–60 ft. and small bifoliolate leaves.

IV. C.: Toula to Nekaougnie, Middle Cavally (July) Chev. 19579!

4. **Cryptosepalum diphyllum** *Duvign. sp. nov.* c89f5 *APD acc*

A forest tree to 50 ft. high, with reddish-grey, smooth bark, glabrous branchlets, bifoliolate leaves, and short, slightly pubescent, axillary racemes.

S. Nig.: Ekang R., Oderige, Obubra (Apr.) A. P. D. Jones 1467!

5. **Cryptosepalum pellegrinianum** (*J. Léonard*) *J. Léonard* In Bull. Jard. Bot. Brux. 22: 210 (1952). *APD acc*

Pynaertiodendron pellegrinianum *J. Léonard* (1951).

A small tree with glabrous branchlets, unifoliolate leaves, and glabrous axillary racemes.

S. Nig.: Ukpon F.R., Ogoga Prov. Catterall 1!

Also In Gabon and Belgian Congo.

50. DIDELOTIA

Baill. — F.T.A. 2: 307.

1 Leaves 2 or more foliolate;.....2

Leaves 1-foliolate; petiole 5–7 mm. long, with a pair of small stipellae at the apex, usually early caducous; lamina ovate or elliptic-ovate, equal and rounded at base, gradually acuminate or acute at apex, 7–15.5 cm. long, 4–8 cm. broad; panicles narrow, 13–50 cm. long; pedicels 7–9 mm. long; bracteoles about 5 mm. long; fruits oblong with a single median longitudinal ridge, and sometimes a short basal one .. 4. *sp. nr. unifoliolata*

2 Leaflets 3–7 pairs:3

Leaflets 1 pair; flowers pedicellate, pedicels nearly 1 cm. long, shortly pubescent; leaflets together forming almost a circle, very oblique, acuminate, 7–13 cm. long, 3–6 cm. broad, glabrous; petiole 0.5–1 cm. long; racemes forming a long slender leafless panicle up to 20 or more cm. long; bracteoles obovate-elliptic3. *africana*

3 Leaflets 5– pairs, small, up to 3 cm. long and 1.3 cm. broad, oblong, very oblique at the base on one side, emarginate, glabrescent except on the midrib; racemes short, in the axils of the upper, often much smaller leaves, forming an elongated leafy panicle; stipules intrapetiolar, united into one; pedicels up to 1–3 cm. long, tomentose; bracteoles 2, broadly ovate, tomentose outside, 4–5 mm. long1. *engleri*

Leaflets 3–4 pairs, larger, 5–8 cm. long, obliquely oblong, emarginate, shining, glabrous; racemes paniculate, elongated; pedicels 5–8 mm. long; bracteoles 2, suborbicular, shortly pilose outside2. *afzelii*

1. **Didelotia engleri** *Dinkl. & Harms* In Engl. Bot. Jahrb. 30: 80 (1901); Bak.f. Leg. Trop. Afr. 3: 736. *APD acc*

A shrub or small tree; inflorescence narrow, drooping, up to 10 in. long; flowers scented, small, crimson.

Lib.: Grand Bassa, in moist woods near the sea (Aug.) Dinklage 2033!

2. **Didelotia afzelii** *Taub.* in E. & P. Pflanzenfam. 3, 3: 387 (1894); Harms in Engl. Bot. Jahrb. 26: 266; Bak. f. l.c. *APD acc*

Forest tree, to 20 ft. high; inflorescence pendulous; stamens and inside of bracts red.

S. L.: Afzelius! Dawe 29! Cons. of For. 38! Njala (fl. Oct., fr. Feb.) Deighton 2247! 2462! Mafindo Falls, Moa R. (fl. & fr. Feb.) Deighton 4003!

3. **Didelotia africana** *Baill.* in Adansonia 5: 367, t. 8 (1865); F.T.A. 2: 307; Bak. f. l.c.; Pellegr. Leg. Gab. 77. *APD acc*

A forest tree, with foliage like that of *Hymenaea courbaril* Linn.

S. Nig.: Eket Talbot 3344! Oban Talbot 1461!

4. **Didelotia sp. nr. unifoliolata** *J. Léonard* in Bull. Jard. Bot. Brox. 22: 205 (1952); Fl. Congo Belge 3: 495, fig. 43. “Broutou” of Aubrév. Fl. For. C. Iv. 1: 240, t. 96, 3–5. *APD acc*

Large forest tree.

S. L.: Gola North F.R. King 290! **Lib.:** Gbanga (fr. Dec.) Baldwin 10517! **Iv. C.:** Tabou region Aubrév. 1309! 1561!

[Not quite the same as the type from Belgian Congo; flowers not yet known.]

Didelotia sp.

Large forest tree; leaflets 4–6 pairs, obliquely rhombic-elliptic, acuminate and emarginate at apex; flowers not known.

S. L.: Gola North F.R. King 138! **Lib.:** Mecca, Boporo Baldwin 10449! Mecca, Grand Cape Mount (fr. Dec.) Baldwin 10841!

Imperfectly known species.

51. MEZONEURON

Desf. — F.T.A. 2: 260.

- 1 Woody climber, with short recurved prickles; leaves bipinnate; pinnae about 5 pairs, the axes prickly; leaflets alternate, about 5 pairs, elliptic, rounded at each end, 3–4 cm. long, 1.5–2.5 cm. broad, glabrous; racemes terminal, simple or branched, rather dense-flowered, tomentellous, up to about 20 cm. long; pedicels about 1 cm. long, articulated near the top; bracts small, very early caducous; lower calyx-lobe partially enclosing the others in bud, hood-like; petals 5; stamens 10, free; filaments pilose; fruits indehiscent, reflexed, flat and thin, linear-oblong, about 10 cm. long and 2–2.5 cm. broad, minutely puberulous, winged along one side

..... *benthamianum*

Mezoneuron benthamianum *Baill.* — F.T.A. 2: 261; Chev. Bot. 219. *APD acc*

Flowers yellow; pods bright red.

Sen.: Bignona fide Chev. l.c. **Gam.:** Brown- Lester 32! **Port. G.:** Biaaalanca, Bissau (Jan.) Esp. Santo 1646! **Fr. G.:** Rio Nunez Heudelot 762! Mamou (fr. Mar.) Dalz. 3406! **S. L.:** Sasseni, Tambakka (fl. & fr. Jan.) Sc. Elliot 4519! Jama-Kangama (Jan.) Aylmer 2! Njala (Dec.) Deighton 2580! Kamakui (fr. Feb.) Deighton 3501! **Lib.:** Ganta Harley 34! **Iv. C.:** Bouroukrou (Jan.) Chev. 16861. **G. C.:** Cape Coast (fl. & fr. Dec.) C. J. Taylor FH 5447! Afram Plains (fr. Jan.) Chipp 594! Dodowa (fr. Dec.) Irvine 1024! **Togo:** Chlto (fr. Dec.) Howes 1061! **Dah.:** Zagnanado (Feb.) Chev. 23028! **S. Nig.:** Olokemeji (Feb.) Foster 145! Ibadan (Jan.) Newberry 185!

52. CAESALPINIA

Linn. — F.T.A. 2: 262.

- 1 Scrambling shrub with very closely prickly branches and slender branchlets; leaves bipinnate, pinnae 4–7 pairs; rhachis prickly; leaflets oblong-elliptic, mucronate, 2.5–4.5 cm. long, 1.5–2.5 cm. broad, slightly pubescent; flowers paniculate; bracts linear, soon falling off; axis and calyx tomentose; petals 5, oblong, yellow, subequal, about 1 cm. long; stamens 10, free, filaments villous towards the base; fruit oblong-elliptic, flattish, 6–7 cm. long, 4 cm. broad, very prickly with slender erect prickles, 1–2-seeded; seeds spherical, lead-coloured, smooth, about 1–5 cm. diam. *bonduc*

Caesalpinia bonduc (*Linn.*) *Roxb.* Fl. Ind. 2: 362 (1832); Dandy & Exell in J. Bot. 76: 179 (1938), q.v. for full synonymy.

APD: *Synonym of Guilandina bonduc* L.

APD: *Synonym of Caesalpinia major* (Medik.) Dandy & Exell

Guilandina bonduc Linn. (1753).

Caesalpinia bonducella (Linn.) Fleming — F.T.A. 2: 262; Chev. Bot. 220.

Caesalpinia crista of F.W.T.A., ed. 1, 1: 348.

Originally a native of the coastal regions of both hemispheres, now naturalized near villages in the interior.

Sen.: Heudelot 464! Dakar Chev. 1582!. **Port. G.:** Ilha das Cobras (fr. Apr.) Esp. Santo 1928! **S. L.:** Nyangai, Turtle Isl. Deighton 2381! Mano (May) Deighton 3974! **Lib.:** Cape Palmas (July) T. Vogel 9! Nana Kru, Sinoe (Mar.) Baldwin 11579! **iv. C.:** various localities fide Chev. l.c. **G. C.:** Banka (Dec.) Vigne FH 1508! Peshi, Elmina (Aug.) Andoh FH 5556! **Togo:** Alibi Kersting A. 559! **Dah.:** Le Testu 157! **N. Nig.:** Katsina Ala (June) Dalz. 603! **S. Nig.:** Olokemeji Foster 313! Ibadan (Aug.) Chizea FHI 20019! Aguku Thomas 908! Degema Talbot 3683! **Br. Cam.:** Victoria (Nov.) Maitland 777! **F. Po:** (Mar., June) Barter 1612! Mann 398!

Widespread in the tropics.

Caesalpinia pulcherrima (Linn.) Sw.

Poinciana pulcherrima Linn.

A commonly cultivated shrub, a native of Asia but commonly known as “Pride of Barbados”

Caesalpinia decapetala (Roth) Alston *APD acc*

Caesalpinia sepiaria Roxb.

53. DELONIX

Raf. Fl. Tellur. 2: 92 (1837).

- 1 A tree; leaves bipinnate, up to 45 cm. long; pinnae 11–18 pairs; leaflets opposite, numerous, oblong, rounded and asymmetrical at base, rounded to mucronate at apex, about 1 cm. long and 2.5–4 mm. broad; flowers in lax terminal or subterminal racemes, glabrous; receptacle short, sepals oblong, 2–2.5 cm. long; petals 5, subequal in length, clawed, 3–5 cm. long, up to 5 cm. broad; stamens 10, free, up to 3 cm. long; fruit elongate-oblong, 30–60 cm. long, about 5 cm. broad, valves woody, glabrous, tardily dehiscent; seeds numerous, up to 2.5 cm. long and 6 mm. diam. [regia](#)

Delonix regia (Boj. ex Hook.) Raf. l.c. (1837). *APD acc*

Poinciana regia Boj. ex Hook. in Bot. Mag. t. 2884 (1829); F.T.A. 2: 266.

Commonly planted ornamental, known in West Africa as “Flame of the Forest” or “Flamboyant”, now subspontaneous in many localities; posterior petal variegated red and white, other petals red with orange claw.

A native of Madagascar, widely planted in the tropics.

54. BUSSEA

Harms in Engl. Bot. Jahrb. 33: 159 (1902).

- 1 Large tree; leaves bipinnate; leaflets alternate, oblong-elliptic, very long-acuminate, 6–10 cm. long, 3–4 cm. broad, laxly reticulate, glossy above, glabrous; flowers racemose; racemes about 20 cm. long; pedicels up to 1 cm. long, tomentose; sepals triangular-ovate, subacute, about 8 mm. long, rusty-brown-tomentellous when dry; petals crinkly, obovate, about 2 cm. long; filaments and style densely villous; fruit narrowly oblanceolate, woody with strongly recurved valves, about 15 cm. long and 3–5 cm. broad, densely brown-ferruginous when young [occidentalis](#)

Bussea occidentalis Hutch. in F.W.T.A., ed. 1, 1: 350 (1928); Kew Bull. 1928: 400; Aubrév. Fl. For. C. Iv. 1; 268, t. 105. *APD acc*

Peltophorum africanum c89f6 of Chev. Bot. 219, partly (Chev. 19212), and of F.W.T.A., ed. 1, 1: 350, partly (Chev. 19212), not of Sond.; see Aubrév. Fl. For. Soud.-Guin. 209.

Forest tree, to 100 ft. high, with dark brown-tomentose branchlets and inflorescence; flowers conspicuous, yellow; pods erect, elastic, curling up after opening.

S. L.: Hangha (Aug.) Lane-Pools 394! Aylmer 241! Gola Forest (Fr. Jan.) Unwin & Smythe 64! **Lib.:** St. Johns R., Begwai (young fr. Sept.) Bunting 10! Gbanga (Sept.) Under 479! Dukwia R., (Apr.) Cooper 400! **IV. C.:** Tano R. (July) Chipp 305! And various localities fide Aubrév. l.c. **G. C.:** Dunkwa (Aug.) Chipp 715! Obuasi Vigne FH 920! Essuasus (May) Vigm FH 115! Akyempin, NE. of Tarkwa (fr. May) Chipp 219! Kankan (June) Thompson 90!

55. PARKINSONIA

Linn. — F.T.A. 2: 266.

- 1 Small tree; branchlets armed with rigid prickles (modified common petiole); leaves bipinnate, pinnae, 2–4, the rachis elongated, phyllode-like, flattened, spine-pointed, with numerous very small obovate leaflets along the margin; flowers in small axillary racemes; pedicels up to 1–3 cm. long, slender, glabrous; petals 5, spreading; stamens 10, free, filaments pilose in the lower part; fruit linear, torulose, up to 13 cm. long, beaked, striate, glabrous [*aculeata*](#)

Parkinsonia aculeata *Linn.* — F.T.A. 2: 267; Chev. Bot. 221. *APD acc*

An exotic shrub or small tree, 10–15 ft. high, with fairly conspicuous yellow flowers; planted in native towns throughout the Sudan and elsewhere in dry localities; native of tropical America. }

Sen.: Roger! Perrotet 251! Dakar (May) Debeaux 180! **Gam.:** Whitfield! **Fr. Sud.:** Diafarabé (Sept.) Lean 102! Timbuktu Hagerup 224. Sompi Chev. 3192. Koulikoro Chev. **S. L.:** Don! Yengema (fl. & fr. July) Deighton 4131! **N. Nig.:** Mashi, Katsina (fl. & fr. Feb.) Meikle 1215! Kano (Oct.) Eeay FHI 21149! Katagum (fl. & fr. Oct.) Dalz. 5! Bauchi Plateau (Mar.) Lely P. 181!

Native of tropical America, widely naturalized in Africa.

56. BURKEA

Hook. — F.T.A. 2: 319.

- 1 A tree; young parts reddish-tomentose; leaves bipinnate, 2–5-jugate, jugae opposite; leaflets alternate, up to about 12, ovate to ovate-lanceolate, obtuse or emarginate at the apex, unequal-sided at base, up to 5 cm. long and 3–5 cm. broad, at first silky, at length glabrous and more or less glaucous beneath; flowers in panicles of slender spikes up to 30 cm. long; axis pubescent; calyx 1–5 mm. long, lobes ciliate; petals about twice as long as the calyx, glabrous; stamens 10; ovary densely villous; fruits flat and thin, elliptic-lanceolate, long-stipitate, about 6 cm. long, 2–3 cm. broad, shortly appressed-pubescent [*africana*](#)

Burkea africana *Hook.* — F.T.A. 2: 320; Aubrév. Fl. For. Soud.-Guin. 245, t. 50, 4–6. *APD acc*

A deciduous tree attaining 60–70 ft. in height, with stout knotted branchlets, blackish corrugated bark, light silky foliage, and pendulous spikes of small creamy fragrant flowers crowded with the leaves at the ends of the branchlets.

Sen.: Berhaut 770. **Fr. Sud.:** Bamako (May) Hagerup 50! And various localities fide Aubrév. l.c. Ft. G.: Kourouasa Pobeguini 971! **IV. C.:** Ferkessedougou, Bobo-Dioulasso and Black Volta fide Aubrév. l.c. **G. C.:** Ejura (fr. Aug.) Chipp 726! Kintampo (Mar.) Dalz. 15! Grube (Mar.) Rea FH 1668! Pan to Bujan (Apr.) Kitson 917! **Togo:** Kersting A. 308! **Dah.:** Save Chev. 23577! **N. Nig.:** Nupe Barter 1134! Sokoto (fl. & fr. Mar.) Lely 844! Kontagora (Dec.) Dalz. 73! Yola (Feb.) Dalz. 188! **S. Nig.:** Olokemeji Foster 310! Awka Thomas 11! Agbani Road, Enugu (Feb.) Chesters 188!

Widespread in tropical Africa.

57. ERYTHROPHLEUM

Afzel. ex R.Br. — F.T.A. 2: 320.

- 1 Leaflets acuminate; fruits usually rounded at each end, oblong, stipe more or less lateral, valves woody-leathery; seeds 5–10: 2
- Leaflets rounded or emarginate at apex, more or less obliquely oblong, unequal-sided at base, 3– cm. long, 1.3–2 cm. broad, softly pubescent when young; pinnae 2–4; leaflets alternate, 8–16 cm. each pinna; flowers in

densely pubescent panicles of spike-like racemes; fruits oblong to oblong-elliptic, attenuate-cuneate at base, alternate to rounded at apex, stipe more or less central, valves subcoriaceous, 7–19 cm. long, 2·2–4·5 cm. broad; seeds 2–5 [3. africanum](#)

- 2 Pedicels 1–2 mm. long; racemes 1–1·5 cm. diam., yellowish-brown tomentellous, in lax panicles; pinnae 2–3 (rarely 1 or 4) pairs; leaflets alternate, 10–13 on each pinna, ovate-elliptic, 5–9 cm. long, 3–5 cm. broad, usually pubescent on petiolule, midrib beneath and rhachis, usually drying pale green or greenish-brown; fruits tip to 15 cm. long and 5 cm. broad [1. guineense](#)

Pedicels up to 1 mm. long; racemes less than 1 cm. diam., reddish-brown tomentellous, in rather stiff panicles; leaves similar to above, but usually quite glabrous and drying blackish; fruits up to 10 cm. long and 3–5 cm. broad [2. ivorense](#)

1. **Erythrophleum guineense** *G. Don* — V.T.A. 2: 320; Aubrév. Fl. For. C. Iv. 1: 270; Fl. For. Soud.-Guin. 241; Wilczek in Fl. Congo Belge 3: 243, t. 18.

APD: Synonym of Erythrophleum suaveolens (Guill. & Perr.) Brenan

Large tree, with spreading crown, to 100 ft. high; flowers small, very fragrant, crowded in spike-like racemes; pods opening without scattering the seeds; [in the drier parts of the forest regions and in fringing forest.](#)

Sen.: Heudelot 155! Tambana (Feb.) Chev. 2991. **Gam.:** Whitfield! Daniell! Albreda (Mar.-Apr.) Perrottet 291! MacCarthy Isl. Dalz. 8067! **Fr. Sud.:** Kita Dubois 106! **Port. G.:** Empacaca, Canchungo (Apr.) Esp. Santo 1942! **Fr. G.:** Kouroussa (Apr.) Pobéguin 692! Konkouré Valley Pobéguin! Falaba to Farana Sc. Elliot 5063! **S. L.:** Afzelius! Don! Musaia (Apr.) Deighton 5473! Batkanu (tr. Feb., July), Small 53! Gberia Timbako (fr. Sept.) Small 322! **IV. C.:** Baoulé circle fide Aubrév. l.c. **G. C.:** Ejura (Apr.) Packham! Chipp 754! Bomkrom Kwahu (fr. Jan.) Chipp 640! Bana Hill, Krobo (fr. Jan.) Irvine 1912! **Togo:** Baumann! Büttner! **N. Nig.:** Bassa (fr. Aug.) Elliott 92! Lapai (Feb.) Yates 30! Kaduna Lamb 96! Magamma (fr. Feb.) Lely 727! **S. Nig.:** Unwin 22! Ugboha F. R., Ishan (fl. & fr. Feb.) Umana FHI 29120! Udi (Jan.) Chesters 217! **Br. Cam.:** Fang, Bamenda (fr. Apr.) Maitland 1473! Mufung, Bamenda (fl. & fr. Feb.) Johnstone 42/31!

Widespread in tropical Africa.

2. **Erythrophleum ivorense** *A. Chev. Vég. Util. 5: 178 (1909); Aubrév. Fl. For. C. Iv. 1: 270, t. 106.*

APD acc

Erythrophleum micranthum *Harms ex Holl. (1911) — F.W.T.A., ed. 1, 1: 351.*

Large [forest](#) tree, to 130 ft. high; flowers reddish similar to the above, but [found in only the moister parts of the forest regions](#), and flowering later in the year.

S. L.: Afzelius! Kambui F.R. (Oct.) Edwardson 145! Njala (Sept.) Deighton 2903a! **Lib.:** Dukwia R. Cooper 386! R. Cess (fr. Mar.) Baldwin 11276! **IV. C.:** Bingerville (fr. Feb.) Chev. 16220! Azaguié Chev. 22290! And various localities fide Aubrév. l.c. **G. C.:** Kokum, Axim (July) Chipp 2591 Asientiem (July) Chipp 293! Dunkwa (fl. & fr. July) Vigne FH 913! 923! Tarkwa (June) Evans! Mampong (Aug.) Andoh FH 4232! **S. Nig.:** Akilla Kennedy 2016! Brass (June) Barter 3! King-Church 16! Nun R. (fl. & fr. Sept.) Mann 482! Ikom (Sept.) Catterall 33! **Br. Cam.:** Likomba (fr. Nov.) Mildbr. 10696!

Also in [French Cameroons](#), [Gabon](#) and [Spanish Guinea](#).

3. **Erythrophleum africanum** (*Welw. ex Benth.*) *Harms* in Fedde Rep. 12: 298 (1913); Aubrév. Fl. For. Soud.-Guin. 243, t. 50, 1–3; Wilczek l.c. 3: 244. *APD acc*

Gleditschia africana *Welw. ex Benth. (1865) — F.T.A. 2: 265; Chev. Bot. 221.*

A [savannah](#) tree, to 40 ft. high, with spreading crown, the young parts softly tomentose and foliage very like that of *Burkea africana*.

Sen.: Casamance Etesse 10! **Gam.:** Rosevear 100! 101! **Fr. Sud.:** Bougouni to Sikasso fide Aubrév. l.c. **Port. G.:** Bafata Esp. Santo 2342! **Fr. G.:** Kadé Pobéguin 2005. Dabola Pobéguin 1510! **IV. C.:** Bobo Dioulasso Aubrév. 1955! **G. C.:** Gambaga (fl. Feb., fr. June) Vigne FH 4476! Akpabla 679! Pang Kitson 587! 588! Jema (fr. June) Brown FH 2309! **Togo:** Kersting 4; 384. **Dah.:** Atacora Mts. (fr. June) Chev. 24163! **N. Nig.:** Kontagora Dalz.! Bakura-Tureta F.R. (fr. Sept.) Dundas!

Widespread in tropical Africa.

Harms in Engl. Bot. Jahrb. 49: 428 (1913).

- 1 Tree, with glabrous branches; leaves bipinnate, up to 35 cm. long, glabrous; pinnae 2–5 pairs, opposite or rarely alternate; leaflets 9–15, alternate, asymmetric, oblong to oblong-oblongate, cuneate to obtuse at base, obtuse to rounded or emarginate at apex, 4–10.5 cm. long, 1.5–3.5 cm. broad; flowers in many-flowered robust spiciform racemes up to 18 cm. long; bracts small, caducous; pedicels 2–3 mm. long; receptacle broadly cupulate, about 2 mm. long; sepals 5, rounded, about 2 mm. long; petals 5, obovate-oblong, 4.5–6 mm. long, 2–3 mm. broad; stamens 10, free; fruits linear-oblong or oblong-lanceolate, 15–37 cm. long, 3.5–4 cm. broad, 2–2.5 cm. thick, very hard, with thick projecting sutures; seeds 10–18. [tessmannii](#)

Pachyelasma tessmannii (*Harms*) *Harms* in Engl. Bot. Jahrb. 49: 430, with fi. (1913); Bak. f Leg. Trop. Afr 3: 623; Wilczek in Fl. Congo Bele 3: 240. *APD acc*

Stachyothyruif tessmannii *Harms* (1910).

Forest tree, to 200 ft. high, with cylindrical bole and well-developed plank-buttresses; flowers cherry-red; fruits black.

S. Nig.: Eba (fr. July) Kennedy 1720! Oban Gray 2/6! Also Ijebu Ode, Sapoba and Cameroons fide Kennedy l.c.

Also in **French Cameroons**, **Gabon**, **Spanish Guinea** and **Belgian Congo**.

MIMOSACEAE

Trees or shrubs, very rarely herbs. Leaves mostly bipinnate, rarely simply pinnate, often with large glands on the rachis. Flowers hermaphrodite, small, spicate, racemose or capitate, actinomorphic, usually 5-merous. Calyx tubular, valvate or very rarely imbricate, 5-lobed or toothed. Petals valvate, free or connate into a short tube. Stamens equal in number to the sepals or more numerous, free or monadelphous; anthers small, 2-celled, opening lengthwise, often with a deciduous gland at the apex. Ovary superior, of 1 carpel. Fruit mostly dehiscent. Seeds with scanty or no endosperm.

Mainly tropics and subtropics.

Often in dry regions and then frequently spiny; easily recognized by the usually bipinnate leaves and small flowers with valvate petals.

- | | | |
|---|---|-----------------------------------|
| 1 | Calyx-lobes imbricate: | 2 |
| | Calyx-lobes valvate or open from a very early stage: | 3 |
| 2 | Flowers bisexual in elongated paniculate spikes; stamens 5; staminodes several; fruit elongated, with the valves recurved when mature. | 1. Pentaclethra |
| | Flowers in dense short more or less club-shaped heads, the upper ones bisexual, the lower staminate or neuter; stamens 10; no staminodes; fruits 2-valved | 2. Parkia |
| 3 | Filaments free or united only with the disk at the base; flowers spicate or capitate: | 4 |
| | Filaments united into a short or long tube: | 20 |
| 4 | Stamens definite, as many as or up to twice as many as the petals: | 5 |
| | Stamens more than twice as many as the petals; flowers in spikes or heads; branchlets usually with spines or prickles. | 20. Acacia |
| 5 | Flowers in spikes or racemes: | 6 |
| | Flowers capitate: | 17 |
| 6 | All the flowers bisexual or at any rate sexual; branches without spines or prickles (but see No. 9): | 7 |
| | Upper flowers of the spikes bisexual, the lower neuter; fruits indehiscent twisted and crowded; leaves with glands; branches armed with spines terminating short lateral branchlets. | 14. Dichrostachys |
| 7 | Fruits dehiscent; | 8 |
| | Fruits indehiscent: | 14 |
| 8 | Valves of fruit remaining intact, not breaking into 1-seeded segments: | 9 |
| | Valves of fruit breaking into 1-seeded segments and leaving the continuous persistent sutures; branchlets prickly in <i>E. sclerata</i> only. | 9. Entada |
| 9 | Leaflets alternate; seeds flattened, winged: | 10 |
| | Leaflets opposite: | 11 |

- 10 Indumentum stellate; fruits very long, narrow, dehiscent along one margin only; flowers pedicellate, calyx and corolla puberulous outside; stamens with smooth filaments inserted on the side of a thin but conspicuous disk [5. *Cylicodiscus*](#)
- Indumentum not stellate; fruits very broadly oblong, dehiscent along both margins; flowers sessile, glabrous outside; stamens with densely papillose filaments inserted on the outside of a low thick disk. [8. *Fillaeopsis*](#)
- 11 Fruits dehiscent along both margins; valves woody, spirally twisted or recurving on dehiscence, usually conspicuously attenuate below; seeds not winged: **12**
- Fruits dehiscent along one margin only; valves thin; seeds flattened, winged: **13**
- 12 Flowers sessile; petals united below into a tube at least 1/3 as long as corolla; leaves with 1 pair of pinnae, rhachis glandular at their insertion; trees [3. *Calpocalyx*](#)
- Flowers pedicellate; petals free or nearly so; most leaves with 2 pairs of pinnae, rhachis not glandular; lianes or shrubs. [4. *Pseudoprosopis*](#)
- 13 Leaves without glands on rhachides; funicle of seeds attached in the middle; ovary and petals glabrous outside. [6. *Piptadeniastrum*](#)
- Leaves with glands on rhachides; funicle of seeds attached at one end; ovary and petals pubescent or puberulous outside. [7. *Newtonia*](#)
- 14 Fruits thin oblong, samaroid; leaves without glands on rhachides; leaflets opposite. [10. *Aubrevillea*](#)
- Fruits more or less turgid: **15**
- 15 Leaves with glands on rhachides; leaflets opposite; fruits subterete [11. *Prosopis*](#)
- Leaves without glands on rhachides; leaflets alternate: **16**
- 16 Fruits tetragonal, not winged. [12. *Amblygonocarpus*](#)
- Fruits with a fleshy wing-like ridge along the back of each valve [13. *Tetrapleura*](#)
- 17 Trees, shrubs or rarely herbs, not aquatic: **18**
- Aquatic herbs with some of the leaves submerged; leaves sensitive; pinnae 2–3 pairs; flowers capitate, on elongated peduncles, the upper ones bisexual, the lower neuter; anthers with a deciduous apical gland; fruit flat, glabrous [19. *Neptunia*](#)
- 18 Anthers tipped by a deciduous apical gland; valves of fruit woody and strongly elastic; large tree; pinnae 1 pair. [15. *Xylia*](#)
- Anthers without an apical gland; fruit not woody: **19**
- 19 Tree with smooth branchlets; pinnae about 5 pairs; fruits linear, flat, not prickly. [16. *Leucaena*](#)
- Slender trailer with quadrangular stems covered with numerous recurved prickles; pinnae 2–3 pairs; fruits linear, 4-ridged, prickly. [17. *Schrankia*](#)
- Shrubs or herbs; stems terete; pinnae several pairs; fruits flat, prickly or setose. [18. *Mimosa*](#)
- 20 Flowers in spikes; branches armed with stipular spines. [20. *Acacia*](#)
- Flowers capitate; branches without spines or prickles: **21**
- 21 Valves of fruit not separating elastically; stipules mostly inconspicuous, or caducous: **22**
- Valves of fruit separating elastically from the top downwards; stipules persistent, nervose. [24. *Calliandra*](#)
- 22 Fruit not jointed, oblong, with thin flat valves. [21. *Albizia*](#)
- Fruit with thick valves, not breaking up into 1-seeded segments. [22. *Samanea*](#)
- Fruit jointed and breaking up into 1-seeded segments, often curved or circinate [23. *Cathormion*](#)

***Pithecellobium dulce* (Roxb.) Benth.**

A native of tropical America, it has been introduced in W. Africa:

***Adenanthera pavonina* Linn.**

A native of tropical Asia, it has been introduced in W. Africa

***Enterolobium cyclocarpum* (Jacq.) Griseb.**

A native of tropical America, it has been introduced in W. Africa.

1. PENTACLETHRA

Benth. — F.T.A. 2: 322; *Benth.* in *Trans. Linn. Soc.* 30: 360 (1875).

- 1 A tree up to 25 m. high; young parts rusty-tomentellous; leaves bipinnate; pinnae opposite, in about 10 pairs;

rhachis angular, scurfy-puberulous; leaflets about 12 pairs, opposite, obliquely oblong, truncate and unequal-sided at base, emarginate and shortly mucronate at apex, about 2–5 cm. long and 1 cm. broad, glabrous or nearly so; spikes paniculate, elongated; calyx very short; petals about 2 mm. long; stamens 5, with alternating staminodes; fruit elongated, 8–10 cm. broad, valves thick and woody, at length recurved; seeds flattish, varying from oblanceolate to subrhomboid, striate, up to 6–7 cm. long.[macrophylla](#)

Pentaclethra macrophylla Benth. — F.T.A. 2: 322; Benth. l.c. 360; Bak. f. Leg. Trop. Afr. 3: 780; Aubrey. Fl. For. C. Iv. 1: 192, t. 71. *APD acc*

Forest tree, with spreading crown; flowers yellowish-creamy; pods strongly elastic; *often cultivated*.

Sen.: Bignona, Casamance Chev. 3117! **Port. G.:** Bissau Esp. Santo 1810! **Fr. G.:** Rio Nunez Heudelot 825! Conakry Dalz. 8064! **S. L.:** Makong (Apr.) Macdonald 27! Kenema (Mar.) Lane-Poole 211! Smythe 234! **Lib.:** Dukwia R. (Feb.) Cooper 193! **IV. C.:** Abidjan Aubrév. 19! **G. C.:** Imbraim (Mar.) Thompson 27! Kumasi Cummins 219! **Dah.:** Porto Novo (Feb.) Chev. 22896! **S. Nig.:** Sapoba Kennedy 1930! Eket Talbot 3113! Oban Talbot 1348! **Br. Cam.:** Cameroons R. (Jan.) Mann 2203! **F. Po.:** (Nov.) T. Vogel 232!

Extends southwards to Gabon, *Angola* and *Belgian Congo*, also in Principe and S. Tome.

2. PARKIA

R.Br. — F.T.A. 2: 323.

- 1 Corolla lobes very short (about 1/6 total length of corolla); leaf-rhachis greyish-puberulous; leaflets alternate or subopposite, or opposite towards the apices of the pinnae; fruits 19–30 cm. long, 1.5–2.3 cm. broad, not or only slightly indented between the seeds; trees of the savannah regions:.....[2](#)
Corolla lobes long (1/2–4/5 total length of corolla); leaf-rhachis rusty-puberulous or tomentellous; forest trees: **3**
- 2 Leaflets 35–65 on each side of the rhachis of each pinna, the median ones about 10 (–12) mm. long and 2 (–3) mm. broad; pinnae 8–16 on each side of the leaf-rhachis [1. biglobosa](#)
Leaflets 14–30 on each side of the rhachis of each pinna, the median ones (11–) 12–18 (–20) mm. long, (2.5–) 3–5 (–6.5) mm. broad; pinnae 6–11 on each side of the leaf-rhachis. [2. clappertoniana](#)
- 3 Leaflets 20–55 on each side of the rhachis of each pinna, opposite, the median ones 4.5–10.5 (–12.5) mm. long, 1–2 (–3) mm. broad; pinnae 10–26 pairs; fruits 25–40 cm. long, 1.8–3 cm. broad, markedly indented between the seeds. [3. bicolor](#)
Leaflets 12–28 on each side of the rhachis of each pinna, opposite to alternate, the median ones 12–38 mm. long, 4–14 mm. broad; pinnae 5–11 pairs; fruits variable [4. filicoidea](#)

1. Parkia biglobosa (Jacq.) Benth. — F.T.A. 2: 324, partly; Bak. f. Leg. Trop. Afr. 3: 782; Aubrév. Fl. For. C. Iv. 1: 192, and Fl. For. Soud.-Guin. 249. *APD acc*

Mimosa biglobosa Jacq. (1763).

Tree 30–50 ft. high, with wide-spreading crown; flowers red or orange; seeds and pulp edible; *in savannah country*.

Sen.: Tivaouane (May) Be Wailly 4588! Fouladou Etesse! **Gam.:** Perrottet 261! Rosevear' 75! Kombo Dawe 14! Genieri Fox 60! **Fr. Sud.:** Siguiri (Jan.) Chev. 292! **Fr. G.:** Kouroussa (Jan.) Pobéguin 130! **S. L.:** Barter! Sc. Elliot 3867! 4771! Hedde's Farm, Freetown (Jan.) Deighton 1061! Musaia (young fr. Apr.) Deighton 5480! **IV. C.:** Bondoukou Aubrév. 717! **G. C.:** Pong, Wa Kitson 698!

Also cultivated in West Indies, whence it was originally described.

2. Parkia clappertoniana Keay in Bull. Jard. Bot. Brux. 25: 209 (1955).

APD: *Synonym of Parkia biglobosa (Jacq.) R. Br. ex G. Don*

Parkia africana R.Br. (illegitimate name), partly (Clapperton spec. only).

Parkia filicoidea Welw. ex Oliv. F.T.A. 2: 324, partly (Barter spec.); F.W.T.A., ed. 1, 1: 352.

Parkia filicoidea var. glauca Bak. f. l.c. 781 (1930).

Parkia olivare of Aubrév. Fl. For. C. Iv. 1: 194 and Fl. For. Soud.-Guin. 249, not of J. F. Macbr.

Tree, to 70 ft. high, with short bole and wide spreading crown; flowers deep red; seeds and pulp edible; *in savannah country*.

G. C.: Amansare (fr. July) Chipp 5141 Abene, Kwahu (Jan.) Chipp 631! **Togo:** Kete Krachi (Jan.) Vigne FH 1540! Kitson! **Dah.:** fide Aubrév. l.c. **N. Nig.:** Barter 1136! Clapperton! Kaura Namoda (fl. & fr. May) Keay FHI 16205! Samaru (fr. May) Baldwin 12005! Zungeru (fl. & fr. Jan.) Elliott 64! **S. Nig.:** Olokemeji (Feb.) Foster 162!

Also in **Ubangi-Shari** and **A.-E. Sudan**.

3. **Parkia bicolor** *A. Chev.* in Bull. Soc. Bot. Fr. 55, Mém. 8: 34 (1908); Bak. f. l.c. 782; Aubrév. Fl. For. C. Iv. 1: 196, t. 73; Gilbert & Boutique in Fl. Congo Beige 3: 144, t. 10. *APD acc*

Parkia agboensis *A. Chev.* l.c. 35 (1908).

Parkia zenkeri *Harms* (1911).

Tall forest tree, to 100 ft. high, with wide crown and well-developed buttresses; flowers bluish-red or yellowish-red; often by river banks.

Fr. G.: Kindia (fr. May) Chev. 13547! **S. L.:** Sc. Elliot! Njala (Feb.) Deighton 1071! Simiria Deishton 1396! Moyamba (fr. Mar.) Deighton 1922! **Lib.:** Dukwia R. (fr. Feb.) Cooper 185! 338! **Iv. C.:** Azaguié Chev. 22292! Banco Aubrév. 387! **G. C.:** Ancobra River mouth (Nov.-Jan.) Chipp 23! Axim (fr. Nov.) Chipp 27! Abetifl (Jan.) Irvine 1659! **Dah.:** Niaouli, Aliada Chev. 23423! **S. Nig.:** Yaba (Dec.) Millen 72! Sapoba Kennedy 1969! 2073! Degema (fl. & fr. Dec.) Unwin 27! Eket Talbot 3047! Oban Talbot 1350! 1467! **Br. Cam.:** Bambuko F.R., Kumba (fr. Sept.) Olorunfemi FHI 30774!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

4. **Parkia filicoidea** *Welw. ex Oliv. F.T.A.* 2: 324 (1871), partly (excl. Barter s.n.); Bak. t. l.c. 781, partly; Aubrév. Fl. For. 0. Iv. 1: 196, t. 72, and Fl. For. Soud.-Guin. 249; Gilbert & Boutique in Fl. Congo Belge 3: 141. *APD acc*

Tree to 100 ft. high, in the drier parts of the forest zone and in gallery forest.

Iv. C.: Bamoro, N. of Bouaké, from Koun to Bondoukou Aubrév. 716; 2251.

Widespread in eastern and central tropical Africa.

3. CALPOCALYX

Harms in E. & P. Pflanzenfam. Nachtr. 1: 191 (1897); Engl. Bot. Jahrb. 26: 257 (1899).

- 1 Bracts nearly as long as the flowers, conspicuous in bud, with a broad blade tapered above into a point:.....2
Bracts much shorter than the flowers, not conspicuous in bud, spatulate, not tapered into a point; inflorescence of pedunculate spikes forming a panicle:3
- 2 Spikes about 2–5 cm. long, pedunculate, forming a panicle; calyx 1.5–2 mm. long; calyx and petals tomentellous outside; bracts persistent; leaflets 5–6 pairs, oblong-elliptic, unequal-sided and rounded at base, abruptly acuminate, 6–12 cm. long, 3–7 cm. broad; petiole 1.3–3 cm. long; petiolules about 5 mm. long1. *dinklagei*
Spikes 9–11 cm. long, peduncle 3–4 cm. long, solitary or paired in the upper axils, rhachis and peduncle stout (the latter up to 3 mm. diam.); calyx 3 mm. long; calyx and petals densely pubescent outside; bracts early caducous; leaflets 5–6 pairs, oblong or obovate-oblong, cuneate or obtuse at base; caudate-acuminate, 10–19 cm. long, 3.5–6.5 cm. broad; petiole 1.5–2 cm. long; petiolules 6–8 mm. long; fruit obliquely oblanceolate, 23–28 cm. long, 7–9 cm. broad, glabrous, with 3–5 suboblong seeds.2. *aubrevillei*
- 3 Inflorescences terminal on leafy shoots only; calyx densely to sparingly puberulous; leaflets 4–7 pairs, oblong or oblong-elliptic, rounded at base, long-acuminate, 6–15 cm. long, 2–6 cm. broad; petiole 1.5–4.5 (rarely to 7) cm. long; petiolules 3–7 mm. long; fruit sickle-shaped, tapered to the base, 15–17 cm. long, 3–4.5 cm. broad, glabrous, with 5–10 seeds.3. *brevibracteatus*
Inflorescences terminal on leafy shoots and also on the bole, congested; calyx sparingly puberulous; leaflets 4–5 pairs, oblong, unequal at base, shortly acuminate, 5–12 cm. long, 2.5–5 cm. broad; petiole 5–7 cm. long; petiolules 4–5 mm. long; fruit not known.4. *winkleri*
Inflorescences all on the bole, lax; calyx glabrous; leaflets 7–8 pairs, oblong-elliptic, obtuse to rounded at base, caudate-acuminate, 10–12 cm. long, 4–6 cm. broad; petiole 12.5–14 cm. long; petiolules 3–5 mm. long; fruit not known.5. *cauliflorus*

1. **Calpocalyx dinklagei** *Harms* in E. & P. Pflanzenfam. Nachtr. 1: 191 (1897); Engl. Bot. Jahrb. 26: 257, t. 5, F-G (1899); Bak. f. Leg. Trop. Afr. 3: 799. *APD acc*

A forest tree 30–50 ft. high; flowers white or yellowish.

S. Nig.: Oban Talbot 1641! **Br. Cam.:** S. Bakundu F.R., (Mar., Apr.) Brenan 9298! Olorunfemi FHI 30528!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

2. **Calpocalyx aubrevillei** *Pellegr.* in Bull. Soc. Bot. Fr. 80: 467 (1933); Aubrey. Fl. For. C. Iv. 1: 190, t. 70. *APD acc*

A **forest** tree, to 90 ft. high; flowers yellowish, fragrant.

S. L.: Gola Forest (fl. Apr., fr. Oct.) Sawyerr in Hb. King 222! Small 670! **Lib.:** Dukwia R. (Apr.) Cooper 402! **Iv. C.:** Zagni Aubrév. 1222. Toulépleu to Guiglo Aubrév. 1196. Dakpadou Aubrév. 858!

3. **Calpocalyx brevibracteatus** *Harms* in Bull. Soc. Bot. Fr. 68, Mem. 8: 165 (1912); Bak. f. l.c. 799; Aubrév l.c. 1:190, t. 69; Kennedy For. Fl. S. Nig. 108. *APD acc*

APD: Synonym of Calpocalyx winkleri (Harms) Harms

Calpocalyx macrostachys *Harms* l.c. 156 (1912).

A **forest** tree, to 80 ft. high; flowers orange.

S. L.: Kambui Lane-Pools 469! Kenema (Oct.) Aylmer 263! Gola Forest (fr. Jan.) Unwin & Smythe 68! **Lib.:** Gbanga (Sept.) Under 471! 667! Peahtah (Oct.) Under 1060! Dukwia R. (Oct.) Cooper 56! Javajai, Boporo (Nov.) Baldwin 10266! **Iv. C.:** Yapo (Oct.) Chev. 22368! Abidjan Aubrév. 184! **G. C.:** Tano Baplds (Sept.) Chipp 371! Oda (Sept.) Vigne FH 1361! Wiawso (Nov.) Mc.Ainsh 386! Subiri F.R. (Sept.) Andoh FH 6671! **S. Nig.:** Sapoba Kennedy 600! 1636! 2621!

4. **Calpocalyx winkleri** (*Harms*) *Harms* in Notizbl. Bot. Gart. Berl. 10: 971 (1930). *APD acc*

Piptadenia winkleri *Harms* in Engl. Bot. Jahrb. 40: 17 (1907).

A **forest** tree, to 66 ft. high; flowers among the foliage and also on the stem right down to the ground; branchlets hollow, inhabited by ants.

Br. Cam.: Likomba (Nov.) Mildbr. 10721! Tiko (fl. & fr. Jan.) Dunlap 174!

Also In **French Cameroons**.

5. **Calpocalyx cauliflorus** *Hoyle* in Kew Bull. 1933: 172. *APD acc*

Understorey **forest** tree, to 65 ft. high; cauliflorous, flowers apparently never terminal among the foliage; calyx and petals red, stamens yellow; branchlets hollow, inhabited by ants.

S. Nig.: Ikom Rosevear 39/30a! 40/30a! Cross River North F.R., Ikom (Dec.) Keay FHI 28161!

Further collecting to show range in leaf-shape, together with observations on the cauliflorous habit, are needed to determine how far species Nos. 3, 4 and 5 are in fact distinct.

4. PSEUDOPROSOPIS

Harms in Engl. Bot. Jahrb. 33: 152 (1902).

- 1 Leaflets closely tomentellous beneath; pinnae (1–) 2 pairs; leaflets 3–5 pairs, oblong-lanceolate to obovate-oblongeolate, acute or acuminate, rounded at base, mucronate, 3–7 cm. long, 1.5–3 cm. broad; panicles elongated, tomentellous; bracts subulate, persistent; pedicels 1–1.5 mm. long; calyx and petals tomentose outside; fruit sickle-shaped, tapered to the base, glabrous, at least 10 cm. long (mature fruit not known)[*sericeus*](#)

Pseudoprosopis sericeus (*Hutch. & Dalz.*) *Brenan* in Kew Bull. 1955: 184. *APD acc*

Calpocalyx sericeus *Hutch. & Dalz.*, F.W.T.A., ed. 1, 1: 353 (1928); Kew Bull. 1928: 400; Bak. f. l.c. 800.

A strong woody climber with hexagonal branches and yellowish-grey foliage; flowers yellow, fragrant.

Fr. G.: Nzérékoré to Macenta (Oct.) Baldwin 9740! **S. L.:** Giewahun (fl. & young fr. Dec.) Deighton 3841! **Lib.:** Gbanga (Sept.) Linder 478! Peahtah (Oct.) Linder 478a! Zigida, Vonjama (Oct.) Baldwin 9995!

5. CYLICODISCUS

Harms in E. & P. Pflanzenfam. Nachtr. 1: 192 (1897); Engl. Bot. Jahrb. 26: 256 (1899).

- 1 A large tree; leaves bipinnate; pinnae opposite, 1 pair; leaflets alternate, stalked, ovate, rather long-acuminate, 5–10 cm. long, 3–5 cm. broad, shining above, glabrous and finely reticulate; primary rachis 2–2.5 cm. long, secondary up to 12 cm. long; racemes spike-like, usually paired or several, slender, up to 15 cm. long; axis shortly pubescent; pedicels about 1 mm. long, persistent; calyx nearly 1 mm. long; petals glabrous, 2 mm. long; stamens 10, free; anthers with a small deciduous apical gland [gabunensis](#)

Cylicodiscus gabunensis *Harms* in E. & P. Pflanzentam. Kachtr. 1: 192 (1897); Engl. Bot. Jahrb. 26: 256 (1899); Bak. f. Leg. Trop. Afr. 3: 796; Kennedy For. Fl. S. Nig. 110; Aubrév. Fl. For. C. Iv. 1: 178, t. 62. *APD acc*

Cyrtoxiphus staudtii *Harms* (1897).

Piptadenia sp. of Thompson Rep. For. Gold Coast (1910).

A very large tree of **rain forest**, reaching 200 ft. in height and 37 ft. girth, with straight bole up to 80 ft. and short buttresses; armed with brown thorns in the sapling stage; flower-spikes yellowish or greenish-white; pods up to 3 ft. long, 13/4 in. broad; seeds flat, thinly winged, sometimes over 3 in. long.

IV. C.: Adzopé region fide Aubrév. l.c. **G. C.:** Imbraim (Mar.) Thompson 27! Dunkwa (young fr. June) Vigne 891! Kumasi (Nov., Dec.) Darko 743! Andoh FH 6600! **S. Nig.:** Oni Sankey 22! Erin Foster 181! Sapoba Kennedy 1673! **Br. Cam.:** Johann-Albrechtshöhe Staudt 531; 766!

Also in **French Cameroons** and **Gabon**.

6. PIPTADENIASTRUM

Brenan in Kew Bull. 1955: 179.

- 1 Leaflets very small and numerous, contiguous, about 3–8.5 mm. long and 0.8–1.25 mm. broad, linear-subfalcate, auriculate at base; pinnae 10–19 pairs; panicles of spikes brown-tomentose; fruits broadly linear, elongated, 17–36 cm. long and 2–3.2 cm. broad, obliquely nervose, glabrous; seeds 6–8, flat, winged, attached in the middle, about (3–) 5.3–9.5 cm. long and 1.8–2.5 cm. broad [africanum](#)

Piptadeniastrum africanum (*Hook. f.*) *Brenan* l.c. (1955). *APD acc*

Piptadenia africana *Hook. f.* (1849) — F.T.A. 2: 328; Bak. f. Leg. Trop. Afr. 3: 794; Aubrév. Fl. For. C. Iv. 1: 182, t. 65; For. Trees & Timbers Brit. Emp. 2: 71; Gilbert & Boutique in Fl. Congo Belge 3: 226, t. 16.

Large tree of **rain forest**, reaching 160 ft. high, with straight bole, large plank-like buttresses, spreading parasol-like branches, and fine fern-like foliage; flowers in paniced yellowish-white spikes.

Sen.: Sinédone, Casamance Chev. 3360. **Fr. G.:** Kouria Chev. 18174. **S. L.:** Kenema (Aug.) Aylmer 249! Njala (July) Deighton 768! **Lib.:** Gbanga (Sept.) Under 750! Dukwia R. (May) Cooper 467! Nyaake, Webo (June) Baldwin 6125! **IV. C.:** Toura country (May) Chev. 21610! Aboisso Chev. 16304! Azaguié (fr. Sept.) Chev. 22297! **G. C.:** Aburi (Apr.) Johnson 690! Adibrem (June) Chipp 255! Kumasi (May) Vigne 1647! **N. Nig.:** Agaie (fr. Nov.) Yates 11! **S. Nig.:** Lagos Millen 190! Sapoba Kennedy 282! Niger Delta Ansell! T. Vogel! **Br. Cam.:** Victoria (fr. Feb.) Maitland 427!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola**, **Ubangi-Shari**, **A.-E. Sudan** and **Uganda**.

7. NEWTONIA

Baill. in Bull. Soc. Linn. Paris 1: 721 (1888).

- 1 Pinnae with 1 pair of leaflets; pinnae 1 pair or rarely 2 pairs; leaflets obovate, cuneate and unequal-sided at base, very slightly and obtusely acuminate, 7–12 cm. long, 4–7 cm. broad, glabrous; lateral nerves prominent, about 8 pairs; calyx and corolla densely pubescent outside; fruit linear-oblong, 15–20 cm. long, about 3.5 cm. broad; seeds 7–10 cm. long, 2–2.5 cm. broad. [L. duparquetiana](#)

- Pinnae with at least 3 pairs of leaflets; pinnae 1–7 pairs; leaflets not exceeding 4–5 cm. long and 2.5 cm. broad: **2**
- 2** Pinnae 1 pair; leaflets 3–4 pairs, obovate, rather narrowed to base, 3–4.5 cm. long, 2–2.5 cm. broad, with numerous looped lateral nerves; calyx with setose hairs; young fruits somewhat curved, smooth, 7–8 cm. long, about 2 cm. broad; mature seeds not known. [2. *elliottii*](#)
- Pinnae 2 or more pairs:..... **3**
- 3** Leaflets 3–4 pairs, obovate-elliptic, cuneate on one side and rounded on the other side at base, 2–6.5 cm. long, 1–3.5 cm. broad; pinnae 3–4 pairs; calyx nearly glabrous; fruits linear-oblong, straight, 13–22 cm. long, 2–2.5 cm. broad; seeds 6–8 cm. long, 1.5–2 cm. broad. [3. *aubrevillei*](#)
- Leaflets 5 pairs or more:..... **4**
- 4** Leaflets 5–10 pairs, subrhombic-oblong, more or less truncate at base, with the proximal side slightly auriculate, 1.5–4.5 cm. long, 7–20 mm. broad; pinnae 3–5 pairs; calyx and corolla densely pubescent outside; fruits somewhat curved, 12–17 cm. long, 2–2.5 cm. broad; seeds 7–8 cm. long, 1.8–2 cm. broad [4. *zenkeri*](#)
- Leaflets more than 10 pairs, up to 2 cm. long and 7 mm. broad:..... **5**
- 5** Leaflets 10–13 pairs, 1.5–2 cm. long, 5–7 mm. broad; pinnae 4 pairs. [5. *sp. A*](#)
- Leaflets 14–26 pairs, 1.2–1.8 cm. long, 3–5 mm. broad; pinnae 2 pairs [6. *sp. B*](#)
- Leaflets 16–21 pairs, 1–1.4 cm. long, 2–4 mm. broad; pinnae 5–7 pairs [7. *sp. C*](#)

1. *Newtonia duparquetiana* (Baill.) Keay in Kew Bull. 1953: 488 (1954). *APD acc*

Entada? *duparquetiana* Baill. (1868).

Piptadenia duparquetiana (Baill.) Pellegr. in Bull. Soc. Bot. Fr. 94: 101 (1947).

Newtonia insignis Baill. (1888) — F.W.T.A., ed. 1, 1: 353.

Piptadenia insignis (Baill.) Bak. f. Leg. Trop. Afr. 3: 792 (1930); Aubrév. Fl. For. C. Iv. 1: 184, t. 66.

A forest tree, up to 80 ft. high, with smooth bark and well-developed root flanges.

S. L.: Kambui F.R. (Apr.) Lane-Poole 215! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Ajakwa, Chama (Apr.) Chipp 205! Maliomo, Esusu (May) Chipp 214! **S. Nig.:** Eket Dist. Gray SC/2! Akah FHI 5769! Oban Talbot!

Also in **French Cameroons** and **Gabon**.

2. *Newtonia elliottii* (Harms) Keay l.c. (1954). *APD acc*

Piptadenia elliottii Harms in Engl. Bot. Jahrb. 26: 260 (1899); F.W.T.A., ed. 1, 1: 354.

Tree, on river banks, to 40 ft. high; flowers white, sweet-scented.

S. L.: Maria, Scarcies (Dec.) Sc. Elliot 4792! Madina Limba (young fr. Apr.) Sc. Elliot 5660! Njala (Dec.) Deighton 1854! Batkanu (Jan.) Deighton 2850! Mano (fl. & young fr. Feb.) Dawe 481!

3. *Newtonia aubrevillei* (Pellegr.) Keay l.c. (1954). *APD acc*

Piptadenia aubrevillei Pellegr. in Bull. Soc. Bot. Fr. 80: 466 (1933); Aubrév. Fl. For. C. Iv. 1: 184, t. 67.

Forest tree, to 90 ft. high; flowers creamy.

S. L.: Unwin & Smythe 34! Kambui, Hangha (Sept.) Aylmer 244! Njala (fl. Feb. fr. Oct.) Deighton 1409! 1813! Dambaye, Kenema (fr. July) King 259! **Lib.:** Dukwia R. Cooper 119! Suacoco, Gbanga (fr. Jan.) Daniel 114! **Iv. C.:** Djibi Aubrév. 861! Yapo Aubrév. 600!

4. *Newtonia zenkeri* Harms in Engl. Bot. Jahrb. 40 17 (1907); Bak. f. l.c. 796.

APD: *Synonym of Newtonia griffoniana* (Baill.) Baker f.

Piptadenia zenkeri (Harms) Pellegr. l.c. 80: 466 (1933); Leg. Gab. 21 (1948).

Tall tree of forest, to 120 ft. high.

Br. Cam.: Victoria (fr. Mar.) Maitland 575!

Also in **French Cameroons** and **Gabon**.

5. *Newtonia sp. A*.

Tree common in Makun and more common in Eba Island; has high buttresses, with compact crown almost dome-shaped.”

S. Nig.: (fr. Jan.) Thornewill 262!

6. *Newtonia* sp. B.

A tall tree.

S. Nig.:? Eket Dist. Gray 1/21!

7. *Newtonia* sp. C.

A tall tree resembling *Piptadenia*, up to 100 ft. high, with large spreading branches.

Br. Cam.: Njinikom, Bamenda, 5,000 ft. (young fr. June) Maitland 1559!

8. FILLAEOPSIS

Harms in Engl. Bot. Jahrb. 26: 258 (1899).

- 1 A tree; leaves bipinnate; pinnae opposite, 1–2 pairs; leaflets mostly alternate, 4–8 to each pinna, ovate-elliptic, rounded at base, shortly obtusely acuminate, 4–7 cm. long, 2–3.5 cm. broad, glabrous; spikes rather densely paniculate at the end of the shoots; flowers very numerous, crowded; calyx small, 5-toothed, teeth ovate, obtuse, glabrous; petals 5, free, ovate, acute, valvate, glabrous; stamens 10; anthers glandular at the apex; disk large, surrounding the ovary; fruit very large, oblong, up to 40 cm. long and 15 cm. broad, shining, rather faintly nervose; seeds transverse, oblong, about 7 cm. long and 3 cm. broad, winged, attached by the middle to a slender funicle [discophora](#)

Fillaeopsis discophora *Harms* l.c. 259, t. 6 (1899); Bak. f. Leg. Trop. Afr. 3: 797; Kennedy For. Fl. S. Nig. 108; Gilbert & Boutique in Fl. Congo Beige 3: 216. *APD acc*

A forest tree, to 130 ft. high, “strongly branched and with offensive odour”.

S. Nig.: Sapoba Kennedy 1566! Boji Hill, Ikom (fr. June) Unwin 24! **Br. Cam.:** Kumba Ejiofor FHI 14058!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

9. ENTADA

Adans. — F.T.A. 2: 325; Benth. in Trans. Linn. Soc. 30: 363 (1875).

- 1 Branchlets not prickly:2
 Branchlets and leaf-rhachis rather densely armed with short recurved prickles; pinnae 6–10 pairs; leaflets 10–12 pairs, oblong, rounded at apex, 10–15 mm. long, 4–7 mm. broad; spikes 4–6 cm. long, solitary or up to 3 together; fruits about 25–30 cm. long and 7 cm. broad. [7. scelerata](#)
- 2 Leaflets 2–4 pairs on each pinna, exceeding 2.5 cm. long and 1 cm. broad; pinnae 2–3 pairs, the end pair usually tendriform; inflorescence up to 30 cm. long, solitary, axillary or supraxillary; fruits very large, up to 120 cm. long, 8–10 cm. broad; seeds 4–6 cm. diam.:3
 Leaflets 8–50 pairs on each pinna, up to 4.2 cm. long and 1.5 cm. broad; end pair of pinnae not tendriform, or only rarely so; fruits chartaceous, up to 45 cm. long; seeds up to 18 mm. long:4
- 3 Flowers subsessile, or with a robust pedicel not more than 0–5 mm. long; peduncle borne close to the leaf axil; fruits straight, very woody; leaflets 3.5–9 cm. long, 2–4 cm. broad. [1. pursaetha](#)
 Flowers on distinct slender pedicels 1–1.5 mm. long; peduncle borne on the stem about 5 mm. above the leaf axil; fruits bent into a single or double spiral, often with the sides also twisted, coriaceous or subwoody; leaflets 2.5–5 cm. long, 1–2.2 cm. broad. [2. gigas](#)
- 4 Midrib in the middle or near the middle of the leaflets:5
 Midrib near one margin of the leaflets:6
- 5 Nervation of leaflets obscure on both surfaces; leaflets 8–13 pairs, oblong, rounded to emarginate at apex, 8–20 mm. long, 3–7 mm. broad, evenly and minutely puberulous beneath; pinnae 4–6 pairs, end pair sometimes tendriform; spikes borne towards the apex of the shoots, sometimes paniculate; fruits 15–45 cm. long, 6–11 cm. broad; seeds about 18 mm. long and 9 mm. broad. [3. mannii](#)
 Nervation of leaflets distinct on both surfaces; leaflets 8–24 pairs, linear or oblong-linear, 9–45 mm. long, 3–15

mm. broad, glabrous or sometimes puberulous; pinnae (1–) 3–9 pairs; spikes axillary among the leaves; fruits up to 38 cm. long and 5–7.3 cm. broad; seeds about 12 mm. long and 9–10 mm. broad. [4. africana](#)

- 6 A tree of savannah; flowers cream; fruit straight, 15–39 cm. long, (3.8–) 5–7.5 (–9) cm. broad; pinnae (1–) 2–20 (–22) pairs; leaflets (15–) 22–55 pairs, linear, mucronate, (3–) 4–12 (–14) mm. long, 1–3 (–3.5) mm. broad. [5. abyssinica](#)

A slender liane; flowers purple to red; fruit sickle-shaped, 11–23 cm. long, 2.9–3.8 cm. broad; pinnae (1–) 2 (–3) pairs; leaflets 9–18 pairs, linear-oblong, with midrib towards one side at base, 8–16 mm. long, 1.5–4.2 mm. broad [6. wahlbergii](#)

1. **Entada pursaetha** DC. Prod. 2: 425 (1825); Brenan in Kew Bull. 1955: 164 (q.v. tor synonymy).

APD: Synonym of Entada rheedei Spreng.

Entada gigas of F.W.T.A., ed. 1, 1: 355, partly; of Gilbert & Boutique in Fl. Congo Belge 3: 220; not of (Linn.) Fawcett & Bendle.

A lofty woody climber with very stout stem and enormous straight woody segmented pods.

Port. G.: Formosa (Apr.) Esp. Santo 1962! **Fr. G.:** Landouma country (Apr.) Heudelot 850! **S. L.:** Kafogo (Apr.) Sc. Elliot 5520! Makali (fr. Feb.) Deighton 4054! **G. C.:** Mampong (fl. & fr. Mar.) Vigne FH 1069! **Togo:** Baumann 502! **S. Nig.:** Apomu Foster 211! Owo F.R. (Apr.) Jones FHI 3476! Awka (fr. Aug.) Jones FHI 8145!

Widespread in tropical Africa and Asia, and in N. Australia.

2. **Entada gigas** (Linn.) Fawcett & Rendle Fl. Jamaica 4, 2: 124, fig. 38, excl. fruit (1920); Brenan l.c. 164 (q.v. for synonymy). *APD acc*

APD: Synonym of Entada rheedei Spreng.

Mimosa gigas Linn. (1759).

Entada planoseminata (De Wild.) Gilbert & Boutique 1 c 221 (1953).

Entada umbonata (De Wild.) Gilbert & Boutique l.c. 222 (1953).

Entada scandens of F.T.A. 2: 325, partly (Mann spec.).

A liane, similar to the preceding, but with coriaceous or subwoody pods curved into a single or double spiral.

Lib.: Logantown, New Cess R. (Mar.) Baldwin 11182! **F. Po:** on the beach (Jan.) Mann 230! 1438!

Widespread in central tropical Africa and in the West Indies, central and south tropical America.

3. **Entada mannii** (Oliv.) Tisserant in Bull. Soc. Bot. Fr. 99: 257 (1953); Berhaut in Bull. Soc. Bot. Fr. 99: 275. *APD acc*

Piptadenia? mannii Oliv. F.T.A. 2: 329 (1871); F.W.T.A., ed 1, 1: 354.

Entadopsis mannii (Oliv.) Gilbert & Boutique l.c. 205 (1953).

Entada africana of F.T.A. 2: 326, partly; of F.W.T.A., ed. 1, 1: 355, partly; not of Guill. & Perr.

A shrub, usually scandent but sometimes arborescent; in streamside forest and on rocky hills in forest regions.

Sen.: Berhaut 763. **Port. G.:** Bijagós (fr. Nov.) Esp. Santo 2328! **Fr. G.:** Paroisse. **S. L.:** Bumbuna (young fr. Oct.) Thomas 3723! Giema Ferry, Dama (fr. Nov.) Deighton 3986! **Lib.:** Browntown, Tchien (Aug.) Baldwin 7059! **IV. C.:** Pobéguin 209. Mid. Cavally Chev. 19450. **G. C.:** Foso (July) Hughes 200! Mampong (fr. Nov.) Vigne FH 3427! Tafo (July) Moor 351! **S. Nig.:** Lagos MacGregor 199! Idanre Hills (young fr. Oct.) Keay FHI 20243! Onitsha Barter 1801! Aguku Dist. Thomas 842! **Br. Cam.:** Preuss 364! **F. Po:** (fl. June, fr. Dec.) Mann 20! 414!

Also In **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Belgian Congo** and **Angola**.

4. **Entada africana** Guill. & Perr. — F.T.A. 326, partly; Brenan l.c. 165; Aubrév. Fl. For. Soud.-Guln. 294, t. 58, 1–5. *APD acc*

Entada ubanguiensis De Wild. (1925) — Aubrév. l.c. 292.

Entada sudanica Schweinf. (1868) — F.T.A. 2: 327; F.W.T.A., ed. 1, 1: 355; Aubrév. l.c. 294.

Entadopsis sudanica (Schweinf.) Gilbert & Boutique 204 (1953).

A savannah tree, to 20 ft. high; flowers creamy-white.

Sen.: Tielimane, Cayor (June) Leprieur! **Gam.:** Kombo (May) Heudelot 53! Albreda (Mar.) Perrottet! **Fr. Sud.:** Bamako (May) Bagerwp 44! Ouassana (Mar.) Ohm. 615 I **Port. G.:** Buba (May) Esp. Santo 2477! **IV. C.:** Bondoukou Aubrév. 726! Ouangolo Aubrév. 1430. **G. C.:** Tili (Apr.) Vigne FH 3765! Daboya (Mar.) McLeod 820! Tamale (Apr.) Williams 122! **Togo:** Yendi Vigne 17041 **Dah.:** Savi (May) Chev. 23549! **N. Nig.:** Nupe Barter 1056! 1122! Anara F.R. (fl. Mar., fr. Oct.) Keay FHI 21103! 24413! Zamfara F.R. (Apr.) Keay FHI 16123! 16200! Vom Dent Young 87! Abinsi (June) Dalz. 607! **S. Nig.:** Iseyin MacGregor 244!

Also in **French Cameroons**, **Ubangi-Shari**, **Uganda**, **Belgian Congo** and **A.-E. Sudan**.

5. *Entada abyssinica* Steud. ex A. Rich. — F.T.A. 2: 327; Aubrév. l.c. 292. *APD acc*

Entadopsis abytsinica (Steud. ex A. Rich.) Gilbert & Boutique l.c. 208, t. 14 (1953).

A savannah tree, to 40 ft. high; flowers cream, fragrant; in rather moister regions than the two preceding species.

Fr. Sud.: Toukoro Chev. 897. **Fr. G.:** Labé Chev. 12413. Kouroussa Pobéguin 234. Dentilia (Mar.) Sc. Elliot 5307! **S. L.:** Kabala (fr. Sept.) Deighton 3979! Musaia (Apr.) Deighton 54041 **IV. C.:** Tafiré Aubrév. 914; 1433. Touba Aubrév. 1255. B.C.: Wanki (fr. June) Chipp 478! Epala, Bole (Apr.) McLeod 844! Secodumase (fr. Nov.) Chipp 777! Bangwon, Lawra (fl. & fr. May) Vigne FH 3817! Nwereme (May) Irvine 2460! **Togo:** Kersting 49! Kpedsu (fr. Dec.) Howes 1058! **Dah.:** Abomey Poisson 86! **N. Nig.:** Abinsi to Katsina Ala (June) Dalz. 605! **S. Nig.:** Olokemeji (fl. Mar., fr. Oct.–Nov.) A. F. Ross 10! 164! Ishoka, Benin (fr. Oct.) Unwin 150! Ogoja Dist. Rosevear 46/29! **Br. Cam.:** Nchan, Bamenda (Mar., May) Johnstone 93! Maitland 1742! Bamtui, Bamenda (fl. & fr. Jan.) Keay FHI 28340!

Widespread in eastern and central tropical Africa, from Abyssinia to Mozambique and **Angola**.

[There is some evidence of hybridity between *E. africana* and *E. abyssinica*.]

6. *Entada wahlbergii* Harv. — F.T.A. 2: 326; Chev. Bot. 239. *APD acc*

APD: *Synonym of Entada nudiflora Brenan*

Entada flexouosa Hutch. & Dalz. F.W.T.A., ed. 1, 1: 356 (1928); Kew Bull. 1928: 401.

Entadopsis flexuosa (Hutch. & Dalz.) Gilbert & Boutique l.c. 206 (1953).

Suffrutex, with slender woody stems climbing to a considerable height; branchlets very zigzag; flowers brown-purple; in savannah.

Fr. Sud.: Bamba Chev. 943. **Port. G.:** Contubo (fr. Oct.) Esp. Santo 2310! **IV. C.:** Mid. Comoé Chev. 22612. **G. C.:** Gbongoda, Gambaga (June) Akpabla 696! **N. Nig.:** Nupe Barter 991! Yola (July) Dalz. 7!

Also in **A.-E. Sudan**, **Uganda**, **Belgian Congo**, **N. Rhodesia** (?) and **Natal**.

7. *Entada sclerata* A. Chev. in Bull. Soc. Bot. Fr. 55, Mem. 8: 160 (1912); Chev. Bot. 239.

APD: *Synonym of Adenopodia sclerata* (A. Chev.) Brenan

Entadopsis sclerata (A. Chev.) Gilbert & Boutique l.c. 204 (1953).

A prickly scandent shrub or large liane; in forest regrowth.

IV. C.: Morénou Chev. 22428! **G. C.:** Kumasi (May, July) Vigne FH 1169! Andoh FH 4223! Ofuasi to Nsuaem (May) Kitson 1209! **S. Nig.:** Ibadan Div. Onochie FHI 8185! Afi River F.R. (May) Jones & Onochie FHI 18917! Idumuje (fr. Jan.) Thomas 2155!

Also in **French Cameroons**, **Belgian Congo** and **Cabinda**.

10. AUBREVILLEA

Pellegr. in Bull. Soc. Bot. Fr. 80: 466 (1933). *APD acc*

- 1 Leaflets 8–12 pairs, oblong to subobovate, 15–35 mm. long, 5–20 mm. broad; pinnae 4–7 pairs; ovary puberulous to glabrous; fruit oblong, 15–22 cm. long, about 5 cm. broad [1. platycarpa](#)
- Leaflets 16–30 pairs, narrowly oblong, 10–20 mm. long, 2–4 mm. broad; pinnae 5–8 pairs; ovary densely pubescent; fruit oblong, 11–16 cm. long, 2.5–4 cm. broad [2. kerstingii](#)

1. **Aubrevillea platycarpa** *Pellegr.* in Bull. Soc. Bot. Fr. 80: 467 (1933); Aubrév. Fl. For. C. Iv. 1: 188, t. 68 B; Gilbert & Boutique in Fl. Congo Beige 3: 227. *APD acc*

Large forest tree, with large buttresses and dense rounded crown.

Fr. G.: Kissidougou (Dec.) King in Hb. Deighton 4708! **S. L.:** Kenema (Dec.) Edwardson 267! Makeni-Kabala road (Jan.) King 317! **Iv. C.:** Man region Aubrév. 926! 990! **G. C.:** Yoyo F.R. C. J. Taylor 284! **S. Nig.:** Sapoba Kennedy 2421!

Also in **French Cameroons** and **Belgian Congo**.

2. **Aubrevillea kerstingii** (*Harms*) *Pellegr.* l.c. 466 (1933); Aubrév. l.c. 1: 186, t. 68 A; Gilbert & Boutique in 3: 228. *APD acc*

Piptadenia kerstingii *Harms* in Engl. Bot. Jahrb. 40: 16 (1907); F.W.T.A., ed 1, 1: 354; Bak. f. Leg. Trop. Afr. 3: 793.

Large forest tree, to 120 ft. high, with large buttresses and spreading crown; especially characteristic of forest outliers in savannah country.

Iv. C.: Bouroutaou Aubrév. 704. **Togo:** Sokode-Basari Kersting A. 5! A. 294! A. 511! **N. Nig.:** Agaie (Feb.) Yates 12! **S. Nig.:** Onitsha (Jan.) Chesters 202! Udi (fl. Jan., fr. Mar.) Chesters 203! Awka (Feb.) Janes FHI 7481!

Also in **Ubangi-Shari**, **French Cameroons** and **Belgian Congo**.

11. PROSOPIS

Linn. — F.T.A. 2: 331; Benth. in Trans. Linn. Soc. 30: 376 (1875).

- 1 A tree with very hard wood; leaves bipinnate; pinnae 2–4 pairs, opposite, with a fleshy pore-like gland between the base of each pair; leaflets 6–12 pairs, opposite, lanceolate or oblong-lanceolate, mucronate, 1.5–2 cm. long, 5–8 mm. broad, minutely pubescent on both surfaces; spikes axillary, solitary, shortly pedunculate, 4–6 cm. long; calyx slightly pubescent; petals glabrous; stamens 10, free; anthers with a small apical gland; ovary villous; fruit about 15 cm. long, 2.5 cm. thick, subtergoid, black and shining, with a thick pericarp, thinly septate between the seeds; seeds ellipsoid, 1 cm. long, shining, with a thin intramarginal line all round *africana*

Prosopis africana (*Guill. & Pen.*) *Taub.* in E. & P. Pflanzenfam. 3, 3: 119 (1892); Aubrév. Fl. For. Soud.-Guin. 285, t. 57, 1–5; Ic. Pl. Afr. t. 29. *APD acc*

Coulteria? africana *Guill. & Perr.* (1832).

Prosopis oblonga *Benth.* (1841) — F.T.A. 2: 331; Chev. Bot. 241; Bak. t. Leg. Trop. Afr. 3: 805.

A savannah tree, to 40–60 ft. high, with pale drooping foliage and very hard wood; flower-spikes yellowish, fragrant; pods stout, roughly cylindrical, with loose rattling seeds.

Sen.: Kounoun (fr. Mar.) Perrottet. Cayor Heudelot 14! **Gam.:** Kombo Dawe 34! **Fr. Sud.:** Kita Dubois 18. Koulouba Vuillet 520! **Port. G.:** Bor (Aug.) Esp. Santo 1! **Fr. G.:** Kouroussa (Apr.) Pobéguin 591! **S. L.:** Falaba (young fr. Oct.) Small 446! **Iv. C.:** Bobo Dioulasso, Ferkéssédougou & Touba fide Aubrév. l.c. B.C.: Ejura (fr. Aug.) Chipp 741! Pong to Kako Kitson 701! Gambaga (Mar.) Hughes FH 4983! **N. Nig.:** Nupe Barter 1193! Zamfara F.R. (fl. & tr. Apr.) Keay FHI 16179! Kaduna (May) Lamb 48! Katagum Dalz. 362! Yola (fr. Sept.) Shaw 69! **S. Nig.:** Enugu Rosevear 5/28!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Uganda** and **Belgian Congo**.

Besides the above, *P. chilensis* (Molina) Stuntz (syn. *P. juliflora* (Sw.) DC.), a native of tropical and subtropical America, is cultivated in our area (see Holl. 2: 285).

12. AMBLYGONOCARPUS

Harms in E. & P. Pflanzenfam. Nachtr. 1: 191 (1897); Engl. Bot. Jahrb. 26: 255 (1899). *APD acc*

- 1 A tree; leaves bipinnate; pinnae 2–4 pairs, opposite or subopposite, without glands between; leaflets alternate, broadly obovate-elliptic, truncate or slightly emarginate at apex, 1.5–2.5 cm. long, 1–1.5 cm. broad, glabrous and glaucous; racemes usually paired, shortly pedunculate, about 7 cm. long; pedicels 3 mm. long, glabrous; calyx very short, 5-toothed; petals glabrous, 3.5 mm. long; stamens 10; anthers with a small deciduous gland at apex; ovary glabrous; fruit about 15 cm. long, tetragonal, about 2 cm. broad, with a woody shining pericarp *andongensis*

Amblygonocarpus andongensis (*Welw. ex Oliv.*) *Exell & Tom* in *Bol. Soc. Brot.* 29: 42 (1955). *APD acc**Tetrapleura andongensis* *Welw. ex Oliv.* *F.T.A.* 2: 331 (1871).*T. obtusangula* *Welw. ex Oliv.* *l.c.* (1871).*Amblygonocarpus obtusangulus* (*Welw. ex Oliv.*) *Harms* (1899) — *Bak. f. Leg. Trop. Afr.* 3: 804; Gilbert & Boutique in *Fl. Congo Belge* 3: 217.*Amblygonocarpus schweinfurthii* *Harms* (1897) — *F.W.T.A.*, ed. 1, 1: 357.*Tetrapleura andongensis* var. *schweinfurthii* (*Harms*) *Aubrév.* *Fl. For. Soud.-Guin.* 287, t. 55, 1–3 (1950).

A tree, with graceful pale foliage, 30–40 ft. high in **savannah**, up to 60 ft. in **moister places**, with dense spike-like racemes of yellowish-flowers.

G. C.: Parria Kitson 582! 583! **N. Nig.:** Sokoto Prov. (Apr.–June) Dalz. 333! 537! Lely 833! Bornu Talbot! **S. Nig.:** Old Oyo F.R. (fr. Feb.) Keay!

Widespread in central, east and south tropical Africa.

13. TETRAPLEURA

Benth. — *F.T.A.* 2: 330; *Benth.* in *Trans. Linn. Soc.* 30: 375 (1875).

- 1 Pinnae 5–9 pairs; leaflets 6–12 on each side of rhachis, oblong-elliptic, rounded at each end, sometimes slightly marginate, 1–2 cm. long, 0.5–1 cm. broad, minutely puberulous beneath; racemes solitary or paired, axillary, pedunculate, 5–7 cm. long; fruits 15 cm. long or more, each valve with a longitudinal wing-like rather fleshy ridge about 2 cm. broad [1. *tetraptera*](#)

Pinnae 2 pairs (rarely 1); leaflets 2–4 on each side of rhachis, ovate-elliptic, obtuse at base, obtusely acuminate, 4–8 cm. long, 2–30.5 cm. broad, glabrous; racemes paniculate at the ends of the branchlets, pedunculate, 5–7 cm. long; fruits up to 12 cm. long and 2.5 cm. broad, similar to the above species [2. *chevalieri*](#)

1. *Tetrapleura tetraptera* (*Schum. & Thonn.*) *Taub.* in *Bot. Centralbl.* 47: 395 (1891); *Bak. f. Leg. Trop. Afr.* 3: 803; *Aubrév. Fl. For. C. Iv.* 1: 180, t. 64. *APD acc*

Adenanthra tetraptera *Schum. & Thonn.* (1827).*Tetrapleura thonningii* *Benth.* — *F.T.A.* 2: 330; *Benth. Trans. Linn. Soc.* 30: 375; *Chev. Bot.* 241.

A **forest** tree, to 80 ft, high, with dark green fern-like foliage; flowers creamy or pink, turning orange; fruits dark purple-brown.

Sen.: Mampalago, Casamance *Chev.* 3114. **Port. G.:** Catió (May) *Esp. Santo* 2060! **S. L.:** Buyabuya (Feb.) *Sc. Elliot* 4779! **Surinuaia**, Talla Hills (Apr.) *Sc. Elliot* 5534a! **Hjala** (fr. June) *Deighton* 2527! **Makene** (Mar.) *Deighton* 3901! **Lib.:** Palilah, Gbanga (fr. Aug.) *Baldwin* 9159! **Iv. C.:** fide *Aubrév. l.c.* **G. C.:** Tarquah. (June) *Chipp* 244! **Dodowah** (June) *Moor* 308! **Kumasi** (Mar.) *Andoh FH* 4167! **Assuantsi** (Mar.) *Irvine* 1570! **N. Nig.:** Agaie (Feb.) *Yates* 10! **S. Nig.:** Lagos (Jan.) *Dalz.* 1223! **Abeokuta** (Mar.) *Punch* 143! **Ibadan** (Mar.) *Meikle* 1270! **Onitsha** *Unwin* 71! **Ikom** *Rosevear* 83/29! **Br. Cam.:** Tiko (Feb.) *Dunlap* 260! **Likomba** (Nov.) *Mildbr.* 10697!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **S. Tomé**, **Belgian Congo**, **Uganda** and **A.-E. Sudan**.

2. *Tetrapleura chevalieri* (*Harms*) *Bak. f. Leg. Trop. Afr.* 3: 803 (1930); *Aubrév. l.c.* 180, t. 63. *APD acc*

Piptadenia chevalieri *Harms* in *Journ. de Bot.* 22: 112 (1909); *Chev. Bot.* 240; *F.W.T.A.*, ed. 1, 1: 354.*Erythrophleum purpurascens* *A. Chev.* (1909).

A **forest** tree.

Lib.: Ganta (fl. May, fr. Sept.) *Harley* 1188! *Baldwin* 9305! **Iv. C.:** Aboisso, Sanvi (Apr.) *Chev.* 16303 bis! Also at Yapo, Abengourou and Banco fide *Aubrév. l.c.* *Wight & Arn.* — *F.T.A.* 2: 332; *Benth.* in *Trans. Linn. Soc.* 30: 381 (1875).

- 1 A shrub or small tree with axillary spines; leaves bipinnate; pinnae about 10 pairs, opposite, with a long rod-like gland between each; leaflets numerous, rather variable in size, linear-oblong, up to 8 mm. long and 2.5 mm. broad, slightly pubescent; rhachis pubescent; spikes usually about 6–8 cm. long, pedunculate, the upper bisexual flowers yellow, the lower neuter ones pink or mauve; fruits crowded in a head, undulate or much curved, glabrous, shining [glomerata](#)

Dichrostachys glomerata (*Forsk.*) *Chiov.* Ann. Bot. Rom. 13: 409 (1915); Hutch. & Dalz. in Kew Bull. 1928: 401; Bak. f. Leg. Trop. Afr. 3: 807; Aubrév. Fl. For. Soud.-Guin. 283, t. 56, 1–5; Gilbert & Boutique in Fl. Congo Belge 3: 202.

APD: *Synonym of Dichrostachys cinerea* (L.) Wight & Arn. subsp. *cinerea*

Mimosa glomerata *Forsk.* (1775).

M. nutans *Pers.* (1806).

Dichrostachys nutans (*Pers.*) *Benth.* (1841) — F.T.A. 2: 333; Chev. Bot. 242.

Dichrostachys platycarpa *Welw. ex Oliv.* F.T.A. 2: 333 (1871); Bak. f. l.c. 808; Gilbert & Boutique l.c. 199, t. 13.

Shrub or small tree in savannah, often very common and forming thickets on disturbed scrub lands.

Sen.: Sieber 47! Heudelot 338! Richard Tol (Sept.) Roger 149! **Gam.:** Koto (May) Fox 103! Genieri (July) Fox 141! **Fr. Sud.:** fide Chev. l.c. **Port. G.:** Bissau (Apr.) Esp. Santo 1165! **Fr. G.:** Kouroussa (Apr.) Pobéguin 688! **S. L.:** Freetown (Mar.) Kirk 41! Bagroo R. (fl. & fr. Mar.) Mann 795! Mt. Gonkwi (Feb.) Sc. Elliot 4829! Panguma (Mar.) Lane-Poole 39! **Lib.:** Kakatown Whyte! Farmington R. (Mar.) Bequaert 161! **Iv. C.:** fide Aubrév. l.c. **G. C.:** Sekondi (Apr.) Chipp 191! Accra Plains (Apr.) Bally 26! Sambisi (May) Kitson 590! 591! **Togo:** Kersting 100! Kpedsu (fr. Jan.) Howes 1110! **Dah.:** Allada (Mar.) Chev. 23383! **N. Nig.:** Nupe Barter 533! Sokoto (Apr.) Ryan 15! Katagum Dalz. 52! **S. Nig.:** Lagos MacGregor 148! Onitsha Unwin 65!

Widespread in tropical Africa, and in parts of S. Africa.

15. XYLIA

Benth. in *Benth. & Hook. f. Gen. Pl.* 1: 594 (1865); *Trans. Linn. Soc.* 30: 373 (1875).

- 1 A tree; leaves bipinnate; pinnae 1 pair, opposite, with a large gland at the base; leaflets 13–16 pairs, opposite, oblong-lanceolate, acuminate, 3–7 cm. long, 1–2 cm. broad, glabrous above, tomentellous beneath, with distinct lateral nerves; flowers in pedunculate axillary solitary or paired heads; heads 2 cm. diam.; peduncles 3–6 cm. long, tomentellous; stamens 10; anthers with a deciduous apical gland; ovary pilose; fruit compressed, oblong, subfalcate, woody, very hard, up to 20 cm. long, 5 cm. broad; seeds 4, obovate-elliptic, 2 cm. long, shining[evansii](#)

Xylia evansii *Hutch.* in Kew Bull. 1908: 258; Robyns in Rev. Zool. Bot. Afr. 16: 85; Bak. f. Leg. Trop. Afr. 3: 810; Aubrév. Fl. For. C. Iv. 1: 166, t. 57. *APD acc*

A tall tree of rain forest, with yellow flower-heads and hard, slightly bent pods.

S. L.: Kambui Lane-Poole 460! Bandajuma Deighton 3728! **Iv. C.:** Agboville Chev. 22338! And various localities fide Aubrév. l.c. **G. C.:** Evans 13! Tano R. (Feb.) Thompson 15! Tenewonan (Apr.) Thompson 55! Tappa Chipp 390! Kumasi (Feb.) Vigne FH 1593!

Xylia xylocarpa (*Roxb.*) *Taub.*

Xylia dolabriformis *Benth.*

A native of tropical Asia, it is occasionally cultivated in our area.

16. LEUCAENA

Benth. — F.T.A. 2: 337; *Benth.* in *Trans. Linn. Soc.* 30: 442 (1875).

- 1 A small tree; leaves bipinnate; pinnae about 5 pairs, sometimes with a gland between the lowest pair; leaflets about 12 pairs, opposite, lanceolate, slightly falcate, acute, about 1 cm. long and 3 mm. broad, slightly pubescent, the midrib not quite in the middle; flowers white, in pedunculate globose heads about 2.5 cm. in diam.; calyx funnel-shaped, teeth pubescent outside; petals minutely pubescent outside; stamens 10; anthers without an apical gland; fruits numerous in each head, stellately spreading, linear, flat, 15 cm. long or more, 1.5–2 cm. broad, glabrous, thin, with the numerous seeds slightly oblique to the margins[glauca](#)

Leucaena glauca (*Linn.*) *Benth.* — F.T.A. 2: 337; *Benth.* l.c. 443; Chev. Bot. 243; Bak. f. Leg. Trop. Afr. 3: 814; *Ic. Pl. Afr.*, t. 8.

APD: *Synonym of Leucaena leucocephala* (Lam.) de Wit

Mimosa glauca Linn. (1753).

Introduced; mostly cultivated or half naturalized by roadsides, etc.; to 50 ft. high.

Sen.: Roger! **Fr. G.:** Macenta (fr. Oct.) Baldwin 9755! **S. L.:** Freetown Lane-Poole 375! Magbille (Dec.) Thomas 5859! **N. Nig.:** Kaduna (Mar.) Lamb 89! Jebba (Dec.) Hagerup 681! **S. Nig.:** Olokemeji (fl. & fr. Oct.) A. F. Ross 5! Ibadan (fl. & fr. Apr.) Meikle 1429! **F. Po.:** (fl. & fr. Nov.) T. Vogel 79!

A native of America; now common in the warmer parts of both hemispheres.

Leucaena esculenta (DC.) Benth.

A native of tropical America, has been introduced into Senegal (fide Berhaut Fl. Sen. 28).

17. SCHRANKIA

Willd. — F.T.A. 2: 336; Benth. in Trans. Linn. Soc. 30: 441 (1875).

- 1 A slender trailer with numerous recurved setiform prickles on the quadrangular stems; leaves bipinnate, sensitive; pinnae 2–3 pairs, opposite; leaflets 10–20 pairs, broadly linear, mucronate, about 1 cm. long, glabrous; flowers in shortly pedunculate axillary heads; stamens 10, free; anthers not glandular; fruits several to each head, linear, up to 13 cm. long, 4-ridged, pubescent and with numerous straight short prickles spreading at right angles [leptocarpa](#)

Schranksia leptocarpa DC. — F.T.A. 2: 336; Benth. l.c.; Chev. Bot. 243; Bak. f. Leg. Trop. Afr. 3: 814.
APD acc

A straggling perennial herb resembling the “Sensitive Plant” (*Mimosa pudica*) but with continuous not jointed pods; introduced.

G. C.: Cape Coast (July) Ogilvie! T. Vogel 70! Accra Don! Moloney! **Dah.:** Le Testu 58! Cotonou (fl. & fr. Jan.) Chev. 22692! Debeaux 149! **S. Nig.:** Lagos Rowland! Abeokuta Millen 88!

A native of tropical America; also in East Indies.

18. MIMOSA

Linn. — F.T.A. 2: 335; Benth. in Trans. Linn. Soc. 30: 338 (1875).

- 1 Pinnae 1–2 pairs, petiole much longer than leaf-rhachis; leaflets sensitive, linear-oblong, about 1.5 cm. long, more or less bristly-hairy; branchlets and petioles bristly-pilose or almost glabrous, the former prickly here and there; peduncles up to 3 cm. long; stamens 4; fruits densely clustered, about 2 cm. long, margined with stiff bristles, segments few [1. pudica](#)

Pinnae 6–16 pairs, petiole shorter than leaf-rhachis; branchlets and leaf-rhachis prickly and roughly hirsute; leaflets small, linear, margined with bristly hairs and thinly appressed-pubescent on both surfaces; stamens 8; fruits densely bristly all over, 4–6 cm. long, segments narrow and numerous [2. pigra](#)

1. *Mimosa pudica* Linn. — F.T.A. 2: 336; Benth. l.c. 397; Bak. f. Leg. Trop. Afr. 3: 812; Berhaut Fl. Sen. 26. *APD acc*

A straggling prickly plant, the “Sensitive Plant”; introduced and rather local.

Sen.: fide Berhaut l.c. **Gam.:** Bathurst (Dec.) Lane-Poole 86! **S. L.:** George Water (Dec.) Sc. Elliot 4165! Bo (fl. & fr. Apr.) Deighton 1588! Moyamba (May) Deighton 1721! Sumbuya (Apr.) Deighton 1692! **Lib.:** Monrovia (Nov.) Whyte! Linder 1532! Belleyella, Boporo (fr. Dec.) Baldwin 10639! **S. Nig.:** Oban Talbot 1207! Degema Dist. Tabot!

A native of tropical America; a common weed of the tropics.

[Brenan, in Kew Bull. 1955: 184–189, distinguishes 3 varieties, of which var. hispida Brenan, with stipules 8–14 mm. long and bracteoles exceeding the grey-puberulous corolla buds, and var. unijuga (Duchass. & Walp.) Griseb., with stipules 4–7 (–8) mm. long and bracteoles shorter than the glabrous corolla buds, are known in our area.]

2. *Mimosa pigra* Linn. Cent. Pl. 1: 13 (1755). *APD acc*

APD: Synonym of Mimosa pellita Humb. & Bonpl. ex Willd.

Mimosa asperata Linn. (1759) — F.T.A. 2: 335 Benth. l.c. 437; Chev. Bot. 243; F.W.T.A., ed. I, 1: 359; Bak. f. l.c.

A prickly shrub with sensitive leaves and pale mauve flower-balls, forming **dense thickets on river banks**.

Sen.: Sieber 46! Perrottet 263! Richard Tol (fr. June) Döllinger! **Gam.:** Hayes 544! **Fr. Sud.:** Macina (fl. & fr. Apr.) Lean 4! L. Debo (May) Hagerup 156! **Fr. G.:** Farana Chev. 20464! **S. L.:** Musaia (fl. Feb., Mar., fr. Mar.) Sc. Elliot 5078! Deighton 4166! **Iv. C.:** Tano R. (Sept.) Chipp 346! **G. C.:** Black Volta R., (fl. & fr. Mar., Aug.) Chipp 500! Kitson 952! Kpong (fl. & fr. June) Irvine 1779! Dunkwa (fr. Apr.) Vigne 1095! **Dah.:** Le Testu 221! **N. Nig.:** Nupe Barter 1175! Katagum Dalz. 49! Lemme (May) Lely 141! Bornu (fl. & fr. Apr.) Oudney 6! E. Vogel 81! **S. Nig.:** Nun R. (fl. & fr. Aug.) T. Vogel 15! Onitsha (fl. & fr. May) Onochie FHI 7525!

Common all over the tropics.

Mimosa invisa Mart.

A species native to tropical America, it has been introduced and are occasionally met with in our area.

Mimosa rubicaulis Lam.

A species native to India, it has been introduced and are occasionally met with in our area.

19. NEPTUNIA

Lour. — F.T.A. 2: 333; Benth. in Trans. Linn. Soc. 30: 383 (1875).

- 1 Aquatic herb with thickish stems rooting at the nodes; leaves sensitive, bipinnate; pinnae 2–3 pairs, opposite; leaflets in 8 or more pairs, linear-oblong, rounded at apex, about 1.5 cm. long, glabrous; submerged leaves finely dissected; stipules broadly ovate; flowers capitate on elongated stout peduncles up to 20 cm. long, the upper bisexual, the lower neuter; sepals and petals glabrous; stamens 10; anthers with a deciduous apical gland; fruit shortly stipitate, oblong, 2–2.5 cm. long, sharply beaked, flat, glabrous [oleracea](#)

Neptunia oleracea *Lour.* Fl. Cochinchin. 2: 654 (1790); F.T.A. 2: 334; Benth. l.c.; Chev. Bot. 242. *APD acc*

Neptunia prostrata Baill. (1883) — F.W.T.A., ed. 1, 1: 359; Bak. f. Leg. Trop. Afr. 3: 809.

Mimosa prostrata Lam. (illegitimate name), partly (1783).

Sen.: Perrottet 264! **Gam.:** Bansang, MacCarthy Isl. Duke 1! **Fr. Sud.:** Mopti (Sept.) Chev. 24964! **Dah.:** Porto Kovo Lagoon (fr. Jan.) Chev. 22784! **N. Nig.:** R. Yo, Bornu (fl. & fr. Sept.) Daggash FHI 24867! **S. Nig.:** Lagos Moloney!

Widespread in tropical Africa, also in Madagascar, tropical Asia and America.

20. ACACIA

Mill. — F.T.A. 2: 337; Benth. in Trans. Linn. Soc. 30: 444 (1875). *APD acc*

- 1 Flowers in spikes or racemes: 2
Flowers in globose heads: 9
- 2 Leaflets 1 pair on each pinna (rarely 2 pairs on occasional pinnae), obliquely obovate, very unequal-sided at base, 7–18 mm. long, 3–9 mm. broad; pinnae 3–4, rarely 2 or 5 pairs; spines in pairs at the nodes, infra-stipular, curved, about 5 mm. long; flowers distinctly pedicellate; fruit flat and thin, oblong, cuneate at base, acute or rounded at apex, 3–8–6 cm. long, 1–8–20 cm. broad, reticulate, glabrous; seeds few, orbicular, about 8 mm. diam. [L. gourmaensis](#)
- Leaflets 3 or more pairs on each pinna: 3
- 3 Prickles or spines only at the nodes of the branchlets (rarely altogether absent): 4
Prickles between the nodes of the branchlets, not stipular, the stipules soon deciduous; calyx glabrous; fruits thin, oblong, acute at both ends, 7–12 cm. long, 1.5–2 cm. broad: 8
- 4 Spines recurved, infra-stipular; fruits flat and relatively thin, dehiscent: 5

- Spines straight, thick, up to 1.5 cm. long, in pairs, stipular in origin; fruits at length sickle-shaped, thick, indehiscent, 10–15 cm. long, about 2.5 cm. broad; pinnae 3–7 pairs; leaflets 10–15 pairs, branchlets pale grey [6. *albida*](#)
- 5 Leaflets 3–5 pairs on each pinna, obliquely obovate-oblong, 6–12 mm. long, 2–5 mm. broad, glabrous; pinnae 2–5 pairs; spines in pairs, rarely with a third spine; fruit oblong, often once or twice constricted owing to non-development of seeds, 5–7.5 cm. long, 2–2.5 cm. broad; seeds few [2. *laeta*](#)
- Leaflets at least 10 pairs on each pinna, up to 4 mm. long and 1.25 mm. broad, pubescent: **6**
- 6 Spines in threes, with the lateral spines curved upwards and the central spine downwards; leaflets up to 25 pairs on each pinna fruit oblong, 4–14 cm. long, 2–2.5 cm. broad: **7**
- Spines in pairs, curved downwards with a very broad decurrent base; pinnae 10–40 pairs; leaflets 35–60 pairs, midrib close to one side towards the base of the leaflets; leaf-rhachis with a large disk-like gland towards the base and with a smaller gland between each of the upper pairs; fruits narrowly oblong, 7.5–15 cm. long, 1.5–2 cm. broad, glabrous, rather coriaceous, with a distinct margin [5. *polyacantha* subsp. *campylacantha*](#)
- 7 Pinnae 3–6 pairs, usually 4 or 5; leaflets up to 15 pairs, oblong, narrowed above to an obtuse or slightly pointed apex, not broader at apex except in the uppermost leaflets, about 4 mm. long, 1–1.25 mm. broad; fruit more or less densely appressed-pubescent when mature, fawn to pale olive-brown; seeds olive-brown [3. *Senegal*](#)
- Pinnae 7–16 pairs; leaflets up to 25 pairs; margins slightly revolute, more or less parallel, but leaflets slightly broader at the rounded apex, about 3 mm. long and 0.8 mm. broad; petiole and rhachis of whole leaf and of pinnae more densely pubescent when young than in the preceding species; fruit almost glabrous when mature, chestnut to pale chestnut-brown in colour, mottled; seeds purplish-brown [4. *dudgeoni*](#)
- 8 Leaf-rhachis with a large flat elliptic gland towards the base scarcely raised above the surface; pinnae 20–30 pairs; leaflets 35–50 pairs; axis of inflorescence rather villous; fruits slightly pubescent, few-seeded, flat [7. *macrostachya*](#)
- Leaf-rhachis with an ovoid gland towards the base standing well up from the surface; pinnae 8–15 pairs; leaflets 20–30 pairs; axis of inflorescence tomentellous; fruits glabrous, several-seeded [8. *ataxacantha*](#)
- 9 Flower-heads on simple or subsimple axillary peduncles: **10**
- Flower-heads in terminal much-branched panicles: **21**
- 10 Fruits subterete, more or less turgid when ripe, indehiscent, curved, up to about 10 cm. long and 1.5 cm. broad, longitudinally striate, becoming glabrous, black; bracteoles near the apex of the peduncle; flowers yellow; pinnae 4–10 pairs; leaflets 12–20 pairs, linear-oblong, up to 7 mm. long, glabrous; spines up to 3 cm. long, acicular; an introduced species [9. *farnesiana*](#)
- Fruits flattened; bracteoles mostly about or below the middle of the peduncle in open flower (but see No. 10); indigenous species: **11**
- 11 Valves of fruit thick and woody, straight or somewhat curved, smooth and glabrous, margins more or less parallel, 10–20 cm. long, 1.2–3 cm. broad, tardily dehiscent; bracteoles in the upper half of the peduncle; flowers white or cream; pinnae 10–25 pairs; leaflets 20–40 pairs: **12**
- Valves of fruit thin and membranous or coriaceous, or if thicker then margins sinuate or fruit moniliform; bracteoles about or below the middle of the peduncle: **13**
- 12 Branchlets glabrous or sparingly pubescent; median leaflets 2.5–4.5 mm. long [10. *sieberiana* var. *sieberiana*](#)
- Branchlets densely yellowish-tomentellous; median leaflets 2–2.5 (very rarely to 3) mm. long .. [10a. *sieberiana* var. *villosa*](#)
- 13 Fruits indehiscent, valves coriaceous, 1 cm. or more broad, margins sinuate or fruit moniliform; flowers bright yellow, or pink: **14**
- Fruits dehiscent, valves membranous or coriaceous, not more than 1 cm. broad: **17**
- 14 Segments of fruit very prominently umbonate in the middle; fruits broadly constricted between the seeds; flowers pink; pinnae 6–8 pairs; leaflets 8–15 pairs, 3–4 mm. long [11. *kirkii*](#)
- Segments of fruit not umbonate; flowers bright yellow; pinnae 3–6 pairs; leaflets 10–30 pairs; spines mostly long and straight, but some short and slightly curved: **15**
- 15 Fruits glabrous, narrowly constricted between the seeds [12. *nilotica* var. *nilotica*](#)
- Fruits densely tomentose: **16**
- 16 Fruits straight, narrowly constricted between the seeds [12a. *nilotica* var. *tomentosa*](#)
- Fruits usually curved, with sinuate margins, only slightly constricted between the seeds [12b. *nilotica* var. *adansonii*](#)
- 17 Fruit annular or spirally contorted, valves thinly coriaceous, glabrous, 4–6 mm. broad, somewhat constricted between the seeds; flowers white; some spines long and straight, others short and slightly recurved; pinnae 2–5 pairs; leaflets 6–15 pairs; branchlets glabrous or puberulous [13. *raddiana*](#)
- Fruit falcate; flowers yellow or white: **18**
- 18 Valves of fruit coriaceous, more than 6 mm. broad, densely pubescent at first; flowers white; some spines long

and straight, others short and slightly recurved; young branchlets densely pubescent; pinnae 4–7 pairs; leaflets 10–20 pairs [14. hebecladoides](#)

Valves of fruit membranous, up to 6 mm. broad; flowers bright yellow: **19**

- 19** Stems, except the very youngest branchlets, covered with powder yellow to red in colour, bark flaking off in subrectangular pieces; pinnae 2–7 (rarely 1 or 8–9) pairs; leaflets 8–20 pairs, leaflets up to 5 mm. long and 1 mm. broad; fruits up to 14 cm. long, 6 mm. broad, glabrous, somewhat constricted between the seeds [15. seyal](#)

Stems not covered with powder: **20**

- 20** Leaflets broadest above the middle, obovate-oblong to oblong-oblancoolate, rounded at apex; leaflets 6–12 pairs; pinnae 1–4 pairs; with long straight spines up to 6 cm. long, also with much shorter slightly recurved spines; buds and bracts forming a distinct cushion at the nodes, peduncles glabrous, not glandular; fruit glabrous, not glandular, narrowed between the seeds [16. ehrenbergiana](#)

Leaflets more or less parallel-sided but narrowed, towards the obtuse or acute apex; leaflets 12–28 pairs; pinnae 2–12 pairs; with straight spines only, up to 3 cm. long; peduncles and fruits usually glandular [17. hockii](#)

- 21** Branchlets with numerous prickles between the nodes and often on the leaf-rhachis and inflorescence; climber; pinnae in numerous pairs; leaflets numerous and very small, contiguous or nearly so, linear, with the nerve near one margin at the base; fruits linear-oblong, about 12 cm. long and 3 cm. broad, glabrous [18. pennata](#)

Branchlets without prickles between the nodes; tree; pinnae fairly numerous, leaflets fairly numerous, not contiguous, with the nerve nearly in the middle; fruits narrowly linear-oblong, about 12 cm. long and 1.5 cm. broad [19. macrothyrsa](#)

- 1. *Acacia gourmaensis* A. Chev.** in Bull. Soc. Bot. Fr. 58, Mém. 8: 167 (1912); Aubrév. Fl. For. Soud.-Guin. 264, t. 52, 6 (labelled *A. mellifera* in error). *APD acc*

Acacia mellifera of F.T.A. 2: 340, partly (Barter s.n.), not of (Vahl) Benth.; also of various authors in part, including: F.W.T.A., ed. 1, 1: 361; Bak. f. Leg. Trop. Afr. 3: 828.

Small tree, to 25 ft. high, often with more or less straight stem and numerous short branches; bole brown with small scales; bark of twigs yellowish, peeling; flowers cream.

IV. C.: Mossi fide Chev. l.c. Ouagadougou Aubrév. 2137. Gaoua Aubrév. 2138. **G. C.:** Aframsu Kwahu (fr. Jan.) Chipp 639! Nchenanchene to Kwahu Tafo Kitson 1150! Sekai to Boguboi Kitson 580! Pong-Tamale (fr. Nov.) Akpabla 456! Navrongo (fl. & fr. Aug.) Vigne FH 4563! **Dah.:** Konkobiri (July) Chev. 24364! **Fr. Nig.:** Diapaga to Fada (July) Chev. 24482! **N. Nig.:** R. Awan, Ilorin Dist. Barter 1144! Jebba (Mar.) Dalz. 1217! Morindo, Kontagora (fr. May) Rosevear FHI26612! Zungeru (Sept.) Keay FHI 28033! **S. Nig.:** Old Oyo (fr. Feb.) Keay FHI 14643!

- 2. *Acacia laeta* R. Br. ex Benth.** — F.T.A. 2: 341; Chev. Bot. 246 (“*A. lactea*” by error); Bak. f. l.c. 830; Aubrév. l.c. 271, t. 52, 4. *APD acc*

Acacia trentiniani A. Chev. (1901).

A small glabrous tree with black curved spines and spikes of white flowers.

Fr. Sud.: Timbuktu (July) Chev. 1185; s.n.! Bourem Monod 565. **IV. C.:** Ouagadougou Serv. For. 2728. **Fr. Nig.:** Gao De Wailly 4838. **N. Nig.:** Gaswa, valley of Komadugu fide Aubrév. l.c.

Extends to **Egypt**, Dead Sea region, **Arabia**, Abyssinia and E. Africa; perhaps also in Mauritania (vide Aubrév. l.c. 272).

- 3. *Acacia senegal* (Linn.) Willd.** Sp. Pl. 4: 1077 (1806); Benth. in Trans. Linn. Soc. 30: 516; Aubrév. l.c. 266, t. 52, 5, t. 54, 1; Ic. Pl. Afr., t. 30. *APD acc*

Mimosa senegal Linn. (1753).

Acacia verec Guill. & Perr. (1832) — F.T.A. 2: 342; Chev. Bot. 247.

Small tree, to 25 ft. high, with short bole grey and fissured; bark of twigs yellowish, soon peeling; flowers cream, in spikes usually longer than the leaves.

Sen.: Perrottet 276! Heudelot! Sor Isl. Brunner 8! M’Bidjem (May) Thierry 219! **Gam.:** Yoroberikunda (fl. & fr. Nov.) Firth 156! **Fr. Sud.:** Toguere de Banguita (fl. & fr. Jan.) Davey 13! Timbuktu (fl. & fr. July, Aug.) Hagerup 234! 261! And various localities fide Aubrév. l.c. **IV. C.:** Ouagadougou, Bouroum and Kaya fide Aubrév. l.c. **Fr. Nig.:** Tera Aubrév. N. 12. **N. Nig.:** Zamfara F.R. (fl. & fr. Apr.) Keay FHI 16145! 16169! Katagum (fl. & fr. July) Dalz. 55! Geidam (fr. Oct.) Dudgeon 1! Gujba (Dec.) Foster 80!

Also in **Mauritania** and extends to the Red Sea and eastern India.

- 4. *Acacia dudgeoni* Craib ex Holl.** in Kew Bull., Add. Ser. 9: 291 (1911); Kew Bull. 1912: 98; Keay &

Brenan in Kew Bull. 1949: 129. *APD acc*

Acacia samoryana A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 167 (1912); Chev. Bot. 246.

Acacia senegal var. *samoryana* (A. Chev.) Roberty in Candollea 11: 157 (1948); Aubrév. l.c. 270; Berhaut Fl. Sen. 26.

Acacia senegal of F.W.T.A., ed. 1, 1: 361, partly.

Small tree to 25 ft. high with short bole, brown and fissured; bark of twigs reddish-brown, peeling; flowers cream, in spikes usually shorter than the leaves; occurring in much moister regions than *A. senegal*.

Sen.: fide Berhaut l.c. **Fr. Sud.:** Satadougu (May) Irvine 3214! And various localities fide Aubrév. l.c. **Iv. C.:** Bouroum and Ouangolo fide Aubrév. l.c. **G. C.:** Pan to Bujan (Apr.) Kitson 594! 595! Tamale (Apr.) Williams 115! N. Gambaga Dist. (Mar.) Williams 490! Yendi (Apr.) Vigne FH 1686! Bawku (fl. & fr. Apr.) Vigne FH 3754! **Dah.:** Firou to Konkobiri (fl. & fr. June) Chev. 24326! Birni Aubrév. 94 D! **Fr. Nig.:** Fada N'Gourma Aubrév. **N. Nig.:** Borgu Dudgeon 58! Kontagora (fl. & fr. Jan.) Dalz. 41! Jebba (Jan.) Meikle 1107! Kojofa, Biu (fr. May) Rosevear FHI 26604! **S. Nig.:** Old Oyo F.R. (fl. & fr. Feb.) Keay FHI 16001!

5. *Acacia polyacantha* subsp. *campylacantha* (Hochst. ex A. Rich.) Brenan in Kew Bull. 1956: 195. *APD acc*

Acacia campylacantha Hochst. ex A. Rich. (1847) — F.W.T.A., ed. 1, 1: 361; Bak. f. l.c. 831.

Acacia catechu var. *campylacantha* (Hochst. ex A. Rich.) Roberty l.c. 157 (1948).

Acacia caffra var. *campylacantha* (Hochst. ex A. Rich.) Aubrév. l.c. 272, t. 51, 5, t. 53, 4–5 (1950); Gilbert & Boutique in Fl. Congo Belge 3: 150.

Acacia catechu of F.T.A. 2: 344, not of Willd.

Acacia suma of Benth. l.c. 519, partly; Chev. Bot. 247.

A tree, up to 80 ft. high, with a relatively tall bole often with large broad-based thorns; bark pale yellowish at first, becoming greyish-brown and fissured; flowers cream, in spikes a little shorter than the leaves; fruits brown; usually on moist ground, often gregarious.

Sen.: Sine-Saloum Serv. For. 20. Casamance Etesse 6. **Gam.:** Genieri (July) Fox 122! **Fr. Sud.:** Kaarta Dubois 138. **Iv. C.:** Ouangolo Aubrév. 1424. Boromo Aubrév. 2139. **G. C.:** Bjury (July) Chipp 502! Nangodi (June) Vigne FH 4513! Sekai to Boguboi (Apr.) Kitson 924! **Togo:** Kpedsu (fr. Dec.) Howes 1069! **Dah.:** Poisson! Savalou (May) Chev. 23717! **Fr. Nig.:** Gourma (July) Chev. 24422! **N. Nig.:** Sokoto (May) Lely 837! Katagum Dalz. 51! Yola (fr. Dec.) Shaw 72! **S. Nig.:** Olokemeji (fl. May, fr. Nov.) A. F. Ross 20! 163!

Extends eastwards to the Red Sea and southwards to the Transvaal.

6. *Acacia albida* Del. — F.T.A. 2: 339; Bak. f. l.c. 825; Chev. Bot. 243.

APD: *Synonym of Faidherbia albida* (Delile) A. Chev.

Faidherbia albida (Del.) A. Chev. in Rev. Bot. Appliq. 14: 876 (1934); Aubrév. l.c. 280, t. 51, 3, t. 53, 6; Gilbert & Boutique l.c. 3: 169.

A tree, up to 80 ft., with large straight bole, up to 10 ft. in girth, and rounded crown; bark of twigs pale grey, of bole thick, brown, fissured; spines white; leaves glaucous green; leafless during rainy season; flowers cream, becoming yellow; fruit orange when mature.

Sen.: Roger! Perrottet 261! Cayor Heudelot 391! And various localities fide Chev. l.c. and Aubrév. l.c. **Gam.:** Fondi country Dawe 80! **Fr. Sud.:** Kita Dubois 213! And various localities fide Chev. l.c. **Port. G.:** Bissau (fl. & fr. Jan.) Esp. Santo 1634! Formosa (Apr.) Esp. Santo 1981! **Iv. C., Togo & Dah.:** fide Aubrév. l.c. **G. C.:** Navrongo (fl. & fr. Nov.) Vigne FH 4658! Tokali Kitson 713! Zuarangu (Nov.) Akpabla 391! **Fr. Nig.:** Dosso (Oct.) Hagerup 571! **N. Nig.:** Sokoto Dalz. 314! Kano (fl. Jan., fr. May) Dudgeon 4! Katagum Dalz. 53! Komadugu Yobe, Duchi (Dec.) Elliott 142!

Extends throughout the drier parts of N. Africa into Egypt; also in eastern Africa southwards to the Transvaal.

7. *Acacia macrostachya* Reichenb. ex Benth. — F.T.A. 2: 343; Bak. f. l.c. 834; Aubrév. l.c. 273, t. 53, 3, 9–10. *APD acc*

APD: *Synonym of Acacia ataxacantha* DC.

A scrambling shrub, or tree to 20 ft. high (in Sokoto), with rusty-pubescent branchlets, armed with recurved prickles; flowers cream; fruits reddish-brown.

Sen.: Sieber 44! Bignona, Casamance Serv. For. 31. **Fr. Sud.:** Taranoro (May) Chev. 835! Macina (Sept.) Chev. 24927! Bamako Hagerup 56! **Port.G.:** Bissau (fr. Jan.) Esp. Santo 1629! Bafata (June) Esp. Santo 2517! **Fr. G.:** Kade Pobéguin 2075! **S. L.:** Hutton! **Iv. C.:** Bobo Dioulasso, Kaya and Koumi fide Aubrév. l.c. **Dah.:** Kouande to Konkobiri Chev. 24240. **Fr. Nig.:** Niamey De Wailly. **N. Nig.:** Sokoto (fl. June, fr. Oct.) Dalz. 312! 536! Gwiwa-Korel F.R., Kano (June) Onwudinjoh FHI 24016!

Also in **A.–E. Sudan** and **Angola**.

8. **Acacia ataxacantha DC.** — F.T.A. 2: 343; Bak. f. l.c. 834; Aubrév. l.c. 273, t. 53, 7–8; Gilbert & Boutique l.c. 3: 153. *APD acc*

A scrambling shrub or climber forming thickets, in regrowth and on rocky hills within the forest regions as well as in dry savannah vegetation; branchlets with yellowish bark armed with recurved prickles; flowers cream; fruits reddish-brown, shining, surfaces undulate.

Sen.: Roger! Perrottet 274! Cayor Heudelot 536! **Fr.Sud.:** Baranigué (Sept.) Chev. 3366! Bamako (Sept.) Waterlot 1391! **Fr. G.:** Kankan Chev. 586. **S. L.:** Wallia (Feb.) Sc. Elliot 4293! Yetaya (Sept.) Thomas 2310! Kabala-Musaia road (Sept.) Deighton 4871! **Lib.:** Moylakwelli (Oct.) Linder 1314! **Iv. C.:** Dedougou Aubrév. 2756. **Dah.:** Abomey Chev. 23175. **N. Nig.:** Kano Lamb 10! Katagum Dalz. 50! Geidam (fl. & fr. Dec.) Elliott 134! Lokoja (Sept.) T. Vogel 187! Barter! Bauchi Plateau (Aug.) Lely P. 582! **S. Nig.:** Lagos MacGregor 261! Olokemeji Foster 111!

Widespread in tropical Africa.

9. **Acacia farnesiana (Linn.) Willd.** — F.T.A. 2: 346; Chev. Bot. 245; Bak. f. l.c. 835; Aubrév. l.c. t. 52, 8. *APD acc*

Mimosa farnesiana Linn. (1753).

A spiny shrub with very fragrant yellow flowers; introduced.

Sen.: Perrottet 273! **Fr. G.:** Los Isl. (Feb.) Chev. 12098. **S. L.:** T. Vogel 1! Regent (Dec.) Sc. Elliot 4121! York (fl. Jan., fr. May) Lane-Poole 179! Deighton 2672! **Lib.:** Buchanan (Mar.) Baldwin 11204! **G. C.:** Accra (fr. Nov.) Brown 363! **Togo:** Lome Warnecke 193! **N. Nig.:** Gurara R. (July) Elliott! **S. Nig.:** Iwaraja (fl. & fr. Mar.) Foster 179! Sapoba Kennedy 2163!

Cultivated throughout the tropics and in S. Europe, probably native in S. America.

10. **Acacia sieberiana DC. var. sieberiana** — F.T.A. 2 847; Bak. f. 836; Aubrév. l.c. 279, t. 51, 1–2. *APD acc*

APD: Synonym of Acacia sieberiana DC. var. sieberiana

A tree, up to 70 ft. high, usually with a rather short thick bole and wide, spreading, more or less rounded crown; bark pale greenish-yellow with small grey-brown exfoliating scales; spines long, straight, white; flowers cream or white; fruit brown.

Sen.: Sieber 43! Galam Leprieur! Richard Tol (May) Döllinger 57! **Fr. Sud.:** Kita Dubois 100. Bamako Waterlot 1073! **Iv. C.:** Ouagadougou Aubrév. **Dah.:** Boukombe Aubrév. 85–D. **Fr. Nig.:** Maradi Aubrév. **N. Nig.:** Nupe Barter 1208! Katagum Dalz. 300! Kukawa (Apr.) E. Vogel 85! Abinsi (May) Dalz. 583! **S. Nig.:** Old Oyo F.R. (fr. Feb.) Keay FHI 16251! Lagos Foster 15!

Widespread in tropical Africa.

- 10a. **Acacia sieberiana var. villosa A. Chev.** in Bull. Soc. Bot. Fr. 74: 959 (1928); Keay & Brenan in Kew Bull. 1960: 364; Aubrév. l.c. *APD acc*

Acacia rehmanniana of F.W.T.A., ed. 1, 1: 361, not of Schinz.

Acacia verugera Schweinf. var. of Chev. Bot. 247.

A tree, similar to the preceding.

Sen.: Bakel (Mar.) Serv. For. 2. **Fr. Sud.:** Ouré (Apr.) Chev. 700! Koulikoro (Mar.) Vuillet 589! Bandiagara (fl. Apr., fr. Sept.) Ganay 4! **Iv. C.:** Niangbo (fl. & fr. Jan.) Aubrév. 1702! Po (Jan.) Aubrév. 2688! **G. C.:** Lorha (Mar.) McLeod 831! Barbitu (fl. & fr. Feb.) Dudgeon 100! Pong (fl. & fr. Mar.) Kitson 585! 705! Navrongo (fl. & fr. Jan., Feb.) Vigne FH 4475! 4657! **Togo:** Sokodé (Feb.) Kersting A. 313! Kpedsu (fr. Jan.) Howes 1083! **N. Nig.:** Samae (Mar.) Foster 25! Zamfara F.R. (Apr.) Keay FHI 16136! Jebba (Mar.) Meikle 1295!

11. **Acacia kirkii** *Oliv.* F.T.A. 2: 350 (1871); Chev. Bot. 245; Chev. in Rev. Bot. Appliq. 8: 206 (1928); Aubrév. l.c. 278, t. 51, 6. *APD acc*

APD: Synonym of Acacia kirkii var. sublaevis Brenan

Small tree, flowers pink.

Fr. Sud.: Macina (Aug.) Chev. R. Bani, Mopti to Djenne Vuillet 480. **Fr. G.:** Maclaud.

Also in **Tanganyika**, **N. Rhodesia**, **Angola** and **Bechuanaland**.

12. **Acacia nilotica** (*Linn.*) *Willd. ex Del.* **var. nilotica** — Fl. Aegypt. Illustr. 79 (1813); A. F. Hill (q.v. for full synonymy) in Bot. Mus. Lfts. Harvard Univ. 8: 97 (1940). *APD acc*

Mimosa nilotica *Linn.* (1753).

Acacia arabica **var. nilotica** (*Linn.*) *Benth.* in Hook. Lond. J. Bot. 1: 500 (1842).

Acacia scorpioides **var. nilotica** (*Linn.*) *A. Chev.* in Bull. Soc. Bot. Fr. 74: 954 (1927); Aubrév. l.c. 277, t. 52, 2. t. 53, 1, t. 54, 2.

A tree, usually in moist places.

Sen.: Kaédi Serv. For. 4. **Fr. Sud.:** Gao (Feb.) De Wailly 5339! **N. Nig.:** Sokoto (fl. & fr. Feb.) Lely 810! Yo, N. Bornu (Dec.) Elliott 151! L. Chad Talbot 1230! Maiduguri Kennedy 2922!

Extends to Eastern **Sudan** and Nileland.

- 12a. **Acacia nilotica** **var. tomentosa** (*Benth.*) *A. F. Hill* l.c. 98 (1940).

APD: Synonym of Acacia nilotica subsp. tomentosa (Benth.) Brenan

Acacia arabica (*Lam.*) *Willd.* **var. tomentosa** *Benth.* l. c. (1842).

Acacia scorpioides **var. pubescens** *A. Chev.* l.c. 954 (1927); Aubrév. l.c. 278, t. 52, 3.

Acacia arabica (*Lam.*) *Willd.* (1806) — Guill. & Perr. Fl. Seneg. 1: 250. Rare in our area.

Sen.: Roger! Carrey. **G. C.:** Yeji, N.T. (fl. & fr. Aug. — introduced) Vigne FH 3322! **N. Nig.:** Katagum Dalz. 54!

Extends to Eastern **Sudan**, **Arabia** and India.

- 12b. **Acacia nilotica** **var. adansonii** (*Guill. & Perr.*) *O. Kuntze* Rev. Gen. Pl. 1: 156 (1891).

APD: Synonym of Acacia nilotica subsp. adstringens (Schumach. & Thonn.) Roberty

APD: Synonym of Acacia nilotica subsp. adstringens (Schumach. & Thonn.) Roberty

Acacia adansonii *Guill. & Perr.* (1832).

Acacia arabica **var. adansonii** (*Guill. & Perr.*) *A. Chev.* Bot. 244 (1920).

Mimosa adstringens *Schum. & Thonn.* (1827).

Acacia adstringens (*Schum. & Thonn.*) *Berhaut* (1954), not of Mart. (1823), nor of A. Cunn. ex G. Don (1832).

Acacia scorpioides **var. adstringens** (*Schum. & Thonn.*) *A. Chev.* (1927); Aubrév. l.c. 277, t. 52, 1.

Acacia arabica **var. adstringens** (*Schum. & Thonn.*) *Bak. f.* l.c. 3: 849 (1930).

Acacia nilotica **var. adstringens** (*Schum. & Thonn.*) *Chiov.* (1932).

Acacia arabica **var. adansoniana** *Dubard* (1913).

Acacia nilotica **var. adansoniana** (*Dubard*) *A. F. Hill* l.c. 99 (1940).

Acacia arabica of F.W.T.A., ed. 1, 1: 362, partly.

Tree, to 50 ft. high; bole dark reddish-brown, deeply fissured; twigs dark reddish-brown, tomentellous; flowers yellow; fruits grey, straight or curved. This is the commonest variety in our area.

Sen.: (spec. without frts., exact identification doubtful) Heudelot 488! **Gam.:** Dawe 16! 68! **Fr. Sud.:** Koubita (fl. & fr. Feb.) Davey 44! **Port. G.:** Bolama (fl. & fr. Apr.) Esp. Santo 1920! **G. C.:** Navaro (fr. Apr.) Kitson 592! Gambaga Williams 473! **Togo:** Kersting 101! Lome Warnecke 323! **N. Nig.:** Sokoto (fl. & fr. Feb.) Lely 809! Katsina (fl. & fr. Mar.) Meikle 1352! Nupe Barter 1626! Dunjere N. Bornu Elliott 136! **S. Nig.:** Igbetl (fr. Feb.) Keay FHI 14634!

Widespread in the northern part of tropical Africa.

13. **Acacia raddiana** *Savi* Acac. Egiz. Mem. 1, fig. A–G (1830); A. F. Hill l.c. 103 (incl. var. pubescens); Aubrév. l.c. 274, t. 51, 4, t. 54, 2.

APD: Synonym of Acacia tortilis var. raddiana

Acacia tortilis Hayne (1827), partly — F.T.A. 2: 352; Chev. Bot. 247; F.W.T.A., ed. 1, 1: 362; Bak. f. l.c. 3: 841

Acacia tortilis var. *pubescens* A. Chev. in Bull. Soc. Bot. Fr. 74: 960 (1927).

Acacia fasciculata Guill. & Perr. (1832), not of Kunth nor of R.Br.

Tree to 30 ft. high, with rounded or irregular crown; bole and branchlets reddish-brown; flowers white.

Sen.: Perrottet 267! Heudelot 495! Djolon Dubois 272–S! **Fr. Sud.:** Timbuktu (July) Chev. 1186! Hagerup 89! **N. Nig.:** near L. Chad (fl. & fr. Dec., Jan.) Elliott 111! Foster 92! Yobe R., Bornu Weir 2314! 2315!

Widespread in the dry regions of northern Africa, Palestine, etc.

14. *Acacia hebecladoides* Harms in Engl. Bot. Jahrb. 36: 208 (1905); Bak. f. l.c. 3: 846; Mildbr. in Engl. Bot. Jahrb. 65: 20; Aubrév. l.c. 276, t. 51, 11.

APD: Synonym of Acacia gerrardii Benth. var. gerrardii

Tree, to 40 ft. high, with flat-topped crown, in **low-lying savannah sites**; flowers white, sweet-scented, with numerous flower-heads in each axil.

N. Nig.: Chad region (fr. Dec.) Foster 86! Yola (fr. Sept.) Daggash FHI 13364! Namtari, Adamawa (May) Rosevear FHI 26602!

Also in **French Cameroons, Belgian Congo, Uganda, A.–E. Sudan, Kenya, Tanganyika, N. and S. Rhodesia.**

15. *Acacia seyal* Del. — F.T.A. 2: 351; Keay in Journ. Ecol. 37: 357; Aubrév. l.c. 275, t. 51, 7–8. *APD acc*

Acacia stenocarpa Hochst. ex A. Rich. — Chev. in Rev. Bot. Appliq. 27: 508 (1947), and in many other papers, not of F.T.A. 2: 851.

Loosely branched, more or less flat-topped tree, to 40 ft. high; bark of young branchlets reddish-brown, soon flaking off to expose a powdery surface; bark of older stems covered with pale yellow to red powder, exfoliating in subrectangular pieces green at first but becoming brown; trees of similar size in the same area often show the full range of colour; flowers bright yellow; fruits split and remain on the tree.

Sen.: Perrottet 272! Lelievre! Sieber 45! Dakar Irvine 3295! Yang Yang Serv. For. 6. Thies (fl. & fr. Mar.) Serv. For. 14! 16! **Fr. Sud.:** Ouarlo to Koubita (Feb.) Davey 42! 43! Kayes and Niore region fide Aubrév. l.c. **iv. C.:** Ouagadougou (fr. May) Serv. For. 2393! Bissandero (Nov.) Serv. For. 2136! **Fr. Nig.:** Dori (Oct.) Aubrév. 11–N! Niamey to Zinder Hagerup 565! **N. Nig.:** Sokoto Prov. (fl. & fr. Dec.–Feb.) Dalz. 347! Lely 803! Zamfara F.R. (fr. Apr.) Keay FHI 15633! 16180! 18063! Katagum Dalz. 47! Mutwe (Dec.) Foster 78! Kukawa (Dec.) E. Vogel 20!

Widespread in the drier parts of tropical Africa.

16. *Acacia ehrenbergiana* Hayne — F.T.A. 2: 352 A. F. Hill in Bot. Mus. Lfts. Harvard Univ. 8: 93 (1940). *APD acc*

Acacia flava (Forsk.) Schweinf. (1896), not of Spreng. ex DC. (1825); Bak. f. l.c. 844; Chev. in Rev. Bot. Appliq. 27: 507 (1947); Aubrév. Fl. For. Soud.-Guin. 274.

Acacia seyal of Chev. in Rev. Bot. Appliq. 14: 878 (1934) and in many other papers, not of Del.

Shrub to 15 ft. high, in **semi-desert regions**; flowers deep yellow.

Maurit.: M'bout Serv. For. 1! Mederdra Serv. For. 34! **Sen.:** Damet, Podor Trochain 2920. **Fr. Sud.:** Timbuktu fide Chev. l.c. Ansongo to Tillabery Chev. 43125. Hombori Rogeon 434. Gao to Korogoussou (fl. & fr. Aug.) De Wailly 4747! **Fr. Nig.:** Agadès Chev. 43488.

Also in Central Sahara and the Nile region.

17. *Acacia hockii* De Willd. in Fedde Rep. II: 502 (1913). *APD acc*

Acacia chariensis A. Chev. in Bull. Soc. Bot. Fr. 74: 958 (1928); Rev. Bot. Appliq. 27: 508 (1947).

Acacia stenocarpa var. *chariensis* (A. Chev.) Aubrév. Fl. For. Soud.-Guin. 275 (1950).

Acacia atacorensis Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 84: 465 (1937).

Acacia flava var. *atacorensis* (Aubrév. & Pellegr.) Aubrév. Fl. For. Soud.-Guin. 275 (1950).

Acacia boboensis Aubrév. in Rev. Bot. Appliq. 19: 483 (1939), French descr. only.

Acacia stenocarpa var. *boboensis* Aubrév. Fl. For. Soud.-Guin. 275 (1950), French descr. only.

Acacia stenocarpa of F.T.A. 2: 351 and of Bak. f. l.c. 845, not of Hochst. ex A. Rich.

Acacia seyal var. *multijuga* Schweinf. ex Bak. f. l.c. 844 (1930).

Shrub or small tree, bark reddish brown, flowers deep yellow; **often on rocky hills in the moister savannah regions.**

Fr. G.: Messirah, Fouta Djallon Maclaud 67! **Iv. C.:** Bobo Dioulasso Aubrév. 3—**S.G. C.:** Tamale (Feb., Nov.) McLeod 810! Williams 417! Adumasia to Ampoti, Afram Plains (May) Kitson 1085! **Dah.:** Boukombe, Atacora Mts. Aubrév. 83—D! 84—D! **N. Nig.:** Isanlu to Egbe, Kabba (fl. & fr. Nov.) Keay FHI 28099! 28100! Lokoja Barter! Bauchi Plateau (Aug.) Lely P. 657! Biu (Sept.) Noble 35! Yola (Oct.) Shaw 73!

Widespread in tropical Africa.

[This appears to be a variable widespread species within which several variants can be recognized, but further field observation and more and better specimens are needed before a more satisfactory classification can be made.]

18. *Acacia pennata* (Linn.) Willd. c90f4 — F.T.A. 2: 345; Benth. in Trans. Linn. Soc. 3: 530; Bak. f. l.c. 3: 853; Aubrév. l.c. 274, t. 53, 11–12.

APD: *Synonym of Acacia kamerunensis Gand.*

Mimosa pennata Linn. (1753).

A prickly climbing shrub; flowers in numerous small white balls turning yellowish; fruits brown; **common in the forest regions, but much less common in savannah.**

Fr. Sud.: Debo (Aug.) Chev. 3361! Bandiagara Ganay 2. **Fr. G.:** Macenta (May) Collette 10! Pita Pobéguin 2188. **S. L.:** Bagroo R., (Apr.) Mann. 852! Mano Deighton 1435! Hangha (Sept.) Alymer 236! Baiwalla (Oct.) Deighton 3767! **Lib.:** Gbanga (Sept.) Linder 766! Flumpa, Sanokwele (Sept.) Baldwin 9342! **Iv. C.:** Abidjan, Bobo Dioulasso and Ouagadougou fide Aubrév. l.c. **G. C.:** Adeambra (fr. Mar.) Chipp 133! Banka (Sept.) Vigne 1358! Kwadaso (Nov.) Darko 721! **Togo:** Amedzofe (fr. Feb.) Irvine 164! **N. Nig.:** Kano (Aug.) Onwudinjo FHI 24020! Gurara R. (fr. July) Elliott 182! **S. Nig.:** Lagos Dalz. 1412! Benin Unwin 137! Oban Talbot 1252! Degema Talbot 3620! **Br. Cam.:** Buea (May) Maitland 658!

Widespread in tropical Africa.

19. *Acacia macrothyrsa* Harms in Engl. Bot. Jahrb. 28: 396 (1900); Bak. f. l.c. 3: 851; Aubrév. l.c. 280, t. 54, 4–5.

APD: *Synonym of Acacia amythethophylla Steud. ex A. Rich.*

Acacia buchananii Harms (1901) — Bak. f. l.c. 3: 852.

Acacia dalzielii Craib (1912).

A tree 20–40 ft. high, sometimes scarcely armed; pinnae sometimes 20 or more pairs, with 50 or more pairs of leaflets; flower-heads abundant golden yellow; fruits flat, reddish-brown, remaining on the tree.

Fr. Sud.: Kourala, Sikasso Vuillet 700. **Iv. C.:** Botomo, Oradara & Yabo fide Aubrév. l.c. **G. C.:** Nangrumba to Santejan (fr. May) Kitson 776! **Fr. Nig.:** Pada N’Gourma to Niamey fide Aubrév. l.c. **N. Nig.:** Sokoto Prov. (fl. & fr. Dec.) Dalz. 320! Gilman 1! Dutsen Makurdi F.R., Funtua (Oct.) Keay FHI 21143! Amo, Plateau Prov. MacElderry FHI 16384! Yola (Oct.) Shaw 85! S. Bornu (fr. Dec.) Foster 87!

Widespread in tropical Africa.

21. ALBIZIA

Durazz. — F.T.A. 2: 355; Benth. in Trans. Linn. Soc. 30: 557 (1875). *APD acc*

- 1 Staminal tube included in the corolla-tube or only slightly exserted:2
 Staminal tube much exserted from the corolla tube:7
- 2 Leaflets 12–20 pairs, falcate-lanceolate, acute, about 1 cm. long, 2–3.5 mm. broad; pinnae 6–12 pairs; all parts greyish pubescent; fruits 10–15 cm. long, 2–2.5 cm. broad, minutely pubescent or nearly glabrous *L. chevalieri*
 Leaflets up to 13 pairs, exceeding 5 mm. broad; pinnae up to 7 pairs:3
- 3 Filaments 15–50 mm. long; calyx (2.5–) 3–6.5 mm. long; corolla 5–13.5 mm. long; fruits glabrous or nearly so:

-4
- Filaments 6–10 mm. long; calyx 1.5–2.5 (–3) mm. long; corolla 3–5.5 mm. long; pedicels 1.5–7 mm. long; pinnae 1–4 pairs; leaflets 3–5 pairs, obliquely oblong-elliptic or elliptic, pointed at apex, 10–48 mm. long, 6–20 mm. broad, minutely puberulous on the lamina beneath; fruits 15–26 cm. long, 2.5–4 cm. broad, puberulous [6. glaberrima](#)
- 4 Filaments red above and white below; pedicels 0–2 mm. long; pinnae (2–) 3–6 (–8) pairs; leaflets (4–) 6–11 (–12) pairs, narrowly oblong, 13–33 mm. long, 5–14 (–17) mm. broad, sparingly pubescent; fruits (10–) 14–21 cm. long, (2.3–) 3.2–3.7 (–4.8) cm. broad [2. coriaria](#)
- Filaments white to green or greenish-yellow, not red:.....5
- 5 Indumentum on outside of calyx and corolla conspicuously rusty (when dry); pedicels 0–3 mm. long; pinnae 3–6 (–9) pairs; leaflets 10–14 (–17) pairs on the two distal pairs of pinnae, fewer on the basal pairs; leaflets oblong, 11–23 mm. long, 4.5–10 mm. broad, terminal pair obovate; fruits 15–24 cm. long, 3–5 cm. broad [3. ferruginea](#)
- Indumentum on outside of calyx grey to whitish, not rusty:6
- 6 Pedicels 1.5–4.5 (–7.5) mm. long; leaflets not glaucous beneath; pinnae (1–) 2–4 (–5) pairs; leaflets 3–11 pairs, elliptic-oblong, 15–48 mm. long, (6–) 8–24 (–33) mm. broad, the terminal pair more or less obovate; fruits (12–) 15–33 cm. long, (2.4–) 2.9–5.5 (–6) cm. broad [4. lebbeck](#)
- Pedicels 0–0.75 mm. long; leaflets glaucous beneath; pinnae 2–6 pairs; leaflets 3–9 (–10) pairs, obliquely obovate-rhombic, 15–40 mm. long, 10–22 (–30) mm. broad; fruits 15–20 cm. long, 3.5–4 cm. broad [5. malacophylla var. ugandensis](#)
- 7 Pinnae 1–3 (rarely 4 pairs); leaflets 3–5 (rarely 6 pairs), the terminal pair larger than the others, the pinnae thus broadening upwards; leaflets not auriculate at base on the proximal side, obliquely obovate-elliptic, strongly nerved, glabrous beneath except on midrib and margins, 1.5–8 cm. long, 1–4.5 cm. broad; young parts minutely puberulous; bracts at base of peduncles, also stipules, very small and inconspicuous, about 1 mm. broad; fruits 10–20 cm. long, 2–3.5 cm. broad, glabrous [7. zygia](#)
- Pinnae 4–9 pairs (rarely 3 on occasional reduced leaves); leaflets 9–17 pairs, the terminal pair rather smaller than the others, the pinnae thus more or less narrowing upwards:8
- 8 Leaflets not auriculate at base on the proximal side, though the proximal margin may be more or less rounded into the insertion of the petiole:.....9
- Leaflets markedly auriculate at base on the proximal side: 10
- 9 Young parts, rachides of leaves and pinnae densely fulvous-pubescent; leaflets more or less pubescent all over lower surface, obliquely rhombic-quadrate or -oblong, 7–17 mm. long, 4–9 mm. broad; stipules and bracts at base of peduncles ovate, 5–9 mm. long, 3–6 mm. broad; fruits 9–19 cm. long, 1.9–3.2 cm. broad, more or less densely and persistently pubescent [8. adianthifolia](#)
- Young parts, rachides of leaves and pinnae finely and shortly pubescent; leaflets pubescent beneath only on midrib and margins, glabrous between or rarely (especially when young) some occasional hairs on primary lateral nerves; stipules and bracts at base of peduncles lanceolate, up to 6–7 mm. long and 2–3 mm. broad; fruits glabrescent [9a. gummifera var. ealaensis](#)
- 10 Leaflets pubescent beneath only on midrib and margins, glabrous between or rarely (especially when young) some occasional hairs on primary lateral nerves, obliquely rhombic-quadrate to rhombic-subfalcate, 10–17 mm. long, 4–8 mm. broad; stipules and bracts at base of peduncles lanceolate, up to 6–7 mm. long and 2–3 mm. broad; fruits 10–18 cm. long, 2–3 cm. broad, glabrescent [9. gummifera var. gummifera](#)
- Leaflets pubescent beneath on midrib and margins, and pubescent or puberulous on the surface between, often very inconspicuously so, obliquely rhombic-oblong, 9–11 mm. long, 4–6 mm. broad; stipules and bracts at base of peduncles oblong-elliptic about 4.5 mm. long and 2 mm. broad; fruits 11–17 cm. long, 3.2–3.8 cm. broad, minutely and persistently pubescent [10. intermedia](#)

1. **Albizia chevalieri** Harms in Engl. Bot. Jahrb. 40: 15 (1907); Bull. Soc. Bot. Fr. 54, Mém. 8: 17 (1907); l.c. 8: 169 (1912); Aubrév. Fl. For. Soud.-Guin. 297, t. 59, 1–3. *APD acc*

A tree, to 35 ft. high, with grey corky bark; petals pale crimson with white margins; filaments white; fruits pale brown; [in the drier savannah regions.](#)

Sen.: Berhaut 89. **Fr. Sud.:** Djenné (June) Chev. 1132! Birgo Dubois 56. Koulikoro Vuillet 657. **iv. C.:** Sakoini Aubrév. 2157. **G. C.:** Navrongo (fl. & fr. Mar.) Vigne FH 4693! **Fr. Nig.:** Gourma Chev. 24445. **N. Nig.:** Sokoto Prov. (fl. & fr. Apr.) Dalz. 310! Zamfara F.R. (fl. & fr. Apr.) Keay FHI 16127! Katagum Dalz. 48! L. Chad Talbot 1214! S. Bornu (fr. Jan.) Foster 91!

Also in **French Cameroons.**

2. **Albizia coriaria** Welw. ex Oliv. F.T.A. 2: 360 (1871); Bak. f. Leg. Trop. Afr. 3: 861; Aubrév. Fl. For. C. Iv. 1: 170, t. 60 B; Fl. For. Soud.-Guin. 299. *APD acc*

Albizia poissoni A. Chev. (1912) — Bot. 249.

Spreading tree, to 90 ft. high; in the drier types of forest and in savannah; flowers reddish.

Iv. C.: Bondoukou Aubrév. 73! **G. C.:** Nsuatra (fr. Dec.) Chipp 783! Jema, Kintampo (Jan.) J. M. Harley FH 5256! **Togo:** Kersting A. 513 (partly)! **Dah.:** Gouka, Savalou (May) Chev. 23722! **N. Nig.:** Maigana, Zaria (fl. Mar., fr. Dec.) Lamb 63! 93! **S. Nig.:** Nsukka Rosevear 12/28! **Br. Cam.:** Gayama, Bamenda (Feb.) Johnstone 47!

Also extends to A.–E. **Sudan**, **Kenya**, **Uganda**, **Tanganyika**, **Belgian Congo** and **Angola**.

3. *Albizia ferruginea* (Guill. & Perr.) Smith — F.T.A. 2: 361, partly; Hutch. in Kew Bull. 1916: 238; Aubrév. l.c. 1: 172, t. 58 A; Fl. For. Soud.-Guin. 299. *APD acc*

Inga ferruginea Guill. & Perr. (1832).

Forest tree, to 150 ft. high, with rough flaking bark; flowers greenish-white; fruits reddish-brown.

Sen.: Perrottet 260! Tamboukane (fr. Dec.) Chev. 21641 **Gam.:** Albreda Leprieur! **Port. G.:** Bissau (fr. Feb.) Esp. Santo 1789! Cumebu (May) Esp. Santo 2473! **Fr. G.:** Rio Nunez Heudelot 831! **S. L.:** Bonthe (Mar.) Deighton 2483! Kenema (fr. Jan.) King 148! Musaia (Feb.) Deighton 4252! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Mampong Scarp (fr. Mar.) Vigne 1064 (partly)! **Togo:** Baumann 448! **Dah.:** fide Aubrév. l.c. **N. Nig.:** Agaie (fl. & fr. Feb.) Yates! **S. Nig.:** Lagos Moloney! Olokemeji (fr. Jan.) A. F. Ross 57! Idanre Hills (Jan.) Brenan 8675! Sapoba Kennedy 1638! Ahoda Cons. of For. 90!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Belgian Congo**, **Uganda** and **Angola**.

4. *Albizia lebbeck* (Linn.) Benth. — F.T.A. 2: 358; Benth. in Trans. Linn. Soc. 30: 562; Chev. Bot. 249; Aubrév. Fl. For. C. Iv. 1: 166, t. 58 B; Fl. For. Soud.-Guin. 295. *APD acc*

Mimosa lebbeck Linn. (1753).

A tree, to 50 ft. high; introduced, cultivated and often half naturalized on old farms, etc.; flowers white; fruits pale brown.

Sen.: Lelievre! Perrottet 275. **Gam.:** Brunner 34! **Fr. Sud.:** Ségou Chev. 3356! **S. L.:** Njala (fl. & fr. Feb.) Deighton 4000! **G. C.:** Bole (fl. & fr. Feb.) Kitson 878! **Togo:** Kete Krachi (fr. Jan.) Vigne FH1578! **Dah.:** Cotonou Chev. 23425! **S. Nig.:** Olokemeji (Nov.) A. F. Ross 17! **F. Po.:** (June) Mann 416!

A native of tropical Asia, now widespread in the tropics.

5. *Albizia malacophylla* var. *ugandensis* Bak. f. l.c. 3: 860 (1930). *APD acc*

Albizia boromoensis Aubrév. & Pellegr. in Notulae Syst. 14: 56 (1950); Aubrév. Fl. For. Soud.-Guin. 800, t. 54, 6–7.

Savannah tree, to 30 ft. high.

Sen.: Tambacounda Berhaut 771 **Fr. Sud.:** Bamako (Mar.) Waterlot 1075! Sébékoro, Arbala (fl. & fr. Apr.) Waterlot 159! **Iv. C.:** Banfora Aubrév. 1830! Boromo (fr. Nov.) Aubrév. 2142! 2864! Ferkéssédougou Aubrév. 2614! Léo Aubrév. 2772! **S. Nig.:** Old Oyo F.R. Keay FHI 23435!

Also in **Ubangi-Shari**, **A.–E. Sudan** and **Uganda**.

6. *Albizia glaberrima* (Schum. & Thonn.) Benth. in Hook. Lond. Journ. Bot. 3: 88 (1844); F.T.A. 2: 358; Keay in Kew Bull. 1953: 490. *APD acc*

Mimosa glaberrima Schum. & Thonn. (1827).

Albizia glabrescens Oliv. F.T.A. 2: 357 (1871); Aubrév. Fl. For. Soud.-Guin. 300.

Albizia warnecke Harms in Engl. Bot. Jahrb. 30: 75 (1901); Bak. f. Leg. Trop. Afr. 3: 862; Aubrév. Fl. For. C. Iv. 1: 172, t. 60 C.

A shrub or tree, up to 60 ft. high; flowers white.

Fr. G.: Kadi Pobéguin 2110. **Iv. C.:** Agnéby, Agboville & N'Zo fide Aubrév. l.c. **G. C.:** Asiama to Jadala (Apr.) Thonning! Achimota (Jan.) Irvine 1949! Kwahu-Nkwanta (Mar.) Beveridge FH 3263! Bana (Mar.) Vigne FH 4355! **Togo:** Lome (fl. & fr. Feb.) Warnecke 57! **S. Nig.:** Olokemeji F.R. (fl. & fr. Mar.) A. F. Ross 106! Gambari F.R. W. D. MacGregor 574! Ala (young fr. Nov.) Thomas 1945!

Widespread in tropical Africa.

7. *Albizia zygia* (DC.) J. F. Macbr. in Contrib. Gray Herb. 59: 8 (1919); Bak. f. l.c. 868; Aubrév. Fl. For. C. Iv. 1: 172, t. 59; Fl. For. Soud.-Guin. 299. *APD acc*

APD: Synonym of Newtonia devredii G.C.C. Gilbert & Boutique

Inga zygia DC. (1825).

Zygia brownnei Walp. (1842).

Albizia brownnei (Walp.) Oliv. F.T.A. 2: 362 (1871); Benth. in Trans. Linn. Soc. 30: 569.

A tree, to 80 ft. high; flowers white with red staminal tube; **in regrowth forest and fringing forests.**

Sen.: Casamance (fr. Feb.) Chev. 3121! **Gam.:** Albreda Perrottet! **Fr. Sud.:** Kita Dubois 150! **Port. G.:** Bissau (fl. Feb., fr. Mar.) Esp. Santo 1774! 1868! **Fr. G.:** Karkandy Heudelot 800! Kouroussa (Apr.) Pobéguin 679! **S. L.:** Smeathmann! Freetown Burbridge 532! Rokupr (Mar.) Jordan 212! Njala (fr. Jan.) Deighton 1808! Falaba (Mar.) Sc. Elliot 4151! **Lib.:** Ganta Harley 1139! Fortsville, Grand Bassa (fr. Mar.) Baldwin 11191! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Kibbi (fl. & fr. Mar.) Brent 410! Offin R., Nfaense (Feb.) Chipp 113! Kumasi (Feb., Mar.) Cansdale FH 4148! **Togo:** Wora-Wora (Feb.) Hughes FH 2986! **Dah.:** Abomey (Feb.) Chev. 28142! **N. Nig.:** Lokoja Barter 584! Lapai (Mar.) Yates 29! Sokoto Prov. (fl. & fr. Mar.) Lely 855! **S. Nig.:** Lagos Rowland! Abeokuta (Feb.) Punch 105! Calabar (Feb.) Mann 2240! **Br. Cam.:** (fl. & fr. Feb.) Maitland 409! Johann-Albrechtshöhe Staudt 622!

Widespread in tropical Africa.

8. *Albizia adianthifolia* (Schum.) W. F. Wight in U.S. Dept. Afric. Bur. Pl. Industry, Bull. 137: 12 (1909); Brenan in Kew Bull. 1952: 520 (q.v. for synonymy); Gilbert & Boutique in Fl. Congo Belge 3: 178. *APD acc*

Mimosa adianthifolia Schum. (1827).

Albizia fastigiata (E. Mey.) Oliv. F.T.A. 2: 861; Chev. Bot. 248.

Albizia sassa of F.W.T.A., ed. 1, 1: 863, and of Aubrév. Fl. For. C. Iv. 1: 174, not of (Willd.) Chiov.

Albizia gummifera of F.W.T.A., ed. 1, 2: 606, of Kennedy For. Fl. S. Nig. 115, and of Aubrév. Fl. For. Soud.-Guin. 300, partly, not of (Gmel.) C. A. Sm.

A tree, to 120 ft. high, **mainly in regrowth forest**; flowers greenish-white with reddish staminal tube.

Sen.: Heudelot 16! **Gam.:** Rosevear 16! **Port. G.:** Acuno, Formosa (Apr.) Esp. Santo 1985! Bissalanca, Bissau Esp. Santo 1626! **Fr. G.:** Daragbe, Samu (fr. Dec.) Sc. Elliot 4303! **S. L.:** Bagroo R. (Apr.) Mann 830! Njala (Apr.) Deighton 11652! Kambia (Apr.) Lane-Poole 9! Falaba (Mar.) Aylmer 14! R. Sulimania (Mar.) Sc. Elliot 5314! **Lib.:** Monrovia Whyte! Sangwin, Sinoe (fl. & fr. Mar.) Baldwin 11332! Ganta (Apr.) Harley 1138! **Iv. C.:** Zaranou (Mar.) Chev. 16266! Yapo Chev. 22324! Bingerville (fr. Feb.) Chev. 16218! **G. C.:** Bligussu Thonning! Kumasi Cummins! Chipp 789! Kwahu, Birim (fl. & fr. Mar.) Johnson 638! S. Scarp F.R. Beveridge FH 3279! **Dah.:** Burton! Tchoui, Porto Novo (fr. Jan.) Chev. 22787! **N. Nig.:** Lokoja (Jan.) Barter 495! Elliott 223! Agaie (fr. Dec.) Yates 13! **S. Nig.:** Lagos Rowland! Dalz. 1031! Ibadan (Mar.) Ejiofor FHI 27674! Sapoba Kennedy 1655! Onitsha (fl. & fr. Feb.) Unwin 77! Rosevear 12/29! Degema Talbot!

Widespread in tropical Africa and in S. Africa.

[Hybrids between species of this group are known to occur. Within our area, Vigne 77 from the Gold Coast has been suggested by Brenan (in Kew Bull. 1952: 629) as *A. adianthifolia* X *zygia*.]

9. *Albizia gummifera* (J. F. Gmel.) C. A. Sm. **var. gummifera** — Kew Bull. 1930: 218, partly (excl. syn. *Mimosa adianthifolia*, *Zygia fastigiata* and *Albizia fastigiata*); Brenan in Kew Bull. 1952: 511 (q.v. for full synonymy); Gilbert & Boutique l.c. 3: 181. *APD acc*

Sassa gummifera J. F. Gmel. (1791).

Tree to 100 ft. high, mainly at high altitudes; corolla white, staminal tube white below, crimson above.

S. Nig.: Mt. Koloishe, Obudu, 4,800 ft. (Dec.) Keay & Savory FHI 25125! **Br. Cam.:** Bamenda, 5,000–6,500 ft. (Jan.) Migeod 416! Johnstone 272/32! Lightbody FHI 26280! Belo to L. Oku, 5,500 ft. (fl. & fr. Jan.) Keay FHI 28463!

Widespread in eastern and central tropical Africa and in **Madagascar**.

- 9a. *Albizia gummifera* **var. ealaënsis** (De Wild.) Brenan in Kew Bull. 1952: 518.

APD: Synonym of Albizia adianthifolia var. intermedia (De Wild. & T. Durand) Villiers

Albizia ealaënsis De Wild. (1907) — Gilbert & Boutique l.c. 3: 177.

A forest tree, to 110 ft. high.

S. Nig.: Oban Talbot 1314 (partly)!

Also in **French Cameroons, Belgian Congo, Uganda, Tanganyika** and **Angola**.

10. **Albizia intermedia** *De Wild. & Th. Dur.* in Bull. Herb. Boiss., sér. 2, 10: 751–2 (1901); Brenan l.c. 619; Gilbert & Boutique l.c. 3: 180.

APD: Synonym of Albizia adianthifolia (Schumach.) W. Wight

APD: Synonym of Albizia adianthifolia var. intermedia (De Wild. & T. Durand) Villiers

A forest tree, to 80 ft. high.

S. Nig.: Oban Talbot 1314 (partly)!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Angola**.

Albizia falcata (*Linn.*) *Backer*

Albizia moluccana *Miq.*

A native of tropical Asia, it has been introduced into W. Africa.

Albizia caribaea (*Urb.*) *Britton & Rose*

Pithecellobium caribaeum *Urb.*

A native of the West Indies, it has been introduced into W. Africa.

Imperfectly known species.

Albizia gigantea *A. Chev.* *Vég. Util.* 5: 171 (1909); *Bot.* 249. *APD acc*

Pentaclethra gigantea *A. Chev.* *Bot.* 237, name only.

The specimen in Chevalier's herbarium is a barren leafy shoot; pinnae 4–5 pairs; rhachia pubescent with a fleshy gland near the base; leaflets 5–10 pairs, subequal, oblong, apiculate, 2.5–4.5 cm. long, 1–2 cm. broad, pubescent mainly on the midrib below.

Iv. C.: Yapo Chev. B. 22326! Bouroukrou Chev. 16151.

22. SAMANEA

(*Benth.*) *Merrill* in Journ. Wash. Acad. Sci. 6: 46 (1916).

- 1 A tall tree; branchlets and leaf-rhachis pubescent; leaves bipinnate; pinnae 20–30 pairs, opposite; rhachis with a gland towards the base and glands between some of the upper pinnae; leaflets up to 40 pairs, very close, linear, auriculate on one side at the base, about 3–4 mm. long, slightly ciliate when young; flowers capitate; peduncles often paired, axillary, about 2–4 cm. long, rusty-tomentellous; calyx tubular, dentate, 3 mm. long, like the corolla tomentellous; stamens 14–16; fruits more or less straight, woody or subwoody with distinct margins, 13–17 cm. long, 2–2.2 (–2.5) cm. broad [dinklagei](#)

Samanea dinklagei (*Harms*) *Keay* in Kew Bull. 1953: 488 (1954).

APD: Synonym of Albizia dinklagei (Harms) Harms

Mimosa dinklagei *Harms* in Engl. Bot. Jahrb. 26: 253 (1899).

Albizia dinklagei (*Harms*) *Harms* (1915).

Cathormion dinklagei (*Harms*) *Hutch. & Dandy* in F.W.T.A., ed. 1, 1: 364 (1928); Kew Bull. 1928: 401; partly (excl. descr. frts., excl. distrib. Fr. Cam., excl. syn. *Mimosa leptophylla* *Harms*).

Pithecellobium dinklagei (*Harms*) *Harms* (1918) — Aubrév. Fl. For. C. Iv. 1: 176, t. 61 A.

A tree, to 50 ft. high, especially in forest near rivers; flowers white.

Port. G.: Bissau (fl. & fr. Feb., Mar.) Esp. Santo 1747! Farim (fl. & fr. May) Esp. Santo 2385! Bafata (fl. & fr. July) Esp. Santo 2697! **Fr. G.:** Kouroussa Pobéguin 859! Konkoure (Mar.) Pobéguin 1949! Chev. 12448! 12558! **S. L.:** Njala (fl. & fr. Apr.) Deighton 2883! 2892! Bagroo R. (Apr.) Mann 836! Freetown (Mar.) Dalz. 961! R. Kara, Scarcies (Jan.) Sc. Elliot 4561! **Lib.:** Grand Bassa (May) Dinklage 1827! Nekabozu, Vonjama Baldwin 9974! **Iv. C.:** Aubrév. 1169! And various localities fide Aubrév. l.c. **G. C.:** Kumasi (Feb.–Apr.) Vigne FH 1901! 3726! Akrofonso, Ashanti (June) Andoh FH 4711!

[I am not altogether sure that this plant should be included in Samanea, but a thorough revision of the whole group on a pantropical scale is needed before a more satisfactory classification can be produced — R.W.J.K.]

Samanea saman (*Jacq.*) *Merrill*

Pithecellobium saman (*Jacq.*) *Benth.*

Albizia flavovirens Hoyle

The “Rain-tree”, a native of tropical S. America, has been introduced into the forest regions of our area, and is widely cultivated in the moister parts of the tropics.

23. CATHORMION

Hassk. in Retzia 1: 231 (1855); Merrill in Journ. Wash. Acad. Sci. 6: 43 (1916).

- 1 Pinnae 2 (rarely 3) pairs; leaflets 3–6 pairs, oblong to obovate, unequal at base, rounded or obtuse at apex the uppermost pairs the largest (up to 4.5 cm. long and 2.5 cm. broad); pedicels 1.5–2 mm. long; fruit oblong, slightly curved, margins sinuate, reticulate on the surface, 8–9 cm. long, about 1.5 cm. broad, breaking into 1-seeded segments [1. *rhombofolium*](#)
- Pinnae 5–7 (rarely 4 or 8) pairs; leaflets 12–25 pairs, oblong-lanceolate, truncate at base obtuse at apex, 1–1.5 cm. long, about 4 mm. broad; flowers subsessile; fruit falcate to circinate, jointed, 15–20-seeded, 10–20 cm. long, 1–2 cm. broad, breaking into 1-seeded segments [2. *altissimum*](#)

1. *Cathormion rhombifolium* (Benth.) Keay in Kew Bull. 1953; 489 (1954). *APD acc*

Albizia rhombifolia Benth. in Hook. Lond. Journ. Bot. 3: 87 (1844); F.T.A. 2: 358; Benth. in Trans. Linn. Soc. 30: 563 (excl. syn. *Mimosa glaberrima* Schum. & Thonn.).

Albizia glaberrima of F.W.T.A., ed. 1, 1: 362, not of (Schum. & Thonn.) Benth.; Chev. Bot. 249.

Pithecellobium glaberrimum of Aubrév. in Notulae Syst. 14: 57 (1950) and in Fl. For. Soud.-Guin. 290, t. 59, 4–5, partly, not of (Schum. & Thonn.) Aubrév.

Tree, to 30 ft. high; in swamp forest; flowers white.

Sen.: Casamance Etesse 71! **Port. G.:** Gabu (fr. June) Esp. Santo 2500! **Fr. G.:** Rio Nunez Heudelot 735! **S. L.:** near Tassin and Kukum (Jan.) Sc. Elliot 4418! Wallia (Jan.) Sc. Elliot 4745! Mange (Feb.) Deighton 3618! Kasanko (Dec.) T. S. Jones 52! Rokupr (fr. May) Deighton 5925!

2. *Cathormion altissimum* (Hook. f.) Hutch. & Dandy in F.W.T.A., ed. 1, 1: 364 (1928); Kew Bull. 1928: 401. *APD acc*

Albizia altissima Hook. f. (1849).

Pithecellobium altissimum (Hook. f.) Oliv. F.T.A. 2: 364 (1871); Benth. l.c. 586; Aubrév. Fl. For. C. Iv. 1: 178, t. 61 B.

Arthrosamea altissima (Hook. f.) Gilbert & Boutique in Fl. Congo Belge 3: 193, t. 12.

Tree, to 120 ft. high; flowers white; in forests by river banks.

S. L.: Njala (fl. Oct., fr. Jan., July, Oct.) Dalz. 8070! Deighton 1331! 1957! Yonibana (Nov.) Thomas 5160! **Lib.:** Gbanga (fr. Sept.) Linder 689! Peahat (Oct.) Linder 933! Ganta (fr. Feb.) Baldwin 11028! **Iv. C.:** Bingerville (Feb.) Chev. 17265! **G. C.:** Cape Coast (July) T. Vogel 18! Tano R. (fl. & fr. Sept.) Chipp 336! **Togo:** Santrokofi (fl. Oct., fr. Dec.) St. C. Thompson FH 3598! **S. Nig.:** Okitipupa (fr. July) Bassey FHI 1441! Aboh Barter! Bonny (fr. Dec.) Unwin 25! 30 miles NE. of Benin Unwin! Nun R. (Sept.) Mann 469! **Br. Cam.:** Cameroon R. (fl. & fr. Jan.) Mann 2215!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Uganda**, **Gabon**, **Belgian Congo** and **Angola**.

24. CALLIANDRA

Benth. — F.T.A. 2: 354; Benth. in Trans. Linn. Soc. 30: 536 (1875).

- 1 Shrub with slender unarmed branches; stipules persistent, lanceolate, nervose; leaves bipinnate; pinnae 2–5 pairs, opposite; leaflets 8 or more pairs, linear-oblong, subacute, 1–1.5 cm. long, about 4–5 mm. broad, slightly pubescent; flowers in small axillary heads on very slender peduncles up to 4 cm. long; stamens numerous, with very slender filaments; fruit flat, linear, narrowed to the base, dehiscent, 10–15 cm. long, with very prominent sutures and bulging seeds [portoricensis](#)

Calliandra portoricensis (Jacq.) Benth. — F.T.A. 2: 354; Benth. l.c. 543; Bak. f. Leg. Trop. Afr. 3: 855. *APD acc*

Mimosa portoricensis Jacq. (1790).

A glabrous shrub; flowers cream.

G. C.: Dalz. 92! Odumase (Aug.) Howes 1204! Aburi (Aug.) Irvine 137! **Togo:** Misahöhe (Nov.) Mildbr. 7333! **S. Nig.:** Lagos MacGregor 87! Bonny (Oct.) Mann 510! Aguku Thomas 622! 730! Oban Talbot 589! 1313!

Common in the West Indies and on the Atlantic coast of America.

Calliandra haematocephala Hassk.

A native of tropical America, this species has been introduced into W. Africa.

Calliandra surinamensis Benth.

A native of tropical America, this species has been introduced into W. Africa.

PAPILIONACEAE

Trees, shrubs, climbers or herbs. Leaves compound, often imparipinnate or 3-foliolate, or simple, usually stipulate; leaflets sometimes stipellate. Flowers zygomorphic, mostly hermaphrodite. Sepals usually 5, more or less connate. Petals 5, imbricate, free or rarely partially coherent, the upper (adaxial) exterior and forming the standard (vexillum), the two lateral the wings (alae) more or less parallel with each other, the lower two interior and connate by their lower margins into a keel (carina). Stamens often 10, monadelphous or diadelphous, rarely free, mostly all perfect; anthers usually opening lengthwise by slits. Fruit dehiscent or not. Seeds without endosperm or very rarely with scanty endosperm.

A large, homogeneous and easily recognized family, generally distributed throughout the world; most numerous in warmer regions.

Key to Tribes

- 1 Stamens 10, rarely 11, free (or nearly free) from each other, not united into a tube or sheath; petals 5; trees, tall shrubs or tall climbers (rarely dwarf shrubs); leaves imparipinnately multifoliolate or 1-foliolate; leaflets entire; fruit sometimes drupaceous [1. SOPHOREAE](#)
- Stamens all (or all but one) united into a tube or sheath: **2**
- 2 Fruit not jointed: **3**
- Fruit jointed, constricted between the seeds and breaking transversely into 1-seeded portions; stipels sometimes present [9. HEDYSAREAE](#)
- 3 Trees, woody shrubs or tall woody climbers (see also Erythrina): **4**
- Herbs erect, procumbent or climbing; or subshrubs: **6**
- 4 Fruit indehiscent; leaves pinnately 3- or more-foliolate or rarely 1-foliolate, mostly with stipels **2.**
- [DALBERGIEAE](#)
- Fruit dehiscent: **5**
- 5 Leaves pinnately compound; anthers usually uniform [3. GALEGEAE](#)
- Leaves digitately 3-foliolate; anthers usually of 2 kinds; stamens completely monadelphous [4. GENISTEAE](#)
- 6 Leaves with a terminal leaflet: **7**
- Leaves without a terminal leaflet, the rachis produced into a bristle; inflorescence axillary; slender woody twiners [8. VICIEAE](#)
- 7 Stipels absent; mostly erect herbs or subshrubs: **8**
- Stipels present; stamens not broadened at the apex; **11**
- 8 Stamens completely monadelphous; anthers usually of 2 kinds; leaves 3-foliolate; leaflets entire [4. GENISTEAE](#)
- Stamens diadelphous (mostly 9 and 1): **9**
- 9 Leaflets entire, or if toothed (in Cyamopsis) pinnate and hairs mainly medifixed, (in Psoralea undulate and gland-dotted beneath): **10**
- Leaflets toothed, digitate, hairs basifixed, not gland-dotted [6. TRIFOLIEAE](#)
- 10 Flowers in racemes or panicles; stamens filamentous, not broadened at the apex [3. GALEGEAE](#)
- Flowers umbellate; leaves digitately 3-foliolate, the stipules leaf-like; stamens (some or all) broadened at the apex [5. LOTEAE](#)
- 11 Ovary not surrounded by a disk; erect (rarely climbing) herbs; leaves pinnately 3- or multi-foliolate or simple; hairs sometimes medifixed [3. GALEGEAE](#)
- Ovary surrounded by a disk; procumbent, twining or erect herbs; leaves pinnately 3-foliolate, rarely 5-foliolate or simple; hairs never medifixed [7. PHASEOLEAE](#)

Tribe 1 — SOPHOREAE

- 1 Leaves pinnate or 3-foliolate; fruit indehiscent or dehiscent:2
 Leaves 1-foliolate; fruit dehiscent:5
- 2 Leaves pinnate; flowers small; fruit indehiscent:3
 Leaves 3-foliolate; flowers large; fruit oblong, flattened, dehiscent [4. Camoënsia](#)
- 3 Flowers racemose; fruit fleshy, more or less torulose:4
 Flowers paniculate; fruit dry, flat, with a faint intramarginal nerve; calyx lobed to about the middle [3. Afrormosia](#)
- 4 Sea-shore shrub; leaflets 11–17, rounded at apex; racemes terminating the young shoots [1. Sophora](#)
 Forest shrub or tree; leaflets 3–9, acute at apex; racemes on the older wood or terminal [2. Angylocalyx](#)
- 5 Calyx cupular, 5-toothed or -lobed:6
 Calyx 2-fid or split down one side, (rarely irregularly 5-fid in Baphia):7
- 6 Calyx 5-lobed to below the middle, thick; fruit flat, obovate-elliptic, large, 1-seeded; flowers few in short stout racemes [5. Haplormosia](#)
 Calyx 5-dentate, the teeth small, membranous; fruit ovoid, rather small, dehiscing to expose 1 (–2) scarlet seeds; flowers in short slender racemes [6. Bowringia](#)
- 7 Anthers linear, longer than the filaments; petals nearly equal; fruit 1-seeded, stipitate; seed with a large spongy aril [7. Leucomphalos](#)
 Anthers shorter than the filaments:8
- 8 Fruit straight, flat, oblong, oblanceolate or lanceolate, several-seeded [8. Baphia](#)
 Fruit twisted, convex, 1–2-seeded, constricted between the seeds [9. Baphiastrum](#)

Tribe 2 — DALBERGIEAE

- 1 Leaflets without stipels; fruit 1- to few-seeded:2
 Leaflets with stipels, alternate or subopposite; anthers medifixed, versatile, opening by longitudinal slits:4
- 2 Leaflets alternate; anthers basifixed, opening by a terminal pore or a longitudinal slit [10. Dalbergia](#)
 Leaflets opposite; anthers medifixed, opening by a longitudinal slit:3
- 3 Fruit oblong, thin [11. Dalbergiella](#)
 Fruit orbicular, thick, woody (see also below) [16. Ostryocarpus](#)
- 4 Leaflets alternate; fruit 1-seeded5
 Leaflets opposite; fruit 1- to few-seeded:7
- 5 Stipules not spinescent:6
 Stipules spinescent; fruit broadly sickle-shaped, laxly nervose, glabrous; flowers in small axillary and terminal panicles [14. Drepanocarpus](#)
- 6 Fruit suborbicular, winged, smooth, bristly or verrucose; inflorescence racemose or paniculate; sap red [12. Pterocarpus](#)
 Fruit ovoid, turgid; flowers in lax spreading panicles [13. Andira](#)
- 7 Wing-petals free from the keel; fruit not winged, flat [16. Ostryocarpus](#)
 Wing-petals adnate up to the middle of the keel:8
- 8 Flowers arranged in clusters on the raceme; fruit narrowly winged on one side only [16. Leptoderris](#)
 Flowers arranged more or less singly on the axis of the raceme:9
- 9 Fruit winged on each side [17. Ostryoderris](#)
 Fruit not winged [18. Lonchocarpus](#)

Tribe 3 — GALEGEAE

- 1 Trees, or tall woody climbers or shrubs; leaflets with spreading nervation; the hairs (when present) basifixed: ..2
 Herbs or undershrubs:5
- 2 Fruit at length dehiscent; calyx truncate or broadly toothed; mostly trees or woody climbers;3
 Fruit indehiscent; calyx-teeth linear; small shrub; flowers in terminal and leaf-opposed racemes ... [22. Mundulea](#)
- 3 Leaflets opposite; leaves never 3-foliolate:4
 Leaflets alternate or leaves 3-foliolate [21. Craibia](#)
- 4 Calyx bilabiate, upper lip very large, covering the standard [19. Platysepalum](#)

	Calyx equally toothed, or truncate	20. Millettia
5	Hairs on leaves etc. (if present), not medifixed:	6
	Hairs on the leaves medifixed (the arms sometimes very unequal), sometimes with basifixed hairs present as well; anthers nearly always apiculate; flowers usually red:	10
6	Racemes or panicles terminal or leaf-opposed:	7
	Racemes axillary:	9
7	Leaflets without stipels; vexillary stamens connate at least to the middle:	8
	Leaflets with stipels, with spreading not parallel nerves; leaves 3-foliolate; vexillary stamen free from the base upwards	76. Pseudarthria
8	Venation of leaves closely parallel; leaflets (1–) 3-many; vexillary stamen connate about the middle with the others; flowers racemose or fasciculate	23. Tephrosia
	Venation of leaves not parallel; leaves 1-foliolate; vexillary stamen connate its full length; prostrate herb; stipules scarious; flowers glomerate	79. Melliniella
9	Leaves pinnate, with numerous leaflets; fruit many-seeded, elongated, often torulose	24. Sesbania
	Leaves pinnately 3-foliolate, gland-dotted beneath; fruit 1-seeded	25. Psoralea
10	Vexillary stamens free from the others; standard usually pubescent outside, if glabrous then fruit not 4-ribbed	26. Indigofera
	Vexillary stamens united with the others; standard glabrous; fruit stout, erect, 4-ribbed in a short axillary congested raceme	27. Cyamopsis

Tribe 4 — GENISTEAE

1	Staminal tube slit in the upper part:	2
	Staminal tube not slit in the upper part:	3
2	Style straight; fruit inflated; small branched annual with leaf-opposed subsessile flowers	28. Rothia
	Style abruptly bent near base; fruit often turgid but hardly inflated; leaves 3-foliolate or sometimes 1– or 5-foliolate; flowers usually yellow	29. Crotalaria
3	Calyx-lobes longer than the tube; leaves digitately 5–7-foliolate; flowers laxly racemose	30. Lupinus
	Calyx-teeth shorter than the tube; leaves 3-foliolate; flowers in dense sessile terminal heads; fruit viscid	31. Adenocarpus

Tribe 5 — LOTEAE

1	Leaves digitately 3-foliolate with leaf-like stipules; flowers umbellate; fruit much longer than the calyx	32. Lotus
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Tribe 6 — TRIFOLIEAE

1	Leaves digitately 3-foliolate, stipules not leaf-like; inflorescence a condensed raceme or subcapitate; fruit 1–5-seeded, shorter or but little longer than the calyx	33. Trifolium
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Tribe 7 — PHASEOLEAE

1	Leaves beneath (and frequently calyx) gland-dotted:	2
	Leaves not gland-dotted beneath:	7
2	Ovules 2:	3
	Ovules 4 or more:	6
3	Fruit compressed:	4
	Fruit turgid; erect shrubs; hilum of seed small	36. Moghania
4	Stems twining or trailing, with usually spike-like racemes of flowers; funicle of seed attached in centre of hilum	34. Rhynchosia
	Stems erect:	5
5	Style glabrous; stigma terminal; funicle of seed attached at one end of the long hilum	35. Eriosema
	Style bearded above; stigma hanging over the inner side at the apex; funicle of seed attached in the centre of the small hilum	56. Adenodolichos
6	Erect shrubs; flowers in subcapitate axillary racemes; fruit obliquely subtorulose	37. Cajanus
	Slender twiner; flowers paired in the leaf-axils; fruit septate between the seeds	38. Atylosia
7	Vexillary stamen free from near the base upwards:	8
	Vexillary stamen connate in the upper part with the others, free below:	27
8	Bracts or bracteoles large, conspicuous, more or less persistent:	9
	Bracts and bracteoles small and inconspicuous, caducous:	11

- 9 Style bearded along the inner face, leaves pinnate or 3-foliolate; bracts small; bracteoles broad at base of calyx [39. *Clitoria*](#)
- Style glabrous; leaves 3-foliolate: **10**
- 10 Inflorescence a lax, slender raceme, many-flowered with large persistent bracts; bracteoles absent [40. *Amphicarpa*](#)
- Inflorescence a short, rather dense, pedunculate raceme, few-flowered; bracts small and caducous; bracteoles large, enveloping the calyx [41. *Centrosema*](#)
- 11 Keel longer than the standard petal; fruit hispid with usually stinging hairs; flowers in zigzag racemes, short racemes or more or less umbellate [42. *Mucuna*](#)
- Keel shorter than the standard petal: **12**
- 12 Fruit ripening above ground-level: **13**
- Fruit ripening below ground-level: **26**
- 13 Style glabrous; herbaceous or woody: **14**
- Style bearded on one side or around the stigma; herbaceous twiners: **20**
- 14 Calyx entire or unilateral and irregularly jagged-lobate; trees or shrubs with large showy flowers; petals unequal, the standard much exceeding the wings and keel [43. *Erythrina*](#)
- Calyx more or less regularly lobed; petals subequal in length: **15**
- 15 Calyx 5-lobed; standard glabrous: **16**
- Calyx 4-lobed, upper lobe entire or shortly 2-toothed: **18**
- 16 Stems erect; for other characters see above [76. *Pseudarthria*](#)
- Stems twining: **17**
- 17 Stems long-pilose; fruit septate, densely pilose [44. *Calopogonium*](#)
- Stems tomentose; fruit not septate, pubescent [45. *Neorautanenia*](#)
- 18 Stems twining; fruit several-seeded: **19**
- Stems erect; fruit 2-seeded [48. *Pseudoeriosema*](#)
- 19 Nodes of raceme swollen; standard glabrous [46. *Galactia*](#)
- Nodes of raceme not swollen; standard mainly pubescent [47. *Glycine*](#)
- 20 Stigma laterally oblique: **21**
- Stigma terminal: **25**
- 21 Style hooded or flattened: **22**
- Style neither hooded nor flattened: **23**
- 22 Stigma with a large hood-like appendage attached on the outside; keel spirally twisted [49. *Physostigma*](#)
- Stigma flat and broad, more or less spatulate but not appendaged; keel not twisted [50. *Sphenostylis*](#)
- 23 Glands conspicuous beneath anthers of 5 of the stamens; keel not spirally twisted [51. *Haydonia*](#)
- Glands absent from all stamens: **24**
- 24 Stipules truncate at base; keel spirally twisted; fruit not septate [52. *Phaseolus*](#)
- Stipules cordate or appendaged below the base; keel straight or spirally twisted; fruit septate [53. *Vigna*](#)
- 25 Style glabrous; stigma surrounded by a ring of hairs [54. *Dolichos*](#)
- Style bearded down one side; stigma without a ring of hairs [65. *Lablab*](#)
- 26 Style bearded; calyx with short broad teeth [57. *Voandzeia*](#)
- Style glabrous; calyx deeply divided into narrow lobes [58. *Kerstingiella*](#)
- 27 Fruit 4-winged, 5–6-seeded; leaves 1–3-foliolate [59. *Psophocarpus*](#)
- Fruit not winged; leaves 3-foliolate: **28**
- 28 Fruit many-seeded; herbaceous twiners: **29**
- Fruit 1–3-seeded; nodes of raceme swollen; woody climber [63. *Dioclea*](#)
- 29 Nodes of raceme not swollen; alternate anthers aborted; fruit narrow, abruptly hooked at apex [60. *Teramnus*](#)
- Nodes of raceme swollen; apex of fruit not hooked; stamens all fertile: **30**
- 30 Calyx-lobes almost equal in size, all acute; fruit narrow [61. *Pueraria*](#)
- Calyx-lobes unequal in size, upper 2 rounded and larger than the lower 3; fruit broad, furrowed along the upper suture [62. *Canavalia*](#)

- 1 Slender woody twiners with pinnate leaves, the rachis ending in a bristle; stamens 9 connate in a sheath; flowers racemose [64. Abrus](#)
- Tribe 9 — HEDYSAREAE**
- 1 Leaflets without stipels: **2**
 Leaflets with stipels: **11**
- 2 Stamens monadelphous: **3**
 Stamens diadelphous: **5**
- 3 Fruit not ripening below ground-level: **4**
 Fruit ripening below ground-level; leaflets 2 pairs, without a terminal one; flowers axillary, solitary [67. Arachis](#)
- 4 Leaflets 3; calyx-tube resembling a stalk; flowers enclosed by 1 or more scarious bracts, inflorescence congested; stipules forming a sheath, not appendaged below the base [65. Stylosanthes](#)
 Leaflets 2; calyx-tube not like a stalk; flowers more or less enclosed by 2 opposite green bracts, inflorescence usually lax; stipules not sheathing, appendaged below the base [66. Zornia](#)
- 5 Calyx subregularly 5-toothed: **6**
 Calyx bilabiate: **7**
- 6 Stamens in 2 bundles of 5 each; shrubs or small trees [68. Ormocarpum](#)
 Stamens with 1 free and the rest connate; a slender herb [69. Antopetitia](#)
- 7 Fruit well exserted from calyx, or if included then stamens alternately long and short: **8**
 Fruit enclosed by the calyx; stamens all similar: **9**
- 8 Fruit straight or bent, if coiled then a prickly shrub [70. Aeschynomene](#)
 Fruit coiled in a ring; slender shrublet [71. Cyclocarpa](#)
- 9 Flowers not hidden by the bracts, the latter not reniform: **10**
 Flowers hidden by the large imbricate reniform bracts [74. Bryaspis](#)
- 10 Stipules not appendaged below point of insertion; inflorescence strobilate, a congested bracteate raceme, or few flowered; flowers reflexed [72. Kotschya](#)
 Stipules appendaged; inflorescence umbellate, bracts caducous; flowers erect [73. Smithia](#)
- 11 Fruit not bent backwards, more or less straight and exserted from the calyx: **12**
 Fruit bent backwards, included in the calyx [80. Uraria](#)
- 12 Calyx herbaceous; fruit compressed: **13**
 Calyx dry and glumaceous; fruit not compressed [78. Alysicarpus](#)
- 13 Leaf-rachis not winged; alternate filaments not flattened [75. Desmodium](#)
 Leaf-rachis winged, wing foliaceous; alternate filaments flattened [77. Droogmansia](#)

Gliricidia sepium (Jacq.) Walp.

Has been widely introduced into our area from tropical America

Derris microphylla (Miq.) Jacks.

From Burma, it is cultivated in Sierra Leone and Gold Coast.

Myroxylon balsamum Harms

From tropical America, it is cultivated in Sierra Leone and Gold Coast

Trigonella foenum-graecum Linn.

Is cultivated at Timbuktu

Melilotus indica (Linn.) All.

Has been recorded from Bilma, French Niger.

Medicago sativa Linn.

Has been recorded from Bilma, French Niger.

1. SOPHORA

Linn. — F.T.A. 2: 253.

- 1 Small shrub, covered with short white indumentum; leaves imparipinnate; leaflets about 7 pairs, opposite or alternate, elliptic, rounded at each end, about 4 cm. long and 2 cm. broad, shortly appressed-tomentellous beneath; racemes up to 25 cm. long; bracts linear-subulate, 6 mm. long; pedicels up to 1 cm. long; calyx cupular, nearly 1 cm. long, minutely tomentellous; corolla 1.5–2 cm. long; fruits long-stipitate, torulose, about 15 cm. long, minutely tomentellous[occidentalis](#)

***Sophora occidentalis* Linn. Syst., ed. 10, 2: 1015 (1759); Bak. f. Leg. Trop. Afr. 2: 595.**

APD: *Synonym of *Sophora tomentosa* subsp. *occidentalis* (L.) Brummitt*

***Sophora nitens* Schum. & Thonn. (1827).**

***Sophora tomentosa* of F.T.A. 2: 254, partly; Berhaut Fl. Sen. 41.**

A maritime plant with hoary foliage, yellow flowers and torulose fruits.

Sen.: fide Berhaut l.c. **S. L.:** Kent (fl. & fr. May) Deighton 2686! York (fl. & fr. May) Deighton 5528! **Lib.:** Cape Palmas (fl. & fr. July) T. Vogel 1! Garaway (fl. & fr. Mar.) Baldwin 11631! **G. C.:** Sekondi (fr. Dec.) Johnson 969! Axim (fr. Apr.) Chipp 166! **Togo:** Lome Warnecke 213! **S. Nig.:** Lagos (fl. & fr. Apr.) Dalz. 1367!

Also in **S. Tomé**, **West Indies** and east tropical S. America.

2. ANGYLOCALYX

Taub. in Engl. Bot. Jahrb. 23: 172 (1896). APD acc

- 1 Flowers amongst the leaves in racemes 10–15 cm. long; ovary glabrous; pedicels 10–12 mm. long; flowers about 1.5 cm. long; leaves 5–7-foliolate; leaflets alternate, ovate-lanceolate, rounded at base, acute but hardly acuminate at apex, 8–15 cm. long, 4–6 cm. broad, finely reticulate on both surfaces, lateral nerves obscure .[1. zenkeri](#)
- Flowers cauliflorous; ovary pubescent; pedicels about 4 mm. long:**2**
- 2 Racemes 4–5 cm. long, becoming twisted; standard not reflexed; leaves 3–7-foliolate; leaflets alternate or subopposite, ovate, cuneate or rounded at base, caudate at apex, 9–23 cm. long, 5–9 cm. broad, laxly reticulate; fruits torulose, up to 11 cm. long, long-beaked, glabrous [2. oligophyllus](#)
- Racemes 1–2 cm. long; standard reflexed; leaves 7–9-foliolate; leaflets alternate, oblong-elliptic, rounded at base, shortly acuminate at apex, 12–23 cm. long, 4.5–9 cm. broad, finely reticulate; fruits unknown [3. talbotii](#)

1. *Angylocalyx zenkeri* Harms in Engl. Bot. Jahrb. 45: 306 (1910); Bak. f. Leg. Trop. Afr. 2: 598; Kennedy For. Fl. S. Nig. 118.

APD: *Synonym of *Angylocalyx pynaertii* De Wild.*

A forest tree 50 ft. or more high, with thin brown bark.

S. Nig.: Sapoba (fl. & fr. Feb., Mar.) Kennedy 675! 2311! Okomu F.R., Benin Brenan 8545!

Also in **French Cameroons**.

2. *Angylocalyx oligophyllus* (Bak.) Bak. f. in Cat. Talb. 26 (1913); Leg. Trop. Afr. 2: 597. APD acc

***Sophora oligophylla* Bak. in F.T.A. 2: 254 (1871).**

***Angylocalyx ramiflorus* Taub. (1896) — Toussaint in Fl. Congo Belge 4: 37.**

***Angylocalyx trifoliolatus* Bak. f. (1913).**

A forest shrub 3–6 ft. high, with a single main stem, bark green or grey-brown; calyx and petals greenish-white with reddish spots; fruits yellow when ripe.

Lib.: Dukwia R. (Feb.) Cooper 203! 291! Bushrod Isl. (fl. & fr. Jan., Aug.) Baldwin 13077! 14071! **Dah.:** Tori-Kada Poisson! **S. Nig.:** Lagos (fl. & fr. Apr.) Moloney! Dalz. 1093! Ibadan (Sept.) Latilo FHI 23532! Okomu F.R., Benin (Feb.) Brenan 9062! 9076! Oban Talbot 74! Old Calabar R. (fl. & fr. Feb.) Mann 2232! **Br. Cam.:** Victoria (Mar.) Preuss 1374; Maitland 912! Tiko (Jan.) Dunlap 246! Kumba (fl. Mar., fr. May) Olorunfemi FHI 30553! Brenan 9420!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

3. *Angylocalyx talbotii* Bak. f. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 371 (1928); Kew Bull. 1928: 402; Bak. f. l.c. 598. APD acc

S. Nig.: Oban Talbot 239! 1205!

3. AFRORMOSIA

Harms in E. & P. Pflanzenfam. Nachtr. 3: 158 (1906). *APD acc*

- 1** Rain forest tree; leaf-rhachis glabrous or with a few rather long hairs, 8–15 cm. long; leaflets 7–9 (–11), alternate, ovate-elliptic, rounded at base, shortly acuminate, 3–7 cm. long, 1.5–3 cm. broad, upper leaflets longer than the lower, glabrous; stipels subulate, 3 mm. long; panicles terminal, short, many-flowered, with slender pubescent rhachis 2–6 cm. long; calyx appressed silky-pubescent, 1 cm. long, 5-toothed, upper 2 teeth almost connate, lower 3 teeth twice as long as the tube; flowers 13–14 mm. long; fruits 9–14 cm. long and about 2.5 cm. broad, flat, 1–3-seeded, pubescent when young becoming almost glabrous *1. elata*

Savannah tree; leaf-rhachis densely tomentose, at least in the groove of older leaves, 12–20 cm. long; leaflets 9–13, alternate or subopposite, variable in shape from narrowly lanceolate to broadly ovate-elliptic, usually cuneate or sometimes rounded at base, acumen emarginate, 3–7 cm. long, 2.5–5 cm. broad, glabrous or sparsely pubescent; stipels subulate, 2 mm. long; panicles terminal, lax, many-flowered, rhachis densely pubescent, 5–10 cm. long; calyx appressed-pubescent, 1 cm. long, 5-toothed, upper 2 teeth almost connate, lower 3 teeth about as long as the tube; flowers about 13 mm. long; fruits 5–15 cm. long, 2–3 cm. broad, flat, 1–3-seeded, glabrous, glaucous *2. laxiflora*

- 1. *Afrormosia elata* Harms** in Engl. Bot. Jahrb. 49: 430 (1913); Bak. f. Leg. Trop. Afr. 2: 600; Aubrév. Fl. For. C. Iv. 1: 282, t. 113, 4–5; Tousaaint in Fl. Congo Belge 4: 42, t. 3.

APD: Synonym of Pericopsis elata (Harms) Meeuwen

A large forest tree, to about 160 ft. high; surface of trunk somewhat fluted and with thin grey flaking bark leaving reddish patches beneath; in rain forest.

Iv. C.: Aubrév. 690! 1592; 1804! **G. C.:** Gambia, W. Ashanti Charmant! Bia Tano F.R. (fr. Dec.) Antah FH 5124! Goaso (fl. Apr., May, fr. May, June) Antah FH 5156! 5183! Charmant! Andoh FH 5505!

Also in **French Cameroons** and **Belgian Congo**.

- 2. *Afrormosia laxiflora* (Benth. ex Bak.) Harms** in Notizbl. 21, 2: 64 & fig. (1911); Engl. Pflanzenw. Afr. 3, 1: 527, t. 278; Chev. Bot. 218; Bak. f. l.c. 2: 600; Aubrév. Fl. For. Soud.-Guin. 306, t. 62, 1–3.

APD: Synonym of Pericopsis laxiflora (Benth.) Meeuwen

Ormosia laxiflora Benth. ex Bak. in F.T.A. 2: 255 (1871); Chev. Bot. 218.

A tree 30–40 ft. high, with usually tortuous trunk and red- or yellow-blotched bark, grey-pubescent pendulous branchlets and greenish-white or cream flowers; chiefly in savannah, often on rocky ground, sometimes in fringing forest.

Sen.: Berhaut 913. Bignona Serv. For. 51. **Fr. Sud.:** Yatenga Chev. 24786! **Fr. G.:** Kouroussa Pobéguin 663! Dentilla, 3,600 ft. (fr. Mar.) Sc. Elliot 5302! **S. L.:** Erimakuna (Mar.) Sc. Elliot 5246! Musaia (fr. Mar.) Deighton 5484! 5751! **Iv. C.:** Fétékro, Korhogo, Ferkéssédougou fide Aubrév. l.c. **G. C.:** Ejura (fr. Aug.) Chipp 740! Vigne FH 2040! Pan (Apr.) Kitson 598! 605! Gambaga (fl. Mar.) Hughes FH 4989! **Togo:** Sokode (Feb.) Kersting 324! **Dah.:** Savé (May) Chev. 23565! **N. Nig.:** Nupe Barter 1622! Jebba Dalton! Sokoto Ryan 10! Zaria (fr. May) Ogua FHI 7956! MacGregor 464! Kontagora (fr. Oct.) Dalz. 48! **S. Nig.:** Aroko (fr. Oct.) Unwin 149! **Br. Cam.:** Cameroon R. (Jan.) Mann 2203!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan**.

4. CAMOËNSIA

Welw. ex Benth. — F.T.A. 2: 251.

- 1** Climbing shrub; leaves digitately trifoliate; leaflets oblong to ovate-oblong, cuneate at base, subacute at apex, 8–11 cm. long, 4–5 cm. broad, coriaceous, glabrous; petiole 5–8 cm. long; flowers in erect, stoutly-pedunculate axillary racemes; pedicels about 2 cm. long with a pair of small ovate bracteoles at apex; calyx campanulate nearly 2 cm. long, with 5 broad deltoid teeth 6 mm. long; corolla about 5 cm. long; anthers medifixed, 5 mm.

long; ovary pubescent; fruits unknown [brevicalyx](#)

Camoënsia brevicalyx *Benth.* — F.T.A. 2: 251; Bak. f. Leg. Trop. Afr. 2: 602; Toussaint in Fl. Congo Belge 4: 34. *APD acc*

A woody forest climber, at least 60 ft. high; petals white or mauve with a yellow mark in the centre of the standard.

S. Nig.: Aboabam, Ikom Div. (Dec.) Keay!

Also in **Gabon**, **Spanish Guinea**, **Belgian Congo** and **Angola**.

5. HAPLORMOSIA

Harms in Engl. Pflanzenw. Afr. 3, 1: 532 (1915); Fedde Rep. 15: 23 (1919).

- 1 A tree; branchlets glabrous, purplish; leaves 1-foliolate, broadly elliptic, rounded or shortly cuneate at base, shortly and obtusely acuminate, 7–18 cm. long, 3.5–9 cm. broad, glabrous; lateral nerves about 6–8 pairs; petiole 2–3.5 cm. long; racemes lateral, few-flowered, up to 10 cm. long; pedicels 1 cm. long, with a pair of small bracteoles at the top; calyx glabrous outside except the margins of the 5 lobes; petals 5; stamens 10, free; fruit flat, obovate-elliptic, beaked, about 8 cm. long and 4–5 cm. broad, glabrous, 1-seeded [monophylla](#)

Haplormosia monophylla (*Harms*) *Harms* in Engl. Pflanzenw. Afr. 3, 1: 532 (1915); Bak. f. Leg. Trop. Afr. 2: 592; Aubrév. Fl. For. C. Iv. 1: 274, t. 107. *APD acc*

Crudia monophylla *Harms* (1901) — Chev. Bot. 233.

A tree 20–30 ft. or up to 100 ft. high, sometimes developing buttresses; flowers showy, blue; in swamps.

S. L.: Sherbro Dawe 465! Falaba (?) (Apr.) Aylmer 33! Baiama L. (Oct.) Deighton 5035! **Lib.:** Grand Bassa Dinklage 1912! 1913! Farmington R. (Feb.) Cooper 189! Brewersville (fr. Dec.) Baldwin 10975! **Iv. C.:** Abidjan Chev. 15420. Bingerville Chev. 17349. **S. Nig.:** Lagos Punch! Atijerri (Nov.) Kennedy 2004! Epe Barter 3269! Oni Sankey 15! Eket (fr. Apr.) Amachi FHI 24304!

Also in **French Cameroons**.

6. BOWRINGIA

Champ. ex Benth. in Hook. Kew Journ. 4: 75 (1852).

- 1 Slender-stemmed climbing shrub; leaves 1-foliolate, alternate, rounded at base, long-acuminate, 5–10 cm. long, 3.5–5 cm. broad, prominently nerved on both surfaces, glabrous; petiole about 2 cm. long; stipules minute; flowers few, in short axillary racemes; peduncle 2–5 cm. long; standard about 11 mm. long, orbicular, emarginate, shortly clawed; wing falcate-oblong; keel as long as the wings; stamens free or slightly joined at the base, anthers 1 mm. long, oblong; ovary stipitate; style filiform; fruits shortly stipitate, woody, 2–3 cm. long, dehiscent, 1–2-seeded [mildbraedii](#)

Bowringia mildbraedii *Harms* in Engl. Bot. Jahrb. 49: 432, t. 2 (1913); Bak. f. Leg. Trop. Afr. 2: 592; Toussaint in Fl. Congo Belge 4: 7.

APD: *Synonym of Leucomphalos mildbraedii* (*Harms*) *Breteler*

A climber; fruits boat-shaped, gaping to expose 1 or 2 vivid scarlet glossy seeds attached to the suture.

S. Nig.: Shasha F.R. (fr. Mar.) Jones & Onochie FHI 17182! Sapoba (fl. & fr. Mar., Oct.) Jones FHI 807! Ujor FHI 23925! Idanre (fr. Jan.) Brenan 8677! 8716! Onitsha Unwin 76!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo** and **Angola**.

7. LEUCOMPHALOS

Benth. ex Planch. — F.T.A. 2: 251.

- 1 A shrub; leaves 1-foliolate, ovate-elliptic, rounded at base, obtusely acuminate, 5–10 cm. long, 3.5–5 cm. broad, papery, glabrous, closely reticulate on both surfaces, with about 6 pairs of lateral nerves; petiole up to 6 cm. long, subterete; flowers in short axillary racemes towards the ends of the branches; axis of inflorescence pubescent, about 2 cm. long; pedicels 3–4 mm. long, puberulous; buds ovoid, 6 mm. long, glabrous; petals subequal; anthers longer than the filaments; fruits dehiscent, obliquely elliptic, beaked, 2–3 cm. long, stipitate, 1-seeded; seeds with a spongy aril [capparideus](#)

Leucomphalos capparideus *Benth. ex Planch.* — F.T.A. 2: 251; Bak. f. Leg. Trop. Afr. 2: 591. *APD acc*

A shrub or climber slightly branched from the base; petals and fruit white; seeds with a large white aril.

S. Nig.: Oban Talbot 1208! 1326! Akarara, Calabar (May) Ujor FHI 30840! **F. Po:** in woods (fl. & fr. Dec.) T. Vogel 264!

Also in **French Cameroons** and **Gabon**.

8. BAPHIA

Lodd. — F.T.A. 2: 247; Lester-Garland in J. Linn. Soc. 45: 221 (1921). *APD acc*

- 1 Calyx divided into two subequal parts:2
Calyx split down one side only (spathaceous):3
- 2 Branchlets and midrib shortly puberulous; inflorescence often branched towards the base; leaves oblong-elliptic, rounded or subcordate at base, rather long-acuminate, up to 14 cm. long and 7 cm. broad, slightly pubescent beneath; fruits linear, about 12 cm. long and 1.5 cm. broad, glabrous [1. polygalacea](#)
Branchlets and midrib densely rusty-tomentose; inflorescence not branched, 5–7 cm. long; leaves oblong-lanceolate, rounded at base, shortly acuminate, 7–11 cm. long, 2.5–4 cm. broad, hirsute on both surfaces on and towards the midrib; pedicels 5–7 mm. long; calyx 1 cm. long [2. heudelotiana](#)
- 3 Flowers in racemes, arranged singly on the axis:4
Flowers in axillary fascicles or solitary, or if apparently racemose (by falling of the leaves) then racemes terminal and pedicels fasciculate:5
- 4 Bracteoles oblong, nervose, about 2 mm. long; leaves ovate or oblong-elliptic, subcordate at base, long-acuminate, 9–20 cm. long, 4–6 cm. broad, glabrous, closely reticulate beneath; racemes axillary; pedicels nearly 1 cm. long; calyx about 7 mm. long; ovary tomentose [3. leptobotrys](#)
Bracteoles cupular, up to 1 mm. long; leaves elliptic, rounded at base, abruptly and obtusely acuminate, 8–13 cm. long, 4.5–6.5 cm. broad, glabrous and finely reticulate beneath; pedicels 6–10 mm. long; racemes clustered on the old wood, 2–5 (–20 cm.) long; calyx 8 mm. long; ovary glabrous [4. obanensis](#)
- 5 Ovary glabrous:6
Ovary tomentose:7
- 6 Petioles 13–25 mm. long (strictly, leaves are 1-foliolate); pedicels about 1 cm. long; calyx slightly pubescent in the upper part, about 1 cm. long; leaves oblong-elliptic to ovate, rounded at base, acuminate, 8–12 cm. long, 4–5 cm. broad, more or less pubescent on the nerves beneath; fruits oblanceolate, up to 15 cm. long, glabrous [5. nitida](#)
Petioles 5 mm. long (strictly, leaves are simple); pedicels about 1.5 cm. long; calyx glabrous, about 7 mm. long; leaves obovate, 6–9 cm. long, 2.5–4.5 cm. broad, abruptly acuminate, glabrous [6. gracilipes](#)
- 7 Petioles about 1 cm. long; lamina oblong, ovate-oblong or obovate, acuminate or caudate at apex:8
Petioles 2–7.5 cm. long; leaves suborbicular or very broadly elliptic, rounded or shortly cordate at base, abruptly and shortly triangular-acuminate at apex, 10–18 cm. long, 6–8 cm. broad, shortly pubescent on nerves beneath; lateral nerves 6–8 pairs; flowers axillary, bracteoles broadly ovate, 8 mm. long, tomentellous; calyx 1.4 cm. long; pedicels stout, 1 cm. long; ovary villous; fruits oblanceolate, 11–12 cm. long, glabrescent with a thickened margin [11. maxima](#)
- 8 Pedicels 15–22 mm. long, stiff, pubescent; anthers 3–4 mm. long; calyx about 1 cm. long, straight, in bud, appressed-pubescent; bracteoles small and cup-shaped; leaves oblong or ovate-oblong, 8–15 cm. long, 4–7 cm. broad, finely reticulate, leathery, glabrous except on the midrib [7. laurifolia](#)
Pedicels 5–9 mm. long; anthers 1–2 mm. long:9
- 9 Calyx abruptly curved towards apex in bud, about 1.5 cm. long, appressed-pubescent; leaves strongly reticulate and sparsely pubescent beneath, oblong-elliptic, rounded at base, acutely acuminate at apex, 8–10 cm. long, 3–4 cm. broad, lateral nerves about 6 pairs; fruits oblong, about 8 cm. long, rusty-pilose, becoming glabrous, very

acute at apex [8. *spathacea*](#)

Calyx straight in bud, up to 1 cm. long; leaves not reticulate, densely to sparsely pubescent beneath, often early becoming glabrescent, obovate to obovate-oblong, 4–12 cm. long, 2–5 cm. broad, lateral nerves 8–9 pairs; fruits oblanceolate, about 8 cm. long, glabrous, 1–3-seeded: **10**

- 10** Stipular bracts early caducous, linear-lanceolate, 3–5 mm. long, pubescent; calyx minutely and densely pubescent [9. *pubescens*](#)

Stipular bracts subpersistent, linear to slightly oblanceolate, 7–10 mm. long, strongly nerved, ciliate; calyx pubescent mainly towards the apex [10. *bancoensis*](#)

- 1. *Baphia polygalacea* (Hook. f.) Bak.** in F.T.A. 2: 248 (1871), excl. syn. *Delaria pyrifolia* Desv.; Lester-Garland in J. Linn. Soc. 46: 228; Chev. Bot. 217; Bak. f. Leg. Trop. Afr. 2: 573, incl. var. *nigerica* Bak. f. (1914); Tousseaint in Fl. Congo Belge 4: 12, fig. 2, F–G.

APD: *Synonym of Baphia capparidifolia subsp. polygalacea Brummitt*

APD: *Synonym of Baphia capparidifolia subsp. multiflora (Harms) Brummitt*

Bracteolaria potygalacea Hook. f. (1849).

Baphia pyrifolia Baill. (1885) — Milne-Redhead in Kew Bull. 1947: 26.

A shrub or small tree, sometimes scandent; flowers rather small, fragrant, with a silky calyx and white standard with a yellow spot, in copious short racemes or panicles.

S. L.: Rotamba Isl. (Mar.) Kirk! Bagroo R. Mann! Makump (May) Deighton 1705! Makene (Apr.) Deighton 5501! **Lib.:** Grand Bassa (July) T. Vogel 46! Monrovia (Nov.) Linder 1516! Whyte! Zorzor (Mar.) Bequaert 141! Belleyella, Boporo (Dec.) Baldwin 10657! **iv. C.:** Bingerville Chev. 17341. Guidéko Chev. 19086. Prolo Chev. 19886. **S. Nig.:** Onitsha (May) Jones FHI 492! Old Calabar R. (Feb.) Mann 2250! Holland 24! Itu Dist. (May) Akpata FHI 3940! Eket Dist. (May) Onochie FHI 33198! Kwa R. Talbot 1554! **Br. Cam.:** Preuss 1257! **F. Po:** Barter 2071! Mann 184! 396!

Also in **French Cameroons** and **Belgian Congo**.

- 2. *Baphia heudelotiana* Baill.** — F.T.A. 2: 249; Lester-Garland l.c. 229; Bak. f. l.c. 574. *APD acc*

An erect shrub 12–20 ft. high, with white flowers in rusty-tomentose racemes.

Fr. G.: Rio Pongo Heudelot 898!

- 3. *Baphia leptobotrys* Harms** in Engl. Bot. Jahrb. 29: 282 (1899); Lester-Garland l.c. 232; Bak. f. l.c. 583. *APD acc*

APD: *Synonym of Baphia leptobotrys subsp. silvatica (Harms) Soladoye*

Baphia silvatica Harms (1913).

A glabrous shrub, sometimes more or less scrambling.

S. Nig.: Oban Talbot 591! 1761! **Br. Cam.:** Tiko (Jan.) Dunlap 166! Victoria (Dec.) Mildbr. 10351!

Also in **French Cameroons** and **Gabon**.

- 4. *Baphia obanensis* Bak. f.** in Cat. Talb. 25 (1913); Lester-Garland l.c. 233; Bak. f. l.c. 582. *APD acc*

A tree about 30 ft. high; flowers white with a yellow base.

S. Nig.: Oban Talbot 1682!

- 5. *Baphia nitida* Load.** — F.T.A. 2: 249; Lester-Garland l.c. 230; Chev. Bot 216; Bak. f. l.c. 575. *APD acc*

Delaria pyrifolia Desv. (1826).

Baphia barombiensis Taub. (1896).

B angolensis of F.W.T.A., ed. 1, 1: 373, not of Welw. ex Bak.

A small tree or shrub up to 30 ft. high, with usually glabrous branchlets; flowers usually 1–4 together (occasionally crowded, sometimes fasciated), fragrant, white with a yellow centre. Often planted as a dye-wood; “camwood.”

S. L.: Freetown Kirk! Mesima (fr. Apr.) Deighton 3717! Newton (Feb.) Deighton 4997! Bunduei, Mende (fl. & fr. June) Small 717! 717a! **Lib.:** Mt. Barclay Bunting 28! Bushrod Isl. (Mar.) Barker 1229! Suen (Nov.) Baldwin 10459! Cess R. (Mar.) Baldwin 11270! Webo Dist. (July) Baldwin 12598! **iv. C.:** Farmar 359! Anoumaba (Nov.) Chev. 22410! And other localities fide Chev. l.c. **G. C.:** Cape Coast (July) T. Vogel 71! Axim (June) Chipp 252! Kumasi (Feb.) Kinloch FH 3245! Aburi Hills (Nov.) Howes 1169! **Togo:** Abohire (fl. & fr. Oct.) St. C. Thompson FH 3629! **Dah.:** Koussi Chev. 23239! **S. Nig.:** Lagos Isl. Barter 2206! Omo F.R. (Mar.) Jones & Onochie FHI 17181! Cross R. (Sept.) McLeod! Old Calabar R. (Feb.) Mann 2252! **Br. Cam.:** Victoria (Oct.) Mildbr. 10533! Cameroon R. (Jan.) Mann 757! Barombi Preuss 512! Kumba (fr. Apr.) Olorunfemi FHI 30522! **F. Po:** (fl. & fr. July) Mann 409! Barter!

Also in **French Cameroons**.

6. **Baphia gracilipes** *Harms* in E. & P. Pflanzenfam. Nachtr. 200 (1897); Engl. Bot. Jahrb. 26: 280 (1899); Lester-Garland l.c. 231; Bak. f. l.c. 575.

APD: *Synonym of Baphia dewildeana Soladoye*

APD: *Synonym of Baphia leptostemma var. gracilipes*

A small tree with slender glabrous branchlets.

S. Nig.: Obubra Dist. Rosevear 33/29!

Also in **French Cameroons**.

7. **Baphia laurifolia** *Baill.* in Adansonia 6: 213 (1866); Bak. f. l.c. 579; Toussaint l.c. 25. *APD acc*

APD: *Synonym of Baphia mambillensis Soladoye*

Baphia crassifolia *Harms* (1899) — Lester-Garland l.c. 234.

Baphia myrtifolia *Lester-Garland* (1921); Bak. f. l.c. 580.

Baphia densiflora *Lester-Garland*, partly, not of *Harms*.

A shrub or small tree, 20–50 ft. high; inflorescence rusty-tomentose, flowers white, fairly large, 3–7 together in leafless axils, or apparently paniculate by fall of the leaves.

S. Nig.: Oban Talbot 1718! 1719! Aningeje, Calabar (fl. & fr. May) Ejiofor FHI 21900! Itu, Calabar (June) Ujor FHI 27678! **Br. Cam.:** Fang, Bamenda, 3,000 ft. (May) Maitland 1532! S. Bakundu F.R. Ejiofor FHI 15065!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

8. **Baphia spathacea** *Hook. f.* — F.T.A. 2: 250; Lester-Garland l.c. 238; Bak. f. l.c. 587. *APD acc*

Baphia dinklagei *Harms* (1899) — F.W.T.A., ed. 1, 1: 373; Bak. f. l.c. 581.

A straggling shrub, 6–15 ft. high with nearly glabrous branchlets; flowers fairly large, yellowish-white with rusty-velvet calyx, 2–6 together in leaf axils appearing paniculate by fall of leaves.

S. L.: Nyaflanda (Sept.) Deighton 2236! Mano (Oct.) Deighton 3787! Njala (fl. Oct., fr. Nov.) Deighton 4913! 4925! **Lib.:** Grand Bassa Dinklage 1664! Bassa Cove Ansell! Du R. (July, Aug.) Linder 190! 302! Monrovia (Aug., Sept.) Baldwin 9202! 13062!

9. **Baphia pubescens** *Hook. f.* — F.T.A. 2: 250; Lester-Garland l.c. 238; Chev. Bot. 217; Bak. f. l.c. 580; Toussaint l.c. 24. *APD acc*

Baphia glauca *A. Chev.* Bot. 216, name only.

A shrub or tree about 20 ft. high, with brown-tomentose branchlets and inflorescence; flowers white with a yellow streak, sweet-scented.

Lib.: Jabroke, Webo (July) Baldwin 6469! 6495! Gbanga (Mar., June) Konneh 183! Blichenstaff 34! Farmington R. (Mar.) Bequaert 162! **iv. C.:** Mid. Comoé (Dec.) Chev. 22649! Danané (June) Collenette 45! Dimbokro Serv. For. 444! **G. C.:** Accra Plains (Apr.) Bally 37! E. Akim (Mar.) Johnson 718! Tarquah (Apr.) Chipp 199! Aburi Hills (June) Williams 290! **Togo:** Baumann 15! **Dah.:** Porto Novo Chev. 22792. **N. Nig.:** Gurara R. (July) Elliott 177! DeKina (June) Elliott 246! Kabba Prov. Kerr 2! **S. Nig.:** T. Vogel! Ikoyi Plains, Lagos (May) Dalz. 1209! 1369! Owo F.R. (Apr.) Jones FHI 3524! Okomu F.R. (Jan.) Brenan 8923! Sapoba (Mar.) Jones FHI 540!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

10. **Baphia bancoensis** Aubrév. in Bull. Soc. Bot. Fr. 82: 602 (1936); Fl. For. C. Iv. 1: 276, t. 109.

APD: *Synonym of Baphia pubescens* Hook. f.

A small tree or much-branched shrub.

Iv. C.: Abidjan Aubrév. 33! 352! Banco Aubrév. 1897. Djibi Aubrév. 1905. Dabou Chev. 17242.

11. **Baphia maxima** Bak. in F.T.A. 2: 250 (1871); Lester-Garland l.c. 238; Bak. f. l.c. 588. *APD acc*

Baphia longipetiolata Taub. (1896).

Baphia orbiculata Bak. f. (1913) — F.W.T.A., ed. 1, 1: 373; Bak. f. l.c. 585.

Shrub or tree 10–40 ft. high with leathery leaves; flowers in axillary yellow-tomentose fascicles; corolla white with yellow streaks.

S. Nig.: Oron to Eket Talbot! Oban Talbot 23! 1557! Calabar (Jan.) Espley 10! **Br. Cam.:** Cameroon R. (Jan.) Mann 2224!

Also in **Gabon**.

1. **Baphia** sp. **A.**

Pedicels slender, about 18 mm. long; ovary pubescent; stipular bracts linear, persistent, striate, 6–11 mm. long. Allied to *B. bancoensis* Aubrév. but material poor.

S. Nig.: Oban Talbot 18!

Imperfectly known species.

2. **Baphia** sp. **B.**

Pedicels about 1 cm. long; ovary glabrous; leaves rather large and coriaceous. Material poor.

S. Nig.: Oban Talbot!

Imperfectly known species.

9. BAPHIASTRUM

Harms in Engl. Bot. Jahrb. 49: 435 (1913). *APD acc*

- 1 A shrub; branchlets and petioles rusty-pubescent; leaves 1-foliolate, broadly elliptic to elliptic-lanceolate, acutely and shortly acuminate, 7–18 cm. long, 3–7 cm. broad, reticulate and more or less rusty-pubescent beneath, lateral nerves 6–8 pairs; petiole 1.5–3 cm. long, with 2 small stipels at the top; stipules lanceolate, about 7 mm. long, caducous; flowers in axillary fascicles or in apparent racemes; pedicels about 1 cm. long; bracteoles about 5 mm. long, broadly ovate, usually reflexed; calyx 1.3 cm. long, straight in bud, 4-lobed and split down one side in flower; corolla about 2 cm. long; anthers 3 mm. long; ovary densely yellow-pubescent; fruit 1–3-seeded, twisted[confusum](#)

Baphiastrum confusum (Hutch. & Dalz.) Pellegr. in Bull. Soc. Bot. Fr. 90: 162 (1943).

APD: *Synonym of Airyantha schweinfurthii subsp. confusa* (Hutch. & Dalziel) Brummitt

Baphia confusa Hutch. & Dalz. F.W.T.A., ed. 1, 1: 373 (1928); Kew Bull. 1928: 402; Bak. f. Leg. Trop. Afr. 2: 587.

Baphia spathacea of F.T.A. 2: 250, partly; Chev. Bot. 217; not Hook. f.

Baphiastrum spathacea of Staner (1936); Fl. Congo Belge 4: 31; not *Baphia spathacea* Hook. f.

A shrub or sometimes a climber 6 ft. up to 25 ft. high; flowers white with a yellow centre; seeds scarlet.

Iv. C.: Bingerville Chev. 15297. **G. C.:** Princes (fr. Jan.) Akpabla 771! Wiresu (fr. Dec.) Brown 2390! **S. Nig.:** Idanre F.R. (July) Ejiofor FHI 26737! Onitsha (Dec.) Onyeagocha FHI 7793! Calabar (May) Onochie FHI 33162! Holland 72! Oban Talbot 1209! 1331! 1555! **Br. Cam.:** Cameroon R. (Jan.) Mann 746! 2219! **F. Po:** Mann 216! Barter 2063!

Also in **Ubangi-Shari** and **Belgian Congo**.

10. DALBERGIA

Linn. f. — F.T.A. 2: 231.

***Ecastaphyllum* Browne (1756).**

- 1 Fruits suborbicular or obovate-semilunar with one side straight, woody, smooth or rugose; leaflets 1–3 (–7):.....2
Fruits oblong, thin, neither rugose nor woody, but sometimes spiny; leaflets 5–many:6
- 2 Leaves 1-foliolate (or very rarely 3-foliolate in *D. ecastaphyllum* f. *trifoliolata*):.....3
Leaves 3–7-foliolate:4
- 3 Leaflet minutely pubescent beneath, lateral nerves about 7, slightly prominent, hardly reticulate between, 8–17 cm. long, 4–7 cm. broad; petioles 3–8 mm. long; fruits obovate-orbicular, flat, smooth, about 3 cm. diam. ...[1. ecastaphyllum](#)
Leaflet glabrous or laxly pubescent beneath, lateral nerves about 12, very prominent, reticulate between, 8–23 cm. long, 4–11 cm. broad; petioles (5–) 7–15 mm. long; fruits obliquely ellipsoid, strongly thickened, corrugated, 1.5–3.5 cm. long, 1–2 cm. broad, 5–8 mm. thick[2. louisii](#)
- 4 Indumentum on undersurface of leaflets consisting of minute hairs, appressed and lying in one direction; terminal leaflet usually much larger than the others, 10–15 cm. long; fruits ovate-semilunar with one side almost straight, young fruit smooth, ripe fruit bullate and wrinkled, about 3 cm. long and 2 cm. broad[3. heudelotii](#)
Indumentum on undersurface of leaflets tomentose or of crisped hairs not obviously lying in one direction, dense or sparse; fruits rugose or with a raised centre surrounded by a narrow undulate wing:5
- 5 Leaflets beneath and branchlets softly tomentose; fruits ovate or semilunar, obviously rugose, pubescent[4. rugosa](#)
Leaflets beneath with a very few crisped hairs, more on the nerves (young leaflets pubescent becoming almost glabrous), branchlets slightly pubescent; fruits obovate with a raised centre and surrounded by an undulate wing, tomentose[5. crispa](#)
- 6 Branchlets and leaflets densely brown-villous; flowers in axillary racemes, 1.5–5 cm. long; calyx-teeth short; bracteoles narrow about 1 mm. long; ovary glabrous:.....7
Branchlets and leaflets shortly pubescent or tomentose or glabrous:8
- 7 Leaflets ending in a setose point, lower leaflets ovate, uppermost oblong-elliptic to obovate, rounded at base, 1–6 cm. long, 1–3.5 cm. broad; stipules lanceolate, acuminate, about 1 cm. long; inflorescences very short, up to 2 cm. long[6. setifera](#)
Leaflets obtuse or slightly acute, broadly ovate-elliptic, terminal leaflet 9–11 cm. long and about 6 cm. broad, lower leaflets considerably smaller; stipules broadly lanceolate, 1 cm. or more long; inflorescences 2–5 cm. long; fruits narrowly oblong, rounded at each end, shortly stipitate, 6–9 cm. long, 1.5–2 cm. broad, glabrous and laxly reticulate, thin, 1–3-seeded[7. dalzielii](#)
- 8 Leaflets orbicular, or broader than long, broadly cuneate at base:9
Leaflets oblong or ovate, longer than broad:10
- 9 Leaflets rounded or slightly emarginate at apex, 5–6 cm. long, 4–5 cm. broad, glabrous; flowers in axillary panicles 8–12 cm. long; petals all about 7 mm. long; stamens connate into 2 bundles of 5 each; calyx and peduncles glabrous; fruits 5–10 cm. long, about 2 cm. broad, glabrous, 1–4-seeded[8. latifolia](#)
Leaflets abruptly acuminate, 4–5.5 cm. long, 3–4 cm. broad, sparsely appressed-pubescent on both sides with hyaline hairs; flowers in rather lax axillary panicles (6–) 10–15 cm. long; standard 9 mm. long, longer than the other petals; stamens connate into 1 bundle; calyx and peduncles sparsely pubescent; fruits 6–7 cm. long, about 8 mm. broad, glabrescent, 1–2-seeded[9. sissoo](#)
- 10 Branchlets ending in a spine; bark light grey; leaflets 4–6 on each side, obovate-elliptic, truncate and emarginate at apex, 1–3.5 cm. long, 1–2 cm. broad, becoming strongly nerved, laxly pubescent beneath; flowers in lax panicles about 10 cm. long; petals 4–5 mm. long; calyx-tube very slightly pubescent; fruits acute at both ends, about 3 cm. long and 1 cm. broad, glabrous[10. melanoxylon](#)
Branchlets not ending in a spine (but note axillary spines in No. 12); bark brown:11
- 11 Calyx glabrous, glabrescent or unevenly and shortly pubescent:12
Calyx evenly pubescent:.....14
- 12 Leaflets more or less acute at apex, elliptic or ovate, subopposite, reticulate but nerves not prominent, 2–3 cm. long, 1.5–2 cm. broad, glabrous; inflorescences terminal or axillary, 10–12 cm. long, lax; flowers about 6 mm. long; calyx glabrous; fruits oblong, rounded at apex, cuneate and stipitate at base, 5–6 cm. long, 1 cm. broad, glabrous, 1–2-seeded[11. boehmii](#)
Leaflets obtuse or emarginate;.....13
- 13 Standard petal deltoid, cuneate to a short claw, bifid at apex; flowers numerous in pedunculate cymes; fruits oblong, cuneate at base, 3–3.5 cm. long, about 8 mm. broad, glabrous, 1–2-seeded; plant with axillary spines (except on the youngest branchlets); leaflets 11–19, oblong to obovate, cuneate at base, truncate or rounded and

- rather broadly emarginate at apex, 1.5–4 cm. long, 1–2 cm. broad, young leaflets tomentose becoming glabrescent beneath [12. *hostilis*](#)
- Standard petal square, truncate to subcordate at base with a distinct claw, bifid at apex; flowers in lax terminal or axillary panicles 5–12 cm. long; fruit oblong, stipitate, 8–13 cm. long, 3–4 cm. broad, becoming glabrous and laxly reticulate, 1–2-seeded; plant without spines; leaflets 11–13, oblong-elliptic, rounded at both ends and often slightly emarginate at apex, 2.5–6 cm. long, 1.5–3.5 cm. broad, sparsely pubescent beneath [13. *saxatilis*](#)
- 14** Bracteoles 3 mm. long, ovate, equalling the calyx-tube, persistent; calyx-lobes 1–2 mm. long; flowers about 9 mm. long in elongate panicles; pedicels 3 mm. long; leaflets 19–23, oblong or slightly ovate-oblong, rounded at both ends, 3.5–7 cm. long, 1.5–2.5 cm. broad, appressed-pubescent beneath [14. *sp. A*](#)
- Bracteoles 1 mm. long, inconspicuous at base of bud, shorter than calyx-tube, caducous: **15**
- 15** Calyx-tube strongly ribbed and curved, 4 mm. long, minutely pubescent; fruits broadly oblong, about 10 cm. long and 3.5 cm. broad, glabrous, slightly reticulate outside the solitary seed; leaflets about 19, oblong, truncate or widely emarginate at apex, 1–1.5 cm. long, about 6 mm. broad, sparsely pubescent beneath; flowers few in simple racemes [15. *afzeliana*](#)
- Calyx-tube not strongly ribbed or curved, 2–3 mm. long; pedicels 1–2 mm. long: **16**
- 16** Fruits large, 10–15 cm. long, 4–5 cm. broad, glabrous, laxly reticulate, 1 (–2)-seeded; inflorescence a many-flowered panicle up to 30 cm. long; calyx densely pubescent; pedicels 1 mm. long; leaflets 3–7 cm. long, 1.5–2.5 cm. broad, rounded at both ends, slightly emarginate, glabrous to appressed-pubescent [16. *lactea*](#)
- Fruits 5–8 cm. long, 1–2 cm. broad: **17**
- 17** Ovary glabrous: **18**
- Ovary pubescent; fruits glabrescent, hispid or spiny: **19**
- 18** Leaflets 5–7, acute, narrowly elliptic or ovate-elliptic, 4–7 cm. long, 1.5–3 cm. broad, appressed-pubescent beneath; flowers in dense axillary and terminal fascicles [17. *oligophylla*](#)
- Leaflets 13–21, obtuse and sometimes slightly emarginate at apex, lateral ones oblong, the terminal obovate, 1–4 cm. long, 8–20 mm. broad, rather densely pubescent or tomentose beneath, especially the midrib; flowers in axillary and terminal racemes 2–6 cm. long [18. *rufa*](#)
- 19** Stamens connate into 2 bundles of 5 each; inflorescences much shorter than the leaves, 2–5 cm. long; fruits softly appressed-pubescent to glabrescent, oblong, flat, 6–9 cm. long, 1.5–2.5 cm. broad, 1–2-seeded, seeds not prominent; leaflets variable in shape and size, elliptic-oblong to broadly ovate, mucronate or acute at apex, 2–6 cm. long, 1–3 cm. broad [19. *oblongifolia*](#)
- Stamens connate into 1 bundle; inflorescences as long as, or much longer than the leaves, 10–30 cm. long; leaflets broadly obovate-elliptic, 2–4 pairs, 3–5 (–7) cm. long, 2–3 cm. broad, rounded to subcordate at base, ending in a setose point at apex, pubescent beneath, with 6–8 prominent nerves: **20**
- 20** Fruits evenly hispid, 1–2-seeded, prominent and reticulate on the seeds, oblong, 5–9 cm. long, about 2 cm. broad; stipules erect, about 6 mm. long, caducous [20. *albiflora* subsp. *albiflora*](#)
- Fruits densely pubescent and with thick-based, weak-pointed spines concentrated upon the prominent seed, oblong-elliptic, 6–7 cm. long, about 2 cm. broad, 1-seeded; stipules reflexed, about 10 mm. long, caducous [20a. *albiflora* subsp. *echinocarpa*](#)

1. *Dalbergia ecastaphyllum* (Linn.) Taub. in E. & P. Pflanzenfam. 3, 3: 335 (1894); Bak. f. Leg. Trop. Afr. 2: 532 (incl. forma *trifoliolata* Stapf). *APD acc*

Hedysarum ecastaphyllum Linn. (1759).

Ecastaphyllum brownii Pers. (1807) — F.T.A. 2: 236; Chev. Bot. 211; F.W.T.A., ed. 1, 1: 375.

A shrub, up to 20 ft. or more high, with dark purple branchlets and small crowded panicles of fragrant white flowers; **in swamps by the sea.**

Sen.: Heudelot 510! Tambana, Casamance (Feb.) Chev. 3427! **Gam.:** Bathurst Don 5! **Port. G.:** Cacine (Sept.) Esp. Santo 626! Bissau (Mar.) Esp. Santo 1885! Fulacunda (fr. May) Esp. Santo 2026! Fr. G. Heudelot 905! **S. L.:** Mahela (fr. Dec.) Sc. Elliot 4134! Bonthe and Turtle Islands (Nov.) Deighton 2332! Wellington (fl. & fr. Oct.) T. S. Jones 243! Luti (July) Jordan 281! **Lib.:** Grand Bassa (fl. & fr. July) T. Vogel 52! 81! Baldwin 11300! Harper, Maryland (June) Baldwin 5981! **G. C.:** Botchiano, Accra Irvine 1029! Axim (fr. Feb.) Irvine 2266! **S. Nig.:** Nun R. (Aug.) T. Vogel 5! Eket Talbot 3093! Degema Talbot! Brass (fl. & fr. Apr.) Rhind FHI 30490! Barter 1828! **Br. Cam.:** Victoria Preuss 1303! Maitland 48! 606! **F. Po:** Mann 262!

Extends to **Angola**, also in West Indies and tropical S. America.

2. *Dalbergia louisii* Cronquist in Bull. Jard. Bot. Brux. 22: 217 (1952). *APD acc*

A climber or shrub up to 15 ft. high; flowers white; beside inland streams.

S. Nig.: Eket Dist. Talbot!

Extends southwards to **Belgian Congo**.

3. **Dalbergia heudelotii** *Stapf* in J. Linn. Soc. 37: 95 (1905); Bak. f. l.c. 533. *APD acc*

Ecastaphyllum heudelotii (*Stapf*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 375 (1928); Kew Bull. 1928: 403, partly.
E. monetaria of F.T.A. 2: 236; of Chev. Bot. 211; not of Pers.

A climbing shrub, but sometimes a tree or semi-prostrate shrub, branches purple; flowers white.

Fr. G.: Rio Nunez Heudelot 623! **S. L.:** Kowama (fr. Nov.) Deighton 5258! **Lib.:** Grand Bassa (Mar., Aug.) Dinklage 1986! Baldwin 11220! Sanokwele (Sept.) Baldwin 12501! Duport (Aug.) Linder 310! **G. C.:** Princes (fl. & fr. Jan.) Akpabla 774! **S. Nig.:** Jamieson R., Sapoba (fl. & fr. June) Onochie FHI 23317!

4. **Dalbergia rugosa** *Hepper* in Kew Bull. 1956: 133, fig. 9B. *APD acc*

Ecastaphyllum heudelotii of F.W.T.A., ed. 1, 1: 375, partly (MacDonald 479, Aylmer 64).

A climber with white flowers turning yellow.

S. L.: Kenema MacDonald 479! Pujehun (Apr.) Aylmer 64! Matotoka (fr. July) Thomas 1285! **Lib.:** Mecca, Grand Cape Mount (Dec.) Baldwin 10838!

5. **Dalbergia crispa** *Hepper* in Kew Bull. 1956: 132, fig. 9A. *APD acc*

A climber, similar to the last.

S. L.: Thomas 10101! 10604! Batkanu (Apr.) Thomas 18! Njala (fl. May, fr. Mar.) Deighton 1733! 1822! Gbap (Mar.) Adames 20!

6. **Dalbergia setifera** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 374 (1928); Kew Bull. 1928: 403; Bak. f. l.c. 530.

APD: *Synonym of Dalbergia dalzielii Baker f. ex Hutch. & Dalziel*

A straggling shrub, rusty-villous on the young parts, with short clustered racemes of white flowers.

G. C.: Evans 24! Sekondi (Feb.) Vigne FH 4752!

7. **Dalbergia dalzielii** *Bak. f. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 374 (1928); Kew Bull. 1928: 402; Bak. f. l.c. 529. *APD acc*

A shrub, erect or half climbing, with densely clustered white flowers.

S. Nig.: Lagos Barter 2141! Ebute Metta, Lagos (Jan.) Millen 95! 211! Ikoyi Plains, Lagos (fl. & fr. Feb.) Dalz. 1220! 1368! Bonny Kalbreyer 55!

Also in **French Cameroons** and **Gabon**.

8. **Dalbergia latifolia** *Roxb.* Pl. Corom. 2: 7, t. 113 (1798). *APD acc*

A planted tree; flowers white; sometimes subspontaneous in western Nigeria.

S. Nig.: Ibadan (Feb., Sept.) Latilo FHI 27329! Ujor FHI 30499! Olokemeji (fr. Oct.) A. F. Ross 14!

A native of India.

9. **Dalbergia sissoo** *Roxb.* Fl. Ind., ed. Carey, 3: 223 (1832). *APD acc*

A planted tree; flowers pale yellow; sometimes subspontaneous.

S. L.: Batkanu (Nov.) Glanville 447! **G. C.:** Gambaga (Apr.) Morton GC 9027! **N. Nig.:** Samaru, Zaria (fr. May) Baldwin 12002! Jebba (fl. & tr. Feb.) Meikle 1184! **Br. Cam.:** Bama, Dikwa Div. (fl. & fr. Jan.) McClintock 170!

A native of India.

10. **Dalbergia melanoxylon** *Guill. & Perr.* —F.T.A. 2 233; Chev. Bot. 210; Bak. f. l.c. 520; Aubrév. Fl. For. Soud.-Guln. 311, t. 63, 1–3. *APD acc*

A small tree up to 20 ft. high, much-branched, glabrous, armed with woody spines which are the hardened tips of short branches often bearing leaves and flowers; [in savannah country](#).

Sen.: Lelièvre! Kouma Heudelot! **Iv. C.:** Yoko to Ouahigouya, Mossi (fr. Aug.) Chev. 24715! Kaya Aubrév. 2144. **N. Nig.:** Yola (fl. & fr. Apr.) Dalz. 6! Katagum Dalz. 34! Damaturu Kabau, Bornu (fr. Oct.) Daggash FHI 22014! Kiri, Adamawa (May) Rosevear FHI 26601!

Also in [Ubangi-Shari](#), [A.-E. Sudan](#), [Abyssinia](#) and southwards into Transvaal.

11. ***Dalbergia boehmii* Taub.** in Pflanzenw. Ost-Afr. C, 218 (1895); Aubrév. l.c. 311, t. 63, 4–6; Bak. t. l.c. 523. *APD acc*

***Dalbergia elata* Harms** (1899) — Bak. f. l.c. 522.

***Byrsocarpus caillei* A. Chev.**, name only.

A tree or shrub 12–30 ft. high; flowers white.

Sen.: Casamance Aubrév. **Port. G.:** Baba (fl. & fr. May) Esp. Santo 2479!

Also in [Ubangi-Shari](#), [Belgian Congo](#), [E. Africa](#), [Mozambique](#), [Nyasaland](#) and [N. & S. Rhodesia](#).

12. ***Dalbergia hostilis* Benth.** — F.T.A. 2: 232; Bak. f. l.c. 521. *APD acc*

Dalbergia rufa of F.W.T.A., ed. 1, 1: 375, partly (Chev. 1468!).

Dalbergia saxatilis of F.W.T.A., ed. 1, 1: 375, partly.

***Dalbergia djalensis* A. Chev.** Bot. 210, name only.

A shrub, climbing or erect, usually with axillary spines sometimes clustered and copious rusty-pubescent inflorescences of whitish flowers of variable size; [in dry woodland](#).

Port. G.: Bissau (fr. Jan.) Esp. Santo 1641! **Fr. G.:** Rio Nunez Heudelot 596! Mamou (Nov.) Caille in Hb. Chev. 14681! Kouria Caille in Hb. Chev. 14886! Nzérékore (fr. Oct.) Baldwin 9685! **S. L.:** Musaia (Nov., Dec.) Miszewski 19! Deighton 4549! Bumban (fr. Jan.) King 1696! **Lib.:** Vonjama (fr. Oct.) Baldwin 10114! **Iv. C.:** Mt. Kouan, Danané (Apr.) Chev. 21271! **G. C.:** Sekodumasi (fr. Oct.) Vigne FH 3392! Abetifi, Kwaha (June) Irvine 299! Krobo (fl. June, fr. Jan.) Irvine 1785! 1911! Abuantem, Mampong (fr. May, Aug.) Andoh FH 5023! 5327! **Togo:** Kersting A. 513! R. Kabo F.R. (Dec.) St. C. Thompson FH 3606! **Dah.:** Poisson 102! **N. Nig.:** Naraguta (Dec.) Lely 736! **S. Nig.:** Abeokuta Irving 84! Oke-Opin, Ilorin (Dec.) Ajayi FHI 19273! Enugu (Dec.) Keay FHI 28143! Udi Plateau (July) W. D. MacGregor 307!

Also in [Spanish Guinea](#), [Ubangi-Shari](#), [Gabon](#) and [Belgian Congo](#).

13. ***Dalbergia saxatilis* Hook. f.** — F.T.A. 2: 233; Bak. f. l.c. 524. *APD acc*

***Dalbergia macrothyrsa* Harms** (1899) — Bak. f. l.c. 526.

A more or less glabrous climbing or straggling shrub; flowers white or pink, in loose axillary or terminal panicles.

Port. G.: Canchungo (fr. Apr.) Esp. Santo 1237! Bissau (fl. Feb., Nov., fr. Mar.) Esp. Santo 1828! 1839! 1882! **Fr. G.:** Rio Nunez Heudelot 717! Conakry (Apr.) Debeaux 317! Farfar 148! Fouta Djallon Maclaud 379! Nzérékore (fl. & fr. Oct.) Baldwin 97051 9708! **S. L.:** Sugar Loaf Mt. Barter! Sherbro Sc. Elliot 5794! 5852! Njala (fr. Feb.) Deighton 1932! Rokupr (Feb.) Deighton 4992! **Lib.:** Cape Palmas Ansell! Zigida (Mar.) Bequaert 127! Kulo, Sinoe (Mar.) Baldwin 11436! **Iv. C.:** Gouékouma, Toura (fr. May) Chev. 21657! **G. C.:** Aburi (Jan., Nov.) Johnson 298! 547! Nsuta (fl. & fr. May) Vigne FH 1734! Cadbury Hall, Kumasi (Oct.) Darko 604! **Togo:** Amedzofe (Feb.) Irvine 167! **S. Nig.:** Lagos Isl. Barter 2233! Dalz. 1032! Ubiaja (fr. Aug.) Oyebade FHI 20404! Eket Talbot 3106! Onitsha (Oct., Nov.) Parsons 145! Keay FHI 22284! Old Calabar R. (Feb.) Mann 2251! **Br. Cam.:** Victoria (Jan.) Maitland 285!

Extends south into [Angola](#).

14. ***Dalbergia* sp. A.** *APD acc*

A woody climber, [in derived savannah](#); flowers yellow or pale violet; more mature material with fruits is required.

S. Nig.: Milliken Hill, Enugu (Nov.) Keay FHI 22719! Udi (Nov.) Ejiofor FHI 24684!

15. ***Dalbergia afzeliana* G. Don** Gen. Syst. 2: 375 (1832); Bak. f. l.c. 528. *APD acc*

***Dalbergia afzelii* Bak.** in F.T.A. 2: 234 (1871).

***Dalbergia macrocarpa* Burtt Davy** (1937), name only.

A hard-wooded climber, rusty-pubescent on the young branchlets and inflorescence; flowers whitish.

Port. G.: Canchungo (May) Esp. Santo 2047! Bafata (fr. Feb.) Esp. Santo 2672! **Fr. G.:** Boulivél, Fouta Djallon (Sept.) Chev. 18632! **S. L.:** Lumbaraya, Talla Hills (fr. Feb.) Sc. Elliot 4944! Yetaya (Sept.) Thomas 2405! Bumbuna (fr. Oct.) Thomas 3336! Nganyama, Tikonko (fl. Sept., fr. Nov.) Deighton 4026! 5261! **G. C.:** Kumasi (fr. Dec.) Vigne FH 1408! **S. Nig.:** Udi, Onitsha (Aug.) Jones FHI 6438!

Also in **Ubangi-Shari**, **Gabon**, **Belgian Congo** and **Angola**.

16. *Dalbergia lactea* Vatke in Oest. Bot. Zeit. 29: 251 (1879); Bak. f. l.c. 525. *APD acc*

Dalbergia preussi Harms (1899) — F.W.T.A., ed. 1, 1: 375; Bak. 1. l.c.

A scandent shrub; flowers white; in upper margins of montane forest.

S. Nig.: Ikwette Plateau, Obudu, 5,300 ft. (Dec.) Savory & Keay FHI 25190! **Br. Cam.:** Buea (fl. Jan., July, Dec.) Preuss 897! Dunlap 148! Maitland 46! 882! Lakom, 6,000 ft., Bamenda (fr. May) Maitland 1369! Lakka, 4,000 ft., Bamenda (fr. June) Maitland 1566!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and in eastern Africa from A.–E. **Sudan** and Abyssinia to Mozambique and S. Rhodesia.

17. *Dalbergia oligophylla* Bak. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 374 (1928); Kew Bull. 1928: 403; Bak. f. l.c. 532. *APD acc*

Dalbergia bakeri of F.T.A. 2: 235, partly.

A shrub 25 ft. high; in gullies at upper edge of montane forest.

Br. Cam.: Cam. Mt., 5,000–6,000 ft. (fl. Dec., fr. Mar.) Mann 2172! Maitland 496! 910!

18. *Dalbergia rufa* G. Don l.c. (1832); Bak. f. l.c. 534. *APD acc*

Dalbergia pubescens Hook. f. (1849) — F.T.A. 2: 234; Chev. Bot. 210; Bak. f. l.c. 527.

Dalbergia lagosana Harms (1899) — Bak. f. l.c. 526.

A lax-branched scrambling shrub; flowers white, fragrant; in secondary regrowth.

Port. G.: Catió (fr. July) Esp. Santo 2102! **Fr. G.:** Heudelot 895! Fouta Djallon (Mar.) Chev. 12454! **S. L.:** Bonthe (Feb.) Dalz. 954! Rokupr (May) Jordan 267! Messima (Apr.) Adames 29! Njala (Mar. Deighton 1579! **S. Nig.:** Lagos (Oct.) Moloney! Old Calabar Thomson 27! Eket Dist. Talbot!

19. *Dalbergia oblongifolia* G. Don l.c. (1832); Bak. f. l.c. 534. *APD acc*

Dalbergia dinklagei Harms (1899) — Chev. Bot. 210; Bak. f. l.c. 529.

A densely branched shrub or climber with short clusters of fragrant white flowers and rusty flat pods.

S. L.: Mapaki to Mabonto (Aug.) Deighton 1397! Njala (Oct., Dec.) Deighton 1538! 5187! Ronietta (fr. Nov.) Thomas 5329! **Lib.:** Grand Bassa (fl. Aug., fr. Oct.) Dinklage 1724! 1987! 2098! Gbanga (Sept.) Linder 526! Moala (fr. Nov.) Linder 1371! **Iv. C.:** Zaranou (Mar.) Chev. 17618.

20. *Dalbergia albiflora* A. Chev. ex Hutch. & Dalz. subsp. *albiflora* — F.W.T.A., ed. 1, 1: 374 (1928); Kew Bull. 1928: 403; Bak. f. l.c. 523. *APD acc*

A climber up to 40 ft. high; flowers white, fragrant.

S. L.: Rowala (July) Thomas 1142! 1203! Magburaka (fl. Aug., fr. Jan.) Deighton 1367! 3601! Njala (Aug.) Deighton 1844! Tikonko (fl. & fr. Nov.) Deighton 5263! **Iv. C.:** Soubré to Péhiri (June) Chev. 19175!

20a. *Dalbergia albiflora* subsp. *echinocarpa* Hepper in Kew Bull. 1956: 131, fig. 8B. *APD acc*

A straggling shrub or small tree 10–15 ft. high; on a sandy river bank and cliff top.

S. Nig.: Enugu Extension F.R., Ekulu R. (Fr. Sept.) Onochie FHI 34100! Cons. of For. 835! 336! Milliken Hill, Enugu (fl. & fr. May) Jones FHI 18863!

1. *Dalbergia* sp. nr. *macrosperma* Welw. ex Bak.

Dalbergia pachycarpa of Kennedy For. Fl. S. Nig. 121.

This has the minute indumentum of *D. heudelotii*; in other characters, such as the cuneate leaflet bases, it resembles *D. macrosperma*, although the fruits are thicker, semi-lunar and the indumentum is short and straight instead of tomentose. Further material is required.

S. Nig.: Sapoba Kennedy 183!

Imperfectly known species.

2. *Dalbergia* sp. nr. *pachycarpa* (*De Wild. & Th. Dur.*) *Uhlr. ex De Wild.* (1925), not of Ducke (1922).

Terminal leaflet 16 cm. long, 7.5 cm. broad, lateral leaflets smaller, euneate at base, shortly acuminate at apex, appressed-pubescent beneath; pedicels 3–4 mm. long; fruits similar to *D. crispa*. Further material is required.

G. C.: Kumasi F.R. (fl. & fr. Aug.) Akwa FH 1770! Mepe, Volta R. (Aug.) Adogla FH 4057!

Imperfectly known species.

3. *Dalbergia ajudana* *Harms* in Engl. Bot. Jahrb. 26: 295 (1899).

A shrub with rusty-pubescent branchlets and inflorescence; type presumably destroyed.

Dah.: Ajuda, on the banks of lagoons Newton.

Imperfectly known species.

11. DALBERGIELLA

Bak. f. in J. Bot. 66, suppl. 1: 128, t. A.–J. (1928).

- 1 A climbing shrub; leaves imparipinnate; leaflets 8–13 pairs, opposite or subopposite, oblong, rounded and slightly unequal-sided at base, subacute at apex, 3–7 cm. long, 1.5–3 cm. broad, sparsely pubescent beneath; inflorescence unbranched, 5–15 cm. long; flowers fasciculate on the rachis; pedicels about 1 cm. long, tomentellous; calyx deeply lobed, lobes acute, tomentellous; fruits oblong-lanceolate, 8–11 cm. long, flat, 1-seeded, slightly pubescent, laxly reticulate. [welwitschii](#)

Dalbergiella welwitschii (*Bak.*) *Bak. f.* l.c. (1928); *Bak. f. Leg. Trop. Afr.* 2: 535. *APD acc*

Ostryocarpus? *welwitschii* *Bak.* in F.T.A. 2: 240 (1871); F.W.T.A., ed. 1, 1: 378.

O. racemosus *A. Chev.* (1912) — Bot. 213.

A wide-climbing shrub, often in [riverain forest](#); flowers pinkish-white or yellow with a large red streak on the standard, fragrant.

Fr. G.: Mamou to Soya (Jan.) Chev. 20368! Kouroussa (Nov.) Pobéguin 593! **S. L.:** Falaba (fr. Apr.) Sc. Elliot 5443! Musaia (Dec.) Deighton 4507! **G. C.:** Lyon 2643! Kumasi Vigne FH 1775! Nyenahin, Ashanti (Jan.) Vigne 1010! **Togo:** Misahöhe (Nov.) Mildbr. 7388! **N. Nig.:** Kagara, Zungeru (ft. & fr. Dec.) Meikle 841! **S. Nig.:** Abeokuta (fr. Jan.) Rowland! Olokemeji (fr. Jan.) Dodd 377! Ibadan (Dec.) Keay FHI 21151! Owo (fl. & fr. Jan.) G. Burton FHI 30797! **Br. Cam.:** Gashaka Dist. Latilo & Daramola FHI 34405!

Also in [Gabon](#), [Ubangi-Shari](#), [Belgian Congo](#) and [Angola](#).

12. PTEROCARPUS

Jacq. — F.T.A. 2: 237.

- 1 Fruit-body smooth or verrucose, glabrous or pubescent but not bristly:2
 Fruit-body bristly, fruits orbicular, broadly winged; leaves 10–15-foliolate:5
 2 Leaflets 1–5, opposite or subopposite, oblong-elliptic to suborbicular, emarginate at apex, 4–7.5 cm. long, 2–5 cm. broad, closely reticulate and shining above, glabrous; calyx about 6 mm. long, shortly lobed, glabrous outside; fruits obovate to obovate-elliptic, stipitate, 2.5–4.5 cm. long, about 3 cm. broad, reticulate .. [l. lucens](#)
 Leaflets (5–) 7–15, alternate; fruits orbicular:3

- 3 Fruits very broad, 8–9 cm. diam., with broad circular wing and slightly raised fruit-body, stipitate:4
Fruits 3–4 cm. diam., narrowly winged, fruit-body thick and verrucose, tomentellous; bracts subulate; calyx deeply lobed, densely pubescent; leaflets (5–) 7–9, ovate or elliptic-ovate or rarely oblong, rather abruptly acuminate, 5–12 cm. long, 3–3.5 cm. broad, glabrous and closely reticulate on both sides; stipules falcate ...4. [santalinoides](#)
- 4 Calyx almost glabrous outside, margins of lobes and inside densely tomentose; bracts linear-lanceolate, about 10 mm. long, bracteoles similar; fruits with old style about 1/4 round edge from stipe, margin smooth, glabrous; leaflets 7–9, upper leaflets oblong-elliptic, obtuse or shortly acuminate, 8–13 cm. long, 3.5–6 cm. broad, lower leaflets smaller in size, glabrous, lateral nerves prominent on both surfaces 2. [mildbraedii](#)
Calyx densely pubescent outside, almost glabrous inside; bracts linear-lanceolate, about 10 mm. long, bracteoles linear; fruits with old style about 1/6 round edge from stipe, margin undulate between, tomentose; leaflets 11–17, upper leaflets oblong, acuminate, 6–8 cm. long, 2–4 cm. broad, lower leaflets smaller and elliptic, midrib sometimes pubescent, lateral nerves less marked3. [soyauxii](#)
- 5 Savannah tree; branchlets not prickly; leaflets mostly oblong-elliptic, gradually and very shortly acuminate, 6–11 cm. long, 3–6 cm. broad, rather closely and shortly pubescent beneath; flowers precocious, in lax panicles; calyx softly tomentellous; fruits suborbicular, 4–7 cm. diam., the body with long slender bristles 5. [erinaceus](#)
Forest tree; branchlets with numerous short prickles; leaflets mostly oblong, rounded at each end, shortly and abruptly acuminate, 7–14 cm. long, 3–5 cm. broad, slightly pubescent beneath; flowers in lax panicles about as long as the leaves; calyx tomentellous; fruits orbicular, 9–14 cm. diam., the body shortly bristly 6. [osun](#)

1. **Pterocarpus lucens** *Lepr. ex Guill. & Perr.* — F.T.A. 2: 238; Chev. Bot. 212; Bak. f. Leg. Trop. Afr. 2: 539; Aubrév. Fl. For. Soud.-Guin. 312, t. 63, 1–2. **APD acc**

Pterocarpus simplicifolius Bak. in F.T.A. 2: 238 (1871).

Pterocarpus lucens var. **simplicifolius** (Bak.) A. Chev. Bot. 213 (1920); Bak. f. l.c. 540.

Pterocarpus abyssinicus Hochst. ex A. Rich. (1847) — F.W.T.A., ed. 1, 1: 376.

A small tree, 20–30 ft. high, with light yellow flowers; in [savannah forest](#)

Sen.: Perrottet! 257! Tambacounda Berhaut 708. **Fr. Sud.:** Quiébéfé (June) Chev. 1003! Bamako (June) Waterlot 11201 **Fr. G.:** Kadi Pobéguin 2098. **Iv. C.:** Kaya, Koudougou & Dédougou fide Aubrév. l.c. **G. C.:** Bantale to Kalpaw R. (Apr.) Kitson 836! **N. Nig.:** Nape Barter! Kontagora (Apr.) Dalz. 311! Gobme Div. (fl. & fr. June) Kennedy FHI 7238! Yola (fl. & fr. Jan.) Dalz. 11!

Also in [French Cameroons](#), [Ubangi-Shari](#), [Belgian Congo](#), [A.-E. Sudan](#), [Abyssinia](#) and [Uganda](#).

2. **Pterocarpus mildbraedii** *Harms* in Notizbl. Bot. Gart. Berl. 8: 152 (1922); Bak. f. l.c. 541; Aubrév. Fl. For. C. Iv. 1: 286, t. 113, 1–3. **APD acc**

A tree 40–50 ft. high, with glabrous branchlets and yellow flowers with conspicuous bracts; fruits membranous, large, flat and smooth.

Iv. C.: fide Aubrév. l.c. **G. C.:** Tafo (fr. Sept.) Andoh FH 4524! **Dah.:** Zagnanado (fr. Feb.) Chev. 23091! **N. Nig.:** Kurmin Damisa, Jagindi Keay & Onochie FHI 21550! **S. Nig.:** Chesters 196! Benin Kennedy 1968! **Br. Cam.:** Victoria (fr. Feb.) Maitland 376! 396! Dumbo, Bamenda (fr. June) Maitland 1556! Kung, 4,000 ft. (fr. Mar.) Johnstone 299! **F. Po:** Mann 188!

Also in [French Cameroons](#) and [Gabon](#).

3. **Pterocarpus soyauxii** *Taub.* in Hook. Ic. Pl. 24, t. 2369 (1895); Bak. f. l.c. 542. **APD acc**

A [forest](#) tree up to 100 ft. high; flowers yellow.

S. Nig.: Nikrowa, Benin (fr. Sept.) Iriah FHI 23091! Ogoja Dist. Rosevear 49/29! 55/29! Ikom (fl. & fr. June) Rosevear 60/31! **Br. Cam.:** Victoria (fr. Dec.) Maitland 100! Bimbria (June) Unwin 206!

Also in [French Cameroons](#), [Ubangi-Shari](#), [Spanish Guinea](#), [Gabon](#), [Belgian Congo](#) and [Cabinda](#).

4. **Pterocarpus santalinoides** *L'Hér. ex DC.* Prod. 2: 419 (1825); Bak. f. l.c. 539; Aubrév. Fl. For. C. Iv. 1: 284, t. 112 **APD acc**

Pterocarpus esculentus *Schum. & Thonn.* (1827) — F.T.A. 2: 238; Chev. Bot. 212.

A tree 30–40 ft. high, often with short or divided stem, shining foliage and brilliant yellow flowers; usually evergreen but in some situations briefly deciduous; [on river banks](#); [fruits float in water](#).

Sen.: Upper Gambia R. Heudelot 363! **Gam.:** Saunders 2! **Fr. Sud.:** Bamako (Jan.) Chev. 257! R. Bani Chev. 1145. L. Débo Chev. 3433. **Port. G.:** Cabochanqué, Catió (young fr. June) Esp. Santo 2066! **Fr. G.:** Farmar 224! 306! Conakry

Lecerf! Boké Chiliou! Kindia Chev. 13026. **S. L.:** Oldfield! Scarcies R. (Jan.) Sc. Elliot 4789! Bumpé Ferry (fr. Sept.) Small 185! Bagbe, Gola F.R. (May) Small 672! **Lib.:** Dukwia R. (fr. May) Cooper 466! Du R. (fr. July) Linder 94! Kakata, Salala Dist. (fl. & fr. May) Baldwin 5840! Bushrod Isl. (Dec.) Barker 1098! **Iv. C.:** fide Chev. l.c. **G. C.:** Ankobra R. (Feb.) Brent 8 D.D.! Oblogo (fl. & fr. Apr.) Irvine 203! Axim (Nov.) Chipp 28! Opro F.R. (Apr.) Andoh FH 4710! **Togo:** Kersting 39! Ho (Mar.) Williams 54! **Dah.:** Poisson! Atacora Mts. Chev. 24117. **N. Nig.:** Nupe Barter 886! Minna (Dec.) Meikle 7321 Wamba Div. (Mar.) Thornewill 56! Share F.R., Ilorin (Jan.) Ujor FHI 31602! **S. Nig.:** Ibadan (Jan.) Meikle 958! Usonigbe F.R., Benin (Nov.) Adekunle FHI 24246! Eket Dist. Talbot 3127! Old Calabar R. (Feb.) Mann 2236! **Br. Cam.:** Preuss 1148! Amba Bay (Jan.) Mann 713!

Also in **French Cameroons** and tropical S. America.

5. *Pterocarpus erinaceus* Poir. — F.T.A. 2: 239, excl. syn. *P. angolensis* DC. and *P. echinatus* DC.; Chev. Bot. 211; Bak. f. l.c. 543; Aubrév. Fl. For. Soud.-Guin. 314, t. 63, 3–4. **APD acc**

A tree up to 40–50 ft. high, often covered with golden-yellow flowers when quite leafless.

Sen.: Heudelot 47! 373! Perrottet 256! Casamance Chev. 3425. **Gam.:** Mungo Park! Sankuli Kunda (Jan.) Dalz. 8026! **Fr. Sud.:** Kati (Jan.) Chev. 173! Katou Chev. 543. Sansanding Chev. 3432. **Port. G.:** Bissau (fl. Jan., fr. Feb.) Esp. Santo 1676! 1763! **Fr. G.:** Heudelot 628! Aiguiri (Feb.) Pobéguin! Kouroussa (fl. & fr. Jan.) Pobéguin 645! Kindia (Mar.) Chev. 13366! 13386. **S. L.:** Wallia to Buyabuya, 3,600 ft. Sc. Elliot 4776! Musaia (fl. & fr. Feb.) Deighton 5357! Kambia (Feb.) Jordan 395! **G. C.:** Afram Plains (fr. Jan.) Brent 397! Mampong Brown 2063! Bafiawa to Kulkum (fr. Apr.) Kitson 606! **Togo:** Atakpame (Nov.) Mildbr. 7405! Sokode Kersting A. 223! **N. Nig.:** Nupe Barter 1190! 1628! Zungeru (fl. & fr. July) Dalz. 47! Zamfara F.R. (fr. Apr.) Keay FHI 16164! Bauchi Plateau (fl. & fr. Jan.) Lely P. 1! **S. Nig.:** Olokemeji F.R. (fl. & fr. Oct.) A. F. ROSS 11! 82/13/5! Foster 154! Punch 148! Oyo (fr. Mar.) FHI 20533!

Also in **French Cameroons**, **Chad** and **Gabon**.

6. *Pterocarpus osun* Craib in Kew Bull. 1910: 329; Bak. f. l.c. 544. **APD acc**

A tree with a comparatively short bole; branchlets brown-tomentellous and often bristly or prickly; flowers small, yellow. The Camwood.

S. Nig.: Ibadan F.R. (fr. Dec.) Punch 114! Ubiaja to Okwesan, Benin (Oct.) Oyebade FHI 20410! Ikom (fr. Jan.) Holland 198! Obubra (fr. Oct.) Unwin 35! 36! 37!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea** and **French Congo** and **Belgian Congo**.

***Pterocarpus indicus* Willd.**

This Indian species has been introduced to Njala, Sierra Leone.

13. ANDIRA

Lam. — F.T.A. 2: 246. **APD acc**

- 1** A tree; branchlets shortly tomentellous; leaves imparipinnate, alternate; leaflets 5–6 pairs, stipellate, narrowly oblong, slightly acuminate and emarginate, up to 8 cm. long and 4 cm. broad, at first pubescent beneath, soon glabrous, the terminal leaflet rather long-stalked and more obovate; stipels rigidly subulate; flowers in large spreading panicles; pedicels very short; calyx cupular, 4 mm. long, with very short teeth, pubescent; corolla about 1.3 cm. long; stamens diadelphous; fruits ovoid, shortly pointed, about 4 cm. long and 2.5 cm. thick, glabrous, 1-seeded *inermis*

***Andira inermis* (Wright) DC.** — F.T.A. 2: 246; Chev. Bot. 216; Bak. f. Leg. Trop. Afr. 2: 563; Aubrév. Fl. For. Soud.-Guin. 318, t. 47, 3–7. **APD acc**

APD: *Synonym of Andira inermis subsp. rooseveltii (De Wild.) J. B. Gillett ex Polhill*

Geoffraea inermis Wright (1787).

Lonchocarpus staudtii Harms (1899).

Andira jamaicensis Urb. (1905).

A **savannah** tree, 20–30 ft. high, with handsome pink flowers and pendulous fruits, resembling a small mango.

Sen.: Heudelot 380! **Gam.:** Galam Heudelot 54! **Fr. Sud.:** Kaarta Dubois 127. Macina Chev. 24917! **Iv. C.:** Tiengara, Bamaro & Ferkessédougou fide Aubrév. l.c. **G. C.:** Nangodi (Mar.) Vigne FH 4490! **Togo:** Tamberma Kersting A 554! **Fr.**

Nig.: Gourma Prov. Chev. 24356. **N. Nig.:** Sokoto (May) Lely 832! Bauchi Plateau (Feb.) Lely P. 192! Selfwe R., Plateau Prov. (Mar.) Thornewill 54! Yola (fr. May) Dalz. 168!

Also in **French Cameroons**, **Ubangi-Shari** and **A.-E. Sudan**.

14. DREPANOCARPUS

G. F. W. Mey. — F.T.A. 2: 237.

- 1 Branchlets armed with pairs of recurved stipular spines; leaves 5–7-foliolate; leaflets oblong-elliptic, rounded at each end, up to 4.5 cm. long and 2 cm. broad, minutely pubescent beneath, pitted above, with numerous lateral nerves and a thick margin; flowers in small axillary and terminal panicles; calyx glabrous; fruits broadly sickle-shaped, about 3 cm. in diam., flattened, laxly nervose, glabrous [lunatus](#)

Drepanocarpus lunatus (*Linn. f.*) *G. F. W. Mey.* — F.T.A. 2: 237; Bak. f. Leg. Trop. Afr. 2: 536; Chev. Bot. 211.

APD: *Synonym of Machaerium lunatum (L. f.) Ducke*

Pterocarpus lunatus *Linn. f.* (1781).

Drepanocarpus africanus *G. Don* (1832).

A glabrous shrub, erect or sometimes straggling, thorny and with purple flowers; **in salt marshes and tidal portions of rivers.**

Sen.: Heudelot! Cape Nase (Feb.) Döllinger! Casamance (Feb.) Chev. 3430! **Gam.:** Hayes 553! Kudang (Jan.) Dalz. 8068! **Port. G.:** Bissau (fl. Jan., fr. Feb.) Esp. Santo 1217! 16911 **Fr. G.:** Conakry Chev. 12083; 12093; 12096; 12244. **S. L.:** Kitchom (Dec.) Sc. Elliot 4335! Sulima (fr. Mar.) Small 525! Gbabai (fr. Mar.) Glanville 247! Gbinti (fr. Jan.) Deighton 991! **Lib.:** Grand Bassa (July) T. Vogel 49! Monrovia (Dec.) Baldwin 10505! Whyte! Fisherman's Lake (Dec.) Baldwin 10885! **Iv. C.:** Bingerville Chev. 17268. Bliéron Chev. 19914. **G. C.:** Axim (Mar.) Morton GC 6597! **Dah.:** Porto Novo Chev. 23311. **S. Nig.:** Lagos Barter 2147! Dalz. 930! Big Town, Eket Dist. (fl. & fr. May) Onochie & Ujor FHI 32936! **Br. Cam.:** Victoria (Feb.) Maitland 399!

Along the west coast as far as northern **Angola**; also on the east coast of tropical America and neighbouring islands.

15. OSTRYOCARPUS

Hook. f. — F.T.A. 2: 240; Dunn in Kew Bull. 1911: 362.

- 1 Leaflets 5, elliptic to obovate, rounded at each end, with a twisted apex, 8–20 cm. long, 4–10 cm. broad, glabrous and reticulate on both surfaces; panicles elongated, many-flowered, up to 30 cm. long, lateral branches rather short, up to 4 cm. long; corolla about 8 mm. long; fruits broadly elliptic, flat, about 7 cm. long and 5 cm. broad, glabrous [l. riparius](#)

Leaflets 7, elliptic, shortly and obtusely acuminate, acumen twisted, scarcely reticulate; lateral branches of inflorescence 5–6 cm. long; corolla 10–12 mm. long [2. major](#)

1. **Ostryocarpus riparius** *Hook. f.* — F.T.A. 2: 240; Chev. Bot. 213; Bak. f. Leg. Trop. Afr. 2: 546. *APD acc*

Millettia micrantha *Harms* (1899).

A glabrous climbing or straggling shrub, with yellow-white flowers; habitat semi-aquatic.

Port. G.: Bolama (fr. Mar.) Esp. Santo 2051! **Fr. G.:** Rio Nunez Heudelot 817! **S. L.:** T. Vogel 59! 146! Bagroo R. (Apr.) Mann 832! Pujehun (Mar.) Lane-Poole 20! Campbell Town (fl. & fr. July) Lane-Poole 308! York (fr. May) Deighton 5531! **Lib.:** Dinklage 1725! Sinoe Basin Whyte! Dukwia R. (May) Cooper 460! **Iv. C.:** Assinie Chev. 17876. Tabou to Bériby Chev. 19983. **S. Nig.:** Ogun R., Lagos (fr. Dec.) Onochie FHI 26676! R. Niger T. Vogel! Jamieson R., Sapoba (fl. Nov., fr. June) Onochie FHI 23319! Keay FHI 28073! **Br. Cam.:** Victoria (Apr.) Maitland 604! **F. Po:** Gutridge Bay (Nov.) T. Vogel 107!

Also in **Spanish Guinea**, **Gabon** and **Belgian Congo**,

2. **Ostryocarpus major** *Stapf* in J. Linn. Soc. 37: 96 (1908); Bak. f. l.c. 546.

APD: Synonym of Aganope gabonica (Baill.) Polhill

Similar to the preceding species; flowers whitish, fragrant.

Lib.: Monrovia Whyte! Dukwia R. (Feb.) Cooper 194! Fortsville, Grand Bassa (Mar.) Baldwin 11165!

16. LEPTODERRIS

Dunn in Kew Bull. 1910: 386.

- 1 Leaves 3-foliolate; leaflets with 5–7 pairs of lateral nerves, elliptic, rounded at base, subacute at apex, young leaflets densely tomentose on both sides becoming glabrous above and coriaceous, 8–12 cm. long, 5–7 cm. broad; peduncle about 5 cm. long, densely pubescent at first; racemes axillary or subterminal, 10–30 cm. long with few-flowered fascicles on the rhachis; calyx densely grey-tomentose; keel about 8 mm. long, wing slightly shorter, standard hooded; fruits flat, 4–7 cm. long, about 1.5 cm. broad, densely yellow-brown, pubescent, very slightly winged on one edge [1. trifoliolata](#)
- Leaves 5–9-foliolate: **2**
- 2 Lateral nerves 5–7 pairs, 13–25 mm. apart; stipels 1–3 mm. long: **3**
- Lateral nerves 11–16 pairs, about 9 mm. apart; stipels 7–10 mm. long: **7**
- 3 Leaflets tomentose beneath, hairs more or less erect; branchlets and leaf-rhachis softly tomentellous: **4**
- Leaflets sparsely appressed-pubescent, with the hairs lying in one direction, or glabrous; branchlets and leaf-rhachis shortly pubescent, becoming glabrous: **5**
- 4 Keel yellow, 11–14 mm. long; calyx 3–4 mm. long; racemes of fascicles elongate and rather thick, 20–45 cm. long; leaflets obovate, broadly emarginate and usually mucronate or more or less rounded at apex, 10–15 cm. long, 6–10 cm. broad [2. brachyptera](#)
- Keel red, 6–7 mm. long; calyx 2 mm. long; racemes of fascicles slender, paniculate, about 15 cm. long; leaflets elliptic, rounded or mucronate at apex, 6–8 (–13) cm. long, 4–5.5 (–6.5) cm. broad [3. micrantha](#)
- 5 Fruits broadly elliptic, 4 cm. long, 3 cm. broad, glabrous, narrowly winged on one side; flowers 14–15 mm. long; leaves broadly obovate, shortly cuneate at base, rounded at apex with midrib extended into a mucronate tip, 9–12 cm. long, 4.5–6 cm. broad, sparsely and minutely pubescent beneath [4. cyclocarpa](#)
- Fruits oblong, 2–4 times as long as broad: **6**
- 6 Style glabrous or with a few hairs near base; keel petals triangular, 8–11 mm. long, with a folded pocket at the lower end, claw linear, appendage on upper edge conspicuous; upper edge of wing sometimes ciliate; standard flat, thin, oblong-obovate, more or less tapering to the claw; stipels 1 mm. long; leaflets elliptic to obovate-elliptic, rounded at base, shortly acuminate, 7–15 cm. long, 5–8 cm. broad, shortly appressed-pubescent beneath [5. fasciculata](#)
- Style pubescent with stiff dark hairs; keel petals obovate-oblong, 7–8 mm. long, without a pocket, claw short, adnate to staminal tube, hardly appendiculate; wing glabrous; standard hooded at apex, rather thick and striate, oblong, abruptly narrowed into the claw with 2 small appendages; stipels subulate, 2–3 mm. long; leaflets obovate-elliptic, rounded to subcordate at base, broadly reflexed at apex, 10–20 cm. long, 8–10 cm. broad; very minutely and sparsely pubescent beneath or glabrous [6. congolensis](#)
- 7 Flowers with pedicels 2 mm. long; bracts lanceolate, 10–12 mm. long, 3–4 mm. broad at base, appressed-pilose; calyx 3 mm. long, shortly 4-lobed, upper lobe entire; bracteoles subulate; fruits flat, 6–9 cm. long and about 2.5 cm. broad, appressed-pubescent, upper edge broadly winged; leaves 7-foliolate, upper leaflets with 14–16 pairs of lateral nerves, oblong to obovate-oblong, rounded at base, shortly and abruptly acuminate [7. aurantiaca](#)
- Flowers sessile; bracts ovate, 10–13 mm. long, about 8 mm. broad at base, densely pilose; calyx 4 mm. long, shortly 4-lobed, upper lobe toothed at apex; bracteoles lanceolate; young fruits densely yellow-pilose, upper edge narrowly winged; leaves 5–7-foliolate, upper leaflets with 11–12 pairs of lateral nerves, oblong to obovate-oblong, rounded to subcordate at base, very shortly acuminate [8. ledermannii](#)

1. *Leptoderris trifoliolata* Hepper in Kew Bull. 1956: 133. *APD acc*

A woody climber in flooded lowland; flowers pale yellow with wing petals pale mauve.

S. L.: Njala (fl. Nov., fr. Jan.) Deighton 4957! 5296!

2. *Leptoderris brachyptera* (Benth.) Dunn in Kew Bull. 1910: 388; Chev. Bot. 216; Bak. f. Leg. Trop. Afr. 2: 557. *APD acc*

Lonchocarpus brachypterus Benth. (1880).

Derris brachyptera Bak. in F.T.A. 2: 246 (1871).
Spatholobus ? africanus Bak. in F.T.A. 2: 188 (1871).
Leptoderris reticulata Dunn (1910) — Berhaut Fl. Sen. 42.

A widely climbing shrub, sometimes erect, with abundant inflorescences of pink or whitish flowers; flowering infrequently; in riverain forest.

Sen.: Berhaut 1641. **Port. G.:** Bissau (Mar.) Esp. Santo 1863! Uno-Am Onhô (fr. May) Esp. Santo 2013! **Fr. G.:** Fouta Djallon Heudelot 828! Kindia Chev. 13078; 13090! Kissidougou Chev. 20722. **S. L.:** Musaia, very common (Feb.) Deighton 4253! **G. C.:** Axim (Feb., Mar.) Vigne FH 2834! Irvine 2168! Morton GC 8466! Kumasi (Dec.) Vigne FH 2634! **Togo:** Amedzofe (Feb.) Morton GC 8403! **Dah.:** Zagnanado (Feb.) Chev. 22950! **S. Nig.:** Lagos (Aug.) Rowland! Ibadan (fl. & fr. Feb.) Meikle 1160! Oban Talbot 1511! **Br. Cam.:** Victoria (fl. & fr. Feb.) Maitland 385! **F. Po:** Mann 157!

Extends to **Angola**.

3. *Leptoderris micrantha* Dunn l.c. 389 (1910); Bak. f. l.c. 556. *APD acc*

A climbing shrub, with purple flowers.

G. C.: Aburi Scarp (Nov.) Morton A. 132! **S. Nig.:** Ijero (Nov.) Millen 43! Enugu (fl. & fr. Dec.) Ainslie 179! 180!

4. *Leptoderris cyclocarpa* Dunn in Kew Bull. 1914: 245; Chev. Bot. 216; Bak. f. l.c. 558. *APD acc*

A climbing shrub, glabrous except the inflorescence; flowers yellow, in short axillary panicles.

Fr. G.: Ditinn (Apr.) Chev. 13578! **G. C.:** Ankase F.R. (Dec.) Vigne FH 3184!

5. *Leptoderris fasciculata* (Benth.) Dunn in Kew Bull. 1910: 390; Chev. Bot. 216; Bak. f. l.c. 559. *APD acc*

Lonchocarpus ? fasciculatus Benth. (1860) — F.T.A. 2: 243; Chev. Bot. 214.
Leptoderris dinklagei Harms (1922).

A lofty woody climber, with stem sometimes 1 ft. in diameter, and rusty-velvety branchlets; flowers rather small but variable in size, fragrant, white or purplish in panicles up to 18 in. long.

Sen.: Casamance Chev. 3423; 3424! **Port. G.:** Bissau (Feb.) Esp. Santo 756! 1726! Chitole (Feb.) Esp. Santo 2881! **Fr. G.:** Fouta Djallon Heudelot 693! Kindia Chev. 13089. Farana (Jan.) Chev. 20439! **S. L.:** Afzelius! Regent (Jan.) Dalz. 8118! Magbile (fr. Dec.) Thomas 6307! 6469! Njala (Jan.) Deighton 5016! **Lib.:** Peahtah (Oct.) Linder 922! Vonjama (Dec.) Baldwin 9891! Gbanga (Oct.) Baldwin 10535! **S. Nig.:** Shasha F.R. (Mar.) Jones & Onochie FHI 16693!

Also in **Spanish Guinea**, **Gabon** and **Ubangi-Shari**.

6. *Leptoderris congolensis* (De Wild.) Dunn in Kew Bull. 1910: 390; Bak. f. l.c. 560. *APD acc*

Derris congolensis De Wild. (1904).
Leptoderris fasciculata of F.W.T.A., ed. 1, 1: 379, partly (Talbot 3342).

A climber with leathery leaves.

S. Nig.: Eket Dist. Talbot 3342!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

7. *Leptoderris aurantiaca* Dunn in Kew Bull. 1914: 245; Bak. f. l.c. 558. *APD acc*

A woody climber with stems covered with flaking scales; flowers white, in large pilose panicles.

S. Nig.: Omo F.R., Ijebu Ode Prov. (fi. Nov., fr. Mar.) Jones & Onochie FHI 16743! Tamajong FHI 20749!

Also in **French Cameroons** and **Gabon**.

8. *Leptoderris ledermannii* Harms in Notizbl. Bot. Gart. Bert. 9: 295 (1925); Bak. f. l.c. 557. *APD acc*

Scandent shrub; flowers white in yellow-pilose panicles.

Br. Cam.: Sabga Range, Bamenda (Jan.) Keay FHI 28461! Muti Mt., Bamenda (Oct.) Ledermann 5852.

Dunn in Kew Bull. 1911: 363.

- 1 Flowers precocious; branchlets very thick, marked by the large scars of the fallen leaves; panicles softly tomentose; calyx about 5 mm. long, tomentose; leaflets glaucous-grey, about 6 pairs, ovate-elliptic, rounded and emarginate at apex, 8–11 cm. long, 3–5.5 cm. broad, with about 5–7 pairs of lateral nerves; stipels inconspicuous; fruits flat and thin, with a line parallel within each margin, broadly oblong-linear, up to 15 cm. long and 3 cm. broad, reticulate within the parallel lines, slightly pubescent [1. *stuhlmannii*](#)
 Flowers not precocious; leaflets acuminate: [2](#)
- 2 Ovary densely pubescent all over; fruits glabrescent; leaflets rounded or subcordate at base: [3](#)
 Ovary pubescent only along upper suture; leaflets cuneate at base, acute to slightly acuminate at apex, oblong or elliptic-oblong, 7–11 cm. long, 2–3 cm. broad; bracts early caducous, probably lanceolate; fruit unknown ... [5. *brownii*](#)
- 3 Bracts large, ovate, covering the buds, semi-persistent: [4](#)
 Bracts small and narrow, not covering the buds, early caducous; leaflets about 4 pairs, ovate-elliptic, obtusely acuminate, rounded or subcordate at base, 9–15 cm. long, 4–8 cm. broad, glabrous; stipels subulate, persistent; panicles terminal, elongated; fruits similar to No. 1 but a little broader [4. *gabonica*](#)
- 4 Leaf-rhachis glabrous; leaflets about 5 pairs, oblong-elliptic or oblong-lanceolate, obliquely abruptly acuminate, 6–10 cm. long, 2–4 cm. broad, glabrous; stipels subulate, persistent; panicles elongate, terminal; bracts subacute; fruit flat, oblong-elliptic, 7–12 cm. long, 3–4 cm. broad [2. *leucobotrya*](#)
 Leaf-rhachis softly pubescent; leaflets 4–5 pairs, oblong-elliptic, abruptly acuminate, subcordate at base, 6–10 cm. long, 2.5–4.5 cm. broad, pubescent on the nerves beneath; stipels subulate, persistent; panicles elongated; bracts ovate, acuminate [3. *impressa*](#)

1. *Ostryoderris stuhlmannii* (Taub.) Dunn ex Harms in Engl. Pflanzenw. Afr. 3, 1: 644 (1915); Bak. f. Leg. Trop. Afr. 2: 563.

APD: *Synonym of Xeroderris stuhlmannii* (Taub.) Mendonça & E. C. Sousa

Deguelia stuhlmannii Taub. (1895).

Ostryoderris chevalieri Dunn (1914) — F.W.T.A., ed. 1, 1: 379; Bak. f. l.c. 562; Aubrév. Fl. For. Soud.-Guin. 317, t. 62, 4–7.

Xeroderris chevalieri (Dunn) G. Roberty (1954).

Lonchocarpus argentea A. Chev. Bot. 213, name only.

A deciduous tree of [savannah woodland](#), up to 40 or 50 ft. high, with bark separating in thick scales; trunk exuding blood-red sap when cut; flowers white in crowded grey- or rusty-tomentose panicles appearing before the leaves.

Sen.: Heudelot 347! Bakel (June) Chev. 26047! **Fr. Sud.:** Kita Dubois 50. **Port. G.:** Catió to Guebu (fr. June) Esp. Santo 2079! **Fr. G.:** Siguiiri (Feb.) Chev. 298! Mamou (Mar.) Dalz. 8396! **S. L.:** Falaba (fr. Mar.) Sc. Elliot 5225! **Iv. C.:** Tafiré Aubrév. 1446! Bobo Dioulasso Aubrév. 1258. **G. C.:** Mangkurugu to Yagbung (fr. May) Kitson 740! 741! **Togo:** Sokode-Basari Kersting 19. **Dah.:** Atacora Mts. Chev. 24023. **N. Nig.:** Sokoto (fl. Feb., fr. May) Lely 835! Dalz. 309! Bakuru-Tureta F.R. (fr. May) Jaiyesimi FHI 15825! Zamfara F.R. (fr. Apr.) Keay FHI 16172! Haskia, Zaria Prov. (fr. June) Oguwa FHI 7817!

Also in [Belgian Congo](#), [Kenya](#), [Tanganyika](#), [Mozambique](#) and [N. and S. Rhodesia](#).

2. *Ostryoderris leucobotrya* Dunn in Kew Bull. 1911: 364; Chev. Bot. 216; Bak. f. l.c. 562.

APD: *Synonym of Aganope leucobotrya* (Dunn) Polhill

Derris leucobotrya (Dunn) G. Roberty (1964).

A [forest](#) tree or shrub, sometimes climbing; flowers white, rarely pink in red-brown tomentellous panicles.

S. L.: near Leicester Peak (Dec.) Sc. Elliot 3842! Njala (fl. Dec., fr. Jan.) Deighton 1506! 2444! Bawama (Jan.) King-Church 5! Bandajuma Burbidge 476! **Lib.:** Monrovia (fl. & fr. Nov.) Linder 1542! Vonjama (Feb.) Bequaert 86! Gbanga (Dec.) Baldwin 10516! Sinkor (Nov.) Barker 1096! **Iv. C.:** Bingerville (fr. Dec.) Chev. 17304! **G. C.:** Axim (Nov.) Vigne FH 1426! Tarkwa (fr. Dec.) Andoh FH 5431! **S. Nig.:** Ekwulobia, Onitsha (Oct.) Onochie FHI 34124!

3. *Ostryoderris impressa* Dunn in Kew Bull. 1911: 363; Bak. f. l.c.

APD: Synonym of Aganope impressa (Dunn) Polhill

A climbing shrub or small tree, up to 10 ft. high; flowers white.

S. Nig.: Ugbojiobo, Benin (May) Farquhar 5! Ibo country Cons. of For. 171! Calabar Williams 4! Aboabam, Ikom (fl. & fr. May) Latilo FHI 30984! Degema Talbot 3738!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

4. **Ostryoderris gabonica** (Baill.) Dunn in Kew Bull. 1911: 364; Bak. f. l.c.

APD: Synonym of Aganope gabonica (Baill.) Polhill

Andira ? gabonica Baill. (1866).

Lonchocarpus macrostachyus of F.T.A. 2: 243, partly (spec. Mann), not of Hook. f.

A straggling or climbing shrub; flowers white or pinkish in narrow brown-red panicles.

S. Nig.: Ila (Oct.) Thomas 1919! Eket Dist. Talbot 3070! Old Calabar R. (Feb.) Mann 2244! **Br. Cam.:** Cameroon R. (Jan.) Mann 2192!

Also in **Gabon** and **Belgian Congo**.

5. **Ostryoderris brownii** Hoyle in Kew Bull. 1932: 262.

APD: Synonym of Andira inermis subsp. rooseveltii (De Wild.) J. B. Gillett ex Polhill

A small tree about 25 ft. high; flowers pinkish; in savannah.

G. C.: Jema (Feb.) Brown FH2163! Drabonso (Feb.) Cansdale FH 4142!

18. LONCHOCARPUS

H. B. & K. — F.T.A. 2: 241.

- 1 Standard petal densely silky outside; flowers densely arranged in pendulous axillary racemes; pedicels usually paired; calyx truncate, cupular, 5 mm. long, tomentose; fruits 1–several-seeded, up to 12 cm. long, woody, tomentellous; branchlets flexuous; leaflets 7–11, ovate or elliptic, rounded or subcordate at base, obtusely acuminate, 6–14 cm. long and 3–9 cm. broad, shortly pubescent beneath, with prominent lateral nerves [1. sericeus](#)
Standard petal glabrous outside:..... [2](#)
- 2 Inflorescence a simple slender axillary raceme, either solitary or fasciculate; leaflets about 9 with the upper ones larger than the lower, more or less elliptic, markedly acuminate, 5–10 cm. long, 2–5 cm. broad, glabrescent; stipels subulate, persistent; calyx shallowly lobed, shortly pubescent; fruits flat, linear-lanceolate, 6–9 cm. long, glabrous [2. griffonianus](#)
Inflorescence a much-branched panicle; leaflets at most very slightly acuminate; stipels inconspicuous:..... [3](#)
- 3 Tree or erect shrub; flowers in panicles on older wood; calyx toothed, ciliate and shortly pubescent outside; fruits flat and thin, 7–12 cm. long, acute or rounded at apex, 1–4 seeded; leaflets (3–) 5, elliptic or ovate-elliptic, rounded or shortly cuneate at base, subacute to slightly emarginate at apex, 3–16 cm. long, 1.5–7 cm. broad, glaucous, minutely pubescent on both surfaces [3. laxiflorus](#)
Climber; flowers in panicles accompanying the leaves; calyx shortly lobed, pubescent outside; fruits 1–5-seeded, flat, glabrous, reticulate, the seeds very prominent; lateral branchlets of panicles very short; leaflets 9–11, ovate or elliptic, rounded at base, shortly acuminate, up to 16 cm. long and 8 cm. broad, glabrous [4. cyanescens](#)

1. **Lonchocarpus sericeus** (Poir.) H. B. & K. — F.T.A. 2: 241; Chev. Bot. 215; Bak. f. Leg. Trop. Afr. 2: 548; Aubrév. Fl. For. C. Iv. 1: 288, t. 114 Fl. For. Soud.-Guin. 315. *APD acc*

Robinia sericea Poir. (1804).

A tree up to 40 ft. or more high, with brownish downy branchlets and pale purple or lilac fragrant flowers; commonly flowering in the deciduous state; in fringing and semi-deciduous forest, usually near water.

Sen.: Perrottet 294! Casamance Chev. 342! **Gam.:** Skues! **Port. G.:** Bissau (fr. Jan.) Esp. Santo 1682! **Fr. G.:** Rio Nunez Heudelot 623a! Los Isl. Pobéguin 1172! **S. L.:** T. Vogel 169! Mahela (tr. Dec.) Sc. Elliot 4092! Bonthe (fr. Nov.) Deighton 2334! **Lib.:** Cape Palmas (July) T. Vogel 21! Grand Bassa (July) T. Vogel 67! **Iv. C.:** Agboville (fr. Nov.) Chev. 22343! Abidjan (Feb.) Aubrév. 51! **G. C.:** Axim (Jan.) Chipp 52! Saltpond (Sept.) Dalz. 96! Ejura (fr. Aug.) Chipp 753! Odumase Howes 1206! **Dah.:** fide Chev. l.c. **N. Nig.:** Attah (Sept.) T. Vogel 35! 60! 61! Lokoja Barter 15981 Stirling, Lokoja (Sept.) T. Vogel 201! Nupe Barter 1608! Zungeru (July) Dalz. 33! Abinsi (Aug.) Dalz. 600! **S. Nig.:** Abeokuta Irving! Kukuruku Dist. (June) Dundas FHI 23555! **Br. Cam.:** Victoria (fl. Mar., fr. Jan.) Maitland 288! 531! **F. Po:** Barter 1611! 1614! Mann 205! Mildbr. 6979.

Extends south to **Angola** and in Principe and S. Tomé; also in tropical America.

2. **Lonchocarpus griffonianus** (*Baill.*) *Dunn* in J. Bot: 49: 15 (1911); Hook. Ic. Pl. t. 3040 (1915); Chev. Bot. 214.

APD: Synonym of Millettia griffoniana Baill.

Millettia griffoniana *Baill.* (1866) — Bak. f. l.c. 229; Aubrév. Fl. For. C. Iv. 1: 292, t. 117 A.

M. thonningii of F.T.A. 2: 128, partly.

Derris leptorhachis *Harms* (1899).

A tree up to 40 ft. or more high, with glabrous branchlets and erect racemes; flowers reddish-purple; easily confused with *Millettia thonningii* from which it differs in having indehiscent fruits and lacking the brush of hairs on the lower part of the midrib beneath the leaflets.

Iv. C.: Prolon to Bliéron Chev. 19882. **Dah.:** Le Testu 211! Tohoué (Jan.) Chev. 22773! **N. Nig.:** Lokoja (Mar.) Shaw 14! **S. Nig.:** Onitsha Barter 1623! Epe Barter 3265! Shasha F.R. (fl. & fr. Apr.) Keay FHI 16099! Jones & Onochie FHI 17412! R. Owam, Benin (Jan.) Brenan 8946! Eket Talbot! **F. Po:** Mann 1436!

Extends southwards into **Angola**.

3. **Lonchocarpus laxiflorus** *Guill. & Perr.* — F.T.A. 2: 242; Chev. Bot. 214; Bak. f. l.c. 549; Aubrév. Fl. For. Soud.-Guin. 315, t. 60, 1–4.

APD: Synonym of Philenoptera bussei (Harms) Schrire

APD: Synonym of Philenoptera violacea (Klotzsch) Schrire

APD: Synonym of Philenoptera laxiflora (Guill. & Perr.) Roberty

Philenoptera laxiflora (*Guill. & Perr.*) *G. Roberty* (1954).

Lonchocarpus philenoptera *Benth.* (1860) — F.W.T.A., ed. 1, 1: 380.

A tree 15–20 ft. high, with lilac or purplish flowers in copious lax panicles; **in savannah woodland**.

Sen.: Bondou Heudelot 152! **Gam.:** Dawe 63! Brooks 6! Pirie 40! **Fr. Sud.:** Macina Chev. 24827. Bamako (Jan.) Waterlot 1497! **Port. G.:** Bafata (Feb.) Esp. Santo 471! **Fr. G.:** Tominé Pobéguin 2150. **Iv. C.:** Bobo Dioulasso Serv. For. 1948. Pâ Serv. For. 2145. **G. C.:** Doninga (Jan.) Vigne FH 4660! Pong to Kako (fl. & fr. Mar.) Kitson 870! **Fr. Nig.:** Niamey Aubrév. **N. Nig.:** Zamfara F.R. (fl. & fr. Apr.) Keay FHI 16162! 18065! Dangora F.R. (fr. Apr.) Latilo FHI 27431! Bauchi Plateau (fl. & fr. Feb.) Lely P. 148! L. Chad Talbot 1237!

Also in **French Chad**, **Belgian Congo**, **A.-E. Sudan**, **Abyssinia**, **Eritrea**, **Kenya** and **Uganda**.

4. **Lonchocarpus cyanescens** (*Schum. & Thonn.*) *Benth.* — F.T.A. 2: 243; Chev. Bot. 214; Bak. f. l.c. 551; Aubrév. Fl. For. C. Iv. 1: 286.

APD: Synonym of Philenoptera cyanescens (Schumach. & Thonn.) Roberty

Robinia cyanescens *Schum. & Thonn.* (1827).

Philenoptera cyanescens (*Schum. & Thonn.*) *G. Roberty* (1954).

A woody climbing or straggling shrub, **in cultivation forming a shrub** 7–8 ft. high; branchlets silky when young, the young leaves turning bluish-black in drying; flowers reddish, turning blue, in panicles up to a foot long; **in coastal districts and in forests**. The Yoruba Indigo.

Port. G.: Fulacunda (fl. & fr. May) Esp. Santo 2025! **Fr. G.:** Rio Nunez Heudelot 825! Sandenia Chev. 13140. Kaba R. Chev. 13187. Farana Chev. 13197; 13407; 13500. Sareya Chev. 444; 455! **S. L.:** Morson! Njala (Apr.) Deighton 1817! Musaia (fr. Feb.) Deighton 4242! Yetaya (fr. Sept.) Thomas 2464! **Lib.:** Ganta (May) Harley! Monrovia Cooper 132! **Iv. C.:** Soubré Chev. 19119. Morénou Chev. 22458 **G. C.:** Accra Plains (Feb.) Brown 927! Achimota (fr. Oct.) Milne-Redhead 5172! Wenchí (fr. Oct.) Vigne FH 2529! **Togo:** Lome Warnecke 195! **Dah.:** Abomey Chev. 23135. **N. Nig.:** Nupe Barter 1593! **S. Nig.:** Ibadan (Apr.) Meikle 1428! Onitsha (May) Jones FHI 484! Eket Dist. Talbot 3339! Old Calabar R. Mann 2280! **Br. Cam.:** Abonando, Mamfe (Mar.) Rudatis 31! **F. Po:** Mann 401!

Also in **French Cameroons**.

Lonchocarpus sp. A.

A climbing shrub up to 10 ft. high; leaflets 7, about 14 cm. long and 6 cm. broad; fruits oblong 5–8 cm. long, 2 cm. broad, thin, flat, 1–2-seeded, shortly brown-pubescent. Flowering material is required.

Port. G.: Safim, Bissau (fr. Mar.) Esp. Santo 1910!

Imperfectly known species.

19. PLATYSEPALUM

Welw. ex Bak. in F.T.A. 2: 131 (1871).

- 1** Leaves rusty-pilose beneath, at least on the nerves, midrib puberulous above; branchlets and peduncles densely pilose, at length glabrescent; leaves 7–9-foliolate, leaflets obovate-oblong, rounded or cuneate at base, acutely acuminate, 7–11 cm. long, 2·5–3·5 cm. broad; inflorescence a terminal panicle, 20–35 cm. long, rhachis densely rusty-pilose; bracteoles conspicuous, each enclosing a bud, ovate, about 1 cm. long; flowers about 2 cm. long; fruits about 7 cm. long and 2·5 cm. broad, with thick woody margins, densely rusty-pilose with stiff hairs [1. *hirsutum*](#)

Leaves minutely pubescent beneath, midrib glabrous above; branchlets and peduncles shortly pubescent, at length glabrescent; leaves 7-foliolate, leaflets obovate, cuneate at base, caudate, (6–) 8–13 cm. long, 2·5–5 cm. broad; flowers in axillary and terminal panicles, 13–20 cm. long; rhachis shortly pubescent; bracteoles about 4 mm. long; upper lip of calyx prominently veined, silky; flowers 1–1·5 cm. long; fruits about 5 cm. long and 1·5 cm. broad, with rather thick margins, densely tomentose [2. *violaceum* var. *vanhouttei*](#)

1. *Platysepalum hirsutum* (Dunn) Hepper in Kew Bull. 1956: 122. *APD acc*

Millettia hirsuta Dunn in J. Linn. Soc. 41: 208 (1912); F.W.T.A., ed. 1, 1: 382; Bak. f. Leg. Trop. Afr. 2: 234.

A large climber; flowers purple and white.

Fr. G.: Dyeke (Oct.) Baldwin 9679! **S. L.:** For. Dept. 166! Thomas! Biawalla (Oct.) Deighton 3771! Kambui F.R. (Sept.) Edwardson 120! **Lib.:** Monrovia (fl. & fr. Nov.) Cooper 131! Gbanga (Aug., Sept.) Linder 472! Baldwin 9129! Peahtah (Oct.) Linder 1109! Wohmen, Vonjama Dist. (Oct.) Baldwin 10069! **Iv. C.:** Agbo Bridge (fr. Jan.) Chev. 16829! Indénié, Mbasso Chev. 22640. Bébou to Mbasso Chev. 22644! **G. C.:** Jimika F.R. (fl. & fr. Oct.) Vigne FH 3387! Agogo (Sept.) Beavan 3389!

2. *Platysepalum violaceum* var. *vanhouttei* (De Wild.) Hauman in Fl. Congo Belge 5: 85 (1954). *APD acc*

Platysepalum vanhouttei De Wild. (1906).

Platysepalum ledermannii Harms (1913) — Bak. f. l.c. 2: 254.

Platysepalum tessmannii Harms (1913).

Platysepalum polyanthum Harms (1913).

A shrub or small spreading tree up to 40 ft. high.

S. Nig.: Udi F.R. (Nov.) Smith 14! Kennedy 3114! Ibuzo (Nov.) Thomas 1994! Idumuje (fr. Jan.) Thomas 2154! Ikom Catterall 31! **Br. Cam.:** Buea (fl. Dec., fr. Mar.) Maitland 897! 1171! Oji, Mamfe (Oct.) Johnstone 245/31!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Angola**.

20. MILLETTIA

Wight & Arn. — F.T.A. 2: 126; Dunn in J. Linn. Soc. 41: 123 (1912).

- 1 Lower surface of leaflets completely covered or nearly so by a close felt of appressed silky hairs:2
 Lower surface of leaflets visible between the hairs, or glabrous:5
- 2 Calyx lobed nearly to the middle:.....3
 Calyx very shortly toothed, dark-brown pubescent; corolla 1·4 cm. long; pedicel 1 mm. long; panicle terminal or subterminal; leaflets 2–4 pairs, oblong to oblong-obovate, shortly and abruptly acuminate at apex, 8–15 cm. long, 3–5 cm. broad, lateral nerves about 15; fruits about 10 cm. long and 2 cm. broad, beaked [4. chrysophylla](#)
- 3 Flowers sessile or pedicel up to 1 mm. long:.....4
 Flowers on pedicels about 3 mm. long; calyx-lobes keeled in bud; leaflets 3–4 pairs, oblong-oblancoate, long-acuminate, 9–15 cm. long, 3–6 cm. broad; panicle terminal, with tomentose branches[3. hypolampra](#)
- 4 Lateral nerves 7–9 pairs; calyx-lobes not keeled; leaflets about 5 pairs, oblong, obtusely long-acuminate, 5–8 cm. long, 1·5–2·5 cm. broad; panicle longer than the leaves, narrow, the lateral branches short, tomentellous; fruits unknown[1. lucens](#)
 Lateral nerves 13–15 pairs; calyx-lobes markedly keeled especially in bud; leaflets 3–6 pairs, oblong-lanceolate, shortly and acutely acuminate, 4–8 cm. long, 1·5–3 cm. broad; panicle terminal, broad, branches tomentellous; fruits oblanceolate about 9 cm. long and 2 cm. broad, densely tomentose [2. dinklagei](#)
- 5 Standard glabrous outside (or pubescent towards the apex, but not wholly sericeous, in No. 9):6
 Standard pubescent outside: 13
- 6 Calyx-tube glabrous outside; leaflets oblong-oblancoate, long- and more or less triangular-acuminate, 4–5 cm. long, glabrous or nearly so; stipels very prominent, linear-subulate, persistent even after fall of leaflets; fruits oblanceolate, about 14 cm. long, glabrous[5. lane-poolei](#)
 Calyx-tube pubescent outside:.....7
- 7 Stipels present; flowers 1–1·5 cm. long:8
 Stipels absent; flowers 2–2·5 cm. long:..... 11
- 8 Bracts caducous:.....9
 Bracts persistent, ovate-lanceolate, pubescent; leaflets about 5 pairs, oblong or oblong-lanceolate, acuminate, 4–6 cm. long, 1·5–2·5 cm. broad, silky pubescent beneath; calyx 5 mm. long; fruits curved, linear, 10–12 cm. long, densely velvety-tomentose [8. irvinei](#)
- 9 Inflorescence simple, unbranched, longer than the leaves, 10–15 cm. long; calyx shortly brown-pubescent; fruits oblanceolate, 7–10 mm. long, about 2 cm. broad, shortly pubescent or glabrescent, 1–3-seeded; leaflets more or less oblong-oblancoate, cuneate at base, abruptly and obtusely acuminate, 4·5–5·5 cm. long, 1–2 cm. broad, pubescent beneath, especially on the midrib; stipels subulate, persistent. [6. rhodantha](#)
 Inflorescence branched, more or less pyramidal: 10
- 10 Indumentum of calyx brown or yellowish; leaflets oblong-oblancoate, acuminate and mucronate, 4–6 (–12) cm. long, about 2 cm. broad; stipels 3 mm. long, subulate; fruits 8–10 cm. long, tomentose, 1–3-seeded[7. warneckei var. warneckei](#)
 Indumentum of calyx black-purple; otherwise as above [7a. warneckei var. porphyrocalyx](#)
- 11 Calyx 5 mm. long; standard 2 cm. long and 1·4 cm. broad; fruits sparsely appressed-pubescent; leaflets oblong, abruptly and shortly acuminate, 6–15 cm. long, about 4 cm. broad, rather loosely to finely pubescent beneath [9. mannii](#)
 Calyx 8 mm. long; standard 2·5 cm. long and 1·8 cm. broad:..... 12
- 12 Leaflets minutely appressed-pubescent beneath, 5–6 pairs, broadly elliptic, shortly acuminate, rounded at base, 10–17 (–22) cm. long, 3–10 cm. broad; fruits oblanceolate, 15 cm. long, thinly tomentellous .[10. macrophylla](#)
 Leaflets rusty-pubescent beneath, about 7–8 pairs, narrowly oblong-elliptic, shortly acuminate, 8–15 cm. long, 3–4·5 cm. broad; fruits linear-oblancoate, beaked, about 15 cm. long, densely rusty-tomentose [11. aboensis](#)
- 13 Stipels absent or minute: 14
 Stipels present, 1–3 mm. long: 17
- 14 Flowers 2·5–3·5 cm. long; leaflets 7–8 pairs, oblong, caudate-acuminate, 5–12 cm. long, 1·5–6 cm. broad, with about 6 pairs of lateral nerves minutely pubescent beneath; leaf-rhachis pubescent to almost glabrous; fruits oblanceolate, about 10 cm. long and 2 cm. broad, shortly pubescent[12. zechiana](#)
 Flowers about 1·5 cm. long; leaflets 2–4 pairs:..... 15
- 15 Pedicels with a pair of bracteoles in the middle; fruits up to 16 cm. long and 2 cm. broad, glabrous; leaflets ovate or ovate-elliptic, 4–7 cm. long, 2–4 cm. broad, sparsely appressed-pubescent beneath and usually with a brush of stiff white hairs on either side of the midrib near the base[20. thonningii](#)
 Pedicels not jointed, bracteoles at the base of the calyx; fruits pubescent: 16

- 16** Petioles and nerves beneath pilose with dark-brown spreading hairs; leaflets obovate-elliptic, very abruptly acuminate, 8–11 cm. long, 3.5–5 cm. broad; inflorescence simple, slender, 20–25 cm. long [13. pilosa](#)
- Petioles and nerves beneath slightly pubescent with pale hairs; leaflets elliptic or obovate-elliptic, abruptly and obtusely acuminate, 9–15 cm. long, 4–8 cm. broad, inflorescence simple or branched, slender, 15–35 cm. long; fruits about 7 cm. long and 2 cm. broad, with thick margins, brown-pubescent [14. barteri](#)
- 17** Leaflets 2–3 pairs: **18**
- Leaflets 5–12 pairs, up to 10 cm. long and 4 cm. broad; stipels 2 mm. long, subulate: **19**
- 18** Calyx truncate; standard pubescent with whitish hairs; fruits linear, about 13 cm. long and 3 cm. broad, minutely pubescent to glabrescent; leaflets oblong-elliptic, rounded at base, abruptly acuminate, 10–20 cm. long, 5–8 cm. broad, glabrous [15. sanagana](#)
- Calyx shortly lobed; standard densely pubescent with purplish hairs; young fruits densely pilose; leaflets ovate-elliptic, acutely acuminate, 5–9 cm. long, 2.5–3.5 cm. broad, appressed-pubescent beneath. [16. leonensis](#)
- 19** Bracteoles at base of calyx, broadly ovate, 2–3 mm. long, persistent; standard markedly furrowed; young fruits curved, tomentose; rhachis of inflorescence about 3 mm. thick, angular; leaflets about 6 pairs, oblong-elliptic, caudate, 5–10 cm. long, 3–4 cm. broad, glabrous [17. conraui](#)
- Bracteoles narrow, 1 mm. long, persistent or caducous; standard slightly or not furrowed: **20**
- 20** Rhachis of inflorescence angular, shortly brown-tomentose, 2–3 mm. thick, 14–20 cm. long; leaflets 7–9 pairs, oblong, cuneate at base, acuminate, 4–7 cm. long, 1.5–2.5 cm. broad, glabrous or sparsely appressed-pubescent beneath [18. drastica](#)
- Rhachis of inflorescence almost terete, glabrous, slender, about 1 mm. thick (thickening slightly when in fruit), 7–15 cm. long; leaflets about 6 pairs, obovate-oblong, obtuse at base, caudate-acuminate, 5–11 cm. long, 3.5–5 cm. broad, glabrous [19. pallens](#)
- 1. *Millettia lucens* (Sc. Elliot) Dunn** in J. Bot. 49: 220 (1911); J. Linn. Soc. 41: 193; Bak. f. Leg. Trop. Afr. 2: 225. *APD acc*
- Lonchocarpus lucens* Sc. Elliot (1894).
- A straggling climber 30–40 ft. high, with white flowers.
- S. L.:** Samu country (Dec.) Sc. Elliot 4241! **Lib.:** Peahtah (Oct.) Linder 904! 1064! Vonjama (Oct.) Baldwin 9935! 9992!
- 2. *Millettia dinklagei* Harms** in Engl. Bot. Jahrb. 26: 287 (1899); Dunn l.c. 41: 195; Bak. f. l.c. 223. *APD acc*
- Millettia kennedyi* Hoyle (1934).
- A shrub or small tree 15 ft. high, with white flowers in ample panicles.
- S. L.:** Gola Forest (May) Small 668! **Lib.:** Grand Bassa, in littoral bush (Aug.–Oct.) Dinklage 1672! 1964! **S. Nig.:** Jamieson R. Kennedy 1784! 1841! 2794! Eket Dist. Talbot 3343! Degema Dist. Talbot!
- 3. *Millettia hypolampra* Harms** in Engl. Bot. Jahrb. 33: 168; Dunn l.c. 41: 194; Bak. f. l.c. 228. *APD acc*
- A climber with silvery leaves beneath and green above; flowers white.
- S. Nig.:** Oban Talbot 578! 1709! Akim, Calabar (Apr.) Ejiofor FHI 21880! **Br. Cam.:** Rudatis 13!
- 4. *Millettia chrysophylla* Dunn** in J. Bot. 49: 220 (1911); J. Linn. Soc. 41: 199; Chev. Bot. 182; Bak. f. l.c. 226; Aubrév. Fl. For. C. Iv. 1: 292, t. 116 C. *APD acc*
- Millettia melanocalyx* Dunn (1912) — F.W.T.A., ed. 1, 1: 383; Bak. f. l.c. 230.
- Lonchocarpus macrostachyus* Hook. f. (1849).
- Millettia macrostachyus* (Hook. f.) Dunn (1911), not of Coll. & Hemsl. (1890).
- A climber or tree up to 50 ft. high, with white flowers; **beside streams and rivers.**
- Fr. G.:** Kouria (Oct.) Chev. 15002! **S. L.:** Njagbema (Sept.) Deighton 2229! Njala (fl. Sept., fr. Dec.) Deighton 2250! 3993! Jigaya (Sept.) Thomas 2537! Bumbuna (Oct.) Thomas 3134! **Lib.:** Gbanga (Sept.) Linder 605! **Iv. C.:** Lower Cavally (Aug.) Chev. 19895. **G. C.:** Tafo (July) Vigne FH 4407! **S. Nig.:** on a branch of the Niger near Ibaddi T. Yogel! Owenna, Akure Dist. (July) Onochie & Latilo FHI 33454! Abedemagu (Sept.) Farquhar 70! **Br. Cam.:** Barombi Preuss 411.
- 5. *Millettia lane-poolei* Dunn** in Kew Bull. 1914: 79; Bak. f. l.c. 228; Aubrév. l.c. 290, t. 116 A. *APD acc*
- A small tree, 15–20 ft. high; flowers white or pale purplish.

S. L.: Falaba (Apr.) Lane-Poole 42! 43! Kenema (fl. Apr., fr. May) Lane-Poole 140! 202! 203! Small 79! Mano (Apr.) Deighton 3148! Baoma (fr. Apr.) Deighton 3213! **Lib.:** Barclayville (Mar.) Baldwin 11124! **Iv. C.:** Yapo Aubrév. 594!

6. **Milletia rhodantha** *Baill.* — F.T.A. 2: 131, partly; Dunn in J. Linn. Soc. 41: 198; Chev. Bot. 183; Aubrév. l.c. 292, t. 116 B. *APD acc*

Lonchocarpus multifolius *Dunn* (1911).

A tree 30–40 ft. high, with fragrant bright bluish-pink flowers.

Fr. G.: Rio Nunez Heudelot 815! **S. L.:** Njala (fl. Apr., fr. May) Deighton 1160! 1946! Kenema (Apr.) King 182! Pujehun (Feb.) Dawe 457! **Iv. C.:** Aubrév. 942! **G. C.:** Owabi, Ashanti (May) Andoh FH 4204! Dunkwa (May) Vigne FH 880! Obomeng (Apr.) Beveridge 113!

7. **Milletia warneckei** *Harms* **var. warneckei** — in Engl. Bot. Jahrb. 30: 87 (1901); Dunn l.c. 41: 200; Bak. f. l.c. 226. *APD acc*

Milletia aureocalyx *Dunn* (1911); Chev. Bot. 182.

A climber or tree about 20 ft. high, with white or pink flowers and golden or rusty-brown pubescence on the leaflets and inflorescence.

Fr. G.: Fouta Djallon (Mar., May) Chev. 12399! 25823! **S. L.:** Jigaya (fr. Sept.) Thomas 2529! Musaia (fr. Oct.) Thomas 2629! R. Seli, Kamadugu (fr. Dec.) T. S. Jones 124! **Lib.:** Vonjama (fr. Oct.) Baldwin 9890! **G. C.:** Accra (Mar.) Dalz. 84! Irvine 684! **Togo:** Lome Warnecke 108!

- 7a. **Milletia warneckei** **var. porphyrocalyx** (*Dunn*) *Hepper* in Kew Bull. 1956: 122. *APD acc*

Milletia porphyrocalyx *Dunn* in J. Bot. 49: 220 (1911); Chev. Bot. 183; F.W.T.A., ed. 1, 1: 383; Bak. f. l.c. 229.

Milletia scott-elliotti *Dunn* (1911).

A tree with branchlets and inflorescence clothed with dark coloured hairs.

Fr. G.: R. Konkouré to Timbo (Mar.) Chev. 12507! **S. L.:** Musaia (Mar.) Sc. Elliot 5126a!

8. **Milletia irvinei** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 383 (1928); Kew Bull. 1928: 404; Bak. f. l.c. 224. *APD acc*

Robinia multiflora *Schum. & Thonn.* (1827), not *Milletia multiflora* Coll. & Hemsl. (1890).

A shrub or small tree with branchlets, etc., brown-pubescent, and white flowers.

G. C.: Thonning. Accra Plains (fl. Apr., fr. June) Irvine 47! 99! 211! Ada road (June) Morton GC 9270!

9. **Milletia mannii** *Bak.* in F.T.A. 2: 127 (1871); Bak. f. l.c. 236. *APD acc*

A tree.

Br. Cam.: Barombi Preuss 258!

Also in **French Cameroons** and **Gabon**.

10. **Milletia macrophylla** *Benth.* in Hook. Ic. Pl. t. 788–9 (1848); F.T.A. 2: 127; Dunn in J. Linn. Soc. 41: 212; Bak. f. l.c. 236. *APD acc*

Milletia hookeriana *Taub.* (1894).

A tree 15–30 ft. high of **secondary forest**, with rather large leaflets and pink or purple flowers fasciculate on erect racemes 1–2 ft. long.

Br. Cam.: Victoria (Nov.) Maitland 782! Buea (Dec.) Maitland 883! Etam Bakossi, Kumba (fr. Dec.) Bamenda FHI 8434! **F. Po:** T. Vogel 117!

Also in **French Cameroons** and **French Congo**.

11. **Milletia aboensis** (*Hook. f.*) *Bak.* in F.T.A. 2: 130 (1871); Dunn l.c. 41: 214; Bak. f. l.c. 238. *APD acc*

Milletia macrophylla **var. aboensis** *Hook. f.* (1849)

Millettia macrophylla of F.W.T.A., ed. 1, 1: 382, partly (Talbot).

A tree 30–40 ft. high, with reddish-brown pubescence on the petioles, branchlets, inflorescence and fruits; flowers purple in erect woody racemes up to 18 in. long.

S. Nig.: Benin (fl. & fr. Nov.) Chizea FHI 24477! Angiama Barter 148! Aboh Ansell! Onitsha (Sept.) Barter 1806! Onochie FHI 34053! 34054! 34109! Degema Talbot!

Also in **French Cameroons** and **Spanish Guinea**.

12. *Millettia zechiana* Harms in Engl. Bot. Jahrb. 40: 36 (1907); Dunn in l.c. 41: 217; Chev. Bot. 184; Bak. f. l.c. 241. *APD acc*

Millettia stapfiana Dunn (1912) — F.W.T.A., ed. 1, 1: 382; Bak. f. l.c. 242; Aubrév. l.c. 1: 290, t. 115.

Millettia ivorensis A. Chev. Bot. 183, name only.

A shrub or tree 15–30 ft. high; flowers purple, standard brown outside; in grassland and secondary forest.

Fr. G.: Dyeke (Oct.) Baldwin 9680! **S. L.:** Panguma Smythe 127! Daru (fl. & fr. Apr.) Deighton 3144! Sefadu (Dec.) Deighton 3575! **Lib.:** Ganta (fr. Dec.) Barker 1112! Kondessu, Boporo (fr. Dec.) Baldwin 10681! Belefani, Gbanga (fr. Dec.) Baldwin 10541! Zeahtown, Tchien (fl. & fr. Aug.) Baldwin 6964! **Iv. C.:** Abidjan Aubrév. 56! Cavally (Aug.) Chev. 19740! Morenou (fr. Feb.) Chev. 22473! **G. C.:** Akwapim (Aug.) Irvine 770! Pokwase, Accra (fl. & fr. Jan.) Irvine 1957! Achimota (Oct.) Milne-Redhead 5162! Amentia Brown 2139! **S. Nig.:** Oban Talbot! Ikom (Nov.) Catterall 56! Onitsha (June) Jones FHI 489! Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25169! **Br. Cam.:** Cameroon R. (Jan.) Mann 2216! Ntai (Oct.) Bamenda 91! Kumba (Nov.) Smith 127/36!

13. *Millettia pilosa* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 382 (1928); Kew Bull. 1928; 403; Bak. f. l.c. 235. *APD acc*

A shrub about 6 ft. high with pale purple flowers.

S. Nig.: Oban Talbot 583! 1308! Umuahia (Mar.) Carpenter 193!

14. *Millettia barteri* (Benth.) Dunn in J. Bot. 49: 221 (1911); J. Linn. Soc. 41: 210, partly; Chev. Bot. 182; Bak. f. l.c. 235; Hauman in Fl. Congo Belge 5: 38. *APD acc*

Lonchocarpus barteri Benth. (1860) — F.T.A. 2: 243.

L. heudelotianus Baill. (1866).

Millettia calabarica Dunn (1911).

A lofty woody climber with pith in the stems; flowers pink or red turning purple.

Sen.: Rio Nunez Heudelot 803! **Port. G.:** Bissau (fr. June) Esp. Santo 1189! Catió (June) Esp. Santo 2085! Farim (May) Esp. Santo 2087! 3184! **Fr. G.:** Kaba Chev. 13244. Kouria Chev. 18206. Farana (May) Chev. 13174! **S. L.:** Njala (Dec.) Deighton 2583! 2886! Samu country (Dec.) Sc. Elliot 4202! Magbile (Apr.) Deighton 5921! **Lib.:** Kakatown Whyte! **Iv. C.:** Bouroukrou Chev. 16984. Bingerville Chev. 17263. **G. C.:** Kumasi (Feb.) Darko 381! Nsawam (June) Irvine 2835! Ancobra R. (Feb.) Vigne FH 2819! **N. Nig.:** Nupe Barter 1609! Lokoja (Mar.) Shaw 23! **S. Nig.:** Brass Barter 67! R. Obba Barter 3401! Old Calabar (Feb.) Mann 2259! Omo F.R. (Apr.) Onochie FHI 15542! Ibadan (Apr.) Meikle 1421! **Br. Cam.:** Preuss 1187! Victoria (Mar., Apr.) Maitland 521! 610! Lakka, Bamenda, 4,000 ft. (fr. June) Maitland 1567!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea**, **French Congo** and **Belgian Congo**, **A.-E. Sudan** and **S. Tomé**.

15. *Millettia sanagana* Harms in Engl. Bot. Jahrb. 26: 288 (1899); Dunn in J. Linn. Soc. 41: 216; Chev. Bot. 183; Bak. f. l.c. 242. *APD acc*

A shrub or small tree up to 15 ft. high with large leaflets, and reddish-purple flowers more or less fasciculate on the rachis.

Fr. G.: Conakry (Jan.) Dalz. 8066! Chev. 12053; 12165; 12737. Santa Chev. 13091. **S. L.:** Koflu, R. Scarcies (fr. Jan.) Sc. Elliot 4598! Mattru (Jan.) Deighton 2254! Mange Bure (Feb.) Deighton 3492! Mahera (Dec.) Deighton 5686! **Lib.:** Boporo (fr. Sept., Dec.) Baldwin 10627! 10668a! Monroviatown, Tchien Dist. (Aug.) Baldwin 8004! **F. Po:** Barter 1597.

Also in **French Cameroons**.

16. *Millettia leonensis* Hepper in Kew Bull. 1956: 120, fig. 2. *APD acc*

A climber or shrub in the [forest](#); flowers purple.

S. L.: Njala (Jan.) Dalz. 8110! Bumpe (Nov.) Deighton 4926!

17. *Millettia conraui* Harms in Engl. Bot. Jahrb. 33: 168 (1902); Dunn l.c. 41: 219; Bak. f. l.c. 238. *APD acc*

A small tree with pale purple flowers and yellow-pubeacent calyx and standard.

S. Nig.: Waliwo, Onitsha (Apr.) Onochie FHI 7186! **Br. Cam.:** Bamenda, 4,500 ft. (Apr.) Maitland 1420! Kumbo, 5,000 ft. (Jan.) Johnstone 23/31!

Also in [French Cameroons](#).

18. *Millettia drastica* Welw. ex Bak. in F.T.A. 2: 128 (1871); Dunn l.c. 41: 220; Bak. f. l.c. 240; Hauman l.c. 25, t. 2, fig. 2B. *APD acc*

A small tree or shrub with pale blue flowers.

S. Nig.: Oji R., Onitsha (fl. & fr. Sept.) Chesters 221! Cons. of For. FHI 245! **Br. Cam.:** Esu, Bamenda, 5,000 ft. (fl. Feb., fr. Mar.) Johnstone 60/31! 293!

Also in [French Cameroons](#), [Spanish Guinea](#), [Gabon](#), [Belgian Congo](#), [A.-E. Sudan](#) and [Angola](#).

19. *Millettia pallens* Stapf in Johnston Lib. 2: 593 (1906); Dunn l.c. 41: 218; Chev. Bot. 183; Bak. f. l.c. 239. *APD acc*

A glabrous shrub or small tree, 15 ft. high with a spreading crown; flowers purple; [on sandy soil in savannah country](#).

Fr. G.: Farmar 259! Karkandy Heudelot 793! Timbo (Mar.) Chev. 12637! **S. L.:** Koflu Mt., Scarcies (Jan.) Sc. Elliot 4609! Sefadu (fr. Apr.) Deighton 3212! Sulima (Mar.) Deighton 3846! Mando (Apr.) Jordan. 216! **Lib.:** Monrovia Whyte! Suen, Montserrado (Nov.) Baldwin 10460! Jabrocca (Dec.) Baldwin 10860! Barclayville (fr. Mar.) Baldwin 11123!

20. *Millettia thonningii* (Schum. & Thonn.) Bak. in F.T.A. 2: 128 (1827), partly; Dunn l.c. 41: 215; Chev. Bot. 183; Bak. f. l.c. 238; Aubrév. l.c. *APD acc*

***Robinia thonningii* Schum. & Thonn.** (1827).

***Millettia atite* Harms** (1902).

A deciduous tree, 30–40 ft. high, the purple flowers appearing with the young leaves; easily confused with *Lonchocarpus griffonianus*; [by streams in savannah country and often planted](#).

G. C.: Dodowa Plains (Feb.) Irvine 1501! Nchenenchene (fr. May) Kitson 1162! Akim (Nov.) Gould! **Togo:** Lome Warnecke 66! Ho (fl. & fr. Feb.) Howes 1111! **N. Nig.:** Lokoja (Mar.) Barter 481! 1624! Elliott 36! 37! Sokoto (Mar.) Lely 843! Bauchi Plateau (Feb.) Lely P. 161! Selfwe R., Plateau Prov. (Mar.) Thornewill 49! **S. Nig.:** Lagos (fl. & fr. Mar.) Foster 21! Ibadan (fl. Jan., fr. Mar.) Newberry & Etim 186! Onochie FHI 3001! Akpata FHI 3002! **F. Po:** fide Exell.

Also in [S. Tomé \(probably introduced\)](#), [Belgian Congo \(?\)](#) and [Angola \(introduced\)](#).

21. CRAIBIA

Harms & Dunn in J. Bot. 49: 107 (1911).

- 1** Leaves pinnate, with 5 alternate leaflets (or if 3 leaflets then a pair opposite), ovate-elliptic, shortly cuneate at base, subcaudate-acuminate, 8–10 cm. long, 4–6 cm. broad, glabrous; youngest branchlets sparsely pilose; racemes terminal, short, brown-tomentose; pedicels 5 mm. long; calyx cupular, 3 mm. long with short triangular teeth; corolla 1.5 cm. long; fruits obliquely obovate-lanceolate, about 5 cm. long, 2.5 cm. broad, 1-seeded, glabrous [1. atlantica](#)

Leaves 1-foliolate, ovate, sharply acuminate, 6–8 cm. long, 3–5 cm. broad, closely reticulate on both surfaces; branchlets glabrous; racemes glabrous; pedicels about 1 cm. long, slender; calyx 5 mm. long; corolla 2 cm. long [2. simplex](#)

1. *Craibia atlantica* Dunn in J. Bot. 49: 108 (1911); Bak. f. Leg. Trop. Afr. 2: 246; Aubrév. Fl. For. C.

Iv. 1: 294, t. 117 C. *APD acc*

A small tree about 30 ft. high. with crowded racemes of white flowers.

Iv. C.: Gankapleu, Man region Aubrév. 1052! **N. Nig.:** Lokoja Barter 501! **S. Nig.:** Lagos Foster 19! Ogbesse R., Owo F.R. (May) Jones FHI 3583! Olokemeji (fl. Mar., fr. Apr.) Macdonald 45! Ibadan (Apr.) Meikle 1437!

Also in **French Camerouns**.

2. **Craibia simplex** *Dunn* l.c. 107 (1911); Bak. f. l.c. 246. *APD acc*

A glabrous shrub or perhaps small tree with rather conspicuous flowers in a small panicle.

S. Nig.: Old Calabar Milne 1866!

Also in **Gabon**.

22. MUNDULEA

(*DC.*) *Benth.* — F.T.A. 2: 126.

- 1 Small shrub with corky bark; branchlets flexuose, softly tomentellous; leaflets 6–10 pairs, lanceolate, 2·5–5 cm. long, 1–2 cm. broad, glabrous above, appressed-pubescent beneath; flowers in terminal and leaf-opposed racemes up to 15 cm. long; pedicels 1–1·5 cm. long, pubescent; calyx with linear teeth, 3 mm. long; corolla about 2 cm. long, standard pubescent; fruit 7–12 cm. long, nearly 1 cm. broad, tomentose, about 6–8-seeded *sericea*

Mundulea sericea (*Willd.*) *A. Chev.* in *Compt. Rend.* 180: 1521 (1925). *APD acc*

Cytisus sericeus *Willd.* (1803).

Tephroisa suberosa *DC.* (1825).

Mundulea suberosa (*DC.*) *Benth.* (1852) — F.T.A. 2: 126; Chev. Bot. 182; F.W.T.A., ed. 1, 1: 283; Bak. f. Leg. Trop. Afr. 2: 216.

A shrub or small bushy tree with lilac or purplish flowers.

Fr. Sud.: Banan Chev. 527. **Fr. G.:** Beyla Chev. 20880. **Iv. C.:** Upper Sassandra Chev. 21500. **Dah.:** Atacora Mts. (fr. June) Chev. 24202! **N. Nig.:** Kaduna Lamb 97! Ilorin (Feb.) Ejiofor FHI 19834! **S. Nig.:** Abeokuta Irving 138! Lagos (Sept.) Dodd 425! Rowland! **Br. Cam.:** Wum (fr. June) Ujor FHI 29273!

Widespread in tropical and parts of S. Africa, the Mascarene Islands, Madagascar and East Indies; often planted.

23. TEPHROSIA

Pers. — F.T.A. 2: 104.

Requienia *DC.* (1825).

- 1 Leaves 1–3-foliolate, or occasionally a few 5-foliolate: 2
 Leaves all pinnately 5- or more-foliolate: 3
- 2 Leaflets solitary, broadly obovate, 1–3 cm. long, 8–20 mm. broad, truncate or rounded and sharply mucronate at apex, cuneate at base, with 5–6 pairs of prominent looped lateral nerves, both surfaces covered with whitish appressed hairs; flowers solitary or paired, subsessile, 5–6 mm. long; fruits ovoid, about 5 mm. long, villous, 1-seeded *1. obcordata*
 Leaflets 1–3 (–5), linear-oblongate, 3–9 cm. long, 6–12 mm. broad, deeply emarginate or mucronate at apex, cuneate at base, with numerous ascending lateral nerves nearly hidden by dense silky white hairs beneath, glabrous above; flowers solitary or paired, sessile, about 1 cm. long; fruits about 6 cm. long and 8 mm. broad, densely villous *2. elegans*
- 3 Flowers solitary or subsolitary, axillary: 4
 Flowers racemose, usually fairly numerous: 8
- 4 Fruits about 12 times as long as broad, or if shorter than leaflets about 1 cm. long: 5
 Fruits about 6 times as long as broad, thin and flat: 7
- 5 Leaflets obovate or obovate-lanceolate: 6

- Leaflets linear, 1–3 cm. long, 1–3 mm. broad; for other characters see below [19. linearis](#)
- 6** Leaflets obovate-lanceolate, rounded or slightly emarginate at apex, 1.5–4 cm. long, lower leaflets much smaller than the upper, villous beneath, glabrous or pubescent above; flowers about 8 mm. long; calyx lobes subulate, 4 mm. long; fruits about 6 cm. long, densely pilose, 10–12-seeded [3. uniflora](#)
- Leaflets obovate, truncate and widely and sometimes deeply emarginate at apex, 5–11 mm. long, all leaflets more or less the same size, equally villous on both surfaces; flowers about 6 mm. long; calyx lobes subulate, 2 mm. long; fruits 3–5 cm. long, densely pilose, 8–9-seeded [4. vicioides](#)
- 7** Branchlets villous with weak spreading hairs; leaflets rounded or acute at apex, mostly oblanceolate, 2.5–3.5 cm. long, thinly appressed-pilose beneath, midrib villous; corolla about 6 cm. long, slightly longer than calyx-teeth; fruits 2–3 cm. long, 4 mm. broad, sparsely appressed-pubescent with hairs of equal length [5. pedicellata](#)
- Branchlets pubescent with appressed hairs; leaflets truncate or emarginate at apex, broadly linear, 3–4 cm. long, thinly appressed-pilose beneath, midrib pilose; corolla about 11 mm. long, much longer than calyx teeth; fruits 3–4 cm. long, 6 mm. broad, sparsely appressed-pubescent with 2 kinds of hairs [6. platycarpa](#)
- 8** Stems procumbent: **9**
- Stems more or less erect: **11**
- 9** Leaves pinnate: **10**
- Leaves digitate; leaflets linear-lanceolate, acute, 4–5 cm. long, with numerous ascending lateral nerves, more or less densely hairy; stems covered with soft spreading hairs (or shortly pubescent in var. digitata); flowers few, in lax slender racemes; fruits 2.5–3 cm. long [9. lupinifolia](#)
- 10** Stipules broadly ovate; leaflets mostly 3 pairs, obovate-oblanceolate, emarginate and mucronate, about 2 cm. long, appressed-pilose beneath; flowers nearly 1 cm. long, few, in short racemes a little longer than the leaves; fruits 2 cm. long, 7–8 mm. broad, 2–3-seeded, very slightly pubescent [7. radicans](#)
- Stipules subulate; leaflets 2 pairs, obovate, emarginate and mucronate, 2–2.5 cm. long, nearly glabrous beneath; flowers 8 mm. long, few, in very short racemes [8. djalonica](#)
- 11** Leaflets 5 or more pairs: **12**
- Leaflets 2–4 pairs: **22**
- 12** Flowers 2 cm. or more long, densely crowded; fruits large, 8–12 cm. long, very densely villous or tomentose: **13**
- Flowers at most about 1 cm. long or rarely 1.8 cm. long, usually loosely arranged; fruits smaller, not more than 6 cm. long: **14**
- 13** Calyx-lobes 5 mm. long, oblong, the lowest lobe lanceolate, keeled, 7 mm. long; bracts broadly ovate, 10 mm. long, shortly acuminate, early caducous; leaflets oblanceolate, rounded or truncate and mucronate at apex, 4–7 cm. long, with numerous lateral ascending nerves appressed-silky-villous beneath [10. vogelii](#)
- Calyx-lobes 2 mm. long, triangular, the lowest lobe subulate, 5 mm. long; bracts linear-lanceolate, 7 mm. long, reflexed in flower, finally caducous; leaflets oblong-obovate, broadly emarginate and shortly mucronate at apex, 2.5–5 cm. long, with numerous lateral ascending nerves appressed-silky-pubescent beneath [11. densiflora](#)
- 14** Hairs on the stems rather long and spreading, about 1 mm. long; leaflets oblanceolate to almost linear, mostly emarginate and mucronate, up to 7 cm. long, densely silky beneath; fruits erect and downward curving: **15**
- Hairs on stems appressed or tomentose, not exceeding 0.5 mm. long (hairs on leaf-rhachis sometimes longer): **16**
- 15** Fruits about 4.5 cm. long, nearly 1 cm. broad, shortly pubescent with hairs of 2 lengths, usually about 8-seeded; leaflets sparsely pubescent above with fine white hairs [12. flexuosa](#)
- Fruits about 5–6 cm. long, 5 mm. broad, shortly pubescent with hairs of the same length, about 15-seeded; leaflets often glabrous above [13. barbiger](#)
- 16** Inflorescence shorter than the leaves: **17**
- Inflorescence longer than the leaves: **18**
- 17** Flowers numerous, crowded, with many persistent lanceolate bracts about 1.5 cm. long; fruits linear-oblong, 3 cm. long, 4–5 mm. broad, shortly pubescent, sharply deflexed; leaflets oblanceolate, widely emarginate and mucronate at apex, 3–6 cm. long, 7–15 mm. broad, thinly pubescent beneath, glabrous above [14. deflexa](#)
- Flowers few not densely crowded; bracts subulate about 7 mm. long; fruits erect; leaflets pubescent on both sides; for other characters see above [6. platycarpa](#)
- 18** Leaflets 4.5–8 cm. long, 3–5 (–7) mm. broad, linear, silky-pubescent beneath, glabrous above; bracteoles broadly ovate, 5 mm. long, enclosing the buds; flowers in rather lax long-pedunculate racemes about 20 cm. long; fruits narrowly linear, 5–9 cm. long, 4 mm. broad, erect and usually curved upwards, minutely pubescent [15. bracteolata](#)
- Leaflets 1–3.5 cm. long; bracteoles linear or subulate, up to 3 mm. long: **19**
- 19** Fruits densely pilose with long brown hairs, about 5 cm. long and 6 mm. broad, about 10-seeded; leaflets thinly appressed-pubescent beneath, surface visible between hairs, glabrous above, obovate-lanceolate, slightly emarginate and mucronate at apex, 2.5–3.5 cm. long, about 8 mm. broad; inflorescence lax, 20–30 cm. long

- [16. noctiflora](#)
- Fruits with short grey indumentum; leaflets densely pubescent beneath: **20**
- 20** Flowers numerous, 12 mm. long, rather crowded in the racemes; leaflets obovate, 2 cm. long, 7–15 mm. broad, tomentose and strongly reticulate beneath; fruits 6–7 cm long, 8 mm. broad, densely tomentose [17. mossiensis](#)
- Flowers few, 6–8 mm. long, in lax racemes; fruits 4–5 cm. long, 3–4 mm. broad, pubescent: **21**
- 21** Leaflets narrowly obovate, about 1.5 cm. long, 3–7 mm. broad, rounded or emarginate at apex, lateral nerves beneath usually reddish, visible beneath hairs; stems angular, densely pubescent to subglabrous [18. purpurea](#)
- Leaflets linear, 1.5–3.5 cm. long, 2–3 mm. broad, rounded at apex, lateral nerves beneath completely obscured by the dense silky pubescence; stems ribbed, appressed-pubescent [19. linearis](#)
- 22** Inflorescence overtopping the leaves: **23**
- Inflorescence shorter than the leaves; for other characters see above [6. platycarpa](#)
- 23** Calyx up to 10 mm. long, with long linear-subulate teeth, densely blackish pilose; flowers 15–20 mm. long in stout mostly terminal inflorescences; fruits very densely blackish-pilose; leaflets oblanceolate, mucronate, 2.5–5 cm. long, 1–2 cm. broad, with about 6–8 prominent lateral nerves [20. preussii](#)
- Calyx about 2 mm. long, with subulate teeth, sparsely pubescent; flowers about 5 mm. long in very slender axillary racemes; fruits sparsely pubescent; leaflets narrowly oblanceolate, 2–2.5 cm. long, 3 mm. broad ... [21. gracilipes](#)

1. *Tephrosia obcordata* (Lam. ex Poir.) Bak. in F.T.A. 2: 125 (1871); Chev. Bot. 181; Bak. f. Leg. Trop. Afr. 1: 215.

APD: Synonym of Requienia obcordata (Lam. ex Poir.) DC.

Podalyria obcordata Lam. ex Poir. (1804).

Requienia obcordata (Lam. ex Poir.) DC. (1825) — F.W.T.A., ed. 1, 1: 387.

Crotalaria arenaria of Chev. Bot. 167, partly (Chev. 1264).

A subwoody herb with rather long subsimple branches, 6 in. to 3 ft. long, covered all over with whitish hairs.

Sen.: Walo Perrottet 201! Heudelot! M'bidjem Thierry 65! **Fr. Sud.:** Timbuktu (fl. & fr. July) Chev. 1264! 212! **Fr. Nig.:** Niamey (fl. & fr. Oct.) Hagerup 516! **N. Nig.:** Sokoto (fl. & fr. July) Dalz. 336!

Also in **Ubangi-Shari** and **A.–E. Sudan**.

2. *Tephrosia elegans* Schum. — F.T.A. 2: 118; Chev. Bot. 179; Bak. f l.c. 183; Cronquist in Fl. Congo Belge 5: 96, t. 6. *APD acc*

An erect shrubby herb 2–5 ft. high, leaves silvery beneath and green above; flowers yellow; **usually in moist grassland**.

Sen.: Berhaut 1818. **Fr. Sud.:** Ségou (fr. Oct.) Chev. 3258! **Port. G.:** Cubisseque (fr. Dec.) Esp. Santo 2333! Bafata (fr. Nov.) Esp. Santo 2805! **Fr. G.:** Pobéguin 461! **S. L.:** Wallia (fr. Feb.) Sc. Elliot 4258! Yetaya (Sept.) Thomas 2323! Mamunta (Nov.) Deighton 4934! Musaia (fr. Dec.) Deighton 5698! **Iv. C.:** Anoumaba (Nov.) Chev. 22395! Mt. Orumbo-Boka, Toumodi (fr. Dec.) Boughey C.3! **G. C.:** Kumbunga Farm (bud May) Kitson 597! Burufo (fr. Dec.) Adams GC 4428! **Togo:** Büttner 153! Kpandu Robertson 71! **N. Nig.:** R. Niger (Sept.) T. Vogel 111! Lokoja (Oct.) Barter 541! Parsons 28! Dalz. 23! **S. Nig.:** Lagos (Oct.) Punch 34! Olokemeji (fr. Nov., Dec.) Jones & Keay FHI 4874! Onochie FHI 8162! Ogun R., Oyo (Sept.) Latilo FHI 23534! Onitsha Barter 1783!

Also in **A.–E. Sudan**, **Uganda**, **Belgian Congo** and **Angola**.

3. *Tephrosia uniflora* Pers. Syn. 2: 329 (1807); Bak. f. l.c. 1: 184. *APD acc*

APD: Synonym of Tephrosia pumila (Lam.) Pers. var. *pumila*

Tephrosia anthylloides Hochst. ex Bak. in F.T.A. 2: 118 (1871); Chev. Bot. 179.

Tephrosia hirsuta Schum. & Thonn. (1827).

An undershrub, much-branched from the base, often decumbent, grey-silky, with white flowers fading to pink; **in dry waste places**.

Sen.: Heudelot 214! Brunner 178! Perrottet 207! **Fr. Sud.:** Yatenga (fl. & fr. Aug.) Chev. 24814! Bamoa (Sept.) Hagerup 326! Gao (fl. & fr. Sept.) Hagerup 360a! **G. C.:** Sakumo Lagoon, Accra Morton GC 6115! Accra (fl. & fr. Mar., Oct.) Brown 349! Deighton 601! **N. Nig.:** Sokoto (fl. & fr. July) Dalz. 331! Bornu Talbot 1221!

Also in **Cape Verde Islands**, **A.–E. Sudan**, **Abyssinia**, **Eritrea**, **Somaliland**, **Kenya**, **Tanganyika** and **Socotra**.

4. **Tephrosia vicioides** *A. Rich.* — F.T.A. 2: 117; Bak. f. l.c. 185.

APD: Synonym of Tephrosia uniflora Pers. subsp. uniflora

A diffuse prostrate herb 1–2 ft. long; flowers pale yellow, green-veined.

Fr. Sud.: Gao (Sept.) Hagerup 332! 343!

Also in **A.–E. Sudan**, **Eritrea** and **Abyssinia**.

5. **Tephrosia pedicellata** *Bak.* in F.T.A. 2: 117 (1871); Chev. Bot. 181; Bak. f. l.c. 184. *APD acc*

Tephrosia ilorinensis *J. R. Drum. ex Bak.* f. l.c. (1926).

Tephrosia hirsuta of F.W.T.A., ed. 1, 1: 385, not of Schum. & Thonn.

A half-woody prostrate plant of **rough places and roadsides**; flowers pink on short pedicels.

Sen.: Berhaut 1221. **Port. G.:** Antula, Bissau (fr. Oct.) Esp. Santo 2589! **S. L.:** Lusenya (fr. Dec.) Sc. Elliot 4313! Magbema, Rokupr (fl. Oct., fr. Nov.) Jordan 657! 695! **iv. C.:** Ouagadougou to Ouhigouya (Aug.) Chev. 24726! **G. C.:** Williams 600! Zuarungu (Sept.) Hughes FH 5331! Senchi Ferry (Oct.) Morton GC 7734! **Togo:** Büttner 282! Ho (fl. & fr. Oct.) A. S. Thomas K. 6! **N. Nig.:** Lokoja Barter! Kadaura (fl. & fr. Nov.) Lely 593! Benue R. Talbot! Ilorin (May) Bailey 8! **S. Nig.:** Olokemeji F.R. (Oct.) Keay FHI 28047! **Br. Cam.:** N. Cameroons Talbot 1221!

Also in **Cape Verde Islands**.

6. **Tephrosia platycarpa** *Guill. & Perr.* — F.T.A. 2: 109; Bak. f. l.c. 187. *APD acc*

Tephrosia humilis *Guill. & Perr.* — F.T.A. 2: 109; Bak. f. l.c.

Stems annual 6–12 in. high, woody at base, thinly grey-silky with pink or purple flowers; **in grassy roadsides, etc.**

Sen.: M'bidjem Thierry 75! Cayor Heudelot 363! 463! **Gam.:** Ingram! **N. Nig.:** Bauchi Plateau Batten Poole 152! Naraguta & Jos (fl. & fr. Nov.) Lely 584! Anara F.R., Zaria (Sept.) Olorunfemi FHI 24362!

Also in **A.–E. Sudan**.

7. **Tephrosia radicans** *Welw. ex Bak.* in F.T.A. 2: 121 (1871); Bak. f. l.c. 214; Cronq. l.c. 106. *APD acc*

An annual herb with prostrate branches 1–3 ft. long; flowers pink; **on rocks and bare soil.**

N. Nig.: Vodni, 4,600 ft. (fl. & fr. July) Lely 422! Bauchi Plateau (July) Lely P. 375!

Also in **Belgian Congo**, **Angola**, **Transvaal** and **N. and S. Rhodesia**.

8. **Tephrosia djalonica** *A. Chev. ex Eutch. & Dalz.* F.W.T.A., ed. 1, 1: 385 (1928); Kew Bull. 1928: 404; Chev. Bot. 179, name only. *APD acc*

A prostrate herb with slender striate nearly glabrous stems and reddish-purple flowers.

Fr. G.: Timbo to Ditinn, Fouta Djalon (Sept.) Chev. 18447!

9. **Tephrosia lupinifolia** *DC.* — F.T.A. 2: 107; Bak. f. l.c. 183; Cronq. l.c. 90. *APD acc*

Tephrosia digitata *DC.* (1825) — F.W.T.A., ed. 1, 1: 385.

Tephrosia lupinifolia var. *digitata* (*DC.*) *Bak.* f. l.c. 183 (1926).

Wide-climbing, slender, perennial herb, with tuberous roots and pink flowers; **in sandy places.**

Sen.: M'bidjem Thierry 88! Cape Verde (fl. & fr. Feb.) Döllinger! Walo Perrottet! Senegal R. Perrottet 209! **N. Nig.:** Nupe Barter 976! Jebba Barter!

Also in **A.–E. Sudan**, **French Congo** and **Belgian Congo**, **Angola**, **N. and S. Rhodesia** and **Nyasaland**.

10. **Tephrosia vogelii** *Hook. f.* — F.T.A. 2: 110; Chev. Bot. 181; Bak. f. l.c. 209; Cronq. l.c. 108, t. 7. *APD acc*

An erect shrub 6–10 ft. high, clothed with dense yellowish or rusty tomentum; flowers conspicuous, red or red-purple, in dense racemes; frequently cultivated as a fish-poison.

S. L.: Afzelius! Deighton 2000! Regent Sc. Elliot 3989! Samu country (Dec.) Sc. Elliot 4207! **Lib.:** Gbawia, Webo (July) Baldwin 6705! Yopla Chev. 19845. **iv. C.:** Zoanlé (fr. May) Chev. 21473! Bouaké Chev. 22145. **G. C.:** Peapease (fl. & fr. Jan.) Brent FH 396! Yeji (Aug.) Pomeroy FH 1344! 1349! Abetifi (June) Irvine 304! **N. Nig.:** T. Vogel! Nupe Barter 1083! Katsina Ala (Aug.) Dalz. 579! Vom, Bauchi Plateau Dent Young 56! Lely P. 617! **S. Nig.:** T. Vogel 28! Abeokuta Irving 96! Oban Talbot 143! Lagos Foster 20! MacGregor 181! **Br. Cam.:** Buea (fl. & fr. Apr.) Hutch. & Metcalfe 109! Bamenda, 5,000 ft. (fr. Dec.) Baldwin 13855! **F. Po.:** Ansell! T. Vogel 27!

Widespread in tropical Africa and often cultivated.

11. *Tephrosia densiflora* Hook. f. — F.T.A. 2: 114; Bak. f. l.c. 203. *APD acc*

Tephrosia interrupta of Chev. Bot. 180.

Tephrosia vogelii of F.W.T.A., ed. 1, 1: 385, partly (Millen 140).

An undershrub like the last, with grey-pubescent striate branches; fruits densely brownish-grey tomentose; **amongst rocks by streams, also cultivated.**

Fr. Sud.: Damese, Baféné Chev. 325! **Fr. G.:** Konkouré to Timbo Chev. 12495. **S. L.:** Waterloo (Oct.) Lane-Poole 388! Bure (Oct.) Glanville 39! **G. C.:** Gowani Morris C. 5! **N. Nig.:** Jebba Barter! Naraguta (Sept.) Lely 488! Bauchi Plateau (Aug.) Lely P. 618! Patti Lokoja (fl. & fr. Sept.) T. Vogel 169! **S. Nig.:** Ogun R. Millen 140!

12. *Tephrosia flexuosa* G. Don Gen. Syst. 2: 232 (1832); F.T.A. 2: 111; Bak. f. l.c. 203.

*APD: Synonym of *Tephrosia platycarpa* Guill. & Perr.*

Tephrosia ansellii Hook. f. (1849) — F.T.A. 2: 115; Bak. f. l.c. 201; F.W.T.A., ed. 1, 1: 385; Chev. Bot. 179.

Tephrosia platycarpa of Bak. f. l.c. 187, partly (Schröder 109).

An undershrub, low or sometimes reaching 5 ft. in height, silky grey or rusty hairy, with red-purple flowers in lax terminal or sometimes axillary racemes; **in savannah country.**

Sen.: Berhaut 523. **Gam.:** Hayes 579! **Fr. Sud.:** Macina (Sept.) Chev. 24856! **Fr. G.:** Kouroussa (Oct.) Pobéguin 561! **S. L.:** Kumrabai to Mamila (Nov.) Deighton 4940! **iv. C.:** S. Baoulé (Aug.) Chev. 22265! **G. C.:** Afram Plains (Nov.) Irvine 1716! Mampong (fl. & fr. Nov.) Irvine 1859! Ejura (fl. & fr. Nov.) Vigne FH 3452! **Togo:** Bando (fr. Dec.) Adams & Akpabla GC 4045! Sokode Schröder 109! Lome Warnecke 246! Amedzofe (Jan.) Irvine 3369! **N. Nig.:** Stirling Hill, Lokoja (Sept.) Ansell! Nupe Baikié! Jebba Barter! Zungeru (Oct.) Dalz. 28! **S. Nig.:** Lagos Dodd 429! MacGregor 49! Moloney! Abeokuta Irving! Olokemeji F.R. (fl. Sept., fr. Nov.) Onochie FHI 8158! Keay FHI 25386! Onitsha (fr. Nov.) Baldwin 13735!

Also in **S. Tomé, French Congo and Belgian Congo.**

13. *Tephrosia barbiger* Welw. ex Bak. in F.T.A. 2: 113 (1871); Bak. f. l.c. 196; Cronq. l.c. 111.

*APD: Synonym of *Tephrosia nana* Kotschy ex Schweinf.*

Tephrosia polysperma Bak. in F.T.A. l.c. (1871).

Habit similar to the last, branches with spreading tawny pubescence: **in savannah.**

Gam.: Hayes 565! **Port. G.:** Cacine (Oct.) Esp. Santo 662! **Fr. G.:** Pobéguin 561a! Mt. Koiré, Nzerékoré (fr. Sept.) Baldwin 13288! **S. L.:** Ansell! Jigaya (Sept.) Thomas 2675! Kanya (Oct.) Thomas 3032! Gberia Timbako (Sept.) Small 321! Kambaia (fl. & fr. Oct.) Small 475! **Lib.:** Vonjama (fr. Oct.) Baldwin 9934! **N. Nig.:** Vom Dent Young 53! 57! Bauchi Plateau (Sept.) Lely P. 714! **S. Nig.:** Lagos Rowland! Ondo (fl. & fr. Sept.) Keay FHI 22566! Ala (fr. Nov.) Thomas 1978! Awka, Onitsha (Sept.) Jones FHI 6714!

Also in **French Congo and Belgian Congo, Angola, A.-E. Sudan, Abyssinia, Kenya, Uganda and Tanganyika.**

14. *Tephrosia deflexa* Bak. in F.T.A. 2: 111 (1871); Bak. f. l.c. 194. *APD acc*

A woody erect undershrub 1–2 ft. high, more or less thinly silky-pubescent, with pink flowers.

Sen.: Bondou Heudelot 194! **Gam.:** Saunders 67! Kuntaur Ruxton 3! **Port. G.:** Bissau (Oct.) Esp. Santo 950! Dinklage 3205!

15. *Tephrosia bracteolata* Guill. & Perr. — F.T.A. 2: 116; Chev. Bot. 179; Bak. f. l.c. 201; Cronq. l.c. 112, t. 8. *APD acc*

APD: *Synonym of Tephrosia rigidula Welw. ex Baker*

Tephrosia elongata Hook. f. (1849) — F.T.A. 2: 111.

Tephrosia fasciculata Hook. f. (1849).

Tephrosia concinna Bak. in F.T.A. 2: 112 (1871); Bak. f. l.c. 190.

Tephrosia nigerica Bak. f. l.c. 198 (1926).

An erect branched undershrub, usually 2–3 ft. high, but sometimes up to 8 ft. high, with long straight thinly silky branches and bright pink to purple flowers; *in open country*.

Sen.: Cayor Heudelot 402! **Fr. Sud.:** Labbézenga (fr. Sept.) Hagerup 441! **Port. G.:** Antula, Bissau (Oct.) Esp. Santo 2561! **Fr. G.:** Pobéguin 437! Scaëtta 3155! **S. L.:** Wallia, Scarcies R. (fr. Feb.) Sc. Elliot 4281! Berria (fr. Feb.) Sc. Elliot 4959! Musaia (fl. Sept., fr. Dec.) Deighton 4413! 4855! **Iv. C.:** Mt. Kankaniboka (fl. & fr. July) Chev. 22163! Beoumi (fl. & fr. Dec.) Lowe! **G. C.:** Tamale (Nov.) Williams 386! Tumu (fr. Dec.) Adams & Akpabla GC 4368! Achimota (fl. & fr. May) Irvine 1768! **Togo:** Lome Warnecke 59! Amedzofe (fl. & fr. May) Morton GC 7242! Kpandu Robertson 63! **Dah.:** Agouagon (fr. May) Chev. 23545! **N. Nig.:** Lokoja Barter 147! Kontagora (fl. Sept., fr. Oct.) Dalz. 35! Anara F.R., Zaria (Sept.) Olorunfemi FHI 24359! Bui, Bornu, 2,500 ft. (fl. & fr. Sept.) Noble 27! **S. Nig.:** Abeokuta (fr. Jan.) Burt B. 22! Awba Hills F.R. (Oct.) Jones FHI 6350! Olokemeji (fr. Aug., Sept.) Okigbo FHI 24106! Oladoinbo FHI 24263!

Widespread in tropical Africa.

16. *Tephrosia noctiflora* Bojer ex Bak. in F.T.A. 2: 112 (1871); Bak. f. l.c. 193. *APD acc*

A rather spreading undershrub 2–3 ft. high; flowers yellow-green to white with a purple centre.

S. L.: Newton (fl. & fr. Aug.) Deighton 2207! **Lib.:** Gletown, Tchien Dist. (fl. & fr. July) Baldwin 6705a! **G. C.:** Achimota (fl. & fr. June, Nov.) Irvine 1797! Morton GC 6099! **Br. Cam.:** Victoria (fl. & fr. Mar.) Maitland FHI 8768!

Also in **Uganda**, **Kenya**, **Tanganyika**, Zanzibar and Nyasaland where it is probably native; introduced into our area, **Belgian Congo** and the West Indies.

17. *Tephrosia mossiensis* A. Chev. in Bull. Soc. Bot. Fr. 57, Mém. 8: 159 (1912); Chev. Bot. 180; Bak. f. l.c. 193. *APD acc*

A branched woody undershrub, 2–6 ft. high, shortly tomentose; flowers deep red in racemes 2–7 in. long; *amongst rocks*.

Sen.: Niokolo-Koba Berhaut 1571. **Fr. Sud.:** Macina Chev. 24844! Kita Massif (fl. July, fr. Sept.) Jaeger! **Iv. C.:** Mt. Zongapignié, Mossi (July) Chev. 24646! **G. C.:** Jowani, Gambaga Dist. (fl. & fr. June) Akpabla 671! **Fr. Nig.:** Kodjar rocks, Diapaga Chev. 24414. **N. Nig.:** Bauchi Plateau (July) Lely P. 503! Batten Poole 115!

18. *Tephrosia purpurea* (Linn.) Pers. — F.T.A. 2: 124 (incl. var. pubescens Bak.); Bak. f. l.c. 190; Cronq. l.c. 98. *APD acc*

Cracca purpurea Linn. (1753).

Tephrosia leptostachya DC. (1825) — F.W.T.A., ed. 1, 1: 385.

A variable perennial, 6–18 in. high, more or less erect, woody at the base; flowers purple or pink in very lax racemes with the lowest flowers appearing axillary and solitary; *in dry waste places*.

Sen.: Roger! Perrottet 202! Heudelot 408! Walo Heudetot! M'bidjem Thierry 47! **Gam.:** Boteler! **Fr. Sud.:** Timbuktu (fl. & fr. June, July) Hagerup 135! 217! 246b! **G. C.:** Prampram (fr. May) Irvine 1437! Morton GC 6087! Labadi (fl. & fr. Mar.) Deighton 580! **Dah.:** Cotonou (fr. Feb.) Debeaux 158! **N. Nig.:** Mokoye, Zaria (fl. & fr. Aug.) Keay FHI 28026! Sokoto (fl. & fr. Sept., Oct.) Moiser 116! 128! Bauchi Plateau (fl. & fr. Aug.) Lely P 569! Katagum (fl. & fr. Aug.) Dalz. 29! L. Chad (fl. & fr. Feb.) E. Vogel 38! **Br. Cam.:** Bama, Dikwa Div. (Nov.) McClintock 29!

Widely spread throughout tropical Africa and Asia.

19. *Tephrosia linearis* (Willd.) Pers. — F.T.A. 2: 120; Chev. Bot. 180; Bak. f. l.c. 189; Cronq. l.c. 94. *APD acc*

Galega linearis Willd. (1803).

Tephrosia pulchella Hook. f. (1849) — F.T.A. 2: 120; Bak. f. l.c.

An erect annual, 1–3 ft. or more high, with slender grey-pubescent branches, very narrow leaflets and pink or orange flowers: [in dry grassland](#).

Sen.: Roger! Heudelot 257! Walo Perrottet 203! **Gam.:** Saunders 65! Hayes 561! **Fr. Sud.:** Macina (fl. & fr. Sept.) Chev. 24848! Gao (Sept.) Hagerup 368! **Port. G.:** Antula, Bissau (Oct.) Esp. Santo 2546! **S. L.:** Musaia (fr. Dec.) Deighton 4436! **G. C.:** Accra Plains (fl. & fr. Oct.) Baldwin 13422! **Dah.:** Cotonou Chev. 4448. **N. Nig.:** Jebba Barter! Lokoja (Sept.) Parsons L. 25! Stirling (Sept.) T. Vogel 139! Sokoto Dalz. 332! Moiser 33! Makurdi (fr. Nov.) Keay FHI 22274! **S. Nig.:** Lagos MacGregor 198! Onitsha (Oct.) Jones FHI 6132! **Br. Cam.:** Bama, Dikwa Div. (fl. & fr. Dec.) McClintock 39!

Widespread in tropical Africa.

20. **Tephrosia preussii** *Taub.* in Engl. Bot. Jahrb. 23: 182 (1896); Bak. f. l.c. 208.

APD: Synonym of Tephrosia paniculata Welw. ex Baker

Tephrosia lelyi Bak. f. l.c. 207 (1926).

A robust erect undershrub, up to 5 ft. high, with striate pubescent stems and purplish or orange flowers.

S. L.: Bintumane Peak, 5,000 ft. (fr. Jan.) T. S. Jones 159! **N. Nig.:** Vom, Bauchi Plateau, 3,000–4,500 ft. Dent Young 54! Naraguta & Jos (Sept.) Lely 572! **S. Nig.:** Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25087! **Br. Cam.:** Buea (fl. & fr. Jan., Dec.) Lehm巴赫 63! Preuss 629! Mildbr. 10828! Bansa, Bamenda (Oct.) Tamajong FHI 23478!

21. **Tephrosia gracilipes** *Guill. & Perr.* — F.T.A. 2: 119; Bak. f. l.c. 189. *APD acc*

An erect slender annual, 1 ft. or more high, thinly appressed grey-silky, with small purplish flowers.

Sen.: Heudelot! Bakel (Sept., Oct.) Perrottet.

Also in [A.–E. Sudan](#) and [Abyssinia](#).

Tephrosia candida (*Roxb.*) *DC.* *APD acc*

Has been introduced from India into Sierra Leone and British Cameroons.

Tephrosia simplicifolia *Franch.* — *Berhaut Fl. Sen.* 192.

Recorded from Ouassadou, Senegal (Berhaut 1223); not previously known outside Somaliland.

The Senegal specimen has not been seen. Doubtfully recorded species.

24. **SESBANIA**

Scop. — F.T.A. 2: 133.

- 1 Appendages present at base of claw of standard:2
Appendages absent from claw of standard or reduced to a slight ridge, standard striate; fruits torulose, much constricted between the seeds, 12–15 cm. long, 3 mm. broad; leaflets 8–18 pairs, narrowly oblong, 6–13 mm. long, 2–3 mm. broad, finely punctate, cuneate at base, glabrous[9. leptocarpa](#)
- 2 Appendages free in the upper half or third and continuous with the adnate part; standard more or less spotted with purple, sometimes suffused purple; fruits up to 24 cm. long, at first torulose; inflorescence 4–8-flowered; peduncles smooth; leaves about as long as the inflorescence; leaflets 9–27 pairs, oblong-linear, mucronate, 2–3 cm. long and about 5 mm. broad, more or less pubescent[1. sesban](#)
- Appendages adnate or with their short apices free and at right angles to the standard:3
- 3 Flowers very large, 5–10 cm. long; fruits about 30 cm. long, flat; leaflets about 15–20 pairs, elongate-oblong, 2.5–3 cm. long and up to 1 cm. broad[2. grandiflora](#)
- Flowers much smaller, up to 2.5 cm. long:4
- 4 Stipules (seen in the youngest parts) 9–11 mm. long, about 2 mm. broad, linear, brown; peduncles angular, (8–) 12–20 cm. long with many small prickles at the base; calyx campanulate, teeth very small; flowers 1.2–1.8 cm. long; pedicels about 1 cm. long; fruits 20–25 cm. long, 7 mm. broad; leaves as long as the inflorescence, or rather shorter; leaflets 10–24 pairs, 9–24 mm. long, 2–6 mm. broad, oblong, mucronate at apex[3. macrantha](#)
- Stipules (seen in the youngest parts) 4–8 mm. long, 1 mm. broad, subulate, green with scarious margins; peduncles not prickly:5

- 5 Stems and leaves, or leaves only, rather densely pubescent; calyx 5-toothed; standard not spotted:6
 Stems and leaves glabrous or slightly pubescent especially on nerves and margins of young leaves; calyx 4- or 5-toothed; standard spotted:.....7
- 6 Calyx-teeth dark brown, triangular; leaflets 12–18 pairs, elongate-oblong, mucronate, up to 2.5 cm. long and 6 mm. broad, usually densely pubescent; flowers small, about 8 mm. long; fruits not torulose, curved, about 15 cm. long, 3 mm. broad with thick margins4. [pubescens](#)
 Calyx-teeth green; leaflets up to 40 pairs, linear-oblong, 8–25 mm. long, 2–3.5 mm. broad, sparsely appressed-pubescent on both surfaces; flowers 12–17 mm. long; fruits strongly torulose, about 20 cm. long ...5. [dalzielii](#)
- 7 Glands, at least on the older parts, in a line up the stem from each leaf-axil; inflorescences corymbose when young, often slightly pubescent; calyx-teeth triangular at base with filiform acumen; flowers about 1.5 cm. long; fruits slightly curved, margins conspicuously thickened, surface clearly but not deeply indented, apex acute, 15–25 cm. long6. [pachycarpa](#)
 Glands absent from stem:8
- 8 Stems thick and pithy; leaf-rhachis usually aculeate; leaves very long, up to 40 cm. long; leaflets numerous, 1–2 cm. long and 3–5 mm. broad, glabrous and glaucous; peduncle 6–8 cm. long, few-flowered; flowers about 1.5 cm. long; fruit-margins straight7. [bispinosa](#)
 Stems slender and wiry; leaf-rhachis smooth; leaves up to 15 cm. long; leaflets 5–30 pairs, obliquely unequally-sided at base, about 1.5 cm. long, 2.5–3 mm. broad, glaucous green; peduncle 2–4 cm. long, few-flowered; flowers about 2 cm. long; fruit-margins constricted8. [arabica](#)

1. **Sesbania sesban** (Linn.) Merril in Philipp. Journ. Sci. 7: 235 (1912); Cronquist in Fl. Congo Belge 5: 76, t. 5. *APD acc*

APD: *Synonym of Sesbania sesban var. nubica Chiov.*

APD: *Synonym of Sesbania sesban subsp. punctata (DC.) J. B. Gillett*

Aeschynomene sesban Linn. (1753).

Sesbania aegyptiaca (Poir.) Pers. (1807) — F.T.A. 2: 134; Chev. Bot. 184; Phill. & Hutch, in Bothalia 1: 44; F.W.T.A., ed. 1, 1: 387 (incl. var. *bicolor* Wight); Bak. f. Leg. Trop. Afr. 2: 259.

Sesbania punctata DC. (1825) — F.T.A. 2: 133; Chev. Bot. 185; Phill. & Hutch. l.c. 43; F.W.T.A., ed. 1, 1: 387; Bak. f. l.c. 259.

A shrub or small tree, up to 20 ft. high, copiously branched, more or less pale glaucous, with red-spotted yellow flowers; **common by streams and sandbanks.**

Sen.: Perrottet 231! 232! Roger! Heudelot! Richard Tol (Jan.) Döllinger 10! **Gam.:** Pirie 32! **Fr. Sud.:** fide Chev. l.c. **S. L.:** T. Vogel 24! **iv. C.:** R. Cavally Chev. 19776. **G. C.:** Black Volta R. (fr. Mar.) Kitson 968! **N. Nig.:** Attah (fr. Sept.) T. Vogel 45! Nupe Barter 970! Katagum (Dec.) Dalz. 7! Sokoto (Dec.) Dalz. 324! Lely 152! L. Chad (fl. & fr. Jan.) Lamb 107! **Br. Cam.:** Bama, Dikwa Div. (fl. & fr. Jan.) McClintock 162!

Widespread in tropical Africa and trough tropical Asia to N. Australia, also in **St. Helena.**

2. **Sesbania grandiflora** (Linn.) Poir. in Lam. Encycl. Méth. Bot. 7: 127 (1806); Phill. & Hutch. l.c. 46; Bak. f. l.c. 260. *APD acc*

Robinia grandiflora Linn. (1753).

A small tree or shrub, with rather stout branchlets pubescent when young; flowers very large, few, pink or red or cream-white.

Sen.: Roger! Perrottet 235! **S. L.:** Don! **G. C.:** Axim Chipp 391! **S. Nig.:** Lagos Rowland!

Widely cultivated in the tropics.

3. **Sesbania macrantha** Welw. ex Phill. & Hutch. l.c. 47 (1921); Bak. f. l.c. 261; Cronq. l.c. 79. *APD acc*

A shrub, 5–6 ft. high with stem and branches rough with small thorns; flowers yellow tinged pink.

Br. Cam.: Bamenda, 5,000 ft. (fr. Jan.) Migeod 403! Njinikom, 5,000 ft. (May) Maitland 1442! L. Bambili (Aug.) Ujor FHI 29998!

Also in **French Cameroons, A.–E. Sudan, Belgian Congo, Angola, Uganda, Kenya, Nyasaland, N. Rhodesia** and **S. Rhodesia** and **Transvaal.**

4. **Sesbania pubescens** DC. — F.T.A. 2: 135; Phill. & Hutch. l.c. 48; Chev. Bot. 184; Bak. f. l.c. 261;

Cronq. l.c. 83.

APD: Synonym of Sesbania sesban var. nubica Chiov.

APD: Synonym of Sesbania sericea (Willd.) Link

A slender shrub of **moist places**; inflorescence slender with rather small yellow flowers.

Sen.: Perrottet 228! M'bidjem Thierry 72! Chev. 3393! N'boro Brunner 79! **Fr. Sud.:** Timbuktu Chev. 1206. Kabarah Chev. 1325. **G. C.:** Accra Brown 419! Dalz. 79! Irvine 805! 822! Axim (fl. & fr. Apr.) Chipp 426! Aburi (Aug.) Johnson 950! **Dah.:** Cotonou Debeaux 150! Zagnanado (Mar.) Chev. 23302! **N. Nig.:** Kwarre Sampson 22!

Also in **Chad Territory**, **A.–E. Sudan**, **Belgian Congo**, **E. Africa**, **Angola** and **S. Tomé**.

5. **Sesbania dalzielii** *Phill. & Hutch.* l.c. 49 (1921); Bak. f. l.c. 261; Berhaut Fl. Sen. 33. *APD acc*

APD: Synonym of Sesbania sudanica subsp. occidentalis J. B. Gillett

A slender shrub 4–5 ft. high, with weak slightly pubescent branches and yellow flowers; **in marshy places**.

Sen.: fide Berhaut l.c. **Fr. Sud.:** Koulikoro (Oct.) Chev. 3390! **G. C.:** Akuse (fl. & fr. Oct.) Vigne FH 4050! **Fr. Nig.:** Labbézenga (fl. & fr. Sept.) Hagerup 457! **N. Nig.:** Baikie 9! Jebba Barter! Katagum (fl. & fr. Oct.) Dalz. 8! Abinsi (fl. & fr. Oct.) Dalz. 614! Benue R. (Sept.) Talbot!

6. **Sesbania pachycarpa** *DC.* Prod. 2: 265 (1825); Berhaut in Bull. Soc. Bot. Fr. 99: 297 (1953); F.W.T.A., ed. 1, 1: 387, partly (Perrottet 230). *APD acc*

APD: Synonym of Sesbania rostrata Bremek. & Oberm.

Sesbania pubescens of F.W.T.A., ed. 1, 1: 887, partly (Roger 23; Heudelot 252).

Sesbania aculeata of F.W.T.A., ed. 1, 1: 387, partly (Perrottet 229).

Sesbania aegyptiaca of F.W.T.A., ed. 1, 1: 387, partly (Talbot 1242).

A herb 2–5 ft. high with yellow flowers, the standard purple-spotted; **usually by water or introduced**.

Sen.: Roger 23! Perrottet 230! Richard Tol (Sept.) Perrottet 229! Galam Heudelot 252! **Fr. Sud.:** Buia, Ansongo Hagerup 404! **N. Nig.:** Bornu (Nov.) Johnston N. 64! Talbot 1242! Clapperton 5! **Br. Cam.:** Dikwa (fl. & fr. Nov.) Johnston N. 96!

Also in **Mauritania**, **A.–E. Sudan** and **Madagascar**.

(The name *S. pachycarpa* DC. seems to be misapplied by Cronquist in Fl. Congo Belge 5: 81.]

7. **Sesbania bispinosa** (*Jacq.*) *W. F. Wight* in U.S. Dept. Agric., Bur. Pl. Indust. Bull. 137; 15 (1909); Sprague & Milne-Redhead in Kew Bull. 1939: 159. *APD acc*

Aeschynomene bispinosa *Jacq.* (1793).

Sesbania aculeata *Pers.* (1807) — F.T.A. 2: 134; Phill. & Hutch. l.c. 50; F.W.T.A., ed. 1, 1: 387 (excl. Perrottet 229); Bak. f. l.c. 262.

Sesbania pachycarpa of F.W.T.A., ed. 1, 1: 387 (excl. Perrottet 230).

Stem glabrous, erect, branched from the base, often thick but soft and pithy, reaching 15 ft.; flowers yellow, purple-spotted; **in muddy swamps**.

Sen.: Heudelot 502. **Gam.:** Kuntaur Ruxton 146! **Port. G.:** Bissau (Oct.) Esp. Santo 2542! **Fr. G.:** Nzérékoré Baldwin 9736! **S. L.:** Falaba (fl. & fr. Mar., Apr.) Sc. Elliot 5220! Deighton 5401! Njala (fr. Nov.) Deighton 1790! Jagbwema (Oct.) Small 402! **G. C.:** Williams 549! Accra T. Vogel! Legon (fl. & fr. Nov.) Morton A. 90! **N. Nig.:** Bornu (fl. & fr. Nov.) E. Vogel 79! Katagum (fl. & fr. Oct.) Dalz. 9! Abinsi (fl. & fr. Nov.) Dalz. 615! Naraguta & Jos (fl. Aug., fr. Nov.) Lely 534! 586! Vom, 3,000–4,500 ft. Dent Young 58! Lokoja Richardson! **S. Nig.:** Lagos Phillips 13! Dalz. 1227! **Br. Cam.:** Bama, Dikwa Dist. (fl. & fr. Nov.) McClintock 32!

A common weed in the tropics.

8. **Sesbania arabica** *Steud. & Hochst. ex Phill. & Hutch.* l.c. 51 (1921).

APD: Synonym of Sesbania sudanica J. B. Gillett

Stems glabrous; sometimes very slender, decumbent or erect.

N. Nig.: Benue R., Muri Prov. (Nov.) Lamb 69! Bornu (Sept.) Gwynn 138!

Extends to A.–E. **Sudan** and **Arabia**.

9. *Sesbania leptocarpa* DC. — F.T.A. 2: 135; Phill. & Hutch. l.c. 50; Chev. Bot. 184; Bak. f. l.c. 262.
APD acc

APD: Synonym of Sesbania microphylla Harms

A slender glabrous undershrub up to 8 ft. high; flowers small.

Sen.: Roger! Senegal R. Heudelot 489! **Fr. Sud.:** San Chev. 1060. **Iv. C.:** Baoulé-Nord Chev. 22030. Ouagadougou to Lai Chev. 24692. **G. C.:** Tamale (fr. Dec.) Morton GC 9915! **Fr. Nig.:** Gourma Chev. 24526. Bilma Chev. 28641. **N. Nig.:** Kwarre (fr. Nov.) Sampson 23!

[Cronquist l.c. 80, records this species from the Belgian Congo and indicates that it occurs in other parts of tropical Africa and in Arabia; his description shows that he has adopted a broad view of the species and not the strict view taken by Phillips and Hutchinson which is followed here.]

25. PSORALEA

Linn. — F.T.A. 2: 64.

- 1** A low shrub with rigid branchlets; leaves pinnately 3-foliolate; leaflets oblanceolate or oblong, 1–1.5 cm. long, closely and minutely pubescent, glandular; petiole short; racemes axillary, stout; calyx strongly nerved; fruit as long as the calyx, ellipsoid, hairy, 1-seeded [plicata](#)

Psoralea plicata Del. — F.T.A. 2: 64; Bak. f. Leg. Trop. Afr. 1: 93.

APD: Synonym of Cullen plicatum (Delile) C.H. Stirt.

Undershrub up to 4 ft. high, with ribbed weakly spiny branchlets and whitish flowers.

Sen.: Berhaut 1719. **N. Nig.:** Kukawa, banks of L. Chad (fl. & fr. Feb.) E. Vogel 33!

Extends to A.–E. **Sudan** and Nile land.

26. INDIGOFERA

Linn. — F.T.A. 2: 65; Tisserant in Bull. Mus. Hist. Nat., sér. 2, 3; 163–172, 258–272 (1931).

Microcharis Benth. — F.T.A. 2: 132.

The corolla is red or pink in Indigofera unless otherwise stated.

KEY TO THE NATURAL GROUPS

- 1** Pods falcate, subtriquetrous, 1-seeded, beset with spines; inflorescence an axillary raceme; fruiting pedicels reflexed; leaves simple, elliptic [Subgenus 1. ACANTHONOTUS, 1. nummulariifolia](#)
Pods not as above: **2**
- 2** Pods flattened, 3- or more-seeded; fruiting pedicels reflexed; inflorescence an axillary raceme; calyx more than half as long as stamens, its lobes much longer than the tube; standard pubescent outside; leaflets 3–7, the lateral ones opposite; annuals [Subgenus 2. AMECARPUS, spp. 2–5](#)
Pods not flattened, or, if so, remaining characters not as above: **3**
- 3** Stipules approaching the leaflets in size; flowers almost hidden by the stipular part of the bracts; indumentum long, softly silky; fruits 2–4-seeded [Subgenus 3. INDIGOFERA. Sect. latestipulatae, spp. 6–7.](#)
Stipules not approaching the leaflets in size: **4**
- 4** Standard pubescent outside, or, if glabrous (in No. 37) then fruits erect, flattened 1-seeded; keel rarely rostrate but having a spur-like pouch at each side; all stamens fertile [Subgenus 3. INDIGOFERA](#)
Standard glabrous; keel without a spur-like pouch at each side, usually rostrate; pod more than 4-seeded

- [Subgenera 4. INDIGASTRUM, spp. 71–72, and 5. MICROCHARIS, spp. 73–76](#)
- 5** Inflorescence a panicle, sometimes condensed and subcapitate; bracts passing more or less gradually into the foliage leaves; calyx deeply divided; fruits (except in No. 9) short, 1–4-seeded, straight .. [Section Paniculatae, spp. 8–25](#)
 Inflorescence an axillary raceme; bracts sharply distinct from foliage leaves [Section Indigofera, spp. 26–70](#)
- 6** Fruiting pedicels not definitely deflexed (except sometimes in No. 36, where the inflorescence has 3–6 flowers); fruits erect or spreading, straight; inflorescence 2-many-flowered; lateral leaflets opposite (except in No. 27): **7**
 Fruiting pedicels definitely deflexed; inflorescence 10-many-flowered: **12**
- 7** Plants free from glandular hairs (sepals and stipules may be gland-tipped in Nos. 41 and 42): **8**
 Plants with glandular hairs on the fruit or elsewhere [Subsection Viscosae, spp. 46–52](#)
- 8** Peduncles very short (under 5 mm.) or, if more, less than 1/4 length of floriferous axis: **9**
 Peduncles more than 5 mm. long, more than 1/4 length of floriferous axis; leaves, at least the lower ones, always compound: **10**
- 9** Fruits, at least when mature, all erect, or nearly so [Subsection Brevi-erectae spp. 26–35](#)
 Fruits 1–3 in each inflorescence, 6- or more-seeded, spreading in all directions; leaflets 1–5, about 7 mm. long [36. suaveolens](#)
- 10** Pods 1-seeded, flattened; whole plant, including standard, glabrous or almost so; inflorescence with 4–7 flowers [37. scarriesii](#)
 Pods 4- or more-seeded; standard pubescent: **11**
- 11** Calyx less than 1/2 as long as stamens; stipules not above 5 mm. long, or 0–5 mm. wide [Subsection Dissitiflorae, spp. 38–43](#)
 Calyx more than 1/2 as long as stamens; stipules often over 5 mm. long and 0–5 mm. wide; leaflets 1–5; indumentum of both long spreading basifixed and appressed medifixed hairs; stipules and calyx lobes sometimes gland-tipped [Subsection Pilosae, spp. 44–45](#)
- 12** Lateral leaflets opposite: **13**
 Lateral leaflets alternate, or some or all leaves simple [Subsection Alternifoliolae, spp. 66–70](#)
- 13** Leaflets not gland-dotted beneath: **14**
 Leaflets dotted beneath with more or less impressed glands; calyx deeply divided; raceme dense, fruits short [65. microcarpa](#)
- 14** Calyx-lobes not more than twice as long as tube; corolla much longer than calyx; indumentum on standard closely appressed and parallel, giving a shiny appearance; pods 4- or more-seeded, often curved ... [Subsection Tinctoriae, spp. 53–60](#)
 Calyx-lobes many times as long as tube; corolla not twice as long as calyx; indumentum of standard not dense, close-appressed and shining; pods 3–8-seeded, straight [Subsection Hirsutae, spp. 61–64](#)
- Subgenus 2 — AMECARPUS**
- 1** Pods over 2–4 mm. wide, with separate eminences over each seed: **2**
 Pods less than 2–2 mm. wide: **3**
- 2** Pods more or less curved, 5–9-seeded; fruiting peduncle 5 mm. long or less, not above half as long as a fruit .. [2. hochstetteri](#)
 Pods nearly straight, 3–6-seeded; fruiting peduncle 10 mm. long or more, as long as or longer than a fruit [3. senegalensis](#)
- 3** Pods 1.6–2 mm. wide, with a more or less continuous lateral ridge; infructescence shorter than its subtending leaf; leaflets rarely over 3 mm. wide [4. charlieriana var. sessilis](#)
 Pods 1.1–5 mm. wide, the lateral ridge broken into separate swellings above the seeds; infructescence usually more than twice as long as subtending leaf; wider leaflets over 4 mm. wide [5. aspera](#)
- Subgenus 3 — INDIGOFERA**

Section Latestipulatae

- 1** Flowers single in the axils of bracts which do not form a strobilus; bracts each with a well-developed lamina and stipules free almost to the base [6. berhautiana](#)
 Flowers two together in the axils of bracts which are aggregated to form a strobilus; lamina of bracts absent or much reduced; stipules of bracts usually united to above the middle [7. strobilifera](#)

Section Paniculatae

- 1** Pedicel, even when jointed and perhaps equivalent to a reduced peduncle, not over 4 mm. long: **2**

- Pedicle slender, jointed, probably equivalent to a reduced peduncle, 5 mm. or more long; leaflets up to 7 or 9 in number: **16**
- 2** Leaves always simple, the lower more than 2 cm. long: **3**
- Lower leaves often pinnate, simple leaves, if present, usually under 2 cm. long: **5**
- 3** Fruiting calyx 4–5 mm. long with conspicuous rufous hairs [8. polysphaera](#)
- Fruiting calyx 1–2 mm. long: **4**
- 4** Fruits about 5 times as long as wide; stem 3-winged [9. trialata](#)
- Fruits up to 3 times as long as wide; stem ridged, not winged [10. paniculata](#)
- 5** Fruiting calyx-lobes much broadened, wider than the usually 1-seeded fruit which is hidden within them: **6**
- Fruiting calyx-lobes not so wide as fruit: **7**
- 6** Straggling herb; fruiting inflorescence compact, usually over 15 mm. wide, and less than twice as long; without glands, or with glands less frequent than the usual type of hairs [11. macrocalyx](#)
- Stiff semiwoody plant; fruiting inflorescence less compact, usually under 15 mm. wide, and often more than twice as long; with numerous short glands between the less frequent usual type of hairs [12. terminalis](#)
- 7** Inflorescences compact, subglobose, congested panicles, without separate flowers away from the rest in leaf-axils: **8**
- Inflorescences much less compact, many flowers separate in the axils of leafy bracts (or simple leaves): **11**
- 8** Inflorescences less wide than the shoots which they terminate are long; fruiting calyx about 6 mm. long, or more: **9**
- Inflorescences mostly lateral, sessile in leaf-axils or wider than the shoots which they terminate are long; fruiting calyx about 3 mm. long: **10**
- 9** Leaflets often 3–5 cm. long; inflorescences 3–4 cm. across; fruiting calyx about 11 mm. long .. [13. megacephala](#)
- Leaflets rarely over 2 cm. long, up to 9 in number; inflorescences under 3 cm. across; fruiting calyx about 6–8 mm. long [14. capitata](#)
- 10** Leaflets up to 7 in number [15. congesta](#)
- Leaflets 11–13 in number [16. dasycephala](#)
- 11** Fruiting calyx 3–4 mm. long, about as long as fruit, its indumentum brownish: **12**
- Fruiting calyx not above 2–5 mm. long: **13**
- 12** Leaves all pinnate, the longer with about 17 leaflets [17. brassii](#)
- Leaves often simple or 3-foliolate, the longer with about 9 leaflets [18. pulchra](#)
- 13** The lobes of fruiting calyx subequal, not above half as long as pod: **14**
- The 2 upper lobes of fruiting calyx much wider than the rest, about 3/4 as long as pod; hairs on calyx and pod white; some lower leaves usually pinnate with up to 11 leaflets [22. bracteolata](#)
- 14** Pods 2–4-seeded; most lower leaves pinnate (up to 5-jugate): **15**
- Pods 1-seeded, more or less oval; leaves simple; indumentum sparse; herbaceous shoots from a woody rootstock [21. leptoclada](#)
- 15** A stiffly erect annual; leaflets 4 or more times as long as wide; branches of inflorescence leafless and flowerless below, crowded with 1–3-foliolate leaves or bracts in their upper half; hairs on calyx and fruit dense, spreading, about 0–5 mm. long, often black or dark brown [19. nigricans](#)
- A woody suffrutex; leaflets twice as long as wide; branches of inflorescence without a leafless lower portion; hairs on calyx and fruit sparser, about 0–2 mm. long, white [20. oubanguiensis](#)
- 16** Calyx-lobes widest at the base: **17**
- Calyx-lobes twice as wide just below the middle as at the base; bushy herb, woody below; hairs long, spreading [25. latisejala](#)
- 17** Slender annual, up to 30 cm. tall; indumentum more or less spreading [23. trichopoda](#)
- Stiff erect bushy herb, up to 2 m. tall; indumentum closely appressed [24. nigritana](#)

Section Indigofera

Subsection Brevi-erectae

- 1** Pods not glabrous; **2**
- Pods glabrous, about 1·4 mm. wide, 19–22 mm. long; leaflets 3–5 [35. omissa](#)

- 2 Inflorescence extremely congested, so that the axis and pedicels are hidden by the flowers or fruits; leaflets or simple leaves under 17 mm. long and about half as wide:3
 Inflorescence less congested, axis and pedicels not hidden:4
- 3 Leaves simple, oval, cordate at base; pods oblong, not torulose, 2-seeded [26. cordifolia](#)
 Leaves with 3–11, usually alternate, leaflets; pods more or less torulose, 3–6-seeded [27. sessiliflora](#)
- 4 Leaves simple, several times as long as wide, usually over 17 mm. long; pods 4-or more-seeded, elongate:5
 Leaves pinnate:7
- 5 Pods 1.8–2.5 mm. wide; leaves up to 3 mm. wide; calyx teeth about 1 mm. long:6
 Pods about 4 mm. wide; leaves up to 10 mm. wide; calyx teeth about 5 mm. long [30. leprieurii](#)
- 6 Hairs on upper surface of leaf set at an angle of 80–90° with midrib; pod more or less flattened, about 2.5 mm. wide, 3–6-seeded, ending in a short point (persistent style base) about 0.3 mm. long [28. tetrasperma](#)
 Hairs on upper surface of leaf set at an angle of about 45° with midrib; pod more or less tetragonal, about 1.8–2.0 mm. wide, usually 8–12-seeded, ending in a point (persistent style base) about 1.1 mm. long [29. simplicifolia](#)
- 7 Calyx-lobes as long as tube, or longer, or, if shorter, then the leaflets much less than 3 cm. long and 1 cm. wide: 8
 Calyx-lobes much shorter than the tube; leaflets 7, about 3 cm. long and 1 cm. wide; standard densely covered outside by a golden-brown appressed indumentum [34. pobeguinii](#)
- 8 Pods 12–40 mm. long, leaflets usually over 17 mm. long:9
 Pods 3–5 mm. long; leaflets 5–9 in number, up to 17 mm. long [33. mildbraediana](#)
- 9 Leaflets usually more than 11, often 15–23 in number, about 2–5 times as long as wide; pods more or less 4-winged; hairs on calyx long (about 1 mm.), more or less spreading; flowers erect in bud, later reflexed and lastly the fruits erect again [31. priureana](#)
 Leaflets usually fewer than 11, 4–10 times as long as wide; pod not winged: 10
- 10 Hairs on calyx about 0.5 mm. long, more or less appressed; flowers erect throughout [32. stenophylla var. stenophylla](#)
 Hairs on calyx about 1 mm. long, more or less spreading, flowers deflexed after opening and later again becoming erect [32a. stenophylla var. ampla](#)

Subsection Dissitiflorae

- 1 Leaf-rhachis prolonged beyond distal pair of leaflets; flowers borne one above the other on the axis of the inflorescence:2
 Leaf-rhachis usually not, or hardly, prolonged beyond distal pair of leaflets; flowers borne 2 together at the tip of the peduncle [43. geminata](#)
- 2 Fruiting pedicel over 2 mm. long:3
 Fruiting pedicel less than 2 mm. long; racemes 2–4-flowered:6
- 3 Pods minutely strigose, usually over 17 mm. long; racemes often more than 12-flowered; leaflets 11–31 [38. dendroides](#)
 Pods glabrous or almost so, less than 17 mm. long:4
- 4 Raceme 6–12-flowered, its axis pubescent; stems more or less pubescent with spreading hairs; leaflets 7–13: ...5
 Raceme 3–5-flowered, its axis (with peduncle) under 15 mm. long; stems sub-glabrous, the few hairs appressed, leaflets 3–9 [40. elliotii](#)
- 5 Leaflets rarely over 8 mm. wide; peduncle rarely over 15 mm. long; leaves subtending inflorescences usually shorter than the lower leaves (1–3-jugate instead of 4–6-jugate) [39. heudelotii var. heudelotii](#)
 Leaflets up to 12 mm. wide; peduncles up to 30 mm. long; leaves subtending inflorescences 3- or more-jugate, much like lower leaves [39a. heudelotii var. fairchildii](#)
- 6 Petioles under 1 mm. long; leaflets 7–13, with glandular margins; stipellae obscure [41. wituensis var. occidentalis](#)
 Petioles 3–7 mm. long; leaflets 5–9, without glandular margins; stipellae filiform about 1 mm. long [42. congolensis](#)

Subsection Pilosae

- 1 Inflorescence 1–4-flowered; hairs all whitish; leaflets often more or less acute [44. pilosa](#)
 Inflorescence 5–20-flowered; many hairs yellowish brown; leaflets more or less obtuse [45. fulvopilosa](#)

Subsection Viscosae

- 1 Non-glandular hairs of inflorescence white:2
 Non-glandular hairs of inflorescence largely blackish-brown; leaflets 5–13; fruit about 2 mm. wide:7

- 2 Inflorescence much more than 5 mm. long; fruits usually over 3 mm. long:.....3
 Inflorescence compact, not over 5 mm. long, pods 2-seeded, about 3 mm. long[51. conferta](#)
- 3 Pods about 1–1.7 mm. wide:4
 Pods about 2 mm. wide:6
- 4 Petiole usually shorter than basal leaflets; leaflets rarely more than 9, finely appressed-strigose above; epidermis of stems and glandular hairs usually more or less reddish-purple; fruit not over 12 mm. long ..[46. mimosoides](#)
 Petiole usually longer than basal leaflets (if shorter, leaflets more than 11); leaflets often 11 or more; epidermis of stems usually yellowish green:.....5
- 5 Glandular hairs present on fruits and leaflets; inflorescence not markedly secund; fruits up to 20 mm. long ...[47. colutea](#)
 Glandular hairs absent on fruits and leaflets, rather sparse elsewhere; inflorescence markedly secund; fruits 6–10 mm. long[48. barteri](#)
- 6 Inflorescence dense, secund, many-flowered; pods 4–6 mm. long, with black glandular hairs as well as a dense silvery coat of appressed medifixed hairs[49. secundiflora](#)
 Inflorescence not secund, with 3–5 flowers only; glandular hairs very short and sparse[50. argentea](#)
- 7 Erect multicellular hairs present on pods, scarce or absent on stems [52. atriceps subsp. atriceps](#)
 Erect multicellular hairs abundant on both pods and stems[52a. atriceps subsp. alboglandulosa](#)

Subsection Tinctoriae

- 1 Stamens more than 10 mm. long; leaflets 5–9, often over 3 cm. long [53. garckeana](#)
 Stamens less than 10 mm. long; leaflets 3–13:.....2
- 2 Hairs on fruit mostly dark brown, those on standard dense, appressed, golden brown to black; fruit straight:3
 Hairs on fruit usually white; stamens not over 4 mm. long:4
- 3 Raceme almost sessile, usually shorter than subtending leaf; stamens 5–6 mm. long; plant drying brownish green[54. emarginella](#)
 Raceme pedunculate, up to 15 cm. long, very slender, longer than subtending leaf; stamens about 4 mm. long; plant drying blackish[55. macrophylla](#)
- 4 Fruits more or less tetragonous, curved; infructescence much longer than subtending leaf:5
 Fruits not tetragonous; infructescence not, or but little, longer than subtending leaf:6
- 5 Leaflets 3 [56. subulata var. subulata](#)
 Leaflets 5–9 [56a. subulata var. scabra](#)
- 6 Pods torulose; seeds up to 5 or 6; stem densely silvery; leaflets 5–9 [57. coerulea](#)
 Pods not torulose, or if so, seeds more than 6; leaflets usually 11 or more:7
- 7 Fruits straight, about 6-seeded, less than 2 cm. long; indumentum on flowers and inflorescence more or less brown [58. arrecta](#)
 Fruits more or less curved, or, if almost straight, then more than 6-seeded and over 2 cm. long:8
- 8 Pods definitely curved, reddish brown, short (about 1–1.5 cm. from end to end in a straight line), about 5–8-seeded; indumentum of inflorescence brownish [59. suffruticosa](#)
 Pods usually slightly curved or almost straight, over 2 cm. from end to end in a straight line, greyish black, 8–12-seeded; indumentum of inflorescence whitish [60. tinctoria](#)

Subsection Hirsutae

- 1 Spreading hairs on calyx and fruit conspicuous, more than 0.8 mm. long; leaflets usually more than 5:2
 Hairs on calyx and fruit much less conspicuous, 0.5 mm. long or less, those on the fruit white; fruit 1–1.5 mm. wide; leaflets 3–5[64. deightonii](#)
- 2 Leaflets rarely over 18 mm. long or 10 mm. wide; petiole often under 4 mm. long;3
 Leaflets often more than 18 mm. long and 10 mm. wide; petiole almost never less than 4 mm. long; peduncle usually shorter than inflorescence; pods over 8 mm. long; seeds angular, coarsely pitted:4
- 3 Peduncle usually longer than the dense inflorescence; ovules about 3; seeds oblong, rounded, minutely dotted, not coarsely pitted; pods usually dark brown or black[61. longebarbata](#)
 Peduncle usually shorter than the lax slender inflorescence; hairs on young fruit mainly white . [62a. hirsuta var. pumila](#)
- 4 Peduncle well-developed, at least twice as long as a fruit; fruits usually 6-seeded, about 2 mm. wide and 7 times as long; hairs on dorsal side of fruit usually mostly brown or black; upper surface of leaflets usually with minute pale dots on a darker background [62. hirsuta var. hirsuta](#)
 Peduncle short, rarely twice as long as a fruit; fruits usually 2–4- sometimes 5–6-seeded, about 2.5–3 mm. wide,

less than 7 times as long, more or less tetragonous; hairs on dorsal side of fruit usually mostly white; upper surface of leaflets usually having minute dark dots on a paler background [63. astragalina](#)

Subsection Alternifoliolae

- 1 Leaflets less than 3 cm. long, or, if so, then calyx lobes hardly longer than tube: [2](#)
 Leaflets mostly over 3 cm. long; calyx lobes much longer than the tube: [5](#)
- 2 Leaflets 2; pod not above 10 mm. long, densely clothed with long, more or less spreading, hairs; calyx deeply divided, nearly as long as corolla. [66. diphylla](#)
 Leaflets usually more than 2; hairs on pod usually appressed: [3](#)
- 3 Pods much longer than wide, 3- or more-seeded: [4](#)
 Pods not much longer than wide, 1-seeded; stipules broad, scarious [69. kerstingii](#)
- 4 Calyx much less than half as long as corolla, the lobes not much longer than the tube; standard densely covered outside with stiff shining hairs; pod more or less curved, torulose; leaflets 1-5, the terminal often much longer than the others [67. oblongifolia](#)
 Calyx more than half as long as corolla, lobes much longer than the tube; hairs on standard relatively sparse; pod more or less straight; stipules broad, scarious; leaflets 4 or more [68. spicata](#)
- 5 Hairs on stems, petioles and inflorescences closely appressed; leaflets 1-5 [70. conjugata var. conjugata](#)
 Hairs on stems, petioles and inflorescences crisped, spreading at the tips; leaflets usually 1, less often 2-3 .. [70a. conjugata var. occidentalis](#)

Subgenera 4 — INDIGASTRUM and 5 — MICROCHARIS

- 1 Leaves pinnate; the lateral leaflets opposite; calyx less than half as long as corolla: [2](#)
 Leaves simple; dorsal stamen sterile; bracts persistent; [4](#)
- 2 Pedicel about 1 mm. long; bracts not persistent in fruit; all stamens fertile: [3](#)
 Pedicel 2-3 mm. long; bracts persistent in fruit; dorsal (free) stamen sterile; leaflets 3-5 in number [73. welwitschii var. remotiflora](#)
- 3 Inflorescence pedunculate, the peduncle longer than a leaflet; leaflets 11-15 in number; corolla 5-6 mm. long [71. costata](#)
 Inflorescence sessile or peduncle shorter than a leaflet; leaflets 3-9 in number; corolla about 4 mm. long [72. parviflora var. occidentalis](#)
- 4 Calyx as long as or longer than the corolla; petiole much shorter than stipules, not separated from lamina by a distinct joint; margin of leaf at the base forming an angle of about 15° with the midrib; fruiting pedicel 2-4 mm. long; seeds 16-19 [74. longicalyx](#)
 Calyx shorter than corolla; petiole separated from lamina by a distinct joint; margin of leaf forming an angle of 40° or more with midrib at base; seeds 12 or fewer; [5](#)
- 5 Hairs on stems more or less spreading; petiole shorter or hardly longer than stipules; racemes usually longer than subtending leaf; fruiting pedicel about 2 mm. long [75. hutchinsoniana](#)
 Hairs on stems dense, closely appressed; petiole much longer than stipules; racemes usually shorter than subtending leaf; fruiting pedicel about 1 mm. long [76. disjuncta](#)

1. *Indigofera nummulariifolia* (Linn.) *Livera ex Alston* in Trim. Fl.Ceyton 6, suppl .72 (1931). *APD acc*

Hedysarum nummularifolium Linn. (1753).

Indigofera echinata Willd. (1803) — F.T.A. 2: 69; Chev. Bot. 173; F.W.T.A., ed. 1, 1: 393; Bak. f. Leg. Trop. Afr. 1: 96; Cronquist in Fl. Congo Belge 5: 125.

A prostrate annual, **usually a weed**.

Sen.: Bondou Heudelot 174! **Port. G.:** Pusaubé, Bissau (Oct.) Esp. Santo 973! **Fr. G.:** Fouta Djallon Chev. 18874! **IV. C.:** Bobo Dioulasso Chev. 910. **G. C.:** Nalerigu N.T. (Dec.) Adams GC 4231! **N. Nig.:** R. Niger (Sept.) T. Vogel 57! Zaria (Aug.) Keay FHI 28010! Bauchi Plateau (Aug.) Keay FHI 12733! **S. Nig.:** Onitsha Barter 1802! Enugu (Sept.) Ujor FHI 34119!

Extending to East and South tropical Africa, India, Ceylon and Indo-China.

2. *Indigofera hochstetteri* Bak. in F.T.A. 2: 101 (1871); Cronq. l.c. 150. *APD acc*

Indigofera anabaptista Steud. ex Bak. (1876); Bak. f. l.c. 164.

An annual of **subarid areas**.

Fr. Sud.: Timbuktu Hagerup! **Fr. Nig.:** Air Chopard & Villiers! **N. Nig.:** Kontagora (Jan.) Meikle 1097! Nabardo (Sept.) Lely 621!

Extends from Mauritania to Madras and south to **Tanganyika**.

3. **Indigofera senegalensis** Lam. Encycl. Méth. Bot. 3: 248 (1789); F.T.A. 2: 102 (excl. syn. *I. tenella*); Chev. Bot. 177. *APD acc*

Indigofera parviflora Heyne of F.W.T.A., ed. 1, 1: 391, partly, not of Heyne ex Wight & Arn.

An erect annual of subarid areas.

Sen.: Perrottet! Kouma Heudelot! **Fr. Sud.:** Mopti (Aug.) Chev. 24906! **N. Nig.:** Fodama (Dec.) Moiser 252!

Also in **Chad Territory**.

4. **Indigofera charlieriana** var. **sessilis** (Chiov.) Gillet in Kew Bull. 1955: 573 (1956). *APD acc*

Indigofera limaris var. **sessilis** Chiov. Fl. Somalia 2: 160 (1932).

Indigofera aspera of Chev. Bot. 172; F.W.T.A., ed. 1, 1: 392 and Tisa. in Bull. Mus. Hist. Nat. 3: 272, partly, not of Perr. ex DC.

An annual herb, chiefly of maritime sands.

Dah.: Porto Novo, in sand by lagoon (Jan.) Chev. 22718! A S. African species extending up the East and West coasts of Africa.

5. **Indigofera aspera** Perr. ex DC. Prod. 2: 229 (1825); F.T.A. 2: 102; Chev. Bot. 172, partly; Bak. f. l.c. 165. *APD acc*

Indigofera tenella Schum. (1827).

An erect annual of subarid areas.

Sen.: Richard Tol (June) Perrottet! Heudelot 428! **Fr. Sud.:** Timbuktu (Aug.) Hagerup! **G. C.:** Keta (Nov.) Thonning! **N. Nig.:** Jebba Barter! Sokoto (Sept.) Dalz. 326!

Also in **A.-E. Sudan**.

6. **Indigofera berhautiana** Gillet l.c. 573 (1956). *APD acc*

Indigofera sericea Benth. ex Bak. in F.T.A. 2: 76 (1871) and Bak. f. l.c. 112, mostly; F.W.T.A., ed. 1, 1: 393; not of Linn.

Indigofera sp. aff. **I. strobilifera** of Chev. Bot. 177.

A more or less shrubby, silky, erect herb.

Sen.: Cayor Heudelot! M'bidjem (Aug.) Thierry 89! (Sept.) Farmar 73! Niayes (Dec.) Chev. 3385! Berhaut 950! **G. C.:** Gonja Domongo, N.T. (Dec.) Morton GC 9959! **Fr. Nig.:** Niamey (Oct.) Hagerup 475 (partly)! **N. Nig.:** Nupe Barter 973!

7. **Indigofera strobilifera** (Hochst.) Hochst. ex Bak. in F.T.A. 2: 75 (1871); Bak. f. l.c. 113. *APD acc*

Eilemanthus strobilifera. Hochst. (1846).

A silky, much-branched, half-woody herb.

Fr. Sud.: Dioura (Dec.) Davey 122! **Fr. Nig.:** Niamey (Oct.) Hagerup 475 (partly)! **N. Nig.:** Sokoto (Jan.) Dalz. 330!

Extends to A.-E. **Sudan** and southwards to S. Rhodesia.

8. **Indigofera polysphaera** Bak. in Kew Bull. 1895: 65; Bak. f. l.c. 103; Cronq. l.c. 128. *APD acc*

Indigofera baoulensis A. Chev. (1912).

Erect scabrid herb up to 3 ft. tall or more.

Iv. C.: Bouaké to Langouassou (July) Chev. 22146! **G. C.:** Krobo plains (Oct.) Johnson 774! Aboma F.R. (Nov.) Vigne FH 3441! Ejura (Nov.) Darko 749! **Togo:** Dyola Kpuita (Nov.) Morton GC 9347! **N. Nig.:** Zaria (Sept.) Olorunfemi FHI 24365! Lokoja (Oct.) Dalz. 18! Share F.R., Ilorin (Jan.) Ujor FHI 31607! Abinsi (Sept.) Dalz. 594! **S. Nig.:** Lagos McGregor 288! Oyo (Sept.) Latilo FHI 23542!

Extends to A.-E. **Sudan**, **Uganda**, W. **Tanganyika** and **Angola**.

[Ujor FHI 31607 has the inflorescence much more condensed than usual and may represent an undescribed variety.]

9. **Indigofera trialata** A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 157 (1912); Bak. f. l.c. 105. *APD acc*

An erect, almost leafless, herb up to 5 ft. high.

IV. C.: Mt. Kankoroma, Baoulé (July) Chev. 22173! 22182! **G. C.:** Dukwesein, N. Agogo, Ashanti (Dec.) Chipp 618! Kwabia, E.P. (Oct.) Vigne FH 4020!

10. **Indigofera paniculata** *Vahl ex Pers.* Syn. 2: 325 (1807); Tiss. in Bull. Mus. Hist. Nat., sér. 2, 2: 680; Cronq. l.c. 126, t. 9; not of DC., nor Bak. F.T.A. 2: 71, nor Bak. f. l.c. 102. *APD acc*

Indigofera procera *Schum. & Thonn.* (1827) — F.T.A. 2: 71; Chev. Bot. 176, partly; Bak. f. l.c. 102; F.W.T.A., ed. 1, 1: 393.

An erect branched herb up to 3–6 ft. high.

Gam.: Ruxton A. 47! **Port. G.:** Bissau (Jan.) Esp. Santo 1716! **Fr. G.:** Heudelot 683! **S. L.:** Batkanu (Feb.) Deighton 4185! Masisa (Aug.) Deighton 5126! Mabang (Jan.) Glanville 147! Warantamba (Oct.) Small 350! **IV. C.:** Mankono (June) Chev. 21889! **G. C.:** Accra (Aug.) Deighton 3408! Achimota (Aug.) Irvine 791! Tamale Adams & Akpabla GC 4158! **Togo:** Lome Warnecke 236! Kpedsu (Jan.) Howes 1089! **Dah.:** Le Testu 44! **N. Nig.:** Anara F.R., Zaria (Oct.) Keay FHI 5496! Bauchi Plateau (Oct.) Lely P. 820! **S. Nig.:** Abeokuta Millen 99! Awba Hills F.R., Oyo (Oct.) Jones FHI 6313! **Br. Cam.:** Bamenda, 3,000 ft. (June) Maitland 1572!

Extends to E. Africa and **Angola**

With a variety in S. Rhodesia.

11. **Indigofera macrocalyx** *Guill. & Perr.* Fl. Seneg. 1: 175, t. 46 (1832); F.T.A. 2: 71; Chev. Bot. 174; Bak. f. l.c. 98. *APD acc*

Indigofera lotononoides of Chev. Bot. 174, not of Bak. f.

A straggling herb, the stems somewhat woody; variable in the western part of its range, where forms approaching the next species are found.

Sen.: Perrottet 193! Bakel Leprieur. **Fr. Sud.:** Sicoro (Jan.) Chev. 229. **Port. G.:** Bissau (Jan.) Esp. Santo 1447! Bafata Esp. Santo 2819! **S. L.:** Wallia (Feb.) Sc. Elliot 4270! Batkanu (Jan.) Deighton 2843! **IV. C.:** Mt. Do, 3,000 ft. (May) Chev. 21423! **N. Nig.:** Kaduna (Dec.) Meikle 798! Nupe Barter 926! 998! Bauchi Plateau (Oct.) Lely 790! **S. Nig.:** Lagos Millen 174!

Also in **Chad Territory**.

12. **Indigofera terminalis** *Bak.* in F.T.A. 2: 70 (1871); Bak. f. l.c. 99, including var. *chevalieri*. I. sp. art. *APD acc*

Indigofera macrocalyx of Chev Bot. 174.

A woody undershrub up to 5 ft. high.

Sen.: Walo Heudelot 365! **Fr. Sud.:** Kati (Jan.) Chev. 187! Koulikoro (Oct.) Chev. 3233. **IV. C.:** Aubrév. 1816!

13. **Indigofera megacephala** *Gillett* l.c. 574 (1956). *APD acc*

Woody-stemmed herb, 4 ft. high; flowers yellow.

Fr. G.: Betagya, 1,000 ft. (Oct.) Small 498!

14. **Indigofera capitata** *Kotschy* in Sitzb. Ak. Wien. 51, Abt. 2: 365, t. 6A (1865); F.T.A. 2: 75, partly; Berhaut Fl. Sen. 51; not of Cronq. l.c. 152, Pl. 11. *APD acc*

APD: *Synonym of Indigofera paracapitata J. B. Gillett*

Erect branched woody herb up to 3 ft. high.

Sen.: Diéouniella Berhaut 1819. **Fr. Sud.:** Ouacoro (Dec.) Chev. 79! **Port. G.:** Gabú (Oct.) Esp. Santo 2305! **Fr. G.:** Rio Nunez Heudelot 642! 00 Pobéguin 472! **S.:** Wallia (Feb.) Sc. Elliot 4295! Lusenya (Dec.) Sc. Elliot 4063! Kitchom (Jan.) Deighton 1002! **N. Nig.:** Kadaura (Nov.) Lelyl 596! Lokoja (Oct.) Dalz. 24! Zaria (Dec.) Meikle 832! **S. Nig.:** Lagos MacGregor 273! Olokemeji to Eruwa (Nov.) Ejiofor & Olorunfemi FHI 30780.

Extends to A.-E. **Sudan**, **Uganda**, N. Rhodesia and **Angola**.

15. **Indigofera congesta** *Welw. ex Bak.* in F.T.A. 2: 70 (1871); Bak. f. l.c. 99; Cronq. l.c. 151. *APD acc*

Indigofera terminalis of Chev. Bot. 178, not of Bak.

Stiff, semiwoody, much-branched herb, up to 3–6 ft. high.

Port. G.: Bula (Nov.) Esp. Santo 2434! Gabú (Nov.) Esp. Santo 3153! **S. L.:** Wallia (Feb.) Sc. Elliot 4252! Lusenya (Dec.) Sc. Elliot 4308! **IV. C.:** Toumodi (Aug.) Chev. 22404! **Togo:** Misahöhe (Nov.) Mildbr. 7251! **N. Nig.:** Ilorin Bailly 9! **S. Nig.:** Ibadan (Oct.) Jones FHI 5989! Onitsha Barter 1791!

Extends to A.-E. **Sudan**, E. Africa and S. Tropical Africa.

16. *Indigofera dasycephala* **Bak. f.** l.c. 100 (1926). *APD acc*

A straggling herb.

N. Nig.: Denchira, Bauchi Plateau (Nov.) Lely 637!

Also in **Northern French Cameroons**.

17. *Indigofera brassii* **Bak.** in F.T.A. 2: 76 (1871); **Bak. f.** l.c. 110. *APD acc*

An erect, grey, softly woody herb, closely related to *I. pulchra* of which it is perhaps but a form.

G. C.: Cape Coast Brass!

18. *Indigofera pulchra* **Willd.** Sp. Pl. 3: 1239 (1802); F.T.A. 2: 76; Chev. Bot. 176; **Bak. f.** l.c. 111; Tiss. l.c. 262; Cronq. l.c. 154. *APD acc*

Indigofera dupuisii **Mich.** (1897), not of F.W.T.A. ed. 1, 1: 393.

An erect, stiff, grey-pubescent softly woody undershrub up to 5 ft. high; varies considerably, especially in the extent to which the leaves are divided.

Sen.: Heudelot 179! **Gam.:** Ingram! **Fr. Sud.:** Ségou (Sept.) Chev. 3229! **Port. G.:** Bissau (Nov.) Esp. Santo 1027! Gabu (Sept.) Esp. Santo 2783! **Fr. G.:** Kouroussa (Oct.) Pobéguin 567! **S. L.:** Kamrasoi (Dec.) Thomas 7041! **IV. C.:** Chev. 20076. **G. C.:** Navrongo (May) Andoh FH 5174! Tamale (Apr.) Williams 131! **Togo:** Kpedsu (Dec.) Howes 1046! Lome Warnecke 68! **Dah.:** Burton! **Fr. Nig.:** Niamey (Oct.) Hagerup 487! **N. Nig.:** Jebba (Dec.) Meikle 1185! Kano (May) Ejiofor FHI 26149! **S. Nig.:** Lagos (May) Dalz. 1222!

Extends to Abyssinia, **Tanganyika** and **Angola**.

19. *Indigofera nigricans* **Vahl ex Pers.** Syn. 2: 327 (1807); DC. Prod. 2: 230; ampl. **Bak. f.** in J. Bot. 41: 193; **Bak. f.** Leg. Trop. Afr. 1: 112; not of **Bak. F.T.A.** 2: 78, nor of F.W.T.A., ed. 1, 1: 391. *APD acc*

Indigofera elegans **Schum. & Thonn.** (1827).

Indigofera dupuisii of **Bak. f.** l.c. 111, partly and of F.W.T.A., ed. 1, 1: 393, not of **Mich.** (1897). I. sp. aff.

Indigofera bracteolata of Chev. Bot. 172.

An erect stiff, probably annual, herb up to 2 ft. high.

Fr. Sud.: Kerekoro (Sept.) Chev. 3220! Koulikoro (Sept.) Chev. 25015! **G. C.:** Thonning! Accra (July) Irvine 735! Ada Morton GC 9255! **Togo:** Mahoux 228! **N. Nig.:** Abinsi (Oct.) Dalz. 598!

20. *Indigofera oubanguiensis* **Tiss.** l.c. 164 (1931). *APD acc*

Indigofera sp. aff. *I. parviflora* of Chev. Bot. 175.

A half woody shrublet, about 2 1/2 ft. high.

IV. C.: Zorgo, Mossi (July) Chev. 24653 bis!

Extends to A.-E. **Sudan**.

[Chev. 24653 bis is imperfect and may be incorrectly determined.]

21. *Indigofera leptoclada* **Harms** in Engl. Bot. Jahrb. 40: 38 (1907); **Bak. f.** l.c. 97; **Berhaut** l.c. partly. *APD acc*

Indigofera sp. aff. *I. procera* of Chev. Bot. 176.

Indigofera bracteolata of F.W.T.A., ed. 1, 1: 393, partly; not of DC.

Rootstock woody, shoots erect, herbaceous, up to 12–16 in. long.

Gam.: MacCarthy Is1. (Jan.) Dalz. 8027! **Fr. Sud.:** Ianfolo (Mar.) Chev. 651! Bellamy 702! **G. C.:** Tamale (Apr.) Williams 116.

22. *Indigofera bracteolata* DC. Prod. 2: 223 (1825); F.T.A. 2: 77; Bak. f. l.c. 111; Tiss. l.c. 262. *APD acc*

***Indigofera grisea* Bak.** (1871), partly; Bak. f. l.c. 120, partly; not of Desv. (1814).

A much-branched herb, about 1 ft. high, with a woody base; **in savannah.**

Sen.: Heudelot 422! Kouma Perrottet 88! **Fr. Sud.:** Scaëtta 3209! **G. C.:** Salaga (Nov.) Alcpabla 363! Deloro to Tankara, N.T. (Dec.) Adams & Akpabla GC 4324! **Dah.:** Gironcourt 116. **Fr. Nig.:** Niamey (Oct.) Hagerup 489! **N. Nig.:** Nupe Barter 945! Lokoja (Oct.) Dalz. 22! Kontagora (Jan.) Dalz. 241 Katagum Dalz. 419! **S. Nig.:** Abeokuta Irving!

Extends to A.-E. **Sudan.**

[Plants not showing compound leaves are readily confused with *I. leptoclada*.]

23. *Indigofera trichopoda* Lepr. ex Guill. & Perr. Fl. Seneg. 1: 177, t. 47 (1832); F.T.A. 2: 78, Bak. f. l.c. 114. *APD acc*

An erect annual 8–16 in. high.

Sen.: Heudelot 272! M'bidjem Thierry 223! Tambacounda (Nov.) Berhaut 710!

A variety occurs in Ubangi-Shari.

24. *Indigofera nigritana* Hook. f. in Fl. Nigrit. 294 (1849); F.T.A. 2: 78; Bak. f. l.c. 111; Tiss. l.c. 262; Cronq. l.c. 151. *I. sp. aff. APD acc*

Indigofera suaveolens of Chev. Bot. 177, not of Jaub. & Spach.

Erect, branching, half woody herb up to 6–10 ft. high; **chiefly near rivers.**

Sen.: Collin 8. **Fr. Sud.:** Dogo (Mar.) Davey 48! Nyamina to Koulikoro (Oct.) Chev. 3235! **G. C.:** Burufo, N.T. (Dec.) AdaTims GC 4448! Tb **Togo:** Yendi (Dec.) Adams & Akpabla GC 4086! Sao Forest (Apr.) Asanay 150! **N. Nig.:** Katagum (Oct.) Dalz. 23! R. Niger (Sept.) T. Vogel 7! **S. Nig.:** Degema Talbot 3762!

Extends to A.-E. **Sudan** and **Belgian Congo.**

25. *Indigofera latiseppala* Gillet l.c. 575 (1956). *APD acc*

Indigofera nigricans of F.T.A. 2: 78; F.W.T.A., ed. 1, 1: 391; not of Vahl ex Pers. (1807).

Grey bushy herb, woody below.

N. Nig.: R. Niger Baikie 20!

26. *Indigofera cordifolia* Heyne ex Roth Nov. Pl. Sp. 357 (1821); F.T.A. 2: 72; Bak. f. l.c. 102. *APD acc*

A grey branching **desert** herb up to 1 ft. high.

Maur.: Monod IFAN 10986! **Fr. Nig.:** Air Chopard & Villiers!

From Cape Verde Isles to Socotra, also in **Afghanistan**, **W. Pakistan**, **India** and **Timor.**

27. *Indigofera sessiliflora* DC. Prod. 2: 228(1825); F.T.A. 2: 79; Bak. f. l.c. 116. *APD acc*

A grey branching herb **of arid areas.**

Sen.: Perrottet 183! Walo Heudelot 421! **Fr. Sud.:** Timbuktu (July) Chev. 1266. Hagerup 174! 215! **Fr. Nig.:** Agades De Wailly 5242! 5258!

Extends east to Eritrea, also in **W. Pakistan.**

28. *Indigofera tetrasperma* Vahl ex Pers. Syn. 2: 325 (1807); Sebum. & Thonn. Beskr. Guin. Pl. 365 (1827); F.T.A. 2: 72 and Bak. f. in J. Bot. 41: 189, partly; Bak. f. Leg. Trop. Afr. 1: 103. *APD acc*

Indigofera procera of Chev. Bot. 176, partly, not of Schum. & Thonn.

Indigofera simplicifolia of F.W.T.A., ed. 1, 1: 393, partly, not of Lam.

A herb up to 4 ft. high; in grassland, roadsides and waste places.

Iv. C.: Middle Nzi valley, Baoulé (July) Chev. 222101 **G. C.:** Sunyani, N.W. Ashanti (Sept.) Vigne FH 2475! Achimota (June) Irvine 570! (Aug.) Irvine 792! Accra (Aug.) Irvine 128! Thonning. **Togo:** Büttner 122!

29. *Indigofera simplicifolia* Lam. Encycl. Méth. Bot. 3: 251 (1789); F.T.A. 2: 72; Bak. f. l.c. 103; Tiss. l.c. 260; Cronq. l.c. 129. *APD acc*

Indigofera tetrasperma of F.T.A. 2: 72, partly; Chev. Bot. 178; not of Vahl ex Pers., nor of Schum. & Thonn.

Erect stiff half woody herb up to 4 ft. high.

Sen.: Palenée Heudelot 196! **Fr. Sud.:** Nyamina to Koulikoro (Oct.) Chev. 3224. **Fr. G.:** Fouta Djallon (Sept.) Chev. 18402! **S. L.:** Kambia (Dec.) Sc. Elliot 4198! Newton (Dec.) Deighton 4390! Musaia (Dec.) Deighton 4467! **Lib.:** Vonjama (Oct.) Baldwin 10026! **Iv. C.:** Mankono (July) Chev. 22007. **N. Nig.:** Katagum (Oct.) Dalz. 26! **S. Nig.:** Ibadan (Mar.) Schlechter 12333! Sobo Plains (Sept.) Butler-Cole 26! Aguku Thomas 957!

Extends to A.-E. **Sudan**, **Uganda** and **Angola**, also in **Zanzibar** and **Mozambique**.

30. *Indigofera leprairiei* Bak. f. in J. Bot. 41: 190 (1903); Leg. Trop. Afr. 1: 104; Tiss. l.c. 261; Cronq. l.c. 130. *APD acc*

Indigofera macrocarpa Lepr. ex Bak. F.T.A. 2: 72 (1871); Chev. Bot. 175, not of Desv. (1826).

Indigofera simplicifolia of F.W.T.A., ed. 1, 1: 393, partly, not of Lam.

Stiffly erect herb up to 3 ft. high.

Sen.: Leprieur. Perrottet. **Gam.:** Hayes 567! **Fr. Sud.:** Macina (Sept.) Chev. 24853. **Port. G.:** Bissau (Oct.) Esp. Santo 2555! (Nov.) Esp. Santo 1743! **S. L.:** Kabala (Sept.) Thomas 2187! Musaia (Mar.) Deighton 5433! **G. C.:** Zuarungu (Sept.) Hughes FH 5338! Tamale (Feb.) Williams 484! **Togo:** Yendi (Dec.) Adams & Akpabla **N. Nig.:** Nupe Barter 1079! 1229! R. Niger T. Vogel 58! 94! **S. Nig.:** Abeokuta Rowland!

Also in **Belgian Congo** fide Cronquist.

31. *Indigofera priureana* Guill. & Perr. Fl. Seneg. 1: 187 (1832); F.T.A. 2: 84; Bak. f. l.c. 129. I. sp. aff. *APD acc*

Indigofera sutherlandioides of Chev. Bot. 178.

Indigofera stenophylla of F.W.T.A., ed. 1, 1: 392 partly, not of Guill. & Perr.

Indigofera komiensis Tiss. (1931).

Herbaceous, more or less woody, up to 18 in. high.

Sen.: Galam Heudelot! **Fr. Sud.:** Nyamina to Koulikoro (Sept.) Chev. 3226! **Fr. Nig.:** 20 miles N. of Zinder (Nov.) Money Kyrle Fe 13! **N. Nig.:** Sokoto (Nov.) Moiser 4! Abinsi (Sept.) Dalz. 622! Yola (Aug.) Dalz. 27! **Br. Cam.:** Bama, Dikwa Div. (Nov.) McClintock 13!

Extends eastwards to N. Abyssinia.

32. *Indigofera stenophylla* Guill. & Perr. var. *stenophylla* — Fl. Seneg. 1: 188, t. 48 (1832), incl. var. *macrocarpa*; F.T.A. 2: 83; Chev. Bot. 177; Bak. f. l.c. 129; Cronq. l.c. 160. *APD acc*

A stiffly erect, half woody herb, up to 3 ft. high.

Sen.: Galam Heudelot 277! **Gam.:** Hayes 566! **Fr. Sud.:** Macina (Sept.) Chev. 24836. **Fr. G.:** Kouroussa (Aug.) Pobéguin 595! **G. C.:** Sandema Hughes 324! **N. Nig.:** Jebba Barter 520! Lokoja (Oct.) Dalz. 21! Katagum Dalz. 44! Biu (Aug.) Noble 2!

Extends to A.-E. **Sudan**, **Uganda** and N.W. **Tanganyika**.

- 32a. *Indigofera stenophylla* var. *ampla* Sprague in Kew Bull. 1909: 185. *APD acc*

A more or less woody herb up to 3 ft. high.

Fr. Sud.: Scaëtta 3212! **G. C.:** Tumu, N.T. (Dec.) Adams GC 4366! Tonga, N.T. Adams & Akpabla! Banda, N.T. (Dec.) Morton GC 25291! **S. Nig.:** Lagos (Sept.) Dodd 427! Abeokuta Millen 69!

In several respects intermediate between *I. stenophylla* and *I. prieureana*.

33. *Indigofera mildbraediana* Gillett l.c. 575 (1956). *APD acc*

A much-branched herb up to 4 ft. high.

N. Nig.: Oke Opin, Ilorin (fr. Dec.) Ajayi FHI 19297! Bauchi Plateau (July) Lely 395! (Aug.) Lely 504!

Extends to **Tanganyika** and **Angola**.

34. *Indigofera pobeguinii* Gillet l.c. 577 (1956). *APD acc*

An erect half-woody herb.

Fr. G.: Kouroussa Pobéguin 976!

[Resembles *I. emarginella*, but differs in its erect fruits, mucronate leaflets and subpersistent short bracts.]

35. *Indigofera omissa* Gillett l.c. 580 (1956). *APD acc*

An erect, half woody, herb, remarkable for its slender glabrous fruits.

Fr. Sud.: Macina (Sept.) Chev. 24900! Koulikoro (Oct.) Chev. 3234! Bandiagara (July) Ganay 62! **Dah.:** Atacora Mt. (June) Chev. 24071!

36. *Indigofera suaveolens* Jaub. & Spach Illus. Pl. Or. t. 489 (1856); F.T.A. 2: 80; Bak. f. l.c. 125, partly; not of Cronq. l.c. 160. *APD acc*

APD: *Synonym of Indigofera vohemarensis Baill.*

An argenteous shrublet of **arid mountains**, smelling of coumarin.

Fr. Nig.: Aouderas, Aïr (fr. Sept.) Buchanan!

Also in **A.-E. Sudan**, **Eritrea** and **N. Abyssinia**.

37. *Indigofera scarciesii* Sc. Elliot in J. Linn. Soc. 30: 76 (1894); Bak. t. l.c. 98; F.W.T.A., ed. 1, 1: 391. *APD acc*

Herbaceous shoots about 8 in. long, probably from a woody rootstock.

Fr. G.: Buyabuya (Feb.) Sc. Elliot 4765! Diakrane, Kankan Brossart in Hb. Chev. 11673! Santa, Timbo Chev. 12590!

38. *Indigofera dendroides* Jacq. Ic. Pl. Bar. 3, t. 571 (1788–9); F.T.A. 2: 100; Chev. Bot. 173; Bak. f. l.c. 128; Cronq. l.c. 166, t. 13. *APD acc*

Indigofera sesbaniifolia A. Chev. (1912) — Bak. f. l.c. 128.

Indigofera dalabaca Chev. Bot. 172, name only.

Indigofera phyllanthoides of Tiss. l.c. 266, not of Bak.

An elegant, erect, wiry, herb, up to 3 ft. high. Varies considerably; forms with more numerous leaflets and flowers having been distinguished as *I. sesbaniifolia*.

Sen.: Heudelot 219. **Fr. Sud.:** Goundam (Aug.) Chev. 3249. **Port. G.:** Bissau (Oct.) Esp. Santo 2535! **Fr. G.:** Nzérékoré (Oct.) Baldwin 9683! Fouta Djallon (Aug., Oct.) Chev. 18318! 18359. **S. L.:** Kenema (Oct.) Deighton 5204! **IV. C.:** Mt. Kangoroma (July) Chev. 22181! **G. C.:** Ejura (Nov.) Andoh FH 5439! **Togo:** Büttner 140! Lome Warnecke 62! 375! **N. Nig.:** Zaria (Sept.) Olorunfemi FHI 24368~ Biu (Aug.) Noble 7! **S. Nig.:** Ibadan (Jan.) Meikle 967!

Throughout the non-arid parts of tropical Africa.

39. *Indigofera heudelotii* Benth. ex Bak. var. *heudelotii* — in F.T.A. 2: 85 (1871), partly, emend. Gillett l.c. 577 (1956); Bak. f. l.c. 124 partly. *APD acc*

Indigofera sofa Sc. Elliot (1894) — Chev. Bot. 177.

Indigofera djalonica A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 391 (1928); not of Bak. f. l.c. 147 (1926).

An erect, branched, softly woody plant, up to 6 ft. high; **in margins of evergreen forest**.

Port. G.: Bissau (Jan.) Esp. Santo 1714! **Fr. G.:** Rio Nunez Heudelot 611 (partly)! Kouroussa (Nov.) Pobéguin 69! Fouta Djallon (Sept.) Chev. 18584 (partly) 1 **S. L.:** Falaba Sc. Elliot 5083 I Kofla Mt. Sc. Elliot 4613! Musaia Sc. Elliot 5080! Dunnia Sc. Elliot 4831! Jaiama (Dec.) Deighton 3462! **N. Nig.:** Vom Dent Young 49! Kafanchan (Dec.) Sampson 42! Bauchi Plateau (Sept.) Lely 698! Kaduna (Dec.) Meikle 763! **S. Nig.:** Ikwette, Obudu (Dec.) Savory & Keay FHI 25260! **Br. Cam.:** Babanki, Bamenda Maitland 1720! Johnstone 4!

39a. **Indigofera heudelotii** var. **fairchildii** (*Bak. f.*) *Gillett* l.c. 577 (1956). *APD acc*

Indigofera fairchildii *Bak. f.* in J. Bot. 70: 252 (1932).

Port. G.: Bafata (Mar.) Esp. Santo 2908! **Fr. G.:** Fouta Djallon Fairchild 1275!

40. **Indigofera elliotii** (*Bak. f.*) *Gillet* l.c. 578 (1956). *APD acc*

Indigofera heudelotii var. **elliotii** *Bak. f.* in J. Bot. 41: 261 (1903); Leg. Trop. Afr. 1: 124.

Indigofera heudelotii *Benth. ex Bak.* (1871), partly; F.W.T.A., ed. 1, 1: 391, partly; Berhaut l.c. 52.

A softly woody plant up to 5 ft. high.

Sen.: Sangalkam Berhaut 960! **Fr. G.:** Rio Nunez Heudelot 611 (partly)! **S. L.:** Morson! Lusenya Sc. Elliot 4063! Sherbro Sc. Elliot 5841! Kambia (Dec.) Deighton 892! Rokupr (Nov.) Jordan 676! **Lib.:** Monrovia (Nov.) Linder 1553!

41. **Indigofera wituensis** var. **occidentalis** *Gillett* l.c. 578 (1956). *APD acc*

A slender branching sticky annual 18 in. high.

N. Nig.: Bauchi Plateau (Sept.) Lely P. 693!

42. **Indigofera congolensis** *De Wild. & Th. Dur.* in Bull. Herb. Boiss., Sér. 2, 1: 11 (1901); *Bak. f.* l.c. 126. *APD acc*

Indigofera geminata of Chev. Bot. 173, partly; F.W.T.A., ed. 1, 1: 391, partly, not of *Bak.* (1871).

Indigofera sparsa of Cronq. l.c. 158, not of *Bak.* (1871).

Indigofera sparsa var. **bongensis** of Tiss. l.c. 263, partly, not of *Bak. f.* (1903).

Indigofera adami *Berhaut* (1955).

Annual herb about 8 in. high.

Sen.: Galam Heudelot 265! Koutango to Koular Adam 10148. Ouasaadou Berhaut 1132! **Gam.:** Hayes 560! **Fr. Sud.:** Nyamina to Koulikoro (Oct.) Chev. 3219! **Fr. Nig.:** Niamey (Oct.) Hagerup 499! **N. Nig.:** Lokoja (Oct.) Dalz. 20! Bauchi Plateau (July) Lely P. 539! (Aug.) Lely P. 646! Bichikki (Sept.) Lely 629! Anara F.R., Zaria (Oct.) Keay FHI 20144! **S. Nig.:** Sobo Plains A. F. Ross FHI 12067!

Also in **Ubangi-Shari**, **Belgian Congo** and **Uganda**.

[The type of *I. adami* was not available in the Paris herbarium at the time of writing: the opinion here expressed as to its identity with *I. congolensis* is thus based on the description only.]

43. **Indigofera geminata** *Bak.* in F.T.A. 2: 81 (1871); *Bak. f.* l.c. 121, partly; Tiss. l.c. 265; Berhaut l.c. 52, partly. *APD acc*

Indigofera sp. **aff. geminata** of Chev. Bot. 173.

Branching, semiwoody herb up to 2 ft. high.

Sen.? **Iv. C.:** Mossi (Aug.) Chev. 24772! **Dah.:** Cotonou (Jan.) Chev. 22694! **N. Nig.:** Nupe Barter 966! **S. Nig.:** Lagos (May) Dalz. 1221! Rowland!

[This plant and *I. congolensis* have been much confused. The description given by Berhaut l.c. fits this species but the specimen cited is *I. congolensis* in fruit.]

44. **Indigofera pilosa** *Poir.* in Lam. Encycl. Méth. Bot., Suppl. 3: 151 (1813); F.T.A. 2: 82; *Bak. f.* l.c. 120, excluding var. *multiflora*; Brenan in Mem. N.Y. Bot. Gard. 8: 251; Berhaut l.c., partly. *APD acc*

A spreading woody herb up to 8 in. high.

Sen.: Perrottet. **Fr. Sud.:** Gao (Sept.) Hagerup 359! **Port. G.:** Bissau (Oct.) Esp. Santo 2554! **G. C.:** Sandema (Sept.) Hughes 326! Accra Thonning. **N. Nig.:** Nupe Barter 977! Katagum (Oct.) Dalz. 31! Sokoto (Sept.) Dalz. 335! Moiser 89! Bichikki (Nov.) Lely 628!

Eastwards to Eritrea

With a variety in Angola.

45. *Indigofera fulvopilosa* **Brenan** in Mem. N.Y. Bot. Gard. 8: 250 (1953); Cronq. l.c. 140. *APD acc*

Indigofera pilosa var. *multiflora* **Bak. f.** in J. Bot. 41: 243 (1903).

Indigofera pilosa of F.W.T.A., ed. 1, 1: 391, partly; Berhaut l.c., partly.

Branching, half woody herb, up to 3 ft. high.

S. L.: Musaia to Kabala (Sept.) Deighton 4870! Warantamba (Oct.) Small 356! **G. C.:** Morton GC 25125! **N. Nig.:** Naraguta & Jos (Aug.) Lely 556! Vom Dent Young 50! Bauchi Plateau (Aug.) Lely P. 571! (Sept.) Lely P. 687!

Extends to **Uganda**, **Tanganyika**, Nyasaland and S. Rhodesia.

46. *Indigofera mimosoides* **Bak.** in F.T.A. 2: 90 (1871); Bak. f. Leg. Trop. Afr. 122. *APD acc*

Indigofera brevipetiolata **Cronq.** l.c. 145.

A branching, somewhat woody, sparingly glandular, herb, up to 4 ft. high; on edges of montane forest.

Br. Cam.: Bamenda (Oct.) Johnstone 182! in moister montane regions extending to Abyssinia, E. Africa, S. Rhodesia and Angola.

[A most variable species, closely allied to the next.]

47. *Indigofera colutea* (**Burm. f.**) **Merrill** in Phil. J. Sci. 19: 355 (1921). *APD acc*

APD: *Synonym of Indigofera zenkeri Harms ex Baker f.*

Galega colutea **Burm. f.** (1768).

Indigofera viscosa **Lam.** (1789) — F.T.A. 2: 81; Bak. f. l.c. 123; F.W.T.A., ed. 1, 1: 391; Tiss. l.c. 265; Cronq. l.c. 144.

A half woody, viscid, branching herb, about 18 in. high.

Sen.: Cayor Leprieur! Lelièvre! **Fr. Sud.:** Timbuktu (Aug.) Hagerup 243! **N. Nig.:** Barter 1051! Bauchi Plateau Batten Poole FHI 13175!

A variable species, extending through **Arabia**, India and Indonesia to Australia and south to the Transvaal.

48. *Indigofera barteri* **Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 391 (1928); Kew Bull. 1929: 16; Bak. f. l.c. 880. *APD acc*

APD: *Synonym of Indigofera brevifilamenta J. B. Gillett*

A branching slightly woody herb up to 18 in. high.

G. C.: L. Sorri, N.T. (Dec.) Morton GC 25017! Daboya Ferry, N.T. (Dec.) Morton GC 6197! **N. Nig.:**

Jebba Barter! Nupe Barter 951! 1604!

[Closely related to the next species.]

49. *Indigofera secundiflora* **Pair.** in Lam. Encycl. Méth. Bot., Suppl. 3: 148 (1813); Bak. F.T.A. 2: 94; Bak. f. l.c. 152; Cronq. l.c. 145. *APD acc*

A grey spreading glandular herb up to 1 ft. high.

Sen.: Heudelot 227! **Fr. Sud.:** Koulikoro Chev. 3232! **G. C.:** Prampram (Oct.) Morton A. 78! **Fr. Nig.:** Niamey (Oct.) Hagerup 513! 120 miles S. of Agadez (Nov.) Money Kyrle Fe 3! **N. Nig.:** Sokoto (Nov.) Moiser 32! 45! Ilorin Bailey 5! Funtua (Dec.) Meikle 821! Kalkala, L. Chad (Oct.) Gwynn 90!

Extends eastwards to Abyssinia: a variety southwards to **Tanganyika**, Nyasaland and N. Rhodesia.

50. *Indigofera argentea* **Burm. f.** Fl. Ind. 171 (1768), not of Linn. (1771); Bak. f. l.c. 152; Tiss. l.c. 270.

*APD acc**APD: Synonym of Indigofera brachynema J. B. Gillett**APD: Synonym of Indigofera tinctoria L. var. tinctoria**Indigofera semitrijuga* of Bak. F.T.A. 2: 93, not of Forsk.A silvery **desert** shrublet, very sparingly glandular.**Fr. Sud.:** Oualata Jumelle!Extends from Mauritania to Somaliland, **Arabia** and W. Pakistan.**51. Indigofera conferta Gillett l.c. 579 (1956). APD acc***Indigofera grisea* Bak. in F.T.A. 2: 80 (1871) mostly, not of Desv. (1826).*Indigofera bracteolata* of F.W.T.A., ed. 1, 1: 393, partly, not of DC.

A grey branching herb up to 2 ft. high.

N. Nig.: Jebba, Nupe Barter 940! Oro F.R., Ilorin Ejiofor FHI 29389!**52. Indigofera atriceps Hook. f. subsp. atriceps** — in J. Linn. Soc. 7: 190 (1864); F.T.A. 2: 94; Bak. f. l.c. 148; Cronq. l.c. 165. *APD acc*A straggling half woody herb up to 21/2 ft. high; **on edges of montane forest.****Br. Cam.:** Cam. Mt., 6,500–8,500 ft. (Jan.) Mann 1303! Johnston 68! Dunlap 208!Extends on mountains to **Uganda**, **Tanganyika** and Nyasaland.**52a. Indigofera atriceps subsp. alboglandulosa (Engl.) Gillett l.c. 580 (1956). APD acc***Indigofera alboglandulosa* Engl. Hochgebirgsflora Afr. 258 (1892); Bak. f. l.c. 152.*Indigofera setosissima* var. *major* Cronquist Bull. Jard. Bot. Brux. 22: 226 (1952); Fl. Congo Belge 5: 147.*Indigofera djalonica* Chev. ex Bak. f. l.c. 147 (1926), not of F.W.T.A., ed. 1, 1: 391.**Fr. G.:** Dalaba-Diaguissa Plateau (Sept.) Chev, 18584 (partly)! **S. L.:** Bintumane Peak, 3,800 ft. Nichols 10! **Br. Cam.:** Cam. Mt., 3,000–8,000 ft. (Nov.–Jan.) Mildbr. 10831! Misgeod 132! Maitland 295! 808! Keay FHI 28591!Commoner than subsp. *atriceps* throughout its range.**53. Indigofera garckeana Vatke** in Oest. Bot. Zeit. 29: 221 (1879); Bak. f. l.c. 150; Cronq. l.c. 138. *APD acc**Indigofera rhynchocarpa* var. *quadrangularis* Berhaut Fl. Sen. 50 and Bull. Soc. Bot. Fr. 101: 375 (1955).

A shrub with large leaflets, up to 6 ft. high.

Sen.: Ouassadou Berhaut 1219!Also from A.-E. **Sudan** and from Eritrea to S. Rhodesia.**54. Indigofera emarginella Steud. ex A. Rich. Tent. Fl. Abyss. 1: 184(1847); F.T.A. 2: 99; Bak. f. l.c. 157; Cronq. l.c. 135. APD acc**

Woody undershrub up to 5 ft. high; rarely below 3,000 ft. alt.

N. Nig.: Vom Dent Young 44! Naraguta (June) Lely 261!

Extending eastwards to Abyssinia and southwards to S. Rhodesia.

55. Indigofera macrophylla Schum. Beskr. Guin. Pl. 372 (1827); F.T.A. 2: 100; Bak. f. l.c. 158; Tiss. l.c. 271. APD acc*APD: Synonym of Indigofera podocarpa Baker f. & W. Martin**Indigofera binderi?* of Chev. Bot. 172, not of Kotschy.

Scrambling or climbing shrub, on margins of evergreen forest.

Sen.: Casamance Chev. 3238! **Port. G.:** Bissau Esp. Santo 1650! **Fr. G.:** Heudelot 603! Chev. 14833; 14844. **S. L.:** Kabala (Sept.) Thomas 2344! Rokupr (Oct.) Jordan 138! Njala (Oct.) Deighton 1404! **Lib.:** Bonuto (Oct.) Linder 887! Vonjama (Oct.) Baldwin 9946! **IV. C.:** Bingerville Chev. 17343. **G. C.:** Accra (Oct.) Dalz. 94! Aburi Hills (Oct.) Johnson 470! **Togo:** Lome Warnecke 425! **Dah.:** Le Testu 213. **N. Nig.:** Lokoja Barter! (Oct.) Dalz. 3! **S. Nig.:** Lagos MacGregor 267! Ibadan (Oct.) Jones FHI 13704! Calabar (Sept.) Holland 133!

56. *Indigofera subulata* Vahl ex Poir. var. *subulata* — in Lam. Encycl. Méth. Bot., Suppl. 3; 150 (1813); F.T.A. 2: 87, partly; Bak. f. l.c. 172, partly; Tiss. l.c. 268; Meikle in Kew Bull. 1950: 352; Cronq. l.c. 161, partly.

APD: *Synonym of Indigofera trita* var. *subulata* (Vahl ex Poir.) Ali

A sprawling herb, usually a weed of disturbed ground.

Sen.: Leprieur. Perrottet. **S. L.:** Njala (Apr.) Deighton 1912! Rokupr Jordan 37! **Lib.:** Suacocco (Oct.) Daniel 20! **G. C.:** Accra Thonning! Achimota (Oct.) Milne-Redhead 5174! **Togo:** Lome Warnecke 265! 425! Kpeve Irvine 1735! (Oct.) Williams 711! **S. Nig.:** Ibadan (Dec.) Newberry 136! Thomas A. 12! Thornewill 89!

Throughout tropical Africa and in Natal.

A variable species.

- 56a. *Indigofera subulata* var. *scabra* (Roth) Meikle in Kew Bull. 1950: 352.

APD: *Synonym of Indigofera trita* subsp. *scabra* (Roth) de Kort & G. Thijssse

Indigofera scabra Roth Nov. Pl. Sp. 359 (1821).

Indigofera retroflexa Baill. (1883) — Bak. f. l.c. 145.

Indigofera subulata of F.T.A. 2: 87, etc., partly.

Lax, erect herb, up to 2 ft. high.

N. Nig.: Jos (Aug.) Keay FHI 20195!

Extends east to India and Madagascar, south to the Transvaal; introduced in America.

57. *Indigofera coerulea* Roxb. Fl. Ind. 3: 377 (1832). I. articulata of Bak. f. l.c. 154, partly, not of Gouan. APD acc

An erect, silvery, softly woody plant of arid areas, up to 6 ft. high, sometimes cultivated.

Fr. Nig.: Air Chopard & Vtliers!

Extends eastwards through Arabia to W. Pakistan and India, southwards to N. Kenya.

58. *Indigofera arrecta* Hochst. ex A. Rich. Tent. Fl. Abyss. 1: 184 (1847); F.T.A. 2: 97; Bak. f. l.c. 155; Tiss. l.c. 271; Cronq. l.c. 162, t. 12. APD acc

Indigofera tinctoria of Chev. Bot. 178, partly, not of Linn.

Indigofera tinctoria var. *arrecta* Berhaut l.c. 50.

Erect, branched, softly woody plant, up to 8 ft. high; much cultivated.

Sen.: Perrottet 176! **Gam.:** Dudgeon 9! **Fr. Sud.:** San Chev. 1029! **Port. G.:** Mansoa (Oct.) ESP. Santo 2318! **Fr. G.:** Heudelot 686! **G. C.:** Accra (Jan.) Irvine 1109! **N. Nig.:** Sokoto Dalz. 329! Katagum (Oct.) Dalz. 57! Zaria Meikle 833! **S. Nig.:** Lagos MacGregor 144! Meko Johnson!

Extends to S. Arabia and eastern Cape Province.

Often hardly separable from I. tinctoria in W. Africa. In E. Africa it is more distinct.

59. *Indigofera suffruticosa* Mill. Gard. Dict., ed. 8: 2 (1768); Bak. f. l.c. 135; Tiss. l.c. 271; Cronq. l.c. 162. APD acc

Indigofera anil Linn. (1771); F.T.A. 2: 98.

Indigofera suffruticosa var. *uncinata* G. Don of Berhaut l.c. 50.

A branched undershrub up to 6 ft. high; **formerly much cultivated, probably not indigenous.**

Sen.: Heudelot 480. **Port. G.:** Catió (Oct.) Esp. Santo 2278! **S. L.:** Makunde (Apr.) Sc. Elliot 5712! Njala (June) Deighton 731! **Lib.:** Gbanga (Dec.) Baldwin 10532! Peahtah (Oct.) Linder 926! **S. Nig.:** Shasha F.R. (Apr.) Jones & Onochie FHI 17244! Barter!

Also (introduced) in central and south central tropical Africa and Madagascar; native of America.

60. **Indigofera tinctoria** *Linn.* Sp. Pl. 2: 751 (1753); F.T.A. 2: 99; Chev. Bot. 178, partly; Bak. f. l.c. 156; Tiss. l.c. 271; including var. *torulosa* Bak. f. l.c. 157. *APD acc*

Softly woody plant up to 6 ft. high, **formerly much cultivated, perhaps indigenous.**

Sen.: Perrottet. **Gam.:** Brown-Letter 49! **Fr. Sud.:** Macina (Sept.) Chev. 24870! Dende (July) Chev. 1153! **Port. G.:** Mansoa (Oct.) Esp. Santo 23231 **Fr. G.:** Kouroussa (Oct.) Pobéguin 327! **G. C.:** Accra (Feb.) Johnson 1074! **Togo:** Lome Warnecke 292! **Dah.:** Debeaux 161. **N. Nig.:** Jebba Barter! Sokoto (Aug.) Dalz. 327! Katagum (Sept.) Dalz. 58! (Nov.) Dalz. 59! Damaturu (July) Ujor FHI 23906! **S. Nig.:** Lagos (Dec.) Dalz. 1218!

Extends through **Arabia** to India, the Philippines and New Guinea, also in east and south tropical Africa but apparently absent from the Congo.

61. **Indigofera longebarbata** *Engl.* Hochgebirgsflora Afr. 257 (1892); Bak. f. l.c. 147; Cronq. l.c. 141.

APD: Synonym of Indigofera longibarbata Engl.

Erect, sub-woody herb, up to 3 ft. high.

N. Nig.: Naraguta (Aug.) Lely 510! Keay FHI 20063! Vom Dent Young 45! Bauchi Plateau (Aug.) Lely P. 577! **Br. Cam.:** Bambulue, Bamenda Johnstone 221/31!

Usually above 4,800 ft., from Abyssinia to **Angola** and east Cape Province.

[Closely related to *I. hirsuta* and replacing it at higher altitudes; intermediate plants occur.]

62. **Indigofera hirsuta** *Linn. var. hirsuta* — Sp. Pl. 2: 1062 (1753); F.T.A. 2: 88; Bak. f. l.c. 146; Tias. l.c. 268; Cronq. l.c. 140, t. 10. *APD acc*

Erect or straggling herb up to 3 ft. high, a weed.

Sen.: Lelièvre! **Gam.:** Brown-Lester 47! **Fr. Sud.:** Chev. 324! bis. fide Tiss. l.c. **Fr. G.:** Kouroussa (Aug.) Pobéguin 382! **S. L.:** Falaba (Apr.) Sc. Elliot 5437! Bonthe Isl. (Nov.) Deighton 2319! York Deighton 4585! **Lib.:** Monrovia Johnston! **Iv. C.:** Chev. 17342. **G. C.:** Bjury (July) Chipp 511! Achimota Irvinne 656! Elmina (Aug.) Andoh FH 5557! **Togo:** Lome Warnecke 343! **Dah.:** Allada (Mar.) Chev. 23376! **N. Nig.:** Sokoto Lely 137! Katagum (Dec.) Dalz. 28! **S. Nig.:** Lagos (Sept.) Dawodu 8! Ibadan (Sept.) Tamajong FHI 20955! Aguku Thomas 973!

Eastwards to China and N. Australia, southwards to Bechuanaland.

- 62a. **Indigofera hirsuta var. pumila** *Welw. ex Bak.* in F.T.A. 2: 89 (1871); Bak. f. l.c. 146.

APD: Synonym of Indigofera hirsuta L. var. hirsuta

N. Nig.: Bauchi Plateau Batten-Poole FHI 13187!

Also in **Angola**.

[In several respects intermediate between *I. hirsuta* and *I. longebarbata*.]

63. **Indigofera astragalina** *DC.* Prod. 2: 228 (1825); F.T.A. 2: 89; Bak. f. l.c. 147. *APD acc*

Erect or straggling grey herb, about 18 in. high.

Sen.: Perrottet! Heudelot 255! 411! **Fr. Sud.:** Goura, Gao (Sept.) De Wailly 5212! **Fr. Nig.:** 170 miles S. of Agadez (Nov.) Money Kyrte Fe 5! **N. Nig.:** Sokoto Lely 135! (Nov.) Moiser 54! Fodama (Dec.) Moiser 200! Maifoni Parsons! Katagum (Oct.) Dalz. 27!

Extends eastwards to Madras and southwards to the Transvaal.

[Closely related to *I. hirsuta* but occupying, on the whole, drier areas; intermediates occur where the two species overlap.]

64. *Indigofera deightonii* Gillet l.c. 580 (1956). *APD acc*

A weak, spreading herb, up to 18 in. high; **a weed, or on rocky outcrops.**

Fr. G.: Nzérékoré. Mt. Koiré (Sept.) Baldwin 13301! **S. L.:** Magbile (Dec.) Thomas 6186! Masactaba, N. Prov. (Oct.) Glanville 34! Newton (Nov.) Deighton 3283! Musaia (Sept.) Deighton 4864! Rokupr (Oct.) Jordan 367! **Lib.:** Sanokwele (Sept.) Baldwin 9436! **N. Nig.:** Jebba Barter! **S. Nig.:** Aponmu, Akure (Nov.) Latilo & Olorunfemi FHI 24446!

Also in **A.-E. Sudan.**

65. *Indigofera microcarpa* Desv. in Journ. de Bot. 3: 79 (1814); Bak. f. l.c. 153; Tiss. l.c. 270. *APD acc*

Indigofera perrottetii DC. (1825) — F.T.A. 2: 94; Chev. Bot. 176.

Herb, with a strong taproot and prostrate branches, **often a weed, doubtfully native.**

Sen.: Walo Heudelot! Perrottet! **Fr. Sud.:** Ségou (Sept.) Chev. 3230! Macina (Aug.) Chev. 24930! **G. C.:** Babilc, Lawra (Oct.) Hinds 5002! **Togo:** Paliba Adams GC 4124! **Fr. Nig.:** Zinder (Oct.) Hagerup 584! **N. Nig.:** Katagum (Oct.) Dalz. 56!

Also in **E. Africa, S. tropical Africa** and **Madagascar**, but native, probably, only in America.

66. *Indigofera diphylla* Vent. Choix. t. 30 (1803); F.T.A. 2: 74, mostly; Bak. f. l.c. 110; F.W.T.A., ed. 1, 1: 393, excl. syn.; Tiss. l.c. 262. *APD acc*

A semiwoody, spreading, grey herb **of the drier areas.**

Sen.: Perrottet! Leprieur! Sieger 38! Heudelot 419! Lelièvre! **Fr. Sud.:** Fereirbo (Aug.) Chev. 3241! **Togo:** Lome Warnecke 329! **Dah.:** Gironcourt 89. **Fr. Nig.:** Niamey (Oct.) Hagerup 512! **N. Nig.:** Sokoto (Nov.) Moiser 15! Fodama (Dec.) Moiser 198! Katagum (July) Dalz. 30!

Eastwards to A.-E. **Sudan.**

67. *Indigofera oblongifolia* Forsk. Fl. Aegypt.-Arab. 137 (1775); Bak. f. l.c. 138. *APD acc*

Indigofera paucifolia Del. (1812) — F.T.A. 2: 88; Chev. Bot. 175.

An erect silvery glaucous shrublet **of arid areas**, up to 6 ft. high.

Sen.: Walo Heudelot! Perrottet! Lelièvre! **Fr. Sud.:** Timbuktu Chev. 1212. **Fr. Nig.:** Zinder (Oct.) Hagerup 578! **N. Nig.:** Sokoto (Nov.) Dalz. 328! Kalkala, L. Chad Golding 63!

Eastward to **Egypt, Arabia**, India, Ceylon and Java, also in **Angola.**

68. *Indigofera spicata* Forsk. l.c. 138 (1775). *APD acc*

Indigofera hendecaphylla Jacq. (1788); by mistake endecaphylla in Bak. F.T.A. 2: 96; Bak. f. l.c. 134; F.W.T.A., ed. 1, 1: 392; Tiss. 1: 267; Cronq. l.c. 149.

Suberect or prostrate herb, woody below; **a weed of disturbed ground sometimes cultivated.**

Sen.: Perrottet 197! **Fr. Sud.:** Ségou Chev. 3231. **Port. G.:** Boé (Jan.) Esp. Santo 2862! **Lib.:** Cape Palmas (July) T. Vogel 4! Grand Bassa (July) T. Vogel 106! Monrovia (May) Barker 1311! **G. C.:** Keta Thonning. Achimota (June) Irvine 671! **Dah.:** Burton! **N. Nig.:** Rinjim Mukr (May) Lely 220! **S. Nig.:** Ibadan (July) Tamajong FHI 16793!

Eastwards to the Philippines and Indonesia, southwards to Madagascar and Natal.

A very variable plant.

69. *Indigofera kerstingii* Harms in Engl. Bot. Jahrb. 45: 308 (1910); Bak. f. l.c. 98. *APD acc*

Indigofera oxalidea of Tiss. l.c. 297, partly, not of Welw. ex Bak.

A prostrate **wayside** herb.

Togo: Basari Kersting 662! Paliba Adams & Akpabla GC 4122! **N. Nig.:** Lokoja (Oct.) Dalz. 19! Abinsi (July) Dalz. 580! Zaria (Sept.) Olorunfemi FHI 24378! **S. Nig.:** Oyo (Sept.) Latilo FHI 23548!

70. *Indigofera conjugata* Bak. var. *conjugata* — in F.T.A. 2: 75 (1871); Chev. Bot. 172; Bak. f. l.c. 110; Cronq. l.c. 150. *APD acc*

Indigofera dalzielii Hutch. (1921), mostly; Bak. f. l.c. 108, mostly; F.W.T.A., ed. 1, 1: 393, mostly.

Indigofera knoblecheri of Chev. Bot. 174, not of Kotschy.

Herb, erect, up to 18 in. high, from a stout woody rootstock.

Fr. G.: Balato (Feb.) Chev. 340! Coumana (Feb.) Chev. 364! **Dah.:** Djougou (June) Chev. 23913! **N. Nig.:** Jos (Mar.) Hill 4! Naraguta Lely 20! Vom Dent Young 42! Birnin Gwari (Mar.) Meikle 1348! Kaduna (Dec.) Meikle 771!

Eastward to A.-E. **Sudan**, **Kenya** and **Tanganyika**, with another variety in **Angola** and N. Rhodesia.

70a. *Indigofera conjugata* var. *occidentalis* Gillett l.c. 581 (1956). *APD acc*

Indigofera dalzielii Hutch. (1921), partly.

Fr. Sud.: Bougouni (Feb.) Roberty 3496! **N. Nig.:** Kontagora (Oct.) Dalz. 27! Liruwen-Kano Hills Carpenter! Bichikki (May) Lely 188! Birnin Gwari (Aug.) Keay FHI 25999! Giwa (June) Keay FHI 25909! **Br. Cam.:** Gashaka Dist. (Feb.) Latilo & Daramola FHI 34470!

71. *Indigofera costata* Guill. & Perr. Fl. Seneg. 1: 187 (1832); F.T.A. 2: 95; Bak. f. l.c. 163. *APD acc*

Indigofera theuschii of Tiss. l.c. 272, partly, not of Hoffm.

An erect herb about 18 in. high, in subarid areas.

Sen.: Perrottet! Huard in Heudelot 508! Diohine (Sept.) Berhaut 569! **Fr. Nig.:** Gaillard in Mission Tilho! **N. Nig.:** Biu, Bornu (Sept.) Noble 28!

Extends to A.-E. **Sudan**, with subspecies in eastern and southern Africa from Abyssinia to **Angola** and the eastern Cape.

72. *Indigofera parviflora* var. *occidentalis* Gillett l.c. 582 (1956).

APD: *Synonym of Indigastrum parviflorum subsp. occidentalis (J. B. Gillett) Schrire*

Indigofera linearis of Guill. & Perr. Fl. Seneg. 184 (1832), not of DC. (1825); Bak. f. l.c. 162; Tiss. l.c. 272.

Indigofera parviflora of F.T.A. 2: 83, partly; Chev. Bot. 175, partly; F.W.T.A., ed. 1, 1: 391, partly; Berhaut l.c. 52.

A branched annual up to 1 ft. high, in subarid regions.

Sen.: Leprieur! Heudelot 525! Basgny (Sept.) Berhaut 1731! **Fr. Sud.:** fide Chev. l.c.

Also in the **Cape Verde Isles**, **Angola**, **N. Rhodesia** and **Bechuanaland**

var. *parviflora* is in India, Australia and eastern Africa from the A.-E. Sudan to the Orange Free State.

73. *Indigofera welwitschii* Bak. var. *remotiflora* (Taub. ex Bak. f.) Cronq. l.c. 172 (1954).

APD: *Synonym of Microcharis remotiflora (Taub. ex Baker f.) Schrire*

APD: *Synonym of Microcharis praetermissa (Baker f.) Schrire*

Indigofera remotiflora Taub. ex Bak. f. l.c. 121 (1926).

Delicate straggling herb, on rocky hills in areas of high rainfall.

N. Nig.: Panshanu, rocks 35 miles E. of Naraguta (Sept.) Lely 610! Bauchi Plateau (July) Lely P. 504! **S. Nig.:** Idanre Hills, Ondo (Oct.) Keay & Onochie FHI 20247! Keay FHI 22593!

Extends to **Tanganyika**, Nyasaland and **Angola**.

74. *Indigofera longicalyx* Gillett l.c. 582 (1956).

APD: *Synonym of Microcharis longicalyx (J. B. Gillett) Schrire*

Indigofera lateritia A. Chev. Bot. 174, name only, not of Willd.

Microcharis tenella of Bak. f. l.c. 256 and F.W.T.A., ed. 1, 1: 388, partly, not of Benth.

An annual, about 8 in. high.

Fr. G.: Fouta Djallon (Oct.) Chev. 18873! **S. L.:** Kabala (Sept.) Thomas 2265! **N. Nig.:** Jos Plateau (Aug.) Lely P. 643! Naraguta (Aug.) Lely 504! Vom Dent Young 51!

Also in **Ubangi**.

75. *Indigofera hutchinsoniana* Gillett l.c. 584 (1956).*APD: Synonym of *Microcharis tenella* Benth.**Microcharis tenella* Benth. in Trans. Linn. Soc. 25: 297, t. 33A (1866); F.T.A. 2: 132; Bak. f. l.c. 256, partly, excl. syn.; F.W.T.A., ed. 1, 1: 388, partly.*Indigofera welwitschii* of F.W.T.A., ed. 1, 1: 383, not of Bak.

An annual, up to 1 ft. high; on rocks after rain.

N. Nig.: Nupe Barter 1601! Jebba Barter! R. Niger (Sept.) T. Yogel 99! Lokoja (Oct.) Parsons L. 34!**76. *Indigofera disjuncta* Gillett l.c. 584 (1956).***APD: Synonym of *Microcharis disjuncta* (J. B. Gillett) Schrire var. *disjuncta***Indigofera arenaria* of F.T.A. 2: 79, mostly, not of A. Rich.; nor of E. Mey.

A desert annual.

Fr. Nig.: Mt. Tarraouagi, Air Chopard & Villiers!

Local from Mauritania to the Hejaz and in S.W. Africa and N.W. Cape Colony, a variety in Socotra.

The species with glandular hairs (Nos. 43–49) form a difficult group to which belong several undetermined sheets at Kew, some of which may represent undescribed species. It is to be hoped that collectors will pay especial attention to this group, taking care to secure fruits as well as flowers.

***Indigofera heterocarpa* Welw. ex Bak. F.T.A. 2: 90 (1871).**

An imperfectly understood Angolan species is reported (F.W.T.A., ed. 1, 1: 391) from Lokoja, N. Nigeria. The specimen. Parsons 12, has not been found. Imperfectly known species.

Indigofera variabilis*?**Is reported by Berhaut (l.c. 15, 265) from Senegal; his specimens have not been seen. Presumably *I. variabilis* N.E. Br. is meant; the correct name for which is *I. bainesii* Bak. This species has hitherto only been found in Bechuanaland and the Transvaal. Imperfectly known species.Indigofera galeoides* DC.**

An East Asian species, it has been grown as a cover crop at Victoria, British Cameroons.

27. CYAMOPSIS**DC. — F.T.A. 2: 65.**

- 1 Leaflets oblong to linear-subulate, rarely obovate, 3–7 to each leaf, mucronate, 1.5–4 cm. long, 2–5 mm. broad, thinly silky with medifixed hairs beneath or white-pubescent on both surfaces; stipules subulate; flowers in lax axillary racemes; bracts 4 mm. long, linear; corolla 5 mm. long, the standard petals shortest; fruit linear, 2.5–4 cm. long, about 5 mm. broad, finely appressed-setulose, rather abruptly beaked, light brown when dry

.....[*senegalensis*](#)***Cyamopsis senegalensis* Guill. & Perr. Fl. Seneg. 1: 171, t. 45 (1832); F.T.A. 2: 65; A. Chev. in Rev. Bot. Appliq. 19: 246(1939). *APD acc****Cyamopsis stenophylla* (Bonnet) A. Chev. l.c. (1939).*Cyamopsis senegalensis* var. *stenophylla* Bonnet in Bull. Bot. Fr. 11, Mém. 20: 6 (1911).

Erect herb about 1 ft. high, woody at the base; flowers pinkish.

Sen.: Dagana, Walo Dist. fide Guill. & Perr. l.c. **Gam.:** Albreda, in alluvium after inundation, fide Guill. & Perr. l.c. **Fr.****Sud.:** Dayet en Nahret Chudeau.Also in **A.-E. Sudan**, **Abyssinia**, **Eritrea**, **Arabia** and **S.W. Africa**.***Cyamopsis tetragonoloba* (Linn.) Taub.**

This Indian species has been introduced into Sierra Leone and other parts of tropical Africa. It is a laxly branched annual about 3 ft. high with ovate-rhomboid leaflets and erect fruits.

28. ROTHIA

Pers. — F.T.A. 2: 7.

A small branched annual about 15 cm. high; branches long-silky pubescent; leaflets 3, subsessile, oblanceolate, acute, about 1.5 cm. long, silky-pilose on both sides; flowers 2–5 in axillary clusters, subsessile; calyx lobed to about the middle, 5 mm. long, lobes lanceolate; corolla very short; fruit sessile, 1–1.5 cm. long, silky-pilose, several-seeded [hirsuta](#)

Rothia hirsuta (Guill. & Perr.) Bak. in F.T.A. 2: 7 (1871); Bak. f. Leg. Trop. Afr. 1: 21. *APD acc*

Xerocarpus hirsutus Guill. & Perr. (1832).

Erect or decumbent, diffusely branched herb 6 in. high. with small pink or mauve flowers; in sandy places.

Sen.: Walo Leprieur. **Gam.:** Galam (fr. Sept.) Leprieur! **Port. G.:** Bissau (Dec.) Esp. Santo 1438! **Fr. Nig.:** Niamey (fr. Oct.) Hagerup 476! **N. Nig.:** Naraguta & Jos (Sept.) Lely 583! P. 699! Sokoto Moiser 88! Lema, Ilorin (fr. Aug.) Ejiofor FHI 29392!

Also in **Spanish Guinea**, **Angola** and **S. Africa** and in eastern Africa from Eritrea to Mozambique.

29. CROTALARIA

Linn. — F.T.A. 2: 7; E. G. Baker in J. Linn. Soc. 42: 241 (1914).

- 1 Leaves all 1-foliolate; 2
- Leaves all 3- or 5-foliolate or rarely a few also 1-foliolate towards the inflorescences: 13
- 2 Flowers axillary or in extremely short racemes; leaflets sessile: 3
- Flowers racemose: 5
- 3 Flowers solitary: 4
- Flowers few together, deflexed; calyx about 5 mm. long; leaflet oblanceolate, 2–5 cm. long, shortly pubescent; fruits 8 mm. long, glabrous [3. polygaloides](#)
- 4 Calyx large, about 30 mm. long, densely villous, enclosing flower and fruit; pedicels 1 cm. long, thick, densely villous; leaflet linear to obovate-lanceolate, mucronate, 6–12 cm. long, silky-pilose beneath; fruits 2 cm. long, glabrous [1. calycina](#)
- Calyx small, 3 mm. long, more or less minutely pubescent; pedicels 2–3 cm. long, filiform, appressed-pubescent; leaflet oblong, rounded at both ends, more or less clasping the stem, 8–23 mm. long, 3–6 mm. broad, shortly appressed-pubescent beneath; fruits 1.3 cm. long, glaucous [2. occidentalis](#)
- 5 Racemes very densely flowered; leaflet petiolate, lanceolate, mucronate, 4–8 cm. long, appressed-pilose on both surfaces; petiole about 1 cm. long; stipules and bracteoles subulate, about 8 mm. long; standard petal 7 mm. long, glabrous, very striate [4. anthyllopsis](#)
- Racemes lax: 6
- 6 Stipules foliaceous, amplexicaul; leaflet broadly obovate, emarginate, about 4.5 cm. long, 2–3 cm. broad, very shortly pubescent beneath; peduncle angular; flowers glabrous; fruits 2.5 cm. long, pubescent [5. verrucosa](#)
- Stipules absent or very small or subulate; 7
- 7 Leaflet oblanceolate, rounded or refuse at apex, 4–7 cm. long, 1.5–2.5 cm. broad, minutely and rather closely pubescent beneath; flowers numerous in stiff racemes; calyx thinly puberulous; fruits 4.5 cm. long, glabrous [6. retusa](#)
- Leaflet linear to elliptic, broadest in the middle: 8
- 8 Leaflet elliptic, sessile, about 1.5 cm. long and 8 mm. broad, brown-pilose on both surfaces, thick; racemes very few-flowered; flowers about 1 cm. long; fruits 1 cm. long, densely pilose [7. arenaria](#)
- Leaflet linear to linear-lanceolate, acute: 9
- 9 Plant glabrous or shortly appressed-pubescent, not pilose: 10

- Plant long-pilose or densely pubescent; leaflet linear to linear-lanceolate, 3–9 cm. long, 2–8 mm. broad; fruits 6–10-seeded, pubescent: **12**
- 10** Leaflet subsessile, petiole absent, fracturing in 1 place (therefore strictly a leaf); keel sharply angled, long-beaked: **11**
- Leaflet with a petiole 2–5 mm. long, fracturing in 2 places, stem terete, striate, glabrous; lamina narrowly linear, 6–12 cm. long, 2–4 mm. broad, acute; calyx glabrous, 5 mm. long; a pair of bracteoles at top of pedicel; fruits glabrous, sessile [10. *deightonii*](#)
- 11** Stem and leaflet glabrous; stem terete; lamina linear to oblong-lanceolate, 1.5–6 cm. long, acute and mucronate at apex; calyx glabrous or shortly pubescent, 5–6 mm. long; a pair of minute bracteoles, or their scars, about the middle of pedicel; fruits glabrous, stipitate [8. *glauca*](#)
- Stem and leaflet minutely appressed-pubescent with white hairs arising from red bases; stem angular; lamina oblong-lanceolate, 1.5–4 cm. long, obtuse and mucronate at apex; calyx pubescent 5 mm. long; a pair of bracteoles at top of pedicel; fruits pubescent, sessile [9. *lugardiorum*](#)
- 12** Corolla about 9 mm. long; calyx 5 mm. long; fruits 10 mm. long; stipules present, 1 mm. long [11. *vogelii*](#)
- Corolla about 3 mm. long; calyx 2 mm. long; fruits 7 mm. long; stipules absent [12. *bongensis*](#)
- 13** Plant armed with axillary spines 1–2 cm. long; flowers 1 cm. long, 1 or 2 arising from about the middle of most spines; fruits 9–12 mm. long, many-seeded; stems and leaves puberulous; stipules minute [13. *aculeata*](#)
- Plant unarmed: **14**
- 14** Stipules large and foliaceous, mostly falcate, usually at least 2 mm. broad; fruits 6 or more seeded: **15**
- Stipules small and subulate, at most 1.5 mm. broad, or absent: **18**
- 15** Stems weakly pilose with slender spreading hairs; fruits long-stipitate, oblong, bladder-like, about 2.5 cm. long and 1 cm. broad, glabrous; petiole as long as the leaflets, the latter oblong-lanceolate, acute, about 3 cm. long, thinly pilose on the midrib; flowers 1.5 cm. long [14. *podocarpa*](#)
- Stems glabrescent or variously pubescent with appressed or more or less ascending hairs; fruits not stipitate: **16**
- 16** Stems and leaves rather roughly pilose-pubescent; petiole nearly as long as the leaflets, the latter oblanceolate, conspicuously mucronate, 3–4 cm. long; flowers 1.5 cm. long; fruits densely ferruginous-tomentose, 2.5–3.5 cm. long [15. *lachnophora*](#)
- Stems and leaves very shortly and finely pubescent or glabrescent; petiole as long as or longer than the leaflets, the latter variable, obovate to almost linear, mucronate or emarginate: **17**
- 17** Flowers over 1 cm. long; fruits 2.5–3 cm. long, very shortly pubescent, seeds yellow; hairs on stem very short and closely appressed [16. *cylindrocarpa*](#)
- Flowers usually under 1 cm. long; fruits less than 2 cm. long, shortly pubescent, seeds reddish; hairs on stem rather long, appressed but with some patent [17. *goreensis*](#)
- 18** Leaves subsessile or very shortly petiolate; petiole at most 1 cm. long: **19**
- Leaves long-petiolate; petiole at least 1.5 cm. long: **36**
- 19** Stipules absent; fruits on erect pedicels: **20**
- Stipules present: **24**
- 20** Fruits oblong-cylindrical, 20–25 mm. long, densely pilose, about 20-seeded; flowers about 1 cm. long, a few together at the ends of branches; leaflets oblanceolate, cuneate at base, slightly emarginate and mucronate at apex, 7–15 (–25) mm. long, 2–7 (–10) mm. broad, appressed-pubescent beneath [18. *harmsiana*](#)
- Fruits globose or subglobose, 2–7 mm. long, 2–8-seeded: **21**
- 21** Inflorescence capitate: **22**
- Inflorescence racemose: **23**
- 22** Flowers few together in a cluster on a slender peduncle; leaves sessile; leaflets oblanceolate, up to 1.5 cm. long, long-pilose beneath; fruits weakly pilose [19. *microcarpa*](#)
- Flowers very crowded in a short broadly pyramidal head-like raceme scarcely exerted from the leaves; petioles 1–3 cm. long, villous; leaflets narrowly oblanceolate, the lateral ones falcate, 1–4 cm. long; fruits about 7 mm. long, villous-tomentose [20. *cephalotes*](#)
- 23** Perennial; flowers 7 mm. long; inflorescences up to 15 cm. long; fruits subglobose, 5 mm. long, pubescent; seeds triangular, 2 mm. long, with a deep depression at the hilum; leaflets broadly obovate, 8–15 mm. long, 4–7 mm. broad, emarginate at apex [21. *graminicola*](#)
- Annual; flowers 5 mm. long; inflorescences 2–7 cm. long; fruits globose, 4 mm. long, pubescent; seeds usually subglobose, 1 mm. long, with a large oil gland at the hilum; leaflets oblanceolate, 4–11 mm. long, 2–3 mm. broad, rounded and mucronate at apex [22. *hyssopifolia*](#)
- 24** Flowers 5–15 mm. long: **25**
- Flowers 20–25 (–30) mm. long, standard and keel densely pubescent; calyx about 15 mm. long; fruits oblong, about 3 cm. long, densely villous; bracts ovate-lanceolate, often 3-fid, 1–1.5 cm. long, persistent; leaflets

- oblong-oblancheolate, mucronate, 4–7 cm. long, 2–3 cm. broad, appressed-tomentose on both surfaces[33.](#)
[lachnosema](#)
- 25 Fruits laxly pilose, pubescent or glabrous; calyx up to 9 mm. long, not accrescent: 26
Fruits covered with a dense velvet of short stiff hairs; keel glabrous or with a few hairs on the edges;
inflorescences glomerate at the ends of branches; leaflets glabrous above; calyx 10–15 mm. long, enlarging in
fruit up to 20 mm.: [34](#)
- 26 Calyx 2–3 (–4) mm. long: 27
Calyx 7–9 mm. long: [30](#)
- 27 Leaflets glabrous above, pubescent or glabrous beneath, obovate to linear; stipules subulate with a broader base,
1–2 mm. long; ripe fruits subglobose, 5 mm. long, on pendulous pedicels; seeds triangular with a deep
depression at the hilum: [28](#)
Leaflets (at least the upper ones) pilose above: [29](#)
- 28 Plant pubescent to pilose with brown hairs; flowers 6–7 mm. long; leaflets 1.5–3 cm. long, 3–8 mm. broad ..[23.](#)
[sphaerocarpa](#) var. [sphaerocarpa](#)
Plant glabrous in all parts; flowers 5 mm. long; leaflets 1.5–2 cm. long, 5–9 mm. broad ..[23a.](#) [sphaerocarpa](#) var.
[polycarpa](#)
- 29 Stipules subulate, erect, 2 mm long, pilose; petioles 7–10 mm. long; leaflets oblong-oblancheolate, rounded and
mucronate at apex, 2.5–3.5 cm. long, 7–9 mm. broad, pubescent beneath; racemes terminal, rather dense and
with several flowers in axils of upper leaves, 3–8 cm. long; flowers 7–8 mm. long; fruits ovoid, pubescent, 6
mm. long [24.](#) [sp. A](#)
Stipules lanceolate, reflexed and falcate, 4–5 mm. long, 1 mm. broad; petioles 3–5 mm. long; leaflets elliptic,
subacute and with a tuft of hairs at apex, 1.5–2 cm. long, 4–7 mm. broad, silky beneath; racemes terminal,
dense, 1.5–3 cm. long; flowers 5–6 mm. long; fruits ovoid, pilose, 7 mm. long [25.](#) [bamendae](#)
- 30 Keel glabrous, or with a few hairs about the lower edge: [31](#)
Keel pubescent; leaves frequently 1-foliolate towards the inflorescences: [33](#)
- 31 Bracteoles linear-subulate, as long or nearly as long as the calyx-lobes and very similar to them: [32](#)
Bracteoles broader than above, about 2 mm. broad, as long as the calyx-lobes but dissimilar to them;
inflorescence conical, many-flowered; calyx densely villous; leaflets oblancheolate, obtuse at apex, 4–6.5 cm.
long, 8–23 mm. broad, glabrous above, appressed-pilose beneath; standard densely pubescent outside[28.](#)
[ebenoides](#)
- 32 Standard pubescent only on the fold outside; leaflets glabrous above, oblong-elliptic to oblancheolate, subacute at
apex, 1–6 cm. long, 5–20 mm. broad; fruits subglabrous, 8–10 mm. long; calyx loosely pilose; inflorescence
more or less globular [26.](#) [ononoides](#)
Standard densely pubescent outside; leaflets sparsely pilose above, oblancheolate, rounded at apex, 1–3 cm. long,
3–8 mm. broad; fruits loosely pilose, about 10 mm. long; calyx densely villous-pilose; inflorescence sub-
spiciform to globular [27.](#) [atrorubens](#)
- 33 Stems tomentose with recurved brown hairs; leaflets lanceolate, acute, 2.5–5.5 cm. long, 7–10 mm. broad,
appressed-pilose beneath; inflorescence short and glomerate or subspicate, 5–10-flowered; calyx densely
brown-villous; standard orbicular [29.](#) [perrottetii](#)
Stems appressed-pilose with silvery hairs; leaflets oblong-lanceolate; standard broader than long ..[28.](#) [ebenoides](#)
- 34 Stems appressed-pubescent, hairs directed upward; corolla 12–15 mm. long; bract at base of pedicel 1–2 mm.
broad: [35](#)
Stems tomentose with more or less erect recurved hairs; corolla about 10 mm. long; calyx densely villous, 10–13
mm. long; bracteoles linear, nearly as long as calyx; bract linear, 1 mm. broad; leaves all 3-foliolate; leaflets
obovate to oblancheolate, rounded at apex, sometimes slightly emarginate, minutely mucronate, 1.5–3 cm. long,
5–12 mm. broad [32.](#) [confusa](#)
- 35 Calyx densely villous with long hairs dissimilar to those on the fruits, 12–15 mm. long; bracteoles at base of
calyx linear-lanceolate, 10–11 mm. long; leaves frequently 1-foliolate towards the inflorescence; leaflets
narrowly lanceolate, acute, 2.5–7 cm. long, 5–18 mm. broad [30.](#) [macrocalyx](#)
Calyx covered with a dense felt of short stiff curved hairs similar to those on the fruits, 15–20 mm. long;
bracteoles at base of calyx linear, 5–6 mm. long, frequently reflexed; leaves all 3-foliolate; leaflets
oblancheolate, subacute to obtuse and mucronate at apex, 2.5–4–5 cm. long, 5–12 mm. broad [31.](#) [mortonii](#)
- 36 Stipules 5–11 mm. long, filiform to linear, persistent: [37](#)
Stipules absent or up to 2 (–3 mm.) long: [40](#)
- 37 Flowers 2–3 in each inflorescence, 1–5 cm. long; calyx-lobes broad and leafy, auriculate at base; leaflets
obovate, rounded at apex, about 3.5 cm. long and 2 cm. broad, sparsely pilose beneath; stipules subulate, about
10 mm. long; fruits stipitate, about 2 cm. long, pilose, bladder-like [34.](#) [barkae](#)
Flowers numerous in each inflorescence: [38](#)

- 38 Calyx pilose, 8 mm. long; fruits oblong, 4 cm. long, pilose; leaflets obovate, cuneate at base, rounded at apex, 3–4 cm. long, 2–3 cm. broad [35. *incana*](#)
 Calyx appressed-pubescent to glabrous, 10–12 cm. long; 39
- 39 Bracts linear-lanceolate, 10–12 mm. long, persistent; inflorescence terminal, rhachis stout and strongly grooved; fruits sessile, 4 cm. long [36. *recta*](#)
 Bracts subulate, 2–4 mm. long, persistent; inflorescence leaf-opposed, rhachis not as stout, slightly striate; fruits stipitate, 4–5 cm. long [37. *longifoliolata*](#)
- 40 Flowers 5–12 mm. long: 41
 Flowers 14–25 mm. long: 49
- 41 Flowers very crowded in a short broadly pyramidal head-like raceme scarcely exerted from the upper leaves; fruits subglobose, 7 mm. long; for other characters see above [38. *cephalotes*](#)
 Flowers racemose, well exerted from the leaves; fruits oblong to oblong-ellipsoid: 42
- 42 Inflorescence 2–6 (–8)-flowered, very lax; bracts subulate, 2 mm. long; calyx-lobes linear; keel rounded; fruits 2 cm. long, stipitate, appressed-pubescent; leaflets linear or linear-lanceolate, 3–6 cm. long, (1–) 3–10 mm. broad [38. *glaucoides*](#)
 Inflorescence many-flowered, dense or rather lax: 43
- 43 Keel petals sharply bent from near the base; fruits oblong-ellipsoid, about 1.3 cm. long, softly pubescent; leaflets ovate-oblong to obovate, cuneate at base, 2–4 cm. long, about 1 cm. broad [39. *senegalensis*](#)
 Keel petals rounded; fruits oblong, 2–3.5 cm. long: 44
- 44 Bracts persistent, 3–9 mm. long, reflexed: 45
 Bracts either early caducous, 5–9 mm. long, or persistent and 1–2 mm. long: 46
- 45 Petioles 3–7 cm. long; leaflets linear-lanceolate, 5–15 cm. long, those on the branchlets usually much smaller than those on the main stem; keel petals dark purple and striate; standard striate, wings yellow; fruits 13–17 mm. long, appressed-pubescent [40. *comosa*](#)
 Petioles 1.5–2 cm. long; leaflets elliptic to linear, acute at both ends, 3–5 cm. long; all petals more or less equally striate; fruits 11 mm. long, tomentose to pilose [41. *acervata*](#)
- 46 Leaflets linear to linear-lanceolate, (1–) 2–6 cm. long, 2–7 mm. broad; stipules absent; calyx 3 mm. long; fruits 2 cm. long, shortly pubescent [42. *lathyroides*](#)
 Leaflets ovate, obovate or elliptic, 1.5–7 cm. broad: 47
- 47 Fruits 3–3.5 (–4) cm. long; keel conspicuously striate: 48
 Fruits 2–2.5 cm. long; keel inconspicuously striate or with a purple blotch; leaflets obovate to elliptic, 3–6 cm. long, 2–5 cm. broad, cuneate at base, rounded or subacute at apex; calyx 6–7 mm. long [45. *naragutensis*](#)
- 48 Leaflets ovate or oblong-ovate, 5–10 (–15) cm. long, 3–5 (–7) cm. broad, cuneate at base, acute (rarely obtuse) at apex; usually with minute stipules; fruits straight, 3–3.5 (–4) cm. long; calyx 6 mm. long [43. *mucronata*](#)
 Leaflets obovate, 3–5.5 cm. long, 1.5–3 cm. broad, cuneate at base, rounded at apex; stipules absent; fruits curved, about 3 cm. long; calyx 4 mm. long [44. *falcata*](#)
- 49 Flowers axillary, solitary or few together, about 2 cm. long; calyx-lobes narrowly lanceolate, acute, nearly 1 cm. long; pedicels 1 cm. long, shortly pubescent; keel bent below the middle; petiole 5 cm. long; leaflets obovate, mucronate, about 6 cm. long and 3.5 cm. broad, thinly pubescent beneath [46. *axillaris*](#)
 Flowers racemose: 50
- 50 Calyx glabrous, with teeth much shorter than the tube; fruits oblong-cylindrical, 3–6.5 cm. long, 1.5–2 cm. broad, appressed-pubescent to glabrous; leaflets lanceolate to oblong-linear, 5–10 cm. long, 3–25 mm. broad [47. *ochroleuca*](#)
 Calyx pubescent: 51
- 51 Leaves all 3-foliolate: 52
 Leaves 3- and 5-foliolate on the same plant, elliptic, acute at apex, cuneate at base, 5–10 cm. long, 2–5 cm. broad; calyx pubescent; fruits narrowly cylindrical, about 4 cm. long and 4 mm. broad [51. *cleomifolia*](#)
- 52 Pedicels not jointed, small bracteoles at base of calyx; leaflets linear to oblong-lanceolate; calyx appressed-pubescent, with teeth about equalling the tube; fruits cylindrical, 2.5–4 cm. long, 4–6 mm. broad, sparsely appressed-pubescent; inflorescence long, many-flowered [48. *intermedia*](#)
 Pedicels jointed in the middle with 2 subulate bracteoles; calyx-teeth much longer than the tube: 53
- 53 Inflorescence few- and lax-flowered; leaflets rhomboid-elliptic to ovate, 2.5–5 cm. long, 1.5–3 cm. broad; fruits bladder-like, 3 cm. long, 1 cm. broad, transversely nerved, loosely pilose [49. *doniana*](#)
 Inflorescence many- and close-flowered; leaflets elliptic, 3–6 cm. long, 1–2 cm. broad [50. *sp. B*](#)

Wilczek in Fl. Congo Belge 4: 84, t. 4. *APD acc*

Erect annual herb, up to 2 ft. high, simple or with few branches, densely brown-silky; flowers yellow, few, about 1 in. long, enclosed by the conspicuously villous calyx; *in savannah*.

Sen.: Heudelot 119! **Fr. Sud.:** Koulikoro Chev. 3380. San Chev. 3381. **Port. G.:** Bafata Esp. Santo 2810! **Fr. G.:** Kouroussa Pobéguin 460! **S. L.:** Kambia (fl. & fr. Dec.) Deighton 928! Luaeniya (Dec.) Sc. Elliot 4066! **IV. C.:** Kodiokoffi Chev. 22372. **G. C.:** Accra Plains Irvine 1300! **N. Nig.:** Liruwun-Kano Hills Carpenter! Anara F.R., Zaria (fr. Oct.) Keay FHI 20131! Bauchi Plateau (Oct.) Lely P. 825! Yola (fr. July) Dalz. 1!

Throughout tropical Africa, also in tropical Asia and N. Australia.

2. *Crotalaria occidentalis* *Hepper* in Sew Bull. 1956: 113, fig. 1. *APD acc*

(?) *C. uniflora* *Bak.* in F.T.A. 2: 13 (1871); *Bak. f. l.c.* 273; not of *Koen. ex Roxb.* (1832).

A slender ascending herb up to 2 ft. high, *of seasonally flooded land*; flowers red and yellow.

Sen.: Perrottet. **Port. G.:** Antula, Bissau (Dec.) Esp. Santo 2858! **S. L.:** Mateboi (fl. & fr. Nov.) Jordan 826!

3. *Crotalaria polygaloides* *Welw. ex Bak.* in F.T.A. 2: 15 (1871); *Bak. f. l.c.* 255; Wilczek l.c. 99. *APD acc*

Branched herb, 1 ft. high; flowers pale yellow; *in savannah*.

S. L.: Wallia (fr. Feb.) Sc. Elliot 4280! Musaia (fl. & fr. Dec.) Deighton 4425! Gbinti (fl. & fr. Jan.) Deighton 5731! Batkanu (fl. & fr. Nov.) Jordan 967!

Also in *Upper Ubangi*, *Belgian Congo* and *Angola*.

4. *Crotalaria anthyllopsis* *Welw. ex Bak.* in F.T.A. 2: 15 (1871); *Bak. f. l.c.* 263; Wilczek l.c. 81. *APD acc*

A branched herb, ascending to 1 ft. high, brown-pilose; flowers yellow or purplish with darker veining; *in savannah*.

N. Nig.: Naraguta & Jos (Sept.) Lely 564! Bauchi Plateau (Sept.) Lely P. 695! Vom Dent Young 33!

Extends to Abyssinia, E. Africa, Rhodesia and to *Angola*.

5. *Crotalaria verrucosa* *Linn.* — F.T.A. 2: 14; *Bak. f. l.c.* 254. *APD acc*

Erect shrub, 2–3 ft. high, with angular branches; flowers pale yellow tinged blue, in leaf-opposed and terminal racemes.

S. L.: Welw. 1940! Tower Hill, Freetown (fl. & fr. Dec.) Deighton 802! **S. Nig.:** Calabar Mine.

A native of India, widespread in the tropics.

6. *Crotalaria retusa* *Linn.* — F.T.A. 2: 13; *Bak. f. l.c.* 270; Chev. Bot. 170; Wilczek l.c. 90. *APD acc*

A half-shrubby herb, 2–4 ft. high, of waste land; flowers conspicuous, 3/4–1 in. long, in long loose racemes, yellow with purple veining.

Sen.: Dakar Caille! Chev. 3195; Chev. 15820. Karang (fl. & fr. Oct.) Monod 8644! **Gam.:** Hayes 501! Kombo Dawe 6! Kuntaur Ruxton 4! **Fr. G.:** Conakry Chev. 12076; 12128; 12149. **S. L.:** Freetown (fl. & fr. Feb.) Johnston 62! 80! Deighton 11! Njala (fl. & fr. May) Deighton 1896! Kumrabai (Dec.) Thomas 6989! **Lib.:** Sinoe Basin Whyte! Nana Kru, Sinoe Co. (fl. & fr. Mar.) Baldwin 11596! Monrovia (fl. & fr. June) Barker 1375! **G. C.:** Achimota (fl. & fr. Feb.) Irvine 1802! 1803! Bally 13! Morton GC 6019! **S. Nig.:** Abeokuta (Aug.) Punch 2! Ibadan (Oct.) Newberry & Etim 147! Olokemeji (Aug.) Foster 318! Calabar Maitland 6! Ikom, Ogoja (fl. & fr. Sept.) Obi FHI 17066!

Widespread in the tropics; probably introduced into our area and now naturalized.

7. *Crotalaria arenaria* *Benth.* — F.T.A. 2: 11; *Bak. f. l.c.* 258; Chev. Bot. 167. *APD acc*

Stems woody, prostrate, much-branched, up to 1 ft. long, densely pale villous; *in dry savannah or semi-desert*.

Maur.: fide Chev. l.c. **Sen.:** Heudelot! Roger 91! Kouma (Jan.) Perrottet 163! St. Louis Chev. 15777. **Fr. Sud.:** Timbuktu (fr. July) Chev. 1264! Hagerup 185! **N. Nig.:** Katagum (fl. & fr. July) Dalz. 15! Kalkala, L. Chad Golding 51!

8. *Crotalaria glauca* Willd. — F.T.A. 2: 12; Bak. f. l.c. 259 (incl. var. *welwitschii* Bak. f.); Chev. Bot. 168; Wilczek l.c. 102, t. 6. *APD acc*

Erect glabrous herb, 1–3 ft. high, or taller in long grass; flowers yellow, distant on lax axillary and terminal racemes; plant drying black in var. *welwitschii* Bak. f.

Sen.: Bondou Heudelot 199! **Fr. Sud.:** Badinko Chev. 111. Koulikoro Chev. 3209; 3211. **Port. G.:** Antula, Bissau (fl. & fr. Oct.) Esp. Santo 1355! **S. L.:** Wallia (fr. Feb.) Sc. Elliot 4257! Samu country (Dec.) Sc. Elliot 4730! Bonthe Isl. (fl. & fr. Nov.) Deighton 2291! **IV. C.:** Toumodi Chev. B. 22263; 22382. **G. C.:** Accra (May, Sept.) T. Yogel! Dalz. 86! Irvine 1763! Daboya Ferry (fl. & fr. Dec.) Morton GC 6196! Ada (fl. & fr. June) Morton GC 9236! **Dah.:** Agouagon Chev. 23543. **N. Nig.:** Katagum Dalz. 348! Abinsi (fl. & fr. Oct.) Dalz. 590! Bauchi Plateau (Sept., Oct.) Lely 561! P. 689! P. 818! **S. Nig.:** Old Calabar Milne! **Br. Cam.:** Bansa, Bamenda (fl. & fr. Oct.) Tamajong FHI 23477!

Widespread in tropical Africa.

A specimen from an old garden patch, Udi, Onitsha, S. Nigeria (Jones FHI 5015) is allied to *C. glauca* but has leaves about 1 cm. long and very small flowers.

9. *Crotalaria lugardiorum* A. A. Bullock in Kew Bull. 1932: 493; Wilczek l.c. 93.

APD: *Synonym of Crotalaria karagwensis Taub.*

A slender erect herb, 1–3 ft. high; flowers yellow; in mountain grassland.

Br. Cam.: Nchun, Bamenda, 5,000 ft. (fl. & fr. May) Maitland 1523!

Also in **Uganda**, **Kenya**, **Tanganyika** and **Belgian Congo**.

10. *Crotalaria deightonii* Hepper l.c. 113 (1956). *APD acc*

Crotalaria spartea of F.T.A. 2: 12 (1871), partly; of F.W.T.A., ed. 1, 1: 388; of Bak. f. l.c. 262, partly; not of R.Br. ex Bak.

An erect annual, up to 5 ft. high; flowers yellow, strongly purple-veined; in savannah grassland.

S. L.: Afzelius! Makali (Oct.) Glanville 11! Bundulai (Nov.) Deighton 5664!

11. *Crotalaria vogelii* Benth. — F.T.A. 2: 14; Bak. f. l.c. 284; Wilczek l.c. 83. *C. parsonsii* Bak. f. (1913).

APD: *Synonym of Crotalaria leprairiei Guill. & Perr.*

A pilose herb, 2–3 ft. high, or more when in tall grass; flowers yellow in elongated racemes.

Sen.: Ouassadou Berhaut 1240. Toubacouta (fr. Oct.) Monod 8457! **G. C.:** Tamale Williams 389! Aframso (Oct.) Vigne FH 4036! **Togo:** Kete Krachi Zech 192. **N. Nig.:** Nupe Barter 992; 1629! Stirling (Sept.) T. Vogel 158! Lokoja (fl. & fr. Oct.) Dalz. 17! Parsons L. 38! Alkalire (Sept.) Lely 643! Ilorin (Feb.) Ejiofor FHI 19824!

Also in **French Cameroons**, **Chad**, **A.-E. Sudan**, **Uganda**, **Belgian Congo** and **Angola**.

12. *Crotalaria bongensis* Bak. f. l.c. 256 (1914); Wilczek l.c. 96. *APD acc*

An erect branched pilose annual, slightly woody below, a few inches to 2 ft. high; flowers yellow, strongly purple-veined; in savannah.

Port. G.: Pirada, Gabú (fr. Nov.) Esp. Santo 3163! **N. Nig.:** Naraguta (fl. & fr. Aug.) Lely 506! Vom Dent Young 39! Kaduna (fl. & fr. Dec.) Meikle 793!

Also in **A.-E. Sudan**, **Uganda**, **Tanganyika**, **Nyasaland** and **Belgian Congo**.

13. *Crotalaria aculeata* De Wild. in Ann. Mus. Congo Beige, sér. 4, 1: 185, t. 46 (1908); Wilczek l.c. 107. *APD acc*

APD: *Synonym of Crotalaria virgulata subsp. forbesii (Baker) Polhill*

Crotalaria spinosa of Berhaut Fl. Sen. 12, not of Hochst. ex Benth.

Sen.: fide Berhaut l.c.

Also in **A.-E. Sudan**, **Uganda**, **Tanganyika**, **Belgian Congo**, **Angola**, **Rhodesia** and **Nyasaland**.

14. *Crotalaria podocarpa* DC. — F.T.A. 2: 17; Bak. f. l.c. 406. *APD acc*

An erect herb, 1–2 ft. high; flowers pale yellow.

Sen.: Richard Tol (fr. Sept.) Perrottet 167! M'bidjem Thierry 45! Podor (Aug.) Martine 80! **Fr. Sud.:** Sompi Chev. 3193.

Widespread in eastern tropical Africa and Madagascar.

15. *Crotalaria lachnophora* Hochst. ex A. Rich. Tent. Fl. Abyss. 1: 151 (1847); Wilczek l.c. 129. *APD acc*

Crotalaria lachnocarpa Hochst. ex Bak. in F.T.A. 2: 33 (1871); Bak. f. l.c. 404; F.W.T.A., ed. 1, 1: 397; Chev. Bot. 169.

A spreading bush, 3–6 ft. high, clothed with brown hairs; flowers conspicuous, yellow becoming reddish; **in usually wet grassland**.

Fr. Sud.: fide Chev. l.c. **N. Nig.:** Bauchi Plateau (Aug., Sept.) Lely P. 608! 669! 723! Jos (Aug.) Keay FHI 12716! Sho to Barakin Ladi (Nov.) Keay FHI 21022! **Br. Cam.:** Bamenda, 5,000–5,500 ft. (Jan., Aug., Sept.) Migeod 305! Savory UCI 352! 387!

Widespread in tropical Africa.

16. *Crotalaria cylindrocarpa* DC. — F.T.A. 2: 40; Bak. f. l.c. 414; Wilczek l.c. 126. *APD acc*

A branched shrubby herb, up to 6 ft. high; flowers yellow tinged red.

Sen.: Roger 28! **Fr. Sud.:** Fafa, Gao (fl. & fr. Mar.) De Wailly 5368! **G. C.:** Tefli (fl. & to. Jan.) Morton GC 8318! Gambaga (fl. & fr. Apr.) Morton GC 8995! **N. Nig.:** Sokoto (fl. & fr. Sept., Nov.) Dalz. 343! Moiser 47! Anara F.R., Zaria (fl. & fr. Oct.) Keay FHI 20118! Minna (fl. & fr. Dec.) Meikle 712! Naraguta (fl. & fr. Aug.) Lely 480! **S. Nig.:** Ibadan (Jan., Feb.) Meikle 941! 1146! Anambra F.R., Onitsha (fl. & fr. Feb.) Jones FHI 625!

Extends to Rhodesia.

17. *Crotalaria goreensis* Guill. & Perr. — F.T.A. 2: 28; Bak. f. l.c. 413; Chev. Bot. 169; Wilczek l.c. 124, fig. 10. *APD acc*

Stems herbaceous, woody below, or an undershrub to 5 ft. high, with a woody taproot; flowers yellow, turning reddish; **in waste places**.

Sen.: Galam Heudelot! **Gam.:** Boteler! Saunders 78! Cape St. Mary Heudriot 8! **Fr. Sud.:** Kabarah Chev. 1334. Ségou Chev. 3203. Sarédina (May) Davey 141! **S. L.:** Lusenya (fr. Dec.) Sc. Elliot 4216! Kambia (fl. & fr. Jan.) Sc. Elliot 4393! Njala (Apr.) Deighton 1590! Musaia (fr. Dec.) Deighton 4530! **Lib.:** Banga (Oct.) Linder 1164! 1277! Gbau, Sanokwele (fl. & fr. Sept.) Baldwin 9422! 9440! **Iv. C.:** Bingerville Chev. 20071. **G. C.:** Accra T. Vogel 30! Dalz. 82! Volta River F.R. (fl. & fr. Nov.) Morton GC 6048! Tamale (fl. & fr. Dec.) Morton GC 9850! Gonja (fl. & fr. Dec.) Morton GC 9974! **Togo:** Kpedsu (Dec.) Howes 1035! Have Etoe (fr. Nov.) Adams & Akpabla GC 4004! **N. Nig.:** Ilorin (Nov.) L. 112! Nupe Barter 1606! Katagum Dalz. 14! Sokoto (fl. & fr. Sept.) Dalz. 344! Kalkala, L. Chad (fl. & fr. Oct.) Guynn 88! **S. Nig.:** Barter 1782! 1789! Lagos (Nov.) Dalz. 1224! Olokemeji (fl. & fr. Nov.) Onochie FHI 8152! **F. Po:** Mann 37!

Widespread in tropical Africa.

18. *Crotalaria harmsiana* Taub. in Engl. Pflanzenw. Ost-Afr. C, 205 (1895); Bak. f. l.c. 397.

APD: *Synonym of Crotalaria orthoclada* Welw. ex Baker

APD: *Synonym of Crotalaria caudata* Welw. ex Baker

An undershrub 1–3 ft. high; flowers yellow.

S. Nig.: Ikette Plateau, 5,200 ft., Obudu (fr. Dec.) Savory & Keay FHI 25232! **Br. Cam.:** Babanki, Bamenda (fl. & fr. Jan.) Johnstone 3!

Also in the mountains of east and south tropical Africa.

19. **Crotalaria microcarpa** *Hochst. ex Benth.* in Hook. Lond. Journ. Bot. 2: 573 (1843); F.T.A. 2: 16; Bak. f. l.c. 402; Chev. Bot. 169. *APD acc*

A variable diffusely branched herb, woody at the base, from a few inches to a foot or more long; flowers deep yellow or orange; [in savannah](#).

Fr. Sud.: San Chev. 3228. **G. C.:** Babile, Lawra (fr. Oct.) Hinds 5019! Kulnaba, Navrongo (fl. & fr. Oct.) Hushes FH 5340! **N. Nig.:** Nupe Barter 997! Sokoto Moiser 18! Katagum (fl. & fr. Oct.) Dalz. 17! Alagbede F.R. (fl. & fr. Jan.) Ejiofor FHI 30808! Yola (fl. Aug.) Dalz. 301!

Also in [French Camerouns](#), [A.-E. Sudan](#), [Abyssinia](#), [Eritrea](#), [Uganda](#), [Tanganyika](#), [Belgian Congo](#), [N. Rhodesia](#) and [Nyasaland](#).

20. **Crotalaria cephalotes** *Steud. ex A. Rich.* — F.T.A. 2: 23; Bak. f. l.c. 276; Wilczek l.c. 200. *APD acc*

A slightly woody herb, 6–18 in. high, often unbranched, with a tuft of leaves around the raceme, densely silky; flowers small, yellow; [in rocky places](#).

G. C.: Banda, Wenchi Dist. (fr. Dec.) Morton GC 25161! 25284! **Dah.:** Savé (fr. May) Chev. 23579! **N. Nig.:** Nupe Barter 801! Patti Lokoja (fl. & fr. Nov.) Dalz. 13! Bauchi Plateau (fl. & fr. Oct.) Lely P. 830! Anara F.R., Zaria (Sept., Oct.) Keay FHI 5441! Olorunfemi FHI 24401!

Widespread in tropical Africa, also in Transvaal.

21. **Crotalaria graminicola** *Taub. ex Bak. f.* l.c. 291 (1914); Hepper in Kew Bull. 1956: 118. *APD acc*

A perennial herb, [usually in burnt grassland](#), with numerous nearly simple tufted stems 6–12 in. high, from a woody base; flowers yellow.

Togo: Sokode Kersting 128. **N. Nig.:** Kontagora (fl. & fr. Jan.) Dalz. 40! Zaria (fl. & fr. Feb.) Dalz. 377! Milne-Redhead 5028! Otobi, Benue (fl. & fr. Feb.) Jones FHI 4575! Naraguta, 4,000 ft. (May) Lely 238! Gerti, Jemaa Dist. (fl. & fr. Mar.) Onochie FHI 7743! **Br. Cam.:** Tapare R. H., Gashaka Dist. (fl. & fr. Jan.) Latilo & Daramola FHI 34411!

Also in [French Camerouns](#).

22. **Crotalaria hyssopifolia** *Klotzsch* — F.T.A. 2: 24; Bak. f. l.c. 286; Wilczek l.c. 217; Hepper l.c. 118. *APD acc*

APD: Synonym of Crotalaria pseudotenuirama Torre

Crotalaria graminicola of Bak. f. l.c. 291 and of F.W.T.A., ed. 1, 1: 398, partly (Heudelot 614; Sc. Elliot 4310) not of Taub. ex Bak. f.

An erect herb, branched above and sometimes below, 1–2 ft. high; flowers yellow.

Sen.: Falémé R. Heudelot! Kidira (fl. & fr. Nov.) Berhaut 1194! **Fr. Sud.:** Bamako (fl. & fr. Jan.) Chev. 206! **Port. G.:** Antula, Bissau (fl. & fr. Oct.) Esp. Santo 2557! **Fr. G.:** Rio Nunez Heudelot 614! **S. L.:** Afzelius! Magbile (Dec.) Thomas 6208! Ruka to Kitchom (Dec.) Sc. Elliot 4310! Rokupr (fl. & fr. Jan., Dec.) Jordan 380! Deighton 2950! Musaia (fl. & fr. Dec.) Deighton 4475! 5697! **N. Nig.:** Fodama (fl. & fr. Dec.) Moiser 250! Bauchi Plateau (fl. & fr. Oct.) Lely P. 815! 848!

Also in [French Camerouns](#), [Abyssinia](#), [Uganda](#), [Kenya](#), [Tanganyika](#), [Nyasaland](#), [N. Rhodesia](#), [Belgian Congo](#) and [Mozambique](#).

23. **Crotalaria sphaerocarpa** *Perr. ex DC. var. sphaerocarpa* — F.T.A. 2: 23; Bak. f. l.c. 289, partly; Hepper l.c. 118, for synonymy. *APD acc*

A branched herb from a woody base 1–2 ft. high; flowers yellow, in lax racemes; [in sandy ground](#).

Sen.: Perrottet! M'bidjem (fl. & fr. Aug.) Thierry 84! Kouma (fr. Oct.) Roger! **Fr. Sud.:** Balasoko valley, Bamako (fl. & fr. Dec.) Monad! **Fr. Nig.:** Zinder (fl. & fr. Oct.) Hagerup 590! **N. Nig.:** Kalkala, L. Chad (fr. Oct.) Gwynn 87!

Extends to A.-E. [Sudan](#) and southwards to Orange Free State and west to [Angola](#).

- 23a. **Crotalaria sphaerocarpa var. polycarpa** (*Benth.*) Hepper in Kew Bull. 1956: 119.

APD: Synonym of Crotalaria sphaerocarpa subsp. polycarpa (Benth.) Hepper

Crotalaria polycarpa Benth. (1843).

Crotalaria sphaerocarpa of F.T.A. 2: 23; Bak. f. l.c.; F.W.T.A., ed. 1, 1: 398, partly, in syn.

Similar to the last, but entirely glabrous.

Sen.: Perrotte! 171! Cayor Heudelot 483! Dakar Rattray! M'pao, Dakar (fl. & fr. Nov.) Monod! Cape Verde Talmy! Hann Berhaut 1150!

24. *Crotalaria* sp. **A.** *APD acc*

An annual herb 1–2 ft. high, sparingly branched above; flowers yellow, veined purple; in savannah. Further material required.

N. Nig.: Bauchi Plateau (fl. & fr. Oct.) Lely P. 789!

25. *Crotalaria bamendae* Hepper in Kew Bull. 1956: 119. *APD acc*

A branched herb with densely pubescent stems, about 2 ft. high, leaflets silky-silvery beneath.

Br. Cam.: Bamenda (Dec.) Egbuta FHI 3763! Bansa, Bamenda (Oct.) Tamajong FHI 23479! Gembu, Gashaka Dist. (fr. Jan.) Latilo & Daramola FHI 34369!

26. *Crotalaria ononoides* Benth. — F.T.A. 2: 22; Bak. f. l.c. 307. *APD acc*

Herb, woody at base, 1–4 ft. high, suberect, the lower branches often procumbent, brownish-pilose; flowers yellow turning orange in heads at the ends of the branches.

S. L.: Afzelius! Don! **N. Nig.:** Ilorin Clarke 3! Anara F.R., Zaria (Sept.) Olorunfemi FHI 24363! Naraguta & Jos (Nov.) Lely 559! Vom Dent Young 38!

Extends to A.-E. **Sudan**, E. Africa, **Belgian Congo**, S. Rhodesia and Madagascar.

27. *Crotalaria atrorubens* Hochst. ex Benth. in Hook. Lond. Journ. Bot. 2: 572 (1843); F.T.A. 2: 22; Bak. f. l.c. 307; Chev. Bot. 168. *APD acc*

Chrysocalyx rubiginosa Gulll. & Perr. (1831), not *Crotalaria rubiginosa* Willd. (1803).

Crotalaria ononoides of F.W.T.A., ed. 1, 1: 397, partly (Moiser 75).

Erect or suberect herb, 1–3 ft. high, woody below, yellowish silky-hairy; flowers yellow or reddish tinged, densely crowded at the ends of the branches; in savannah.

Sen.: St. Louis Perrottet. Galam (fl. & fr. Sept., Oct.) Leprieur in Hb. Perrottet 162! **Gam.:** Mungo Park! Saunders 70! Hayes 582! **Fr. Sud.:** Ségou Chev. 3200. **G. C.:** Zuarungu (fr. Dec.) Adams & Akpabla GC 4273! **N. Nig.:** Nupe Barter 1052! Sokoto (fl. & fr. Sept.) Dalz. 345! Moiser 75! Bauchi Plateau (fl. & fr. Oct.) Lely P. 838! Bin, Bornu Prov. (Sept.) Noble 20!

Extends to A.-E. **Sudan**.

28. *Crotalaria ebenoides* (Guill. & Perr.) Walp. — F.T.A. 2: 20; Bak. f. l.c. 305; Chev. Bot. 168. *APD acc*

Chrysocalyx ebenoides Gulll. & Perr. (1831).

Erect herb, 1–1½ ft. high, with long slender branches, densely brown-silky; flowers in dense oblong terminal heads.

Sen.: Walo Perrottet 161! Galam Heudelot 253! **Fr. Sud.:** Koulikoro (Apr.) Chev. 3197! Ségou (Oct.) Roberty 3027! **Port. G.:** Pirada, Gabú (fl. & fr. Nov.) Esp. Santo 3160!

29. *Crotalaria perrottetii* DC. — F.T.A. 2: 19; Bak. f. 305, t. 11 B. *APD acc*

Chrysocalyx gracilis Guill. & Perr. (1831) — F.T.A. 2: 20; Bak. f. l.c. 306.

Crotalaria gambica Taub. (1896).

Herb 1–2 ft. high, with more or less straggling branches, brownish-silky; flowers yellow turning red.

Sen.: Roger! Kouma Perrottet! Cayor Heudelot 409! M'Bambey (Oct.) Monod 8732 bis! **Gam.:** Brown-Lester 28! 53! 65! Kudang (fl. & fr. Jan.) Dalz. 8023! Cape St. Mary (Jan.) Dalz. 8024!

30. *Crotalaria macrocalyx* Benth. — F.T.A. 2: 20; Bak. f. l.c. 306. *APD acc*

Crotalaria perrottetii of F.W.T.A., ed. 1, 1: 397, partly (Lely 598), not of DC.

Erect or procumbent herb, 1–2 ft. high, with woody taproot; flowers yellow to orange, crowded at the ends of branches, standard purple-veined; **in savannah**.

Sen.: Heudelot 209! **Gam.:** Saunders 116! **G. C.:** Bosomoa F.R. (fl. & fr. Dec.) Vigne FH 3195! Kintampo (Nov.) Andoh FH 5418! Ejura Scarp (Dec.) Morton GC 9746! Banda, Wenchi (fl. & fr. Dec.) Morton GC 25083! **N. Nig.:** Nupe Barter 996! Anara F.R., Zaria (Sept., Oct.) Keay FHI 5464! Olorunfemi FHI 24352! Kadaura (Sept.) Lely 598! Dataturu Kabau, Bornu (Oct.) Daggash FHI 22004! **Br. Cam.:** Bama, Dikwa Div. (fl. & fr. Jan.) McClintock 31!

Also in **Abyssinia**.

31. *Crotalaria mertonii* Hepper l.c. 115 (1956). *APD acc*

Crotalaria macrocalyx of F.W.T.A., ed. 1, 1: 397, partly (Mildbr. 7410), not of Benth.

Erect herb, 1–2 ft. high with 2–4 flowers at the ends of the branches.

G. C.: Sorri L., Gonja (fl. & fr. Dec.) Morton GC 25033! **Togo:** Atakpame (Nov.) Mildbr. 7410!

32. *Crotalaria confusa* Hepper l.c. 116 (1956). *APD acc*

Crotalaria macrocalyx of Bak. f. l.c. 306, partly; of F.W.T.A., ed. 1, 1: 397, partly.

A more or less procumbent and diffuse herb with sterna 1–3 ft. long; flowers orange-yellow; **in savannah**.

G. C.: Tamale (fl. & fr. Dec.) Adams & Akpabla GC 4152! Williams 418! Gambaga Hill (fl. & fr. Apr.) Morton GC 8979! Gonja (fl. & fr. Dec.) Morton GC 25035! **Togo:** Kpeve (fl. & fr. Jan.) Irvine 1739! **N. Nig.:** Ilorin (fl. May, fr. Jan.) Bailey 6! Rowland! Ejiofor FHI 30802! Nupe Yates! Katagum (Nov.) Dalz. 16! Kuta Lamb FHI 3206!

Also in **French Cameroons**.

[Several variations (e.g. Barter 959, Meikle 678) of *C. confusa* have been noted in Kew Bull. 1956: 117.]

33. *Crotalaria lachnosema* Stapf in Kew Bull. 1910: 329; Bak. f. l.c. 323; Wilczek l.c. 251. *APD acc*

A woody undershrub, 2–6 ft. high, more or less fulvo-tomentose all over; flowers yellow with orange veins.

S. L.: Mawria (Feb.) Glanville 172! Kamakui (fr. Aug.) Deighton 3499! Mafore (fr. Feb.) Deighton 3605! Loma Mts. (fr. Feb.) Jaeger 4199! **Lib.:** Kakatown Whyte! Mecca, Boporo (fr. Nov.) Baldwin 10422! **Togo:** Sokode Schröder! **N. Nig.:** Nupe Barter 920! Kontagora (fl. & fr. Nov.) Dalz. 39! Kangimi, Zaria (fr. Mar.) Olorunfemi FHI 24429! **Br. Cam.:** Babanki, Bamenda (fl. & fr. Apr.) Maitland 1644!

Also in **French Cameroons**, **A.-E. Sudan** and **Belgian Congo**.

34. *Crotalaria barkae* Schweinf. in Bull. Herb. Boiss. 4, app. 2: 228 (1896); Bak. f. l.c. 390. *APD acc*

Crotalaria quartiniana of F.T.A. 2: 42; of F.W.T.A., 1, 1: 397.

A herb with prostrate branches, 1–2 ft. long, thinly hairy; flowers yellow; **in dry rocky places**.

G. C.: Zuarungu (fr. Nov.) Akpabla 401! **N. Nig.:** Katagum (fr. Sept.) Dalz. 13! Sokoto (Sept.) Dalz. 342! Ako (Oct.) Lely 651! Fika, Bornu (Oct.) Daggash FHI 24897! **Br. Cam.:** Gwoza, Dikwa Div. (fl. & fr. Dec.) McClintock 64!

Also in **Cape Verde Islands**, **Belgian Congo**, **Kenya**, **Abyssinia** and **Eritrea**.

35. *Crotalaria incana* Linn. — F.T.A. 2: 31; Bak. f. l.c. 357; Wilczek l.c. 148. *APD acc*

A herb, 2–4 ft. high, with coarsely hairy stems and fruits; flowers yellow, veined purple.

S. L.: Don.! Russell (fl. & fr. May) Deighton 2667! **Br. Cam.:** Lakom, Bamenda (fl. & fr. June) Maitland 1458! Kumbo, Bamenda (Nov.) Egbuta FHI 3765!

In many parts of tropical Africa and in the tropics generally.

36. *Crotalaria recta* Steud. ex A. Rich. — F.T.A. 2: 40; Bak. f. l.c. 352; Wilczek l.c. 153, t. 9. *APD acc*

Crotalaria crepitans *Hutch.* (1921) — F.W.T.A., ed. 1, 1: 398; Bak. f. Leg. Trop. Afr. 1: 46.

Erect herb or undershrub, 3–6 ft. high, with ribbed stems, shortly brownish-pubescent; flowers yellow, strongly brown-purple veined.

N. Nig.: Hepham to Ropp, 4,600 ft. (July) Lely 378! Bauchi Plateau (Aug.) Lely P. 616! **Br. Cam.:** Bamenda Station (May) Maitland 1427! Bali-Ngemba, Bamenda (June) Ujor FHI 30440!

Extends throughout tropical Africa and also into Transvaal.

37. **Crotalaria longifoliolata** *De Wild.* in Ann. Mus. Congo Beige, sér. 4, 1: 187, t. 45, figs. 1–10 (1903); Bak. f. l.c. 854; Wilczek l.c. 127.

APD: *Synonym of Crotalaria glaucifolia Baker*

Erect herb, 1–2 ft. high; flowers with standard purple outside, grey inside.

Br. Cam.: Bum-Nchan, Bamenda, 4,500 ft. (June) Maitland 1608!

Also in **French Cameroons**, **Belgian Congo** and **Tanganyika**.

38. **Crotalaria glaucoides** *Bak. f.* l.c. 393 (1914). *APD acc*

Crotalaria paludosa *A. Chev.* in Bull. Mus. Hist. Nat., sér. 2, 5: 230 (1933), excl. Chev. 34315.

A slender annual with the appearance of *C. glauca* but with trifoliolate leaves and very sparsely pubescent.

Sen.: Cape Manuel Talmy 12. Tivaouane (fl. & fr. Dec.) Chev. 3208! Toubacouta (fl. & fr. Oct.) Monod 8689! **Port. G.:** Pussubé, Bissau (fl. & fr. Nov.) Esp. Santo 1403! Antula, Bissau (fl. & fr. Dec.) Esp. Santo 1584!

39. **Crotalaria senegalensis** (*Pers.*) *Bacle ex DC.* — F.T.A. 2: 31; Bak. f. l.c. 337. *APD acc*

Crotalaria uncinella var. **senegalensis** *Pers.* Syn. 2: 285 (1807).

Crotalaria maxillaris of Bak. f. l.c., partly, not of Klotsch.

Suberect or prostrate, half-woody, 1–2 ft. high, shortly pale-pubescent; flowers yellow turning orange; in dry fields.

Sen.: Roger! Heudelot 113! Almadies (fr. Jan.) Monod 10988! Dakar (fl. & fr. Oct.) Giovanetti! **N. Nig.:** Katagum (fl. & fr. Oct.) Dalz. 12! Sokoto (Mar., Sept.) Dalz. 340! Moiser! Kano to Katsina (fl. & fr. Dec.) Meikle 812! **Br. Cam.:** Gulumba, Dikwa Div. (fl. & fr. Dec.) McClintock 41!

Also in **Belgian Congo**, **A.-E. Sudan** and **Abyssinia**.

40. **Crotalaria comosa** *Bak.* in F.T.A. 2: 34 (1871); Bak. f. l.c. 380; Wilczek l.c. 268. *APD acc*

Crotalaria astragalina of F.W.T.A., ed. 1, 1: 368, partly (Lely 617).

A stout erect herb, 5–6 ft. high; flowers yellow and dark purple; in savannah and cultivated land.

Port. G.: Esp. Santo 1418! **S. L.:** Musaia (fr. Dec.) Deighton 4515! **G. C.:** Savelugu, Tamale (fl. & fr. Dec.) Morton GC 9897! Banda, Wenchi (fl. & fr. Dec.) Morton GC 25132! 25193! Menji, Wenchi (fl. & fr. Dec.) Morton GC 25228! Shal Plains (Jan.) Irvine 647! **N. Nig.:** Anara F.R., Zaria (Sept.) Olorunfemi FHI 24361! Bauchi Plateau (Aug., Oct.) Lely P. 664! P. 792! Batten Poole 313!

Also in **Belgian Congo**, **N. Rhodesia** and **Angola**.

41. **Crotalaria acervata** *Bak. f.* in J. Bot. 58: 74 (1920); Wilczek l.c. 176.

APD: *Synonym of Crotalaria subcapitata De Wild. var. subcapitata*

APD: *Synonym of Crotalaria subcapitata subsp. oreadam (Baker f.) Polhill*

Erect herb, 2–3 ft. high; flowers yellow, purple-striate; in mountain grassland.

S. Nig.: Mt. Koloishe, Obudu, 5,000–5,400 ft. (Dec.) Savory & Keay FHI 25088! **Br. Cam.:** Bamenda, 6,400–8,000 ft. (Nov., Dec., fr. Jan.) Migeod 330! Keay & Russell FHI 28438! Baldwin 13846!

Also in **French Cameroons** and **Belgian Congo**.

42. **Crotalaria lathyroides** *Guill. & Perr.* — F.T.A. 2: 35; Chev. Bot. 169. *APD acc*

APD: Synonym of Crotalaria subcapitata De Wild. var. subcapitata

Crotalaria impressa *Nees* (1841).

Crotalaria astragalina *Hochst. ex A. Eich.* (1847) — F.T.A. 2: 43; Bak. f. l.c. 374; F.W.T.A., ed. 1, 1: 398; Chev. Bot. 168.

Crotalaria paludosa *A. Chev.* (1933), partly (Chev. 34315).

Herb, woody at the base, with slender branches, erect or more or less diffuse, shortly silky-pubescent above; flowers rather small, yellow with dark purple lines sometimes coalescing into a blotch, in short dense lateral racemes usually long-stalked; **in wet places**.

Sen.: Perrottet! Dakar Rattray! Samandiniéry, Casamance Chev. 3205. Seleki, Casamance Chev. 3206. Niayes Chev. 3207.

Gam.: Brown-Lester 17! **Port. G.:** Antula, Bissau (Oct.) Esp. Santo 2591! **Fr. G.:** Conakry to Dubréka (fl. & fr. Nov.)

Chev. 34315! **S. L.:** Afzelius! Mahela (fr. Dec.) Sc. Elliot 3937! Brookfields (Oct.) Deighton 246! Kumrabai-Mamila (fl. & fr. Nov.) Deighton 4937! **Lib.:** Duport (fl. & fr. Oct.) Barker 1448! Linder 1490! Fissibu, Vonjama (fl. & fr. Oct.) Baldwin 10032a! Gene Loffa, Kolahun (Nov.) Baldwin 10080! **Togo:** Amedzofe, 2,500 ft. (fl. & fr. Jan.) Irvine 3370!

Extends to A.-E. **Sudan**, Abyssinia and **Belgian Congo**.

43. **Crotalaria mucronata** *Desv.* in Journ. de Bot. 3: 76 (1814); Exell Cat. S. Tomé 151 (excl. syn. C. obovata G. Don); Wilczek l.c. 270.

APD: Synonym of Crotalaria pallida Aiton var. pallida

APD: Synonym of Crotalaria pallida Aiton

Crotalaria striata *DC.* (1825) — F.T.A. 2: 38; Chev. Bot. 170; Bak. f. l.c. 345; F.W.T.A., ed. 1, 1: 398.

Erect undershrub, 3–6 ft. high, grey or yellowy silky on the young parts; flowers yellow, purple-striped, in fairly dense racemes 6–10 in. long.

Sen.: Conakry (fl. & fr. Oct.) Martine 162! **Gam.:** Brown-Lester 43! **S. L.:** Magbile (fl. & fr. Dec.) Thomas 6377! Kubaka (Oct.) Glanville 43! Port loko (Oct.) Tindall 48! **Lib.:** Banga to Moylakwelli (Oct.) Linder 1267! Sanokwele (Sept.)

Baldwin 9511! **IV. C.:** Bériby to Tabou Chev. 20034. Mossi Chev. 24631. **G. C.:** Akropong (Oct.) Johnson 801! Odumase Howes 1203! Gambaga (fl. & fr. Apr.) Morton GC 8993! Ejura (fl. & fr. Dec.) Morton GC 9523! 9795! **Dah.:** Cotonou Chev. 22705. **N. Nig.:** Jebba Barter! Naraguta & Jos (Sept.) Lely 580! Anara F.R. Zaria (Oct.) Keay FHI 5451! **S. Nig.:** Idumuye (fl. & fr. Dec.) Thomas 2115! Ibadan (fl. & fr. Jan.) Meikle 960! Newi, Onitsha (Oct.) Jones FHI 769! **Br. Cam.:** Buea, 3,000 ft. (fl. & fr. Dec.) Maitland 115!

Widely distributed throughout the tropics.

44. **Crotalaria falcata** *Vahl ex DC.* — F.T.A. 2: 40; Bak. f. l.c. 344; Chev. Bot. 168; Wilczek l.c. 169.

APD: Synonym of Crotalaria pallida var. obovata (G. Don) Polhill

Crotalaria obovata *G. Don* (1882), not of F.W.T.A., ed. 1, 1: 398.

Crotalaria striata of F.W.T.A., ed. 1, 1: 398, partly (Dawodu 34), not of DC.

Shrubby, diffusely branched, 2–3 ft. high, shortly silky pubescent above; flowers yellow, purple-veined, in long-stalked racemes; **often in coastal sands**.

Fr. G.: Ymbo to Kouria Chev. 14987! **Lib.:** Bassa Cove Ansell! Cape Palmas (fl. & fr. July) T. Vogel 16! Cinco (fi. & fr. Nov.) Linder 1545! Sinkor (fl. & fr. June, July) Barter 1363! 1382! Nana Kru (fl. & fr. Mar.) Baldwin 11597! **G. C.:** Accra (Oct.) Brown 400! Ada (fl. & fr. June) Morton GC 9240! **Togo:** Lome Warnecke 289! **Dah.:** Burton! Cotonou (fl. & fr. Mar.) Debeaux 171! **S. Nig.:** Lagos (Oct.) Dalz. 1226a! MacGregor 367! Dawodu 34!

Also in **Belgian Congo** and **Angola**.

45. **Crotalaria naragutensis** *Hutch.* in Kew Bull. 1921: 363; Bak. f. Leg. Trop. Afr. 1: 44. *APD acc*

Crotalaria obovata of Bak. f. J. Linn. Soc. 42: 345, partly (Dalz. 341); of F.W.T.A., ed. 1, 1: 398.

Crotalaria keilii *var. chevalieri* *Bak. f.* (1914).

An erect, branched undershrub, 3–6 ft. high; flowers yellow in racemes up to 1 ft. long; **in open savannah**.

G. C.: Navrongo (fl. & fr. Nov.) Akpabla 388! Gambaga (Dec.) Adams GC 4256! Tamale (fl. & fr. Dec.) Morton GC 9916! **N. Nig.:** Katagum (Sept.) Dalz. 19! Sokoto (fr. Sept., fl. & fr. Nov.) Dalz. 341! Lely 157! Naraguta (Aug.) Lely 490! Bauchi Plateau (July, Aug.) Lely P. 513! P. 613! Yola (Sept.) Dalz. 304! **Br. Cam.:** Bama, Dikwa Div. (fl. & fr. Nov.) McClintock 4!

Also in **French Chad**, and **A.-E. Sudan**.

46. **Crotalaria axillaris** Ait. *Hort. Kew.* 3: 20 (1789); Bak. f. l.c. 388; Wilczek l.c. 138, t. 8. *APD acc*

Crotalaria latifolia ("lotifolia" by error) of F.T.A. 2: 42, not of Linn.

An erect shrub or woody herb, up to 10 ft. high, shortly silky-pubescent; flowers bright yellow; **in thickets and old farms**.

G. C.: Cape Coast (July) T. Vogel 91! Waspide (ft. & fr. June) Dalz. 81! Abokobi (Feb.) Irvine 1988!

Also in **Belgian Congo**, **Angola**, tropical E. Africa to Nyasaland, and in **the West Indies**.

47. **Crotalaria ochroleuca** G. Don — F.T.A. 2: 37; Bak. f. l.c. 327; Exell Cat. S. Tomé 152; Wilczek l.c. 221. *APD acc*

Crotalaria intermedia of F.W.T.A., ed. 1, 1: 398; of Chev. Bot. 169; of Berhaut Fl. Sen. 14; of Bak. f. l.c. 327, partly.

An erect undershrub, 3–7 ft. high, with ribbed branches, shortly appressed-pubescent; flowers whitish or pale yellow, purple-veined, in long rather lax terminal racemes; **usually in wet places**.

Sen.: Toubacouta (fl. & fr. Oct.) Monad 8602! 8712! **Port. G.:** Djécoi to Contubo-el, Batatá (fl. & fr. Nov.) Esp. Santo 2813! **Fr. Sud.:** fide Chev. l.c. **S. L.:** Layah, Scarcies R. Sc. Elliot 4483! Baoma (fl. & fr. Dec.) Deighton 3470! Joru (Oct.) Deighton 5237! Ronietta (Nov.) Thomas 5407! **Lib.:** Kakatown Whyte! **IV. C.:** fide Chev. l.c. **G. C.:** Achimota (May, June) Irvine 568! 1767! **N. Nig.:** Sokoto (fl. & fr. Oct.) Dalz. 339! Naraguta & Jos (Sept.) Lely 576! Yola (Oct.) Shaw 83! Kalkala, L. Chad (Oct.) Gwynn. 89! **S. Nig.:** Lagos Millen 98! Aguku Dist. Thomas 793! **Br. Cam.:** Fonfuka, Bamenda, 3,000 ft. (June) Maitland 1571! Bu, Bamenda (Apr.) Ujor FHI 30091!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Abyssinia**, **Uganda**, **Tanganyika**, **N. Rhodesia** & **S. Rhodesia**, **Belgian Congo**, **Angola** and **S. Tomé**.

48. **Crotalaria intermedia** Kotschy — F.T.A. 2: 37; Bak. f. l.c. 327, partly; Wilczek l.c. 220.

APD: Synonym of Crotalaria brevidens var. intermedia (Kotschy) Polhill

APD: Synonym of Crotalaria ochroleuca G. Don

Similar to the last but with narrower fruits and slightly larger flowers.

N. Nig.: Bauchi Plateau (Sept.) Lely P. 706!

Also in **A.-E. Sudan**, **Abyssinia**, **Uganda**, **Kenya**, **Tanganyika** and **Belgian Congo**.

49. **Crotalaria doniana** Bak. in F.T.A. 2: 28 (187r); Bak. f. l.c. 356; Wilczek l.c. 163. *APD acc*

A herbaceous undershrub, laxly branched, thinly pubescent; flowers yellow, in few-flowered axillary racemes.

S. L.: Don! Samu country (fr. Dec.) Sc. Elliot 4380! Malema (Nov.) Deighton 449! Sefadu (fr. Dec.) Deighton 3572! Yoni, Mamila (Dec.) King 8b! **Lib.:** Zigida, Vonjama (Oct.) Baldwin 10000! Belleyella, Boporo (fl. & fr. Dec.) Baldwin 10643! **IV. C.:** Agboville (Nov.) Chev. 22386! **G. C.:** Sekodumasi (fl. & fr. Oct.) Vigne FH 3394! **S. Nig.:** Ibadan (fl. & fr. Jan., Dec.) Meikle 1117! Chizea FHI 23966! Shasha F.R. (fr. Feb.) Jones & Onochie FHI 4718! Oban Talbot! **Br. Cam.:** Mukonyong, Mamfe (fl. & fr. Nov.) Tamajong FHI 22120!

Also in **French Cameroons** and **Belgian Congo**.

50. **Crotalaria** sp. **B.** *APD acc*

A shrub up to 8 ft. high.

Br. Cam.: Victoria (Dec.) Maitland 834! Cam. Mt. (Dec.) Maitland 839!

51. *Crotalaria cleomifolia* Welw. ex Bak. in F.T.A. 2: 43 (1871); Bak. f. l.c. 350; Wilczek l.c. 158. *APD acc*

A shrubby plant, 3–6 ft. or more high; flowers yellow; **beside streams.**

S. L.: Kamakwie (fl. & fr. Feb.) Deighton 4047! 4281! Musaia (Dec.) Deighton 4542! Kamiendo to Saiama (Dec.) Deighton 5285! **Togo:** fide Wilczek l.c. **N. Nig.:** Bauchi Plateau (Sept.) Lely P. 735! Batten-Poole 219!

Also in **French Cameroons, Belgian Congo, Uganda, Kenya, Angola, Rhodesia, Nyasaland** and **Mozambique.**

***Crotalaria alata* Buch.-Ham. ex Roxb.**

An Indian species with a winged stem has been introduced into Gold Coast.

***Crotalaria juncea* Linn.**

Has been introduced into Senegal, Gold Coast and S. Nigeria

***Crotalaria spectabilis* Roth**

Crotalaria sericea Retz., not of Burm. f.

Has been introduced into S. Nigeria

***Crotalaria zanzibarica* Benth.**

Crotalaria usaramoensis Bak. f.

This E. African species has been introduced into Senegal at Hann.

30. LUPINUS

Linn. — F.T.A. 2: 44.

- 1** Annual; stems silky-villous; leaves digitately 5–7-foliolate; leaflets sessile, oblanceolate, 2.5–3.5 cm. long, up to 1 cm. broad, silky-pilose beneath; flowers in lax racemes; calyx campanulate, nearly 1 cm. long, 2-lobed to nearly the middle, the upper lobe entire or emarginate, the lower slightly 3-toothed; stamens united in a tube; fruit compressed, dehiscent, silky-pilose, septate between the seeds *tassilicus*

***Lupinus tassilicus* Maire** in Mém. Soc. Hist. Nat. Afr. Nord. 3: 266 (1933); A. Chev. & Trochain in Rev. Bot. Appl. 17: 92, t. 1 (1937). *APD acc*

(?) **L. termis** of F.T.A. 2: 44, partly; of Bak. f. Leg. Trop. Afr. 1: 60, partly; of F.W.T.A., ed. 1, 1: 399.

Erect annual 12–18 in. high; flowers bluish.

Sen.: Leprieur. Perrottet 243! Diorbivol to Oré Fonde Trochain 2927. Podor Berhaut 944.

Also in **Central Sahara.**

A. Chev. & Trochain l.c. 97 consider *L. tassilicus* to be the only species reaching our area, but they do not indicate whether this is *L. termis* of F.W.T.A., ed. 1. I have insufficient material at my disposal to make a decision.

31. ADENOCARPUS

DC. — F.T.A. 2: 47. *APD acc*

- 1** Branches rigid, densely silky-pilose; leaves often fasciculate, digitately 3-foliolate; leaflets oblong-lanceolate, acute, about 5–8 mm. long; flowers in dense sessile terminal heads; calyx pubescent, the upper two teeth lanceolate, acuminate, the lower 3-dentate; corolla about twice as long as the calyx; fruits about 2–2.5 cm. long, 5–6-seeded, viscous-glandular *mannii*

***Adenocarpus mannii* (Hook f.) Hook f.** in J. Linn. Soc. 7: 189 (1864); F.T.A. 2: 47; Bak. f. Leg. Trop. Afr. 1: 69. *APD acc*

Cytisus mannii Hook. f. (1862).

A shrub up to 6 ft. or more high, with yellow flowers and shortly bristly fruits.

Br. Cam.: Cam. Mt., 8,000–12,000 ft. (Jan.) Mann 1308! 2180! Hutch. & Metcalfe 63! Dalz. 8316! Dunlap 209! Bamenda Nkwe (Sept.) Ujor FHI 30218! L. Bambulue (fr. Jan.) Keay & Lightbody FHI 28378! **F. Po:** Mildbr. 7174. Clarence Peak, 9,000 ft. Mann 594!

Also in French Cameroons and the mountains of eastern Africa from A.-E. **Sudan** to Nyasaland.

32. LOTUS

Linn. — F.T.A. 2: 61; Brand in Engl. Bot. Jahrb. 25: 166 (1898).

- 1 Style dentate; inflorescence 3–6-flowered; fruits about 2.5 cm. long, glabrous; peduncle longer than the leaves; leaves petiolate: **2**
Style not dentate: **3**
- 2 Flowers purple, 13 mm. long; bracts 1–3, longer than calyx; branches, etc, subglabrous and subglaucous; leaflets linear-oblongate, acute at apex [1. jacobaeus](#)
Flowers yellow, 10–11 mm. long; bracts 3, shorter than calyx; branches etc. pilose or tomentose; leaflets variable, subacute to obtuse at apex [2. arenarius](#)
- 3 Flowers in terminal heads of 5–7, corolla about 10 mm. long; calyx 5-fid, teeth about half as long as corolla, shortly brown-pubescent; bracts 3, amongst the flowers; peduncles 3–7 cm. long; fruits 1.5–2.5 cm. long, glabrous; leaflets narrowly oblanceolate, acute at apex, appressed-pubescent, especially along midrib and margins beneath, terminal leaflet 9–11 mm. long, 2 mm. broad [3. discolor](#)
Flowers 1–3 in axil of leaves, corolla about 7 mm. long; calyx 5-fid, teeth almost as long as corolla, pubescent; flowers subtended by a single leafy bract; peduncles 1–4 cm. long; fruits 2–3 cm. long, glabrous; leaflets obovate, shortly pubescent to long-pilose beneath, variable in size, 5–20 mm. long [4. arabicus](#)

1. *Lotus jacobaeus* *Linn.* Sp. Pl. 2: 775 (1753); Brand l.c. 203; Bak. f. Leg. Trop. Afr. 1: 86. *APD acc*

Herbaceous, woody at base, with purple flowers.

Gam.: Mungo Park!

Also in **Cape Verde Islands**.

2. *Lotus arenarius* *Brot.* Fl. Lusit. 2: 120 (1804); Brand l.c. 198. *APD acc*

A much-branched perennial herb with a woody stock, about 6 in. high; flowers yellow.

Sen.: Irvine 3250!

Also in **Spain**, **N. Africa** and **Canary Islands**.

3. *Lotus discolor* *E. Mey.* Comm. Pl. Afr. Austr. 92 (1835); Brand l.c. 213; Bak. f. l.c. 88; Brenan in Mem. N.Y. Bot. Gard. 8: 249; Boutique in Fl. Congo Belge 4: 302, fig. 20, A–B. *APD acc*

APD: *Synonym of Lotus mlanjeanus J. B. Gillett*

APD: *Synonym of Lotus goetzei Harms*

An ascending herb with wiry branches from a woody stock; flowers yellow.

Br. Cam.: Bamenda Johnstone 205/31! L. Bambili, Bafut-Ngemba F.R. (Aug.) Ujor FHI 29973!

Also in **French Cameroons**, **Belgian Congo**, **Abyssinia**, **E. Africa**, **Nyasaland**, **S. Rhodesia**, **Mozambique** and in **S. Africa**.

4. *Lotus arabicus* *Linn.* — F.T.A. 2: 62; Brand l.c. 219; Bak. f. l.c. 90. *APD acc*

Lotus mossamedensis Welw. ex Bak. (1871).

A procumbent annual, woody at base, variable in all its parts; branches 1 ft. or more long; flowers pink or whitish.

Sen.: Roger! Heudelot! Perrottet 199! **Gam.:** Kantora (fl. & fr. Jan) Frith 164! **Fr. Sud.:** Dogo (fr. May) Davey 105! **N. Nig.:** Katagum Dalz. 46!

Extends to [Egypt](#) and Baluchistan, [Tanganyika](#), Mozambique and [Angola](#)

33. TRIFOLIUM

Linn. — F.T.A. 2: 53.

- | | | |
|---|--|--|
| 1 | Petiole adnate to stipules almost throughout its length:..... | 2 |
| | Petiole, at any rate in lower leaves, free from the stipules for the greater part of its length. | 3 |
| 2 | Calyx-nerves 15–20;; inflorescence more than 1 cm. broad, usually broader than long, leaflets narrowly oblanceolate, more than 4 times as long as broad. | 1. <i>simense</i> |
| | Calyx-nerves 10–12; inflorescence not more than 1 cm. broad, usually longer than broad; leaflets broadly oblanceolate, less than 4 times as long as broad | 2. <i>usambarensis</i> |
| 3 | Standard 5–7 mm. long; ovules 4–5; leaflets 1.5–3 cm. long, not emarginate | 3. <i>rueppellianum</i> var. <i>preussii</i> |
| | Standard 3–5 mm. long; ovules 2; leaflets less than 1.5 cm. long, emarginate | 4. <i>baccarinii</i> |

1. **Trifolium simense** *Fres.* — F.T.A. 2: 57; Gillett in Kew Bull. 1952: 375, figs. 2, 1–7; 3; Fl. Congo Belge 4: 293; Jac.-Fél. in Agronom Trop. 8: 288, t. 1 C. *APD acc*

Straggling perennial herb up to 11/2 ft. high, with purple flowers; [in mountain grassland](#).

Br. Cam.: Cam. Mt., 7,000–9,000 ft. (Nov.–Feb.) Johnston 4! Mann 2018! Mildbr. 10862! Maitland 915! 1006! 1210! Migeod 168! L. Oku, Bamenda, 7,700 ft. (Jan.) Keay FHI 28466! F. Po.: 8,500 ft. (Dec.) Mann 602! Mildbr. 7170.

Also in the mountains of French Cameroons, Abyssinia and eastern Africa.

2. **Trifolium usambarensis** *Taub.* in Engl. Pflanzenw Ost. Afr. C. 208 (1895); Gillett in Kew Bull 1952: 370, fig. 1, 13–15; Fl. Congo Belge 4: 292; Jac.-Fél. l.c., t. 1 B. *APD acc*

Straggling herb up to 11/2 ft. high, with purple (occasionally white) flowers; [in mountain grassland and forest margins](#).

Br. Cam.: Bamenda, 5,000–7,700 ft (Jan., Feb., June) Migeod 452! Keay FHI 28351! 28436! 28486a! 28506! Maitland 139! **F. Po:** (Mar.) Guinea 2907!

Also in the mountains of French Cameroons, S. Abyssinia and eastern Africa

3. **Trifolium rueppellianum** var. **preussii** (*Taub. ex Bak. f.*) *Gillett* in Kew Bull. 1952: 389, fig. 4, 2–6, Fl. Congo Belge 4: 296.

APD: *Synonym of Trifolium rueppellianum Fresen. var. rueppellianum*

Trifolium preussii *Taub. ex Bak. f.* Leg. Trop. Afr. 1: 82 (1926) — F.T.A. 2: 58, 59.

A weak herb up to 3 ft. high, with bluish purple flowers.

Br. Cam.: Cam. Mt., 7,000–8,500 ft. (Nov.) Preuss 972! Migeod 203! Jakiri, 5,000–7,000 ft. (fl. & fr. Nov.) McCulloch 1! **F. Po:** 9,000 ft. (Dec.) Mann 603!

The typical form of the species is found in the mountains of Abyssinia and eastern Africa in the latter area var. *preussii* also occurs together with numerous intermediates. The identification of var *preussii* with *T. goetzenii* *Taub. ex Engl.* seems to be incorrect.

4. **Trifolium baccarinii** *Chiov.* Ann. Bot. Rom. 9: 57 (1911); Gillett in Kew Bull. 1952: 391, fig. 4, 1; Fl. Congo Belge 4: 298; Jac.-Fél. l.c. 288, t. 1 A. *APD acc*

A herb up to 8 in. high, with bluish purple (occasionally white) flowers.

Br. Cam.: Bango, Bamenda, in moist grass by roadside, 6,000 ft. (Jan.) Keay FHI 28449! Jakiri, 5,000–7,000 ft. (Nov.) McCulloch 3!

Also in the mountains of French Cameroons, Abyssinia and eastern Africa

34. RHYNCHOSIA

Lour. — F.T.A. 2: 216.

15

- 1 Leaves 3-foliolate: 2
 Leaves 1-foliolate; flowers solitary or geminate, axillary, calyx-teeth lanceolate-acuminate, nearly as long as petals [16. chevalieri](#)
- 2 Calyx conspicuous, persistent and often accrescent, basal lobe 1 cm or more long, linear-lanceolate, almost as long or longer than the corolla: 3
 Calyx small, caducous, not accrescent, basal lobe generally less than 1 cm. long, much shorter than corolla (if nearly as long then lobes subulate lanceolate) Calyx-lobes rounded or very obtuse at apex; leaflets rhomboid, acute, 5–8 cm long, up to 6 cm broad, pubescent beneath; racemes elongate, softly tomentellous; seeds blue black. [10. buettneri](#)
- 3 Calyx villous or pubescent, not glandular viscid; seeds blue or blue-black 4
- 4 Lateral calyx-lobes very small, about 1/4 as long as the others, upper calyx lobes connate, much longer than the vexillum; leaves more or less glabrous above, closely felted beneath. [1. preussii](#)
 Lateral calyx-lobes nearly as long as the others: 5
- 5 Leaflets pubescent above and beneath; calyx narrowly lanceolate acuminate, as long as, or a little shorter than the corolla. [2. congensis](#)
 Leaflets densely and softly tomentose beneath: 6
 Leaflets glabrous or nearly so: 8
- 6 Calyx lobes densely grey pubescent, oblanceolate, acute or subobtuse, usually longer than the cream coloured corolla. [3. albiflora](#)
 Calyx lobes densely brown pubescent, acuminate, slightly shorter than the red corolla. [4. brunnea](#)
- 7 Calyx lobes acute or subobtuse, densely grey-pubescent. [5. pycnostachya](#)
 Calyx lobes acuminate, thinly and minutely puberulous. [6. manni](#)
- 8 Calyx densely glandular-viscid; seeds dark brown: 9
- 9 Flowers in elongate, branched or unbranched racemes; terminal leaflet rhomboid or ovate, acuminate, usually 4–6 cm. long, 2–5 cm. broad, obscurely veined beneath: 10
 Flowers in cylindrical densely congested racemes; terminal leaflet depressed-rhomboid, obtuse, 5–8 cm. long, 5–9 cm. broad, strongly reticulate-veined beneath, plant trailing. [9 floribunda](#)
- 10 Racemes lax, branched; plant twining or subscandent [7. resinosa](#)
 Racemes rigid, unbranched; plant erect or suberect [8. orthobotrya](#)
- 11 Calyx lobes acute to acutely acuminate; seeds brown: 12
- 12 Flowers in dense, short, subsessile racemes, fruits small, 1–1.5 cm. long, pilose, with weak, spreading hairs. [11. densiflora](#)
 Flowers in slender, pedunculate racemes: 13
- 13 Upper portions of stems, inflorescences and fruits conspicuously glandular viscid. 14
 Stems, inflorescences and fruits glabrous or pubescent, but not viscid:
- 14 Racemes long and lax, fruits with long, scattered, golden, viscid hairs; stipules large, persistent; plant trailing or climbing. [12. violacea](#)
 Racemes short and rather rigid; fruits with dense, short, pale, viscid indumentum, stipules small, caducous; plant suberect. [13. nyasica](#)
- 15 Flowers conspicuous, 1–1.5 cm long; fruits large, inflated, 2–3 cm. long, leaflets obtusely rhomboid, 2.5–7 cm. or more long, 2–5 cm. broad, subglabrous or shortly puberulous. [14. sublobata](#)
 Flowers inconspicuous, less than 1 cm. long; fruits small, not inflated, 1–2 cm. long; leaflets 1.5–4 cm. long, 1.5–3 cm. broad: 16
- 16 Flowers minute, about 5 mm long; petals scarcely exceeding calyx: 17
 Flowers larger, up to 1 cm. long; leaves subrotund or bluntly rhomboid, shortly and sparsely pubescent above and beneath [15b. minima var prostrata](#)
- 17 Leaflets acutely rhomboid or subrotund, glabrous or pubescent on nerves beneath, plant usually climbing. [15. minima var. minima](#)
 Leaflets subrotund, densely silvery-pubescent above and beneath; fruits silvery-pubescent; plant usually trailing

15a. minima var. memnonia

1. **Rhynchosia preussii** (*Hanns*) *Taub. ex Harms* in Engl. Pflanzenw. Afr. 3, 1 671 (1915) Bak. f. Leg. Trop. Afr. 2 468. *APD acc*

Cylista preussii *Harms* in Engl. Bot. Jahrb. 26: 303 (1899)

Rhynchosia cyanosperma of F.W.T.A. ed 1, 1: 401, partly (Barter 1615).

Twiner in forest.

Br. Cam.: Barombi (May) Preuss 190. **F. Po:** (June) Barter 1615!

Also in **French Cameroons** and **Gabon**.

2. **Rhynchosia congensis** *Bak.* in F.T.A. 2: 217 (1871) *APD acc*

Rhynchosia cyanosperma *Benth. ex Bak.* in F.W.T.A., ed 1, 1: 401, partly.

A stout twiner with elongate racemes of cream coloured flowers, grey velvety fruits and conspicuous blue seeds.

Port. G.: Prabis, Bissau (fr. Mar.) Esp. Santo. 1848! **N. Nig.:** Oke Opin, Ilorin (Dec) Alayi FHI 19267! Gwari Hill, Minna (fl. & fr. Dec.) Meikle 704! **S. Nig.:** Lagos Millen 116!

Also in **French Cameroons**, **Belgian Congo**, **Uganda** and **Angola**.

3. **Rhynchosia albiflora** (*Sims*) *Alston* in Fl. Ceyl. 6, Suppl. 85 (1931), not of Berhaut (1954)

APD: *Synonym of Rhynchosia albae-pauli Berhaut*

APD: *Synonym of Rhynchosia hirta (Andrews) Meikle & Verdc.*

Cylista albiflora *Sims* in Bot. Mag. t. 1859 (1816).

Rhynchosia cyanosperma *Benth. ex Bak.* in F.T.A. 2: 218 (1871), F.W.T.A., ed. 1, 1: 401, partly Bak. f. l.c. 2: 469.

A robust twiner with pale yellow, purple streaked petals, and soft tomentose leaves.

N. Nig.: Naraguta (Nov.) Lely 689! Bauchi Plateau Batten Poole 232!

Widespread in tropical E. Africa, Mascarene Islands India and Ceylon.

4. **Rhynchosia brunnea** *Bak. f.* Leg. Trop. Afr. 2: 468 (1929). *APD acc*

Robust twiner with red flowers and dense brownish indumentum.

S. L.: Wilford! **G. C.:** Tano Offin F.R. (Jan.) Vigne FH 1007!

5. **Rhynchosia pycnostachya** (*DC*) *Meikle* in Kew Bull 1954: 274. *APD acc*

Cylista? pycnostachya *DC.* Prod. 2: 410 (1825).

Rhynchosia calycina *Guill. & Perr.* Fl. Seneg. 1: 214 (1832); F.T.A. 2: 217; Chev. Bot. 205; Bak. f. l.c. 467; F.W.T.A., ed. 1, 1: 401.

Robust twiner with glossy green leaves and long racemes of cream-coloured flowers petals persistent, rusty red in fruit, seeds blue.

Sen.: Cape Verde Perrottet. Zigumchor Chev. 3406 **Gam.:** Ingram! Abuko (fr. Jan.) Dalz. 8028! **Fr. Sud.:** Medinani Chev. 506. **Fr. G.:** Farmar 205! Conakry, Kouria & Fouta Djallon fide Chev. l.c. **S. L.:** T. Vogel 66! Barter! Njala (Dec.–Jan.) Dalz. 8069! Deighton 1855! Kitchom, Samu (fr. Dec.) Sc. Elliot 4318! Port Loko (Dec.) Thomas 6573! Musaia (Dec.) Deighton 4484! **Lib.:** Sinoe Basin Whyte! Kakatown Whyte! Kle, Boporo (Dec) Baldwin 10636! Ganta (fr. Feb.) Baldwin 11011! **IV. C.:** Bingerville Bouroukrou & Zaranou fide Chev. l.c. **G. C.:** Tano Offin F.R. (fr. Jan.) Vigne FH1008! Adamsu (Dec.) Vigne FH 3495! Bobiri F.R. (Jan.) Andoh FH 5094! **Togo:** Amedzofe (fr. Feb.) Irine 168! **S. Nig.:** Ominla (fr. Apr.) Symington FHI 3385! Agulu (Nov) Keay FHI 25591! Eket Talbot! Oban Talbot 1748! **Br. Cam.:** Amba Bay (Jan.) Mann 730! **F. Po:** Mann 88a! (See Appendix p. 259.)

6. **Rhynchosia mannii** *Bak.* in F.T.A. 2: 217 (1871), Bak. f. l.c. 2: 468.

Slender climber with glossy leaves, petals cream with red markings; seeds dark blue; in forest clearings.

S. Nig.: Akure F.R. (fr. Nov.) Latilo FHI 15281! Okomu F.R. (Jan) Brenan 8785! Usonigbe F.R. (Nov.) Meikle & Keay 579! Oban Talbot 1206. **Br. Cam.:** Buea (fr. Jan.) Maitland 195! **F. Po:** (fr. Dec.) Mann 88!

Also in **French Cameroons**, **Ubangi Shari**, **Gabon**, **Belgian Congo**, **Uganda** and **Angola**

7. **Rhynchosia resinosa** (*Hochst. ex. A Rich*) *Bak.* in F.T.A. 2 218 (1871) *Bak. f. l.c. 480. APD acc*

APD: Synonym of Rhynchosia procurrens subsp. latisepala (Hauman) Verdc.

Fagelia resinosa *Hochst. ex A. Rich.* (1847).

Subscandent viscid perennial with yellow flowers

Fr. G.: Timbo (Dec.) Chev. 14631! **N. Nig.:** Bauchi Plateau (Jan.) Lely P. 115! Batten Poole 218! Jos (Nov.) Keay FHI 21436!

Widespread in east central and south tropical Africa

8. **Rhynchosia orthobotrya** *Harms* in Engl. Bot. Jahrb. 54 390 (1917), *Bak f. l.c. 478. APD acc*

Rhynchosia gorsii *Berhaut* in Mém. Soc. Bot. Fr. 1953–54: 6 (1954).

Erect or suberect perennial with erect unbranched racemes of pale yellow flowers fruits glandular-pilose.

Sen.: Niokola-Koba (fr. Apr.) Berhaut 1533!

Also in **A.–E. Sudan**, **eastern Africa** and **Belgian Congo**

9. **Rhynchosia floribunda** *Bak.* in Kew Bull 1897: 262; *Bak. f. l.c. 479.*

APD: Synonym of Rhynchosia procurrens subsp. floribunda (Baker) Verdc.

APD: Synonym of Rhynchosia procurrens subsp. latisepala (Hauman) Verdc.

Trailing plant on open ground with leaves pale green above and greyish beneath, flowers yellow, tinged brown, calyx viscid.

G. C.: Wenchì (Dec) Morton GC 25151! **N. Nig.:** Abuja to Kaduna (Dec) Meikle 741! Sho, Plateau Prov (Nov) Keay FHI 21446! **Br. Cam.:** Mai Idoanu, Gashaka Dist (Jan) Latilo & Daramola FHI 28989!

Also in **Belgian Congo**, **Uganda**, **Kenya**, **Tanganyika**, **Nyasaland**, **N. Rhodesia** and **S.**

10. **Rhynchosia buettneri** *Harms* in Engl Bot Jahrb 30: 90 (1901); *Bak. f. l.c. 469. APD acc*

Scrambling subshrub, stems slightly viscid, leaves dark green above, pale and softly grey felted beneath, flowers yellow-green with dark purple lines, fruits grey felted, seeds dark blue

Fr. G.: Kouroussa (Oct.) Pobégun 961! **G. C.:** Jaketi (Oct.) Morton A. 89! **Togo:** Bismarckburg (Oct.) Buttner 149 **S. Nig.:** Lagos MacGregor 137! Ibadan (fl. & fr. Dec.) Meikle & Keay 858! Wumuye (fr. Jan.) Thomas 2162!

Also in **French Cameroons** and **Upper Ubangi** (See Appendix, p 259)

11. **Rhynchosia densiflora** (*Roth*) *DC.* Prod. 2: 386 (1825); *Bak. f. l.c. 2: 470. APD acc*

Glycine densiflora *Roth* (1821).

Rhynchosia debilis *G. Don* (1832) — F.T.A. 2: 222; F.W.T.A., ed. 1, 1: 401.

Slender twiner, by forest margins, leaves dull green, petals greenish-yellow striped red

Port. G.: Pobresa, Cubisseque (fr. Feb.) Esp. Santo 2375! S. L: Yonibana (Nov.) Thomas 4748! **G. C.:** Kumasi Cummins 240! Morton GC 9685! Ejura Scarp (Dec.) Morton GC 9800! Dedeman (fr. Dec.) Irvine 2102! **S. Nig.:** Lagos (fl. & fr. Mar) Millen 90! Ibadan (fl. & fr. Nov.) Meikle 660! Igbara Oke, Ondo Prov (fl. & fr. Nov) Meikle & Keay 510! Ogwashi (Dec.) Thomas 2056! Oban Talbot 1311! **Br. Cam.:** Victoria (fl. Dec., fr. Feb.) Mann 1249! Maitland 428!

Widespread in tropical Africa, in **S. Tomé** and also in **India**.

12. **Rhynchosia violacea** (*Hiern*) *K. Schum.* in Just. Bot. Jahr. 27, 1: 496 (1901), *Bak. f. l.c. 47.*

APD: Synonym of Rhynchosia viscosa subsp. violacea (Hiern) Verdc.

Dolicholus violaceus Hiern in Cat. Welw. Afr. Pl. 1: 269 (1896).

Rhynchosia viscosa of F.T.A. 2: 222, partly; of F.W.T.A., ed. 1, 1: 401; not of DC.

Perennial herb with straggling shoots, viscid; petals yellow with purple-brown or yellow markings, pods viscid.

Port. G.: Bafata (Oct.) Esp. Santo 2313! **S. L.:** Musaia (fl. & fr. Dec) Deighton 4417! **Togo:** Vane (Nov.) Morton GC 9375! **N. Nig.:** Lokoja (Oct.) Parsons 97! **S. Nig.:** Lagos (fr. Mar.) Millen 157! Ibadan (fl. & fr. Nov.–Jan.) Meikle 663! 970! Kishi to Igoboho (Feb.) Keay FHI 22511!

Also in **Belgian Congo**, **Uganda** and **Angola**.

13. Rhynchosia nyasica Bak. in Kew Bull 1897: 263; Bak. f. l.c. 2: 478. *APD acc*

Rhynchosia glutinosa Harms (1899) — Chev. Bot. 206.

Rhynchosia kerstingii Harms (1913).

Suberect, with lax viscid-hairy branches, flowers yellow with purple streaks.

Fr. Sud.: Balato & Koundian fide Chev. l.c. **Fr. G.:** Beyla (Mar.) Chev. 20899! **S. L.:** Falaba (Mar.) Sc. Elliot 5173! **Togo:** Salaga Krause! Sokode-Basari Kersting 482. **N. Nig.:** Kontagora (fl. & fr. Jan.) Dalz. 45! Meikle 1066! Alagbede F.R. (Feb.) Ejiofor FHI 19809! Ilorin-Jebba road (fr. Mar.) Meikle 1234! Vom Dent Young 68! Bauchi Plateau (Jan.) Lely P. 58!

Also in **French Cameroons**, **Belgian Congo**, **A.–E. Sudan**, **N. Rhodesia**, **Angola** and **Nyasaland**.

14. Rhynchosia sublobata (Schum. & Thonn.) Meikle in Kew Bull. 1951: 176, fig. 3. *APD acc*

Glycine sublobata Schum. & Thonn. (1827).

Rhynchosia caribaea of various authors, including: — F.T.A. 2: 220, partly; Chev. Bot. 205, F.W.T.A., ed. 1, 1: 402, partly; Bak. f. l.c. 2: 474, partly; not of DC.

Rhynchosia macinaca A. Chev. Bot. 206, name only.

Trailing or twining herb with perennial woody rootstock; flowers yellow, lined deep red.

Sen.: Heudelot 401! Tambacounda (fl. & fr. Sept) Berhaut 1710! **Fr. Sud.:** Macina (Sept.) Chev. 24851! **G. C.:** Thonning! Accra Plains (fl. & fr. Oct) Dalz. 9! Irvine 820! Akuse (Oct.) Vigne FH 4049! **Togo:** Yendi (Dec.) Adams & Akpabla GC 4049! Amedzofe (May) Morton GC 7732! Kete Krachi (fl. & fr. Apr.) Morton GC 9099! **Dah.:** fide Chev. l.c. **N. Nig.:** Kontagora (fl. Dec. fl. & fr. Jan.) Dalz. 44! Meikle 1033! Abinsi (Apr.) Dalz. 612! **S. Nig.:** Ado Rowland!

Widespread throughout the drier parts of tropical Africa.

15. Rhynchosia minima (Linn.) DC. var. minima — Prod. 2: 385 (1825); F.T.A. 2: 219, partly, F.W.T.A., ed. 1, 1: 402, partly, Bak. f. l.c. 471. *APD acc*

Dolichos minimus Linn. (1753).

Slender twiner, in **open savannah**, flowers small, brownish yellow.

Sen.: Roger! Heudelot 532! **S. L.:** Musaia (Mar.) Deighton 4604! **G. C.:** Irvine 1611! Accra Plains (July) Brown 335! Irvine 3029! Wa (Dec.) Adams GC 4473! **N. Nig.:** Kano (fr. Dec.) Meikle 808! Katagum (fl. & fr. Sept.) Dalz. 38!

Widespread through the drier parts of tropical Africa, also in W. Indies, tropical America and Asia.

15a. Rhynchosia minima var. memnonia (Del.) Cooke Fl. Bombay, 1: 389 (1903).

APD: Synonym of Rhynchosia minima (L.) DC.

Dolichos memnonia Del. Fl. Egypt 254, t. 38, 3 (1813).

Rhynchosia memnonia (Del.) DC. — F.T.A. 2: 220; Chev Bot 206, F.W.T.A., ed 1, 1: 401; Bak. f. l.c. 473; Berhaut Fl. Sen. 18.

Greyish pubescent trailing herb, with small yellow flowers.

Sen.: Berhaut 705. **Fr. Sud.:** Tile (Aug.) Chev. 3399! **N. Nig.:** Katagum (fl. & fr. July) Dalz. 35! Kukawa (fl. & fr. Jan) E. Vogel 8!

Extends to **Egypt**, **Arabia**, **A.–E. Sudan** and **Somaliland**

15b. Rhynchosia minima var. prostrata (Harv.) Meikle in Kew Bull. 1954: 275. *APD acc*

Rhynchosia memnonia var. *prostrata* Harv. in Fl. Cap. 2: 253 (1862). *R. minima* of F.W.T.A., ed 1, 1: 402, partly

Creeping, or rarely climbing, perennial herb with yellow, brown or purple tinged petals.

G. C.: Accra Brown 388! Akuse A. S. Thomas 23! N. Nig.: Nupe Barter 1590! Jebba (Dec.) Meikle 681! Funtua (fl. & fr. Feb.) Meikle 1226! Lokoja Barter! Mamu (Mar.) Lely 163! S. Nig.: Ogbomosho Hb. Calcut. 15!

Throughout the drier parts of tropical and S. Africa.

16. *Rhynchosia chevalieri* Harms in Engl. Bot. Jahrb. 40: 39 (1907), Chev Bot 206, Bak f. l.c. 2: 471.

Eriosema chevalieri (Harms) Hutch & Dalz F.W.T.A., ed 1, 1: 404 (1928), Kew Bull. 1929: 17.

Stems short and erect from a woody rhizome, upper leaves much reduced, bract like, flowers whitish

Fr. Sud.: Koundian (Feb.) Chev. 422!

Imperfectly known species

1. *Rhynchosia albiflora* Berhaut in Mém Soc. Bot. Fr. 1953–54: 6 (1954), not of (Sims) Alston (1931).

A climbing plant with thinly pubescent stems and leaves, and large subglabrous, falcate fruits Near *R. viscosa* (Roth) DC., but type material inadequate and abnormal.

Sen.: Messira (fl. & fr. Nov) Berhaut 1182!

Imperfectly known species

2. *Rhynchosia* sp.

R. minima of F.W.T.A., ed 1, 1: 402, partly.

Slender climber with yellow flowers and small, ovate leaflets, mature fruits wanted.

N. Nig.: Lely 688! Vom Dent Young 69!

Near to *R. usambarensis* Taub. Imperfectly known species

35. ERIOSEMA

(DC) Desv. — F.T.A. 2: 223.

- | | | |
|---|---|---|
| 1 | Leaves 3 foliolate (or rarely 4–5-foliolate):..... | 2 |
| | Leaves 1-foliolate:..... | 13 |
| 2 | Leaves linear, very acute, up to 18 cm. long and 1–3 cm. broad, softly white-tomentose beneath and with scattered black glands; petiole very short; stipules lanceolate, acute, ribbed, about 1 cm. long, caducous; racemes terminal, slender, with numerous reflexed flowers about 8 mm. long; fruit broadly elliptic, 1 cm. long, densely long-pilose | 1. linifolium |
| | Leaves lanceolate or oblong to ovate, not linear: | 3 |
| 3 | Leaves petiolate, petiole nearly as long as lateral leaflets: | 4 |
| | Leaves sessile or very shortly petiolate, petiole much shorter than the lateral leaflets: | 5 |
| 4 | Flowers 6–9 mm. long; racemes (9–) 14–30-flowered and long-pedunculate; fruits elliptic, 1.3–1.5 cm. long, long-pilose; leaflets ovate or ovate-elliptic, 3–9 cm. long, 1.5–2.5 cm. broad, pubescent on the nerves beneath; stipules subulate-lanceolate, up to 10 mm. long | 2. parviflorum subsp. parviflorum |
| | Flowers 12–15 mm. long; racemes 5–15-flowered; fruits elliptic about 1.5 cm. long; leaflets elliptic to ovate, rather small, 1–3 cm. long, 0.5–2 cm. broad; stipules subulate-lanceolate, about 7 mm. long ... | 2a. parviflorum subsp. collinum |
| 5 | Flowers in long spike-like racemes: | 6 |
| | Flowers capitate or subcapitate: | 12 |
| 6 | Leaflets completely covered or nearly completely covered beneath with a close felt of hairs, usually white: | 7 |
| | Leaflets loosely pilose or pubescent beneath:..... | 9 |
| 7 | Leaves digitately 5-foliolate; leaflets oblanceolate, apex rounded, minutely hairy above, about 2 cm. long and 7 mm. wide; stipules ovate-lanceolate, acute, about 3 mm. long; racemes axillary about as long as the leaves; flowers about 1 cm. long; fruits shortly elliptic about 1.4 cm. long, brown-pilose | 3. molle |

- Leaves 3-foliolate:.....8
- 8 Leaflets digitately 3-foliolate, glabrous above, subsessile, oblanceolate, apex rounded, up to 4 cm. long and 1.2 cm. broad; stipules persistent, lanceolate, acute, about 4 mm. long; racemes axillary, with 15–25 flowers; flowers about 1.2 cm. long; fruits shortly elliptic, about 1.4 cm. long, long-pilose[4. andohii](#)
- Leaflets pinnately 3-foliolate, usually shortly hairy above, oblong-lanceolate, acute to emarginate, 4–10 cm. long, up to 3.5 cm. broad; stipules caducous, triangular, acute, about 2 mm. long; racemes axillary, longer than the leaves, many-flowered; flowers up to 1.5 cm. long; fruits broadly elliptic, 1.5–2 cm. long, densely pilose[5. psoraleoides](#)
- 9 Leaflets ciliate or pubescent with long slender hairs:.....10
- Leaflets pubescent with very short hairs:11
- 10 Leaflets oblong, 2.5–6 cm. long, 1–2.5 cm. broad; stipules lanceolate, about 8 mm. long, long-ciliate; racemes about twice as long as the leaves, shortly pubescent; flowers about 1 cm. long; fruits broadly elliptic, about 1.5 cm. long, long-pilose[6. bauchiense](#)
- Leaflets elongate-lanceolate, 5–11 cm. long, up to 1.5 cm. broad, more or less densely pilose with long slender hairs; stipules lanceolate, about 1.5 cm. long, closely nerved; racemes pedunculate, usually as long as or longer than the leaves; flowers about 9 mm. long; fruits densely pilose, 1.5 cm. long[7. shireense](#)
- 11 Racemes long and slender, 10–20 cm. long, flowers laxly arranged about 1 cm. apart on the rhachis; fruits elliptic, 2 cm. long, loosely pilose; leaflets lanceolate, mucronate, yellow-green above when dry, 3.5–7 cm. long, 0.5–2 cm. broad; stipules subulate-lanceolate, erect, about 1 cm. long[8. sparsiflorum](#)
- Racemes dense, 6–13 cm. long, flowers very closely arranged; fruits elliptic, about 1.5 cm. long, long-pilose; leaflets elliptic or oblanceolate, apiculate, acute, dark-green above when dry, 4–10 cm. long, 1.5–3 cm. broad; stipules triangular, usually reflexed, 1–1.5 cm. long[9. montanum](#)
- 12 Leaflets pubescent mainly on the nerves; bracts linear, shorter than the flowers; leaflets lanceolate, very acute or mucronate, up to 12 cm. long and 2 mm. broad; stipules lanceolate-acuminate, up to 1.5 cm. long; calyx-lobes filiform, long-pilose; valves of fruit curling up, glossy inside[10. glomeratum](#)
- Leaflets covered all over the lower surface with a soft white indumentum; bracts broadly lanceolate, longer than the flowers, with long slender tips; leaflets oblanceolate, rounded or broadly emarginate, 2.5–5 cm. long, 1–2.5 cm. broad, subulate on the upper surface; stipules lanceolate, strongly nerved; valves of fruit curling up, pilose outside, glossy inside[11. griseum](#)
- 13 Leaflet linear or linear-lanceolate, more or less narrowed to base:14
- Leaflet broadly cordate at base:.....16
- 14 Leaflet softly tomentose on both surfaces, white beneath, linear-lanceolate, 7–11 cm. long, 1–1.5 cm. broad; stipules lanceolate, acuminate, 1–1.3 cm. long, tomentellous; stem slender and white with oppressed hairs; flowers about 1.3 cm. long, 5–13 on peduncles 6–8 cm. long; calyx-lobes linear-lanceolate; fruits oblong-elliptic, about 1 cm. long, densely pilose[12. monticolum](#)
- Leaflet villous with long slender hairs especially on margin and midrib:15
- 15 Calyx and leaflet not gland-dotted; stipules about 1.5 cm. long; other characters as above[7. shireense](#)
- Calyx and leaflet strongly gland-dotted; leaflet linear, 4–10 cm. long, about 5 mm. broad; stipules ribbed, lanceolate, acuminate, 5–9 mm. long, ciliate; stem slender and long-pilose; flowers 4–5 mm. long, 2–4 on peduncles 2–4 cm. long; fruits elliptic, 1 cm. long, pilose[13. tenue](#)
- 16 Leaflet densely silky beneath17
- Leaflet loosely or very shortly pubescent beneath.....18
- 17 Leaflet ovate or broadly elliptic, mucronate, rounded or subcordate at base, 7–16 cm long, 3–8 cm. broad, with about 10 pairs of lateral nerves; stipules very large, up to 3 cm. long, appressed-pilose; flowers in a short dense cylindrical raceme; fruits very densely villous[14. pulcherrimum](#)
- Leaflet lanceolate, acute, sessile and rather broad at base, 11–16 cm. long, 2.3 cm broad, glabrous above except the midrib, softly whitish-tomentose beneath, obscurely nerved, stipules lanceolate, 1.5–2 cm long, villous, racemes dense, cylindric, about 7 cm. long in flower, up to 15 cm in fruit; flowers small, reflexed; fruits crowded, about 1 cm long, densely silky-villous and glandular[15. afzelii](#)
- 18 Leaflet almost orbicular, (2)–7–10 cm. long and 5–8 cm. broad, mucronate, cordate, nerves prominent above and beneath and ferruginous with short brown hairs; petiole about 1 cm. long; stipules broadly lanceolate, ribbed, long-acuminate, 1–2 cm long; flowers reflexed in axillary racemes; calyx-lobes linear-lanceolate, less than half as long as corolla; fruits oblong-elliptic, densely pilose[16. chrysadenium](#)
- Leaflet broadly lanceolate, subsessile, cordate and amplexicaule:19
- 19 Peduncle 3–5 cm long, raceme 2–3 cm. long, axillary; leaflet acute, pilose, 4–5 cm. long, 1–2 cm. broad, stipules lanceolate, acute, about 1 cm. long[17. schoutedenianum](#)
- Peduncle 1–2 cm long, raceme about 1.5 cm. long, terminal or axillary; leaflet subacute, shortly pubescent, 4–9 cm. long, 2–3 cm. broad, stipules lanceolate, acute, about 5 mm. long[18. cordifolium](#)

1. **Eriosema linifolium** *Bak. f.* in J. Bot. 33: 228 (1895); *Bak. f. Leg. Trop. Afr.* 2: 499; *Chev. Bot.* 208. *APD acc*

Erect, 1–3 ft. high, from a woody more or less tuberous base; flowers greenish-yellow in a raceme 2–6 in. long.

Fr. Nig.: Gourma to Konkobiri (July) *Chev.* 24310! **N. Nig.:** Abinsi (fr. Nov) *Dalz.* 608! Mando F.R., Birnin Gwari (fl. & fr. Aug.) *Keay FHI* 25998! Anara F.R., Zaria (fl. & fr. July) *Keay FHI* 25957!

Also in **N.E. tropical Africa**.

2. **Eriosema parviflorum** *E. Mey. subsp. parviflorum* — *F.T.A.* 2: 225; *Bak. f. l.c.* 504; *Staner & De Craene* in *Ann. Mus. Congo Belge, sér. 6*, 1: 60 (1934); incl. var. *laxiuscula*, var. *sarmentosa* *Staner & De Craene* (1934). *APD acc*

APD: *Synonym of Eriosema spicatum Hook. f. subsp. spicatum*

Eriosema spicatum *Hook. f.* (1849) — *F.W.T.A.*, ed. 1, 1: 403; *Bak. f. l.c.*

Eriosema djalense *A. Chev. Bot.* 208, partly, name only.

Eriosema caillei *A. Chev. Bot.* 207, name only.

Half shrubby, softly tawny-hairy, erect from a woody base or half-straggling; flowers reddish yellow or yellow.

Fr. G.: Farfar 248! Fouta Djallon Heudelot 759! Mamou (fl. & fr. Mar.) *Dalz.* 8393! **S. L.:** Don! Barter! Lusenya (fr. Dec.) *Sc. Elliot* 4123! Serabu (Apr.) *Deighton* 1683! Mano (Apr.) *Deighton* 1701! Jordan 218! **Lib.:** Grand Bassa (July) *T. Vogel* 1! *Ansell!* *Monrovia* (fl. & fr. Nov.) *Linder* 1520! **G. C.:** Atwabo Fishlock 64! 85! **S. Nig.:** Eket Talbot! **F. Po:** *Mildbr.* 7024. *Tessmann* 2837; 2844. Also in east tropical and S. Africa.

[A specimen from Anara F.R., Zaria, N. Nigeria, *Keay FHI* 22964; has large stipules about 2 cm. long and may be a distinct species.]

- 2a. **Eriosema parviflorum subsp. collinum** *Hepper* in *Kew Bull.* 1956: 130.

APD: *Synonym of Eriosema spicatum subsp. collinum (Hepper) J. K. Morton*

Eriosema djalense *A. Chev. Bot.* 207, partly, name only.

A smaller montane herb similar to the last but with larger flowers

Fr. G.: Kaoulendougou (fl. & fr. Mar.) *Chev.* 21071! **S. L.:** Bintumane Peak, 6,000 ft (May) *Deighton* 5608!

3. **Eriosema molle** *Hutch. ex Milne-Redhead* in *Kew Bull.* 1950: 360 (1951). *APD acc*

Eriosema cajanoides of *F.W.T.A.*, ed. 1, 1: 403, partly.

An erect shrub, up to 6 ft. high, with softly hairy leaflets silvery beneath; flowers yellow.

Iv. C.: Bouaké Scaëtta 3068! **G. C.:** Achimota (fl. & fr. Aug.) *Milne-Redhead* 5124! Shai Hills (Apr.) *Irvine* 1429! Anum, Krepri (Jan.) *Johnson* 567! Sesiamang, Kwahu (Feb.) *A. S. Thomas D.* 139! Dawa R. (fl. & fr. Feb.) *Morton GC* 6461!

4. **Eriosema andohii** *Milne-Redhead* l.c. 361 (1951). *APD acc*

Eriosema cajanoides of *F.W.T.A.*, ed. 1, 1: 403, partly.

Similar in appearance to *E. molle*, but the leaves are 3-foliolate.

G. C.: Afram Plains (Jan.) *Irvine* 620! Mampong Dist. (Nov.) *Vigne FH* 3465! Kintampo (Mar.) *Dalz.* 14! Damongo (July) *Andoh FH* 5191! Wa Dist. (Apr.) *Kitson* 829! Banda, Wenchi (Dec.) *Morton GC* 25169! **Togo:** Alavanya, Ho Dist. (Sept) *St. C. Thompson* 1438! Bimbila (fl. & fr. Dec.) *Morton GC* 6285!

5. **Eriosema psoraleoides** (*Lam.*) *G. Don Gen. Syst.* 2: 348 (1832). *APD acc*

Crotalaria psoraloides *Lam.* (1786).

Rhynchosia cajanoides *Guill. & Perr.* (1832).

Eriosema cajanoides (*Guill. & Perr.*) *Hook. f.* (1849) — *F.T.A.* 2: 227; *Chev. Bot.* 207; *F.W.T.A.*, ed. 1, 1: 403, partly; *Bak. f. l.c.* 508.

Eriosema sericeum of *Chev. Bot.* 209, partly.

(?) *E. argenteum* A. Chev. Bot. 207, name only.

Erect undershrub, grey-silky, more or less branched, 4–5 ft high or more in tall grass; flowers golden yellow, odorous.

Sen.: Messira Berhaut 1778. **Gam.:** Kuntaur Ruxton A. 44! **Fr. Sud.:** Sikoro Chev. 249! **Port. G.:** Bissau (Nov.) Esp. Santo 1372! **Fr. G.:** Heudelot 851! Scaëtta 3192! Kouroussa (Apr.) Pobéguin 700! **S. L.:** Kabala (fl. & fr. Sept.) Thomas 2217! 2230! Falaba (Mar.) Sc. Elliot 5099! Musaia (fl. & fr. Dec.) Deighton 4547! Small 261! Bafodia (Sept.) Small 249! **IV. C.:** Mt. Dourou, 3,600 ft. Chev. 21706. Dotou Chev. 21785. **G. C.:** Odumase (fl. & fr. Aug.) Johnson 1090! Dodowa (Aug.) Johnson 758! Akuse (Aug.) Howes 1205! **Togo:** Kpedsu (fl. & fr. Jan.) Howes 1086! **Dah.:** Le Testu 142! Atacora Mts. Chev. 24018. **N. Nig.:** Kontagora (fl. & fr. Nov.) Dalz. 18! Nupe Barter 1119! Ilorin (fl. & fr. Dec.) Ajayi FHI 19274! Zaria (Sept.) Lamb 56! Jemaa (Mar.) Onochie FHI 7744! **S. Nig.:** Lagos (fl. & fr. Aug.) Punch 12! Abeokuta Irving 107! Ibadan (fl. & fr. Dec.) Onochie FHI 7950! **Br. Cam.:** Bambuto F.R. (Sept.) Olorunfemi FHI 30763!

Common throughout tropical Africa extending to S. Africa.

6. *Eriosema bauchiense* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 403 (1928); Kew Bull. 1929: 17; Bak. f. l.c. 504. *APD acc*

Similar in habit to *E. parviflorum*, 6–12 in high, from a woody base.

N. Nig.: Vom, 3,000–4,500 ft. Dent Young 78! 81!

7. *Eriosema shireense* Bak. f. in Trans. Linn. Soc., ser. 2, 4: 11 (1894); Bak. f. Leg. Trop. Afr. 2: 506; Staner & De Craene l.c. 52. *APD acc*

Eriosema linifolium of Chev. Bot. 208, partly.

Erect, 9–12 in from a woody base, pale or rufous pilose.

IV. C.: Mankono (fl. & fr. June) Chev. 21843! **N. Nig.:** Jos (Mar) Hill 7! **Br. Cam.:** Bamenda (Apr) Maitland 1413! 1560! Fang (fl. & fr. Apr.) Maitland 1478! Bum (fl. & fr. May) Maitland 1537!

Also in **Belgian Congo**, **Kenya**, **Tanganyika**, **Mozambique**, **N. Rhodesia** and **S. Rhodesia** and **Nyasaland**.

8. *Eriosema sparsiflorum* Bak. f. in J. Bot. 33: 144 (1895); Chev. Bot. 209; Bak. f. Leg. Trop. Afr. 2: 510. *APD acc*

Erect, pubescent, 1–1½ ft. high, woody below from a woody rootstock; flowers orange-yellow in lax axillary racemes 3–6 in. long.

N. Nig.: Bauchi Plateau (Jan.) Lely P. 59! Naraguta (June) Lely 19! 336! Vom Dent Young 82!

Also in **A.-E. Sudan** and **Belgian Congo**.

9. *Eriosema montanum* Bak. f. in J. Bot. 33: 142 (1895); Leg. Trop. Afr. 2: 498; Staner & De Craene l.c. 64. *APD acc*

A much-branched half-woody shrub, about 3 ft. high; flowers yellow and clustered.

S. Nig.: Mt. Koloishe, 5,000–5,400 ft., Obudu (fr. Dec.) Savory & Keay FHI 25090! **Br. Cam.:** Bansa Bamenda (fr. Oct.) Tamajong FHI 23495! Bamenda, 6,000 ft. (fl. & fr. Apr.) Maitland 1753!

Also in **Belgian Congo**, **Uganda**, **Tanganyika**, **Nyasaland** and **N. Rhodesia**.

10. *Eriosema glomeratum* (Guill. & Perr.) Hook. f. — F.T.A. 2: 228; Bak. f. Leg. Trop. Afr. 2: 511; Staner & De Craene l.c. 79; Chev. Bot. 208. *APD acc*

APD: *Synonym of Eriosema laurentii* De Wild. *subsp. laurentii*

Rhynchosia glomerata Guill. & Perr. (1832).

Eriosema sericeum Bak. in F.T.A. 2: 226 (1871).

An erect low-branching, softly hairy shrub, with yellow flowers in dense axillary sessile or shortly pedunculate clusters.

Sen.: Heudelot 27! **Gam.:** Mackenzie Skues! **Fr. G.:** Fouta Djallon Heudelot 682! 752! Kouroussa (Apr.) Pobéguin 697! Conakry (Feb.) Chev. 12070! Macenta (fl. & fr. Oct.) Baldwin 9771! **S. L.:** Afzelius! Mahela (Dec.) Sc. Elliot 3948! Njala

Deighton 2129! Gberia Timbako (Oct.) Small 314! **Lib.:** Since Basin Whyte! Kolahun (fl. & fr. Jan.) Bequaert 38! Gbanga (Sept.) Linder 627! Bahtown (fr. Aug.) Baldwin 8035! **IV. C.:** Farmar 369! various localities fide Chev. l.c. **G. C.:** Brass! Achimota Irvine 1517! Essiama (fr. Feb.) Irvine 2332! Sesiamang A. S. Thomas D. 141! **Togo:** Lome Warnecke 224! Amedzofe (fr. Mar.) Morton GC 6506! **N. Nig.:** T. Vogel 32! Fakim Barter 1605! Abinsi (June) Dalz. 596! Bauchi Plateau Lely P. 85! 621! **S. Nig.:** Lagos Isl. Barter 2230! Dalz. 1034! 1219! Awba Hills F.R. (fr. Oct.) Jones FHI 6343! **Br. Cam.:** Wum (fr. July) Ujor FHI 30456!

Generally spread throughout eastern and southern tropical Africa.

[Note: This is a very variable species and a number of varieties have been described, e.g. var. *laurentii* (De Wild.) Bak. f. has appressed hairs upon the stem, rather than typically patent. There also appears to be an undescribed sea coast form with narrow leaves and long peduncle from Sierra Leone: Kent-Tambo (fl. & fr. May) Deighton 2679! A sheet from Liberia is rather similar: King's Farm, near Monrovia Dinklage 3279!]

11. *Eriosema griseum* Bak. in F.T.A. 2: 228 (1871); Bak. f. l.c. 510. *APD acc*

APD: *Synonym of Eriosema griseum var. togense (Taub.) Jacq.-Fél.*

Eriosema sericeum of Chev. Bot. 209, partly.

Eriosema togoense Taub. (1896).

A low-branched undershrub, from 6 in. to 4 ft. high; closely grey-pubescent, from a thick woody root; flowers yellow, concealed by bracts in shortly pedunculate heads; **in savannah.**

IV. C.: Mankono (June) Chev. 21940! Mt. Kangoroma, Baoulé Chev. 22171. **G. C.:** Ejura (Apr.) Williams 171! Bimbila Darko 259! **Togo:** Fasugu, Bismarckburg Büttner 658. **N. Nig.:** Sokoto Ryan 6! Katagum Dalz. 408! Jebba (Feb.) Meikle 1183! Naraguta (May) Lely 8! Bauchi Plateau Batten-Poole FHI 13172! **S. Nig.:** Abo Barter 380! Yoruba country Barter 1225! W. Lagos Rowland!

Also in **A.-E. Sudan**, **French Congo** and **Belgian Congo** and **Angola**.

12. *Eriosema monticolum* Taub. in Engl. Bot. Jahrb. 23: 196 (1896); Bak. f. l.c. 507. *APD acc*

Stems short from a woody rhizome; leaves white beneath; flowers reflexed.

Togo: Agome Mts., 2,200 ft. (Mar.) Bauman 10. **N. Nig.:** Vom, 3,000–4,500 ft., Dent Young 83!

13. *Eriosema tenue* Hepper in Kew Bull. 1956: 130, fig. 7.

APD: *Synonym of Eriosema youngii Hiern ex Baker f. var. youngii*

Eriosema shireense of F.W.T.A., ed. 1, 1: 403, partly (Chev. 13261).

A slender-stemmed herb with linear leaves; flowers yellow tinged red.

Fr. G.: Kaba to Mamou (May) Chev. 18261! **N. Nig.:** Mando, Birnin Gwari (fl. & fr. June) Keay FHI 25868! Vom, 3,000–4,500 ft., Dent Young 70!

14. *Eriosema pulcherrimum* Taub. in E. & P. Pflanzenfam. 3, 3: 375 (1894). *APD acc*

Erect herb, softly white-tomentose, a few inches high up to 1 ft. from a woody rootstock, the leaves folding up over the short raceme of yellow flowers.

G. C.: Drobo (Apr.) Thompson 63! Gambaga (July) Vigne FH 4535! Akpabla 701! **N. Nig.:** Sokoto (June) Dalz. 533! Anara F.R., Zaria (May) Keay FHI 25771! Bauchi Plateau (May) Lely P. 322! **S. Nig.:** Kitson! Lagos colony (fr. Aug.) Phillips!

Also in **A.-E. Sudan**, **French Congo** and **Belgian Congo**, **Gabon** and **Cameroons**.

15. *Eriosema afzelii* Bak. in F.T.A. 2: 225 (1871); Bak. f. Leg. Trop. Afr. 2: 500. *APD acc*

Eriosema subacaulis A. Chev. Bot. 209, name only.

A stiff erect herb, 2–3 ft. high, clothed with silky hairs; flowers reddish, in spike-like racemes.

Sen.: Ouassadou Berhaut 1217; 3041. **Port. G.:** Bafata (Aug.) Esp. Santo 2742! 2753! **S. L.:** Afzelius! Port Loko (fr. Sept.) Glanville 443! Benikoro (Oct.) Thomas 2951! Masisa (fl. & fr. Aug.) Deighton 5127! Bubuya (Sept.) Adames 189!

16. *Eriosema chrysadenium* Taub. in Engl. Bot. Jahrb. 23: 195 (1896); Bak. f. l.c. 501. *APD acc**Eriosema cordatum* of Bak. f. l.c., partly.

Erect undershrub, stem 6 in to 1 ft. high, from a woody rootstock; flowers purple; in grassland.

Br. Cam.: Bum (fr. June) Maitland 1674! Fang (Apr.) Maitland 1403! Bamenda (Apr.) Maitland 1424! Ujor FHI 30057!Also in **French Cameroons**, **French Congo** and **Belgian Congo**, **Angola**, **Uganda** and **Tanganyika**.**17. *Eriosema schoutedenianum* Staner & De Craene** l.c. 74 (1934).*APD: Synonym of Eriosema verdickii var. schoutedenianum (Staner & De Craene) Verdc.**APD: Synonym of Eriosema lebrunii Staner & De Craene*

A slender suberect herb with pilose stems; flowers yellow in oblong racemes.

Br. Cam.: Nkambe, Bamenda (Sept.) Ujor FHI 30225!Also in **French Cameroons**, **A.-E. Sudan**, **Belgian Congo**, and **N. Rhodesia**.**18. *Eriosema cordifolium* Hochst. ex A. Rich.** — F.T.A. 2: 224; Bak. f. l.c. 502. *APD acc*

Stem pubescent, herbaceous and flexuous, from a rootstock which may become fusiform or turnip-like; flowers yellow, in head-like racemes.

N. Nig.: Vom Dent Young 80! Naraguta (fl. & fr. Aug.) Lely 482!Also in **Abyssinia**, **Uganda**, **Kenya** and **Belgian Congo**.**36. MOGHANIA****J. St.-Hil.** in Desv. Journ. Bot. 1: 61 (1813); Hui-Lin Li in Amer. Journ. Bot. 31: 224–228 (1944).**Flemingia Roxb. ex Ait. f.** (1812) — F.T.A. 2: 230; not of Roxb. ex Rottl. (1803).

- 1** Leaves 1 foliolate; leaflet ovate to suborbicular, subacute, 3–8 cm. long, 2.5–5.5 cm. broad, pubescent on both sides; stipules subulate lanceolate; flowers about 1 cm. long, solitary or paired on short pedicels; calyx-lobes linear, acute; corolla a little longer than the calyx; fruits oblong, 1.8 cm. long, slightly pubescent [1. faginea](#)

Leaves 3 foliolate; terminal leaflet oblong-lanceolate, acute, about 8 cm. long and 4 cm. broad, pubescent beneath, upper surface pubescent at first becoming glabrous; stipules lanceolate; flowers about 1 cm. long, in dense axillary clusters; calyx-lobes linear, acute; corolla equalling calyx; fruits oblong, 1.2 cm. long, covered with red gum [2. grahamiana](#)

1. *Moghania faginea* (Guill et Perr.) O. Ktze. Rev. Gen. Pl. 1: 199 (1891).*APD: Synonym of Flemingia faginea (Guill. & Perr.) Baker***Rhynchosia faginea** Guill. & Perr. (1832).**Flemingia faginea** (Guill. & Perr.) Bak. in F.T.A. 2: 230 (1871); Chev. Bot. 209, incl. var. glabra A. Chev.: Bak. f. Leg. Trop. Afr. 2: 513; F.W.T.A., ed. 1, 1: 404.

An erect shrubby plant up to about 10 ft. high, with chestnut-brown branchlets, grey or rufous tomentose; flowers white or purplish.

Sen.: R. Casamance Leprieur 366! **Gam.:** Heudelot! **Fr. Sud.:** Bamako (fl. & fr. Jan.) Chev. 241! **Fr. G.:** Diaguissa Chev. 13605. **IV. C.:** Lower Comoé Chev. 17585. **G. C.:** Nangodi (fl. May, Nov., fr. May) Vigne FH 4663! 4729! Lawra (Dec.) Adams & Akpabla GC 4424! Kunta, Black Volta R. (Mar.) Kitson!**2. *Moghania grahamiana* (Wight & Arn.) O. Ktze.** l.c. (1891).*APD: Synonym of Flemingia grahamiana Wight & Arn.***Flemingia grahamiana** Wight & Arn. Prod. Fl. Penins. Ind. Or. 1: 242 (1834); Brenan in Mem N.Y. Bot. Gard. 8: 423 (1964).**F. rhodocarpa** Bak. in F.T.A. 2: 231 (1871); Bak. f. l.c. 514.

Moghania rhodocarpa (Bak.) Hauman in Fl. Congo Belge 6: 258 (1955).

Eriosema erythrocarpon Beck (1888).

A shrub with woody branches; flowers pale green.

G. C.: Asampanie (fl. & fr. Jan.) Brown FH 2150! R. Ofro F.R. (fl. & fr. Jan.) Vigne FH 2737!

Extends from Ubangi-Shari to Abyssinia, eastern and central tropical Africa, Transvaal, Natal and in **Aden**, southern India and (?) China.

Moghania guineensis (G. Don) O. Ktze. l.c. (1891).

Flemingia guineensis G. Don Gen. Syst. 2: 309 (1832).

The type of this species is not known, but from the description it might be *Bryaspis lupulina* (Planch. ex Benth.) Duvign. Imperfectly known species

37. CAJANUS

DC. — F.T.A. 2: 215.

- 1** A shrub with ribbed shortly silky-pubescent branches; leaves 3-foliolate; leaflets lanceolate, acute, up to 10 cm. long and 3.5 cm. broad, minutely tomentellous and glaucous grey beneath; stipules lanceolate, acute; flowers yellow in subcapitate axillary racemes 6–8 cm. long; corolla 1.5–1.8 cm. long; fruits obliquely subtorulose, beaked, 5–6 cm. long, 3–4-seeded, shortly tomentellous; seeds shining [1. cajan](#)

As above in habit but leaflets obliquely elliptic or obovate, subacute, up to 3.5 cm. long and 1.5 cm. broad, silky-tomentellous beneath, stipules deciduous; fruits oblong, 2–4-seeded, 3 cm. long, tomentose [2. kerstingii](#)

- 1. *Cajanus cajan* (Linn.) Millsp.** in Publ. Field Mus. Nat. Hist. Bot., ser. 2: 53 (1900); Bak. f. Leg. Trop. Afr. 2: 459.

APD: *Synonym of *Cajanus cajan* (L.) Huth*

Cytisus cajan Linn. (1753).

Cajanus indicus Spreng. (1826) — F.T.A. 2: 216; Chev. Bot. 204.

Native of East Indies, cultivated throughout the tropics.

The Pigeon Pea.

- 2. *Cajanus kerstingii* Harms** in Fedde Rep. 14: 196 (1915); Bak. f. l.c. 460. **APD acc**

A shrub 3–7 ft. high with stems less angular than in the preceding species; branchlets and undersurface of leaves shortly white-silky; **in open savannah.**

Sen.: Niokolo-Koba Berhaut 1218. **G. C.:** FH 4578! **Togo:** Sokode-Basari (fr. Sept.) Kersting 570.

38. ATYLOSIA

Wight & Arn. Prod. 257 (1834).

APD: *Synonym of *Cajanus Adans.**

- 1** A slender twiner; stems softly pubescent; leaves 3-foliolate; leaflets obovate, rounded at apex, 2–3 cm. long, 1–2 cm. broad, softly tomentose on both surfaces; flowers in axillary pairs, shortly pedicellate; fruits 3–6-seeded, oblong, 2–2.5 cm. long, septate between the seeds, softly tomentellous, apiculate [scarabaeoides](#)

- Atylosia scarabaeoides* (Linn.) Benth.** in Miq. Pl. Jungh. 242 (1852); Chev. Bot. 205; Bak. f. Leg. Trop. Afr. 460.

APD: *Synonym of *Cajanus scarabaeoides* (L.) Thouars var. *scarabaeoides**

*APD: Synonym of *Cajanus scarabaeoides* (L.) Thouars*

Dolichos scarabaeoides Linn. (1753).

Sen.: Zinguichor, Casamance Chev. 3405. **Port. G.:** Bissau Esp. Santo 1419! **S. L.:** Franziga, Tambakka country Sc. Elliot 5048! **G. C.:** Labadi (fl. & fr. Feb.) Irvine 2740! Tefli to Ada (fl. & fr. June) Morton GC 9265!

Also in **Zanzibar** the **Mascarene Islands** and widely spread in Asia

39. CLITORIA

Linn. — F.T.A. 2: 176.

- 1 Leaves pinnate; leaflets 5–7, elliptic, rounded or emarginate at apex, 3–4.5 cm. long, 1.5–3 cm. broad, shortly pubescent beneath; flowers solitary, very shortly pedicellate, 4–5 cm. long; bracteoles rounded, nervose, about 1/3 as long as the calyx; calyx about 1.5 cm long, lobes nervose, acute; fruits flat, linear, beaked, about 10 cm. long and 1 cm. broad, sparingly pubescent *L. ternatea*

Leaves 3 foliolate; leaflets elliptic or ovate-elliptic, rounded or emarginate at apex, 4–7 cm. long, 1.5–3.5 cm. broad, more or less pubescent beneath; flowers 2–3 on axillary peduncles; bracteoles ovate, pointed; fruits about 4 cm. long, with a rib up the middle of the valves *2. rubiginosa*

1. *Clitoria ternatea* Linn. — F.T.A. 2: 177; Chev. Bot. 194; Bak. f. Leg. Trop. Afr. 2: 428; Wilczek in Fl. Congo Belge 6: 265, fig. 7. *APD acc*

A climber, somewhat shrubby below, with flowers deep blue, occasionally pure white

Sen.: Roger! Heudelot 437! Dakar Chev. 3395, 15818. **Gam.:** Kuntaur Ruxton 20! **Fr. G.:** Conakry Chev. 12039. **S. L.:** Barter! **G. C.:** Irvine 1407! Accra Brown 401! **Dah.:** Abbo to Massé (Feb.) Chev. 22990! **N. Nig.:** Sokoto (Nov.) Moiser 26! Lokoja (fl. & fr. Oct.) Parsons L. 84! Gombe (Oct.) Lely 664! **S. Nig.:** Abeokuta Barter 3394!

Widely grown for ornament in the warmer parts of the world.

2. *Clitoria rubiginosa* Juss. ex Pers. Syn. 3: 303 (1807); Bak. f. l.c. 429.

*APD: Synonym of *Clitoria falcata* Lam.*

Clitoria glycinoides DC. (1825).

A more or less pubescent twiner, with fragrant flowers about 2 in. long, white streaked with mauve or red.

Sen.: Niayes Berhaut 1619. **Port. G.:** Fulacunda (May) Esp. Santo 2024! **Lib.:** Gbau, Sanokwele (fr. Sept.) Baldwin 9412! **S. Nig.:** Lagos Millen 129! Foster 16! Olokemeji (Aug.) Foster 319! Oban Talbot 1305!

A native of tropical America, presumably introduced.

Clitoria laurifolia Poir.

It has been introduced from tropical America and is sometimes cultivated in our area.

Clitoria cajanifolia (Presl) Benth.

It has been introduced from tropical America and is sometimes cultivated in our area.

40. AMPHICARPA

Elliott in Journ. Acad. Nat. Sci. Philadelp. 1: 372 (1817). APD acc

- 1 Climber; branchlets slender, hirsute with reflexed hairs; leaves 3-foliate; leaflets ovate, with long mucronate tip, about 5 cm. long and 3 cm. broad, softly pubescent on both surfaces; lateral nerves about 7 pairs; stipules lanceolate, about 1 cm. long, closely striate and pubescent; stipels filiform; racemes axillary, about as long as the leaves, calyx lobes with filiform tips; fruits flat, linear-oblong, about 3.5 cm. long, ciliate on each margin *africana*

Amphicarpa africana (Hook. f.) Harms in Fedde Rep. 17: 136 (1921); Bak. Leg. Trop. Afr. 2: 355. *APD acc*

Shuteria africana Hook. f. (1864) — F.T.A. 2: 177; F.VV.T.A., ed. 1, 1: 405.

A herbaceous climber, fruits often marked with a dark longitudinal band.

Br. Cam.: Cam. Mt. 7,000 ft. (fr. Nov.) Mann 1974!

Also in eastern tropical Africa from Abyssinia to Nyasaland.

41. CENTROSEMA

DC. — F.T.A. 2: 176.

- 1 Calyx truncate, 3 mm. long, 10 mm. broad; fruits linear, about 15 cm. long and 1 cm. broad, with 2 prominent longitudinal ribs, and a straight beak 2 cm. long; racemes 3–4 flowered; standard about 4 cm. long; a pair of bracteoles 1.3 cm. long envelops bud, caducous later; leaves 3 foliolate; terminal leaflet rhomboidal to broadly lanceolate, glabrous, apiculate, 6–10 cm. long, 3–8 cm. broad; stipules lanceolate, about 1 cm long and 5 mm. broad [1. plumieri](#)

Calyx deeply 5 fid, lowest lobe much longer than the others; beak of fruit about 1 cm. long: **2**

- 2 Leaflets sparsely pubescent, elliptic, 4–6 cm. long, 2–3 cm. broad, slightly acuminate, mucronate; stipules lanceolate, 2–3 mm. long; racemes 2–3-flowered; standard about 3 cm. long; a pair of bracteoles 7 mm. long envelops bud; calyx lobes triangular, acute, the lowest linear 6 mm. long; fruits linear with broad margins, 8–12 cm long, 6 mm. broad [2. pubescens](#)

Leaflets glabrous, oblong lanceolate, 2–4 cm. long, 1–2 cm. broad, obtuse to subacute, mucronate; stipules lanceolate, 1 mm. long; racemes 2–3-flowered; standard about 1.5 cm. long; a pair of bracteoles about 4 mm. long envelops bud; calyx-lobes subulate, the lowest 4 mm. long; fruits linear, 6–8 cm. long, 3 mm. broad [3. virginiana](#)

1. *Centrosema plumieri* (Turp.) Benth in Ann. Wien. Mus. 2: 118 (1839); Wilczek in Fl. Congo Belge 6: 272. *APD acc*

Clitoria plumieri Turp. (1807).

A twiner with large pale yellow flowers.

G. C.: Axim (fr. Feb.) Irvine 2211! Aburi Akpabla 955! Kumasi (fr. Oct.) Baldwin 13474! **S. Nig.:** Benin Lamb! Sapoba (fr. Nov.) Meikle 536! Ujor FHI 23930!

Introduced from tropical America as a cover crop and green manure.

2. *Centrosema pubescens* Benth. l.c. 119 (1839); Wilczek l.c. *APD acc*

A creeper with shortly pubescent stems and leaves; flowers pink mauve or white with purple markings.

S. L.: Freetown (June) Deighton 2701! Njala (fl. & fr. Nov.) Deighton 2549! Rokupr (fl. & fr. Nov.) Jordan 372! 373! **G. C.:** Achimota (Oct) Morton A. 62! Axim (Mar.) Morton GC 8517! Kumasi (Oct.) Baldwin 13465! **Togo:** Kpeve (fl. & fr. Jan.) Irvine 1738!

Introduced from America as a cover crop

3. *Centrosema virginiana* (Linn.) Benth. — F.T.A. 2: 176; Bak. f. Leg. Trop. Afr. 2: 429. *APD acc*

Clitoria virginiana Linn. (1753).

A slender stemmed almost glabrous climber flowers pale blue.

G. C.: Cape Coast (fl. & fr. Sept.) Dalz. 91! T. Vogel.

Introduced from America as a cover crop.

42. MUCUNA

Adans. — F.T.A. 2: 184.

- 1 Stems erect; leaves 3 foliolate; leaflets all similarly ovate, equal in size, margins slightly undulate, apex

mucronate or emarginate, lateral leaflets only slightly unequal-sided at base, closely appressed pubescent beneath, 6–7 cm. long and about 3 cm. broad; petiole about 4 cm long; rhachis of inflorescence short, about 4 cm. long; bracts ovate, about 1 cm. long; calyx 4-lobed to about 1/2, lobes lanceolate; flowers purple, rather clustered; standard about 2.5 cm. long; fruits oblong, shortly beaked, covered with non-urticating hairs, about 6 cm long and 1.3 cm. broad, laterally compressed [1. stans](#)

Stems climbing; leaves 3 foliolate, terminal and lateral leaflets of different shapes: **2**

2 Flowers white, cream or yellow; fruits with urticating bristles: **3**

Flowers purple, about 4 cm. long; calyx rather deeply 4 lobed, grey silky pubescent; bracts caducous: **5**

3 Flowers more or less umbellate; leaves silky-pubescent beneath; leaflets obliquely ovate, shortly acuminate, up to 15 cm. long and 14 cm. broad; peduncle short; calyx 4 lobed to about 1/2, lobes lanceolate; fruits oblong, up to 15 cm. long, prominently and obliquely transversely ridged, hispid with urticating hairs; seeds suborbicular, about 2.5 cm. diam. with a long hilum around about 4/5 of the circumference [2. sloanei](#)

Flowers arranged in elongated, often zigzag, or short racemes: **4**

4 Rhachis of inflorescence very zigzag; peduncle very long and whip like; calyx subtruncate; standard very broad, about 4 cm long; fruits oblong or obovate, up to 20 cm. long and 6 cm. broad, transversely and obliquely ridged, covered with urticating hairs; seeds orbicular, 3.5 cm. diam., hilum as in No. 2; leaves glabrous or sparsely pilose beneath; leaflets obliquely ovate, rounded at base, abruptly acuminate and mucronate at apex, up to 15 cm. long and 8 cm. broad, 3-nerved at base, finely reticulate on both surfaces [3. flagellipes](#)

Rhachis of inflorescence almost straight, not zigzag; calyx 4 lobed with upper lobe emarginate at apex, lowest lobe frequently 1–2 cm. long; standard 5–8 cm. long; fruits irregularly twisted, about 7 cm. long, old style persistent when young, densely covered with brown or reddish-yellow urticating hairs; leaves with fine appressed pubescence on both surfaces; terminal leaflet rhomboid, cuneate at base, acute at apex; lateral leaflets very unequal-sided at base [4. poggei var. occidentalis](#)

5 Fruits very setose with yellowish urticating hairs, curved, about 9 cm. long, faintly longitudinally ribbed; seeds small, broadly elliptic, mottled reddish, with a short hilum; leaves appressed pilose on both sides, especially beneath; leaflets very obliquely ovate, unequal-sided and rounded at base, acutely mucronate, up to 20 cm. long and 14 cm. broad; stem furrowed [5. pruriens var. pruriens](#)

Fruits appressed-pubescent with brown, becoming grey, non-urticating hairs, slightly curved, with a marked short beak, about 7 cm long, with irregular longitudinal ribs; seeds black and shining, 10–12 mm. long, with a white hilum; leaves sparsely appressed-pubescent on both sides; leaflets very obliquely ovate, unequal-sided, very acutely mucronate, up to about 17 cm. long and 10 cm. broad; stem striate [5a. pruriens var. utilis](#)

1. *Mucuna stans* Welw. ex Bak. in F.T.A. 2: 187 (1871); Bak. f. Leg. Trop. Afr. 2: 381. *APD acc*

An erect much branched shrub 4–6 ft high; flowers deep purple.

Br. Cam.: Bamenda Johnstone 189/31.

Also in **Belgian Congo, Angola, Nyasaland, N. Rhodesia, Tanganyika** and **Uganda**.

2. *Mucuna sloanei* Fawc. & Rendle in J. Bot. 55: 36 (1917); Fl. Jam. 4: 53, fig. 16 (1920). *APD acc*

Mucuna urens of F.T.A. 2: 185; Chev. Bot. 196; F.W.T.A., ed. 1, 1: 406; Bak. f. l.c. 379; not of (Linn.) Medic.

A climber; stem with appressed whitish hairs; flowers creamy or yellowish of waxy consistence, 2 in long or more, the standard broad about 1/2 length of the wings and keel

Port. G.: Bissau Esp. Santo 1654! **S. L.:** Jigaya (Sept.) Thomas 2728! Regent (Dec.) Sc. Elliot 4325! Njala (fl. & fr. Dec.) Deighton 1802! **Lib.:** Gbanga (Sept.) Linder 470! **IV. C.:** Bingerville Chev. 15311. Tingouela (fr. Dec.) Chev. 22574! **G. C.:** Aburi (fr. Jan.) Brown 936! Accra Don! Medea (Nov.) Morton A. 133! **Togo:** Misahöhe (Nov.) Mildbr. 7327! **S. Nig.:** Lagos (Dec.) Dalz. 1228! Brass Barter 1875! Ibadan Newberry 115! Oban Talbot 1317! **Br. Cam.:** Victoria Winkler 539! **F. Po:** T. Vogel 199! Barter 1610! Mann 42!

Widespread in the tropics.

3. *Mucuna flagellipes* T. Vogel ex Hook. f. — F.T.A. 2: 185; Chev. Bot. 196; Bak. f. l.c. 379. *APD acc*

A more or less glabrous lofty climber, with creamy white or yellowish flowers, subtended by grey-silky bracts, turning black on drying.

S. L.: Wanje R. (Oct.) Fisher 33! Liange (Sept.) Deighton 2227! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 505! Brewersville (fl. & fr. Sept.) Barker 1061! 1074! Bobei Mt. (fr. Oct.) Baldwin 9572! **IV. C.:** fide Chev. l.c. **G. C.:** Tarkwa Vigne FH 1258. Masiasso Foggie FH 221. **S. Nig.:** Nun R. T. Vogel 1! Ijebu Ode (Aug.) Punch 1! Akure F.R. (Aug.) Jones FHI 20207! **F. Po:** Barter! Mann 21!

Also in **French Cameroons, Belgian Congo, Angola** and **Uganda**. (See appendix, p. 252.)

4. **Mucuna poggei** var. **occidentalis** *Hepper* in Kew Bull. 1956: 127, fig. 6. *APD acc*

A climber 30–40 ft. high, bearing long inflorescences of large yellow or green-tinged white flowers.

S. L.: Kabala (fr. Sept.) Thomas 2218! Musaia (fl. & fr. Sept.) Deighton 5580! 5600! Falaba (Sept.) Small 310! **G. C.:** Ejura (Aug.) Chipp 735! **Togo:** Misahöhe Pass (Aug.) Gillett 66! Bismarckburg Bütlner 4. **N. Nig.:** Vom, 3,000–4,500 ft., Dent Young 67! **S. Nig.:** Udi to Okwoga (Aug) Kitson! Ogoja Rosevear 71/29!

Also in **French Cameroons** and **Ubangi-Shari**.

5. **Mucuna pruriens** (Linn.) DC. var. **pruriens** — F.T.A. 2: 187; Bak. f. l.c. 380; Chev. Bot. 196. *APD acc*

Dolichos pruriens Linn. (1754).

A lofty climber, with more or less pubescent stems; flowers deep purple to almost black; fruit densely clothed with rusty stinging hairs.

Port. G.: Bissau (fr. Dec.) Esp. Santo 1588! **S. L.:** Morson! Kambia (fr. Dec.) Sc. Elliot 4369! Kissi country Fisher 29! Kumrabai (fr. Dec.) Thomas 7034! **Lib.:** Bakratown (Oct.) Linder 858! Wohmen (fr. Oct.) Baldwin 10087! **G. C.:** Ejura Scarp (fr. Dec.) Morton GC 9614! **Togo:** Misahöhe Mildbr. 7378! **N. Nig.:** Kontagora (fl. & fr. Dec.) Dalz. 32! Nupe Barter 1155! **S. Nig.:** Ogun R. Millen 124! Oban Talbot 1316! Abokum (fr. Jan.) Holland 292!

Widespread in the tropics. (See Appendix. p. 252.)

5a. **Mucuna pruriens** var. **utilis** (Wall. ex Wight) Bak. ex Burck in Ann. Jard. Bot. Buitenzorg 11: 187 (1893). *APD acc*

Mucuna utilis Wall. ex Wight (1840).

A tall climber with silky pods about 4 in long; flowers purple. A Velvet Bean.

Port. G.: Bissau (fl. & fr. Dec.) Esp. Santo 1588! **Fr. G.:** Nzérékoré (fl. & Fr. Oct.) Baldwin 9729! **S. L.:** Njala (Sept.) Deighton 2102!

Cultivated in many parts of the tropics and introduced to Africa from tropical Asia.

Mucuna cochinchinensis (Lour) A. Chev.

Mucuna nivea (Roxb.) DC.

Which has white flowers and fruits with non-urticating hairs is cultivated in S. Nigeria and in Senegal.

43. **ERYTHRINA**

Linn. — F.T.A. 2: 181.

- 1 Leaves, petioles and branchlets, densely tomentose; leaflets usually broader than long, 8–13 cm. long, 9–15 cm. broad, broadly cuneate at base, rounded, emarginate or mucronate at apex, sometimes with prickles on nerves above; petioles about 17 cm. long with a few prickles; flowers 2–3 cm. long, standard narrow and curved like an S; calyx with 5 equal lobes, about 1 cm. long; fruits moniliform, 3–4-segmented; a savannah tree [1. sigmoidea](#)
- Leaves glabrous or slightly tomentellous, longer than broad, more or less acute: [2](#)
- 2 Limb of calyx linear-lanceolate, bifurcate at apex, about 2.5 cm long, tube about 1 cm. long, glabrous or minutely pubescent; flowers in twos and threes on stiff, many flowered racemes; leaflets (of young shoots) prickly above on nerves as on rhachis, 12–23 cm long, 10–16 cm. broad, the lateral leaflets obliquely ovate, the terminal broadly elliptic; a tall forest tree [2. excelsa](#)
- Limb of calyx variously dissected or entire, tomentellous [3](#)
- 3 Savannah tree; calyx without a dissected limb, almost glabrous; standard 2.5–4 cm. long; bracts inconspicuous, 4 mm. long, early caducous; fruits moniliform, stipitate, becoming twisted, about 12 cm. long, closely puberulous; seeds bright red, smooth and shiny; leaflets lanceolate to broadly ovate, rounded or cuneate at base, rounded to shortly acuminate at apex, 7–15 cm. long, 4–10 cm. broad; petioles slightly grooved above, about 2 mm. diam., thorny [3. senegalensis](#)
- Forest trees; limb of calyx not entire: [4](#)
- 4 Small trees 6–15 m. high; flowers scarlet: [5](#)
- Large tree, 20–30 m. high; flowers pink; limb of calyx 1.5–3 cm. long, about 1 cm. broad, jagged lobate at apex,

contracted at base; leaflets ovate, 10–15 cm. long, 6–9 cm broad, shortly acuminate; fruits moniliform, 5–15 cm. long, twisted or curved, grey puberulous; seeds oblong, shining red [6. mildbraedii](#)

- 5 Petioles with a definite groove above, 1–2 mm. diam., thorny; leaflets oblong to ovate, rounded to shortly acuminate at apex, rounded or obtuse at base, 9–16 cm. long, 5–9.5 cm. broad; limb of calyx variable, with from 3 or 4 lobes 2–3 mm. long, to several irregular linear lobes 4–9 mm. long; bracts more or less conspicuous, longer than the young buds, 5–9 mm. long, caducous; standard 3–5 cm. long; fruits similar to No. 3 [4. vogelii](#)

Petioles terete and only slightly longitudinally striate, 3 mm. diam; leaflets rhomboid ovate, 14–22 cm. long, 11–22 cm. broad, minutely pubescent beneath; calyx with 5 similar lobes at apex 1–10 mm. long; fruits strongly moniliform about 3 cm. diam., the segments eventually hanging together by strands; seeds keel shaped, scarlet, 13 mm. long [5. addisoniae](#)

1. *Erythrina sigmoidea* *Hua* in Bull. Mus. Hist. Nat., sér. 1, 3: 327 (1897); Bak. f. Leg. Trop. Afr. 2: 370; Aubrév. Fl. For. Soud.-Guin. 322, t. 66, 6, t. 67. *APD acc*

Erythrina dybowskii *Hua* (1898) — Bak. f. l.c. 371.

Erythrina eriотricha *Harms* (1913) — Bak. f. l.c., Aubrév l.c. t. 66, 1–2.

A small [savannah](#) tree, 10–20 ft. high, stems armed with stout recurved prickles; flowers red, in racemes nearly as long as the leaves.

Port. G.: Bafatá (June) Esp. Santo 2693! **Fr. G.:** Timbo, Fouta Djallon (May) Maclaud & Miquel 49! **IV. C.:** Samankono Serv. For. 2853. **N. Nig.:** Bauchi Plateau (fl. & fr. Apr.) Lely P. 213! Vom (Apr.) Morton K. 384!

Also in [French Cameroons](#) and [Chad](#).

2. *Erythrina excelsa* *Bak.* in F.T.A. 2: 183 (1871); Bak. f. l.c. 377; Louis in Bull. Jard. Bot. Brux. 13: 317. *APD acc*

Erythrina sereti *De Wild.* (1907).

A tall tree, with bole 60–80 ft. high, pale bark armed with strong prickles; flowers red when tree is leafless.

Br. Cam.: Ambas Bay (Jan.) Mann 704! Buea (Feb.) Dalz. 8181!

Also in [Belgian Congo](#), [A.-E. Sudan](#), [Uganda](#) and [Tanganyika](#).

3. *Erythrina senegalensis* *DC.* — F.T.A. 2: 181, excl. syn. *E. vogelii* Hook. f.; Chev. Bot. 195; Bak. f. l.c. 369, Aubrév. Fl. For. C. Iv. 1: 296, t. 118 A; Fl. For. Soud.-Guin. 322, t. 66, 3–4. *APD acc*

Usually a small tree, 10–15 ft. but sometimes attaining a height of 40–50 ft.; armed with stout prickles slightly recurved from a woody base; conspicuous with scarlet flowers, usually when leafless; standard petal folded flat; [in savannah country and commonly planted as a hedge](#).

Sen.: Perrottet. Cayor (fr. Feb.) Dollinger! **Gam.:** Mungo Park! Brown Letter 25! **Fr. Sud.:** Oualia (fr. Dec.) Chev. 34! **Fr. G.:** Scaëtta 3349! Timbo Pobéguin! **S. L.:** Hutton! Kirk 43! Digisinn country (fl. & fr. Jan.) Sc. Elliot 4516! Gberia Timbako (Oct.) Small 456! **Lib.:** Yangi (Sept.) Linder 855! Platah (Dec.) Baldwin 12521! **IV. C.:** Morénou (Nov.) Chev. 22430! fide Chev. l.c. **G. C.:** Achimota (Jan.) Irvine 1935! Mangkuma to Soggala (fr. Feb.) Kitson 886! Banda, Wenchi (fl. & fr. Dec.) Morton GC 25265! **Togo:** Lome Warnecke 21! Misahöhe (Nov.) Mildbr. 7239! **Dah.:** Burton! Porto Novo Chev. 22855. Zagnanado Chev. 23060. **N. Nig.:** Borgu Barter 836! Anara F.R. (Sept.) Olorunfemi FHI 24386! Kontagora (Oct) Dalz. 251 **S. Nig.:** Foster! Abeokuta Millen 77 1 Olokemeji! (Sept) A. F. Ross 4!

Also in [French Cameroons](#)

[*E. senegalensis* and *E. vogelii* are undoubtedly closely related and thorough field work may show either that they are not specifically distinct or that there are good distinguishing characters which are not obvious on dried specimens.]

4. *Erythrina vogelii* *Hook. f. Fl. Nigrit. 307* (1849). *APD acc*

Erythrina senegalensis of F.T.A. 2: 181, partly; F.W.T.A., ed. 1, 1: 406, partly; Bak. f. l.c., partly.

Erythrina bancoensis *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 82: 603 (1036); Aubrév Fl. For. C. Iv. 1: 298, t. 118 (1936).

Erythrina vignei *Burt Davy* (1937), name only.

A small tree 20–50 ft. high, of [forest and abandoned forest clearings](#), with woody conical prickles; flowers scarlet like the last.

Iv. C.: Banco (Dec.) Aubrév. 619! 1903! **G. C.:** Akwapim Hills (Nov.) Johnson 778! Asebu (Feb.) Irvine 2006! Dunkwa (Aug.) Vigne FH 1324! **S. Nig.:** Lagos Millen 49! MacGregor 143! Idanre Hills (Oct.) Keay FHI 25504! Ibadan (Dec.) Chizea FHI 8150! **F. Po:** T. Vogel 105!

[See note under *E. senegalensis*]

5. ***Erythrina addisoniae* Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 406 (1928); Kew Bull. 1929: 17; Bak. f. l.c. 373; Aubrév. Fl. For. Soud.-Guin 324. E. sp. of Aubrév Fl. For. C. Iv. 1: 298. **APD acc**

A tree about 60 ft. high, armed with prickles on the trunk and branches flowers red, 3–7 at the end of the rhachis.

S. L.: Karene Addison! Kenema (fr. Oct.) Deighton 4143! **Iv. C.:** Divo to Tiassalé Aubrév 1348. **G. C.:** Kumasi (fr. May) Vigne FH 1127! Mampong (May) Vigne FH 1183! Mpraeso (fl. & fr. June) Beveridge FH 3022! **S. Nig.:** Ilugun to Olokemeji (fr. Sept.) Onochie FHI 34328!

6. ***Erythrina mildbraedii* Harms** in Mildbr. Wiss. Ergebn. 1907–8: 264, t. 30 (1911). **APD acc**

Erythrina altissima* A. Chev.** (1912) Chev. Bot. 195; F.W.T.A., ed. 1, 1: 406; Bak. f. l.c. 377; Aubrév. Fl. For. C. Iv. 1: 298 t. 119. ***Erythrina klainei of F.W.T.A., ed. 1, 1: 406, not of Pierre ex Harms.

A tall tree, 60–100 ft. or more high, buttressed at the base, prickles on the trunk and branches flowers usually in threes, corolla and calyx limb pink, in copious softly tomentose panicles, appearing when the tree is leafless.

Fr. G.: Souradou (Jan.) Chev. 20584! **S. L.:** Lane-Poole 323! Pendembu (Jan.) Unwin & Smythe 63! Bamayama (Jan.) Deighton 3884! **Iv. C.:** Nzo, Upper Cavallv Chev. 20998. Man Chev. 21547 **G. C.:** Aburi (Feb.) Johnson 880! Tano to Offin (Jan.) Vigne FH 1014! Atuna (Dec.) Vigne FH 3508! **S. Nig.:** Lagos, Abeokuta (Jan.) Burton! Ibadan South F.R. (Jan.) Keay FHI 10798! Oban Talbot 114!

***Erythrina glauca* Willd.**

Is cultivated in Victoria Botanic Gardens, British Cameroons, and may be naturalized in the Calabar district of S. Nigeria.

***Erythrina poeppigiana* (Walp.) O. F. Cook**

Occurs in Sierra Leone and S. Nigeria (Calabar).

***Erythrina pallida* Britton & Rose**

Has been introduced into Sierra Leone. These are all tropical American species. The Asiatic species

***Erythrina fusca* Lour.**

Is recorded from the Gold Coast

***Erythrina indica* Lam**

From Senegal.

***Erythrina* sp. cf. *E. buesgenii* Harms** in Engl. Bot. Jahrb. 49: 443 (1910). **APD acc**

S. Nig.: Rosevear 7/30!

[Incomplete material, flowers only; same as Mildbr. 7787 from French Cameroons.] Imperfectly known species.

44. CALOPOGONIUM

Desv. in Ann. Sci. Nat., sér. 1, 9: 423 (1826).

- 1 Stem climbing or prostrate, densely brown pilose; leaves 3-foliolate, leaflets elliptic, lateral leaflets rounded and unequal-sided at base, apex obtuse or slightly apiculate, pubescent; racemes short, long pedunculate; calyx deeply 5-lobed, lobes narrowly lanceolate, pilose, about 8 mm. long; corolla little longer than calyx; fruit narrowly oblong, 3–4 cm long, 5 mm. broad, very densely brown pilose, 5–8-seeded; seeds square, light brown, 3 mm. broad [mucunoides](#)

***Calopogonium mucunoides* Desv.** l.c. (1826); Amshoff in Fl. Suriname 2: 196. **APD acc**

A hairy climber with deep blue flowers

Port. G.: Bissau (fl. & fr. Oct.) Esp. Santo 2569! **Fr. G.:** Nzérékoré (Oct.) Baldwin 9719! **Lib.:** Gbanga (fr. Dec.) Daniel 41! **G. C.:** Aburi (fr. Feb.) Akpabla 949! Kumasi (fl. & fr. Dec.) Morton GC 9692!

A native of tropical America; naturalized and cultivated in Africa.

45. NEORAUTANENIA

Schinz. in Bull.

Herb Boiss. 7: 35 (1899).

- 1 Climbing herb; stems tomentose or glabrescent; leaves 3-foliolate; leaflets irregularly 3-lobed to subentire, very broadly and obliquely ovate, cuneate at base, acute at apex, 6–12 cm. long, thinly pubescent beneath; stipules lanceolate, 6 mm. long; stipels spreading, linear subulate, 4–5 mm. long; racemes axillary, leafless, (5–) 10–20 cm. long; flowers about 1 cm. long; fruits 12–15 cm. long, 1.5 cm. broad, softly tomentellous

.....[pseudopachyrhiza](#)

Neorautanenia pseudopachyrhiza (*Harms*) *Milne-Redhead* in Kew Bull. 1950: 355 (1951). Wilczek in Fl. Congo Belge 6: 289, fig. 12.

APD: *Synonym of Neorautanenia mitis* (*A. Rich.*) *Verdc.*

Dolichos pseudopachyrhizus *Harms* in Engl. Bot. Jahrb. 26: 320 (1899), incl. var. *subintegrifolia* *Harms*; Engl. Pflanzenw. Afr. 3, 1: 680, fig. 312; Bak. f. Leg. Trop. Afr. 2: 452; F.W.T.A., ed. 1, 1: 410.

A strong climber over shrubs or sometimes suberect; flowers blue purple.

G. C.: Gambaga (June) Akpabla 666! **Togo:** Kling 20. **N. Nig.:** Nupe Barter 1625! Kontagora Dalz. 555! Munchi country (Feb.) Dalz. 604! Panyam (July) Lely 419! **S. Nig.:** Lagos MacGregor 201!

Extends to E Africa, **Belgian Congo** and **Angola**.

46. GALACTIA

Adans. — F.T.A. 2: 188.

- 1 Twiner; branches elongated, softly pubescent; leaves 3-foliolate; leaflets oblong elliptic, rounded at both ends, mucronate at apex, 2–3.5 cm. long, 1–1.5 cm. broad, thinly pubescent beneath; stipules subulate-lanceolate; racemes axillary, few-flowered, up to 10 cm. long; calyx divided to the middle, the lowermost lobe the longest; fruits broadly linear, 4–5 cm long, with a curved beak at the tip, shortly pubescent[tenuiflora](#)

Galactia tenuiflora (*Willd.*) *Wight & Arn.* — F.T.A. 2: 188; Bak. f. Leg. Trop. Afr. 2: 382. *APD acc*

Glycine tenuiflora *Willd.* (1803).

Galactia hedysaroides of F.W.T.A., ed. 1, 1: 407, partly (T. Vogel; Dalz. 80).

Twining or trailing; flowers pink or blue, the standard petal glabrous.

G. C.: T. Vogel! Accra (July) Dalz. 80! Deighton 3405! Achimota (Apr.) Irvine 843! 1607! Winnebah Plain (fr. Feb.) Dalz. 8294! **N. Nig.:** Abinsi (June) Dalz 587!

Also in east tropical Africa, **Mascarene Islands** and **India**.

47. GLYCINE

Linn. — F.T.A. 2: 178.

- 1 Flowers clustered in axils of leaves; standard petal pubescent; stem shortly pubescent with spreading hairs; leaflets narrowly elliptic, rounded at each end, mucronate, 3–5 cm. long, 1.5–2.5 cm. broad, pubescent beneath; stipules subulate; calyx lobes linear lanceolate, pilose, shorter than the corolla; fruits broadly linear, slightly curved, flat, about 4 cm. long and 8 mm. broad, thinly appressed-pubescent[l. hedysaroides](#)

Flowers in slender racemes, 8–20 cm. long; standard petal glabrous; stem pilose with reflexed hairs; terminal leaflet more or less rhomboidal elliptic, 5–12 cm. long, 3–8 cm. broad, lateral leaflets unequal-sided at base,

appressed-pubescent beneath; stipules lanceolate, 8 mm. long; calyx-lobes subulate, pilose, equalling the corolla; fruits linear, slightly torulose when ripe, about 3 cm. long, 5 mm. broad, glabrous or with appressed hairs [2. javanica](#)

1. **Glycine hedysaroides** Willd. — F.T.A. 2: 179; Chev. Bot. 194; F.W.T.A., ed. 1, 1: 407, partly (excl. spec. T. Vogel s.n., Dalz. 80 which are *Galactia tenuiflora* (Willd.) Wight & Arn.); Bak. f. Leg. Trop. Afr. 2: 360.

APD: Synonym of Ophrestia hedysaroides (Willd.) Verdc.

Stems woody at the base, wide climbing above; flowers white; easily confused with *Galactia tenuiflora* which has a glabrous standard petal.

Iv. C.: Bingerville Chev. 20087. **G. C.:** Accra (fl. & fr. June) Don! Dalz. 85! Brown 369! Achimota (fl. & fr. Apr.) Irvine 674! 1606! **Togo:** Lome Warnecke 238! **Dah.:** Atacora Mts. Chev. 24278.

Also in **Kenya Tanganyika** and **Angola**.

2. **Glycine javanica** Linn. — F.T.A. 2: 178; Bak. f. l.c. 360.

APD: Synonym of Neonotonia wightii var. longicauda (Schweinf.) J. A. Lackey

APD: Synonym of Neonotonia wightii var. mearnsii (De Wild.) J. A. Lackey

APD: Synonym of Neonotonia wightii subsp. pseudojavanica (Taub.) J. A. Lackey

A variable climber with racemes of purple or white flowers.

S. L.: Musaia (fr. Dec.) Deighton 4421! **Lib.:** Zuie, Boporo (fl. & fr. Dec.) Baldwin 10683! Ganta, Sanokwele (fr. Feb.) Baldwin 11014! **G. C.:** Anum (Nov.) Morton GC 7990! **S. Nig.:** Thomas 2158! **Br. Cam.:** Bamenda Dept. Agric. 16!

Widespread throughout tropical Africa and tropical Asia.

[Note that the W. African plants differ from the Indian and most of the E. African in having narrower, glabrescent or glabrous fruits and less congested racemes, but the British Cameroons plant differs from the others from W. Africa in leaf shape, size and pubescence. Various extremes have been recognized as species, though these are of doubtful value.]

48. PSEUDOERIOSEMA

Hauman in Bull. Jard. Bot. Brux. 25: 96 (1955).

- 1 Erect herb; leaves 1-foliolate; leaflet ovate, broadly rounded at base, mucronate at apex, loosely pubescent on both sides, 8–15 cm. long, 6–8 cm. broad; stipules linear, persistent, about 1 cm. long; flowers in short cylindrical racemes; bracts and bracteoles linear, pedicels 2-flowered; fruits 2-seeded, oblong, 1.5–2 cm. long, rigidly pilose outside, satiny inside [andongense](#)

Pseudoeriosema andongense (Welw. ex Bak.) *Hauman* in Bull. Jard. Bot. Brux. 25: 97 (1955); Fl. Congo Belge 6: 107, t. 9. *APD acc*

Psoralea andongensis Welw. ex Bak. in F.T.A. 2: 65 (1871).

Glycine holophylla (Bak. f.) Taub. (1896) — Bak. f. Leg. Trop. Afr. 2: 361.

Eriosema holophyllum Bak. f. (1895) — F.W.T.A., ed. 1, 1: 404.

E. atacorensis A. Chev. Bot. 207, name only.

Erect, half woody branched herb, 18 in. high; flowers whitish, small, in subglobose or spike like axillary and terminal racemes.

Togo: Yendi to Demon (fr. May) Akpabla 553! **Dah.:** Atacora Mts. Chev. 23952; 24114; **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 19194! Birnin Gwari (June) Keay FHI 25873! Naraguta, 4,000 ft. Lely 240! Bauchi Plateau (fl. & fr. May) Lely P. 273!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Uganda**, **Tanganyika**, **Belgian Congo** and **Angola**.

49. **PHYSOSTIGMA***Balfour* — F.T.A. 2: 191.

- 1 Climber; branches glabrous; leaves 3-foliolate, the central one broadly ovate, the lateral obliquely ovate, rounded at base, abruptly acuminate, up to 16 cm. long and 10 cm. broad, prominently 3-nerved at base, glabrous; stipels semi-lunar; racemes axillary, drooping, the axis stout and zigzag with swollen nodes; pedicels curved, up to 5 mm. long; calyx broadly cupular, shortly lobed; standard enclosing the wings and keel, much curved round towards the calyx; fruits straight, narrowed at both ends, up to 15 cm. long and 4 cm. broad, glabrous; seeds few, 3 cm. long, ellipsoid, with one side nearly straight, the other side grooved by the depressed hilum. [venenosum](#)

Physostigma venenosum *Balfour* — F.T.A. 2: 191; Chev. Bot. 197; Bak. f. Leg. Trop. Afr. 2: 386; Wilczek in Fl. Congo Belge 6: 342. *APD acc*

Shrubby at the base, with lofty-twining branches; flowers curved like a shell, pink or purple. The Calabar Bean.

S. L.: Seli R. (Aug.) Deighton 1218! **Lib.:** Tappita (Aug.) Baldwin 9046! Monroviatown (Aug.) Baldwin 9001! **IV. C.:** Man to Zagoué Chev. **G. C.:** Akropong, Akwapim (Aug.) Irvine 777! Wankye (Aug.) Chipp 561! Cape Coast (Aug.) Fishlock 43! **S. Nig.:** Old Calabar Thomson! **Br. Cam.:** Victoria (fl. Mar., fr. Mar., Oct.) Kalbreyer 90! Maitland 746! **F. Po:** Hutchinson!

Also in **Gabon**, **Spanish Guinea** and **Belgian Congo**.

50. **SPHENOSTYLIS***E. Mey.* Comm. 148 (1835); Harms in Engl. Bot. Jahrb. 26: 308 (1899).

- 1 Leaves glabrous beneath: **2**
Leaves pubescent or tomentose beneath; leaflets lanceolate to obliquely elliptic, entire or more or less 3-lobed, up to 8 cm. long and 6 cm. broad; flowers solitary on each peduncle, with a large gland near the apex; bracteole rounded, about 1 cm. long, tomentose; calyx 5-lobed, 1.5 cm. long; corolla 3.5 cm. long; fruits nearly 15 cm. long, tomentose, the valves becoming spirally twisted; seeds with a large caruncle [3. holosericea](#)
- 2 Erect; leaflets lanceolate or linear-lanceolate, rounded and mucronate at the apex, up to 14 cm. long and 3 cm. broad, with a conspicuous cartilaginous margin; flowers several on axillary peduncles; calyx broadly cupular, shortly and broadly lobed, about 5 mm. long; corolla 1.5 cm. long; fruits linear, 10–11 cm. long, slightly pubescent [1. schweinfurthii](#)
- Climber; leaflets ovate, acuminate, up to 14 cm. long and 6 cm. broad; flowers few on stout axillary peduncles; calyx 7 mm. long, undulately lobed; corolla 2.5 cm. long; fruits linear, up to 30 cm. long, glabrous; seeds ellipsoid, smooth, about 1 cm. long, pale-coloured or marbled [2. stenocarpa](#)

1. **Sphenostylis schweinfurthii** *Harms* in Engl. Bot. Jahrb. 26: 309 (1899); Chev. Bot. 198; Bak. f. Leg. Trop. Afr. 2: 422. *APD acc*

An erect undershrub 3–5 ft. high, with fairly large yellow flowers; **in open savannah**.

Fr. Sud.: Coumana Chev. 368. Koba Chev. 606. **G. C.:** Wench (Mar., Dec.) Morton GC 8616! 8636! 25140! **Dah.:** Atacora Mts. Chev. 23980. **N. Nig.:** Jebba (Feb.) Meikle 1197! Zaria (Feb.) Dalz. 402! Keay FHI 25744! Bauchi Plateau (fl. & fr. Jan.) Lely P. 108! Hill 26! W. D. MacGregor 433! **S. Nig.:** near Old Oyo F.R. (Feb.) Keay FHI 16253!

Also in **Ubangi-Shari**, **Abyssinia** and **A.-E. Sudan**.

2. **Sphenostylis stenocarpa** (*Hochst. ex A. Rich.*) *Harms* l.c.; Chev. Bot. 198; Bak. f. l.c. 420; Wilczek in Fl. Congo Belge 6: 275, t. 25. *APD acc*

Dolichos stenocarpa *Hochst. ex A. Rich.* (1847) — F.T.A. 2: 213.

Vigna ornata *Welw. ex Bak.* (1871).

Sphenostylis ornata *A. Chev.* Bot. 198, name only.

A strong climber with conspicuous mauve-pink or purple flowers and a tuberous root; wild and often cultivated.

Fr. G.: Fouta Djallon Chev. 18518! **Iv. C.:** Bouroukrou Chev. 16750; 16831. Mossi Chev. 24678. **G. C.:** Achimota (fl. & fr. Dec.) Irvine 1649! 1821! **Togo:** Gaisseri! Kersting A. 680! **N. Nig.:** Abinsi Dalz. 626! Bauchi Plateau Batten-Poole 284! Agaie (fl. & fr. Oct.) Yates 51! **S. Nig.:** Onitsha Barter 1804! Onitsha (fl. & fr. Dec.) Sampson 13!

Cultivated in many parts of tropical Africa.

3. *Sphenostylis holosericea* (Welw. ex Bak.) Harms in Engl. Bot. Jahrb. 33: 177 (1902); Bak. f. l.c. 419 (incl. var. *hastifolia*).

APD: *Synonym of Nesphostylis holosericea (Baker) Verdc.*

***Vigna holosericea* Welw. ex Bak.** in F.T.A. 2: 200 (1871); Chev. Bot. 200.

***V. hastifolia* Bak.** (1871).

***Sphenostylis kerstingii* Harms** (1902).

A twiner, covered more or less with a dense white or yellowish pubescence; flowers ornamental, fragrant, mauve turning yellow; root tuberous; **common amongst long grass.**

Sen.: Berhaut 1799. **Iv. C.:** Toumodi (Aug.) Chev. 22405! Yabarasso (fl. & fr. Dec.) Chev. 22557! **G. C.:** N. Agogo (Dec.) Chipp 605! Banda, Wenchi (Feb.) Morton GC 25162! **N. Nig.:** Nupe Barter 937! Jebba Barter! Lokoja (fl. & fr. Oct.) Dalz. 26! Gombe (Oct.) Lely 655! **S. Nig.:** Lagos (Oct.) Punch 30! Rowland! Abeokuta Irving 88! Olokemeji F.R. (Sept.) Keay FHI 26385!

Also in **Angola** and **Mozambique**.

51. HAYDONIA

Wilczek in Bull. Jard. Bot. Brux. 24: 405 (1954).

- 1** Twiner; stems slender, angled or slightly winged, glabrous; leaves 3-foliolate; leaflets oblong-lanceolate to subhastate, truncate or slightly rounded at base, apex obtuse, 3.5–7 cm. long, 5–30 mm. broad, glabrous, nerves prominent on both sides; stipules lanceolate, 3–6 mm. long, 2 mm. broad, not produced below the base, glabrous, persistent; racemes axillary, few-flowered; peduncle 5–9 cm. long, the lower part 3-winged; calyx shortly lobed, glabrous but ciliate on the margins; vexillary stamen free to the base; alternate stamens shorter than the rest and with 2 conspicuous glands beneath the anthers; fruits suberect, 2.5–4–5 cm. long, about 2 mm. broad, appressed glandular-puberulous [triphylla](#)

Haydonia triphylla Wilczek l.c. 408, t. 12 (1954); Fl. Congo Belge 6: 263, t. 24. *APD acc*

A glabrous, twining, annual herb, with angular stems 4–6 ft. long; flowers mauve or yellow; usually amongst grasses.

N. Nig.: Bauchi Plateau (Oct.) Lely P. 828!

Also in **Ubangi-Shari**, **Belgian Congo** and **Angola**.

52. PHASEOLUS

Linn. — F.T.A. 2: 191.

- 1** Fruits with 10 or more seeds, linear, 10–14 cm. long, 1–1.4 cm. broad, nearly flat, with thicker margins; flowers in rather stout racemes, glabrous, about 2.5 cm. long; leaflets broadly ovate, subacute, 7–12 cm. long, 4–8 cm. broad, glabrous beneath except on the nerves; stipels rather large, elliptic [I. adenanthus](#)
- Fruits 2–4-seeded, obliquely oblanceolate, 6–8 cm. long, 1.5–2 cm. broad, the margins not thickened; flowers in very slender racemes, about 1 cm. long, softly pubescent; leaflets ovate-triangular, slightly and obtusely acuminate, 6–12 cm. long, 5–8 cm. broad, glabrous beneath or nearly so; stipels small and inconspicuous ... [2. lunatus](#)

1. Phaseolus adenanthus G. F. W. Mey. — F.T.A. 2: 192; Chev. Bot. 197; Bak. t. Leg. Trop. Afr. 2: 389; Wilczek in Fl. Congo Belge 6: 338.

APD: *Synonym of Vigna adenantha (G. Mey.) Maréchal, Mascherpa & Stainier*

A wide-climbing nearly glabrous perennial with fairly large pink and white flowers turning yellow; on the sea-shore, the banks of river estuaries or occasionally by inland streams.

Sen.: Sedhiou, Casamance Chev. 3408; 3409. **Gam.:** Kudang (fl. & fr. Jan.) Dalz. 8017! 8019! **Port. G.:** Fulacunda (fl. & fr. Dec.) Esp. Santo 2332! **Fr. G.:** Conakry Maclaud! **S. L.:** Kent (fl. & fr. Dec.) Deighton 3337! Mange Bureh (Jan.) Deighton 1038! Yungeru (fl. & fr. Jan.) Thomas 7123! 7195! **Lib.:** Monrovia (fl. & fr. Nov.) Linder 1430! Barker 1079! **N. Nig.:** Nupe Barter 923! Katagum (fl. & fr. Nov.) Dalz. 42! **S. Nig.:** Brass Barter 1847! Bonny (Oct.) Mann 5111 **Br. Cam.:** Victoria (Oct.) Maitland 760! Bama, Dikwa Div. (fl. & fr. Jan.) McClintock 168!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

2. *Phaseolus lunatus* Linn. — F.T.A. 2: 192; Chev. Bot. 197; Bak. f. l.c. 388. *APD acc*

A rank-growing twiner, biennial, with half-woody stems and rather small greenish-white or bluish flowers. The Lima bean.

Sen.: Sinédone, Casamance Chev. 3137! **Fr. Sud.:** San (Aug.) Chev. 3136; 3138! **Fr. G.:** fide Chev. l.c. **S. L.:** Njala (fl. & fr. Nov.) Deighton 1781! Bumbuna (Oct.) Thomas 3789! Meyamba (Dec.) King 18B! **Lib.:** Kassa Ta (fl. & fr. Sept.) Linder 843! **IV. C.:** Bouroukrou Chev. 16670. **G. C.:** Achimota (fl. & fr. Sept.) Irvine 776! Begoro (Nov.) Morton A. 87! **Togo:** Lome Warnecke 355! **Dah.:** Zagnanado (Feb.) Chev. 23088! Abomey (fr. Feb.) Chev. 231951 **N. Nig.:** Zaria (Oct.) Lamb 85! Agaie (Oct.) Yates 48! **S. Nig.:** Lagos Rowland! Aguku Thomas 1177! **F. Po:** T. Vogel 235!

Widely cultivated in the tropics.

Phaseolus vulgaris Linn.

Is widely cultivated in our area.

Phaseolus calcaratus Roxb.

Is widely cultivated in our area.

53. VIGNA

Savi — F.T.A. 2: 194.

- 1 Calyx-lobes as long as or longer than the calyx-tube, subulate from a lanceolate base; stipules cordate, without an entire appendage at the base:2
- Calyx-lobes much shorter than calyx-tube, sometimes quite broad; stipules cordate or appendaged at the base: 5
- 2 Leaflets all sessile on the petiole, narrowly linear-lanceolate, acute, 12-20 cm. long, 5-10 mm. broad, with 3 longitudinally parallel nerves, slightly pubescent on the nerves; flowers paired on long peduncles; calyx hirsute and ribbed1. *longissima*
- Leaflets all petiolulate, with 1 main nerve:3
- 3 Peduncles with a few short recurved hairs; tertiary nerves lax and more or less reticulate; leaflets ovate or lanceolate to linear, acute, obliquely and broadly wedge-shaped at base, 5-10 cm. long, 5-35 mm. broad; flowers few and clustered at the end of long peduncles; keel with a very large pocket on one side, rostrum large and recurved; stigma capitate; calyx about 1-4 cm. long; fruits bristly hairy; seed with a small central hilum 2. *vexillata*
- Peduncles densely clothed with long sharply reflexed or spreading hairs; keel without a large pocket on either side, rostrum not large and recurved:4
- 4 Calyx 10-14 mm. long, lobes subulate, much longer than the tube, pilose; flowers few at the end of long peduncles; peduncles with sharply reflexed hairs; stigma oblique, acute; fruits appressed-bristly; seeds oblong, 5 mm. long, hilum 2-3 mm. long; leaflets variable, from linear to ovate-lanceolate, 5-15 cm. long, 1-4 cm. broad, setose-pubescent on both surfaces, tertiary nerves close and parallel3. *reticulata*
- Calyx 4 mm. long, lobes lanceolate, only slightly longer than the tube, pilose; flowers clustered in a short raceme at the end of long peduncles; peduncles with spreading hairs; stigma capitate; young fruits densely pilose; leaflets elliptic, not apiculate, 3-nerved at base, 2-4 cm. long, 1-3 cm. broad, pilose on both surfaces4. *maranguensis*
- 5 Stipules more or less cordate but not long-appendaged below the base:6
- Stipules with an appendage below the base:25
- 6 Leaflets linear or lanceolate:7
- Leaflets broadly lanceolate to ovate or lobed:14
- 7 Leaflets with very numerous lateral nerves spreading at right angles from the midrib, 6-10 cm. long, 5-8 mm.

- broad, strongly reticulate, glabrous; stipules ovate-lanceolate, rounded at base; flowers small, in short racemes; peduncles about as long as the petiole; fruits 6 cm. long, glabrous [5. multinervis](#)
- Leaflets with fewer and more or less oblique lateral nerves: **8**
- 8** Stipules 3–5-nerved: **9**
- Stipules about 8-nerved, 3 mm. long; leaflets linear-lanceolate, rounded at base, lateral nerves obscure, appressed-pubescent beneath, 4–7 cm. long, about 5 mm. broad; stipels about 2 mm. long; flowers few, the peduncle at length much elongated and thickened [11. lancifolia](#)
- 9** Keel rostrum short and not recurved; flowers at the end of the peduncle: **10**
- Keel petal with long strongly incurved rostrum; raceme lax with flowers in pairs about 1 cm. apart; peduncles rather long; pedicels 2 mm. long; fruit about 8 cm. long and 4 mm. broad, sutures prominent; leaflets lanceolate or ovate-lanceolate, 3-nerved and cuneate at base, 3–5 cm. long, 1–2.5 cm. broad, rather thick, glabrous ... [10. macrorrhyncha](#)
- 10** Leaflets glabrous above and only younger parts of stems, etc., with a few hairs: **11**
- Leaflets pubescent above (at least on the midrib) rhachis of inflorescence with several large glands: **12**
- 11** Rhachis of inflorescence without glands, 1–3-flowered, leaflets linear, very acute, 5–15 cm. long, 3–6 mm. broad, nervose; stipels subtending terminal leaflet at least as long as petiolule; fruits acutely beaked about 6 cm. long and 5 mm. broad, glabrous [6. stenophylla](#)
- Rhachis of inflorescence with several large glands, few-flowered; leaflets lanceolate to linear-lanceolate, 3–4.5 cm. long, 5–10 mm. (rarely up to 20 mm.) broad, laxly nervose; stipels subtending terminal leaflet about half as long as petiolule; fruits 3–4 cm. long, about 3 mm. broad, minutely pubescent [7. venulosa](#)
- 12** Peduncles filiform, 2–3 cm. long; inflorescence few-flowered; fruits up to 2 cm. long, 4 mm. broad, pendulous, glabrescent; leaflets oblong, 1–5 cm. long, 5–10 mm. broad [8. filicaulis](#)
- Peduncles stout and erect, 4–20 cm. long, angular: **13**
- 13** Fruits pendulous, sparsely pilose, torulose before maturity; peduncles long, thick and angular at base; other characters as below [18. luteola](#)
- Fruits erect, minutely puberulous, 3–4 cm. long, 3–4 mm. broad; peduncles not thickened at base; leaflets subhastate to lanceolate, 4–5 cm. long, 6–20 mm. broad; stems more or less pilose [9. nigrizia](#)
- 14** Standard petal pubescent outside; seeds oblong, about 5 mm. long, hilum oblique across one end, with a caruncle: **15**
- Standard petal glabrous outside: **16**
- 15** Rhachis of inflorescence very short, with up to about 7 large glands; leaflets lanceolate to ovate, mucronate, 5–10 cm. long, (1–) 2–4.5 cm. broad, pubescent; stipules cordate; flowers few, crowded; fruits about 5 cm. long, thinly appressed-pubescent [12. pubigera](#)
- Rhachis of inflorescence rather long, with numerous large glands; leaflets oblong-lanceolate, up to 12 cm. long and 3 cm. broad, pubescent; stipules small, hastate; fruits about 4 cm. long, thinly pubescent .. [13. ambacensis](#)
- 16** Flowers precocious; leaflets elliptic or more or less 3 lobed, cuneate at base, 3.5–7 cm. long, 2–5.5 cm. broad, silky pubescent when young; flowers few and clustered at the end of a very stout peduncle up to 30 cm. long; calyx puberulous; fruits silky pubescent, 11 cm. long, erect; seeds about 3 mm. long, hilum small and central [14. violacea](#)
- Flowers not precocious: **17**
- 17** Leaflets hastately lobulate, 2–3 cm. long, about 2 cm. broad, thinly pubescent beneath; stipules narrowly subulate; flowers very small, subcapitate on a peduncle 3–4 cm. long; fruits broadly linear, 2 cm. long, minutely pubescent, seeds 4 mm. long, hilum not central, with a caruncle [15. micrantha](#)
- Leaflets lanceolate or ovate, not lobed: **18**
- 18** Calyx densely pilose with brown hairs; peduncles slightly thickened towards base, terete, almost glabrous, 21–27 cm. long; leaflets lanceolate, 5.5–9 cm. long, about 1.5 cm. broad, rounded at base, acute at apex; flowers 1.5–1.7 cm. long; bracteoles linear, equalling calyx; fruits densely brown pilose, straight ... [16. sp. nr. oblongifolia](#)
- Calyx glabrous or pubescent with whitish hairs: **19**
- 19** Peduncles angular and thicker near the stem than at the other end; mature fruits about 6 cm. long, sutures almost straight, pendulous, immature dried fruits torulose, sparsely pilose; seeds elliptic, 4–5 mm. long, hilum central, without a caruncle: **20**
- Peduncles not thickened towards the base, terete: **21**
- 20** Leaflets emarginate at apex, glabrous, setose on midrib, ovate to broadly oblong-lanceolate, 4–7 cm. long, 1.5–4 cm. broad [17. marina](#)
- Leaflets acute and mucronate at apex, lanceolate, 3–7 cm. long, 8–16 mm. broad [18. luteola](#)
- 21** Stems pubescent or glabrous, not long-villous; fruits pendulous: **22**
- Stems more or less villous with long spreading or reflexed hairs; fruits pendulous or erect: **23**

- 22 Leaflets more or less ovate-triangular, hardly acuminate, very variable on the same plant, usually about 3 cm. long and 2 cm. broad; fruits about 2 cm. long (rarely 3 cm.) [19. gracilis](#)
- Leaflets very broadly ovate, acutely acuminate, all similar, usually about 6–7 cm. long and 5 cm. broad; fruits nearly 4 cm. long [20. multiflora](#)
- 23 Stipules distinctly sagittate, about 8 mm. long; peduncles 8–20 cm. long; racemes rather lax; leaflets ovate to ovate lanceolate, 4–9 cm. long, 2.5–4 cm. broad, rounded at base, acuminate, fruits 2–3 cm. long, about 3 mm. broad [21. racemosa](#)
- Stipules cordate, about 5 mm. long: **24**
- 24 Fruits pendulous, setose, 2–3 cm. long, 3–4 mm. broad, slightly torulose and curved; seeds with a small hilum on one side; peduncles 1–2 (–3) cm. long; leaflets broadly ovate, 5–11 cm. long, 4–8.5 cm. broad, rounded to subcordate at base, acuminate [22. desmodioides](#)
- Fruits erect, villose with brown hairs, 4–5 cm. long, 5 mm. broad, not torulose, straight; seeds with a long hilum along one side; peduncles 8–20 cm. long, at least in fruit; leaflets ovate, 4–7 cm. long, 2.5–4 cm. broad, rounded at base, acute [23. campestris](#)
- 25 Stems pilose; flowers 1.2 cm. long at the end of long, pilose peduncles which do not thicken in fruit; fruits 3–4 cm. long, 7 mm. broad, black when ripe, densely pilose; seeds with hilum oblique at one end [24. paludosa](#)
- Stems glabrous; flowers about 2 cm. long, at the end of the long, glabrous peduncles, which thicken in fruit; fruits in the wild form about 10 cm. long and soon dehiscent with the valves spirally twisted, in the cultivated form about 15 cm. long and not dehiscent, not spirally twisted; seeds with a small median hilum [25. unguiculata](#)

1. **Vigna longissima** *Hutch.* in Kew Bull. 1921: 367; Bak. f. Leg. Trop. Afr. 2: 414; Wilczek in Fl. Congo Belge 6: 377. *APD acc*

A slender herb with laxly pilose, prostrate, or perhaps twining, stems and fairly large mauve flowers.

N. Nig.: Bauchi Plateau, between Hephram and Ropp, 4,600 ft. (Aug.) Lely 360! P. 324! Vom, 3,000–4,500 ft. Dent Young 71!

Also in **N. Rhodesia** and **Belgian Congo**.

2. **Vigna vexillata** (*Linn.*) *Benth.* — F.T.A 2: 199 (incl. vars. α and β); Bak. f. l.c. 413; Chev. Bot. 202; Wilczek l.c. 379, t. 29, fig. 18C. *APD acc*

Phaseolus vexillatus *Linn.* (1753).

Plectrotropis angustifolia *Schum. & Thonn.* (1827).

Vigna angustifolia (*Schum. & Thonn.*) *Hook. f.* (1849) — F.W.T.A. ed. 1, 1: 409; Bak. f. l.c.

Plectrotropis hirsuta *Schum. & Thonn.* (1827), not *Vigna hirsuta* Feay ex Wood (1861).

Strophostylis capensis *E. Mey.* (1835).

Vigna capensis (*E. Mey.*) *Walp.* (1839) — *Berhaut Fl. Sen.* 20.

Vigna thonningii *Hook. f.* (1849) — F.W.T.A., ed. 1, 1: 409; Bak. f. l.c.

Vigna senegalensis *A. Chev.* (1944).

Stems twining or prostrate, root tuberous and spindle-shaped, flowers pink or purplish turning yellow.

Sen.: Döllinger! Roger! Walo country (fl. & fr. Feb.) Perrottet 227! **Gam.:** Brown-Lester 41! **S. L.:** Regent (Dec.) Sc. Elliot 4113! Gene (Nov.) Deighton 462! Njala (Dec.) Deighton 1578! Baoma (fr. Dec.) Deighton 3469! **Lib.:** Kakatown Whyte! Gbau, Sanokwele (Sept.) Baldwin 9426! Monrovia (fr. Dec.) Baldwin 10509! Brewer's Landing (Nov.) Linder 1402! **IV. C.:** Bingerville Chev. 16053; 16100. Cavally Chev. 19557. **G. C.:** Cape Coast (July) T. Vogel 52! 64! Achimota (fr. Jan.) Irvine 1943! Morton GC 6122! Aburi Scarp (Nov.) Morton GC 6112! Akuse (Oct.) Morton A. 98! **Togo:** Kpedsu (fl. & fr. Dec.) Howes 1045! **N. Nig.:** Lokoja Barter! Abinsi (Dec.) Dalz. 619! Kontagora (Oct.) Dalz. 31! Benue R. (Oct.) Parsons L. 57! **S. Nig.:** Onitsha (Aug.) Jones FHI 6146! **F. Po:** T. Vogel 222!

Widespread in tropical Africa and America.

[*V. angustifolia* (*Schum. & Thonn.*) *Hook. f.* with linear leaflets about 1 cm. broad, and *V. thonningii* *Hook. f.* a coastal form with ovate leaflets, have been separated from *V. vexillata*, but there is great variation in leaf-shape.]

3. **Vigna reticulata** *Hook. f.* — F.T.A 2: 198 (incl. var. β) Bak. f. l.c. 411; Chev. Bot. 201; Wilczek l.c. 382. *APD acc*

Vigna linearifolia *Hook. f. var. β .* (1849)

A twiner, grey- or yellowish-hairy, with yellow or purplish flowers.

Sen.: *Berhaut* 1449. **S. L.:** Franziga, Tambakka country Sc. Elliot 5027! Juring (Dec.) Deighton 319! Musaia (fl. & fr. Dec.) Deighton 4419! **IV. C.:** Kodiokoffi, Baoulé (fr. Aug.) Chev. 22354! Béoumi (Dec.) Lowe! **G. C.:** Tamale (fr. Dec.) Adams

& Akpabla GC 4173! Gambaga Scarp (fr. Dec.) Adams & Akpabla GC 4249! Damongo (fl. & fr. Dec.) Morton GC 9988! **Togo:** Yendi (Nov.) Williams 416! Sokode-Basari Schröder 115! **N. Nig.:** Nupe Barter 1017! Sokoto (Oct.) Dalz. 321! Kaduna (Feb.) Taylor FHI 1104! Naraguta and Jos (Sept.) Lely 563! P. 682! Lokoja (Sept.) T. Vogel 22! 37! **S. Nig.:** Obu Thomas 354! **Br. Cam.:** Bansa (Oct.) Tamajong FHI 23480!

Extends to eastern Africa and **Angola**.

4. **Vigna maranguensis** (*Taub. ex Engl.*) *Harms* in Engl. Pflanzenw. Afr. 3, 1: 686 (1915); Wilczek l.c. 369.

APD: Synonym of Vigna parkeri subsp. maranguensis (Taub.) Verdc.

Dolichos maranguensis *Taub. ex Engl.* (1892).

A semi-prostrate creeper or twiner, rooting at the lower nodes; whole plant densely yellow pilose; flowers pink or whitish yellow.

Br. Cam.: Bafut Ngemba F.R., near L. Batuli, 6,000 ft., Bamenda (Aug., Oct., Nov.) Lightbody FHI 26271! Ujor FHI 29972!

Also in eastern Africa

5. **Vigna multinervis** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 409 (1928); Kew Bull. 1929: 17; Bak. f. l.c. 398; Wilczek l.c. 357. *APD acc*

Vigna linearifolia *Hutch.* in Broun & Massey (1929), not of Hook. f. (1849).

A glabrous twiner, with wiry stems to 6 ft. long, and blue or yellow flowers; amongst grass, etc.

Togo: Kadjakpe, Togo Plateau F.R. (Nov.) St. C. Thompson 1620! **N. Nig.:** Bauchi Plateau Batten-Poole 124! **S. Nig.:** Onitsha Barter 1799!

Also in **A.-E. Sudan, Uganda, Tanganyika, Belgian Congo** and **Angola**.

6. **Vigna stenophylla** *Harms* in Notizbl. Bot. Gart. Berl. 5: 210 (1911); Bak. f. l.c. 398. *APD acc*

APD: Synonym of Vigna unguiculata subsp. stenophylla (Harv.) Maréchal, Mascherpa & Stainier

Vigna dauciformis *A. Chev* in Bull. Soc. Bot. Fr. 58, Mém 8: 162 (1912), incl. var. *elata*.

Stem suberect with trailing glabrous branches and a spindle-shaped tuberous root; flowers bluish-purple.

S. L.: Sherbro Isl. (Nov.) Hunter 4! **IV. C.:** Mbayakro, Baoulé (Aug.) Chev. 22298! **G. C.:** Akuse (fl. & fr. June) Dalz. 83! **Togo:** Yendi (fr. May) Akpabla 506! **Dah.:** Kouandé Chev. 24234. **Fr. Nig.:** Gourma (July) Chev. 24377!

Also in **northern French Cameroons**.

7. **Vigna venulosa** *Bak.* in F.T.A. 2: 203 (1871); Chev. Bot. 202 (incl. var. *lathyroides* *A. Chev.* (1912)); Bak. f. l.c. 399. *APD acc*

APD: Synonym of Vigna multinervis Hutch. & Dalziel

A slender climber amongst grasses; flowers purple or yellow.

Sen.: Berhaut 844! **Fr. Sud.:** Nyamina to Koulikoro (Oct.) Chev. 3214! **Fr. G.:** Sambadougou (fr. Feb.) Chev. 20555! **S. L.:** Regent (Dec.) Sc. Elliot 4038! Bonthe Isl. (fl. & fr. Nov.) Deighton 2324! Musaia (fl. & fr. Dec.) Deighton 4510! Rokupr (Nov.) Jordan 154! **Lib.:** Duport (Nov.) Linder 1512! Monrovia (Dec.) Baldwin 10504! **Togo:** fide Bak. f. l.c. **Br. Cam.:** fide Bak. f. l.c.

8. **Vigna filicaulis** *Hepper* in Kew Bull. 1956: 128. *APD acc*

Vigna venulosa of Chev. Bot 202, partly (Chev. 22259)

Vigna venulosa var. **pubescens** *A. Chev* in Bull. Soc. Bot. Fr. 58, Mém 8: 163 (1912); Bak. f. l.c. 399.

Stems slender and wiry up to 2 ft. long, flowers yellow; **in grassland**.

Iv. C.: Baoulé-Nord (Aug.) Chev. 22259! 22359! **G. C.:** Ejura (fl. & fr. Dec.) Morton GC 9508! 9714!

9. **Vigna nigrizia** *Hook. f.* in Fl. Nigrit. 310 (1849); Wilczek l.c 358, fig. 18A. *APD acc*

Vigna pubigera var. **gossweileri** *Bak. f.* (1928).

Vigna tisseranti *A. Chev.* (1944), not of Pellegrin (1944).

Vigna villosa of F.T.A. 2: 206, partly.

Vigna racemosa of F.W.T.A., ed. 1, 1: 409, partly.

A climber; flowers pink; in savannah.

S. L.: Samu country Sc. Elliot 5918! **IV. C.:** Bouakro to Alangouassou Chev. 22219. **G. C.:** Ejura (fl. & fr. Dec.) Morton GC 9514! Gambaga (Apr.) Morton GC 9044! **N. Nig.:** T. Vogel 14! **S. Nig.:** Lagos (Oct.) Punch 37! Usonigbe F.R., Benin (fl. & fr. Oct.) Keay & Onochie FHI 19693!

Also in **Ubangi-Shari**, **Belgian Congo** and **Angola**.

10. **Vigna macrorrhyncha** (*Harms*) *Milne-Redhead* in Kew Bull. 1936: 473.

APD: *Synonym of Vigna kirkii* (*Baker*) *J. B. Gillett*

APD: *Synonym of Wajira grahamiana* (*Wight & Arn.*) *Thulin & Lavin*

Phaseolus macrorhynchus *Harms* (1900); *Bak. f.* l.c 390.

P. schimperi *Taub.* (1892) — *Bak. f.* l.c.; Wilczek l.c. 335, t. 27; not *Vigna schimperi* *Bak.* (1871).

Stem slender, sparsely appressed-pubescent, older leaflets glabrous and with translucent venation; flowers purplish.

N. Nig.: Naraguta (Aug.) Lely 552!

Also in **A.-E. Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **Rhodesia** and **Belgian Congo**.

[*V. macrorrhyncha* has the truncate stipules of *Phaseolus*, but septate fruits of *Vigna*. These two genera are not satisfactorily separable.]

11. **Vigna lancifolia** *A. Rich.* — F.T.A. 2: 196; *Bak. f.* l.c. 398.

APD: *Synonym of Vigna oblongifolia* *A. Rich. var. oblongifolia*

Suberect with striate stems, eventually twining, and reddish flowers.

N. Nig.: Sokoto (Nov., Dec.) Moiser 206! 211!

Also in **Abyssinia** and **A.-E. Sudan**.

12. **Vigna pubigera** *Bak.* in F.T.A. 2: 201 (1871); *Bak. f.* l.c. 400. *APD acc*

Stems rather densely yellowish-pubescent, prostrate or widely climbing, flowers yellow, sometimes blue or reddish; in fallow fields or bush not far from cultivation.

Fr. Sud.: Macina (Sept.) Chev. 24915! **G. C.:** Achimota (Aug., Nov.) Milne-Redhead 5125! Irvine 5161! Accra (fl. & fr. Aug.) Deighton 3401! **Togo:** Paliba (fr. Dec.) Adams & Akpabla 4110! 4111! Ho (fl. & fr. Nov.) A. S. Thomas K. 7! **N. Nig.:** Lokoja Parsons 95! Nupe Barter 983! Katagum Dalz. 39! Abinsi (Dec.) Dalz. 621! Sokoto (fl. & fr. Oct.) Dalz. 315! 316! Bauchi to Gombe (fl. & fr. Oct., Nov.) Lely 633! **S. Nig.:** Awba Hills (Oct.) Jones FHI 5982!

Widely spread in tropical Africa

13. **Vigna ambacensis** *Welw. ex Bak.* in F.T.A. 2: 201 (1871); *Bak. f.* l.c 400; Wilczek l.c 355.

APD: *Synonym of Vigna heterophylla* *A. Rich.*

A twiner with grey-pubescent stems and bright yellow flowers, only the upper few flowers of the raceme develop.

N. Nig.: Abinsi (Dec.) Dalz. 617! Muri (fl. & fr. Nov.) Lamb 75! **S. Nig.:** Bansara, Ogoja Prov. (fl. & fr. Dec.) Keay FHI 28145! **Br. Cam.:** Bamenda, 5,500 ft. (Jan.) Migeod 444!

Also in **A.-E. Sudan**, **Belgian Congo**, **Uganda** and **Angola**.

14. **Vigna violacea** *Hutch.* in Kew Bull. 1921: 247; Bak. f. l.c. 405.

APD: Synonym of Vigna frutescens A. Rich. var. frutescens

A fairly strong twiner with slightly pubescent grey-green stems up to 12 ft. long from a woody tuberous root; flowers fragrant, beautiful lavender-violet appearing when leafless.

G. C.: Banda, Wenchi (fl. & fr. Dec.) Morton GC 25162! Ejura (Dec.) Morton GC 9520! **N. Nig.:** Bauchi Plateau (Jan.) Lely P. 52! Naraguta (fl. Mar., May, fr. May) Lely 6! Kennedy 45! Jos (fl. & fr. Mar.) Hill 6! Tof, 4,000 ft. (Feb.) Hepburn 135!

15. **Vigna micrantha** *Harms* in Engl. Bot. Jahrb. 26: 311 (1899); Bak. f. l.c. 406; Wilczek l.c. 353.

APD: Synonym of Vigna comosa Baker subsp. comosa

APD: Synonym of Vigna heterophylla A. Rich.

Stems slender, pubescent, **twining amongst grass, etc.**, with pale yellow flowers and 2–3-seeded fruits.

S. L.: Sefadu, 1,400 ft (fl. & fr. Dec.) Deighton 3568! **Lib.:** Mt. Mpaka Fossa, 1,960 ft. Kolahun (fl. & fr. Jan.) Bequaert 37! **S. Nig.:** Ikoyi Plains, Lagos (fl. & fr. Nov.) Dalz. 1216! Benin (Mar.) Jones FHI 7391!

Also in **Uganda**, **Kenya**, and **French Congo** and **Belgian Congo**.

16. **Vigna sp. nr oblongifolia** *A. Rich.* — F.T.A. 2: 196; Bak. f. l.c. 410. *APD acc*

A rambling plant **amongst tall grasses**.

Br. Cam.: Basenako, Bamenda, 6,000 ft. (fl. & fr. June) Maitland 1505!

[Differs from *V. oblongifolia* in the larger flowers, pilose calyx and almost glabrous peduncle; differs from *V. fischeri* Harms especially in the pilose calyx, more material is required.]

17. **Vigna marina** (*Burm.*) *Merill* Interpr. Rumph. Herb. Amboin. 285 (1917); Exell Cat. S. Tomé 163. *APD acc*

Phaseolus marinus *Burm.* (1755).

Vigna oblonga *Benth.* (1844) — F.T.A. 2: 206; Bak. f. l.c. 402; F.W.T.A., ed. 1, 1: 409.

Stem glabrous, prostrate or twining **amongst grass on the sea-shore**; flowers yellow.

Lib.: Grand Cess (fr. Mar.) Baldwin 11623! Rocktown (Mar.) Baldwin 11634! **S. Nig.:** Nun R. (Aug.) T. Vogel 18! Mann 495! Brass R. Barter 1827! Lagos (June) Dalz. 1211! Moloney! **Br. Cam.:** Victoria Preuss 1126! **F. Po:** T. Vogel 221!

A sea-shore plant throughout the tropics.

18. **Vigna luteola** (*Jacq.*) *Benth.* in Mart. Fl. Bras. 15: 194, t. 50, fig. 2 (1859), not of F.T.A. 2: 205; Bak. f. l.c. 401; Wilczek l.c. 363. *APD acc*

Dolichos luteolus *Jacq.* (1770).

D. niloticus *Del.* (1813).

Vigna nilotica (*Del.*) *Hook. f.* (1849) — F.T.A. 2: 204; Bak. f. l.c. 404; not of F.W.T.A., ed. 1, 1: 409.

Vigna nigerica *A. Chev.* (1944).

A twiner with yellow flowers; **in waste places**.

Sen.: Marsosoun, Casamance (fl. & fr. Feb.) Chev. 3407! **S. L.:** Yakban, Mambolo (fl. & fr. Nov.) Jordan 954! Kiragba, Samu (Sept.) Jordan 922! Bonthe (fl. & fr. Nov.) Deighton 2322! Mahera (fl. & fr. Nov.) Deighton 5687! **Lib.:** Roberts Field (fl. & fr. Jan.) Baldwin 14042! **Dah.:** Karimana (fl. & fr. Nov.) Arnaud.

Widespread in tropical Africa and America.

19. **Vigna gracilis** (*Guill. & Perr.*) *Hook. f.* — F.T.A. 2: 205; Chev. Bot. 200; Bak. f. l.c. 403; Wilczek l.c. 368. *APD acc*

Dolichos gracilis *Guill. & Perr.* (1832).

Vigna afzelii *Bak.* in F.T.A. 2: 202 (1871); Bak. f. l.c. 403.

Vigna parvifolia *Planch. ex Bak.* in F.T.A. 2: 206 (1871); Bak. f. l.c. 399.

Vigna racemosa var. **glabrescens** *Bak. f.* l.c. 409 (1929); Wilczek l.c. 371.

Vigna occidentalis *Bak. f.* (1934).

A slender extensively twining herb amongst grass with pink or bluish flowers turning yellow, very variable in foliage.

Sen.: Casamance R. Heudelot 589! **Gam.:** Albreda (Mar., Apr.) Perrottet! **Fr. Sud.:** Koulikoro Chev. 25027. **Port. G.:** Bissau (Oct., Nov.) Esp. Santo 1361! 2592! **S. L.:** Regent (fl. & fr. Dec.) Sc. Elliot 3859! Rokupr (Oct.) Jordan 369! 696! Yoni Mamila (fl. & fr. Dec.) King 7 B! Kono (Nov.) Deighton 69! Wellington (fl. & fr. Feb.) Deighton 4988! **Lib.:** Kakatown Whyte! Monrovia (fl. & fr. Nov.) Linder 1521! Baldwin 10494! Gbau, Sanokwele Dist. (Sept.) Baldwin 9427! **S. Nig.:** Degema Div. Talbot! Eket Talbot 3014!

Also in **French Camerouns**, **Belgian Congo** and **Principe**.

20. **Vigna multiflora** *Hook. f.* — F.T.A. 2: 205; Bak. f. l.c. 403; Wilczek l.c. 367.

APD: *Synonym of Vigna gracilis* var. *multiflora* (*Hook. f.*) *Maréchal & al.*

A slender twiner with pink or bluish purple flowers quickly turning yellow.

S. L.: Bintumane (Aug.) T. S. Jones 143! Kumrabai (Dec.) Thomas 6859! 7062! **Lib.:** Bushrod Isl. (fl. & fr. Dec.) Barker 1104! Duport (fl. & fr. Oct.) Barker 1434! Boporo Dist. (fl. & fr. Nov.) Baldwin 10264a! 10346! **IV. C.:** Baoulé Nord (July) Chev. 22219! **S. Nig.:** Idanre Hills (Oct.) Keay FHI 25510! Sapoba Kennedy FHI 2905! Oban Talbot 445! **Br. Cam.:** Buea (Nov.) Migeod 11! Maitland 112! Dunlap 139! Bansa (fl. & fr. Oct.) Tamajong FHI 23485! **F. Po.:** T. Vogel 245! Moka (Dec.) Boughey 1! 57!

Also in **Belgian Congo**.

21. **Vigna racemosa** (*G. Don*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 409 (1928); Kew Bull. 1929: 18; Bak. f. l.c. 409; Wilczek l.c. 370. *APD acc*

Clitoria racemosa *G. Don* (1832).

Vigna donii *Bak.* in F.T.A. 2: 202 (1871).

Vigna luteola of F.T.A. 2: 205, excl. syn.

Vigna villosa *Savi; Chev.* Bot. 201; Bak. f. l.c. 401.

(?) **V. glabra** *Savi; Chev.* Bot. 201; Bak. f. l.c. 401.

A fairly strong twiner amongst grass or on trees, with flowers either bright blue or pink or purple-tinged, turning yellow.

Sen.: Berhaut 1321. **Gam.:** Ingram! Mungo Park! **Fr. Sud.:** Bamako (fl. & fr. Nov.) Waterlot 1432! **Port. G.:** Bissau (fl. & fr. Oct., Nov.) Esp. Santo 2560! 2587! Bafata (Nov.) Esp. Santo 3117! **S. L.:** Njala (fl. & fr. Jan., Nov.) Deighton 1801! 4971! 5019! Baoma (fl. & fr. Dec.) Deighton 3477! Musaia (fl. & fr. Nov.) Glanville 373! Magbile (Dec.) Thomas 6203! **G. C.:** Bompata (Dec.) Dalz. 88! N. Agogo (fl. & fr. Dec.) Chipp 619! Abetifi and Afram Plains (fl. & fr. Dec.) Scholes 111! **Togo:** Ho (fr. Nov.) A. S. Thomas K. 9! Yendi (fr. Nov.) Williams 414! **N. Nig.:** Nupe Barter 1009! Lokoja Barter 1599! Onitsha Barter 1748! Dalz. 25! Parsons L. 65! L. 94! Sokoto (fr. Oct.) Dalz. 317! Kadaura (Sept.) Lely 59! **S. Nig.:** Abeokuta Irving! Lagos (Oct.) Punch 37! MacGregor 294!

Also in **Uganda**, **Ubangi-Shari**, **Belgian Congo** and **Angola**.

22. **Vigna desmodioides** *Wilczek* in Bull. Jard. Bot. Brux. 24: 438 (1954); Fl. Congo Belge 6: 366, fig. 18D. *APD acc*

Stems climbing and more or less pilose; flowers pink or mauve.

S. L.: Taiama (fl. & fr. Dec.) Deighton 3480! **S. Nig.:** Idumuje Thomal 2160!

Also in **Ubangi-Shari** and **Belgian Congo**.

23. **Vigna campestris** (*Mart. ex Benth.*) *Wilczek* in Fl. Congo Belge 6: 391, t. 31 (1954).

APD: *Synonym of Vigna juruana* (*Harms*) *Verdc.*

Phaseolus campestris *Mart. ex Benth.* (1838).

Vigna luteola of F.T.A. 2: 205, partly (Mann 2319).

A twiner 4–8 ft. high; flowers greenish.

S. L.: Gbinti (fl. & fr. Sept., fr. Jan.) Deighton 4849! 5991! **S. Nig.:** Old Calabar Mann 2319!

Also in **Belgian Congo** and tropical America.

24. *Vigna paludosa* Milne-Redhead in Kew Bull. 1947: 27.

APD: Synonym of Vigna longifolia (Benth.) Verdc.

Stem pilose, climbing up grasses in swamps and wet places flowers yellow.

S. L.: Mange, Bure (Jan.) Deighton 1043! Rokupr (fl. & fr. Jan.) Deighton 2953! 4050! 4189! Jordan 146! Adames 162! Port Loko (fl. & fr. Dec.) Thomas 5845! 6520! 6523! 6634!

25. *Vigna unguiculata* (Linn.) Walp. Rep. 1: 779 (1842); Wilczek l.c. 387, t. 30. *APD acc*

Dolichos unguiculatus Linn. (1753).

D. biflorus Linn. (1753) — Brenan in Mem N.Y. Bot. Gard. 8: 415 (1954); not of F.W.T.A., ed. 1, 1: 410.

D. sinensis Linn. (1756).

Vigna sinensis (Linn.) Savi ex Hassk. (1844) — F.T.A. 2: 204; Bak. f. l.c. 407; Merrill Interpr. Rumph. Herb. Amboin. 284; A. Chev. in Rev. Bot. Appliq. 24: 128 (1944); Chev. Bot. 201.

Vigna baoulensis A. Chev. (1912). There are numerous other synonyms.

Stems annual but often stout, subglabrous, twining on trees, etc.; flowers white and mauve-tinged or pink or yellow.

Port. G.: Pussube, Bissau (fr. Nov.) Esp. Santo 998! Antula, Bissau (Oct.) Esp. Santo 2537! **Fr. G.:** Macenta (Oct.) Baldwin 9846! **S. L.:** Bumbuna (fl. & fr. Oct.) Thomas 3452! Gegbwema (fl. & fr. Dec.) Deighton 3820! Musaia (fr. Nov., Dec.) Glanville 375! **Lib.:** Gbanga (Sept.) Linder 539! **IV. C.:** Marabadiassa Chev. 22032! Kodiokoffi Chev. 22356! **G. C.:** Cape Coast (fr. July) T. Vogel 47! Techiman, Ejura (fl. & fr. Dec.) Morton GC 9556! Kumasi (fr. Oct.) Baldwin 13463! **Fr. Nig.:** Niamey (fr. Oct.) Hagerup 534! **N. Nig.:** Sokoto (fr. Oct.) Dalz. 318! Katagum Dalz. 36! **S. Nig.:** Ibadan (fl. & fr. Nov.) Meikle 662!

Widespread in the tropics.

[The specimens cited here are of the wild, short-and narrow-fruited form (syn. *V. baoulensis* A. Chev.); the commonly cultivated forms which have long and broad fruits, if regarded as a distinct species, should bear the name *V. sinensis* (Linn.) Savi ex Hassk., vide Merrill l.c. and Chev. in Rev. Bot. Appliq. 24: 139–145 (1944).]

***Vigna mungo* (Linn.) Hepper**

This species with large stipules is occasionally cultivated in our area.

***Vigna marchali* A. Chev.** in Rev. Bot. Appliq. 30: 268 (1950). *APD acc*

Described as having no stipules.

Fr. Nig.: flooded grassland beside the Niger, Niamey to Gaya. Type not designated.

Imperfectly known species.

54. DOLICHOS

Linn. — F.T.A. 2: 209.

- | | | |
|----------|--|----------------------------------|
| 1 | Flowers in axillary racemes or fascicles, or subsolitary: | 2 |
| | Flowers in terminal or subterminal racemes; stems erect; leaflets rounded, broadly emarginate to acute at apex: | 10 |
| 2 | Leaflets lanceolate to suborbicular, with pinnate nerves; trailing or climbing (except No. 5) herbs: | 3 |
| | Leaflets linear or linear-lanceolate, with 3 prominent parallel nerves, glabrous to densely pubescent; stems erect, sometimes succulent; flowers fascicled in leaf-axils on long pedicels; fruits woody, 6–8 cm. long, 1–1.5 cm. broad | 10. <i>schweinfurthii</i> |
| 3 | Fruits 2–5.5 mm. broad, 3–8 cm. long; leaflets oblong-lanceolate to suborbicular: | 4 |
| | Fruits (5–) 6–8.5 mm. broad, 3–4 cm. long; leaflets more or less lanceolate: | 6 |
| | Fruits 8–11 mm. broad, 2.5–10 cm. long, shortly pubescent or very long-pilose; leaflets very broadly lanceolate to almost rhombic or irregularly 3-lobed: | 8 |
| 4 | Fruits 2–3.5 mm. broad, 4–8 cm. long, very sparsely appressed-pilose; leaflets ovate-oblong to narrowly oblong | |

- or lanceolate, appressed-pubescent on both surfaces; flowers 6–11 mm. long; calyx-teeth subulate-lanceolate, lower tooth about 6 mm. long; pedicels about 5 mm. long [1. stenophyllus](#)
- Fruits 3.5–5 mm. broad: **5**
- 5** Calyx-teeth all 1–2 mm. long; flowers 9–11 mm. long; pedicels very short; leaflets ovate-lanceolate, 2–3 cm. long, sparsely pilose on margins and nerves beneath [2. africanus](#)
- Calyx-teeth 5–9 mm. long; flowers 12–15 mm. long; pedicels about 3 mm. long; leaflets oblong to ovate-lanceolate, variable, 2–4 cm. long, from sparsely to densely pilose on both surfaces [3. chrysanthus](#)
- 6** Lower and lateral sepals abruptly attenuated into long filiform points two to several times longer than the expanded basal part of the teeth: **7**
- Lower and lateral sepals acuminate, hardly filiform-pointed, acumen up to 1½ times as long as expanded basal part of the teeth; flowers 12–15 mm. long, almost sessile; fruits pubescent; leaflets 3–4 cm. long, 1.5 cm. broad, cuneate at base, pubescent especially on margins and nerves of both sides [6. axillaris](#)
- 7** Flowers 10–13 mm. long, almost sessile; fruits with both long and short hairs, sometimes with short tubercles on sutures; leaflets 4–5 cm. long and about 2 cm. broad, lateral leaflets broadly rounded and unequal at base, pubescent [4. daltoni](#)
- Flowers 13–18 mm. long; fruits more or less pubescent with short hairs all of about the same length; leaflets 4–6 cm. long and about 2 cm. broad, lateral leaflets cuneate to slightly rounded and less markedly unequal at base, densely pubescent [5. brevicaulis](#)
- 8** Leaflets entire; fruits minutely pubescent, 6–10-seeded; flowers not in clusters: **9**
- Leaflets irregularly 3-lobed, densely silky-pubescent beneath; fruits very long-pilose, 3-seeded; flowers in pedunculate clusters; peduncles about 3 cm. long, densely long-pilose [9. argenteus](#)
- 9** Bracteoles at base of calyx prominently 1-nerved and sometimes with 2 obscure lateral nerves, lanceolate, 1 mm. long; calyx-lobes triangular, about 1 mm. long; stems glabrous to sparsely pilose; leaves variable, in W. Africa usually broadest below the middle, broadly cuneate to rounded at base, subacuminate, about 5–5 cm. long and broad [7. falcatus](#)
- Bracteoles at base of calyx prominently 3–5-nerved, linear, 3–5 mm. long; calyx-lobes acuminate, 2–3 mm. long, lowest lobe about 5 mm. long; stems appressed-pubescent; leaves more or less rhombic, cuneate at base, subacute at apex, 4–8 cm. long, 2–6 cm. broad [8. formosus](#)
- 10** Stipules 3–4 mm. long, 5–7 mm. broad at base, acuminate, reflexed; leaves subsessile, leaflets obovate or obovate-oblong, rounded or emarginate at apex, lateral leaflets unequal-sided at base, terminal leaflets cuneate at base, 3–6 cm. long, subglabrous to pubescent, young stems pubescent becoming glabrous [11. dinklagei](#)
- Stipules 8–40 mm. long: **11**
- 11** Stipules 30–40 mm. long, lanceolate, not amplexicaul; leaflets lanceolate to elliptic-lanceolate, rounded at base, acute at apex, 6–9 cm. long, about 3 cm. broad, pilose on nerves beneath, lateral leaflets subequal on each side
12. grandistipulatus [11. grandistipulatus](#)
- Stipules 8–23 mm. long, amplexicaul, very broad at base: **12**
- 12** Leaflets orbicular, truncate at base, broadly emarginate or rounded at apex, about 7 cm. long and broad; stipules broadly lanceolate, prominently many-nerved, subcordate, 18–23 mm. long, about 13 mm. broad [13. tonkouiensis](#)
- Leaflets ovate-lanceolate, cuneate at base, subacute at apex, 3–11 cm. long, 1–4 cm. broad, lateral leaflets very unequal-sided at base; stipules ovate-lanceolate, obscurely many-nerved, subfalcate, (8–) 12–19 mm. long, about 8 mm. broad [14. nimbaensis](#)

- 1. Dolichos stenophyllus** Harms in Engl. Bot. Jahrb. 26: 314 (1899); Bak. f. Leg. Trop. Afr. 2: 450; Brenan in Mem. N.Y. Bot. Gard. 8: 420(1954); Wilczek in Fl. Congo Belge 6: 325. Berhaut Fl. Sen .20.

APD: Synonym of Macrotyloma stenophyllum (Harms) Verdc.

Stems twining or trailing, 1–3 ft. long, from a woody base, slender, pubescent; flowers yellow; in savannah.

Sen.: fide Berhaut l.c. **Togo:** Sokode-Basari Schröder 90! 116! **N. Nig.:** Naraguta & Jos (Sept.) Lely 562! P. 697! Batten-Poole 154! Onitsha (fl. & fr. Oct.) Jones FHI 5892!

Also in the **Belgian Congo** and **Angola**.

- 2. Dolichos africanus** Wilczek in Bull. Jard. Bot. Brux. 24: 430 (1954); Fl. Congo Belge 6: 323. D. sp. A. of Brenan l.c. 417.

APD: Synonym of Macrotyloma africanum (R. Wilczek) Verdc.

Slender annual herb, climbing to 6 ft. high; green and glabrescent; flowers small, greenish-yellow.

N. Nig.: Bauchi Plateau (Oct.) Lely P. 800!

Also in **Belgian Congo**, **Tanganyika** and **N. Rhodesia** and **S. Rhodesia**.

3. **Dolichos chrysanthus** A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 164 (1912); Chev. Bot. 204; Bak. f. l.c. 449; Brenan l.c. 419; Wilczek l.c., fig. 16, incl. var. *occidentalis* (Harms) Wilczek.

APD: Synonym of Macrotyloma biflorum (Schumach. & Thonn.) Hepper var. biflorum

Dolichos biflorus of F.W.T.A., ed. 1, 1: 410.

Dolichos biflorus var. *occidentalis* Harms (1899); Bak. f. l.c. 449.

Dolichos stenophyllus of F.W.T.A. ed. 1, 1: 410, partly (Chev. 22427).

Dolichos brevipaulis of F.W.T.A., ed. 1, 1: 410, partly (Lely 562).

Stems trailing, 3–4 ft. long; flowers pale yellow; in **savannah**.

Port. G.: Bissau (fr. Dec.) Esp. Santo 1439! **S. L.:** Falaba (Sept.) Small 306! Waterloo Hill, Rokupr (Oct.) Jordan 370! **IV. C.:** Baoulé (Aug.) Chev. 22427! Dabou (fl. & fr. Nov.) Roberty 12512! **G. C.:** Tamale (Nov.) Williams 390! Ajena (Oct.) Morton A. 140! Anum (Nov.) Morton GC 7962! **N. Nig.:** Nupe Barter 967! 1591! Lokoja (Sept.) Parsons 19! 68! Anara F.R., Zaria (fl. & fr. Sept.) Olorunfemi FHI 24360! Naraguta (July) Lely 470! Vom Dent Young 74! Abinsi (Aug.) Dalz. 593! **Br. Cam.:** N. Cameroons (Oct.) Talbot!

Also in **French Cameroons**, **Ubangi Shari**, **Belgian Congo**, **Angola** and **A.-E. Sudan**. Dalz. 45!

Also in **Cape Verde Islands**, **A.-E. Sudan**, **Eritrea**, **Abyssinia**, **Tanganyika**, **Nyasaland**, **N. Rhodesia** and **Angola**.

5. **Dolichos brevipaulis** Bak in F.T.A. 2: 211 (1871); Bak. f. l.c. 444; Brenan l.c. 419.

APD: Synonym of Macrotyloma brevipaula (Baker) Verdc.

An erect or trailing herb, 1–2 ft. high, leaves greyish when dry, flowers greenish, in **savannah**.

N. Nig.: Jebba Barter! Yola (Sept) Dalz. 306! Alkalire, Bauchi Plateau (Sept.) Lely 639!

6. **Dolichos axillaris** E. Mey. — F.T.A. 2: 211; Brenan l.c. 414; Wilczek l.c. 321. *APD acc*

Dolichos biflorus of Bak. f. l.c. 448, partly (in syn.).

Perennial climbing herb, 3–4 ft. high, pubescent, flowers pale green.

N. Nig.: Naraguta & Jos (Sept.) Lely 578!

Widespread in tropical Africa reaching Natal in the south, also in **Madagascar** and **Ceylon**.

[The specimen cited here (Lely 578) is the true var. *axillaris* Another specimen from the Bauchi Plateau (Lely P. 97) is intermediate between the typical variety and var. *glaber* E. Mey. (1835).]

7. **Dolichos falcatus** Klein ex Willd. Sp. Pl. 3: 1047 (1802); Meikle in Kew Bull. 1950: 350 (1951); Wilczek l.c. 313.

APD: Synonym of Dolichos trilobus L. var. trilobus

Dolichos debilis Hochst. ex A. Rich. (1847) — F.T.A. 2: 213; Bak. f. l.c. 449.

A trailer or climber up to 6 ft. high; flowers cream tinged pink or bright blue and quickly fading, amongst shrubs in **secondary forest**.

G. C.: Mampong Scarp (fl. & fr. Dec.) Morton GC 9648! Sekodumase (fr. Jan.) Kitson! **Togo:** Bame Pass (Oct.) Morton GC 9300! **S. Nig.:** Ibadan (fl. & fr. Jan.) Meikle 661! 961! Isijere, Ibadan (Nov.) Keay FHI 28141! Lagos (Oct.) Punch!

Also in **Abyssinia**, **Uganda**, **Kenya**, **Tanganyika**, **Mozambique**, **Natal**, **India**, **Burma** and **Ceylon**.

8. **Dolichos formosus** A. Rich. — F.T.A. 2: 213; Bak. f. l.c. 448; Meikle l.c. 351; Wilczek l.c. 314.

APD: Synonym of Dolichos sericeus E. Mey. subsp. sericeus

APD: Synonym of Dolichos sericeus subsp. formosus (A. Rich.) Verdc.

A robust climber chiefly in **grasslands**; flowers blue or purple.

Br. Cam.: Nchan, Bamenda, 5,000 ft. (May) Maitland 1524!

Also in **Abyssinia**, **A.-E. Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **Nyasaland** and **Rhodesia**.

9. **Dolichos argenteus Willd.** Sp. Pl. 3: 1047 (1803); Bak. f. l.c. 452.

APD: Synonym of Pseudovigna argentea (Willd.) Verdc.

Stems creeping along the ground, clothed with long brown hairs; flowers white or pink.

Togo: fide Bak. f. l.c. **Dah.:** Cotonou (June) Debeaux 193!

Also in **Kenya**, **Tanganyika** and **Zanzibar**.

[The type specimen was collected in "Guinea."]

10. **Dolichos schweinfurthii Taub ex Harms** in Engl. Bot. Jahrb. 26: 315 (1899); Taub. in E. & P. Pflanzenfam. 3, 3: 383, name only; Bak. f. l.c.; 436. *APD acc*

Dolichos bongensis Taub. ex Harms. l.c. (1899); Bak. f. l.c.

Dolichos lelyi Hutch. (1921) — Bak. f. l.c.; F.W.T.A., ed. 1, 1: 410.

Dolichos carnosus A. Chev. Bot. 204, name only.

A variable perennial herb 2–3 ft. high with a tuberous rootstock; flowers purplish; gregarious in **savannah**.

Fr. Sud.: between upper R. Senegal and R. Niger Bellamy! **Port. G.:** Dara & Ôco, Gabú (June) Esp. Santo 2911! **Fr. G.:** Kouroussa Pobéguin 261! Diankoro to Balandougou (fl. & fr. May) Chev. 25881! Kana valley Chev. 13248. Timbo to Farana Chev. 13347; 13356. **Togo:** Yendi (Apr.) Dalz. 49! **N. Nig.:** Anara F.R., Zaria (fr. May) Keay FHI 22900! Naraguta Lely 44! Hill 27! Nabardo, 2,300 ft. (May) Lely 208! 215! **Br. Cam.:** Bansa to Jakiri (Jan.) Keay FHI 28459!

Also in **French Cameroons** and **A.-E. Sudan**.

11. **Dolichos dinklagei Harms** in Engl. Bot. Jahrb. 45: 315 (1910); Bak. f. l.c. 446. *APD acc*

Tephrosia subalpina A. Chev. (1912), partly; Chev. Bot. 181, partly; Bak. f. l.c. 1: 186.

Adenodolichos dinklagei (Harms) G. Roberty (1954).

A half-shrubby perennial, 2–5 ft. high, stems slightly angular; flowers blue; **on rocky outcrops**.

Fr. G.: Kindia to Conakry Chev. 20201. Grandes Chutes Chev. 20221. Macenta, 2,000–2,500 ft. (Oct.) Baldwin 9778! **S. L.:** Benikoro (Oct.) Thomas 2901! 2907! Yonibana (Oct.) Thomas 4329! Kasawe F.R. (fl. & fr. Dec.) King 42b! York Pass Lane-Poole 435! **Lib.:** Duport (fl. & fr. Nov.) Linder 1464! Genne Loffa, Kolahun (Nov.) Baldwin 10094! Mt. Mpaka Fossa, 2,000 ft. (fl. & fr. Jan.) Bequaert 41! **Iv. C.:** Mt. Goula, Dyolas country (Apr.) Chev. 21225!

12. **Dolichos grandistipulatus Harms** in Engl. Bot. Jahrb. 49: 452 (1913); Bak. f. l.c. 443. *APD acc*

An erect herb with an angular stem clothed with long white hairs.

N. Nig.: Bauchi Plateau Lely!

Also in **French Cameroons**.

13. **Dolichos tonkouiensis Portères** in Rev. Bot. Appliq. 19: 786 (1939). *APD acc*

Tephrosia subalpina A. Chev. (1912), partly **Dolichos nimbaensis Schnell** (1950), partly (Chev. 21724).

Erect undershrub, 4–5 ft. high, stems sharply angular, flowers yellow.

Fr. G.: Nzérékoré (Oct.) Baldwin 9690! **Lib.:** Sanokwele (Sept.) Baldwin 9519! **IV. C.:** Mt. Niénokué, 1,600 ft. Chev. 19474. Mt. Dou, 4,300 ft. Chev. 21486! Mt. Dourou, 3,200 ft. Chev. 21724! Mt. Tonkoui, Man Portères 2478.

14. **Dolichos nimbaensis Schnell** in Rev. Gen. Bot. 57: 278, fig. 1 (1950). *APD acc*

Erect or ascending herb 1–5 ft. high, stems angular, softly pubescent; flowers red or purple.

Fr. G.: Nimba Mts. Schnell 1550; 1846; 3366; 3715. **S. L.:** Magbile (fl. & fr. Dec.) Thomas 6481! Gendembu (Oct.) Glanville 4! Bubuya (Sept.) Adames 188!

Dolichos baumannii *Harms* in Engl. Bot. Jahrb. 26: 313 (1899); Bak. f. l.c. 448; Brenan l.c. 419, q.v. for discussion.

Togo: Misahöhe Baumann 341. Bismarckburg Büttner 225.

Imperfectly known species.

55. LABLAB

Adans. Fam. Pl. 2: 325 (1763).

- 1 Stems climbing; leaves long petiolate; leaflets acuminate, very broadly ovate, mostly abruptly cuneate at base, 6–12 cm. long, up to 10 cm. broad, glabrous or nearly so beneath; stipels lanceolate, 5 mm. long, ribbed; flowers on long stiff racemes, fasciculate on peduncle; fruit broadly and slightly falcate, about 6 cm. long and 2 cm. broad, beaked by the persistent style, glabrous *niger*

Lablab niger *Medic.* in Vorles. Churpf. Phys. Ges. 2: 354 (1787); Wilczek in Fl. Congo Belge 6: 279, fig. 9.

APD: *Synonym of Lablab purpureus (L.) Sweet subsp. purpureus*

Lablab vulgaris *Savi* (1821).

Dolichos lablab *Linn.* (1753) — F.T.A. 2: 210; Chev. Bot. 204; F.W.T.A., ed. 1, 1: 410; Bak. f. Leg. Trop. Afr. 2: 452.

A climbing perennial herb up to 15 ft. high, stems glabrous or pubescent; flowers white or red-tinged.

Sen.: Rufisque Chev. 3135. **S. L.:** Glanville in Hb. Deighton 1800! **IV. C.:** Morénou (fl. & fr. Dec.) Chev. 22490! **G. C.:** Kumasi Cummins 92! Tamale (fr. Dec.) Williams 811! **N. Nig.:** Sokoto Dalz. 323! Katagum Dalz. 43! Bui, Bornu (Sept.) Noble 23! **S. Nig.:** Lagos MacGregor 262! Ibadan (fl. & fr. Oct.) Newberry & Etim 148! Mt. Koloishe, Obudu (fl. & fr. Dec.) Savory & Keay FHI 25101! **Br. Cam.:** Victoria (fr. Nov.) Maitland 778! Buea (fr. Jan.) Montana 259! Bamenda Migeod 429!

Commonly cultivated, also occasionally wild; widespread in the tropics.

56. ADENODOLICHOS

Harms in Engl. Bot. Jahrb. 33: 179 (1902). *APD acc*

- 1 Shrub; young parts viscid reddish-tomentose; leaves opposite, 3-foliate, occasionally 5-foliate, stipellate; leaflets subequal, broadly ovate, rounded at base, rounded and mucronate at apex, 7–18 cm. long, 5–15 cm. broad, strongly nerved, rusty-pubescent on the nerves and gland-dotted beneath; flowers in lax terminal panicles with elongated branches; calyx tomentose, about 1 cm. long, lobes oblong-lanceolate, subacute; fruits oblong, sharply beaked, 4–5 cm. long, 1–3-seeded, loosely tomentose *paniculatus*

Adenodolichos paniculatus (*Hua*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 411 (1928); Kew Bull. 1929: 18; Bak. f. Leg. Trop. Afr. 2: 458; Wilczek in Fl. Congo Belge 6: 396. *APD acc*

Dolichos paniculatus *Hua* (1897).

D. macrothyrsus *Harms* (1899).

Adenodolichos macrothyrsus (*Harms*) *Harms* (1902).

An erect half-woody plant of shrubby habit, up to 15 ft. high; flowers with pinkish keel and yellowish standard; *in savannah country*.

Fr. G.: Timbo Miguel 72. **G. C.:** Gambaga Scarp (Dec.) Adams & Akpabla GC 4246! **N. Nig.:** Kontagora (fr. Dec.) Dalz. 37! Minna (fr. Dec.) Meikle 694! Mongu, 4,300 ft. (July) Lely 398! Vom, 3,000–4,500 ft. Dent Young 77! Ropp (fl. & fr. Dec.) Savory UCI 130!

Also in **French Cameroons** and **A.-E. Sudan**. *DC.* — F.T.A. 2: 207; *Harms* in Notizbl. Bot. Gart. Berl. 5:

253; Chev. Bot. 203; Bak. f. Leg. Trop. Afr. 2: 424; Jac.-Fél. in Bull. Soc. Bot. Fr. 93: 360 (1946).

APD: Synonym of Vigna subterranea (L.) Verdc. var. subterranea

Glycine subterranea Linn. (1763).

Flowers usually in pairs on a peduncle, stigma lateral.

Sen.: Roger! **Fr. Sud.:** Ségou (Sept.) Chev. 24974! Djenné (Sept.) Chev. 3133! San Chev. 3131. **IV. C.:** Mossi Chev. 24697. **G. C.:** Atwabo Fishlock 76! Tamale (Oct.) Baldwin 13582! **Togo:** Kersting! **Dah.:** Agouagon Chev. 23669. **N. Nig.:** Munshi country (fr. Dec.) Sampson 36! Kilba country (Aug.) Dalz. 9! Bida Lamb! Bauchi Plateau (July) Lely P. 536! **S. Nig.:** Lagos Millen 10! Aguku Thomas 996!

Cultivated throughout tropical Africa, S. Africa and Madagascar and also in Java and the Philippines and, apparently indigenous in N. Nigeria, French Cameroons and Ubangi-Shari.

58. KERSTINGIELLA

Harms in Ber. Deutsch. Bot. Ges. 26a: 230, t. 3 (1908).

- 1 A herb with prostrate rooting branches fruiting below the soil; leaves 3-foliolate, long-petiolate, stipellate; leaflets elliptic-obovate, broadly narrowed at base, mucronate, 5–8 cm. long, 4–5.5 cm. broad, 3 nerved at base, glabrous; flowers axillary, subsessile, about 1 cm. long; calyx thinly pilose, deeply divided with narrow segments; fruits on a carpophore up to 2 cm. long, 1–3-seeded, in the latter case constricted between the seeds, up to 2 cm. long, reticulate; seeds somewhat kidney-shaped, 1 cm. long, rich brown, with the scar near the middle [geocarpa](#)

Kerstingiella geocarpa *Harms* l.c. (1908); Stapf in Kew Bull. 1912: 209, with fig.; Chev. Bot. 203; Bak. f. Leg. Trop. Afr. 2: 425.

APD: Synonym of Macrotyloma geocarpum (Harms) Maréchal & Baudet var. geocarpum

Voandzeia poissoni A. Chev. (1910).

V. geocarpa (*Harms*) A. Chev. (1919).

Flowers subsessile in leaf-axils, style with a terminal ciliate stigma.

Sen.: Berhaut 284. **IV. C.:** Mossi Chev. 24682. **G. C.:** Williams 553! **Togo:** Kersting A. 476–478! **Dah.:** Agouagon Chev. 23525; 23848. **N. Nig.:** Andrew! Nupe (fr. June) Elliott 200! Bida Lamb 8!

59. PSOPHOCARPUS

Neck. — F.T.A. 2: 208.

- 1 Leaves 3-foliolate; leaflets entire or sometimes 3 lobed, broadly ovate, terminal leaflet rhomboidal, 5–9 (–12) cm. long, 4–6 (–9) cm. broad, more or less pubescent beneath; racemes 15 cm. long; calyx shortly pubescent outside; fruits 4-winged, 5–6 cm. long, 1.5 cm. broad, 4–6-seeded, glabrous [1. palustris](#)
- Leaves 1-foliolate; leaflet shortly petiolulate, ovate, rounded at both ends, mucronate, 5–7.5 cm. long, 4–4.5 cm. broad, pubescent on the strong nerves beneath; stipules broadly lanceolate, 8 mm. long; racemes 15 cm. long; calyx glabrous outside; young fruits villous [2. monophyllus](#)

1. **Psophocarpus palustris** *Desv.* in Ann. Sci. Nat., sér. 1, 9: 420 (1826); Bak. f. Leg. Trop. Afr. 2: 426; Wilczek in Fl. Congo Belge 6: 283, fig. 10. *APD acc*

APD: Synonym of Psophocarpus scandens (Endl.) Verdc.

Psophocarpus palmettorum *Guill. & Perr.* (1832) — F.W.T.A., ed. 1, 1: 411.

Psophocarpus longepedunculatus of F.T.A. 2: 208.

A twiner with blue flowers and half-woody stem; [climbing on trees in swampy places.](#)

Sen.: Farmar 39! **Gam.:** Kudang (Jan.) Dalz. 8016! **Fr. Sud.:** Bafaga Chev. 712. **Port. G.:** Bissau (Oct.) Esp. Santo 1423! 1664! **S. L.:** Segbwema (Dec.) Deighton 3466! Mange (fr. Feb.) Deighton 3611! **Lib.:** Peahtah (Oct.) Linder 1019! Kolahun

(fr. Nov.) Baldwin 10150! **G. C.:** Accra Plains (fr. Jan.) Irvine 1942! **Dah.:** Porto Novo Chev. 22719! **N. Nig.:** Nupe Barter 960! Kontagora (fl. & fr. Oct.) Dalz. 17! **S. Nig.:** Lagos Millen 69! Old Calabar Thomson 116! Oban Talbot 1318! **Br. Cam.:** Victoria (Mar.) Maitland 515!

Extends to **A.-E. Sudan**, **Zanzibar**, **Mozambique** and **Angola**.

2. **Psophocarpus monophyllus** *Harms* in Engl. Bot. Jahrb. 40: 43 (1907); Chev. Bot. 203; Bak. f. l.c. 427. *APD acc*

A rather woody plant up to 3 ft. high; flowers blue in axillary racemes.

Fr. Sud.: Samorokiri Chev. 888. **IV. C.:** Mankono (July) Chev. 21972!

The Asiatic species *P. tetragonolobus* (Linn.) DC. has been introduced into our area.

60. **TERAMNUS**

Browne — F.T.A. 2: 180.

- 1 Pedicels (of flowers) 2–3 mm. long; leaflets with 4–6 secondary nerves, ovate to ovate-lanceolate, subacute, 3–5 cm. long, 1.5–2.5 cm. broad, closely appressed-pilose beneath; stipules lanceolate, pubescent; racemes few-flowered, axillary, about as long as the leaves; calyx appressed-pilose, 3 mm. long; fruits linear, flat, 4–6 cm. long, sparsely appressed-pilose, with an upturned beak 3 mm. long [1. labialis](#)
- Pedicels (of flowers) up to 1 mm. long, or flowers sessile; leaflets with 7–13 secondary nerves: **2**
- 2 Calyx 6–7 mm. long, deeply lobed, lobes subulate, densely long-pilose; corolla a little longer than calyx; racemes 20–35 cm. long, long-pedunculate; fruits densely spreading-setose, about 4 cm. long and 4 mm. broad, with the beak slightly reflexed; leaflets lanceolate, 8–10 cm. long, 3–4 cm. broad, with about 12 lateral nerves, terminal leaflet shortly petiolate; peduncle 1–3 cm. long [2. buettneri](#)
- Calyx 3–4 mm. long, lobed to about half-way down its length; leaflets with about 8 lateral nerves; fruits with a reflexed beak 3–4 mm. long; **3**
- 3 Leaflets lanceolate to linear-lanceolate, 5–6 cm. long, 1–2.5 cm. broad, pubescent beneath; stems angular, more or less appressed-pilose; racemes 10–40 cm. long, shortly pedunculate; fruits 4–5 cm. long, about 2 mm. broad, sparsely appressed-pilose [3. andongensis](#)
- Leaflets elliptic or ovate, 6–9 cm. long, 3–6.5 cm. broad, silky-pubescent beneath; stems angular, pilose with reflexed spreading hairs; racemes up to 40 cm. long; fruits about 3.5 cm. long, 3 mm. broad, densely appressed-pilose [4. micans](#)

1. **Teramnus labialis** (*Linn. f.*) *Spreng.* — F.T.A. 2: 180, partly; Chev. Bot. 194; Bak. f. Leg. Trop. Afr. 2: 363. *APD acc*

Glycine labialis *Linn. f.* (1781).

A slender-stemmed twiner with small reddish flowers.

Sen.: Senegal R. (Jan.) Roger 89! Galam Heudelot 114! Walo Perrottet 222! **S. L.:** Thomas! Hangha (fr. Jan.) Thomas 7796! **Lib.:** Vonjama Dist. (Oct.) Baldwin 9994! **IV. C.:** Mid. Comoé Chev. 22616. **G. C.:** Accra Plains (July) Irvine 3028! Anum (fr. Nov.) Morton GC 7993! Kumasi (fl. & fr. Dec.) Morton GC 9682! **Dah.:** Zagnanado Chev. 22981. **S. Nig.:** Thomas 1810! Lagos Millen 61! 114! Ibadan (fl. & fr. Nov.) Jones & Keay FHI 14228!

Also throughout the tropics.

2. **Teramnus buettneri** (*Harms*) *Bak. f.* l.c. 365 (1929). *APD acc*

Glycine buettneri *Harms* (1899).

G. andongensis of F.W.T.A., ed. 1, 1: 407, partly (Büttner 163).

Stem more or less erect, woody, up to 5 ft. high.

IV. C.: Mankono (fr. July) Chev. 21990! **G. C.:** Vigne! Wankye (July) Chipp 482! Ejura (fr. Aug.) Andoh FH 5041! **Togo:** Bismarckburg Büttner 163. Kpandu Robertson 135! Kete Krachi (fl. & fr. May) Morton GC 7160!

3. **Teramnus andongensis** (*Welw. ex Bak.*) *Bak. f.* in J. Bot. 66, suppl. 1: 115 (1928); Leg. Trop. Afr. 2: 364.

APD: Synonym of Teramnus uncinatus subsp. ringoetii (De Wild.) Verdc.

Glycine andongensis Welw. ex Bak. in F.T.A. 2: 179 (1871); F.W.T.A., ed. 1, 1: 407, partly (Dalz. 589).

A twiner in grass with small white flowers.

Sen.: Niokolo-Koba (fr. Jan.) Berhaut 4462! **S. L.:** Musaia (fr. Dec.) Deighton 4872! 5704! Jigaya (Nov.) Thomas 2689! **G. C.:** Wenchi (fl. & fr. Dec.) Morton GC 25302! **N. Nig.:** Abinsi (Nov.) Dalz. 589! Bauchi Plateau (Sept.) Lely P. 721! R. Benue (Sept.) Talbot! Lassa, L. Chad (Sept.) Royer 101!

Also in **Uganda, Kenya, Tanganyika, Belgian Congo** and **Angola**.

[The numbers cited here are by no means uniform amongst themselves and several taxa may be recognized when more material becomes available.]

4. **Teramnus micans** (Welw. ex Bak.) Bak. f. in J. Bot. 66, suppl. 1: 115 (1928); Leg. Trop. Afr. 2: 366.

APD acc

Glycine micans Welw. ex Bak. in F.T.A. 2: 179 (1871).

A fairly strong climber with white or pink flowers.

Port. G.: Bafatá (fl. & tr. Nov.) Esp. Santo 2971! **S. L.:** Yonibana (Nov.) Thomas 4698! 5101! Sefadu (Dec.) Deighton 3577! Musaia (fr. Dec.) Deighton 4543! **Br. Cam.:** Belo, Bamenda (fr. Apr.) Maitland 1688!

Also in **French Cameroons, Belgian Congo** and **Angola**.

61. PUERARIA

DC. in Ann. Sci. Nat., ser. 1, 4: 97 (1825).

- 1 Climbing herb; stems densely pilose with brownish spreading hairs; leaves 3-foliolate; leaflets broadly rhomboid-ovate, broadly cuneate at base, subacute at apex, 6–9 cm. long, 5–8 cm. broad, softly appressed-pilose beneath, pubescent above with hairs of two lengths; stipules lanceolate, not appendaged; racemes axillary, pedunculate, 10–20 cm. long, many-flowered, with glandular swollen nodes; flowers about 1.5 cm. long; fruits linear, about 8 cm. long and 6 mm. broad, beaked, appressed-pilose with brownish hairs

..... *phaseoloides*

Pueraria phaseoloides (Roxb.) Benth. in J. Linn. Soc. 9: 125(1865). *APD acc*

Dolichos phaseoloides Roxb. (1832).

A climbing or trailing herb with pale bluish flowers.

S. L.: Njala (fl. & fr. Jan.) Deighton 2455! **Lib.:** Roberts Field, Montserrado (fl. & fr. Jan.) Baldwin 14040! **G. C.:** Butre, Dixcove (fl. & fr. Mar.) Morton A. 438! **S. Nig.:** Asaba (fl. & fr. Mar.) Irvine 3616!

A native of tropical Asia, introduced into parts of tropical Africa as a cover-crop.

Pueraria thunbergiana (Sieb. & Zucc.) Benth.

Has also been introduced into Sierra Leone.

62. CANAVALIA

DC. — F.T.A. 2: 189.

- 1 Stems creeping; leaflets broadly obovate or suborbicular, widely emarginate and mucronate, up to 10 cm. in diam., thin, glabrous, with about 5 pairs of prominent lateral nerves, laxly reticulate between the nerves; stipels very small; flowers few on a stout axis, shortly pedicellate; calyx about 1 cm. long, shortly pubescent outside, the uppermost lobe broadly ovate; corolla about 2.5 cm. long; fruits broadly linear, 15 cm. or more long, with 2 very close ribs near the upper suture *L. rosea*

Stems climbing; leaflets ovate or ovate-elliptic, acute or acutely acuminate, broadly cuneate at base, up to 20 cm. long and 10 cm. broad, glabrous, with 6–7 pairs of lateral nerves; flowers more or less as above; fruits variable, sword-shaped, elongate, 30 cm. long or more, with 2 longitudinal ribs near the upper suture; seeds narrowly ellipsoid, smooth *2. ensiformis*

1. **Canavalia rosea** (Sw.) DC. Prod. 2: 404 (1825); Dunn in Kew Bull. 1922: 138; Exell Cat. 8. Tomé 160 (q.v. for full synonymy). *APD acc*

Dolichos roseus Sw. (1788).

Canavalia obtusifolia DC. (1825), partly, excl. syn.

Dolichos obtusifolia — F.T.A. 2: 190; Chev. Bot. 197; F.W.T.A., ed. 1, 1: 412; Bak. f. Leg. Trop. Afr. 2: 385.

A nearly glabrous trailing plant, with rose or purple flowers.

Sen.: Casamance Chev. 3411; 3417. **Gam.:** Kuntaur Ruxton 12! **S. L.:** Deighton 2040! River Beach Colony (July) Small 162! **Lib.:** Kakatown Whyte! Monrovia Barker 1456! Greenville (fr. Mar.) Baldwin 11567! **IV. C.:** Sassandra Port Chev. 17928. Tabou Chev. 19933. **G. C.:** Axim (Jan.) Chipp 57! Atwabo Fishlock 23! **Dah.:** Cotonou (fr. Mar.) Debeaux 149! **S. Nig.:** Lagos (June) Dalz. 1212! Brass Barter 53! Kwa Ibo R. Talbot 3089! **Br. Cam.:** Preuss 1281!

Common on maritime shores and estuaries in the tropics of both hemispheres; sometimes cultivated.

2. **Canavalia ensiformis** (Linn.) DC. — F.T.A. 2: 190; Chev. Bot. 196; Bak. f. l.e. 384. *APD acc*

Dolichos ensiformis Linn. (1753).

Canavalia gladiata (Jacq.) DC. (1825) — Dunn l.c. 134.

Canavalia regalis Dunn (1922).

Canavalia africana Dunn (1922); Berhaut Fl. Sen. 18.

Climbing on fences and trees; flowers rose, mauve or white with a red base.

Sen.: Berhaut 1623. **Fr. Sud.:** Ségou Chev. 24975. **Port. G.:** Bissau Esp. Santo 1582! **Fr. G.:** Longuery Chev. 14641; 14763. Fouta Djallon Chev. 18719; 18721. **S. L.:** Deighton 1988! Musaia (fr. Dec.) Deighton 4532! **IV. C.:** Keéta Chev. 19335. **Togo:** Howes 1042! **Dah.:** Abomey Chev. 23162. **N. Nig.:** Jebba Barter! Nupe Barter 1607! Mongu (July) Lely 387! **S. Nig.:** Lagos MacGregor 177! Olokemeji Foster! Oban Talbot 233!

A common plant in the tropics of both hemispheres, usually found in cultivation.

Several taxa are undoubtedly included here, but a thorough taxonomic revision is needed to clarify this group.

63. DIOCLEA

H. B. & K. — P.T.A. 2: 189.

- 1 Woody climber; branches pilose; leaves 3-foliolate; leaflets ovate-elliptic, rounded at base, abruptly acuminate and mucronate, up to about 15 cm. long and 10 cm. broad, thinly pilose; lateral nerves 7–8 pairs; stipules peltate, acute; stipels filiform; inflorescence stiff and woody, racemose, longer than the leaves; bracts narrowly lanceolate, about 1.5 cm. long; calyx rusty-pubescent; standard renexed; fruits elliptic-orbicular to oblong, 10 cm. or more long, about 4–5 cm. broad, rather woody, pilose, 1–3-seeded; seeds semi-orbicular, about 3.5 cm. long, with a conspicuous hilum encircling it for 3/4 its circumference*reflexa*

Dioclea reflexa Hook. f. — F.T.A. 2: 189; Chev. Bot. 196; Bak. f. Leg. Trop. Afr. 2: 383. *APD acc*

A hairy, woody, climbing shrub, with conspicuous erect racemes of scented red flowers.

Port. G.: Buba (fr. Nov.) Esp. Santo 1286! Fulacunda (Oct.) Esp. Santo 2217! **S. L.:** Freetown (fr. Dec.) Dalz. 998! Njala (fr. Oct.) Deighton 4899! Magbile (Dec.) Thomas 5974! Bumbuna (fr. Oct.) Thomas 3409! **Lib.:** Cape Palmas (July) T. Vogel 32! Du R. (July) Linder 104! Webo (July) Baldwin 6641! Monroviatown (Aug.) Baldwin 7096! Gondolahun (fr. Nov.) Baldwin 10108! **IV. C.:** Scaëtta 3341! Several localities fide Chev. l.c. **G. C.:** Akroso (fr. Aug.) flow 950! Swedru (fr. Sept.) Dalz. 93! Kumasi (Sept.) Andoh FH 5353! **Togo:** Fume (Nov.) Morton A. 143! **Dah.:** Poisson 104! **S. Nig:** T. Vogel! Lagos MacGregor 98! Punch 21! Ibadan Newberry 66! Oladoyinbo FHI 24251! **Br. Cam.:** Cameroon R. (fl. & fr. Jan.) Mann 2217! Victoria (Mar.) Maitland 468! **F. Po:** T. Vogel 3!

In the tropics of both hemispheres.

64. ABRUS

Adans. — F.T.A. 2: 174. *APD acc*

- 1 Seeds bright red with black base; ripe fruits becoming warted, about twice as long as broad; flowers pink in short, pedunculate racemes; bracteoles very small at base of calyx, caducous; leaflets oblong, 6–15 mm. long,

4–8 mm. broad, rounded to subacute at apex, thinly pubescent [1. *precatorius*](#)

Seeds all black or brown; ripe fruits smooth, about three times as long as broad: **2**

- 2** Bracteoles very small at base of calyx, caducous; corolla pink, drying yellow, thin; racemes slender, with sessile flowers in small clusters; leaflets 7–9 pairs, oblong, 2–3 (–4) cm. long, about 1 cm. broad, truncate or rounded at apex, pubescent [2. *pulchellus*](#)

Bracteoles about as long as calyx, more or less persistent; corolla deep purple, rather thick; racemes with rather distant dense clusters of sessile flowers; leaflets 10–13 pairs, narrowly oblong, 1–2 cm. long, about 6 mm. broad, truncate and mucronate at apex, usually densely pubescent [3. *canescens*](#)

1. ***Abrus precatorius* Linn.** — F.T.A. 2: 175; Chev. Bot. 193; Bak. f. Leg. Trop. Afr. **2; 351. APD acc**

A woody twining shrub, with rather stout racemes of pinkish-yellow flowers and clustered fruits which burst, exposing the brilliant red and black seeds.

Sen.: Roger! **Fr. Sud.:** Bamako Chev. 253. Yatenga Chev. 24777. **Fr. G.:** Fouta Djallon Chev. 12900. Kouria Chev. 14975. **S. L.:** Regent (fr. Dec.) Sc. Elliot 4122! Njala (fr. Nov.) Deighton 2401! Pendemba (fr. July) Thomas 829! Gola (fr. Apr.) Small 572! **Lib.:** Gbanga (Oct.) Linder 1167! Cess R. (fr. Mar.) Baldwin 11282! Browntown (fr. Aug.) Baldwin 7080! **G. C.:** Achimota (Feb.) Irvine 1993! **Togo:** Lome Warnecke 202! **Dah.:** Cotonou Chev. 23358. **S. Nig.:** Lagos MacGregor 19! Umuikem, Onitsha (fr. Apr.) Onochie FHI 7194! Oban Talbot 184! **F. Po:** Mann 30!

Found all over the tropics and subtropics.

- 2. *Abrus pulchellus* Wall. ex Thw.** — F.T.A. 2: 175; Chev. Bot. 193; Bak. f. l.c. 351.

APD: *Synonym of Abrus melanospermus subsp. tenuiflorus (Benth.) D. K. Harder*

APD: *Synonym of Abrus melanospermus subsp. suffruticosus (Boutique) D. K. Harder*

APD: *Synonym of Abrus melanospermus Hassk.*

Abrus canescens of F.W.T.A., ed. 1, 1: 412, partly (Sc. Elliot 4312; Dalz. 14).

***Abrus strictosperma* Berhaut** (1954).

A climbing shrub like the preceding; flowers pink.

Sen.: Ziguinchor Chev. 3396. **Gam.:** Perrottet 212! **Fr. Sud.:** Tabacco (Oct.) Chev. 3397! **Port. G.:** Pelubá, Bissau (fr. Dec.) Esp. Santo 1583! **Fr. G.:** Fouta Djallon Heudelot 685! Macenta (fl. & fr. Oct.) Baldwin 9775! **S. L.:** Kitchom Sc. Elliot 4312! Bumbuna (Oct.) Thomas 3716! Kenema (fl. & fr. Nov.) Deighton 392! Njala (Nov.) Deighton 1499! **Lib.:** Ganta (Nov.) Harley! Tawata, Boporo (Nov.) Baldwin 10319! **G. C.:** Gambaga (fr. Dec.) Adams GC 4222! Kumasi (fl. & fr. Nov.) Darko 638! Volta River F.R. (fl. & fr. Nov.) Morton GC 6052! **Dah.:** Tchatchou Poisson! **N. Nig.:** Nupe Barter 1749! Patti Lokoja (fl. & fr. Nov.) Dalz. 14! Parsons L. 93! Bauchi Plateau (Oct.) Lely P. 813! **S. Nig.:** Lagos (Oct.) Punch 47! Gambari Group F.R. (fl. & fr. Nov.) Ujor 29395!

Throughout Africa and in the eastern tropics.

- 3. *Abrus canescens* Welw. ex Bak.** in F.T.A. 2: 175 (1871); Chev. Bot. 193; Bak. f. l.c. 351; Berhaut Fl. Sen. 31. *APD acc*

A climbing shrub with grey-pubescent foliage and usually deep red-purple flowers.

Sen.: Berhaut 1448. **Gam.:** Kuntaur (Sept.) Ruixton 54! **Port. G.:** Bafata (fl. & fr. Nov.) Esp. Santo 3116! **Fr. G.:** Kouroussa (fl. & fr. Sept.) Pobéguin 953! Macenta (fl. & fr. Oct.) Baldwin 9773! Fouta Djallon Chev. 18242. Grandes Chutes Chev. 20230; 20299. **S. L.:** Talla Hills (fr. Feb.) Sc. Elliot 4970! Fotombu (fl. & fr. Oct.) Small 371! Musaia (fr. Dec.) Deighton 4493! **Lib.:** Gbanga (fl. Sept., fr. Dec.) Linder 688! Baldwin 10525! Gbau, Sanokwele (Sept.) Baldwin 9405! **IV. C.:** Bingerville Chev. 20070. Anou-maba Chev. 22396. **G. C.:** Tanosu Rattray R. 11! Burufo (fr. Dec.) Adams & Akpabla GC 4394! Menji, Wenchi (fr. Dec.) Morton GC 25220! **Togo:** Kpandu Robertson 82! Amedzofe (fl. & fr. Nov.) Morton GC 9385! **N. Nig.:** Lokoja (fl. & fr. Nov.) Dalz. 15! Parsons L. 78! Jebba Barter! Kontagora (fr. Jan.) Meikle 1089! **S. Nig.:** Lagos (Oct.) Punch 32!

Also in **Belgian Congo**, **A.-E. Sudan**, **E. Africa** and **Angola**.

65. STYLOSANTHES

Sw. — F.T.A. 2: 155.

- 1 Older stems with a ridge of hairs down one side; one or both segments of fruit reticulate and glabrous, occasionally both segments pubescent, beak circulate, ciliate beneath; spike 1–5 cm. long; bracts bristly or glabrescent; leaflets oblanceolate or narrowly elliptic, acute or obtuse at each end, 10–15 mm. long, 5 mm. broad, glabrous, or midrib sometimes ciliate [1. erecta](#)
- Older stems densely pubescent with short ascending hairs; both segments of fruits pilose, beak circulate; spike about 2 cm. long; bracts pubescent or bristly; leaflets elliptic or narrowly elliptic, very acute at apex, 10–18 mm. long and about 6 mm. broad, shortly pubescent beneath [2. mucronata](#)

1. **Stylosanthes erecta** *P. Beauv.* — F.T.A. 2: 156; Chev. Bot. 187; Bak. f. Leg. Trop. Afr. 2: 319; Léonard in Fl. Congo Beige 5: 347, fig. 24. *APD acc*

Stylosanthes guineensis *Schum. & Thonn.* (1827) — F.W.T.A., ed. 1, 1: 413.

Stylosanthes erecta var. **guineensis** (*Schum. & Thonn.*) *T. Vogel* (1838) — Bak. f. l.c. 320.

Erect or rather prostrate undershrub about 2 ft. high; flowers yellow; [near the sea](#).

Sen.: Sieber! Cayor Heudelot 406! **Fr. Sud.:** Ouassana Chev. 617. Ségou Chev. 3259. **S. L.:** Yele, Turtle Isl. (fl. & fr. Nov.) Deighton 2314! Kent (May) Deighton 2659! King Tom (Oct.) Deighton 2166! **Lib.:** Cape Palmas (July) T. Vogel 5! Grand Bassa (July) T. Vogel 56! Monrovia (Nov.) Linder 1416! Baldwin 5942! Sinkor (July) Barker 1369! 1388! **IV. C.:** Cavally Chev. 19939. Mossi Chev. 24730. Tabou Chev. 20052. **G. C.:** Cape Coast Don! Teshi (Nov.) Irvine 811! Prampram (Dec.) N. F. Robertson 32! **Togo:** Lome Warnecke 270 (partly)! **Dah.:** Cotonou (Jan.) Chev. 4486; 22691! Ouidah Chev. 23431. **Fr. Nig.:** Gourma Chev. 24538. **S. Nig.:** T. Vogel! Lagos (Dec.) Dalz. 1215! Rowland! Brass Barter! Nun R. (Sept.) Mann 473!

Also in [Belgian Congo](#) and [Angola](#).

2. **Stylosanthes mucronata** *Willd.* — F.T.A. 2: 157; Bak. f. l.c. 320; Léonard l.c. 348.

APD: *Synonym of Stylosanthes fruticosa (Retz.) Alston*

Stylosanthes viscosa of F.W.T.A., ed. 1, 1: 413, partly, not of Sw.

Stylosanthes bojeri *T. Vogel* (1838).

A perennial rather woody herb of poor soils, 1–3 ft. high; flowers small, yellow.

Sen.: Richard Tol Lelièvre! Senegal R. (Aug.–Dec.) Roger 59! **Gam.:** Hayes 576! **Fr. Sud.:** Labeyana Hagerup 448! **Port. G.:** Bafata (Nov.) Esp. Santo 2804! **G. C.:** Lawra (Oct.) Hinds 5017! Tamu (fr. Dec.) Adams & Akpabla GC 4372! Tamale (Mar.) Morton GC 8814! **Togo:** Lome Warnecke 270 (partly)! **N. Nig.:** Sokoto Moiser 16! 93! Kontagora (Nov.) Dalz. 46! Bauchi Plateau (May) Lely 178! P. 274! Meifoni, Bornu Parsons!

Throughout tropical Africa, Madagascar, [Arabia](#) and India.

Stylosanthes viscosa *Sw. APD acc*

A widespread tropical American species, was collected by Don and was recorded in Fl. Nigrit. 301 and F.T.A. 2: 156 as having come from Sierra Leone. This single specimen is in the British Museum. Considering the time that has elapsed since Don made his collections, it is strange that no further gatherings of *S. viscosa* are to be found; perhaps there has been confusion and this specimen really came from America. In the first edition the name *viscosa* was misapplied to all the pubescent specimens (i.e. *S. mucronata* Willd.) in W. Africa. Doubtfully recorded species.

66. ZORNIA

J. F. Gmel. — F.T.A. 2: 158.

- 1 Flowers much shorter than the bracts; bracts ovate-elliptic, acute, more than 4 mm. broad, without, or with a few inconspicuous, pellucid glands; fruits up to 4-segmented, bristles up to 2 mm. long, barbed (glochidiate) and retrorsely hispid; leaflets lanceolate, acute, up to 4 cm. long; normally annual [1. glochidiata](#)
- Flowers about as long as or longer than the bracts; perennials: **2**
- 2 Bracts lanceolate, acute, up to 2 mm. broad, conspicuously pellucid-punctate; fruits up to 7-segmented, bristles up to 1 mm. long, barbed (glochidiate) and retrorsely hispid; upper leaflets lanceolate, acute, up to 3.5 cm. long, lower leaflets shorter, broadly ovate [2. latifolia](#)
- Bracts ovate-elliptic, subacute, 2.5–5 mm. broad, not conspicuously punctate; fruits up to 5-segmented, bristles 3–4 mm. long, with ascending hairs (not glochidiate) [3. durumensis](#)

1. *Zornia glochidiata* *Reichb. ex DC.* Prod. 2: 316 (1825); Milne-Redhead in Bol. Soc. Brot., sér. 2, 28: 87 (1954); Léonard in Fl. Congo Beige 5: 356. *APD acc*

Zornia biarticulata *G. Don* (1832); Chev. Bot. 188.

Zornia diphylla of F.W.T.A., ed. 1, 1: 413, partly; of Chev. Bot. 188, partly, not of Pers.

An annual herb, becoming much-branched and straggling, not usually surviving the dry season; flowers very inconspicuous, yellow with reddish-purple tinge.

Sen.: Sieber 40! Heudelot 240! Perrottet 242! **Gam.:** Mungo Park! Kuntaur Ruxton! **Port. G.:** Bissau (fl. & fr. Oct.) Esp. Santo 2548! Bissagos (Oct.) Dinklage 3220! **Fr. G.:** Kouroussa (fr. Oct.) Pobéguin 1161! **S. L.:** Njala (fr. Mar.) Deighton 4591! Serabu Bumpé (fr. Apr.) Deighton 1676! Rokupr (fl. & fr. Oct.) Jordan 364! **IV. C.:** Mossi (fl. & fr. Aug.) Chev. 24716! **G. C.:** Accra (fl. & fr. Nov.) Don 10! Irvine 812! Achimota (fr. Dec.) Darko 488! **Togo:** Lome Warnecke 285! Kpandu Robertson 32! **Dah.:** fide Chev. l.c. **Fr. Nig.:** Gao Hagerup 360! **N. Nig.:** Nupe Barter 1626! Katagum Dalz. 6! Zaria (fl. & fr. June) Keay FHI 25912! **S. Nig.:** Olokemeji (fl. & fr. Oct.) Keay FHI 28046! Ibadan (Nov., Dec.) Meikle 668! 910!

Throughout tropical Africa and reaching Cape Province and S.W. Africa.

2. *Zornia latifolia* *Sm.* in Rees Cycl. 39, No. 4 (1819); Milne-Redhead l.c. 89; Léonard l.c. 354; not of DC. (1825). *APD acc*

Zornia gracilis *DC.* (1825).

Zornia diphylla of F.W.T.A., ed. 1, 1: 413; Kew Bull. 1929: 18. partly; of Chev. Bot. 188, partly; not of Pers.

A wiry perennial herb often remaining green throughout the dry season; flowers yellow.

Sen.: Cape Verde Perrottet! **Fr. Sud.:** fide Chev. l.c. **S. L.:** Freetown (fl. & fr. Oct.) Deighton 2146! Njala (fl. & fr. Mar.) Deighton 4592! Rokupr (fl. & fr. Feb.) Deighton 4264! **Lib.:** Monrovia (fl. & fr. Jan.) Baldwin 14072! Sinkor (fl. & fr. June) Barker 1366! **IV. C.:** fide Chev. l.c. **G. C.:** Accra Don! Achimota (fl. & fr. Jan.) Akpabla! Keta (fl. & fr. May) Darko 563! **Togo:** Lome Warnecke 287! **Dah.:** fide Chev. l.c. **S. Nig.:** Ibadan (fl. & fr. Dec.) Meikle 911! Idanre (fl. & fr. Oct.) Keay FHI 25526! Sapoba (fl. & fr. Nov.) Keay FHI 28063! Port Harcourt (fr. June) Maitland!

Native of tropical S. America, introduced as a weed in W. Africa and **Belgian Congo**.

3. *Zornia durumensis* *De Wild.* in Bev. Zool. Afr. 13: B 26 (1925); Milne-Redhead l.c. 79; Léonard l.c. 357, fig. 25 A. *APD acc*

Zornia lelyi *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 413 (1928).

A precocious perennial with woody rootstock; flowers yellow with reddish veins on standard.

N. Nig.: Kargi Hill, Birnin Gwari (June) Keay FHI 25880! Kaduna (fr. Dec.) Meikle 774! Kontagora-Zungeru road (Jan.) Meikle 1098! Bauchi Plateau (fl. & fr. Feb.) Lely P. 151! Nabardo (fr. May) Lely 205!

Also in **Belgian Congo** and **A.-E. Sudan**.

67. ARACHIS

Linn. — F.T.A. 2: 157. *APD acc*

- 1 Stems herbaceous, pilose; leaves paripinnate; leaflets 2 pairs, obovate, mucronate and sometimes emarginate, 3–4 cm. long, 1.5–2.5 cm. broad, with numerous parallel lateral nerves; rhachis flat above, pilose on the margin; stipules adnate to the petiole for about 1 cm., free part linear-lanceolate, very acute, 1.5–2 cm. long, nervose, ciliate; flowers axillary, solitary, the lower fertile ones subsessile and burying their fruits in the soil [hypogaea](#)

Arachis hypogaea *Linn.* — F.T.A. 2: 158.

Generally cultivated throughout the tropics.

The Groundnut.

68. ORMOCARPUM

P. Beauv. — F.T.A. 2: 142.

- 1 Leaves imparipinnate;2
 Leaves 1 (–3)-foliolate; leaflet lanceolate to ovate-lanceolate, acutely acuminate, 8–14 cm. long, up to 5 cm. broad, glabrous; petiole articulated below the apex; flowers few, in short axillary racemes; pedicels about 5 mm. long with a pair of ovate-lanceolate bracteoles near the apex; calyx about 5 mm. long, glabrous; corolla nearly 1.5 cm. long; fruits up to 5-seeded segments narrowly elliptic, warted and longitudinally nerved[5. verrucosum](#)
- 2 Leaflets rounded or mucronate at apex, up to 4 cm. long, glabrous or pubescent:3
 Leaflets acute or acutely acuminate, 4–13 cm. long, glabrous:4
- 3 Indumentum softly pubescent and greyish on branchlets, leaflets, calyx and fruits; leaflets 6–8 pairs, elliptic, mucronate, 5–10 mm. long; flowers few in short racemes on short arrested branchlets; pedicels about 1.5 cm. long, with a pair of ovate leafy bracteoles near the apex; calyx 8–10 mm. long; corolla about 2 cm. long; fruits 5–6-seeded, segments 9–12 mm. long, coarsely reticulate when mature[1. bibracteatum](#)
 Indumentum (where present) setulose on branchlets, calyx and fruits; leaflets glabrous and whole plant frequently so; leaflets 5–10 pairs, elliptic-obovate, mucronate and sometimes emarginate, 1–2 cm. long; flowers few on the young shoots; pedicels 1–1.5 cm. long, with a pair of lanceolate-acuminate bracteoles near the apex; calyx about 8 mm. long; corolla about 1.5 cm. long; fruits usually hispid, 1–6-seeded, segments about 1 cm. long, obliquely elliptic, longitudinally striate[2. sennoides subsp. hispidum](#)
- 4 Upper leaflets 7–13 cm. long, 3–4.5 cm. broad, 5–7 (–9) to each leaf, stipules lanceolate, 5–10 mm. long, 4 mm. broad at base; branchlets scabrid-hispid; flowers in scabrid-hispid racemes; pedicels 5–6 mm. long; fruits 5–7-seeded, shortly bristly, about 8–10 cm. long, ripe segments about 1 cm. long[3. megalophyllum](#)
 Upper leaflets 4–6 cm. long, about 1.5 cm. broad, 8–15 to each leaf, acute, hardly acuminate, oblong or slightly oblanceolate; stipules linear, 6 mm. long, 2 mm. broad at base; branchlets shortly scabrid-hispid; flowers in axillary densely scabrid-hispid racemes; pedicels filiform, 7–10 mm. long; fruits imperfectly known, apparently 2- or 3-seeded with a few bristles, ripe segments about 1.5 cm. long[4. sp. A](#)

1. **Ormocarpum bibracteatum** (*Hochst. ex A. Rich.*) *Bak.* in F.T.A. 2: 143 (1871); *Bak. f. Leg. Trop. Afr.* 2: 279.

APD: *Synonym of Ormocarpum pubescens* (*Hochst.*) *Cufod.*

APD: *Synonym of Ormocarpum kirkii* *S. Moore*

Acro-taphros bibracteata *Hochst. ex A. Bich.* (1847).

A shrub or small tree with short stout branches, grey-pubescent all over; corolla reddish, lurid purple-veined and mottled, becoming dry and papery and persistent; [in savannah](#).

Sen.: Ferlo Heudelot 157! **G. C.:** Tamale Kitson 952! Morton GC 9087! **N. Nig.:** Lely! Kontagora (Jan.) Dalz. 42! Sokoto (Dec.) Dalz. 313! Katagum Dalz. 424!

Also in [N.E. tropical Africa](#).

2. **Ormocarpum sennoides subsp. hispidum** (*Willd.*) *Brenan & J. Léonard* in Bull. Jard. Bot. Brux. 24: 103, fig. 14, 2 (1954); Léonard in Fl. Congo Beige 5: 244. *APD acc*

Hedysarum sennoides *Willd.* (1802).

Cytisus hispidus *Willd.* (1802).

Robinia guineensis *Willd.* (1809).

Ormocarpum guineense (*Willd.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 414(1928); Kew Bull. 1929: 18.

A much-branched shrub, 4–12 ft. high; flowers yellow with reddish streaks; [in forest](#).

Sen.: Berhaut 1765! **Port. G.:** Bula (fr. Nov.) Esp. Santo 2404! **Fr. G.:** Kouria to Ymbo Chev. 14730. **S. L.:** Afzelius! Freetown (fr. Dec.) Deighton, 3317! Masakoi Chiefdom (Sept.) Deighton 2236! Kuntaia (fr. June) Thomas 423! **Lib.:** Sanokwele (fl. & fr. Sept.) Baldwin 9416! 12513! Peahat (Oct.) Linder 925! **IV. C.:** fide Chev. l.c. **G. C.:** Accra Plains (fl. & fr. June) Irvine 73! Axim (Apr.) Chipp 425! Ejura (fl. & fr. May) Vigne FH 1214! R. Volta F.R. (Mar.) Vigne FH 4348! **Togo:** Lome Warnecke 54! Kete Krachi (fl. & fr. June) Vigne FH 3880! **N. Nig.:** Abinsi (fi. & fr. June) Dalz. 606! **S. Nig.:** Ijebu (Apr.) Tamajong FHI 16932! Okomu F.R. (Feb.) Brenan 8775! 9043! Aguku Thomas 1364! Oban Talbot 1403! **Br. Cam.:** Man-of-War Bay (Apr.) Schlechter 12385! Kumba (fr. June) Olorunfemi FHI 30627!

Widespread in tropical Africa.

3. **Ormocarpum megalophyllum** *Harms* in Engl. Bot. Jahrb. 26: 292 (1899); *Bak. f. l.c.* 279; Pellegr. Leg. Gab. 179; Léonard l.c. 244. *APD acc*

A shrub 3–6 ft. high, with yellow-purple veined flowers; [in forest clearings](#).

Fr. G.: fide Pellegr. l.c. **S. L.:** Kenema (fr. Jan.) Thomas 7552! **Lib.:** Linder 346! **G. C.:** Kibi (fr. Jan.) Adams 12001 **S. Nig.:** Abeokuta (Dec.) Onochie FHI 31887! Okomu F.R. (fr. Jan.) Brenan 8792! Oban Talbot 1203! **Br. Cam.:** Victoria Preuss 1193!

Also in [French Cameroons](#) and [Gabon](#).

4. *Ormocarpum* sp. **A. APD acc**

A small shrub which may prove to be a distinct species.

Br. Cam.: Buea (fl. & fr. Jan.) Maitland 1265!

5. *Ormocarpum verrucosum* **P. Beauv.** — F.T.A, 2: 142; Chev. Bot. 185; Bak. f. l.c. 278; Léonard l.c. 243. **APD acc**

A shrub, 10–15 ft. high, with brown-purple glabrous branchlets and white or lilac flowers purple-striped; [in sandy places near the sea and in brackish swamps](#).

Sen.: Heudelot! **Port. G.:** Bissau (Nov.) Esp. Santo 1415! **Fr. G.:** Guéré country Chev. 21005. Kaoulén-dougou Chev. 21067. **S. L.:** Mano Salija (Dec.) Deighton 427! Maswari (fl. & fr. Feb.) Deighton 4983! Mahela (fl. & fr. Nov.) T. S. Jones 47! **Lib.:** Grand Cess (Mar.) Baldwin 11625! **IV. C.:** Tabou to Bériby Chev. 19984; 20018. **G. C.:** Axim (Mar.) Morton GC 6647! **S. Nig.:** Lagos (May) Dalz. 962! Warri Beauv. Niger mouth Mann 457! Brass Barter 65! Calabar (fr. May) Onochie FHI 32097! **F. Po:** T. Vogel 259!

Also in [French Cameroons](#), [Congo](#), [Angola](#), [Principe](#) and [S. Tomé](#).

69. ANTOPETITIA

A. Rich. in Ann. Sci. Nat., sér. 2, 14: 261 (1840). **APD acc**

- 1 A slender herb, up to 75 cm. high; branchlets pubescent; leaves imparipinnate, leaflets 3–4 pairs, narrowly oblanceolate, about 1 cm. long, appressed-pilose; rhachis with 2 small stipular glands at base; umbels 2–4-flowered; fruits torulose, segments 3–5, subglobose, glabrous, about 2–3 mm. diam. [abyssinica](#)

Antopetitia abyssinica **A. Rich.** l.c. 262 (1840); Bak. f. Leg. Trop. Afr. 2: 274; Léonard in Fl. Congo Beige 5: 179, fig. 10. **APD acc**

Ornithopus coriandrinus **Hochst. ex Bak.** in F.T.A, 2: 140 (1871); F.W.T.A., ed. 1, 1: 414,

Br. Cam.: Cam. Mt., 6,000–8,500 ft. (fl. Nov., fr. Dec.) Migeod 202! Mildbr. 10834! Maitland 831! Bafut-Ngamba F.R., Bamenda (Oct.) Ujor FHI 30217!

Also in [Belgian Congo](#) and eastern Africa from Abyssinia and Eritrea to N. Rhodesia.

70. AESCHYNOMENE

Linn. — F.T.A. 2: 145. **APD acc**

- 1 Stems armed with sharp prickles just below the ovate-lanceolate stipules, densely hispid; fruits spirally coiled, about 1 cm. broad, pilose; flowers 3–4 cm. long; pedicels about 1 cm. long, densely setose; leaves 6–10 cm. long; leaflets oblong truncate at both ends, 1.5–2 cm. long, entire [l. elaphroxylon](#)
- Stems without prickles; fruits straight: **2**
- 2 Stipules not produced into an appendage beyond base: **3**
- Stipules produced beyond base into a long auricle or appendage: **9**
- 3 Flowers about 1.5 cm. long; leaves 3–4 cm. long; leaflets 6–8 pairs, oblanceolate, rounded at apex, about 1 cm. long and 3 mm. broad, glabrous; fruits 1-seeded, about 2 cm. long and 1 cm. broad, with a stipe 5 mm. long [baumii](#)
- Flowers less than 1 cm. long: **4**
- 4 Flowers 8–10 mm. long: **5**

- Flowers up to 6 mm. long: **6**
- 5** Fruit-segments about 2 mm. broad, fruits 2-seeded with filiform stipe 8 mm. long; racemes axillary, 2–3-flowered; flowers 8–9 mm. long; pedicels 4 mm. long with a few hyaline bristles; leaves 1·5–3 cm. long; leaflets oblong, obtuse at apex, 5–10 mm. long. [3. sp. A](#)
- Fruit-segments about 5 mm. broad, fruits 1–2-seeded, hardly stipitate; racemes axillary, 10–15-flowered; flowers 8 mm. long; pedicels 4–5 mm. long, glabrous; leaves 1–2 cm. long; leaflets oblong, 4–5 mm. long [4. abyssinica](#)
- 6** Anthers and filaments uniform in size; fruits with 2 flat segments 7 mm. long; bracts entire; stipules narrowly lanceolate; leaflets 4 mm. long [5. kerstingii](#)
- Anthers of two sizes, filaments alternately long and short; fruit-segments 1–3 mm. long, spheroid; **7**
- 7** Flowers about 5 mm. long; standard obovate; fruits with 1–2-segments 2–3 mm. broad, markedly tuberculate, exserted from calyx; rhachis of inflorescence almost straight, setulose [6. pulchella](#)
- Flowers about 3 mm. long, rhachis of inflorescence zigzag; fruits 1–2 mm. broad, minutely papillose: **8**
- 8** Whole plant pilose with long yellow hairs, especially on young parts; pedicels 5–8 mm. long; fruits 1 (–2)-segmented, included in calyx [7. lateritia](#)
- Whole plant almost glabrous or slightly setose; pedicels 8–12 mm. long; fruits (1–) 2-segmented, exserted from calyx [8. neglecta](#)
- 9** Leaflets distinctly toothed, 2–3 cm. long: **10**
- Leaflets entire or nearly so, rarely up to 2·5 cm. long: **11**
- 10** Stems densely hispid, woody; leaves 8–15 cm. long; leaflets pilose on the margins and midrib beneath; stipules about 1·5 cm. long, pilose outside, caducous; flowers 2–3 cm. long; fruits 5–7-segmented, about 5 cm. long and 1·5 cm. broad, pilose, tapered to a beak [9. pfundii](#)
- Stems glabrous or with a very few long hairs, thick and pithy; leaves 7–12 cm. long; leaflets glabrous; stipules about 2·5 cm. long, glabrous except for the ciliate margins, more or less persistent; flowers about 1 cm. long; fruits about 5-segmented, 4 cm. long, 8 mm. broad, glabrous, coarsely reticulate [10. crassicaulis](#)
- 11** Flowers about 3 cm. long, the keel with a large crest on the margin; stipules lanceolate, very acute, 2 cm. long, closely nerved, much produced at base; leaflets about 20 pairs, oblong-oblancheolate, about 1·5 cm. long, venose; fruits about 8 cm. long, glabrous [11. cristata](#)
- Flowers much smaller than above, up to 1·5 cm. long, the keel less obviously crested: **12**
- 12** Leaflets 1-nerved: **13**
- Leaflets distinctly 3-nerved, acute, about 5 mm. long; fruits deeply indented on one side, 5-segmented, segments convex on the faces, smooth, sometimes setose, hardly stipitate; racemes 4–5-flowered, about 8 mm. long; pedicels about 1 cm. long; stems smooth and glabrous, the younger parts long-setose [20. americana](#)
- 13** Stems quite smooth, herbaceous: **14**
- Stems more or less muricate or setose, rather woody: **17**
- 14** Stems thick and soft; leaflets very numerous, 1–2 cm. long: **15**
- Stems slender; leaflets 10–20 pairs, up to 1 cm. long; flowers few in slender leafy racemes, about 5–7 mm. long; fruits undulate on one side, up to 9-seeded, nearly smooth [15. indica](#)
- 15** Flowers 4 mm. long; fruits about 2 cm. long, 2–4-segmented, deeply constricted on the lower side, surface smooth or slightly muricate and convex; leaflets numerous, 4–8 mm. long [12. tambacoundensis](#)
- Flowers 10–15 mm. long; fruits 7–8 cm. long, undulate on lower side: **16**
- 16** Keel pubescent; flowers about 1 cm. long; fruits closely warted when mature, 8 cm. long, 8 mm. broad, 6–10-segmented; leaflets usually drying brown, 1·4–2 cm. long [13. afraspera](#)
- Keel glabrous; flowers about 1·4 cm. long; fruits smooth when mature, 7 cm. long, 6 mm. broad, 6–7-segmented; leaflets usually drying glaucous-green, about 1·3 cm. long [14. nilotica](#)
- 17** Calyx-lobes glabrous outside; branches flexuose; leaflets up to 20 pairs, about 1 cm. long; flowers very few, about 8 mm. long; fruits rather deeply indented on one side, about 4 cm. long, up to 9-segmented, very sparsely pubescent [16. sensitiva](#)
- Calyx-lobes bristly-pubescent outside: **18**
- 18** Fruits deeply indented on one side; segments raised and papillose on the faces, stipe 1 cm. long; flowers solitary or 2–3 together, axillary, about 1 cm. long; pedicels 1–2 cm. long; stem hispid-scabrid; leaflets 1-nerved, obtuse, about 1 cm. long [17. uniflora](#)
- Fruits straight on both margins; pedicels about 2 cm. long: **19**
- 19** Pedicel jointed with 2 small bracts halfway up its length; flowers 1 cm. long; fruits straight on both sides, 5 mm. broad, with 8–12 segments 3 mm. long, at first yellow and pubescent soon becoming black and glabrous; stems shortly hispid-scabrid [18. schimperi](#)
- Pedicel with one bract not more than 2 mm. from the base; flowers 1–1·2 cm. long; fruits straight or slightly indented on one side, 4 mm. broad, with 3–7 segments 4 mm. long, yellow at length becoming brown, usually

persistently pilose; stems pilose with long yellow hairs [19. deightonii](#)

1. **Aeschynomene elaphroxylon** (*Guill. & Perr.*) *Taub.* in E. & P. Pflanzenfam. 3, 3: 319 (1894); Bak. f. Leg. Trop. Afr. 2: 289; Léonard in Fl. Congo Belge 5: 261. *APD acc*

Herminiera elaphroxylon *Guill. & Perr.* (1832) — F.T.A. 2: 144; F.W.T.A., ed. 1, 1: 415.

Aeschynomene tchadica *A. Chev.* (1913), name only.

A shrub, 8–20 ft. high, **of rivers and swamps**; flowers large, orange-yellow.

Sen.: Lelièvre! L. Panié-Foul Heudelot! **G. C.:** Dalaba, Lower Volta Collector unknown! **N. Nig.:** Nupe Barter 757! L. Chad Talbot 1231!

Widespread in tropical Africa.

2. **Aeschynomene baumii** *Harms* in Warb. Kunene-Sambesi Exped. 261 (1903); Bak. f. l.c. 291; Léonard l.c. 271. *APD acc*

A shrub, with yellow flowers and more or less glabrous stems; **in rocky mountain grassland**.

Br. Cam.: Bamenda, 5,000 ft. (fl. Feb., fl. & fr. May) Migeod 464! Maitland 1436! 1607! Jakiri, Bamenda (Jan.) Keay FHI 28428!

Also in **French Cameroons**, **Belgian Congo**, **Tanganyika**, **N. Rhodesia** and **Angola**.

3. **Aeschynomene sp. A.** *APD acc*

Erect herb, 2 ft. high, with small leaves which close diurnally; **in grassland and edges of woodland**.

Br. Cam.: Bafut-Ngemba F.R., 5,000–6,000 ft. (Oct.) Lightbody FHI 26261!

Possibly new, but better material required.

4. **Aeschynomene abyssinica** (*A. Rich.*) *Vatke* in Oest. Bot. Zeit. 29: 224 (1879); Bak. f. l.c. 299; Léonard l.c. 286, fig. 19 G. *APD acc*

Rueppellia abyssinica *A. Rich.* (1847).

Aeschynomene ruppellii *Bak.* in F.T.A. 2: 149 (1871).

An undershrub, 2–10 ft. high, with dark brown rather viscid branches and yellow, purple-veined flowers; **beside streams**.

N. Nig.: Alkalire (fr. Sept.) Lely 641! Bauchi Plateau Batten-Poole FHI 13160! Lely P. 694! Vom, 3,000–4,500 ft. Dent Young 60!

Extends to **Belgian Congo**, Abyssinia, E. Africa, S. Rhodesia and Mozambique.

5. **Aeschynomene kerstingii** *Harms* in Engl. Bot. Jahrb. 54: 385 (1917); Bak. f. l.c. 292. *APD acc*

Herbaceous or half-woody plant with slender stems; flowers golden-yellow.

G. C.: Banda ravine, Wenchi (fr. Dec.) Morton GC 25139! **Togo:** Dadaure, Basari (July) Kersting 176!

6. **Aeschynomene pulchella** *Planch. ex Bak.* in F.T.A. 2: 149 (1871); Chev. Bot. 186; Bak. f. l.c. 292.

APD: *Synonym of Bakerophyton pulchellum (Planch. ex Baker) Maheshw.*

Aeschynomene saxicola *Taub.* (1896).

Branches red-brown, slightly viscid, 1 ft. or more long, from a woody base; flowers orange-yellow.

Sen.: Tambacounda Berhaut 1466. **Port. G.:** Farim (fr. Apr.) Esp. Santo 2457! Gabu (Sept.) Esp. Santo 2790! **Fr. G.:** Balato (Feb.) Chev. 332! Kaoulendougou (Mar.) Chev. 21056! Toumania (fl. & fr. June) Pobéguin 947! Fouta Djallon Heudelot 739! **S. L.:** Buyabuya, Scarcies R. (fl. & fr. Feb.) Sc. Elliot 4131! Makunde (fl. & fr. Apr.) Sc. Elliot 5713! **Togo:** Agome (fl. & fr. Mar.) Schlechter 12958!

7. **Aeschynomene lateritia** *Harms* in Engl. Bot. Jahrb. 26: 292 (1899); Bak. f. l.c. 294; Léonard l.c. 299, t. 23.

APD: Synonym of Bakerophyton lateritium (Harms) Hutch. ex Maheshw.

A slender much-branched annual herb, with wiry stems and very small yellow flowers; **in rock crevices**.

Port. G.: Suzana (fl. & fr. Nov.) Esp. Santo 3139! **Fr. Sud.:** Kita massif (fr. Nov.) Jaeger 6! **G. C.:** Weija, Accra (May) Adams GC 1767! **N. Nig.:** Patti Lokoja Barter 534! Yola (Sept.) Dalz. 305! Keana, Nassarawa Prov. (Oct.) Hepburn 42! Anara F.R. (fl. & fr. Sept.) Olorunfemi FHI 24375!

Also in **French Camerouns**, **Belgian Congo** and **Angola**.

8. *Aeschynomene neglecta* Hepper in Kew Bull. 1956: 122, fig. 3 A.

APD: Synonym of Bakerophyton neglectum (Hepper) Maheshw.

Aeschynomene lateritia of F.W.T.A., ed. 1, 1: 415, partly (Dalz. 599, Lely 570).

A very slender annual herb, similar to the last, but almost glabrous.

N. Nig.: Abinsi (fr. Feb.) Dalz. 599! Naraguta & Jos (fl. & fr. Sept.) Lely 570! Bauchi Plateau (Sept.) Lely P. 691!

9. *Aeschynomene pfundii* Taub. in Engl. Pflanzenw. Ost-Afr. C. 215 (1895); Bak. f. l.c. 289. *APD acc*

A shrub **forming thickets over permanent water**; flowers large, yellow.

Fr. Sud.: Koubita to Tiouki (Feb.) Davey 20! **N. Nig.:** Kalkala, L. Chad (Sept.) Gwynn 91! Gajibo, Bornu (Nov.) Johnston N. 94!

Also in eastern Africa from A.-E. **Sudan** to the Zambezi.

10. *Aeschynomene crassicaulis* Harms in Engl. Bot. Jahrb. 40: 38 (1907); Chev. Bot. 186; Bak. f. l.c. 288; Léonard l.c. 269, photo 1, fig. 18 H. *APD acc*

Stem procumbent and rooting in mud, often half submerged; flowers yellow; fruits shortly stipitate.

Fr. Sud.: Ségou Chev. 2940. **Fr. Nig.:** Fada N'Gourma (July) Chev. 24508! **N. Nig.:** Katagum (July) Dalz. 10!

Also in **Ubangi-Shari** and **Belgian Congo**.

11. *Aeschynomene cristata* Vatke in Oest. Bot. Zeit. 28: 215 (1878); Bak. f. l.c. 288; Léonard l.c. 266, t. 20, fig. 18 G. *APD acc*

A soft-stemmed undershrub; branches and peduncles at first setose, becoming glabrous; flower conspicuous.

Dah.: Avrankou Lagoon (Jan.) Chev. 22763! **S. Nig.:** Lagos (Nov.) Millen 96! Yewa R., Lagos Colony (Sept.) Punch 19! Okomu F.R. Lomax!

Extends to A.-E. **Sudan**, **Belgian Congo**, E. Africa, Mozambique and Madagascar.

12. *Aeschynomene tambacoundensis* Berhaut in Bull. Soc. Bot. Fr. Mém. 1953–4: 7 (1954); Fl. Sen. 32. *APD acc*

A slender plant about 3 ft. high **on the edge of swamps**, withering after the rainy season; flowers yellow, usually in pairs on slender pedicels.

Sen.: Tambacounda (fr. Aug.) Berhaut 1241! 2919; 2920; 2958; 2959. **S. L.:** near Kambia (fl. & fr. Oct.) Jordan 942!

13. *Aeschynomene afraspera* J. Léonard in Bull. Jard. Bot. Brux. 24: 64 (1954); Fl. Congo Belge 5: 264, fig. 18 E. *APD acc*

Aeschynomene aspera of F.T.A. 2: 147; Chev. Bot. 186; Bak. f. l.c. 288; F.W.T.A., ed. 1, 1: 416.

Sesbania leptocarpa of F.W.T.A., ed. 1, 1: 387, partly (Iv. C. spec.).

An undershrub, with soft pithy stems, 3–6 ft. high; **in swampy places**.

Sen.: Berhaut 1725. **Gam.:** Wallikunda (Aug.) Macluskie 4! 5! **IV. C.:** Baoulé-Nord (July) Chev. 22030! **G. C.:** Tamale (fl. & fr. Dec.) Morton GC 9895! **N. Nig.:** Katsina Ala, L. Turu (fr. Aug.) Dalz. 616! **S. Nig.:** Ogun R. Millen 184! Idah (Sept.) T. Vogel 65!

Also in **A.-E. Sudan**, **Belgian Congo**, **N. Rhodesia**, **Angola**, **Nyasaland** and **Transvaal**.

14. **Aeschynomene nilotica** *Taub.* in Engl. Bot. Jahrb. 23: 189 (1896); Bak. f. l.c. 287; Léonard in Fl. Congo Belge 5: 265. *APD acc*

Stem thick and pithy up to 5 ft., flowers yellow; in swamps.

Fr. Sud.: Macina (Sept.) Chev. 24940! Diafarabé (fl. & fr. Sept.) Lean 100! Gao Ryff! **Fr. Nig.:** Niamey (Oct.) Hagerup 525!

Also in **A.-E. Sudan**, **Tanganyika**, **N. Rhodesia** and **Belgian Congo**.

15. **Aeschynomene indica** *Linn.* — F.T.A. 2: 147; Chev. Bot. 186; Bak. f. l.c. 286; Léonard l.c. 259, fig. 18 C. *APD acc*

An undershrub 2–4 ft. high, with pale yellow, faintly striate flowers; in muddy places near rivers and swamps.

Sen.: Heudelot! **Gam.:** Kudang (fr. Jan.) Dalz. 8021! **Fr. Sud.:** fide Chev. l.c. **Port. G.:** Bafatá (fl. & fr. July) Esp. Santo 2718! **G. C.:** Cape Coast (fr. July) T. Vogel 68! Achimota Irvine 571! 717! **N. Nig.:** Katagum (fr. Oct.) Dalz. 11! Sherifuri Thornehill 177! Bauchi Plateau Lely P. 506!

Extends through the Old World tropics.

16. **Aeschynomene sensitiva** *Sw.* — F.T.A. 2: 147; Chev. Bot. 186; Bak. f. l.c. 286; Léonard l.c. 258, fig. 18 B. *APD acc*

An undershrub with slightly viscid branches and small bright yellow flowers; in swamps.

Sen.: Casamance Chev. 3266. **Gam.:** Wallikunda Macluskie 21! **Fr. G.:** Rio Nunez Heudelot 689! Kouroussa (Oct.) Pobéguin 563! Mamou Chev. 20392! Nzérékoré Baldwin 9712! **S. L.:** Kambia (fl. & fr. Dec.) Sc. Elliot 4366! Yonibana (Nov.) Thomas 5224! Port Loko Thomas 6676! Zimi (Nov.) Deighton 368! **Lib.:** Genna Tanyehun (fr. Dec.) Baldwin 10765! **G. C.:** Accra (fl. & fr. Nov.) Morton A. 56! **S. Nig.:** Lagos Lagoon (fr. Feb.) Onochie FHI 34146! Okomu F.R. (fr. Dec.) Brenan 8590! 9193!

Widespread in tropical Africa, the **Mascarenes** and in **tropical America**.

17. **Aeschynomene uniflora** *E. Mey.* — F.T.A. 2: 146; Chev. Bot. 187; Bak. f. l.c. 286; Léonard l.c. 256, fig. 18 A. *APD acc*

An undershrub with half-woody bristly branches and small bright yellow flowers.

Sen.: Niayes Chev. 3267. Kaolak Chev. **N. Nig.:** Bauchi Plateau Lely P. 505! Lokoja Barter 516!

Widespread in tropical Africa, in **Natal**, and in **Madagascar** and **Comoro Islands**.

18. **Aeschynomene schimperi** *Hochst. ex A. Rich.* — F.T.A. 2: 146; Bak. f. l.c. 287; Léonard l.c. 262, fig. 18 D. *APD acc*

An erect undershrub with half-woody branches, rough with short almost spicular hairs; flowers yellow; in moist places.

Sen.: Berhaut 666. **Gam.:** Brown-Lester 13! Kudang (fr. Jan.) Dalz. 8022! **Port. G.:** Bissau (fl. & fr. Nov.) Esp. Santo 2618! **Fr. G.:** Tristao Isl. Paroisse 50! **S. L.:** Batbai (fr. June) Deighton 3547!

Also in **Eritrea**, **Abyssinia**, **Uganda**, **Kenya** and **N. Rhodesia**.

19. **Aeschynomene deightonii** *Hepper* in Kew Bull. 1956: 124, fig. 4. *APD acc*

Aeschynomene djalensis *A. Chev.* Bot. 186, name only.

Aeschynomene schimperi of F.W.T.A., ed. 1, 1: 416, partly; Bak. f. l.c. 287, partly.

A herb, with rather weak straggling branches about 2 ft. high; leaves rather glaucous and sensitive to touch; flowers yellow turning cream.

Fr. G.: Kouria Chev. 14977! Dalaba Chev. 20170! **S. L.:** Magboloko (fr. Nov.) Glanville 121! Yonibana (fl. & fr. Nov.) Thomas 4695! 4749! Jokibu (Nov.) Deighton 3774! Mahera (fl. & fr. Nov.) Deighton 5685!

20. *Aeschynomene americana* Linn. Sp. Pl. 2: 713 (1753). *APD acc*

A half-woody shrub about 3 ft. high with pink flowers; leaves sensitive to touch.

S. L.: Freetown (fl. & fr. Oct.) Deighton 254! Waterloo (fl. & fr. Dec.) Deighton 3299!

Introduced from tropical America.

71. CYCLOCARPA

Afzel. ex Bak. — F.T.A. 2: 151; Urb. in Jahrb. Bot. Gart. Berl. 3: 247 (1884).

- 1** A tiny shrublet; leaves subsessile, paripinnate; leaflets 3–4 pairs obovate-oblongate, mucronate, about 5 mm. long, minutely serrulate, glabrous; stipules ovate, acuminate, striate, with a long lanceolate basal appendage; flowers axillary; fruits coiled in a ring, forming 1–1½ spirals, with 9–10 segments, glabrous, about 6 mm. diam. [stellaris](#)

Cyclocarpa stellaris *Afzel. ex Bak.* in F.T.A. 2: 151 (1871); Urb. l.c. 248; Chev. Bot. 189, partly; Bak. f. Leg. Trop. Afr. 2: 302; Léonard in Fl. Congo Belge 5: 241. *APD acc*

Aeschynomene stellaris (*Afzel. ex Bak.*) G. Roberty (1954).

Prostrate or diffuse woody herb, with slender glabrous branchlets up to 20 in. long, sensitive leaves which cover the small yellow flowers when touched; **uncommon in moist sandy places.**

Port. G.: Antula, Bissau (fr. Nov.) Esp. Santo 1410! Sucujaque, Suzana (Nov.) Esp. Santo 3142! **Fr. G.:** Kouroussa Pobéguin 462! Kouria (Oct.) Chev. 15030. Fouta Djallon (Sept.) Chev. 18562; 18575. **Fr. Sud.:** Kita massif (fl. & fr. Oct.) Jaeger 14! **S. L.:** Rokupr (fr. Oct.) Jordan 159! 368! Magbile (fr. Dec.) Thomas 6193! Near Jokibu (fl. & fr. Nov.) Deighton 3775! Tombo (fr. Jan.) Deighton 986! **Lib.:** Dupont (Nov.) Linder 1508! **N. Nig.:** Kontagora (Nov.) Dalz.!

Also in **Ubangi-Shari, French Cameroons, Gabon, Belgian Congo, Tanganyika, Nyasaland**; has been found also in Borneo and N. Australia.

72. KOTSCHYA

Endl. Nov. Stirp. 4 (1839); Dewit & Duvigneaud in Bull. Soc. Roy. Bot. Belg. 86: 208 (1954).

- 1** Flowers in clusters on filiform peduncles, 1–2 cm. long; calyx about 4 mm. long, glabrous; leaflets linear-oblong, 4 mm. long, minutely pilose; stem glabrous, herbaceous, less than 15 cm. long [1. micrantha](#)
- Flowers in subsessile clusters or spikes, or in shortly pedunculate racemes; **2**
- 2** Calyx very broad, obovate, entire, about 1 cm. long; leaflets 9–13 pairs, subcordate on one side, 8 mm. long, sparsely pilose on upper nerve which is set along one edge; stipules scarious, linear, with parallel nerves bristly, [2. schweinfurthii](#)
- Calyx not broad and conspicuous: **3**
- 3** Stipules about 1 cm. or more long: **4**
- Stipules 3–9 mm. long: **5**
- 4** Corolla only slightly longer than calyx, 4–5 mm. long; flowers in long caterpillar-like secund spikes about 2–3 cm. long; mature leaves 4–6 cm. long; rachis and leaflet-margins long-pilose; leaflets (13–) 18–22 pairs, 6–13 mm. long [3. ochreate var. ochreate](#)
- Corolla much longer than calyx, 7–9 mm. long; flowers in short few-flowered clusters 1–1.5 cm. long; mature leaves 1–2 cm. long; rachis and leaflet-margins ciliate; leaflets 6–8 (–10) pairs, 4–5 mm. long ... [3a. ochreate var. longipetala](#)
- 5** Flowers blue in sessile short dense axillary racemes, like caterpillars; leaves up to 1.5 cm. long; stipules 7 mm. long: **6**
- Flowers yellow or orange about 1.5 cm. long; calyx 1 cm. or more long; racemes few-flowered: **7**
- 6** Corolla about 14 mm. long; calyx 2-lipped, upper lip 10 mm. long, 2-lobed almost to middle, lower lip 13 mm. long, narrowly and deeply 3-lobed; bracts 8 mm. long, with a prominent dorsal nerve, long-acuminate, pilose;

- leaflets 4–5 mm. long, ciliate [4. *speciosa*](#)
- Corolla about 8 mm. long; calyx 2-lipped, upper lip 6 mm. long, 2-lobed for about 1/3, lower lip 7 mm. long, less deeply 3-lobed; bracts about 5 mm. long, acuminate, pilose; leaves up to 1.5 cm. long; leaflets 3–5 mm. long, sparsely ciliate [5. *strigosa*](#)
- 7 Stems glabrous, scaly with strips of bark, youngest shoots densely yellow-pubescent; stipules scarious, lanceolate-subulate, glabrous or minutely ciliate, 7–9 mm. long; leaves 1–2.5 cm. long; leaflets 8–14 pairs, pubescent at first, glabrescent, 6–10 mm. long; corolla 1.4–1.6 cm. long; calyx 1 cm. long, upper lip deeply bifid; fruit with 2 segments [6. *uniflora*](#)
- Stems pubescent; stipules 2–4 mm. long: **8**
- 8 Stems pubescent with short dense upward-curved hairs, scabrid; leaves 2–3 cm. long; leaflets 8–14 pairs, margins ciliate, 5–6 mm. long; racemes 5–8-flowered, lower flowers caducous leaving 2 or 3 above; pedicels about 6 mm. long; bracts lanceolate, ciliate, caducous; corolla about 1.5 cm. long, exserted 2–3 mm. beyond calyx, standard emarginate; calyx about 1.2 cm. long, upper lip 1/4 bifid [7. *lutea*](#)
- Stems hispid with long straight and small curved hairs, scabrid; leaves 3–4 cm. long; leaflets 10–14 pairs, margins ciliate, 6–8 mm. long; racemes 6–10-flowered, lower flowers frequently caducous; pedicels about 8 mm. long; bracts ovate-lanceolate, long-setose, more or less persistent; corolla about 1.8 cm. long, exserted 1–2 mm. beyond calyx, standard slightly emarginate; calyx about 1.7 cm. long, upper lip deeply bifid [8. *carsonii*](#)

1. ***Kotschya micrantha* (Harms) Hepper** in Kew Bull. 1956: 124. *APD acc*

Smithia micrantha Harms in Journ. de Bot. 22: 113 (1909); Chev. Bot. 187; Bak. f. Leg. Trop. Afr. 2: 305; F.W.T.A., ed. 1, 1: 416.

A slender herb with few-flowered heads and small flowers.

Fr. G.: Bouria (Nov.) Chev. 14960!

2. ***Kotschya schweinfurthii* (Taub.) Dewit & Duvign.** in Bull. Soc. Roy. Bot. Belg. 86: 209 (1954). *APD acc*

Smithia schweinfurthii Taub. in Engl. Bot. Jahrb. 23: 191 (1896); Bak. f. l.c. 309.

A low-growing shrub of [open savannah woodland](#), stems pubescent; flowers blue in a close spike; distinguished by the much-enlarged calyx.

Togo: fide Bak. f. l.c. **N. Nig.:** Bauchi Plateau Lely P. 817! Batten-Poole FHI 13176! Dogon Kurmi, Jemaa (Nov.) Keay & Onochie FHI 21733! Anara F.R. (Sept.) Olorunfemi FHI 24380!

Also in [French Cameroons](#), [A.-E. Sudan](#), [Ubangi-Shari](#) and [Belgian Congo](#).

3. ***Kotschya ochreatea* (Taub.) Dewit & Duvign. var. *ochreatea*** — l.c. 214 (1954). *APD acc*

Smithia ochreatea Taub. l.c. 191 (1896); Chev. Bot. 187; Bak. f. l.c. 307; F.W.T.A., ed. 1, 1: 416.

An erect shrub to 6 ft. or more high, younger parts pilose with soft hairs from a swollen base; flowers pink. A variable species.

Fr. Sud.: Koulikoro (Oct.) Chev. 3264! **Port. G.:** Bissau (Dec.) Esp. Santo 1092! **Fr. G.:** Kindia Jac.-Fél 224! **S. L.:** Afzelius! Kassa (fr. Mar.) Sc. Elliot 5069! Dombudu (Feb.) Macdonald 8! Bintumane (Jan.) Glanville 454! Sefadu (Dec.) Deighton 3474! **Lib.:** Maa, Makona R. (fr. Feb.) Bequaert 57! **Iv. C.:** Mt. Gbon, Gouékangouiné Chev. 21416. **Togo:** Togo Plateau F.R. (Nov.) St. C. Thompson 1615!

Also in [Gabon](#) and the [Belgian Congo](#).

3a. ***Kotschya ochreatea* var. *longipetala* Hepper** l.c. 126, fig. 5 (1956). *APD acc*

A more slender shrub than the type, with small clusters of larger flowers.

Fr. G.: Kindia Jac.-Fél. 245! Dalaba (Nov.) Jac.-Fél. 579! Pita (Dec.) Jac.-Fél. 665! **S. L.:** Bullum Smythe 106! Kumrabai (Dec.) Thomas 6872! 6974!

4. ***Kotschya speciosa* (Hutch.) Hepper** l.c. 124 (1956). *APD acc*

Smithia speciosa Hutch. in Kew Bull. 1921: 365; Bak. f. l.c. 306. F.W.T.A., ed. 1, 1: 416.

An erect shrub 4–5 ft. high, branching from numerous stems, softly pilose; flowers large, bright blue.

N. Nig.: Bauchi Plateau (Aug.) Lely P. 638! Dent Young 61! Naraguta (Aug.) Lely 478!

Also in [Tanganyika](#) and [N. Rhodesia](#) and [S. Rhodesia](#).

5. *Kotschya strigosa* (Benth.) Dewit & Duvign. l.c. 212 (1954); Fl. Congo Belge 5: 335. *APD acc*

Smithia strigosa Benth. in Miq. Pl. Junghun. 211 (1852); Bak. f. l.c. 306.

A shrub similar to *S. speciosa* with smaller blue flowers.

S. Nig.: Ikwette Plateau, 5,200 ft., Obudu (fr. Dec.) Savory & Keay FHI 25218! **Br. Cam.:** Bamenda, 5,000 ft. (fr. Jan.) Migeod 299! Baldwin 13848! Bambui, 4,000 ft. (fr. Mar.) Maitland 1646! Bafut-Ngemba F.R. (fr. Apr.) Ujor FHI 30016! Babanki (Jan.) Johnstone FHI 8741!

Also in **French Cameroons**, **Belgian Congo**, **Tanganyika**, **Nyasaland**, **N. Rhodesia** and **S. Rhodesia** and **Angola**.

6. *Kotschya uniflora* (A. Chev.) Hepper l.c. 126 (1956). *APD acc*

Smithia uniflora A. Chev. in Bull. Mus. Hist. Nat. 5: 479 (1933).

A prostrate or ascending shrub about 1 ft. high and branches about 2 ft. long; with yellow flowers; on sandstone cliffs.

Fr. G.: Benna Mts. (Dec.) Jac.-Fél. 2163! Kindia Jac.-Fél. 246. Pita Jac.-Fél. 685. Téli-méla Jac.-Fél. 1779. Pobéguin 2208.

7. *Kotschya lutea* (Porteres) Hepper l.c. 126 (1956). *APD acc*

Smithia lutea Portères in Rev. Bot. Appliq. 19: 788, fig. 7A (1939).

A shrub 4–6 ft. high with rough branches and deep yellow flowers and red calyx.

Fr. G.: Mt. Nimba, about 4,000 ft., Portères 3157! **S. L.:** Glanville 390! Bintumane, 4,000–5,500 ft. (Jan.) Glanville 455! 466! T. S. Jones 95! Jaeger 988!

8. *Kotschya carsonii* (Bak.) Dewit & Duvign. in Bull. Soc. Roy. Bot. Belg. 86: 213 (1954); Fl. Congo Belge 5: 340. *APD acc*

Smithia carsonii Bak. (1893).

S. harmsiana De Wild. (1902).

S. reflexa Portères l.c. 789, fig. 7B (1939).

A shrub like the last with almost bristly stems and yellow flowers.

Fr. G.: Labé (Dec.) Jac.-Fél. 641! Pita Jac.-Fél. 693. Portères 2045; 2194. Dalaba-Diaguissa Plateau Jac.-Fél. 756; 2057. Beyla Jac.-Fél. 1545. **IV. C.:** Bié-Sama, Man (Jan.) Portères!

Also in **Belgian Congo** and **Tanganyika**.

***Kotschya aeschynomoides* (Welw. ex Bak.) Dewit & Duvign.**

From east, central and south tropical Africa has been introduced into French Guinea.

***Smithia? trochainii* Berhaut in Bull. Soc. Bot. Fr. 101: 375 (1955).**

A slender procumbent herb described with neither flowers nor fruits.

Sen.: Bakel Trochain.

Imperfectly known species.

73. SMITHIA

Ait. Hort. Kew. ed. 1, 3: 496, t. 13 (1789); Dewit & Duvigneaud in Bull. Soc. Roy. Bot. Belg. 86: 71 (1954).

- 1** A herb; stem glabrescent, hispid above, 20–70 cm. long; leaflets 6–8 pairs, opposite, linear-oblong, about 1 cm. long, subsymmetrical with the principal nerve central and long-pilose; stipules 1.7 cm. long, membranous, persistent, prolonged beneath the point of insertion into a biauriculate appendage with one auricle short (4 mm.) and round and the other much longer (7 mm.), linear and acute; inflorescence an umbel, peduncle 1.5–4 cm. long, hispid; flowers erect; bracteoles 4 mm. long at base of calyx; calyx 2-lipped, lips subentire, accrescent [elliotii](#)

***Smithia elliotii* Bak. f. Leg. Trop. Afr. 2: 304 (1929); Dewit & Duvign. in Fl. Congo Belge 5: 346, fig.**

23. *APD acc*

An ascending herb of **moist upland places** with pink or blue flowers.

Br. Cam.: Basenako, Bamenda (June) Maitland 1504! Mt. Mba Kokeka, 7,500 ft., Bamenda (Jan.) Keay FHI 28404!

Also in **French Cameroons**, **Uganda**, **Tanganyika** and **Belgian Congo**.

74. BRYASPIS

Duvigneaud in Bull. Soc. Roy. Bot. Belg. 86: 151 (1954).

- 1 Stems glabrous, straw-coloured; leaves very few, imparipinnate; leaflets about 3 pairs, oblong-ob lanceolate, unequal-sided at base, 1–1.3 cm. long, glabrous; stipules persistent, broadly ovate, several-nerved, 1 cm. long, glabrous; flowers in dense oblong pedunculate racemes and hidden by large imbricate reticulate orbicular-reniform bracts about 1.5 cm. broad; corolla about 5 mm. long; fruits very small, with 2 reticulate segments *lupulina*

Bryaspis lupulina (*Planch. ex Benth.*) *Duvign.* l.c. 150–153, figs. 1B, 2C, 3B (1954). *APD acc*

Geissaspis lupulina *Planch. ex Benth.* (1865) — F.T.A. 2: 155; Tisserant in Bull. Mus. Hist. Nat., sér. 2, 3: 333 (1931).

G. psitta-corhyncha of F.W.T.A., ed. 1, 1: 416; Chev. Bot. 187.

A slightly woody herb, erect or straggling; flowers small, bright yellow within the bracts; **in moist places**.

Sen.: Casamance Heudelot 555; 664! **Port. G.:** Bissau (fl. & fr. Dec.) Esp. Santo 1214! **Fr. G.:** Farman 211! Kouroussa (fl. & fr. Oct.) Pobéguin 568! Maneak to Frigniagbé Pobéguin 11! Ymbo (Sept.) Chev. 14485. Fouta Djallon (Sept.) Chev. 18459. **S. L.:** Afzelius! Waterloo (fl. & fr. Dec.) Dawe 424! Kitchom (Jan.) Deighton 932! Tongbai (fl. & fr. Nov.) T. S. Jones 45! Mayamba (Jan.) King 213! Bunting 2!

Doubtfully recorded species.

Geissaspis psittacorhyncha (*Webb*) *Taub.* in E. & P. Pflanzenfam. 3, 3: 321 (1894), excl. distrib. W. Afr.; Tisserant l.c.; Pellegr. l.c. 183.

Soemmeringa psittacorhyncha *Webb* (1849).

This species, previously regarded as identical with the above, is based on a specimen collected by St. Hilaire, probably from the Cape Verde Islands, but, according to Tisserant (l.c.), possibly from the mainland at Cape Verde. A specimen from a rock outcrop at Genne Loffa, Kolahun Dist., Liberia (Baldwin 10097) is possibly a new sp. of *Bryaspis* but it possesses filiform bracteoles at the base of the calyx which are not characteristic of the genus (vide *Duvigneaud* l.c.). The plant is similar to *B. lupulina* but is setose-pilose in all parts and the flowers exceed the enlarged bracts. Further material of this plant is needed and possibly the limits of this genus may have to be re-defined.

Imperfectly known species.

75. DESMODIUM

Desv. — F.T.A. 2: 159.

- 1 Calyx with 5 narrow equal teeth; bracts ovate-lanceolate, subsistent; inflorescence a short bracteate congested very hairy raceme, scarcely as long as the leaves; pedicels as long as the flowers, the latter nodding; leaflets 3 or sometimes 1, oblong-elliptic, emarginate, 2–3 cm. long, densely appressed-pubescent beneath; stipules long-subulate-lanceolate *l. barbatum* var. *dimorphum*
Calyx-teeth 5, the upper 2 connate; bracts linear or lanceolate, if broader then early caducous and inflorescence lax: 2
- 2 Leaves 1-foliolate: 3
Leaves 3-foliolate, rarely with a few 1-foliolate leaves (see No. 9): 5
- 3 Inflorescence a slender lax-flowered raceme: 4
Inflorescence a dense leafy subpyramidal panicle; leaflet ovate or rhomboid, rounded at apex, up to 15 cm. long and 8 cm. broad, softly pilose beneath; petiole 1–2 cm. long; pedicels very short; fruits deeply indented on one side, 1.5–2 cm. long, pubescent *3. velutinum*

- 4 Leaflet lanceolate, acute or acuminate, up to 12 cm. long; stem up to 1 m. high; pedicels about as long as flower; calyx pilose; fruits nearly straight on one side, deeply indented on the other, about 2 cm. long, thinly pubescent [2. gangeticum var. gangeticum](#)
- Leaflet ovate-orbicular or ovate-lanceolate, obtuse or subacute, variable in size; stem less than 20 cm. high; other characters as above [2a. gangeticum var. maculatum](#)
- 5 Fruits straight on the upper side, indented only on the lower side, or straight on both sides: 6
- Fruits equally indented on each side: 16
- 6 Flowers 1–3 in leaf axils; stems prostrate, more or less pilose, terminal leaflet 1 cm. long or less, finely appressed-pilose beneath; pedicels up to 1 cm. long; fruits about 1/3 indented on one side, about 5-seeded, pubescent [4. triflorum](#)
- Flowers in racemes: 7
- 7 Terminal leaflet lanceolate, at least 3 times as long as broad, acute, 5–15 cm. long and 1–4 cm. broad, thinly pubescent beneath or on nerves only; lateral nerves numerous; flowers very shortly pedicellate; fruits only slightly indented, 3–5-seeded, at length reticulate [5. salicifolium](#)
- Terminal leaflet oblong, elliptic or rhombic, up to twice as long as broad: 8
- 8 Flowers 8–10 mm. long; inflorescence terminal, lax, normally paniculate, few-flowered, leafless, 15–40 cm. long; stipules 1–1.5 cm. long, brown, persistent; flowers paired, pedicels 2–3 cm. long; leaves more or less rhombic, acute or apiculate, up to 9 cm. long and 6 cm. broad, thinly pilose on both sides; fruits very deeply indented, 3–5-seeded, tomentellous [6. repandum](#)
- Flowers 1–5 mm. long; racemes simple or leafy; leaflets obtuse or rounded at the apex: 9
- 9 Pedicels up to 6 mm. long in flower, up to 10 mm. in fruit; flowers in narrow leafless terminal racemes; fruits pubescent; stems stiffly erect and sparingly branched: 10
- Pedicels exceeding 6 mm. long; flowers in spreading terminal or axillary racemes; stems more or less prostrate or ascending, usually branched, or with a prostrate main stem and erect lateral shoots: 11
- 10 Terminal leaflet 4–6 cm. long, 1–3 cm. broad, more or less acute, glaucous and shortly pubescent beneath; flowers about 4 mm. long, rather shorter than pedicels; fruits deeply indented on one side, 3–5-seeded, shortly setulose-pubescent [7. canum](#)
- Terminal leaflet 1–2 (–3.5) cm. long, 5–10 mm. broad, obovate, obtuse, pilose beneath; flowers about 3 mm. long; fruits deeply indented, 3–5-seeded, pubescent [8. ramosissimum](#)
- 11 Stems more or less prostrate, rooting at nodes with erect lateral shoots on which the flowers are borne in a lax terminal raceme above the leaves; fruits rather deeply indented on one side, segments about twice as long as broad, tomentose; terminal leaflet broadly obovate to obovate-elliptic, 2–4.5 cm. long, 2–3 cm. broad, cuneate at base, rounded at apex: 12
- Stems not rooting at the nodes; segments of fruits more or less square: 13
- 12 Leaflets appressed-pubescent above, not reticulate above when dry, thin; bracts finely puberulous to glabrescent [9. adscendens var. adscendens](#)
- Leaflets glabrous above, sometimes with a few hairs on the midrib, reticulate above when dry, rather thick; bracts densely appressed-pilose [9a. adscendens var. robustum](#)
- 13 Fruits indehiscent, segments breaking off transversely, rather deeply indented on the lower side and slightly indented on the upper side; segments about 2 mm. broad and 2–3 mm. long, tomentose; racemes axillary; stems densely pilose; terminal leaflet obovate-elliptic, 3–5 cm. long, about 2 cm. broad, rounded to subacute at apex [10. setigerum](#)
- Fruits dehiscent, opening along lower suture and then breaking up transversely, slightly indented along the lower side, upper edge entire; racemes mostly terminal: 14
- 14 Fruits 2.5–3 mm. broad, 1–2 cm. long, tomentose; terminal leaflet broadly obovate, cuneate to rounded at base, rounded and slightly emarginate at apex, 10–20 mm. long, 8–15 mm. broad, appressed-pilose beneath; racemes lax and spreading [11. hirtum](#)
- Fruits 2 mm. broad, about 1 cm. long; terminal leaflet obovate-oblong to oblong: 15
- 15 Leaflets appressed-pilose above and beneath, obovate-oblong, 12–20 mm. long, 7–9 mm. broad; racemes short and few-flowered; fruits finely pubescent [12. schweinfurthii](#)
- Leaflets glabrous above or with a few hairs on the midrib, pilose beneath; terminal leaflet linear-oblong, 11–26 mm. long, 3–7 mm. broad; racemes rather lax and spreading; fruits glabrous or rarely minutely setulose [13. linearifolium](#)
- 16 Fruits very deeply indented on both sides, often twisted or contorted, segments 4–6, almost orbicular, flat, finely pubescent, about 3 mm. broad; leaflets thin, more or less rhomboid, cuneate at base, subacute at apex, almost glabrous, margins ciliated; racemes up to 15 cm. long, flowers very small; pedicels about 1 cm. long [14. tortuosum](#)
- Fruits not deeply indented, segments twice as long as broad: 17
- 17 Terminal leaflet 7–12 cm. long, about 6 cm. broad, elliptic, equally tapered at each end, pubescent beneath with

appressed silky hairs; racemes up to 40 cm. long; flowers about 5 mm. long; pedicels about 7 mm. long; fruits up to 9-seeded; segments compressed, 4 mm. long, 1.5 mm. broad [15. laxiflorum](#)

Terminal leaflet about 2 cm. long and 1 cm. broad, oblong or elliptic, rounded at each end, thinly pubescent; racemes up to 10 cm. long, few-flowered; flowers 4 mm. long; pedicels about 5 mm. long; fruits 5–8-seeded; segments subterete, 4 mm. long and 2 mm. broad [16. scorpiurus](#)

1. **Desmodium barbatum var. dimorphum** (*Welw. ex Bak.*) *Schubert* in Bull. Jard. Bot. Brux. 22: 298 (1952); Fl. Congo Belge 5: 205. *APD acc*

Desmodium dimorphum *Welw. ex Bak.* in F.T.A. 2: 161 (1871); F.W.T.A., ed. 1, 1: 418; Bak. f. Leg. Trop. Afr. 2: 332.

A more or less woody undershrub, 1–2 ft. or more high, grey silky pubescent; with pink or purplish flowers.

Fr. G.: Kouroussa (Sept.) Pobéguin 434! **N. Nig.:** Bauchi Plateau (Aug.) Lely P. 580! Naraguta (Aug.) Lely 513! Vom, 3,000–4,500 ft., Dent Young 64! Anara F.R. (fr. Oct.) Olorunfemi FHI 24405!

Extends through tropical Africa from Abyssinia to Rhodesia and in **Madagascar**.

2. **Desmodium gangeticum** (*Linn.*) *DC. var. gangeticum* — Prod. 2: 327 (1825); F.T.A. 2: 161, partly; Chev. Bot. 190; F.W.T.A., ed. 1, 1: 418, partly; Schubert Fl. Congo Belge 196. *APD acc*

Hedysarum gangeticum *Linn.* (1753).

Erect, half-woody, undershrub, up to 5 ft. high; with small white and pink or bluish flowers.

Port. G.: Bissau (fr. Jan.) Esp. Santo 1632! **Fr. G.:** Nzerékoré (fr. Oct.) Baldwin 9684! **S. L.:** Mamboma (fr. Nov.) Deighton 3773! Sangasanga, Benna country (Jan.) Sc. Elliot 4420! **Lib.:** Dubo, Sanokwele (Sept.) Baldwin 9473! **G. C.:** Sampa (fr. Dec.) Vigne FH 3484! Krobo Plains (Dec.) Johnson 511! **N. Nig.:** Ilorin (fr. Dec.) Ajayi FHI 19293! **S. Nig.:** Abeokuta Irving! Oyo (fl. & fr. Feb.) Keay FHI 23431! FHI 23432! Oban Talbot 1304!

Widely distributed in the tropics of the Old World.

2a. **Desmodium gangeticum var. maculatum** (*Linn.*) *Bak.* Fl. Brit. Ind. 2: 168 (1876).

Hedysarum maculatum *Linn.* (1753).

Desmodium gangeticum of F.T.A. 2: 161 and of F.W.T.A., ed. 1, 1: 418, partly.

A dwarf variety with small leaves found in **drier situations**.

G. C.: Achimota (fr. Feb.) Irvine 1996! Prang (Jan.) Vigne FH 1581! Dawa R. (fr. Feb.) Morton GC 6463! Salaga (Apr.) Dalz. 20! Krause! **N. Nig.:** Zaria (fl. & fr. May) Keay FHI 25747! Milne-Redhead 5029! Kontagora Meikle 1078!

A distribution similar to the typical variety.

[Chevalier (Bot. 190) records this species from Senegal, French Guinea and Ivory Coast; I have not seen the specimens and cannot say to which variety they belong.]

Imperfectly known species.

3. **Desmodium velutinum** (*Willd.*) *DC.* l.c. 328 (1825); Schubert l.c. 194. *APD acc*

Hedysarum velutinum *Willd.* (1803).

H. lasiocarpum *P. Beauv.* (1805).

Desmodium lasiocarpum (*P. Beauv.*) *DC.* (1825) — F.T.A. 2: 162; Chev. Bot. 190; F.W.T.A., ed. 1, 1: 418; Bak. f. l.c. 326.

A half-woody, erect, rather hairy undershrub, 3–6 ft. high, with small pink or purplish flowers and fruit-segments which adhere like burrs.

Sen.: Bondou Heudelot 208! Perrottet 244! Ziguinchor, Casamance Chev. 3379! **Gam.:** Mungo Park! **Fr. Sud.:** Tabacco Chev. 3265. **Fr. G.:** Kouria Chev. 14903. Fouta Djallon (June) Maclaud 26! Kouroussa (Sept.) Pobéguin 443! Bindélya (Dec.) Paroisse 39! Nzerékoré (Oct.) Baldwin 9704! **S. L.:** Smeathmann! Mamaha (fr. Nov.) Thomas 4493! Njala Deighton 1343! Gberia Timbako (Sept.) Small 319! **Lib.:** Gbanga (fr. Nov.) Daniel 33! Robertsport (fl. & fr. Dec.) Baldwin 10921! Vonjama (Oct.) Baldwin 9936! **IV. C.:** Voguie Chev. 17185. Montézo Chev. 17444. **G. C.:** Offinso (Oct.) Darko 734! Accra (fr. July) Irvine 15! Prang (fr. May) Kitson 609! **Togo:** Lome Warnecke 209! Atakpame (Nov.) Mildbr. 7400! **Dah.:** Burton! **N. Nig.:** T. Vogel 146! Lokoja Barter 1044! Katagum Dalz. 335! **S. Nig.:** Abeokuta Irving 85! Ibadan (fr. Oct.) Jones & Keay FHI 13708! Benin (fl. & fr. Sept.) Farquhar 78!

A common plant of the Old World tropics.

4. **Desmodium triflorum** (Linn.) DC. l.c. 2: 334 (1825); F.T.A. 2: 166; Chev. Bot. 191; Bak. f. l.c. 327; Schubert l.c. 187. *APD acc*

Hedysarum triflorum Linn. (1753).

Stems much-branched, prostrate, creeping and forming dense mats; flowers pink or purple.

Fr. G.: Dyeke (Oct.) Baldwin 9670! Conakry Chev. 13543. **S. L.:** Port Loko (Dec.) Thomas 6648! Roruks (Nov.) Thomas 5696! Regent (fr. Oct.) Deighton 2179! Mahela (fr. Dec.) Sc. Elliot 4055! **Lib.:** Monrovia (Nov.) Linder 1538! Nana Kru (Mar.) Baldwin 11598! Zorzor (Oct.) Baldwin 10024! **IV. C.:** Toumodi Chev. 22409! **G. C.:** Accra Plains Irvine 736! Bally 38! Senya Beraker (June) Morton GC 7912! **Togo:** Lome Warnecke 257! **Dah.:** Cotonou Chev. 4487. **S. Nig.:** Lagos Dalz. 1033! 1207! Ibadan Schlechter 12335! Okomu F.R. (Feb.) Brenan 9153! Onitsha Barter 1790!

Also in other parts of tropical Africa, in the **Mascarene islands** and **Socotra**, and in **tropical America**.

5. **Desmodium salicifolium** (Poir.) DC. l.c. 2: 337 (1825); Bak. f. l.c. 330; Schubert l.c. 198, t. 15. *APD acc*

Hedysarum salicifolium Poir. (1804).

Desmodium paleaceum Guill. & Perr. (1832) — F.T.A. 2: 166; Chev. Bot. 191; F.W.T.A., ed. 1, 1: 418.

A half-woody, erect undershrub, 3–4 ft. high, with red or yellowish flowers in slender more or less paniced spike-like racemes.

Sen.: Heudelot 369! Casamance Chev. 3263. **Gam.:** Albreda (fr. Mar.) Perrottet 246! Gambia R. (Jan.) Dalz. 8020! **Fr. Sud.:** Médinani Chev. 508! **Fr. G.:** Kouroussa (Sept.) Pobéguin 956! Nzérékoré (Oct.) Baldwin 9711! **S. L.:** Gorahun (fl. & fr. Nov.) Deighton 360! Musaia (fr. Dec.) Deighton 5703! Njala (fl. & fr. Jan.) Dalz. 8065! Jigaya (Sept.) Thomas 2847! **Lib.:** Peáhtah (Oct.) Linder 1039! Vonjama (Oct.) Baldwin 9859! **IV. C.:** Capiécrou (Feb.) Chev. 17091. Toumodi Chev. 22419. **G. C.:** Kwadaso (Nov.) Darko 742! Tamale (fr. Dec.) Morton GC 9900! Banda, Wenchi (fr. Dec.) Morton GC 25263! **N. Nig.:** Naraguta (Sept.) Lely 573! Anara F.R. (Oct.) Keay FHI 20128! **S. Nig.:** Ibadan (Oct.) Jones & Keay FHI 13779!

Throughout tropical Africa, and in **S. Africa** and the **Mascarene Islands**.

6. **Desmodium repandum** (Vahl) DC. l.c. 2: 334 (1825); Schubert l.c. 193, t. 14. *APD acc*

Hedysarum repandum Vahl (1791).

Desmodium scalpe DC. (1825) — F.T.A. 2: 164; Chev. Bot. 191; F.W.T.A., ed. 1, 1: 418; Bak. f. l.c. 328.

An undershrub with slender thinly spreading pubescent branches, straggling or more or less climbing; flowers usually deep red; **in montane vegetation**.

Fr. G.: Dalaba-Diaguissa Plateau, 3,000–4,000 ft. Chev. 18733; 20186. **S. Nig.:** Ijua, 3,000 ft., Obudu (Dec.) Savory & Keay FHI 25025! **Br. Cam.:** Cam. Mt., 2,000–7,000 ft. (Dec.) Mann 1229! 2017! Bamenda (May) Ujor FHI 30313! Bafut-Ngemba F.R. (fl. & fr. Nov.) Lightbody FHI 26266! **F. Po:** Mann 286! Moka (Dec.) Boughey 161!

In the tropics and subtropics of the Old World.

7. **Desmodium canum** (J. F. Gmel.) Schinz & Thell. in Mém. Soc. Neuchatel Sci. Nat. 5: 371 (1913); Exell Cat. S. Tomé 156; Schubert l.c. 184.

APD: *Synonym of Desmodium incanum* (Sw.) DC.

Hedysarum canum J. F. Gmel. (1791).

Desmodium mauritanium (Willd.) DC. (1825), not of authors.

Desmodium incanum DC. (1825) — F.T.A. 2: 163; Chev. Bot. 190; F.W.T.A., ed. 1, 1: 418.

Desmodium frutescens Schindl. (1925); Bak. f. l.c. 328.

A half-woody undershrub, more or less decumbent; flowers reddish-purple in loose racemes.

Fr. Sud.: Folo Chev. 848. **Fr. G.:** Dalaba-Diaguissa Plateau Chev. 18725. **S. L.:** Don! **Lib.:** Rocktown (fr. Mar.) Baldwin 11635! **IV. C.:** Upper Cavally Chev. 15837. **F. Po:** Barter! Mann 56! Bahia de Venus (fl. & fr. Dec.) Guinea 247!

Also in **Gabon**, **Principe** and **S. Tomé**, locally in **S. Africa**, the **Mascarene Islands** and some **E. African islands**, and in **America**.

8. **Desmodium ramosissimum** G. Don Gen. Syst. 2: 294 (1832); Schubert l.c. 191. *APD acc*

Desmodium mauritanium of F.T.A. 2: 164; Chev. Bot. 190; F.W.T.A., ed. 1, 1: 418; Bak. f. l.c. 330, not of (Willd.) DC.

An erect slightly woody herb, with slender branches; bright pink or purple flowers.

Fr. Sud.: Tabacco Chev. 138. **Fr. G.:** Kouria to Ymbo Chev. 15014. Macenta (Oct.) Baldwin 9828! **S. L.:** Don 34! Barter! Wellington (fl. & fr. Feb.) Deighton 4989! Njala (Sept.) Deighton 2089! Bumbuna (fr. Oct.) Thomas 3363! **Lib.:** Cape Palmas Ansell! Kakatown Whyte! Sinkor (fl. & fr. June) Barker 1356! Zeahtown, Tchien Baldwin 6952! **IV. C.:** fide Chev. l.c. **G. C.:** Banda, Wenchi (fl. & fr. Dec.) Morton GC 25304! Afram Plains (fr. Jan.) Irvine 625! Shai Plains Johnson 569! Tamale Williams 160! **Togo:** Lome Warnecke 260! Logba Lota (June) Howes 1006! **Dah.:** La Lama Chev. 23245. R. Ouémé Chev. 23603. **N. Nig.:** Abinsi (Feb.) Dalz. 588! Naraguta Lely 18! Bauchi Plateau (fl. & fr. Jan.) Lely P. 44! **S. Nig.:** Lagos MacGregor 63! Punch 8! Ibadan Schlechter 12330! **Br. Cam.:** Mamfe (fr. Dec.) Migeod 271! **F. Po:** Mildbr. 6250.

Widely spread in tropical Africa, and in Madagascar and the Mascarenes.

9. **Desmodium adscendens** (Sw.) DC. **var. adscendens** — F.T.A. 2: 162; Chev. Bot. 189; Bak. f. l.c. 2; 330; Schubert l.c. 189. *APD acc*

Hedysarum adscendens Sw. (1788).

Desmodium ovalifolium Guill. & Perr. (1832).

An undershrub with slender thinly pubescent branches, straggling and sometimes prostrate and rooting; flowers pink or whitish.

Sen.: Casamance Perrottet 245! **S. L.:** Afzelius! Rokupr (fl. & fr. Sept.) Jordan 557! Njala (Sept.) Deighton 2083! **Lib.:** Du R. (July) Linder 192! Webo (fl. & fr. June) Baldwin 6163! Cavally (fr. June) Baldwin 6007! **IV. C.:** Makougnie Chev. 17189. Alépé Chev. 17475. Sanvi Chev. 17833. **G. C.:** Axim (Apr.) Chipp 168! Akwapim (Mar.) Murphy 678! Swedru (Feb.) Dalz. 8284! **S. Nig.:** Lagos (fr. Aug.) Rowland! Okomu F.R. Brenan 8849! Obu Thomas 37! Old Calabar Holland 104! **Br. Cam.:** Victoria (June) Rosevear Cam. 46/37! **F. Po:** Mann 407!

Extends through tropical Africa to S. Africa, also in **America**.

9a. **Desmodium adscendens** **var. robustum** Schubert in Bull. Jard. Bot. Brux. 22: 290 (1954); Fl. Congo Belge 5: 190. *APD acc*

The leaflets are often larger than the type and are glabrous and reticulate above.

Port. G.: Dandum, Bafata (June) Esp. Santo 2692! **Lib.:** Bakratown (Sept.) Linder 866! **Togo:** Amedzofe (fl. & fr. May) Scholes 41! **N. Nig.:** Naraguta (June) Lely 325! **Br. Cam.:** Buea, 3,000 ft. (fl. & fr. Nov.) Migeod 112! Bali, Bamenda (fl. & fr. May) Ujor FHI 30386! **F. Po:** Moka, 4,000 ft. (fl. & fr. Dec.) Boughey 18! 198! San Carlos (fl. & fr. Jan.) Guinea 1616!

Also in **French Cameroons**, **Spanish Guinea**, **A.-E. Sudan**, **Belgian Congo** and **N. Rhodesia**.

10. **Desmodium setigerum** (E. Mey.) Benth. ex Harv. Fl. Cap. 2: 229 (1862); Schubert in Bull. Jard. Bot. Brux. 22: 289 (1952); Fl. Congo Belge 5: 187, fig. 11, E. *APD acc*

Nicholsonia setigera E. Mey. (1836).

Desmodium hirtum partly, of F.T.A. 2: 163; of F.W.T.A., ed. 1, 1: 418; of Bak. f. l.c. 329.

Desmodium delicatulum of F.W.T.A., ed. 1, 1: 418.

Stems clothed with spreading silky hairs; flowers pink or bluish.

Fr. G.: Rio Nunez Heudelot 696! **S. L.:** Juring (Dec.) Deighton 331! Kenema (fl. & fr. Nov.) Deighton 390! Musaia (fr. Dec.) Deighton 5701! Port Loko (fl. & fr. Dec.) Thomas 6689! **N. Nig.:** Vom, 3,000–4,500 ft., Dent Young 63!

Throughout tropical Africa and in **Natal**.

11. **Desmodium hirtum** Guill. & Perr. — F.T.A. 2: 163, partly; F.W.T.A., ed. 1, 1: 418, partly; Bak. f. l.c. 329, partly; Schubert in Bull. Jard. Bot. Brux. 22: 287 (1952); Fl. Congo Belge 5: 186, fig. 11 B. *APD acc*

Desmodium delicatulum of Chev. Bot. 189.

A more or less prostrate herb with small pink flowers.

Sen.: Casamance (fr. Apr.) Perrottet 247! Bakel (fl. & fr. Oct.) Leprieur! **Fr. Sud.:** Kabarah (fl. & fr. Aug.) Chev. 1341! **Port. G.:** Bissau (fl. & fr. Oct.) Esp. Santo 947! 2547! **S. L.:** Kent (fr. Dec.) Deighton 3288! Mahera (fl. & fr. Nov.) Deighton 5674! Erimakuna (fr. Mar.) Sc. Elliot 5210! **G. C.:** Zuarungu (fr. Dec.) Adams & Akpabla GC 4304! Tamale (fl. & fr. Oct.) Baldwin 13557! **Fr. Nig.:** Niamey (fr. Oct.) Hagerup 529! **N. Nig.:** Lokoja Barter! Sokoto (fl. & fr. Oct.) Dalz. 338! Mopa, Kabba (fl. & fr. Oct.) Ward L. 144! **S. Nig.:** Aguku Thomas 625!

Extends throughout tropical Africa.

12. **Desmodium schweinfurthii** *Schindl.* in Engl. Bot. Jahrb. 54: 57 (1916), excl. Afzelius s.n. & Chev. 15028; Schubert l.c. 184. fig. 11, A. *APD acc*

Desmodium linearifolium of F.W.T.A., ed. 1, 1: 417, partly.

A small annual about 6 in. high, with pink flowers.

N. Nig.: Bauchi Plateau (fr. Sept.) Lely P. 684!

Also in **Ubangi-Shari** and **N.E. tropical Africa**.

13. **Desmodium linearifolium** *G. Don* Gen. Syst. 2: 294 (1832); Bak. f. l.c. 329. *APD acc*

Desmodium schweinfurthii *Schindl.* (1916), partly.

Desmodium djalonense *A. Chev.* Bot. 189, name only.

A branched herb about 1 ft. high, woody at the base, with erect or spreading lax branches and small pink-mauve flowers.

Fr. G.: Kouria Chev. 15028! Fouta Djallon Chev. 18309. Mamou Chev. 18624. **S. L.:** Afzelius! Smeathmann! Kissy (fr. Nov.) Deighton 4387! Bumbuna (fr. Oct.) Thomas 3276! 3429! 3832! Rokupr (fr. Nov.) Jordan 158!

14. **Desmodium tortuosum** (*Sw.*) *DC.* Prod. 2: 332 (1825); Webb in Hook. Nig. Fl. 122; Schubert l.c. 202. *APD acc*

APD: *Synonym of Desmodium ospriostreblum Chiov.*

Hedysarum tortuosum *Sw.* (1788).

Desmodium spirale (*Sw.*) *DC.* (1825) — F.T.A. 2: 160; Bak. f. l.c. 331.

Desmodium ospriostreblum *Steud. ex Chiov.* (1908); Bak. f. l.c.; Exell Cat. S. Tomé 158.

Anarthrosyne abyssinica *Hochst. ex A. Rich.* (1847).

Desmodium abyssinicum (*Hochst. ex A. Rich.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 418 (1928), not of *DC.* (1825).

Desmodium terminale of Guill. & Perr. Fl. Seneg. 307, not of *DC.*

Erect herb or undershrub, with pubescent branches and very thin flaccid leaves and twisted fruits; introduced in our area.

Sen.: Heudelot 221! Richard Tol Perrottet. **S. L.:** Afzelius! Smeathmann! Njala (fl. & fr. Nov.) Deighton 1507! **G. C.:** Sandema (fr. Sept.) Hughes FH 5347! Koforidua (fl. & fr. Jan.) Morton GC 8306! Senchi Ferry (fl. & fr. Oct.) Morton GC 9292! **Br. Cam.:** Victoria (Feb.) Maitland FHI 12111! Dalz. 8198!

Widespread in the tropics.

15. **Desmodium laxiflorum** *DC.* in Ann. Sci. Nat., sér. 1, 4: 100 (1825). *APD acc*

Desmodium incanum of Chev. Bot. 190 (Chev. 18638).

An undershrub, up to 5 ft. high, with pink or purple flowers; leaves turn red when the plant is in fruit.

Sen.: Berhaut 1851. **Gam.:** Frith 138! **Fr. G.:** Toumbalako to Boulivel (Sept.) Chev. 18638! **S. L.:** Musaia (Sept.) Deighton 4506! 4857! Kamabai to Kabala (fr. Dec.) Deighton 5691! Bafodea to Kamba (Sept.) Deighton 5161! **S. Nig.:** Afo R., Oyo (Sept.) Latilo FHI 23533!

Introduced from tropical Asia.

16. **Desmodium scorpiurus** (*Sw.*) *Desv.* in Journ. de Bot. 1: 122 (1813). *APD acc*

Hedysarum scorpiurus *Desv.* (1788).

A straggling, climbing or procumbent herb with small blue flowers.

S. L.: Freetown (Jan.) Deighton 241! 485! Bonthe (fr. Mar.) Deighton 2484! **G. C.:** Morton!

Introduced from tropical America.

Wight & Arn. — F.T.A. 2: 167.

- 1 Flowers arranged in short dense spike-like racemes about 2·5 cm. long; leaflets elliptic-obovate, rounded at apex, the terminal one about 10 cm. long and 6 cm. broad, rather densely pubescent beneath, strongly nerved; stipules linear, about 8 mm. long; stipels subulate; calyx-lobes long-subulate, pilose; ovary densely villous; fruits several-seeded, about 2 cm. long, densely pilose [1. confertiflora](#)

Flowers arranged in lax much-branched panicles:..... **2**

- 2 Fruits 6–10-seeded, thinly pubescent; leaflets obovate, very undulate on the margin, the terminal one 9–10 cm. long and about 6 cm. broad, densely white-tomentose beneath, strongly nerved; stipules lanceolate, striate inside; calyx-lobes shortly subulate; ovary loosely pubescent [2. hookeri](#)

Fruits 1–5-seeded, shortly pubescent; leaflets loosely pubescent beneath, the terminal one rhomboid, mucronate, up to 13 cm. long and 8 cm. broad, undulate and strongly nerved; stipules, etc. as in No. 2 [3. fagifolia](#)

1. ***Pseudarthria confertiflora* (A. Rich.) Bak.** in F.T.A. 2: 167 (1871); Bak. f. Leg. Trop. Afr. 2: 339; Léonard in Fl. Congo Belge 5: 236, fig. 15, C–D. *APD acc*

***Rhynchosia confertiflora* A. Rich.** (1847).

An undershrub, 3 ft. high, with grooved yellowish-pubescent branches; flowers small, purple.

G. C.: Jema (July) Chipp 529! Yeji (Aug.) Pomeroy 1345! **Togo:** Krachi Krause! **S. Nig.:** Lagos MacGregor 151! Foster 115! Old Oyo F.R. (Sept.) Latilo FHI 23539!

Extends to A.-E. **Sudan** and eastern Africa.

2. ***Pseudarthria hookeri* Wight & Arn.** — F.T.A. 2: 168; Chev. Bot. 192; Bak. f. l.c. 339; Léonard l.c. 235, fig. 15, A–B. *APD acc*

APD: *Synonym of Pseudarthria hookeri var. argyrophylla Verdc.*

***Pseudarthria alba* A. Chev.** (1912).

An erect, stiffly branched shrub, 6–10 ft. high, grey-downy all over; flowers small in copious panicles, white, yellow or pink; sometimes gregarious in grass **savannah**; easily confused with *Desmodium salicifolium*.

Sen.: Niokolo-Koba Berhaut 1333. **Fr. Sud.:** Upper Volta Chev. 3383. **Fr. G.:** Fouébouédougou, 1,850 ft. (July) Collenette 71! Mt. Kamoueniboka Chev. 22014. Toumodi Chev. 22407. **S. L.:** Musaia Deighton 4359! Gberia Fotombu (Oct.) Small 340! **G. C.:** Ejura Kitson 610! Morton GC 9562! Techiman to Nkoransa (fr. Dec.) Adams & Akpabla GC 4522! **Togo:** Misahöhe (Nov.) Mildbr. 7247! **N. Nig.:** Lokoja (Oct.) Parsons L. 81! Abinsi Dalz. 597! Naraguta & Jos (Sept.) Lely 565! **Br. Cam.:** Belo, Bamenda (fl. & fr. May) Maitland 1434! 1559! Bambuko F.R. (Sept.) Olorunfemi FHI 30765!

All over tropical Africa.

3. ***Pseudarthria fagifolia* Bak.** in F.T.A. 2: 167 (1871); Chev. Bot. 192; Bak. f. l.c. 338. *APD acc*

An erect undershrub 3–4 ft. high, rather like the last and perhaps a variety; flowers small, red, in slender panicles.

Port. G.: Gabú (Sept.) Esp. Santo 2775! **Fr. G.:** Kouria to Ymbo Chev. 14980. **S. L.:** Afzelius. Kabala (fr. Sept.) Thomas 2171! Musaia (fr. Dec.) Deighton 4412! Falaba (Sept.) Small 298! Gberia Fotombu (Oct.) Small 341! **N. Nig.:** Bauchi Plateau (Sept.) Lely P. 743! P. 744! Tuka, Niger (Oct.) A. F. A. Lamb FHI 3171! Anara F.R. (fr. Oct.) Keay FHI 5443! 5449! **S. Nig.:** Yoruba Barter 1600! Awba Hills F.R. (Oct.) Jones FHI 6330!

77. DROOGMANSIA

De Wild. in Ann. Mus. Congo, sér. 4: 53 (1902).

- 1 Petiole with obovate-oblongate foliaceous wing over 6 mm. broad; leaves pilose beneath; stipe of fruit about 4 mm. long: **2**

Petiole about 1·5 cm. long with oblongate wing decurrent towards the base, up to 3 mm. broad; lamina of leaf ovate-lanceolate, subcordate at base, obtuse at apex, about 4·5 cm. long and 2 cm. broad, appressed-pubescent

beneath, glabrescent above; bracts narrowly lanceolate, long-acuminate, 5 mm. long, shortly pubescent; pedicels 10–12 mm. long, appressed-pubescent; flowers about 11 mm. long; fruit with a stipe 18 mm. long. [3. montana](#)

- 2 Inflorescence dense, bracts caducous; lamina of leaf oblong-lanceolate, rounded at each end, about 12 cm. long, 2.5–2.8 cm. broad; petiole 3 cm. long, the wing about 1.5 cm. broad; pedicels about 8 mm. long, pilose; flowers about 13 mm. long, standard obovate, striated [1. chevalieri](#)

Inflorescence rather lax, bracts persistent; lamina of leaf lanceolate, rounded at each end, or subcordate at the base, about 8 cm. long, up to 2 cm. broad, usually about 1 cm.; petiole about 2 cm. long, the wing 6–12 mm. broad; pedicels 6–11 mm. long, pilose or shortly pubescent; flowers about 12 mm. long, standard ovate or suborbicular, striated [2. scaettaiana](#)

1. ***Droogmansia chevalieri* (Harms) Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 418 (1928); Kew Bull. 1929: 18; Chev. & Sillans in REV.Bot. Appliq. 32: 46, t. 3 (1952). *APD acc*

Dolichos chevalieri Harms in Journ. de Bot. 22: 114 (1909).

Erect, woody herb; stem strongly ribbed, pilose on ribs; racemes in the axils of the upper leaves and forming a panicle.

Fr. G.: Bilima (Sept.) Caille in Hb. Chev. 15040!

2. ***Droogmansia scaettaiana* Chev. & Sillans** l.c. 46, t. 4 A (1952). *APD acc*

Similar to the preceding but with denser inflorescence and narrower leaves.

Fr. G.: Fouta Djallon (Sept.) Chev. 18629. S. L.: Saka Sakala (Sept.) Deighton 5138! Benekoro (fr. Oct.) Thomas 2904! IV. C.: Scaëtta 3251. Mt. Nimba, above 3,200 ft. Schnell!

3. ***Droogmansia montana* Jac.-Fél.** in Bull. Soc. Bot. Fr. 92: 245 (1946). *APD acc*

A shrub, 4–5 ft. high, stems slender, branched.

Fr. G.: Labé Jac.-Fél. 654. Pita Jac.-Fél. 1959! Benna Plateau Jac.-Fél. 2116.

78. ALYSICARPUS

Neck. — F.T.A. 2: 169. *APD acc*

- 1 Fruit not or hardly constricted between segments, 12–25 mm. long; calyx-teeth not imbricate, about equal in length to the first segment: [2](#)
- Fruit markedly constricted between segments, 5–15 mm. long; calyx-teeth imbricate, at least at the base, longer than the first segment: [3](#)
- 2 Racemes dense, internodes between the flowers shorter than the flowers; plants perennial; petioles 4–12 mm. long; leaves oblong to suborbicular, more or less cordate at base, acute or rounded at apex, 1–2.5 cm. long and 5–10 mm. broad; flowers in 4–13 pairs [1. vaginalis](#)
- Racemes very lax, internodes between the flowers much longer than the flowers; plants annual; petioles 2–7 mm. long; leaves lanceolate or elliptic, cordate or subcordate at base, acute or rounded at apex, 1–7 cm. long and 1–3 cm. broad; flowers in 3–7 pairs [2. ovalifolius](#)
- 3 Fruit smooth, transverse ridges hardly visible; bracts and calyx softly pubescent; leaves subcoriaceous, reticulation obvious on both surfaces; perennial [3. zeyheri](#)
- Fruit with numerous prominent transverse ridges; bracts and calyx more or less glabrous, margins ciliate; leaves membranous, reticulation less prominent on both surfaces: [4](#)
- 4 Calyx-teeth distinctly rounded at base, imbricated around the fruit, 1.5–2.5 mm. broad; fruit-segments included within the calyx (occasionally 1–2 exserted), usually the upper ones pubescent and lower glabrous; plant annual or perennial, spreading or erect, often robust; petiole 2–11 (–17) mm. long; racemes usually dense, sometimes lax [4. rugosus](#)
- Calyx-teeth not rounded at base, free or hardly imbricated at base around fruit, 1–1.5 mm. broad; fruit with 1–4 segments exserted, usually all pubescent; plant annual, usually erect; petiole 2–6 mm. long; racemes lax [5. glumaceus](#)

1. ***Alysicarpus vaginalis* (Linn.) DC.** — F.T.A. 2: 170, partly; Léonard in Fl. Congo Belge 5: 224, fig. 13 A. *APD acc*

Hedysarum vaginale Linn. (1753).

Herb about 6 in. high, ascending, with small reddish flowers and cylindrical wrinkled fruits.

S. L.: Freetown (fl. & fr. Aug.) Deighton SLH 2060! **N. Nig.:** Zaria Hill 36!

Throughout tropical Africa and in tropical Asia.

2. *Alysicarpus ovalifolius* (Schum. & Thonn.) J. Léonard in Bull. Jard. Bot. Brux. 24: 88, t. 11 (1954);

Fl. Congo Belge 5: 226, t. 18. *APD acc*

Hedysarum ovalifolium Schum. & Thonn. (1827).

Alysicarpus vaginalis of F.W.T.A., ed. 1, 1: 419, partly.

Herb 1–2 ft. high, sometimes more, with red flowers like the last; on waste ground.

Sen.: Heudelot 506! Sieber! **Gam.:** Genieri (fr. Feb.) Fox 22! **Port. G.:** Bissau (fl. & fr. Oct.) Esp. Santo 2532! **G. C.:** Achimota (fr. Mar.) Irvine 326! Zuarungu Lyon FH 1072! Tamale (fr. Dec.) Morton GC 9919! Baldwin 13592! **Togo:** Lome Warnecke 278! **N. Nig.:** Sokoto (fl. & fr. Sept.) Dalz. 337! Stirling Hill Ansell! Nupe Barter 1592! 1603! Kaduna Lamb 104! **S. Nig.:** Thomas 1624! A common tropical weed.

3. *Alysicarpus zeyheri* Harv. — F.T.A. 2: 170; Léonard in Fl. Congo Belge 5: 228, fig. 13 C. *APD acc*

A slightly woody herb, like the preceding species, 1–4 ft. high.

S. L.: Musaia (fr. Dec., glabrous) Deighton 4559! **N. Nig.:** Bauchi Plateau (June, July) Lely 260! 394! P. 347! Lemne (May) Lely 135!

Extends south to Transvaal and east to A.-E. **Sudan.**

4. *Alysicarpus rugosus* (Willd.) DC. Prod. 2: 353 (1825); F.T.A. 2: 171, partly; Chev. Bot. 192; Léonard

l.c. 5: 229. *APD acc*

Hedysarum rugosum Willd. (1803).

Alysicarpus violaceum of Schindl. in Fedde Rep. 21: 13 (1925), partly; F.W.T.A., ed. 1, 1: 419, partly.

A diffusely branched herb, with small red flowers hidden within the glume-like calyx.

Sen.: fide Chev. l.c. **Gam.:** Yundum (fr. Dec.) Austin 20! **Port. G.:** Bissau (fr. Oct.) Esp. Santo 2567! **Fr. G.:** fide Chev. l.c. **S. L.:** Musaia (fr. Dec.) Deighton 4420! **G. C.:** Accra (Nov.) Brown 364! Ada (fr. June) Morton GC 9256! Tamale (Oct.) Williams 406! **Togo:** Oti R., Paliba (fr. Dec.) Adams & Akpabla 4109! **N. Nig.:** Nupe Barter 952! Abinsi Dalz. 620! Sokoto (fl. & fr. Apr.) Dalz. 523! Anara F.R., Zaria (fl. & fr. Oct.) Keay FHI 5467! **S. Nig.:** Onitsha Barter 1777! Olokemeji (fr. Nov.) Onochie FHI 8132!

Common throughout tropical Africa.

5. *Alysicarpus glumaceus* (Vahl) DC. Prod. 2: 353 (1825); Léonard in Fl. Congo Belge 5: 231, fig. 13 E.

APD acc

Hedysarum glumaceum Vahl (1791).

H. violaceum of Forsk., not of Linn.

Alysicarpus violaceus of Schindl., partly (1925).

Similar to the preceding species.

G. C.: Ejura (fl. & fr. Dec.) Morton GC 9564! 9810! Tamale (fr. Dec.) Morton GC 9907! Deloro-Tankara (fr. Dec.) Adams GC 4325! **N. Nig.:** Fodama Moiser 249! Bauchi Plateau (fl. & fr. Oct.) Lely P. 814! Biu (fl. & fr. Sept.) Noble 36!

Throughout tropical Africa.

79. MELLINIELLA

Harms in Engl. Bot. Jahrb. 51: 359 (1914).

- 1 Prostrate herb; stems glabrous or nearly so; leaves 1-foliate, broadly elliptic or elliptic-rounded, subcordate at base, obtuse or rounded at apex, 1–1.5 cm. long, 7–13 mm. broad, glabrous above, appressed-puberulous beneath, with 3–4 pairs of ascending nerves; stipules scarious, brownish, lanceolate, striate, acuminate, 4–6 mm. long; flowers arranged in dense several-flowered glomerules; calyx 4–5 mm. long, deeply 5-lobed, ciliate-

pilose; corolla small; fruits lanceolate, compressed, about 1 cm. long, 5–8-seeded, puberulous[micrantha](#)

Melliniella micrantha Harms l.c. 360, fig. 1 (1914); Bak. f. Leg. Trop. Afr. 2: 344. *APD acc*

A herb having the appearance of *Alysicarpus*.

Sen.: Tambacounda Berhaut 711; 3112. **Fr. Sud.:** Koulikoro (Oct.) Chev. 3235. **Togo:** Sausanne-Mangu (Sept.) Mellin 121.

Also in **Ubangi-Shari**.

80. URARIA

Desv. — F.T.A. 2: 168.

- 1 A woody herb; stems more or less pubescent; leaves pinnate, the lower sometimes entire; leaflets 2–4 pairs and a terminal one, linear-lanceolate to lanceolate, rounded at the base, mucronate, up to about 20 cm. long, strongly reticulate beneath with transverse tertiary nerves; stipules large, ovate-lanceolate, acutely long-acuminate; stipels narrowly lanceolate, acuminate; racemes terminal, elongated, the bracts subpersistent at the base and apex; calyx-lobes filiform, long-pilose, 3–4 mm. long; corolla a little longer than the calyx; fruits much articulated, the segments nearly separated, glabrous[picta](#)

Uraria picta (Jacq.) DC. Prod. 2: 324 (1825); F.T.A. 2: 169; Chev. Bot. 192; Bak. f. Leg. Trop. Afr. 2: 340; Léonard in Fl. Congo Belge 5: 232, fig. 14. *APD acc*

Hedysarum pictum Jacq. (1788).

Commonly 1–3 ft. high, sometimes taller; leaves sometimes variegated; flowers small, pink or purplish in dense villous spike-like racemes which may be over a foot long; fruits small, pearly-grey; [in grassland](#).

Sen.: Sédhiou, Casamance Chev. 3400. **Gam.:** Kuntaur Ruxton A. 46! **Port. G.:** Esp. Santo 219! Formosa Isl. (June) Wilford 489! **Fr. Sud.:** fide Chev. l.c. **S. L.:** Njala (fr. Jan.) Deighton 1805! Musaia (Dec.) Deighton 4461! Port Loko (fr. Apr.) Sc. Elliot 5880! Kaniko (Sept.) Thomas 2093! Pendembu (fr. July) Thomas 852! **Lib.:** Cape Palmas T. Vogel 31! Rocktown (Mar.) Baldwin 11637! **IV. C.:** Scaëtta 3025! Also fide Chev. l.c. **G. C.:** Achimota Bally 15! Ashanti (Aug.) Chipp 522! Damongo Andoh FH 5208! **Togo:** Lome Warnecke 178! **Dah.:** Poisson! Atacora Mts. (June) Chev. 24185. **Fr. Nig.:** Fada, Gourma (July) Chev. 24506. **N. Nig.:** Sherifuri (fl. & fr. June) Thornewill 173! Ilorin Thornton! Lokoja (Sept.) Parsons L. 24! Nabardo (Nov.) Lely 618! **S. Nig.:** Lagos (Apr.) Punch! Abeokuta Irving 105! Ibadan (fr. Oct.) Ahmed & Chizea FHI 20041! **Br. Cam.:** Kumba (fr. Oct.) Olorunfemi FHI 30764! Bamenda (fr. June) Maitland 1554!

Widespread in tropical Africa, also in the eastern tropics and in [Australia](#).

BUXACEAE

Trees or shrubs, rarely herbs. Leaves evergreen, alternate or opposite, simple; stipules absent. Flowers unisexual, monoecious or dioecious, spicate or fasciculate. Sepals imbricate or absent, usually 4. Petals absent. Stamens 4 or 6, rarely more; anthers large, sessile or stalked, cells 2-valved or opening lengthwise. Rudimentary ovary sometimes present. Female flowers often larger than the males and fewer or solitary. Sepals as in the males. Ovary superior, 3-celled; styles undivided. Ovules 1–2, pendulous, anatropous. Fruit a capsule or drupe. Seeds black, shining, with fleshy endosperm and straight embryo.

NOTOBUXUS

APD: *Synonym of Buxus L.*

Oliv. — F.T.A. 6, 1: 610.

Stamens 6, two single opposite the outer sepals, four in pairs opposite the inner sepals.

- 1 A shrub or small tree, glabrous; leaves elliptic-lanceolate or slightly obovate-elliptic, cuneate at base, long- and gradually-acuminate to a subacute apex, 7–10 cm. long, 2.5–4 cm. broad, entire, bright green; lateral nerves 5–7 pairs; petiole 2–4 mm. long; flowers axillary; male pedicels up to 1 cm. long; capsule ovoid, about 1 cm. long; seeds black, shining [acuminata](#)

Notobuxus acuminata (Gilg) Hutch. in F.T.A. 6, 1: 610 (1912); Chev. Fl. Viv. 1: 355, fig. 51.

APD: *Synonym of Buxus acutata Friis*

Macrapodandra acuminata Gilg (1899).

Evergreen, 2–12 ft. high, in forest; flowers white.

S. L.: Njala (fl. & fr. Sept.) Deighton 2917! G. C.: Atuna, N.W. Ashanti (fr. Dec.) Vigne FH 3506! Pamu-Berekum F.R. (fr. Sept.) Vigne FH 2517! Akatin (fr. Oct.) Vigne FH 4041! Dah.: Kétou to L. Azri, Zagnanado (fl. & fr. Feb.) Chev. 23029!

Also in Belgian Congo.

SALICACEAE

Trees or shrubs. Leaves alternate, simple, deciduous; stipules small or foliaceous. Flowers unisexual, dioecious, densely arranged in erect or pendulous catkins often appearing before the leaves; bracts membranous, each subtending a flower. Calyx absent or represented by a cupular disk or 2 glandular scales. Male flowers: stamens 2 or more, free or united; anthers 2-celled, opening lengthwise. Female flowers: ovary sessile or shortly stipitate, 1-celled, with 2–4 parietal placentas; style 2–4-fid. Ovules numerous, ascending. Fruit a 2–4-valved capsule. Seeds small, with numerous fine hairs arising from the funicle and enveloping the seed; endosperm none; embryo straight.

Widely distributed, but absent from Australasia and the Malay Archipelago.

Recognized by the minute much-reduced flowers in catkins.

SALIX

Linn. — F.T.A. 6, 2: 317.

Shrubs or small trees with narrow leaves; flowers often precocious; ovary 2-merous seeds covered with hairs.

- 1 Leaves acuminate, lanceolate or narrowly ovate, 4–8 cm. long, irregularly serrulate:2
Leaves obtuse, oblong or oblanceolate, entire or undulate, 2–5 cm. long, obscurely veined; male catkins few-flowered, about 2–2.5 cm. long; young leaves and shoots glabrous [4. coluteoides](#)
- 2 Young leaves and shoots glabrous or very thinly hairy; filaments of male flowers 5–6 mm. long ... [1. subserrata](#)
Young leaves and shoots silky-pubescent or tomentose; filaments of male flowers 3–4 mm. long:3
- 3 Mature leaves obscurely veined; male catkins about 4 cm. long; capsules broadly ovoid, 4–5 mm. long [2. ledermannii](#)
Mature leaves distinctly reticulate-veined; male catkins 1.5–2.5 cm. long; capsules narrow, about 7 mm. long [3. chevalieri](#)

1. **Salix subserrata** Willd. Sp. Pl. 4: 671 (1806).

APD: *Synonym of Salix mucronata subsp. subserrata* (Willd.) R. H. Archer & Jordaan

Salix salsaf Forsk. ex Trautv. Salic. 6, t. 2 (1836); F.T.A. 6, 2: 318.

A riverside bush or small tree, 8–30 ft. high.

Gam.: Dawe 56!

Throughout tropical Africa; also in Egypt, Libya and Palestine.

2. **Salix ledermannii** Seemen in Engl. Bot. Jahrb. 45: 204 (1910); Chev. Fl. Viv. 1: 26. APD acc

Salix nigerica Skan in F.T.A. 6, 2: 321 (1917).

A riparian shrub.

Fr. Sud.: 10 miles E. of Macina on S. bank of R. Niger Lean 21! **N. Nig.:** R. Benue, Yola (Dec.) Dalz. 199! Katagum (fl. & fr. Nov.) Dalz. 220! L. Chad Talbot 1493! **Br. Cam.:** Bamenda: Lakom 6,000 ft Maitland 1495! Fondong (fl. & fr. Nov.) Johnstone 9! 224! 225! Bango, 5,400 ft., by stream with *Osmunda regalis* (fr. June) Keay FHI 28453!

Also in **French Cameroons**. (See Appendix p 271)

3. **Salix chevalieri** *Seemen* in Fedde Rep. 5: 133 (1908); F.T.A. 6, 2: 320; Chev. Fl. Viv. 1: 25, t. 6A; Aubrév. Fl. For. Soud.-Guin. 326, t. 68, 5–7. *APD acc*

Salix sudanica A. Chev. Bot. 611, name only.

A bush or shrub attaining 30 ft., with a trunk as thick as the thigh.

Fr. Sud.: Upper R. Niger, Badumbé (Dec.) Chev. 60. Dialiba to Langana (fl. & fr. Jan.) Chev. 262! Keniégué (fl. & fr. Jan.) Chev. 271! Nyamina to Ségou (fl. & fr. Jan.) Chev. 2666! **Fr. G.:** Soarella, Fouta Djallon Pobéguin 181. R. Tinkisso, Dabola Jac.-Fél. 1506.

4. **Salix coluteoides** *Mirb.* in Mém. Mus. Par. 14: 462 (1827); F.T.A. 6, 2: 323; Chev. Fl. Viv. 1: 25, t. 6B. *APD acc*

A tree or shrub, up to 12 ft. high, with reddish-brown, glabrous twigs.

Sen.: riverbank, Dagana (fl. Oct.) Roger! M'bohoul (Dec.) Chev. 2667! R. Senegal, Kaédi to Podor (Nov.) Chev. 2668! **Fr. Sud.:** Kénégué, R. Niger (Jan.) Chev. 270.

For accurate determination it is essential that *Salix* specimens should consist of both catkins and mature leaves. The West African material at present available for examination is totally inadequate, and it is quite possible that many or all the above species may ultimately prove to be forms of the variable *Salix subserrata* Willd.

MYRICACEAE

Trees or shrubs, often aromatic. Leaves alternate, simple, sometimes pinnately lobed, scaly-glandular beneath, exstipulate. Flowers unisexual, monoecious or dioecious, in axillary spikes. Sepals and petals absent, or the female with a few sepal-like whorled bracteoles. Male flower subtended by a solitary bract: stamens 2 or more; anthers 2-celled. Female flower: ovary sessile, 1-celled; style short, 2-branched. Ovule 1, erect, basal. Fruit a drupe, often warted, the warts waxy. Seed erect, without endosperm; embryo straight.

A widely distributed family, often partial to damp places; numerous and variable in S. Africa.

Recognized by the glandular leaves, spicate unisexual apetalous flowers and drupaceous fruit.

MYRICA

Linn. — F.T.A. 6, 2: 307.

A tree; branchlets puberulous and glandular; leaves oblong or oblong-lanceolate, mostly truncate and unequal-sided at base, rounded to a mucronate apex, 5–9 cm. long, 1–3 cm. broad, mostly toothed, glandular on both surfaces; lateral nerves 12–16 pairs; flowers monoecious, male spikes axillary or sometimes racemously arranged on long leafless shoots, about twice as long as the petiole; stamens about 6, anthers sparingly pubescent; ovary pubescent and glandular; fruits ellipsoid, 5 mm. long, closely warted[arborea](#)

Myrica arborea *Hutch.* in Kew Bull. 1917; 234; F.T.A. 6, 2: 309.

APD: *Synonym of Morella salicifolia* (Hochst. ex A. Rich.) Verdc. & Polhill subsp. *salicifolia*

A tree reaching 20–30 ft. in height, with rough bark; **frequent in ravines in the grassland** of Cameroon Mt.

Br. Cam.: Cam. Mt., 5,000–8,000 ft. (fl. Dec., Jan., fr. Mar.) Mann 1203! 2185! Dunlap 185! Dalz. 8329! Mildbr. 10932! Maitland 457! **F. Po:** Tessmann 2894.

[The following specimens have the branchlets, petioles and midrib beneath densely pilose; they may prove to represent a distinct species but better material is required: — Br. Cam.: Cam. Mt., 7,600 ft. Maitland 1028! Nchan, Bamenda (fr. June) Maitland 1598!]

\$/eflora

ULMACEAE

Trees or shrubs. Leaves alternate, simple, often unequal-sided; stipules paired, caducous. Flowers fasciculate, hermaphrodite or unisexual. Calyx herbaceous, lobes imbricate, persistent. Petals absent. Stamens inserted at the bottom of the calyx, erect in bud, opposite the calyx-lobes; anthers 2-celled, opening lengthwise. Ovary of 2 connate carpels, 1–2-celled; styles 2, divergent. Ovules solitary, pendulous from near the top. Fruit usually compressed, membranous, dry or thinly fleshy, often winged or appendiculate. Seed without endosperm; embryo straight or curved.

Mainly in the Northern Hemisphere.

Flowers very small and reduced; leaves unequal-sided; ovary 1–2-celled, with solitary ovule.

- 1 Fruit a drupe; flowers axillary on the current year's shoots:2
Fruit a rounded flat stipitate samara with broad membranous wings; flowers in the axils of fallen leaves on previous season's growth [4. Holoptelea](#)
- 2 Branchlets unarmed:3
Branchlets armed with axillary spines; leaves entire; stipules enclosing the terminal bud, caducous [3. Chaetacme](#)
- 3 Cotyledons very broad; male calyx-lobes imbricate; leaves entire or toothed [1. Celtis](#)
Cotyledons very narrow; male calyx-lobes induplicate-valvate; leaves toothed [2. Trema](#)

1. CELTIS

Linn. — F.T.A. 6, 2: 2.

- 1 Styles not divided; leaves gradually very long-acuminate:2
Styles divided, bifid or bilobed:3
- 2 Leaves serrate except towards the base, pubescent beneath at least on the nerves, elliptic-ovate or ovate to ovate-lanceolate, 1.5–8 cm. long, 1–4 cm. broad, basal lateral nerves ascending well into the upper half of the lamina, upper lateral nerves 1–2 on each side of the midrib; female (or hermaphrodite) flowers usually solitary; ovary densely pubescent; fruits subglobose, about 5 mm. diam., on pedicels 1–1.5 cm. long [1. africana](#)
Leaves entire, soon glabrous, ovate-lanceolate or oblong-lanceolate to lanceolate 8–14 (–18) cm. long, 2.5–4.5 (–7.5) cm. broad, basal lateral nerves not extending into the upper half of the lamina, upper lateral nerves 3–6 on each side of the midrib; female (or hermaphrodite) flowers 2–3 or more together; ovary glabrous; fruits ovoid, pointed at the apex, 5–6 mm. long, on pedicels up to 8 mm. long [2. durandii](#)
- 3 Leaves scabrid on both surfaces, ovate, often broadly so, obliquely and broadly rounded or almost subcordate at base, acutely acuminate, entire, 4–9 cm. long, 3–5 cm. broad, prominently 3–5-nerved from the base, hairy in the axils of the nerves beneath; young shoots thinly pubescent; fruits ovoid-ellipsoid, puberulous when young, 8–10 mm. long, on pedicels about 5 mm. long; tree in [savannah](#) regions [3. integrifolia](#)
Leaves never scabrid above, and only rarely (No. 7) slightly scabrid beneath, more or less elliptic or obovate, usually cuneate at base, often toothed; forest trees:4
- 4 Leaves softly pubescent beneath, normally entire (sometimes serrate on epicormic shoots), venation markedly parallel, lateral nerves 3–5 on each side of midrib; lamina elliptic or subovate, acutely acuminate, 6–15 cm. long, 3–7.5 cm. broad; young branchlets densely pubescent; stipules ovate-lanceolate, nearly 1 cm. long; ovary densely pubescent; fruits very shortly pedicellate, warted when old, about 6 mm. long [4. zenkeri](#)
Leaves glabrous or sparingly pubescent beneath, serrate in the upper half, or if entire then glabrous; venation not markedly parallel:5
- 5 Basal lateral nerves not, or only slightly, extending into the upper half of the lamina, upper lateral nerves 3–5 on each side of midrib; branchlets and leaves pubescent at least when young; leaves obovate to oblong-obovate, obtusely acuminate, mostly coarsely toothed towards the apex, 3.5–14 cm. long, 1.5–7 cm. broad (juvenile leaves sometimes larger), closely reticulate beneath; ovary glabrous, style arms linear; fruits sharply 3–4-angled, 1–1.3 cm. long, on slender pedicels up to 2 cm. long [5. mildbraedii](#)
Basal lateral nerves ascending nearly to the apex of the lamina, upper lateral nerves 1–3 on each side of the midrib; branchlets puberulous to glabrous; leaves glabrous; fruiting pedicels stout:6
- 6 Leaves usually coarsely toothed in the upper half, obovate-elliptic or elliptic, obtusely acuminate, 5.5–15 cm. long, 2–6.5 cm. broad, loosely reticulate beneath; ovary glabrous; fruits ovoid, 7–8 mm. long [6. brownii](#)
Leaves entire, broadly elliptic, obtusely acuminate, 8–16 (–18) cm. long, 5.5–8 (–10) cm. broad, 3-nerved almost

to the apex, slightly scabrid beneath at least when young; ovary pubescent; fruits ellipsoid, 15–20 mm. long [Z. adolfi-friderici](#)

1. ***Celtis africana* Burm. f.** Prod. Fl. Cap. 31 (1768); Brenan in Mem. N.Y. Bot. Gard. 9, 1: 75 (1954). *APD acc*

***Celtis kraussiana* Bernh.** (1845) — F.T.A. 6, 2: 3; Hauman in Fl. Congo Belge 1: 43.

Celtis rhamnifolia of Presl, partly (Drege 8261); of Fl. Cap. 5, 2: 528; of Sillans in Mém. Soc. Bot. Fr. 1952: 102; not *C. rhamnifolia* Presl (1845), illegitimate name for *Rhamnus prinoides* L'Hérit. (see p. 670).

An understorey forest tree, to 50 ft. or more high; slash mottled dark brown and grey.

G. C.: Moerewe, Ashanti (fr. May) Irvine 2526!

Extends from French Cameroons eastwards to A.-E. **Sudan** and southwards to **Angola** and S. Africa; also in **Arabia**.

2. ***Celtis durandii* Engl.** — F.T.A. 6, 2: 4 (incl. var. *ugandensis*); Aubrév. Fl. For. C. Iv. 1: 28, t. 1, 1–2; Hauman l.c. 42.

APD: Synonym of Celtis gomphophylla Baker

A forest tree to 70 ft. or more high; slash pale grey, thickly speckled with chocolate-brown.

Iv. C.: Man (Mar.) Aubrév. 1051! **Br. Cam.:** Kumba (fr. June) Olorunfemi FHI 30631!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo**, **Uganda**, **Kenya**, **Tanganyika**, **Angola** and **S. Tomé**.

3. ***Celtis integrifolia* Lam.** — F.T.A. 6, 2: 7; Chev. Bot. 589, partly; Aubrév. l.c. 1: 26, t. 1, 3–4; Fl. For. Soud.-Guin. 328, t. 68, 1–2.

APD: Synonym of Celtis toka (Forssk.) Hepper & J.R.I. Wood

A large spreading tree, to 80 ft. high and 15 ft. girth; mainly in the drier savannah regions.

Sen.: Roger! Perrottet 298! Walo Leprieur! Djebelor Aubrév. **Gam.:** Bathurst Don! Kombo Heudelot 104! Genieri (Feb.) Fox 32! **Fr. Sud.:** Djenné (fr. June) Chev. 1136! Kita Dubois 204! **Iv. C.:** Dindé-resso Aubrév. 1957! Groumania Aubrév. 782. Bobo Dioulasso Aubrév. 1825! **G. C.:** Salaga (fl. & young fr. Apr.) Dalz. 13! Kurumbugu (fr. May) Kitson 750! Bamboi (fr. May) Vigne FH 3840! **N. Nig.:** Sokoto (fl. & young fr. Feb.) Lely 805! Borgu Barter 772! Agaie (Jan.) Yates 1! Bauchi Plateau (fl. & young fr. Mar.) Lely P. 182! Yola (Feb.) Dalz. 152! **S. Nig.:** Abeokuta Irving 150!

Extends to **Arabia** and **Uganda**.

4. ***Celtis zenkeri* Engl.** — F.T.A. 6, 2: 6; Aubrév. Fl. For. C. Iv. 1: 27, t. 1, 5; Hauman l.c. 45. *APD acc*

***Celtis soyauxii* Engl.** (1900), see note after next species.

***Celtis rugosa* A. Chev.** Bot. 589, name only, not of Willd. (1806).

Celtis integrifolia of Chev. l.c., partly (Chev. 21788).

A forest tree, to 90 ft. high, rarely more, with rough bark and long buttresses; slash with alternating layers of cream and brown.

Fr. G.: Kissidougou (fr. Apr.) Adam 4406! **S. L.:** Kondama Deighton 3199! **Iv. C.:** Bouroukrou Chev. 16130! Kouroukoro (young fr. May) Chev. 21788! Anoumaba Chev. 22393! **G. C.:** Agogo, Akim (fr. Apr.) Irvine 964! Fumisua (fr. Mar.) Andoh FH 4976! **N. Nig.:** Okene Symington FHI 5671! **S. Nig.:** Olokemeji (Mar.) Punch 108! Aladin Foster 194! Ibadan South F.R. Keay FHI 22813! Sapoba Kennedy 1872! 1927! **Br. Cam.:** Likomba (fr. Dec.) Mildbr. 10764!

Extends to **Belgian Congo**, A.-E. **Sudan**, **Uganda**, **Tanganyika** and **Angola**.

5. ***Celtis mildbraedii* Engl.** Bot. Jahrb. 43: 309 (1909); Hauman l.c. 45. *APD acc*

***Celtis soyauxii* Engl.** (1900), partly — F.T.A. 6, 2: 5; Aubrév. l.c. 1: 28, t. 2, 1–6.

***Celtis compressa* A. Chev.** (1917) — F.T.A. 6, 2: 355; Chev. Bot. 588.

A forest tree, to 120 ft. high, with clean straight bole, well-developed buttresses and relatively smooth bark compared with the preceding species; slash with alternating layers of cream and brown.

Iv. C.: Bouroukrou (fr. Dec.–Jan.) Chev. 16152! Morénou (fl. & fr. Nov.) Chev. 22460! Rasso (Dec.) Aubrév. 561! **G. C.:** Dunkwa (fl. & fr. Feb., fr. May) Vigne 120! 257! FH 881! Obuasi (fr. Jan.) Soward 664! Imbraim (fl. & fr. Mar.) Thompson

22! Prestea (fr. June) Green 902! **S. Nig.:** Akure F.R. (fr. Aug.) Jones FHI 20703! Sapoba Kennedy 1873! 1926! 2603! Ukunzu to Obomkpa, Asaba (fr. Aug.) Onochie FHI 33429! Ikom Catterall 5!

Extends to **Belgian Congo**, A.-E. **Sudan**, **Uganda**, **Kenya**, **Tanganyika** and **Angola**, also on **S. Tomé**.

[Of the four specimens cited by Engler in his original description, I consider that the name *C. soyauxii* Engl. must be restricted to Soyaux 202 and Welw. 6285; these specimens, as Rendle (F.T.A. 6, 2: 6) pointed out, are conspecific with *C. zenkeri* Engl. The Kew duplicates of the other two specimens (Welw. 6284 and 6298) are the species referred to here as *C. mildbraedii* Engl. (i.e. *C. soyauxii* of Rendle in F.T.A. 6, 2: 5). See also note by Hauman in Fl. Congo Belge 1: 46.]

6. *Celtis brownii* Rendle in J. Bot. 53: 298 (1915); F.T.A. 6, 2: 10.

APD: Synonym of Celtis philippensis Blanco

Celtis scotellioides A. Chev. in Bull. Soc. Bot. Fr. 61, Mém. 8: 299 (1917); Chev. Bot. 590; Brenan in Kew Bull. 1950: 219.

Celtis rendleana G. Tayl. in Exell Cat. S. Tomé 302 (1944).

Celtis crenata A. Chev. Bot. 588, name only; Leroy in Bull. I.F.A.N. 10: 217 (1948).

Celtis prantlii of F.T.A. 6, 2: 8; of F.W.T.A., ed. 1, 1: 423; Aubrév. l.c. 1: 28, t. 2, 10–12; of Hauman l.c. 43; not of Priem. ex Engl.

Celtis philippensis of Leroy l.c. 10: 212–234, partly; of Berhaut Fl. Sen. 144; not of Blanco.

An understory tree, to 50 ft. high (rarely more), with short bole and spreading crown; slash mottled light brown; in drier parts of the forest regions.

Sen.: Sangalkam Berhaut 1341. **Iv. C.:** Droupleu to Zoanlé, Mt. Sassandra (fr. May) Chev. 21459! Yaboisso to Daoukrou, Morénou (fr. Dec.) Chev. 22488! **G. C.:** Brahabum (fr. Aug.) Vigne FH 919! Abetifi-Aduamoa road, Kwahu Irvine 1729! Adeiso Irvine 2418! Bobiri F.R. (Mar.) Andoh FH 4956! **Togo:** Kersting A. 734! **Dah.:** Zagnanado Chev. **S. Nig.:** Lagos (May) Foster 79! Rowland! Yoruba Barter 3413! Mamu F.R., Ibadan (Mar.) Keay FHI 22530! Akure F.R. (fr. Aug.) Jones FHI 20705! Idanre Hills (fr. Jan.) Brenan 8718! **Br. Cam.:** Likomba Mildbr. 10749! Ebonji, Kumba (fr. May) Olorunfemi FHI 30599! Buwe, 4,000 ft. (fr. Mar.) Johnstone 294! **F. Po:** Mann 276!

Also in **French Cameroons**, **Ubangi-Shari**, A.-E. **Sudan**, **Gabon**, **Belgian Congo**, **Uganda** and **Angola**.

[Leroy (l.c.) draws attention to the relationships between this plant and several other species all of which he groups under *C. philippensis* Blanco. According to his synthetic concept the species ranges from Senegal through Africa and Asia to Australia and Polynesia, and varies, particularly in leaf-shape and texture and in habit quite considerably. The more orthodox taxonomic treatment retained here appears, however, to be the more natural.]

7. *Celtis adolfi-friderici* Engl. Bot. Jahrb. 43: 308 (1909); F.T.A. 6, 2: 9 (as “*C. adolphi-friderici*”); F.W.T.A., ed. 1, 1: 423 (as “*C. adolfi-friderici*”); Aubrév. l.c. 1: 27, t. 2, 7–9 (as “*C. adolfi-friderici*”); Hauman l.c. 44 (as “*C. adolphi-friderici*”). *APD acc*

Celtis fragifera A. Chev. (1917) — F.T.A. 6, 2: 355; Chev. Bot. 588.

A forest tree, to 110 ft. high; slash cream with brown spots.

Iv. C.: Aubrév. 639! 1806! Tingouéla to Assikasso (fr. Dec.) Chev. 22575! **G. C.:** Anwhiaso F.R. (fr. Mar.) Vigne FH 222! Mramra, Ashanti (fr. May) Kitson 1193! Bojassao to Adiembra, S. Ashanti (fr. May) Kitson 1218! Abofaw (Nov.) Vigne FH 3133!

Also in **French Cameroons**, **Ubangi-Shari**, A.-E. **Sudan**, **Belgian Congo** and **Uganda**.

2. TREMA

Lour. — F.T.A. 6, 2: 10.

- 1 Branchlets elongated, softly pubescent or tomentose; leaves distichous, ovate, rounded or subtruncate, at base caudate-acuminate, 6–12 cm. long, 2.5–5 cm. broad, closely serrulate pubescent or softly tomentose; flowers polygamous, glomerate in the leaf-axils, very small; drupe subglobose, about 3 mm. long, glabrous [guineensis](#)

Trema guineensis (Schum. & Thonn.) Ficalho — F.T.A. 6, 2: 11; Aubrév. Fl. For. C. Iv. 1: 30, t. 3, 4–6; Hauman in Fl. Congo Belge 1: 48, t. 8.

APD: Synonym of Trema orientalis (L.) Blume

Celtis guineensis Schum. & Thonn. (1827); Chev. Bot. 589.

A shrub or tree, to 40 ft. high; **mainly in regrowth vegetation in the forest regions, where it is often abundant and grows rapidly; also in moist situations in the savannah regions.**

Sen.: Heudelot 50! **Gam.:** Leprieur! **Fr. Sud.:** Bamako (May) Hagerup 48! **Port. G.:** Bissau (Apr.) Esp. Santo 1914! **Fr. G.:** Conakry (Feb.) Chev. 12143! Kouroussa (Apr.) Pobéguin 690! **S. L.:** Don! T. Vogel 135! 138! Rotomba Isl. (Mar.) Kirk 16! Freetown (fl. & fr. Feb.) Dalz. 967! Kamalo (May) Thomas 399! **Lib.:** Monrovia (July) Linder 6! Ganta Harley! Jabroke, Palipo (fl. & fr. July) Baldwin 6439! 6448! **Iv. C.:** Fétékro (July) Chev. 22166! **G. C.:** Dunkwa (July) Vigne FH 914! Ejura (Aug.) Chipp 743! Okraji, Kwahu (fl. & fr. May) Kitson 1158! Yegi, N.T. (July) Pomeroy FH 1246! **Togo:** Lome Warnecke 184! 334! Kpedsu (fl. & fr. Dec.) Howes 1056! **Dah.:** Djougou to Pobégou Chev. 23933. **N. Nig.:** Nupe Barter 1499! Lokoja (May, Dec.) Dalz. 156! Elliot 232! Katagum Dalz. 337! Bauchi Plateau (fl. & fr. Jan.) Lely P. 125! **S. Nig.:** Lagos (fl. & fr. Mar., June) Dalz. 1172! 1404! Okomu F.R. (Feb.) Brenan 9143! Awka (Sept.) Jones FHI 6709! Oban Talbot! **Br. Cam.:** Buea (Jan.) Maitland 275! Barombi Preuss 271! Ndu, Bamenda (May) Johnstone 106/31! **F. Po:** T. Vogel 47! Mann 204!

Widespread throughout tropical Africa, **Natal, Madagascar** and **Arabia**.

Leroy in Fl. Madag. 54: 10–11 (1952) treats this species as a synonym of the Asiatic *T. orientalis* (Linn.) Blume. This may well be correct, but as a number of distinguishable taxa may be involved within this aggregate species, it seems preferable not to replace in our Flora the well-known name *T. guineensis* until the whole group has been more thoroughly and critically revised.

3. CHAETACME

Planch. — F.T.A. 6, 2: 13.

- 1 Branchlets zigzag, scabrid, armed with axillary spines 1.5–2 cm. long; leaves elliptic, mucronate, rounded at the base, about 7 cm. long and 4 cm. broad, entire (serrate in sucker shoots), glabrous and often shining above, with about 8–10 pairs of lateral nerves; flowers monoecious or dioecious, in short axillary cymes; fruits ellipsoid, about 8 mm. long, tipped by the 2 long hairy style-arms about 2 cm. long *aristata*

Chaetacme aristata *Planch.* in Ann. Sci. Nat., sér. 3, Bot. 10: 341 (1848); Chev. Bot. 590 (incl. var. *crenata*); G. Tayl. in Exell Cat. S. Tomé 301. *APD acc*

Chaetacme serrata *Engl.* (1900).

Chaetacme microcarpa *Rendle* in F.T.A. 6, 2: 13 (1916); F.W.T.A., ed. 1, 1: 423 (incl. var. *crenata* Hutch. & Dalz.); Aubrév. Fl. For. C. Iv. 1: 32, t. 3, 7–9; Hauman in Fl. Congo Belge 1: 51.

A shrub or small tree, to 25 ft. high; leaves dark glossy green above, leathery; flowers yellow-green; ripe fruits cream or pale orange; **in savannah, forest margins and regrowth.**

Iv. C.: confluence of R. Sassandra and R. Bafing, Dotou (fr. May) Chev. 21782! Orodougou Chev. 21824! Languira to Bouakro Chev. 22213. Morénou Chev. 22417. **G. C.:** Kwase (fr. Sept.) Chipp 575! Dodowah (June) Moor FH 302! Achimota (fl. July, fr. Aug.) Milne-Redhead 5121! 5121a! **Togo:** Abohire (fl. Oct., fr. Nov.) St. C. Thompson FH 3631! **Dah.:** Zagnanado Chev. 23031. **S. Nig.:** Foster 84! Ohumbe F.R., Abeokuta Prov. (fr. Dec.) Onochie FHI 31899! Olokemeji (fr. Nov.) Jones FHI 14533! FHI 27249!

Also in **French Cameroons** and extending to A.-E. **Sudan**, east and central tropical Africa, S. Africa and Annobon.

4. HOLOPTELEA

Planch. — F.T.A. 6, 2: 1.

- 1 Branchlets glabrous; leaves elliptic or ovate, shortly acuminate, rounded or subcordate at base, 6–12 cm. long, 2.5–6 cm. broad, entire, glabrous; lateral nerves 5–8 pairs; petiole 1 cm. long; stipules minute; sepals and anthers puberulous; fruits broadly obovate or orbicular, rather deeply emarginate, shortly cuneate to the stipitate base, about 4 cm. diam., wings membranous, puberulous, striately marked with numerous radiating lines from the oblique fruit body *grandis*

Holoptelea grandis (*Hutch.*) *Mildbr.* in Notizbl. Bot. Gart. Berl. 8: 53 (1921); Aubrév. Fl. For. C. Iv. 1: 30, t. 3, 1–3; Hauman in Fl. Congo Belge 1: 40. *APD acc*

Hymenocardia grandis *Hutch.* (1911) — F.T.A. 6, 1: 649.

Holoptelea integrifolia of F.T.A. 6, 2: 2, not of (Roxb.) *Planch.* (1848).

A large, deciduous, **forest** tree, 80–160 ft. high; bark rough, more or less orange-coloured; flowers green; **in the drier parts of the forest region**.

IV. C.: Aubrév. 1058! Various localities fide Aubrév. l.c. **G. C.:** Pamu-Berekum F.R., Ashanti Vigne FH 2504. **Togo:** Atakpame Doering 347. Njamassila (fr. Jan.) Doering 157. Bagu, Sokode (fr. Feb.) Kersting A. 301! Afem (fr. Jan.) Kersting A. 515! **N. Nig.:** Ibaji-Ojuku F.R. (fr. Feb.) J. E. Taylor L. 8! **S. Nig.:** Olokemeji (fr. Mar.) Kennedy 2261! Gambari Group F.R., Ibadan (fr. Feb.) W. D. Mac-Gregor 481! Punch 151! Ife (Feb.) Brenan 8982! Etemi, Ijebu Ode (fr. May) Obi & Tamajong FHI 16947!

Also in **French Cameroons, A.-E. Sudan, Uganda, Belgian Congo** and **Cabinda**

MORACEAE

Trees or shrubs or rarely herbs, often with milky juice. Leaves alternate, rarely opposite, simple; stipules paired, often caducous and leaving a scar. Flowers much reduced, often in heads, disks or hollow receptacles, unisexual. Calyx-lobes usually 4, sometimes reduced, imbricate or valvate. Stamens usually equal in number and opposite to the sepals; filaments inflexed or erect in bud; anthers 2-celled. Female flower with superior or inferior ovary, of 2 carpels, one often abortive, usually 1-celled; styles mostly 2, filiform; ovule solitary, pendulous, rarely basal and erect. Fruit a small achene, nut or drupe. Seed with or without endosperm, often with curved embryo.

Mainly in the tropics.

Recognized by the milky juice, the prominent stipules, which leave a scar on falling, and the minute unisexual flowers often arranged on variously shaped receptacles.

- 1 Leaves not digitately 5–15-foliolate:2
 Leaves digitately 5–15-foliolate, except on seedlings; dioecious; male flowers in panicles; stamens erect in bud; female flowers in pedunculate heads; ovule erect from the base of the ovary cell; style 1: 12
- 2 Male and female flowers on separate inflorescences; dioecious or rarely monoecious:3
 Male and female flowers in the same inflorescence, on an open, flattened or concave receptacle, or in a closed bag-like receptacle; ovule pendulous:8
- 3 Inflorescences of male flowers not paniculate; ovule pendulous:4
 Inflorescence of male flowers paniculate; female flowers in pedunculate heads; ovule erect; leaves coarsely serrate; see below [11. Myrianthus](#)
- 4 Male flowers in catkin-like spikes; stamens reflexed in bud:5
 Male flowers capitate on a flattened receptacle or in globose, ellipsoid or obovoid heads; stamens erect in bud: 7
- 5 Spikes of male flowers very distinctly pedunculate; forest trees with leaves more than 4 cm. broad:6
 Spikes of male flowers sessile, up to 5 cm. long; shrub up to 3 m. high, with leaves less than 4 cm. broad3.
[Neosloetiopsis](#)
- 6 Leaves strongly 3-nerved from the base; spikes of male flowers up to 2 cm. long [1. Morus](#)
 Leaves pinnately nerved; spikes of male flowers up to 20 cm. long [2. Chlorophora](#)
- 7 Male flowers on a flattened receptacle [9. Antiaris](#)
 Male flowers in globose, ellipsoid or obovoid heads [10. Treculia](#)
- 8 Receptacles bag-like, mostly fleshy, hollow, globose or obovoid, closed at the top except for a small ostiole (mouth); flowers numerous, hidden in the receptacle; stamens erect [6. Ficus](#)
 Receptacles not bag-like, wide open at the top:9
- 9 Stamens reflexed in bud: 10
 Stamens erect in bud; female flower solitary in each receptacle; styles with 2 arms: 11
- 10 Receptacles mostly with 2 or more radiating linear bract-arms, or if without arms then female flowers several and scattered over much of the receptacle; female flowers 1-several; styles simple or with 2 arms; endocarp crustaceous, ejected elastically from the exocarp which remains in the receptacle; herbs or shrubs [4. Dorstenia](#)
 Receptacles without bract-arms; female flower solitary in the centre of the receptacle; styles with 2 arms; fruit remaining within the enlarged receptacle; shrubs [5. Craterogyne](#)
- 11 Low woody plants of herbaceous habit; fruits not adnate to the receptacle [8. Scyphosyce](#)
 Tall tree; fruits sunk in the receptacle and adnate to it [7. Bosqueia](#)
- 12 Leaflets 5–7; sepals free; stamens 2–4; style short, with a broad lanceolate stigma [11. Myrianthus](#)

Leaflets 12–15; sepals united; stamen solitary; style long, with a brush-like stigma [12. Musanga](#)

Artocarpus communis J. R. & G. Forst.

A. incisa (Thunb.) Linn. f.

The Bread-fruit.

It has been introduced into West Africa.

A. heterophyllus Lam.

The Jack-fruit.

It has been introduced into West Africa.

Decorsella A. Chev. in Bull Soc. Bot. Fr. 61, Mém. 8: 297 (1917); F.T.A. 6, 2: 357.

This genus was omitted from the first edition of the F.W.T.A. It is *Gymnorinorea* Keay (Violaceae), F.W.T.A., ed. 2, 1: 104; see Keay in Kew Bull. 1955: 137. Excluded genus.

1. MORUS

Linn. — F.T.A. 6, 2: 19.

- 1** A tree; leaves broadly elliptic, cordate, very abruptly acuminate, crenate, 7–11 cm. long, 5–7.5 cm. broad, thin; pilose in the axils of the nerves beneath; nerves 3 from the base, ascending and subparallel; petiole 1.5 cm. long; male catkins about 2 cm. long; females on slender peduncles about 2 cm. long; syncarp about 1.3 cm. diam., dry; calyx-lobes very broad [mesozygia](#)

Morus mesozygia Stapf — F.T.A. 6, 2: 21; Aubrév. Fl. For. C. Iv. 1: 38, t. 5; Hauman in Fl. Congo Belge 1: 55; Chev. in Rev. Bot. Appliq. 29: 69–74 (incl. var. *sanda* A. Chev.). *APD acc*

A small or sometimes large tree, with reddish brown glabrous branches; **usually in the drier types of forest.**

Sen.: Joal to Gorée Leprieur! Dakar Chev. 3089; 4502. Diourbel Chev. 3511. **Port. G.:** Acoco, Formosa (Apr.) Esp. Santo 1961! **Fr. G.:** Kadé or Kadélé (Feb.) Maclaud. Sekourou, Benna Schnell 2108. **S. L.:** Makene (Mar.) Deighton 3897! **Iv. C.:** Zaranou (Mar.) Chev. 16267! Seguéla Chev. 21838. Fétékoro Aubrév. 803. Nimba Mts. Schnell 2832. **G. C.:** Oduamase (fr. Mar.) Thompson! Ejau, N. Agogo (Jan.) Vigne FH 1786! Akwaseho (Jan.) Irvine 1682! **Togo:** Lome Warnecke 347! Kpeve (Jan.) Irvine 1746! **S. Nig.:** Ogbomosho Rowland! Onitsha Prov. Cousens FHI 36090!

Also in **French Cameroons, A.-E. Sudan, Belgian Congo** and **Cabinda.**

Morus alba Linn.

White Mulberry.

A native of temperate Asia, it is occasionally cultivated in our area.

Morus nigra Linn.

Mulberry.

A native of temperate Asia, it is occasionally cultivated in our area.

2. CHLOROPHORA

APD: *Synonym of Broussonetia L'Hér. ex Vent.*

Gaud. — F.T.A. 6, 2: 21; Aubrév. in Rev. Bot. Appliq. 19: 245–250 (1934).

- 1** Lower surface of leaves densely and minutely puberulous (good lens needed) between the close prominulous network of rather broad veins; lateral nerves 14–18 on each side of the midrib; lamina oblong-elliptic, 6–16 cm. long and 6–8 cm. broad; petiole 3–6 cm. long; leaves of seedlings and saplings larger, with serrate

margins, densely hirsute; male catkins up to 20 cm. long, 6–8 mm. broad; female catkins 3–4 cm. long, 14–18 mm. diam.; female calyx surrounded at the base by a dense collar of long hairs, ovary substipitate; infructescence subcylindrical, 4–5 cm. long, about 2 cm. diam., pulpy [1. excelsa](#)

Lower surface of leaves glabrous, the sparse hairs confined to the nerves, venation of fine nerves not prominulous; lateral nerves 6–10 on each side of the midrib; lamina broadly ovate to suborbicular, 8–17 cm. long, 7–12 cm. broad; female calyx with few or no hairs at the base, ovary sessile; otherwise similar to the above [2. regia](#)

1. ***Chlorophora excelsa* (Welw.) Benth.** Gen. Pl. 3: 363 (1880); F.T.A. 6, 2: 22 (excl. Dalz. 966); Aubrév. in Rev. Bot. Appliq. 19: 245–250, t. 3, 8–15; Fl. For. C. Iv. 1: 34–38, t. 4, 8–15; Eggeling & Harris in For. Trees & Timbers Brit. Emp. 4: 83, fig. 13 (excl. female shoot), t. 13. Hauman Fl. Congo Belge 1: 56.

*APD: Synonym of *Milicia excelsa* (Welw.) C.C. Berg*

***Morus excelsa* Welw.** (1869).

***Chlorophora alba* A. Chev.** (1912).

Antiaris kerstingii of Chev. Bot. 606, partly (Chev. 22485).

***Chlorophora regia* A. Chev.**, partly (spec. ex Dah.).

A large forest tree, to 160 ft. high, with bole up to 75 ft. or more, shortly buttressed, smooth bark becoming brown and scaling, slash with whitish latex; dioecious.

Iv. C.: Sassandra Port Chev. 17942! Morénou Chev. 22485! And other localities fide Aubrév. **Il.c.G. C.:** Kwahu Hills (Mar.) Johnson 910! Kwaben (Feb.) Burnett 52! Bobiri F.R. (Mar.) Andoh FH 4970! **Togo:** Bismarckburg Büttner 697. **Dah.:** Abomey (Feb.) Chev. 23169! Kouandé Chev. 24236! **N. Nig.:** Agaie (Feb.) Yates 20! 20a! **S. Nig.:** Lagos Moloney! Ijaiye Barter 3330! Gambari Group F.R. (Mar.) W. D. MacGregor 62! 572! Punch 103! **Br. Cam.:** Amba Bay (Jan.) Mann 705! **F. Po:** fide G. Taylor.

Also in **French Cameroons, Gabon, Belgian Congo, A.-E. Sudan, E. Africa, Mozambique, Angola** and **S. Tomé.**

2. ***Chlorophora regia* A. Chev.** in Bull. Soc. Bot. Fr. 58, Mém. 8: 209 (1912), excl. spec. ex Dah.; Aubrév. in Rev. Bot. Appliq. 19: 245–250, t. 3, 1–7; Fl. For. C. Iv. 1: 34–38, t. 4, 1–7.

*APD: Synonym of *Milicia regia* (A. Chev.) C.C. Berg*

Chlorophora excelsa of F.T.A. 6, 2: 22, partly (Dalz. 966) and of F.W.T.A., ed. 1, 1: 424, partly.

A large dioecious forest tree, similar to the above.

Sen.: Patako Adam 10426. **Gam.:** Rosevear 82! Brikama, Tumbiro Pitt 644! **Port. G.:** Safim Bissau (Mar.) Esp. Santo 1896! **Fr. G.:** Mamou to Timbo, Fouta Djallon (Mar.) Chev. 12464 bis; 12505 bis. Kouroussa Pobéguin 659. Pita Pobéguin. **S. L.:** Freetown (Feb.) Dalz. 966! Njala (fl. & fr. Mar., fr. Apr.) Deighton 4589! 4590! 5327! Small 763! 765! Rokupr, Magbema (Feb.) Jordan 768! 772! **Lib.:** Dukwia R. Cooper 332! **Iv. C.:** Zaranou (Mar.) Chev. 17627. Danané fide Aubrév. **Il.c.G. C.:** Axim Irvine 2378! Kumasi (Mar.) Laryea FH 4967! Subiri F.R. (Mar.) Osei FH 4944!

***Chlorophora tinctoria* (Linn.) Gaud.**

A native of tropical America, it is cultivated in Sierra Leone.

3. NEOSLOETIOPSIS

Engl. — F.T.A. 6, 2: 78.

- 1 A dioecious shrub; branchlets spreading-pubescent; stipules lanceolate, stiff, 3–8 mm. long; leaves narrowly elliptic-oblong or oblong-elliptic, obtuse or cuneate at base, caudate-acuminate, 4–11 cm. long, 1–3.8 cm. broad, subcoriaceous, glabrous, with 6–8 looped lateral nerves prominent beneath, petiole 2–3 mm. long, spreading-pubescent; male flowers in sessile axillary catkins up to 5 cm. long; female flowers solitary, axillary, on a short bracteate peduncle, ovary about 5 mm. long, surrounded by 4 ovate sepals, style with 2 arms about 1 cm. long [kamerunensis](#)

***Neosloetiopsis kamerunensis* Engl.** Bot. Jahrb. 51: 426, fig. 1 (1914); F.T.A. 6, 2: 78; Hauman in Fl. Congo Belge 1: 82.

APD: Synonym of Streblus usambarensis (Engl.) C.C. Berg

A much-branched shrub, 4–10 ft. high; in riverain forest and in forest regrowth.

Fr. G.: Heudelot 870! **S. L.:** Lopa, Dama (Nov.) Deighton 5881! **Lib.:** Peahtah (Oct.) Linder 1037! **Iv. C.:** Manganot S. **Nig.:** Ikom Catterall IK/16/1934! Kwa Falls, Calabar (Mar.) Brenan 9246a! 9246b!

Also in **French Cameroons**, **French Congo** and **Belgian Congo** and **Tanganyika**.

4. DORSTENIA

Linn. — F.T.A. 6, 2: 25; Engl. Monogr. Afr. Morac. 5 (1898).

- Receptacles with (5–) 6–7 primary arms up to 1.2 cm. long and 0–7 subsidiary shorter arms, floriferous part about 1 cm. diam.; leaves oblong-elliptic to oblong-obovate, obtuse or cuneate at base, rather abruptly long-acuminate, sometimes lobulate-dentate towards apex, 6–17 cm. long, 2–7.3 cm. broad [18. buesgenii](#)
- 1** Styles 2-armed; stems woody or herbaceous, perennial: **2**
 Styles simple; stems annual, erect, simple, perennating by means of a small tuber: **19**
- 2** Receptacles with small scattered bracts on the sides, turbinate, 1–2 cm. diam., margin with numerous very small teeth, not extended into linear lobes; leaves obovate-elliptic, attenuate at base, long-acuminate at apex, 17–27 cm. long, 5.2–10 cm. broad, lateral nerves 10–14 on each side of midrib: **3**
 Receptacles without bracts on the sides; margin usually with 2 or more linear arms (but see No. 3): **4**
- 3** Stipules subulate, about 1 cm. long and only 1.5 mm. broad at base; young stems densely pubescent; lamina narrowed into a long pseudopetiole [1. elliptica](#)
 Stipules triangular-lanceolate, 1.2–1.5 cm. long, 3–4 mm. broad at base, brown, imbricate on the young almost glabrous stems; lamina not narrowed into a pseudopetiole [2. sp. A](#)
- 4** Stems generally herbaceous, procumbent or rhizomatous and sometimes woody below, up to 80 cm. high; female flowers distributed over much of the receptacle: **5**
 Stems strongly woody; erect shrubs 1–4 m. high; female flowers solitary in the centre of the receptacle: **15**
- 5** Receptacles without linear arms, margin sharply toothed; receptacles boat-shaped, about 1.5 cm. long, shortly pedunculate, often paired; leaves obovate to oblong-lanceolate, sometimes irregularly lobulate or deeply lobed towards the obtuse or acuminate apex, 4–11 cm. long, 1.5–5 cm. broad [3. prorepens](#)
 Receptacles with 1 or more linear arms: **6**
- 6** The receptacles orbicular, or 3- to multi-angular, or stellate, or boat-shaped: **7**
 The receptacles much elongated, narrowly linear-lanceolate, about 2.5 cm. long, held vertically, with a long (up to about 6 cm.) apical arm and a short (about 1 cm.) basal arm, without lateral arms: **14**
- 7** Receptacles boat-shaped, about 2.5 cm. long and 1 cm. broad, with a broad irregularly toothed or crenate margin extended at each end into a linear arm 2–5 cm. long; stems and petioles densely hirsute; leaves elliptic, narrowed to an obscurely cordate base, apex more or less acuminate, 10–15 cm. long, 7–8 cm. broad [4. poinsettifolia](#)
 Receptacles orbicular or 3- to multi-angular, or stellate: **8**
- 8** Flowers extending to within 1.5 mm. or less of the edge of the receptacle: **9**
 Flowers not extending to the edge of the receptacle, thus leaving a distinct margin 3–10 mm. wide; arms varying greatly in length, generally a few long with the intervening ones ranging from inconspicuous teeth to moderately long arms; **12**
- 9** Receptacles 1–1.7 cm. diam., with 10–18 subequal arms 2.5–4.5 cm. long; leaves elliptic or obovate, 11–20 cm. long, 5–11 cm. broad; stems erect above, to 80 cm. high: **10**
 Receptacles 0.6–1 cm. diam., with 6–10 linear arms and sometimes a varying number of intermediate shorter arms; stems procumbent or rhizomatous, with the erect portion up to about 35 cm. high: **11**
- 10** Stems and petioles rather densely hirsute; stipules subulate-lanceolate, up to 8 mm. long [5. mannii](#)
 Stems and petioles puberulous; stipules triangular, short [6. ophiocoma](#)
- 11** Margin of receptacle not distinct, without or occasionally with a few very short arms between the 6–10 primary arms which are 1.2–2.7 cm. long; stems densely pubescent when young; leaves elliptic-obovate, narrowed to a rounded or subcordate base, often lobulate towards the acuminate apex, 4.5–11 cm. long, 2–5 cm. broad [7. mungensis](#)
 Margin of receptacle usually distinct, up to 1.5 mm. wide, with numerous short arms or teeth between the 6–10 primary arms which are 0.5–1.2 cm. long; stems densely pubescent; leaves elliptic, or obovate-elliptic, rarely ovate-elliptic, narrowed to a rounded or subcordate base, acuminate, 9–19 cm. long, 3.5–8 cm. broad [8. ciliata](#)

- 12 Receptacles with (1–) 3–4 primary arms (up to 5 cm. long), margin 0.5–1 cm. wide, floriferous part about 0.6–1 cm. diam.; leaves elliptic or obovate-elliptic, attenuate at base, acuminate, 5.5–19 cm. long, 3.5–7.5 cm. broad [9. subtriangularis](#)
- Receptacles with 15–30 arms of unequal length, 5 or more of which are distinctly longer than the rest; margin 0.3–1.4 cm. wide, floriferous part about 1.3–2.5 cm. diam.: 13
- 13 Stipules 6–21 mm. long, filiform, persistent; stems sparingly pubescent; receptacle with up to 30 long arms, the longest of which are up to 4 cm. long; leaves elongate-elliptic to oblanceolate-elliptic narrowed to the base, gradually acuminate, 14–21 cm. long, 5–8.2 cm. broad [10. multiradiata](#)
- Stipules up to 5 mm. long; stems usually rather densely pubescent; receptacle with about 15 arms, the longest of which are up to 2.5 cm. long; leaves obovate, narrowed to the base, shortly acuminate, 12–19 cm. long, 4.5–8.6 cm. broad [11. barteri](#)
- 14 Leaves oblong-elliptic, narrowed to a rounded or obtuse base, shortly acuminate, sometimes lobulate-toothed in the upper part, up to about 16 cm. long and 6.5 cm. broad [12. scabra](#)
- Leaves oblanceolate, narrowed to the cuneate base, gradually acuminate, up to about 16 cm. long and 3 (–4) cm. broad [13. tenuifolia](#)
- 15 The receptacles with 2 (–3) subequal arms: 16
- The receptacles with 4 or more arms, more or less star-shaped and turbinate in outline: 17
- 16 Receptacles linear, with the female flower between the two linear limbs (1–1.4 cm. long and about 3 mm. broad) each of which bears male flowers and tapers off into a linear arm (about 1 cm. long); leaves oblanceolate-oblong or broadly elliptic, obtuse or cuneate at base, rather abruptly acuminate and sometimes lobulate at apex, 9–19 cm. long, 4–6.2 cm. broad [14. angusticornis](#)
- Receptacles boat-shaped, 0.9–1.5 cm. long and about 5 mm. broad, with an arm 1–2.7 cm. long at each end, and sometimes with a third arm on one of the sides; leaves rather variable in shape and size, often narrowly oblong-elliptic, oblanceolate or oblong-oblanceolate, acuminate, sometimes slightly lobulate-dentate, 5–15.5 cm. long, 1.5–6.5 cm. broad [15. smythei](#)
- 17 Receptacles with 4 arms, rarely with 1–3 subsidiary shorter arms; floriferous part 5 mm. or less in diam.: 18
- 18 Leaves oblanceolate, long-cuneate at base, long-acuminate, 8.5–15 cm. long, 2.5–4 cm. broad, main lateral nerves 6–7 on each side of midrib; arms of receptacle 1.3–2 cm. long [16. turbinata](#)
- Leaves oblong-oblanceolate, obtuse or rounded at base, long-acuminate, 12.5–20 cm. long, 3.8–6 cm. broad, main lateral nerves 10–13 on each side of midrib; arms of receptacle about 1.5 cm. long [17. ledermannii](#)
- 19 Receptacles usually in the form of an isosceles triangle with a long arm at each corner and a fourth arm in the centre of the short upper side, more rarely with 3 or 5–8 arms; side of receptacle with small teeth between the arms, the long sides 1–1.5 cm. long, arms 1–3 cm. long; stems, leaves and receptacles rather densely and softly puberulous; leaves usually more or less elongate-elliptic, subacute at apex, rather irregularly toothed on the margin, 3.5–9 (–10) cm. long, 1–3.2 (–4) cm. broad [19. walleri](#)
- Receptacles deeply 3– (or 4–) lobed, the lobes about 4–8 mm. long, each ending in a slender arm 10–13 mm. long, lobes with small teeth between the arms; stems puberulous; receptacles and leaves nearly glabrous except on the nerves; leaves more or less elliptic, obtuse at apex, undulate on margin, 2.5–6.5 cm. long, 1.2–2.5 cm. broad [20. preussii](#)

1. *Dorstenia elliptica* Bureau — F.T.A. 6, 2: 31. *APD acc*

Dorstenia frutescens Engl. Monogr. Afr. Morac. 12, t. 2 B (1898); F.T.A. 6, 2: 30.

A shrublet with erect pubescent stem to 3 ft. high and horizontal rhizome; receptacles brown; in rain forest.

Br. Cam.: Barombi (fl. June, fr. Aug.) Preuss 384! Johann-Albrechtshöhe (Nov.) Staudt 461! S. Bakundu F.R. (fl. & fr. Mar.) Brenan 9266! 9266a! 9266b! Onochie FHI 30861! **F. Po:** Mann 64!

Also in **French Cameroons**, **Gabon** and **French Congo**.

[In the F.T.A. this species is erroneously recorded from French Guinea; the specimen referred to is from French Congo.]

2. *Dorstenia* sp. A. *APD acc*

A shrublet, to 3 ft. high, in damp places in forest.

G. C.: Ankasa F.R. (Dec.) Vigne FH 3186!

Probably new, but further material required.

3. *Dorstenia prorepens* Engl. — F.T.A. 6, 2: 45 (incl. var. *robustior* Rendle); Engl. l.c. 18, t. 3 A. *APD acc*

Stem half woody, procumbent and rooting, covered, like the petioles and peduncles with brown hairs.

S. Nig.: Okomu F.R., Benin (Dec.) Brenan 8460! Oban Talbot 2316! s.n.! **Br. Cam.:** Cam. Mt., 3,000–5,000 ft. (Feb., Dec.) Mann 1956! Preuss 832. **F. Po:** Mildbr. 6355.

4. *Dorstenia poinsettifolia* Engl. — F.T.A. 6, 2: 45; Engl. l.c. 18, t. 2 A (incl. vars.). *APD acc*

A perennial herb, with stems to 12 in. long; in forest.

Br. Cam.: Buea Deistel 435!

Also in French Cameroons.

5. *Dorstenia mannii* Hook. f. — F.T.A. 6, 2: 31; Engl. l.c. 18. *APD acc*

An erect perennial herb, to 21/2 ft. high; in rain forest.

S. Nig.: Calabar (Feb.) Mann 2316! Thomson 10! Oban (Mar.) Onochie FHI 7738! Talbot 673! Obom Itiah (Jan.) Jones FHI 508! **Br. Cam.:** Mamfe (Dec.) Baldwin 13826!

6. *Dorstenia ophiocoma* K. Schum. & Engl. — F.T.A. 6, 2: 32 (excl. var. minor); Engl. l.c. 17, t. 4 C (incl. var. longipes Engl.).

APD: *Synonym of Dorstenia mannii* Hook. f. var. *mannii*

Dorstenia mannii of F.W.T.A., ed. 1, 1: 427, partly.

A forest herb, like the preceding.

Br. Cam.: Jongo to Bakingele (Mar.) Preuss 1381! Bibundi (Nov.) Mildbr. 10637!

Also in French Cameroons.

7. *Dorstenia mungensis* Engl. — F.T.A. 6, 2: 34.

APD: *Synonym of Dorstenia mannii* var. *mungensis* (Engl.) Hijman

Dorstenia intermedia Engl. (1898).

Dorstenia mundamensis Engl. (1902).

Dorstenia ophiocoma var. *minor* Rendle in F.T.A. 6, 2: 32.

Dorstenia mannii of F.W.T.A., ed. 1, 1: 427, partly.

S. Nig.: Uquo, Eket (May) Onochie FHI 33185! **Br. Cam.:** Victoria (Apr.) Preuss 1107! Schlechter 12368! Bonakanda, Cam. Mt., 3,800 ft. (Jan.) Maitland 925! Tiko (Feb.) Dunlap 255! Mundame to Otam Schlechter 12883! Mungo (Apr.) Buchholz!

Also in French Cameroons.

8. *Dorstenia ciliata* Engl. — F.T.A. 6, 2: 31. *APD acc*

Dorstenia talbotii Rendle (1915) — F.T.A. 6, 2: 56.

A rhizomatous perennial herb with ascending stems; in rain forest.

S. Nig.: Oban Talbot 2314! **Br. Cam.:** S. Bakundu F.R., Kumba Div. (Mar.) Brenan 9261! 9261a! Mundame to Otam Schlechter 12888! Eko Keyake Schlechter 12891!

Also in French Cameroons.

9. *Dorstenia subtriangularis* Engl. — F.T.A. 6, 2: 55; Engl. l.c. 15, t. 5 A.

APD: *Synonym of Dorstenia barteri* var. *subtriangularis* (Engl.) Hijman & C.C. Berg

Dorstenia piscaria Hutch. & Dalz. F.W.T.A., ed. 1, 1: 427 (1928); Kew Bull. 1929; 19.

An erect perennial herb, subwoody below, to 2 ft. high; in forest.

S. Nig.: Oban Talbot 2315! s.n.! **Br. Cam.:** Amba Bay (Feb.) Mann 14! Bibundi (Nov.) Mildbr. 10636! Victoria (Feb., Apr.) Maitland 390! Schlechter 12375! Tiko (Jan.) Dunlap 184! S. Bakundu F.R. (Mar., Apr.) Brenan 9265! Ejiofor FHI 29354! Onochie FHI 30882!

Also in **French Cameroons**.

10. **Dorstenia multiradiata** *Engl.* — F.T.A. 6, 2: 54; Engl. l.c. 15, tt. 1 D, 3 C.

APD: Synonym of Dorstenia barteri var. multiradiata (Engl.) Hijman & C.C. Berg

An erect perennial herb, subwoody below, to 21/2 ft. high; **in forest**.

S. Nig.: R. Ata, below Mt. Koloishe, Obudu (Dec.) Keay & Savory FHI 25050! **Br. Cam.:** Barombi (May) Preuss 204! S. Bakundu F.R., Kumba Div. (Mar.) Brenan 9436! 9436a!

11. **Dorstenia barteri** *Bureau* — F.T.A. 6, 2: 53; Engl. l.c. 14. *APD acc*

An erect perennial herb, subwoody below, to 21/2 ft. high; **in forest**.

S. Nig.: Calabar Robb! Ifunkpa to Atakom (Dec.) Holland 215! Oban Talbot 674! s.n.! Aboabam, Ikom (Dec.) Keay FHI 28193! **Br. Cam.:** Bulifambo (Mar.) Maitland 543! Mimbria (Mar.) Brenan 9349! Kembong F.R., Mamfe (Mar.) Onochie FHI 31187! **F. Po:** Barter! Mann 152! Moka (Dec.) Boughey 70!

12. **Dorstenia scabra** (*Bureau*) *Engl.* — F.T.A. 6, 2: 51; Engl. l.c. 20 (incl. var. denticulata Engl.).

APD: Synonym of Dorstenia psilurus var. scabra Bureau

Dorstenia psilurus var. scabra Bureau (1873).

An erect herb; **in forest**.

S. Nig.: Akassa, Nun R. Barter 2089! **Br. Cam.:** Kumba Dist. (May) Olorunfemi FHI 30573!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

13. **Dorstenia tenuifolia** *Engl.* — F.T.A. 6, 2: 52.

APD: Synonym of Dorstenia psilurus var. scabra Bureau

A perennial herb, stems trailing and rooting, leafy parts erect, to 11/2 ft. high; **in forest**.

S. Nig.: Etemi, Ijebu-Ode (May, Dec.) Tamajong FHI 16944! 20275! Idanre F.R., (July) Ejiofor FHI 33399! Nikrowa (Dec.) Brenan 8465! **Br. Cam.:** Mafura to Mundame (fr. Jan.) Schlechter 12920!

14. **Dorstenia angusticornis** *Engl.* — F.T.A. 6, 2: 60. *APD acc*

A low shrub, about 2 ft. high; with papery leaves; **in rain forest**.

Br. Cam.: Johann-Albrechtshöhe Büsgen 185. S. Bakundu F.R., Kumba Div. (fl. & fr. Mar.) Brenan 9489!

Also in **French Cameroons**.

15. **Dorstenia smythei** *Sprague* — F.T.A. 6, 2: 60.

APD: Synonym of Dorstenia turbinata Engl.

Dorstenia aspera A. Chev. (1912) — F.T.A. 6, 2: 58.

Dorstenia dinklagei *Engl.* (1911), not of Engl. (1898).

Dorstenia spathulibracteata *Engl.* (1913).

An evergreen shrub or small tree, to 12 ft. high; **in forest**.

S. L.: hills near Freetown (Nov.–Jan.) Deighton 5612! Milne-Redhead 5182! Jepihun (Jan.) Smythe 237! Gegbwema (Jan.) Deighton 3862! Mamunta (Nov.) Deighton 4929! **Lib.:** Peahtah (Oct.) Linder 961! Gbanga (Oct.) Linder 1199! 1201! 1203! Vahon, Kolahun (Nov.) Baldwin 10250! Bangee, Boporo (Nov.) Baldwin 10356! 10357! **Iv. C.:** Danané (Apr.) Chev. 21197! 21288! 21288 bis! Gonhoué to Bampleu (Apr.) Chev. 21162! **G. C.:** Abiabo, Axim (Nov.) Vigne FH 1428!

The leaves are very variable in shape and size; a form with the leaves truncate and very abruptly acuminate at the apex has been named *D. smythei* var. *deltoidea* (A. Chev.) Hutch. & Dalz. (type Chev. 21288 bis, from Danané, Iv. C.); another specimen (Linder 1202, from Gbanga, Lib.) has remarkable obovate-rhomboid leaves up to 11 cm. long and 9 cm. broad.

16. **Dorstenia turbinata** *Engl.* — F.T.A. 6, 2: 57. *APD acc*

A small shrub with short branchlets; [in rain forest](#).

Br. Cam.: Njoke to Malende Schlechter 12871!

17. *Dorstenia ledermannii* Engl. — F.T.A. 6, 2: 57.

*APD: Synonym of *Dorstenia turbinata* Engl.*

*APD: Synonym of *Dorstenia turbinata* Engl.*

A shrub more than 6 ft. high with branchlets spreading at an acute angle; [in rain forest](#).

G. C.: Benso (Sept.) Vigne FH 4745! **S. Nig.:** Oban Talbot 675!

Also in [French Cameroons](#).

18. *Dorstenia buesgenii* Engl. — F.T.A. 6, 2: 59.

*APD: Synonym of *Dorstenia turbinata* Engl.*

Dorstenia obanensis Hutch. & Dalz. F.W.T.A., ed. 1, 1: 427 (1928); Kew Bull. 1929: 18.

An erect, sparsely branched shrub, to 10 ft. high; [in rain forest](#).

S. Nig.: Oban Talbot 626! 628! s.n.! Aboabam, Ikom (Dec.) Keay FHI 28209! 28213! 28214!

Also in [French Cameroons](#).

19. *Dorstenia walleri* Hemsl. — F.T.A. 6, 2: 68 (incl. var. minor Rendle).

*APD: Synonym of *Dorstenia cuspidata* Hochst. ex A. Rich. var. cuspidata*

Dorstenia caulescens Schweinf. ex Engl. (1894) — Engl. l.c. 22, t. 5 C.

Dorstenia gourmaensis A. Chev. (1912), incl. var. floribunda A. Chev.; Bot. 592; F.W.T.A., ed. 1, 1: 427.

Annual stems erect, fleshy, to 15 in. high, produced from a hard tuberous stock; stems, midribs and arms of receptacle often tinged pink; [in savannah regions, often among rocks, or as epiphyte](#).

Dah.: Konkobiri (July) Chev. 24335! **Fr. Nig.:** Piéga, between Diapaga and Fada (July) Chev. 24468; 24528! Kompongou (July) Chev. 24390! **N. Nig.:** Kwaga, Birnin Gwari (July) Keay FHI 25985! Giwa Dist., Zaria (July) Keay FHI 25931! Anara F.R., Zaria (May) Keay & Mutch FHI 22928! Bauchi Plateau (May) Lely P. 317!

Also in [French Cameroons](#), [Ubangi-Shari](#), [A.-E. Sudan](#), [Tanganyika](#), [N. Rhodesia](#), [Nyasaland](#) and [Mozambique](#); perhaps also in [Belgian Congo](#) (see Hauman in Fl. Congo Belge 1: 72).

20. *Dorstenia preussii* Schweinf. ex Engl. — F.T.A. 6, 2: 70 (excl. var. latedentata Engl.); Engl. l.c. 21, t. 8 D.

*APD: Synonym of *Dorstenia cuspidata* var. preussii (Schweinf. ex Engl.) Hijman*

Erect rather slender, fleshy stems, to 10 in. high, produced from a small tuberous stock; on rocks under shade.

Fr. G.: Gangan, Kindia (Aug.) Jac.-Fél. 7050! Kinsan, Kindia (July) Jac.-Fél. 1807! Kouroussa (Sept.) Pobéguin 1036! **S. L.:** Sugar Loaf Mt. (June) Preuss. Hills behind Freetown (Sept.) Milne-Redhead 5149! Roboli, Rokupr (July) Jordan 285! Kambia, Magbema (June) Jordan 446! Kukuna, Bramaia (July) Adames 235!

[D. preussii var. latedentata Engl., from French Cameroons is scarcely distinguishable from D. cuspidata Hochst., from Abyssinia; our plant is also closely related to D. cuspidata Hochst. in his Fl. Sen. 173, Berhaut records D. cuspidata from Senegal; I have not been able to see his specimens but they may well be D. preussii.]

5. CRATEROGYNE

Lanjouw in Rec. Trav. Bot. Neerland. 32: 272 (1935).

- 1 Peduncles 9–25 mm. long; connective narrow; leaves not toothed, obovate-elliptic, generally obtuse and unequal at base, caudate-acuminate, 10–25 cm. long, 3–9 cm. broad, with numerous looped lateral nerves; flowers monoecious, in axillary pedunculate heads, the males numerous, surrounding a solitary female; fruiting receptacle ellipsoid, about 13 mm. long [1. africana](#)

Peduncles 2–6 mm. long; connective broad; leaves usually more or less toothed and sometimes truncate towards the apex, more or less oblong-elliptic, cuneate to obtuse at base, caudate-acuminate, 7–22 cm. long, 2.5–8 cm. broad, with 5–7 main lateral nerves on each side of the midrib; flowers and fruits similar to above [2. kameruniana](#)

1. **Craterogyne africana** (Baill.) Lanjouw in Rec. Trav. Bot. Neerland. 32: 273, fig. 6 (1935).

APD: *Synonym of Dorstenia africana* (Baill.) C.C. Berg

Trymatococcus africanus Baill. (1876); Engl. Monogr. Afr. Morac. 28, t. 11 A; F.T.A. 6, 2: 75; F.W.T.A., ed. 1, 1: 427.

T. conrauanus Engl. (1902) — F.T.A. 6, 2: 77.

An erect sparingly branched shrub, 3–10 ft. high; receptacles bright yellow; in rain forest.

S. Sig.: Oban Talbot 631! 2327! Boje, Ikom Div. (May) Jones FHI 5831! Okarara, Calabar (May) Ujor FHI 30827! **Br.**

Cam.: Cameroon R. (Jan.) Mann 723! 2228! S. Bakundu F.R. (fl. Jan.–Apr., fr. Mar.) Brenan 9258! Keay FHI 28560!

Mundame Staudt 611! Mbu R., Tinto Conrau 130. Manenguba Mt. Büsgen 279.

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

2. **Craterogyne kameruniana** (Engl.) Lanjouw l.c. 274, fig. 7–8 (1935).

APD: *Synonym of Dorstenia kameruniana* Engl.

Dorstenia kameruniana Engl. (1895).

Trymatococcus kamerunianus (Engl.) Engl. Monogr. Afr. Morac. 29, t. 11 B (incl. var. *welwitschii* Engl.); F.T.A. 6, 2: 76; F.W.T.A., ed. 1, 1: 427.

Dorstenia amoena A. Chev. (1912) — F.T.A. 6, 2: 59; Chev. Bot. 591 (incl. var. *truncata* A. Chev.).

A forest shrub, 3–10 ft. high.

Iv. C.: Dioandougou to Niangouépleu (May) Chev. 21528. Niangouépleu to Man (May) Chev. 21531! **G. C.:** Banka,

Ashanti (Mar.) Vigne FH 1864! Nkenkaso (Oct.) Vigne FH 2550! Offuasi (Mar.) Vigne FH 1899!

Also in **French Cameroons**, **Spanish Guinea**, **Uganda**, **Kenya**, **Tanganyika** and **Angola**.

6. FICUS

Linn. — F.T.A. 6, 2: 78

KEY TO THE SUBGENERA.

- 1 Ostiole (mouth) of the receptacle with several bracts visible from the outside and spreading transversely across the orifice; [2](#)
- Ostiole (mouth) of the receptacle pore-like and more or less 2-lipped, with all the bracts descending abruptly into the receptacle and not visible from outside; receptacles solitary, paired or in fascicles [4. BIBRACTEATAE](#)
- 2 Bracts scattered on the peduncle and over the surface of the receptacle as well as by the ostiole, sometimes very small; leaves scabrid; receptacles axillary, solitary or paired [1. SYCIDIUM](#)
- Bracts arranged in a single whorl at the base of the receptacle as well as by the ostiole, none on the sides of the receptacle: [3](#)
- 3 Male flowers usually with 2 stamens; receptacles either borne in panicles on the main stem and older branches, or axillary and solitary; leaves often toothed and scabrid or hairy [2. SYCOMORUS](#)
- Male flowers with a single stamen; receptacles all axillary, solitary or paired; leaves usually entire and not scabrid (but see Nos. 11 & 12) [3. UROSTIGMA](#)

Subgenus 1 — SYCIDIUM

- 1 Leaves mostly opposite, often with 3-dentate tips, lanceolate, oblong-lanceolate or ovate, 3–10 cm. long, 1.3–4 cm. broad, scabrid on both surfaces, with 5–8 main lateral nerves on each side of midrib; stipules persistent, lanceolate, about 5 mm. long, ciliate; receptacles solitary, subglobose, 1.3–2 cm. diam., scabrid; peduncles 0.6–1.2 cm. long [1. capreifolia](#)
- Leaves always alternate; stipules caducous: [2](#)

- 2 Leaves linear-lanceolate, entire, 9–12 cm. long, 2–3 cm. broad, somewhat scabrid, with 9–10 main lateral nerves on each side of midrib; receptacles solitary, subglobose, about 1.3 cm. diam., shortly setulose; peduncles about 0.8 cm. long [2. *acutifolia*](#)
- Leaves ovate or elliptic to obovate-elliptic, sometimes toothed or lobed, never more than 3 times as long as broad, with 3–8 main lateral nerves on each side of midrib; receptacles paired or solitary; peduncles 0.3–1.2 cm. long:..... **3**
- 3 A tree, up to 22 m. high; main lateral nerves 3–5 (–6) on each side of midrib, ascending at an angle of about 45–50°; leaves ovate to obovate-elliptic, often toothed, 3.5–17 cm. long, 2.5–11 cm. broad, thick and very scabrid on both surfaces; leaves on young plants and regrowth shoots often rather deeply 3-lobed; receptacles obovoid or subglobose, 1–1.3 cm. diam., roughly scabrid [3. *exasperata*](#)
- A shrub, usually scrambling; main lateral nerves 6–8 on each side of midrib, spreading at an angle of about 50–80°; leaves often lobed, variable, nearly entire and then more or less oblong-elliptic, or pinnately 3–5-lobed, 5–17 cm. long, 2–8 cm. broad, scabrid on both surfaces; receptacles subglobose or pyriform, up to 3 cm. long and 2.2 cm. diam., scabrid [4. *asperifolia*](#)

Subgenus 2 — SYCOMORUS

- 1 Receptacles borne in panicles on the main stem or older branches: **2**
- Receptacles axillary and solitary, on or towards the base of the young shoots; leaves cordate at base: **5**
- 2 Young receptacles setose-pilose; stipules persistent for some time; panicles mostly long and slender, with short lateral branches racemously arranged, borne near the base of the main stem, often with many panicles prostrate on the ground; receptacles depressed-globose up to 2.5 cm. diam.; basal bracts 2–5; leaves obovate to obovate-elliptic, shortly and subacutely acuminate, 10–37 cm. long, 4.5–18 cm. broad, coarsely undulate-dentate, long-pilose on the nerves beneath [5. *vogeliana*](#)
- Young receptacles tomentose or scaly-puberulous or glabrous; stipules early caducous; panicles thyrsoid, not prostrate on the ground:..... **3**
- 3 Mature receptacles softly tomentose, globose, 2–2.5 cm. diam.; basal bracts 3, small, soon glabrous; leaves ovate or oblong-ovate, obtuse or shortly acuminate, 6–25 cm. long, 4–12 cm. broad, coarsely and irregularly repand-dentate, 3-nerved at the base, rather densely pubescent beneath [6. *mallotocarpa*](#)
- Mature receptacles glabrous or puberulous, 2–3 cm. diam.:..... **4**
- 4 Leaves ovate or ovate-elliptic, up to 25 cm. long and 12 cm. broad, mostly repand-dentate, smooth or rarely slightly scabrid above, pubescent or glabrous beneath; atipular scars without a fringe of hairs [7. *capensis*](#)
- Leaves obovate-suborbicular, cordate at base, shortly acuminate, 7–17 cm. long and broad, entire, scabrid above, scattered-pilose on the midrib and nerves beneath and sometimes softly puberulous; stipular scars with a fringe of hairs [8. *mucoso*](#)
- 5 Leaves smooth above, glabrous or sparsely pubescent beneath, very broadly ovate, up to 20 cm. long and 17 cm. broad, mostly coarsely repand-dentate; receptacles puberulous, 3.5–6 cm. diam., marked with 12–15 longitudinal lines [9. *vallis-choudae*](#)
- Leaves scabrid above, pilose on the nerves beneath, orbicular or ovate, 5–15 cm. long, 4–10 cm. broad, mostly subentire or obtusely serrate; receptacles densely tomentose, about 4 cm. diam., not marked with longitudinal lines [10. *gnaphalocarpa*](#)

Subgenus 3 — UROSTIGMA

- 1 Receptacles glabrous or very slightly and finely puberulous when mature: **2**
- Receptacles densely and softly tomentose when mature; otherwise as above [15a. *ingens* var. *tomentosa*](#)
- 2 Leaves lanceolate or lanceolate-elliptic, obtuse at both ends, 6–15 cm. long, 2.5–6 cm. broad, entire, glabrous; lateral nerves 10–16 on each side of midrib; receptacles pedunculate, globose, nearly 1 cm. diam.; basal bracts ciliate [13. *verruculosa*](#)
- Leaves ovate or rhomboid-ovate, or when elliptic then acuminate: **3**
- 3 Receptacles 12–17 mm. diam., on distinct peduncles 4–8 mm. long; leaves hairy, at least, when young, often slightly scabrid, acuminate at apex:..... **4**
- Receptacles 8–10 mm. diam., sessile or with peduncles up to 6 mm. long; leaves glabrous or nearly so, never scabrid, glossy, at least above: **5**
- 4 Young leaves with long white spreading hairs on both sides of the midrib and main nerves and on the upper side of the petiole, glabrescent; leaves oblong to ovate, more or less cordate at base, 8–19 cm. long, 4.5–10.5 cm. broad, with 7–17 lateral nerves on each side of midrib; saplings and coppice growth with dissected lobed leaves; a tall forest tree [11. *variifolia*](#)
- Young leaves more or less densely puberulous, glabrescent, without long white spreading hairs; leaves elongate-ovate or elliptic, cuneate to subcordate at base, 8–13 cm. long, 3.5–6.5 cm. broad, with 5–8 lateral nerves on each side of midrib; a savannah tree [12. *dicranostyla*](#)
- 5 Leaves acutely acuminate, strongly and closely reticulate and shining on both surfaces, ovate-rhomboid, cuneate to subcordate at base, 6–11 cm. long, 3–6 cm. broad, with 9–12 main lateral nerves on each side of midrib; receptacles 6–8 mm. diam., sessile or subsessile [14. *lecardii*](#)

Leaves obtuse or slightly acuminate, not strongly reticulate, shining on upper surface only, ovate-oblong to oblong-lanceolate, rounded-truncate to deeply cordate at base, 6–18 cm. long, 3–10 cm. broad, with 5–8 main lateral nerves on each side of midrib; receptacles 8–10 mm. diam., subsessile or with peduncle up to 6 mm. long [15. *ingens* var. *ingens*](#)

Subgenus 4 — BIBRACTEATAE

Section Axillares.

Receptacles in the axils of the leaves of the young shoots (rarely some extending to the two-year-old wood), solitary or paired.

- 1 Stipules mostly large and conspicuous, persistent during the flowering and fruiting periods: **2**
 Stipules falling on the unfolding of the young leaves: **14**
- 2 Leaves pandurate, cordate-auriculate and obscurely toothed at the base; receptacles sessile, globose: **3**
 Leaves not pandurate, neither cordate nor toothed: **4**
- 3 Leaves 13–26 cm. broad, 20–45 cm. long, with 5–6 main lateral nerves on each side of midrib; receptacles about 4 cm. diam.; basal bracts 3, appressed to receptacle [16. *lyrata*](#)
 Leaves 6–9.5 cm. broad, 18–52 cm. long, with 15–20 main lateral nerves on each side of midrib; receptacles about 2 cm. diam.; basal bracts 2, ovate, keeled, coriaceous [17. *sagittifolia*](#)
- 4 Receptacles covered with large prominent warts; leaves oblong-elliptic or obovate, oblong, long-acuminate, 15–22 cm. long, 4–8.5 cm. broad; receptacles sessile, slightly depressed-globose, 1–2.2 cm. diam. .. [22. *praticola*](#)
 Receptacles not warted or only very slightly so: **5**
- 5 Receptacles sessile or subsessile, not stipitate above the basal bracts: **6**
 Receptacles with a peduncle 6–16 mm. long and with a stipe above the basal bracts up to 8 mm. long, ellipsoid-obovoid to subglobose, glabrous, 2.5–3.5 cm. diam.; leaves obovate or obovate-elliptic, cuneate at base, acuminate at apex, 9–16.5 cm. long, 4–6.5 cm. broad, with about 5 main lateral nerves on each side of midrib [28. *rederi*](#)
- 6 Leaves more than 4 cm. long and 2 cm. broad; **7**
 Leaves 1.2–4 (–4.5) cm. long, 0.4–1.5 cm. broad, oblanceolate, narrowed at base, rounded at apex; main lateral nerves 5–6 on each side of midrib, ascending from it at an acute angle; receptacles globose, glabrous, 4–5 mm. diam. [27. *lingua*](#)
- 7 Receptacles 1–5 cm. diam.; leaves mostly more than 8 cm. long and 3 cm. broad, main lateral nerves 4–10 on each side of midrib: **8**
 Receptacles 5–8 mm. diam., globose, glabrous; leaves narrowly rhombic-elliptic, cuneate at base, gradually obtuse acuminate, 4–8.5 (–12.5) cm. long, 2–3 (–5) cm. broad; main lateral nerves about 12 on each side of midrib with numerous subsidiary more or less parallel nerves [26. *kamerunensis*](#)
- 8 Leaves acuminate, 9–45 cm. long, 4–14 cm. broad; mature receptacles 1.3 cm. diam. or more: **9**
 Leaves not acuminate, rounded or very obtusely pointed at apex, rounded to cuneate at base, oblong or oblong-oblanceolate, 5–12 cm. long, 2.3–3.6 (–4.7) cm. broad; main lateral nerves 6–7 on each side of midrib; mature receptacles 1–1.2 cm. diam., ovoid-globose, glabrous or finely pubescent [25. *anomani*](#)
- 9 Base of leaves cuneate; receptacles 1.3–2.5 cm. diam.: **10**
 Base of leaves rounded or sometimes obtuse, apex shortly acuminate; main lateral nerves 5–8 on each side of midrib; receptacles 2.5–5 cm. diam., densely hispid: **13**
- 10 Main lateral nerves 4–5 on each side of midrib: **11**
 Main lateral nerves 7–10 on each side of midrib: **12**
- 11 Receptacles glabrous, globose, about 1.3 cm. diam.; leaves elliptic to oblanceolate, 11–24 cm. long, (3–) 5–10.5 cm. broad [18. *camptoneura*](#)
 Receptacles densely and shortly pubescent, subglobose, about 2 cm. diam.; leaves elliptic or oblong-elliptic, 10–18 cm. long, 4–7 cm. broad [19. *camptoneuroides*](#)
- 12 Leaves elongate-oblong-elliptic, long-caudate-acuminate, 15–22 cm. long, 4–7 cm. broad; main lateral nerves 8–10 on each side of midrib, diverging from it at an angle of 60–90°; receptacles subglobose, 1.3–2.5 cm. diam., glabrous or pubescent [20. *conraui*](#)
 Leaves obovate or obovate-oblong, long-acuminate, 9.5–18 cm. long, 4–8 cm. broad; main lateral nerves 7–8 on each side of midrib, diverging from it at an angle of about 45°; receptacles depressed-globose, about 1.5 cm. diam., strigillose [21. *winkleri*](#)
- 13 Leaves 10–22 cm. long, 4–9.5 cm. broad, oblong-elliptic; receptacles 2.5–3 cm. diam. when fresh, beaked when dry [23. *tessellata*](#)
 Leaves 20–45 cm. long, 6–14 cm. broad, oblong or obovate-oblong or oblong-oblanceolate; receptacles up to

- about 5 cm. diam., not beaked [24. preussii](#)
- 14** Leaves obtriangular, broadly truncate at the apex or refuse, with the midrib divided some distance below and not directly continued to the apex of the blade, the latter 4–8 cm. long, up to 7 cm. broad across the top; receptacles axillary, paired, pedunculate, globose, up to 8 mm. diam. [29. lepieuri](#)
- Leaves neither obtriangular nor truncate at the apex: **15**
- 15** Receptacles more or less invested at least when young by large persistent basal bracts, or the axillary pairs of receptacles completely covered when young by a calyptra; receptacles sessile or nearly so: **16**
- Receptacles not invested by the basal bracts, the latter usually small and often caducous: **20**
- 16** Basal bracts free, not calyptriform; leaves with long spreading hairs, at least when young: **17**
- Basal bracts united to form a pointed calyptra which completely covers an axillary pair of young receptacles, later caducous or opening; leaves glabrous or minutely puberulous, broadest below the middle: **19**
- 17** Leaves broadest above the middle, elongated oblanceolate-obovate, narrowed to a cuneate, obtuse, rounded or subcordate base, acuminate at apex, up to 48 cm. long and 17 cm. broad; petioles at first shaggy-villous; basal bracts much shorter than the mature receptacles; receptacles at first densely villous with orange-coloured hairs becoming much more sparsely hairy, subglobose, flattened at the apex, about 3 cm. diam.: **18**
- Leaves broadest about the middle, oblong-elliptic, rounded to cordate at base, shortly acuminate, 12–33 cm. long, 3–15 cm. broad, with long hairs on midrib and main lateral nerves beneath, more or less glabrescent, venation closely reticulate beneath; petioles not shaggy-villous; basal bracts as long as or longer than the mature receptacles; receptacles pubescent or glabrous, subglobose, about 3 cm. diam. [31. chlamydocarpa](#)
- 18** Undersurface of leaves long-pilose at first, then more or less glabrescent [30. eriobotryoides var. eriobotryoides](#)
- Undersurface of leaves loosely tomentose with curly hairs [30a. eriobotryoides var. caillei](#)
- 19** Leaves ovate, or oblong-ovate, usually much longer than broad, obtuse, rounded or cordate at base, distinctly acuminate, 9–36 cm. long, 2.5–15 cm. broad; receptacles subglobose or ellipsoid, up to 5 cm. long and broad, puberulous [32. ovata](#)
- Leaves ovate to ovate-orbicular, cordate at base, obtuse or rounded at apex, 13–20 cm. long, 6–13 cm. broad; receptacles subglobose, about 2 cm. diam., pubescent, then glabrescent. [33. djalensis](#)
- 20** The receptacles sessile, or with peduncles not more than 3 mm. long: **21**
- The receptacles distinctly pedunculate, peduncles 3 mm. long or more! **27**
- 21** Leaves cordate at base, 5–15 cm. long, 2–7 cm. broad; receptacles 6–8 mm. diam.: **22**
- Leaves not cordate at base, or if sometimes cordate (No. 36) then leaves and receptacles larger than above; leaves glabrous, or nearly so: **24**
- 22** Stipules less than 0.5 cm. long; lateral nerves 9–12 on each side of midrib; leaves broadly rhomboid-elliptic to suborbicular, obtusely acuminate, 5–12 cm. long, 3–6 cm. broad, glabrous as the branchlets; receptacles glabrous, sessile [34. leonensis](#)
- Stipules 1–3.5 cm. long, conspicuous although caducous; lateral nerves 4–7 on each side of midrib; leaves oblong-ovate to oblong or obovate-oblong, very obtusely acuminate, 5–15 cm. long, 2–7 cm. broad; receptacles more or less densely pubescent, or glabrescent, sessile or with peduncles up to 5 mm. long: **23**
- 23** Leaves persistently densely pubescent beneath [35. glumosa var. glumosa](#)
- Leaves soon glabrous beneath [35a. glumosa var. glaberrima](#)
- 24** Main lateral nerves 5–6 (–8) on each side of midrib, ascending, looped, prominent beneath; leaves coriaceous, 9–35 cm. long, 4–16 cm. broad, obovate-oblong, oblanceolate or oblong-elliptic, cuneate to shallowly cordate at base, obtusely acuminate; petiole 2–10 (–16) cm. long, stout; receptacles subglobose, sessile, 1–1.7 (–2.5) cm. diam., nearly glabrous to densely pubescent [36. vogelii](#)
- Main lateral nerves 8–12 on each side of midrib, more or less parallel, with intermediate secondary nerves, slightly prominent beneath; leaves 5–18 (–22.5) cm. long, 2.5–9 (–10) cm. broad: **25**
- 25** Leaves coriaceous, distinctly and sometimes acutely acuminate; receptacles borne 3–4 together on small bracteate cushions in the axils of the leaves, glabrous, about 6 mm. diam. and beaked when dry; branchlets stout, purplish-brown when dry; leaves elliptic or oblong-elliptic, obtuse to rounded or subtruncate at base, 9–18 cm. long, 4.5–9 cm. broad; petioles 1.2–3 cm. long [37. aganophila](#)
- Leaves thin, rounded or obtuse, or shortly and obtusely acuminate at apex; receptacles solitary or 2 together, borne directly in the axils of the leaves on the branchlets which are usually yellow-brown when dry; receptacles glabrous, puberulous or tomentellous, 6–15 mm. diam.; leaves obovate to elliptic or oblong-elliptic, narrowed, obtuse or rounded at base, 5–14 (–22.5) cm. long, 2.5–7 (–10) cm. broad; petioles 1.2–7.5 cm. long: **26**
- 26** Receptacles glabrous or puberulous, 6–11 mm. diam. [47. thonningii](#)
- Receptacles tomentellous, 10–15 mm. diam. [48. basarensis](#)
- 27** Leaves more or less cordate at base, or some rounded, often broadly ovate or suborbicular: **28**
- Leaves neither cordate, nor ovate, nor suborbicular, mostly much longer than broad and narrowed to the cuneate,

- obtuse or rounded base: **34**
- 28** Apex of leaves acutely acuminate; leaves broadly ovate, deeply to widely cordate or subtruncate at base, 6–16 cm. long, up to 14 cm. broad, glabrous; receptacles 2–4 together, globose up to 1 cm. diam., glabrous or puberulous; peduncles 4–12 mm. long [38. *populifolia*](#)
- Apex of leaves rounded or very shortly and obtusely pointed: **29**
- 29** Leaves 2–7 cm. broad, 5–15 cm. long, oblong-ovate to oblong or obovate-oblong; receptacles 6–8 mm. diam., pubescent or glabrescent, with peduncles up to 5 mm. long; see also above: **30**
- Leaves (5–) 7–28 cm. broad, up to 40 cm. long; receptacles 1–4 cm. diam.; peduncles 0.5–3 cm. long: **31**
- 30** Leaves persistently densely pubescent beneath [36. *glumosa* var. *glumosa*](#)
- Leaves soon glabrous beneath [35a. *glumosa* var. *glaberrima*](#)
- 31** Receptacles 1–2 cm. diam.: **32**
- Receptacles about 4 cm. diam., glabrous; peduncles about 2.5 cm. long; leaves obovate or obovate-elliptic, cordate or rounded at base, 10–25 cm. long, 7–15 cm. broad, pilose and then glabrescent beneath, with 12–14 main lateral nerves on each side of midrib; petioles 5–8 cm. long, stout, persistently long-pilose [42. *goliath*](#)
- 32** Peduncles 1–3 cm. long; receptacles about 1 cm. diam., pubescent or glabrous; leaves broadly elliptic obovate, or ovate, deeply cordate at base, 12–40 cm. long, 7–28 cm. broad, pubescent or glabrescent beneath, with 2–3 basal nerves and 8–13 other lateral nerves on each side of midrib, prominent beneath; petiole stout, 3–12 cm. long [39. *platyphylla*](#)
- Peduncles 0.5–1 cm. long; leaves ovate to suborbicular: **33**
- 33** Leaves deeply cordate at base, glabrous or puberulous and glabrescent beneath, (5–) 9–22 cm. long and broad, with 2–3 basal nerves and 4–6 other lateral nerves on each side of midrib; petiole 3–12 cm. long; receptacles 1.3–2 cm. diam., glabrous [40. *abutifolia*](#)
- Leaves shallowly cordate or rounded at base, pubescent or pilose beneath, more or less glabrescent, 7–27 cm. long, 6–22 cm. broad, with 2 basal nerves and 6–13 other lateral nerves on each side of midrib; petiole 1–9 cm. long; receptacles 1–1.6 cm. diam., pubescent or glabrous [41. *congensis*](#)
- 34** Lateral nerves 15–25 on each side of midrib, close and parallel, looped to form a conspicuous intramarginal nerve: **35**
- Lateral nerves up to 14 on each side of midrib: **37**
- 35** Leaves obovate or obovate-elliptic, cuneate at base, shortly and subacutely acuminate, 12–26 cm. long, 4–10 cm. broad, glabrous; petiole 3–8 cm. long; receptacles paired, about 1.5 cm. diam., glabrous; peduncles 5–8 mm. long [43. *elasticoides*](#)
- Leaves oblong-lanceolate to linear-lanceolate; receptacles 0.7–1.2 cm. diam.: **36**
- 36** Peduncles densely pubescent, 3–5 mm. long, stout; receptacles pubescent; leaves oblong lanceolate, rounded at base, subacute or shortly acuminate, 7–20 cm. long, 2.5–5 cm. broad; petioles 1–2.5 cm. long [44. *pseudomangifera*](#)
- Peduncles glabrous, 6–14 mm. long; receptacles glabrous; leaves elongate-oblong-lanceolate to linear-lanceolate, cuneate at base, long-acuminate, 10–40 cm. long, 1.5–6 cm. broad; petioles 1.2–5.5 cm. long [45. *barteri*](#)
- 37** The receptacles without a stipe above the base bracts: **38**
- The receptacles with a stipe about 4 mm. long above the basal bracts; peduncle about 6 mm. long; receptacles about 4 cm. diam., glabrous; leaves oblong-oblancheolate, cuneate to rounded at base, obtusely acuminate, up to 18 cm. long and 6 cm. broad, with 10–12 main lateral nerves on each side of midrib [52. *sp. nr. cyathistipuloides*](#)
- 38** Receptacles glabrous or sparingly pubescent; peduncles 4–10 mm. long: **39**
- Receptacles tomentose or densely pubescent when mature, 0.6–1.2 mm. diam.; peduncles 4–5 mm. long; petioles (1–) 1.5–4.5 cm. long; leaves oblanceolate or oblong-elliptic, attenuated to the obtuse or rounded base, shortly acuminate, 4–10 cm. long, 1.5–4 cm. broad, with 6–13 main lateral nerves on each side of midrib [51. *iteophylla*](#)
- 39** Receptacles 2.5–3.2 cm. diam.; leaves very coriaceous, oblong-elliptic to obovate-oblong, rounded or obtuse at base, very shortly and obtusely acuminate, 9–16 cm. long, 3.3–7 cm. broad, with 5–6 main lateral nerves on each side of midrib; petioles 0.5–3.5 cm. long, stout, channelled above [46. *scott-elliotii*](#)
- Receptacles 0.6–1 cm. diam.: **40**
- 40** Petioles 0.5–1.2 (–2.5) cm. long; leaves obovate, oblanceolate or sometimes elliptic, rounded or very shortly acuminate, 2.5–8 cm. long, 1.2–5 cm. broad, with 5–10 main lateral nerves on each side of midrib [49. *natalensis*](#)
- Petioles 2–6 cm. long; leaves oblanceolate or narrowly elliptic, rarely obovate, obscurely acuminate, 5–17 cm. long, 1–5 cm. broad, with 8–14 main lateral nerves on each side of midrib [50. *dekdena*](#)

Section Fasciculatae.

Receptacles borne on short leafless arrested branchlets, or in fascicles, on the main trunk or branches remote from the leaves; receptacles 2-several together, mostly pubescent and then glabrescent; stipules mostly caducous:

- 1 Leaves mostly distinctly cordate at base; receptacles 2·2–4 cm. diam.:2
 Leaves not cordate at base:5
- 2 The leaves 7–25 cm. long, 3·5–20 cm. broad:3
 The leaves 3·5–6·5 cm. long, 2–4·2 cm. broad, broadly elliptic, deeply cordate at base, abruptly long-acuminate; petioles 1·4–4·2 cm. long; receptacles subglobose or ellipsoid-subglobose, 2·7–3·4 cm. diam., densely puberulous; peduncles 1·6–3 cm. long[55. kimuenzensis](#)
- 3 Leaves ovate or suborbicular:4
 Leaves elliptic to ovate-elliptic or obovate-elliptic, subcordate (or cuneate to rounded) at base, long-acuminate, 11–16 cm. long, 3·5–7·5 cm. broad, margin undulate, with a basal pair of ascending lateral nerves and 5–6 other main lateral nerves on each side of the midrib from which they spread at nearly right angles, branch well before the margin and become prominently looped; petioles 1–3·5 cm. long; peduncles 0·8–1·5 cm. long; receptacles 3–4 cm. diam., pubescent; see also below[56. dryepontiana](#)
- 4 Peduncles 0·3–0·9 cm. long and 3–5·5 mm. thick; leaves ovate to suborbicular, shortly and obtusely acuminate, 13–25 cm. long, 12–20 cm. broad; branchlets stout[53. umbellata](#)
 Peduncles (1–) 1·2–1·8 (–2·5) cm. long and up to 2·5 mm. thick; leaves ovate to oblong-ovate, distinctly caudate and often rather acutely acuminate, 7–15 cm. long, 5–10 (–12) cm. broad; branchlets slender[54. polita](#)
- 5 Receptacles 3–5 cm. diam., subglobose; main lateral nerves 6–12 on each side of midrib:6
 Receptacles 1·3–2·5 (–3) cm. diam.; main lateral nerves 8–22 on each side of midrib:7
- 6 Peduncles 0·8–1·5 cm. long; leaves elliptic to ovate-elliptic or obovate-elliptic, cuneate to rounded or subcordate at base; for other characters see above[56. dryepontiana](#)
 Peduncles 2–3 cm. long; leaves oblong-oblancheolate to narrowly oblong, cuneate to rounded at base, gradually acuminate, 6–16 cm. long, 2–4 cm. broad, main lateral nerves 6–12 on each side of midrib; petioles 0·7–2 cm. long; peduncles 2–3 cm. long, 2–5 mm. thick; receptacles subglobose, 3–5 cm. diam., densely hispid to glabrescent, with very thick walls, woody at least when dry[57. macrosperma](#)
- 7 Leaves obovate, narrowed to an obtuse or rounded base, shortly and obtusely acuminate, 7–16 cm. long, 2·7–7·5 cm. broad, with 8–16 main lateral nerves on each side of midrib; petiole 1·5–3·5 cm. long; receptacles subglobose 2–3 cm. diam., puberulous; peduncles 1·5–2 cm. long[58. elegans](#)
 Leaves oblong to oblong-elliptic, obtuse at base, acuminate, 10–20 cm. long, 4–8·5 cm. broad, with 12–22 main lateral nerves on each side of midrib, the basal pair conspicuous and ascending to become the looped intramarginal nerves; petiole 1·7–9·7 cm. long; receptacles ellipsoid or ellipsoid-subglobose, 1·7–2·5 cm. long, 1·3–2·3 cm. diam., puberulous to glabrous, sometimes stipitate when dry; peduncles 1·5–2·6 cm. long.[59. ottoniifolia](#)

1. **Ficus capreifolia Del.** — F.T.A. 6, 2: 107 (incl. var. *ovatifolia* Hutch.); Engl. Pflanzenw. Afr. 3, 1: 41, fig. 24; Lebrun & Boutique in Fl. Congo Belge 1: 126.? *F. niokoloensis* Berhaut Fl. Sen. 104, 129 (1954), French descr. only. **APD acc**

A shrub with scabrid leaves; branchlets villous when young; **by river banks in the savannah regions.**

Sen.: Berhaut 1581; 4550. **Gam.:** MacCarthy Isl. Heudelot 350! **Togo:** Atakpame Doering 321. Kara R., Kadedjande Kersting A. 622. **N. Nig.:** Nupe Barter 879! Anara F.R., Zaria Prov. (Oct.) Keay FHI 20136! Katagum (Nov.) Dalz. 215!

Extends east to Somaliland and south to Rhodesia and Mozambique.

2. **Ficus acutifolia Hutch.** — F.T.A. 6, 2: 108.

APD: *Synonym of Ficus asperifolia Miq.*

Ficus asperifolia of Chev. Bot. 595, partly.

A shrub with branchlets drying brown-purple.

Fr. G.: Kollangui Chev. 12228!

Also in **French Cameroons.**

3. **Ficus exasperata Vahl** — F.T.A. 6, 2: 110; Engl. l.c. fig. 22 C; Aubrév. Fl. For. C. Iv. 1: 58, t. 12, 2; Fl. For. Soud.-Guin. 346; Lebrun & Boutique l.c. 126. **APD acc**

A deciduous tree, up to 70 ft. high, with smooth grey bark and very rough leaves; sap viscid, not milky; coppice shoots with lobed leaves; **in the drier types of forest.**

Sen.: Niayes, Sedhiou & Sinedone fide Chev. l.c. **Gam.:** Dawe 81! **Fr. Sud.:** Koullou Dubois 52. **Port. G.:** Safim, Bissau (Jan.) Esp. Santo 1671! Sao Domingos (Nov.) Esp. Santo 1295! **Fr. G.:** Heudelot 853! Karkandy Heudelot 863. Forekaria road, Conakry (Jan.) Dalz. 8143! 8146! Kindia Chev. 12799. **S. L.:** Afzelius! Rokupr (May) Jordan 243! Njala (Jan.) Deighton 1961! 2833! Samu country (Dec.) Sc. Elliot 4212! Rotumba Isl. Kirk! **Lib.:** Moylakwelli-Totokwelli (Oct.) Bequaert 1282! Grand Cess (Mar.) Baldwin 11614! **Iv. C.:** Rasso Aubrév. 585! Bouroukrou, Bingerville, Alépé & Sassandra Port fide Chev. l.c. **G. C.:** Krepi Plains (Jan.) Johnson 533! Yipala (Feb.) Kitson 858! Benso, Tarkwa (July) Andoh FH 5518! **Togo:** Lome Warnecke 348! Sokode (Mar.) Kersting 53! **Dah.:** Sakete (Jan.) Chev. 22806! **S. Nig.:** Ebute Metta (Nov.) Millen 80! Abeokuta Rowland! Olokemeji (Nov.–Mar.) A. F. Ross 30! Daggash FHI 19155! Idumuje (Jan.) Thomas 2187! Bonny (Feb.) Kalbreyer 64! **Br. Cam.:** Tingo, Wum (July) Ujor FHI 30468! **F. Po.:** (Jan.) Mann 196!

Widespread in tropical Africa; also recorded from **Arabia.**

4. ***Ficus asperifolia* Miq.** — F.T.A. 6, 2: 111; Chev. Bot. 595; Lebrun & Boutique l.c. 127. **APD acc**

A shrub, usually scrambling, with brownish-purplish branchlets and scabrid leaves; **by rivers.**

Sen.: Berhaut 918. **Port. G.:** Bolola to Buba, Fulacunda (Aug.) Esp. Santo 2153! **Fr. G.:** fide Chev. l.c. **S. L.:** Njala (Aug.) Deighton 5573! Musaia (July) Deighton 4808! Sc. Elliot 5130! Roruks (July) Deighton 3260! **Lib.:** Gbanga (Sept.) Linder 496! Peahtah (Oct.) Bequaert 1016! Flumpa, Sanokwele (Sept.) Baldwin 9346! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Tano R. (Sept.) Chipp 342! Anibil, Ancobra R. (Mar.) Irvine 2387! **Dah.:** various localities fide Chev. l.c. **N. Nig.:** Nupe Barter 135! R. Niger, Koton Karifi (Nov.) Keay FHI 28088! **S. Nig.:** Foster 327! Aboh (June) T. Vogel 47!

Also in **French Cameroons, Belgian Congo** and **N. Rhodesia.**

5. ***Ficus vogeliana* (Miq.) Miq.** — F.T.A. 6, 2: 94 (incl. var. *latifolia* Hutch.); Chev. Bot. 593, 601 (incl. var. *textilis* A. Chev.), partly; Aubrév. Fl. For. C. Iv. 1: 60, t. 13, 1–2. **APD acc**

Sycomorus vogeliana Miq. (1849).

Ficus fleuryi A. Chev. in Rev. Bot. Appliq. 15: 458 (1935).

A **forest** tree, 15–60 ft. high, coarsely brown-hairy on the young branchlets; figs borne on long panicles on the main stem near the base, often with many panicles prostrate on the ground and sometimes rooting; ripe figs russet brown; **usually in moist situations.**

Fr. G.: Kissidougou Chev. 20720. **S. L.:** Mano, Dase (Oct.) Deighton 3362! Mano, Luawa (Apr.) Deighton 3150! Kambul Hills South (Nov.) Small 826! Musaia (Apr.) Deighton 5485! **Lib.:** Sarbo, Webo (July) Baldwin 6410! **Iv. C.:** Bouaké (July) Chev. 22125! Kaasigué to Atéou (Jan.) Chev. 17087! Rasso Aubrév. 586! **S. Nig.:** Lagos Rowland 18! Oja-odan, Ilaro (Dec.) Onochie FHI 26668! R. Oni, Akilla (June) Onochie FHI 20673! R. Niger T. Vogel! Oban Talbot 89! R. Nkem, Aboabam (Dec.) Keay FHI 28189! **Br. Cam.:** Ambas Bay (Jan.) Mann 702! Buea to Mayuku (Feb.) Dalz. 8245! Barombi Preuss 550! **F. Po.:** (Nov.) T. Vogel 179!

Also in **French Cameroons, Spanish Guinea, Cabinda** and (?) **Uganda.**

6. ***Ficus mallotocarpa* Warb.** — F.T.A. 6, 2: 97; Lebrun & Boutique l.c. 113.

APD: *Synonym of Ficus sur* Forssk.

A tree up to 30 ft. high or more with the habit of an alder, with viscid, not milky, sap and shortly tomentose young branchlets.

F. Po.: Musola, above San Carlos Mildbr. 6992.

Extends to E. Africa, Rhodesia and **Angola.**

7. ***Ficus capensis* Thunb.** — F.T.A. 6, 2: 101; Chev. Bot. 595; Aubrév. l.c. 1: 62, t. 13, 5–6; Lebrun & Boutique l.c. 116; M. F. Barrett in Am. Midl. Nat. 39: 194.

APD: *Synonym of Ficus sur* Forssk.

Usually a small tree with the figs borne in sometimes abundant clusters on the trunk; branchlets glabrous or softly pubescent, with pointed more or less villous buds; a variable species within which several infraspecific taxa can probably be recognized; **common, especially in the more open country.**

Sen.: Cayor Leprieur. Cape Verde Brunner. Tambana, Sedhiou Chev. **Gam.:** Rosevear 25! **Fr. Sud.:** Tabacco (Jan.) Chev. 131. **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1639! **Fr. G.:** Conakry Dybowski. Los Isl. Pobéguin 1231. **S. L.:** Rokupr (May) Jordan 244! 246! Musaia (Feb.) Deighton 4219! Makump (May) Deighton 1723! Njala (Aug.) Deighton 1310! **Lib.:** Gbanga (Sept.) Linder 495! 670! Du R. (July) Linder 70! Since Whyte 7! **Iv. C.:** Anoumaba to Sahoua Chev. 22424! Attéou Chev. 16184. **G. C.:** Obuasi (Jan.) Soward 655! Ejura (Aug.) Chipp 731! Atauaso, Tarquah (May) Chipp 226! Axim (Feb.) Irvine 2195! **Togo:** Baumann 467! Kpedsu (Feb.) Howes 1103! **N. Nig.:** Katagum Dalz. 345! Abinsi (Mar.) Dalz. 744! **S. Nig.:** Lagos Dawodu 90! Ikirun (Feb.) Moloney 14! **Br. Cam.:** Buea (Dec.) Maitland 889! 890!

Widespread in tropical Africa, also in **S. Africa** and **Cape Verde Islands**.

8. **Ficus mucoso Welw. ex Ficalho** — F.T.A. 6, 2; 98; Aubrév. l.c. 1: 60, t. 13, 3–4; Lebrun & Boutique l.c. 114; Eggeling Indig. Trees of Uganda, ed. 2, 253, photo 42. **APD acc**

A forest tree, to 120 ft. high and 12 ft. girth, with buttresses; bark smooth yellow or brownish or pinkish, when slashed exuding copious latex which rapidly turns brownish; crown open.

Port. G.: Granja, Catiö (May) Esp. Santo 2472! **Fr. G.:** Conakry Maclaud! **S. L.:** Njala (Nov.) Deighton 3086! Mattru Deighton 2364! Mugala Deighton 4168! Loma Mts. Jaeger 4082! **Iv. C.:** Bingerville Chev. 17348. Rasso Aubrév. 584! **G. C.:** Prahsu Cummins 5! **Dah.:** Pira to Cabolé Chev. 23761! **S. Nig.:** Awba Hills, Oyo Jones FHI 6325! Okomu F.R., Benin (Mar.) A. F. Ross 191! **Br. Cam.:** Victoria Winkler 24. Likomba Mildbr. 10791! Kake, Kumba (Dec.) Ngilame FHI 8392! Johann-Albrechtshöhe Büsgen 172. **F. Po:** fide Mildbr.

Extends to **Uganda**, **Tanganyika**, **Belgian Congo**, **Angola** and S. Tomé.

9. **Ficus vallis-choudae Del.** — F.T.A. 6, 2: 103; Lebrun & Boutique l.c. 119; Aubrév. Fl. For. Soud.-Guln. 344, t. 69, 1–3. **APD acc**

A tree, to 60 ft. high, with short bole and spreading crown; branchlets and leaves nearly glabrous; figs large, solitary; mostly by streams in the savannah regions.

Fr. Sud.: Bamako Chev. 246. **Fr. G.:** Dalaba Chev. 12933. **S. L.:** Berria (Feb.) Sc. Elliot 4980! Musaia (Feb.) Deighton 4249! 4258! Mano, Luawa (Apr.) Deighton 3180! Safadu (Feb.) Deighton 3505! **Iv. C.:** Bouaké Aubrév. 1456. **G. C.:** Ejura (Aug.) Chipp 733! Funsu to Bofiana (Apr.) Kitson 620! **Dah.:** Savallou Chev. 23777. **N. Nig.:** Nupe Barter 1316! Sokoto (May) Lely 820! Ningi Lely 438! Katagum Dalz. 342! **S. Nig.:** Lagos Rowland! Old Oyo F.R. (Feb.) Keay FHI 16290!

Widespread in tropical Africa.

10. **Ficus gnaphalocarpa (Miq.) Steud. ex A. Rich.** — F.T.A. 6, 2: 104; Lebrun & Boutique l.c. 119, photo 8; Aubrév. l.c. 342, t. 70, 6; Schnell in l.c. Pl. Afr. t. 10.

APD: *Synonym of Ficus sycomorus L.*

Sycomorus gnaphalocarpa Miq. (1848).

A tree to 60 ft. high, with pale trunk and widespreading crown; pilose branchlets and scabrid leaves; generally by streams in the savannah regions.

Sen.: Talmy! St. Louis Chev. 3496. Kaolak Chev. **Gam.:** Kudang (Jan.) Dalz. 8144! Kuntaur Ruxton! **Fr. Sud.:** Kita Dubois 111 bis! Bamako Chev. 216. **Port. G.:** Bijimita (Feb.) Esp. Santo 1755! 1769! Biombo, Bissau (Feb.) Esp. Santo 1786! **Iv. C.:** Mossi Chev. 24627. Niangbo Aubrév. 1731. **G. C.:** Evans 5! Amansare (July) Chipp 516! Yala Kitson 623! **Dah.:** Abomey Chev. 23181. **N. Nig.:** Zurmi (Apr.) Keay FHI 16122! Shinga Dudgeon 67! Katagum Dalz. 301! Abinsi Dalz. 743! Musgu (May) E. Vogel 65!

Widespread in the drier parts of tropical Africa; also in **Cape Verde Islands**.

11. **Ficus variifolia Warb.** — F.T.A. 6, 2: 114; Mildbr. & Burret in Engl. Bot. Jahrb. 46: 203; Chev. Bot. 596; Lebrun & Boutique in Fl. Congo Beige 1: 125. **APD acc**

Ficus sciarophylla Warb. (1904) — F.T.A. 6, 2: 114; Lebrun & Boutique l.c.; Aubrév. Fl. For. C. Iv. 1: 58, t. 12, 3–4 (as sp. aff.).

Ficus bongouanouensis A. Chev. (1917), originally spelt “bangouanensis” by error; F.T.A. 6, 2: 357; Chev. Bot. 604; Aubrey. l.c. 1: 62, t. 14 B.

Ficus kerstingii of F.W.T.A., ed. 1, 1: 434, partly.

A forest tree, to 110 ft. high, with clean straight bole and plank buttresses; bark smooth; in drier types of forest; sapling and coppice growth with remarkable dissected lobed leaves.

Fr. G.: Farana circle Chev. 20652! **S. L.:** Port Loko Deighton 3619! **Iv. C.:** Bamoro, Bouaké Aubrév. 821! Man Aubrév. 941! Bongouanou. Morénou (Nov.) Chev. 22444! Bouaké Aubrév. 1576! 1901! **G. C.:** Nchenenchene to Kwahu Tafo, Kwahu Plateau Kitson 1169! **Dah.:** Banté to Pira, Savalou Chev. 23740. **N. Nig.:** Kurmin Damisa, Jemaa Onochie FHI 21713! **S. Nig.:** Awba Hills, Oyo Jones FHI 5964!

Also in **A.-E. Sudan**, **Uganda**, **Belgian Congo** and **Cabinda**.

12. **Ficus dicranostyla** *Mildbr.* — F.T.A. 6, 2: 119 (incl. var. *nitida* Hutch.); Aubrév. Fl. For. C. Iv. 1: 62, t. 14 A; Fl. For. Soud.-Guin. 346. *APD acc*

A **savannah** tree, up to 60 ft. high; branchlets and undersurface of leaves more or less densely puberulous when young, glabrescent.

Sen.: Cape Verde Perrottet. Ziguinchor Chev. 2651. Bignona Aubrév. 3009. **Fr. Sud.:** Koulikoro Chev. 2639. Kita Dubois 83. **Port. G.:** Soé, Formosa (Apr.) Esp. Santo 1979! Bijimita, Bissau (Feb.) Esp. Santo 1749! **Fr. G.:** Kankan (Mar.) Chev. 562! Farana (Mar.) Sc. Elliot 5351! **S. L.:** Musaia Deighton 4225! **Iv. C.:** Toumodi Aubrév. 1881! 1882! Bouaké (Aug.) Aubrév. 1574! 1575! **G. C.:** Yendi (June) Akpabla 710! **Togo:** Loso (Mar.) Kersting 632. Atakpame (May) Doering 303. Kirikiri Kersting 77. Sokode Kersting 24. **Dah.:** Pira to Kabolé, Savalou Chev. 23763.

Also in **Ubangi-Shari**, **A.-E. Sudan** and **Uganda**.

13. **Ficus verruculosa** *Warb.* — F.T.A. 6, 2: 114; Engl. Pflanzenw. Afr. 3, 1: 41, fig. 22 D; Lebrun & Boutique l.c. 120; Aubrév. Fl. For. Soud.-Guin. 335. *APD acc*

A low shrub of marshy ground or a tree 15–25 ft. high with more or less glaucous leaves and small red figs.

N. Nig.: Kupe Barter 1317! Kontagora (Nov.) Dalz. 80!

Also in **French Cameroons**, **Ubangi-Shari**, **Belgian Congo**, **Angola**, **Uganda**, **Tanganyika**, **Rhodesia**, **Nyasaland**, **Mozambique** and **Bechuanaland**.

14. **Ficus lecardii** *Warb.* — F.T.A. 6, 2: 117; Aubrév. l.c. 347, t. 71, 1.

APD: Synonym of Ficus cordata subsp. lecardii (Warb.) C.C. Berg

A tree with glossy leaves dark above and pale beneath, glabrous except on the young branchlets; **on rocky hills in savannah**.

Sen.: Lecard 197! Bellamy 467! Niokolo-Koba Berhaut. **Fr. Sud.:** Kanikombolé, Macina (Sept.) Chev. 24830! Bamako (May) Hagerup 52! **Port. G.:** Canjadudi (June) Esp. Santo 2501! Buruntuma (July) Esp. Santo 2702! **Fr. G.:** Kagé Pobéguin 2020. Dalaba Chev. 20267. **Iv. C.:** Bobo Dioulasso Aubrév. 1997! Ferkéssédougou Aubrév. 1876. Niangbo Aubrév. 1721. **N. Nig.:** Kufena Rock, Zaria (May) Keay FHI 25722! Yola (May) Dalz. 143!

Also in **French Cameroons**.

16. **Ficus ingens** (*Miq.*) *Miq.* var. **ingens** — F.T.A. 6, 2: 121; Lebrun & Boutique l.c. 121; Aubrév. l.c. 346, t. 71, 2–3. *APD acc APD acc*

Urostigma ingens *Miq.* (1847).

Ficus lutea of Chev. Bot. 597, not of Vahl.

A shrub or tree, up to 40 ft. high, with stout branchlets and smooth almost shining foliage; **in savannah**.

Sen.: Marsasoum, Manpalago & Pout fide Chev. l.c. **Gam.:** Rosevear 91! **Fr. Sud.:** Bamako Vuillet 647. **Fr. G.:** Kouroussa Pobéguin 855. **Iv. C.:** Niangbo, Bobo Dioulasso, Kaya & Mossi fide Aubrév. l.c. **G. C.:** Evans 3! Pabarabo Hill, Afram Plains (May) Kitson 1108! Kpong (Jan.) Irvine 1919! **Togo:** Sansanné Mango Aubrév. 77d. **Dah.:** Atacora Mts. Chev. 24035. **N. Nig.:** Zaria (July) Lamb! Anara F.R., Zaria Prov. (May) Keay FHI 22990! Badeggi (Mar.) Lamb 45! **S. Nig.:** Lagos Foster 25! Olokemeji Chev. 14079. Ijaiye F.R., Oyo Prov. (Mar.) Keay & Ladipo FHI 21192!

Widespread in the drier part of tropical Africa and in **S. Africa**.

- 15a. **Ficus ingens** var. **tomentosa** *Hutch.* in Fl. Capensis 5, 2: 530 (1925). *APD acc*

Ficus katagumica *Hutch.* (1915) — F.T.A. 6, 2: 122; F.W.T.A., ed. 1, 1: 433; Aubrév. l.c. 340, t. 72, 3.

Ficus kawari *Hutch.* (1915) — F.T.A. 6, 2: 122; F.W.T.A., ed. 1, 1: 433.

Ficus ingentoides *Hutch.* (1915).

A **savannah** tree, similar to the above, but with densely tomentose figs.

N. Nig.: Sokoto (May) Lely 828! Samaro, Zaria (May) Keay FHI 25742! Lokoja (Feb.) Dalz. 910! Katagum Dalz. 305! Karakai (Feb.) Foster 12!

Widespread in the drier parts of tropical Africa and in **S. Africa**.

16. **Ficus lyrata** *Warb.* — F.T.A. 6, 2: 142; Chev. Bot. 601; Aubrév. Fl. For. C. Iv. 1: 64, t. 15 A; M. F. Barrett l.c. 202. *APD acc*

A tree to 50 ft. high, or epiphyte, with stout glabrous branchlets longitudinally grooved when dry and very large fiddle-shaped leaves.

S. L.: Pelewahun, Kamagai Deighton 5750! **Lib.:** Zuie, Boporo (Nov. Baldwin 10256a! Loffa R., Gola Forest Bunting! **Iv. C.:** Abidjan Aubrév. 889! Keeta village (planted) Chev. 19351. Dimbokro Aubrév. 1875. **Togo:** Bismarckburg, in avenue Büttner 713. **Dah.:** Poisson 5. **S. Nig.:** Olokemeji Jones & Onochie FHI 14523! Obu Thomas 365! **Br. Cam.:** Barombi Preuss 455! On 1922 lava flow, Bibundi Rosevear Cam. 76/37!

Also in **Gabon**.

17. **Ficus sagittifolia** *Warb. ex Mildbr. & Burret* — F.T.A. 6, 2: 143; Chev. Bot. 602; Aubrév. l.c., t. 15 B. *APD acc*

A epiphyte, sometimes becoming a tree up to 30 ft. high, with stout glabrous branchlets and long rather narrow fiddle-shaped leaves.

Port. G.: Sancoinha to Gadamael, Cacine (July) Esp. Santo 2122! **Fr. G.:** Soya to Kouloundala, Mamou Chev. 20380! Layah (Jan.) Sc. Elliot 4656! Koundian to Ouria, Kissi Chev. 20757. **S. L.:** Njala (Jan.) Deighton 2600! **Lib.:** Peahtah Linder 944! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Kumasi (Jan.) Vigne 1521! **Togo:** Lome Warnecke 428. **Dah.:** Allada Poisson. Abbo to Massé Chev. 22968. **S. Nig.:** Olokemeji Symington FHI 5083.

18. **Ficus camptoneura** *Mildbr.* — F.T.A. 6, 2: 147.

APD: Synonym of Ficus ardisioides subsp. camptoneura (Mildbr.) C.C. Berg

A tree to 25 ft. high, or epiphytic shrub, with nearly glabrous angular branchlets; **in rain forest**.

S. Nig.: Omo F.R., Ijebu Ode (Mar.) Jones FHI 17025! 17273! Sapoba Kennedy 1581! Okomu F.R., Benin (Feb.) Brenan 9075! 9115! 9195! Afi River F.R. (June) Jones & Onochie FHI 18950! **Br. Cam.:** Buea Deistel; Reder. **F. Po:** Mann 307!

Also in **French Cameroons** and **Gabon**.

19. **Ficus camptoneuroides** *Hutch.* — F.T.A. 6, 2: 148.

APD: Synonym of Ficus tessellata Warb.

APD: Synonym of Ficus pachyneura C.C. Berg

A large epiphytic shrub or tree up to 25 ft. high, with slender glabrous branchlets sharply ribbed when dry.

Br. Cam.: Bangwe Conrau 208. **F. Po:** north side of St. Isabel Peak Mildbr. 6411!

Also in **French Cameroons**.

20. **Ficus conraui** *Warb.* — F.T.A. 6, 2: 150; Lebrun & Boutique l.c. 155. *APD acc*

An epiphytic shrub or tree, with obtusely angular smooth branchlets nearly covered with large persistent stipules; leaves prominently reticulate with whitish veins below.

S. L.: Njala (Jan., Feb.) Dalz. 8107! Deighton 1072! **Lib.:** Gbanga (Sept.) Linder 780! **S. Nig.:** Lagos Rowland! Agege (Nov.) Kitson! **Br. Cam.:** Buea Reder 395 (partly). Bangwe Conrau 280.

Also in **French Cameroons**, **Ubangi-Shari** and **Belgian Congo**.

21. **Ficus winkleri** *Mildbr. & Burret* — F.T.A. 6, 2: 152.

APD: Synonym of Ficus tessellata Warb.

A tree with glabrous branchlets.

Br. Cam.: forest near the Botanic Garden, Victoria (Apr.) Winkler 1204! On 1922 lava flow, Bibundi (June) Rosevear Cam. 75/37!

22. Ficus praticola Mildbr. & Hutch. — F.T.A. 6, 2: 145; Aubrév. Fl. For. C. Iv. 1: 64, t. 14 D.

APD: Synonym of Ficus conraui Warb.

An epiphytic shrub with rather sharply angular branchlets, glabrous.

Iv. C.: Abidjan Aubrév. 1634. **S. Nig.:** R. Osse, Iguoriakhi, Benin (Feb.) E. W. Jones in Hb. Brenan. 9131! **F. Po:** Moka grassland, 4,000–6,000 ft. Mildbr. 7106!

23. Ficus tessellata Warb. — F.T.A. 6, 2: 146; Chev. Bot. 600; Aubrév. l.c. 1: 66, t. 16 A. *APD acc*

Ficus winkleri Mildbr. & Burret (1911), partly (Chev. 12989) — Chev. Bot. 600.

A bushy tree with puberulous branchlets sharply angular when dry.

Fr. G.: Ditinn (Apr.) Chev. 12989! **S. L.:** Mowoleke bridge, Kamabai to Kabala road (Mar.) Deighton 5467! Buyabuya, Scarcies (Feb.) Sc. Elliot 4565! Sugar Loaf Mt. (Dec.) Sc. Elliot 4030! **Iv. C.:** Anoumaba to Sahoua Chev. 22456. **Togo:** Bismarckburg, in avenue (Aug.) Büttner 711.

24. Ficus preussii Warb. — F.T.A. 6, 2: 152; Lebrun & Boutique in Fl. Congo Beige 1: 162. *APD acc*

An epiphytic shrub or tree; branchlets sulcate when dry, covered with greyish glabrous bark; **in forest.**

Br. Cam.: Barombi, by Elephant Lake Preuss 454! Johann-Albrechtshöhe (Mar.) Staudt 894!

Also in **French Cameroons**, **Belgian Congo** and (?) **Spanish Guinea**.

25. Ficus anomani Hutch. — F.T.A. 6, 2: 157; Aubrév. l.c. 1: 66, t. 14 E.

APD: Synonym of Ficus craterostoma Warb. ex Mildbr. & Burret

An epiphytic shrub, or straggling tree to 30 ft. high; stems glossy chocolate-brown, leaves dark green; ripe figs orange; **in forest.**"

S. L.: Kukuna, Scarcies (Jan.) Sc. Elliot 4693! Njala (May) Deighton 4787! Sumbuya (Nov.) Deighton 2258! **Lib.:** Dukwia R., (Nov.) Cooper 144! Bolahun (Feb.) Bequaert 59! Jaurazon (Mar.) Baldwin 11458! **Iv. C.:** Mt. Nienokoué Chev. 19447; 19473. Abidjan Aubrév. 1939! Agboville Aubrév. 1930. Yapo Aubrév. 1996. **G. C.:** Sefwi Armitage! Deyniase, Dunkwa Chipp 151! **S. Nig.:** R. Jamieson, Benin (Nov.) Keay FHI 28075! **Br. Cam.:** Mundame Büsgen 140.

Also in **French Cameroons**.

26. Ficus kamerunensis Warb. ex Mildbr. & Burret — F.T.A. 6, 2: 166; Chev. Bot. 604; Aubrév. l.c. 1: 68, t. 16 D; (?) Lebrun & Boutique l.c. 164. *APD acc*

A tree to 60 ft. high, or an epiphytic shrub, with rather small pointed leaves and numerous small figs.

S. L.: Talla Hills, Ninia (Feb.) Sc. Elliot 4913! Dia Deighton 3198! **Lib.:** Bumbuna (Oct.) Allen in Hb. Linder 1326! Sanokwele (Sept.) Baldwin 9508! 9538! Jabroke, Palipo (July) Baldwin 6429! **Iv. C.:** Grabo to Taté Chev. 19785. Anyoma Chev. 20106. Guidéko Chev. 16489. **G. C.:** Ashanti (Aug.) Gordon 17! **S. Nig.:** Idanre Hills (Jan., Aug.) E. W. Jones, Keay & Richards 8664! A. P. D. Jones FHI 20714! Cross R. Meyer. **Br. Cam.:** Victoria Winkler 1091. Johann-Albrechtshöhe (Mar.) Staudt 897!

Also in **French Cameroons**, **Gabon**, **S. Tomé** and (?) **Belgian Congo**.

[The specimens from Belgian Congo named this at Kew (Pynaert 1054, 1106; Laurent 870) differ from the syntypes which I have seen (Staudt 897; Sc. Elliot 4913), and may represent a distinct species.]

27. Ficus lingua Warb. — F.T.A. 6, 2: 166; Aubrév. l.c. 1: 64, t. 14 C; Lebrun & Boutique l.c. 138. *APD acc*

An epiphytic shrub or liane; **in forest.**

Lib.: Gbanga (Sept.) Linder 657! **Iv. C.:** Tabou Aubrév. 1740.

Also in **French Cameroons**, **Spanish Guinea**, **French Congo** and **Belgian Congo** and **Angola**.

28. **Ficus rederi** Hutch. — F.T.A. 6, 2: 164.

APD: Synonym of Ficus cyathistipula Warb. subsp. cyathistipula

Branchlets nearly glabrous, angular when dry, leaves with close pale venation beneath.

Br. Cam.: Victoria (Feb.) Maitland 370! Buea Reder 396.

Also in **French Cameroons**.

29. **Ficus lepriouri** Miq. — F.T.A. 6, 2: 168; Engl. Pflanzenw. Afr. 3, 1: 47, t. 31; Chev. Bot. 603; Aubrév. l.c. 1: 68, t. 16 B; Lebrun & Boutique l.c. 139, t. 15; Schnell in Ic. Pl. Afr. t. 35.

APD: Synonym of Ficus natalensis subsp. lepriurii (Miq.) C.C. Berg

Commonly epiphytic and scandent, becoming a tree up to 80 ft. high, with glabrous branchlets and leaves; **common in the forest regions and in moist situations in savannah regions.**

Sen.: Cayor Leprieur. Carabane, Casamance (Jan.) Chev. 2655! **Fr. Sud.:** Kita massif (July) Jaeger 7! **Port. G.:** Pussubé, Bissau (Dec.) Esp. Santo 1083! Prabis, Bissau (Feb.) Esp. Santo 1823! **Fr. G.:** Ditinn (Apr.) Chev. 12988! Also Conakry, Los Isl., & Broualtapé fide Chev. l.c. **S. L.:** Kissy road Barter! Mt. Yamba, Buyabuya (Feb.) Sc. Elliot 4286! 4991! Musaia (Feb.) Deighton 4236! **Lib.:** Sinoe Basin Sim 36! Whyte 10! Zolopla, Sanokwele (Sept.) Baldwin 9376! Soplina, Vonjama (Nov.) Baldwin 10049! Garaway, Maryland (Mar.) Baldwin 11630! **Iv. C.:** Bingerville, Mt. Niénokué, Zoanié fide Chev. l.c. **G. C.:** Burton & Cameron! Asientiem (July) Chipp 294! Tarkwa, Benso (Dec.) Andoh FH 5430! **Togo:** Lome Warnecke 458! Ndsolo Busse 3508. **Dah.:** Goutissa to Aouandjitomé (Mar.) Chev. 23281! **S. Nig.:** Lagos (Jan., Mar.) Barter 2228! Dalz. 1341! Dodd 417! Ibadan (Jan.) Meikle 989! 1109! Calabar Thomson 71! Eket Talbot 3053! **Br. Cam.:** on 1922 lava flow, Bibundi (June) Rosevear Cam. 66/37! Elephant Lake, Barombi (Sept.) Preuss 544! Bu, Wum (June) Ujor FHI 29258!

Also in **French Cameroons**, **Ubangi-Shari** and **Belgian Congo**.

30. **Ficus eriobotryoides** Kunth. & Bouché var. **eriobotryoides** — F.T.A. 6, 2: 160; Chev. Bot. 602; Aubrév. l.c. 1: 68, t. 16 C, 17 A; Lebrun & Boutique l.c. 157. *APD acc*

APD: Synonym of Ficus saussureana DC.

Ficus afzelii G. Don ex Loud. (1830), not validly published; M. F. Barrett in Arn. Midl. Nat. 39: 188.

Ficus eriobotryoides var. **caillei** of F.T.A. 6, 2: 161, partly; of F.W.T.A., ed. 1, 1: 433, partly (spec. ex Nig.), not of A. Chev. ex Mildbr. & Burret.

An epiphyte, or tree to 60 ft. high with wide spreading crown; branchlets and leaves densely yellow-brown pilose when young; figs orange-brown; **in forest by rivers and often planted.**

Fr. G.: Labé Chev. 12371. Mt. Gangan, Kindia Chev. 12774. Ditinn to Diaguissa Chev. 12907. **S. L.:** Don! Near Freetown (May–July) Deighton 2737! Lane-Poole 371! T. Vogel 139! Sugar Loaf Mt., 2,480 ft. (Oct.) T. S. Jones 258! Sulimania (Mar.) Sc. Elliot 5330a! Talla Hills Sc. Elliot 5017! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 62! **Iv. C.:** Bingerville Aubrév. 1481! Tabou Aubrév. 1737. Alépé Chev. 17891. **G. C.:** Aburi (Nov.) Johnson 930! Krobo Plains (Jan.) Johnson 581! Kumasi Cummins 120! Pokoase (Jan.) Irvine 1955! **N. Nig.:** Ankpa (Oct.) Lamb 21! 81! **S. Nig.:** Omo F.R. (Jan.) Onochie FHI 20661! Ehor, Benin (Dec.) Keay FHI 22709! Owerri Dist. (Apr.) Sherriff! Calabar (Mar.) Brenan 9213! **Br. Cam.:** Buea (Apr.) Hutch. & Metcalfe 110! Mopanya (Apr.) Maitland 1081! Binka, Wum (June) Ujor FHI 29268! **F. Po:** Bokoko Mildbr. 6926.

Also in **French Cameroons**, **French Congo** and **Belgian Congo**.

30a. **Ficus eriobotryoides** var. **caillei** A. Chev. ex Mildbr. & Burret — F.T.A. 6, 2: 161, partly; F.W.T.A., ed. 1, 1: 433 (as var. *baillei* by error), partly (Chev. 12989).

APD: Synonym of Ficus saussureana DC.

Ficus afzelii var. **caillei** (A. Chev. ex Mildbr. & Burret) M. F. Barrett l.c. 189 (1948).

Ficus eriobotryoides var. **monbuttensis** (Warb.) Lebrun (1934) — Fl. Congo Beige 1: 167.

Similar to the preceding, but leaves loosely tomentose beneath.

Fr. G.: bed of R. Ditinn Chev. 12989!

Also in **Belgian Congo**.

31. **Ficus chlamydocarpa** *Mildbr. & Burret* in Engl. Bot. Jahrb. 46: 244, fig. 5 (1911); F.T.A. 6, 2: 163. *APD acc*

Ficus clarencensis *Mildbr. & Hutch.* (1915) — F.T.A. 6, 2: 162; Mildbr. Wiss. Ergebn. 1910–11, 181 t. 86; G. Taylor in Exell Cat. S. Tomé 306 (? excl. syn. *F. eriotryoides* var. *latifolia* Hutch.).

A large tree, to 100 ft. high with very wide crown and huge aerial roots; **in montane forest**.

Br. Cam.: Cam. Mt., 4,000–7,000 ft. (Feb.) Maitland 843! 1337! Mildbr. 10802! **F. Po:** north side of St. Isabel Peak, 3,600–4,600 ft. Mildbr. 6408!

Also in **French Cameroons, Principe, S. Tomé** and **Annobon**.

[G. Taylor in Exell Cat. S. Tomé 307 includes *F. eriotryoides* var. *latifolia* Hutch, in *F. clarencensis* Mildbr. & Hutch. There is a single leaf and a single receptacle of Mildbr. 6517, one of the syntypes, at Kew; although the leaf could well be this species, the receptacle appears to me much more like those of *F. eriotryoides*.]

32. **Ficus ovata** *Vahl* — F.T.A. 6, 2: 164; Chev. Bot. 602; Aubrév. Fl. For. C. Iv. 1: 68, t. 17 B; Lebrun & Boutique in Fl. Congo Belge 1: 160. *APD acc*

Ficus baoulensis *A. Chev.* Bot. 604, name only.

A tree to 40 ft. high, with large crown, often epiphytic at first; figs green with white spots, each pair covered when young by a brown calyptra; **in fringing forest in the savannah regions, and often planted**.

Sen.: M'bidjem to Dakar Chev. **Port. G.:** Bissalanca, Bissau Esp. Santo 1644! 1651! **Fr. G.:** Sareya Chev. 454. Los Isl. Pobéguin 1234. Kindia Pobéguin 1269. Conakry Maclaud. **S. L.:** Sugar Loaf Mt. Sc. Elliot 5754! Turtle Isl. Deighton 2403! York Deighton 2736! **Lib.:** Sinoe Basin Sim 13! 17! 23! Farmington R., Harbel (Mar.) Baldwin 11098! **Iv. C.:** Manikro, Kodiokoffi (Aug.) Chev. 22309! Dimbokro Aubrév. 1878! Bobo Dioulasso Aubrév. 1879. And other localities fide Chev. **I.c.G. C.:** Burton & Cameron! Apenkwa, Achimota (Feb.) Irvine 1983! **Togo:** Lome (May) Warnecke 337! Sokodé-Basari (Dec.) Kersting 429. Kete Krachi Zech. **Dah.:** Cotonou Chev. 4481. **N. Nig.:** Dekina Lamb 19! Kurbu R., Birnin Gwari Daggash FHI 31420! Anara F.R., Zaria Keay FHI 21130! **S. Nig.:** Lagos (Sept.) Dalz. 1343! Idanre (Aug.) Jones FHI 20716! Enugu (Oct.) Dommen FHI 32431! **Br. Cam.:** Victoria (Apr.) Maitland 697! On 1922 lava flow, Bibundi Mildbr. 10663! **F. Po:** Musola Mildbr. 6986!

Extends to **A.–E. Sudan, E. Africa, Belgian Congo** and **Angola**.

33. **Ficus djalonsensis** *A. Chev.* in Bull. Soc. Bot. Fr. 61, Mém. 8: 301(1917); F.T.A. 6, 2: 356; Hutch. & Dalz. in Kew Bull. 1928: 19; Aubrév. l.c. 1: 70, t. 19 C.

APD: Synonym of Ficus calyptata Thonn. ex Vahl

A large epiphyte or tree; **in forest**.

Fr. G.: Soya, Mamou (Jan.) Chev. 20372! **S. L.:** Bwedu to Kangama Deighton 3193! **Iv. C.:** Dimbokro Aubrév. 1874! Bamoro Aubrév. 1899! Bouaké Aubrév. 1755!

34. **Ficus leonensis** *Hutch.* — F.T.A. 6, 2: 185. *APD acc*

An epiphytic shrub; branchlets covered with thin scaly deciduous bark; figs small, solitary, sessile in the upper axils.

Fr. G.: Kindia, by stream banks Pobéguin 1282. **S. L.:** Bathurst, by stream (Feb.) Johnston 88! Regent Deighton 2707!

35. **Ficus glumosa** *Del. var. glumosa* — F.T.A. 6, 2: 171; Chev. Bot. 598; Aubrév. Fl. For. C. Iv. 1, t. 23 B; Lebrun & Boutique l.c. 147, photo 10; Aubrév. Fl. For. Soud.-Guin. 346, t. 71, 4–5. *APD acc*

A **savannah** tree, to 50 ft. high, with small twiggy pubescent branchlets and rather stiff half-leathery leaves, with distinct raised venation beneath; figs red and succulent when ripe.

Sen.: Lecard 73! **Gam.:** Dawe 42! **Fr. Sud.:** Bamako Hagerup 55! Diaragouéla Chev. 475! **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1636! Mato Farroba, Catiö (May) Esp. Santo 2475! **Fr. G.:** Timbo Pobéguin 131. Kadé Pobéguin 2021. **S.**

L.: Mt. Gonkwi, Talla Hills (Feb.) Sc. Elliot 4882! Musaia (Feb.) Deighton 4203! Kamabai (Jan.) Deighton 3603! Falaba (Apr.) Deighton 5429! **IV. C.:** Mt. Dourou Chev. 21721. Niangbo Aubrév. 1723. Touba Aubrév. 1243. **Fr. Nig.:** Diapaga Chev. 24433. **N. Nig.:** Sokoto (Dec.) Dalz. 396! Zurmi (Apr.) Keay FHI 16123! 16171! Nupe Barter 1033! 1101! Samaru, Zaria (May) Keay FHI 25726! Yola (Jan.) Dalz. 147! **S. Nig.:** Nsukka Dist. (Oct.) Jones FHI 765!

Widespread in tropical Africa.

35a. *Ficus glumosa* var. *glaberrima* Maritelli — F.T.A. 6, 2: 172; Lebrun & Boutique l.c.; Aubrév. l.c.

APD: Synonym of Ficus glumosa Delile

Ficus dekdekena of F.W.T.A., ed. 1, 1: 434, partly (Dalz. 148).

A **savannah** tree, similar to above but leaves soon nearly glabrous.

Sen.: Berhaut 255. **Fr. Sud.:** Badinko Chev. 117. **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1638! **Fr. G.:** Wulia, R. Scarcies (Feb.) Sc. Elliot 4582! **S. L.:** Falaba (Mar.) Sc. Elliot 5170! Sulimania (Mar.) Sc. Elliot 5375! Musaia (Sept.) Small 266! **G. C.:** Buruku Rock, Kwahu-Tafo (Jan.) Irvine 1678! Sa (Mar.) Kitson 847! **Togo:** Sokode Kersting 59. Yerapana Kersting 524. **Dah.:** Savé Aubrév. 50d. Natingou Aubrév. 57d. **N. Nig.:** Zurmi (Apr.) Keay FHI 16160! Nupe Barter 1022! Lokoja (Oct.) Dalz. 146! Anara F.R., Zaria (Oct.) Keay FHI 21117! Abinsi Dalz. 779! Yola (Jan.) Dalz. 148! **S. Nig.:** Opa Hill, Igbetti (Feb.) Keay FHI 16294!

Also in **French Cameroons, Ubangi-Shari, A.-E. Sudan, Abyssinia, Uganda, Belgian Congo** and **Tanganyika**.

36. *Ficus vogelii* (Miq.) Miq. — F.T.A. 6, 2: 179 (incl. var. *pubicarya* Mildbr. & Burret); Chev. Bot. 600; Aubrév. Fl. For. C. Iv. 1: 70, t. 19 A; Lebrun & Boutique l.c. 146; M. F. Barrett l.c. 213.

APD: Synonym of Ficus lutea Vahl

Urostigma vogelii Miq. (1848).

Ficus senegalensis Miq. (1867) — F.T.A. 6, 1: 105, partly; F.W.T.A., ed. 1, 1: 432, partly.

Ficus pseudovogelii of F.W.T.A., ed. 1, 1: 434 (spec. Millson), (?) of A. Chev.

A tree 20–60 ft. high, nearly glabrous, branchlets covered with scaly deciduous bark; **in forest vegetation by streams, and often planted.**

Sen.: St. Louis Brunner! Cayor Poisson! Niayea Chev. **Gam.:** Bathurst Dudgeon 7! **Port. G.:** Pussubé, Bissau (Apr., Nov., Dec.) Esp. Santo 1003! 1076! 1535! Bissalanca (Jan.) Esp. Santo 1628! **Fr. G.:** Conakry (June) Debeaux 138! Poisson 16! Dubreka Bonéry! **S. L.:** Mt. Aureol, Freetown (June) Deighton 2738! Port Loko (Oct.) Tindall 44! Musaia (Feb.) Deighton 4251! Jigaya (Nov.) Thomas 2727! **Lib.:** Cape Palmas (July) T. Vogel 47! Ganta (Sept.) Baldwin. 9650! Platah, Salala (Dec.) Baldwin 10577! **IV. C.:** Banco Serv. For. 479! And various localities fide Chev. l.c. **G. C.:** Odorso Farmar 391! Pokoase (Jan.) Irvine 1954! Blengo, Krepi Plains (Jan.) Johnson 523! Yenahin (May) Chipp 130! **Togo:** Ndsolo Baumann! Sokode Kersting A. 542! Losso (Apr.) Kersting A. 539! **Dah.:** Pira, Savalou Chev. 23747. **N. Nig.:** Agaie (Feb.) Yates 36! Bassa Elliott 95! Lafia (Feb.) Jones FHI 674! **S. Nig.:** Lagos (Oct.) Dalz. 1345! Millson 1! 2! 3! 4! 5! Nun R. (Sept.) Mann 474! Ala (Nov.) Thomas 1948! Engenni R., Calabar (Sept.) Holland 152! **Br. Cam.:** Bonjongo, Victoria (Apr.) Maitland 637! On 1922 lava flow, Bibundi (June) Rosevear Cam. 63/37! Barombi Preuss 500! **F. Po:** Musola Mildbr. 6976!

Also in **French Cameroons, Gabon, Belgian Congo** and **S. Tomé**.

37. *Ficus aganophila* Hutch. — F.T.A. 6, 2: 186.

APD: Synonym of Ficus adolfi-friderici Mildbr.

A tree 50 ft. high.

S. Nig.: Palaver Isl., Kradu Lagoon, Lagos Barter 3238! Sapoba Kennedy 3029!

Also in **Spanish Guinea**.

38. *Ficus populifolia* Vahl — F.T.A. 6, 2: 189; Engl. Pflanzenw. Afr. 3, 1: 42, fig. 26; Chev. Bot. 597; Aubrév. Fl. For. Soud.-Guin. 344, t. 72, 5. *APD acc*

A large **savannah** tree with terete branchlets covered with glabrous yellowish bark.

Togo: Sokode (Apr.) Kersting 62! **Dah.:** Dassa-Zoumé Chev. 23610. **N. Nig.:** Okene (Sept.) Symington FHI 5674! Dua, Kilba country Dalz. 144!

Extends through French Cameroons, Ubangi-Shari, A.–E. **Sudan**, Abyssinia and E. Africa to **Arabia**.

39. *Ficus platyphylla* Del. — F.T.A. 6, 2: 197; Aubrév. l.c. 344, t. 70, 4–5 (incl. var. pubescens). *APD acc*

A large **savannah** tree, to 60 ft. high, with rusty or pinkish-brown bark and large grey scaly patches; foliage and figs often tinged pink; often epiphytic at first.

Sen.: Diourbel Chev. 3508. St. Louis Chev. 15758. Bafing R. Lecard 191. **Gam.:** Sukuta Denton! Georgetown (Apr.) Rosevear 121! **Fr. Sud.:** Mopti to Djenné; Chev. Arbala Dubois 62! Ouahigouya Chev. 24768. **Port. G.:** Esp. Santo 431! **Iv. C.:** Baoulé Chev. 22311. Niangbo Serv. For. 1728. Tafiré Serv. For. 1552. **G. C.:** Agomeda, Shai Plains (Jan.) Johnson 522! Achimota (June) Irvine 1445! Milne-Redhead 5106! **Togo:** Kete Krachi Zech 340. Sokodé-Basari Kersting 25; 417. Kirikiri Kersting 54. **Fr. Nig.:** Gaya Aubrév. 18n. **N. Nig.:** R. Farfara, Zurmi (Apr.) Keay FHI 16178! Katagum (Oct.) Dalz. 214! Bornu (May) E. Vogel 73!

Extends to **Uganda**, A.–E. **Sudan**, Abyssinia and Somaliland.

40. *Ficus abutilifolia* (Miq.) Miq. — F.T.A. 6, 2: 191; Chev. Bot. 598. *APD acc*

Urostigma abutilifolium Miq. (1847).

Ficus discifera Warb. (1905) — F.T.A. 6, 2: 196; F.W.T.A., ed. 1, 1: 434; Aubrév. l.c. 346, t. 70, 2–3.

Ficus kerstingii Warb. ex Hutch. in F.T.A. 6, 2: 192 (1916 & 1917); F.W.T.A., ed. 1, 1: 434 (excl. syn. *F. bongouanouensis* A. Chev.); Aubrév. l.c. t. 70, 1.

A tree, to 25 ft. or more high, on rocky hills in **savannah**.

Fr. Sud.: Koulikoro Chev. 2665! Bandiagara Chev. 24837. **Iv. C.:** Samankono Serv. For. 2822. Orodara Serv. For. 2757. Mankono Chev. 21852. **G. C.:** Tangkoasi Hill, Hamboi to Kwomma Kitson 798! Guo Hill, Nebiowalli (May) Kitson 772! Gambaga (June) Akpabla 706! Chana, Navrongo (Apr., May) Vigne FH 4515! 47421 **Togo:** Sasi-bu, Aledyo Kersting 126. **Dah.:** Atacora Mts. Chev. 24087. Agouagon Chev. 23542. **Fr. Nig.:** Kodjar, Gourma Chev. 24399. **N. Nig.:** Nupe Barter 452! 995! Katagum Dalz. 330! Yola (July) Dalz. 145!

Also in **Ubangi-Shari**, **Uganda** and A.–E. **Sudan**. (See Appendix, pp. 278, 280.)

41. *Ficus congensis* Engl. — F.T.A. 6, 2: 195 (incl. var. mollis Hutch.); Aubrév. Fl. For. C. Iv. 72, t. 18 B; Lebrun & Boutique l.c. 167; Aubrév. Fl. For. Soud.-Guin. 344, t. 69, 6.

APD: *Synonym of Ficus trichopoda Baker*

A tree, 20–80 ft. high, with widely spreading, low, more or less horizontal branches supported by stilt roots; leaves coriaceous; **locally abundant in fringing forest in the savannah regions, especially in swampy ground.**

Sen.: Kantora, Casamance Etesse 11. **Fr. Sud.:** Birgo Dubois 44. Dio Chev. 169. **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1652! Colada, Gabu (June) Esp. Santo 2499! **Fr. G.:** Kouroussa Pobéguin 17. Kissi Chev. 20731. Kindia Chev. 12777. Betagya (Oct.) Small 494! **S. L.:** Falaba (Apr., Oct.) Deighton 5425! Small 423! Kamakwie (Feb.) Deighton 4084! 4171! Musaia (Feb.) Deighton 4232! **Iv. C.:** Tafiré, Bondoukou, Niangbo & Mankono fide Aubrév. l.c. **G. C.:** Birrifwa (Mar.) Kitson 810! Makongo (July) Pomeroy FH 1220! **Togo:** Baraumba Pass, Tamberma Kersting A. 544! Basari Kersting A. 336. Ikeburg Kersting 76. **N. Nig.:** Gimi, Zaria (Feb.) Dalz. 349! 350! **S. Nig.:** Old Oyo F. R. Keay FHI 16291! Epe (Mar.) Keay FHI 16043! Agbabu Kennedy 2372! **Br. Cam.:** Babessi, Bamenda Ledermann 1978.

Also in **French Cameroons**, **Ubangi-Shari**, A.–E. **Sudan**, **Belgian Congo**, **Uganda**, **Tanganyika** and **N. Rhodesia**.

42. *Ficus goliath* A. Chev. — F.T.A. 6, 2: 167; Chev. Bot. 605; Aubrév. Fl. For. C. Iv. 1: 70, t. 18 A.

APD: *Synonym of Ficus recurvata De Wild.*

Ficus senegalensis of F.T.A. 6, 2: 105; of F.W.T.A., ed. 1, 1: 432; not of Miq.

A **forest** tree to 100 ft. high, with cylindrical bole; leaves on young plants and sucker shoots with large teeth.

Iv. C.: Dabou (Feb.) Chev. 16211! Montézo, Attié (planted) Chev. 17375! Morénou Chev. 22418. **S. Nig.:** Olokemeji (planted) Chev. 13937; 14111.

43. *Ficus elasticoides* De Wild. — F.T.A. 6, 2: 214; Aubrév. l.c. 1: 74, t. 21 C; Lebrun & Boutique in Fl.

Congo Beige 1: 170. *APD acc*

A forest tree, or epiphyte, with thick fissured bark; figs greenish-yellow with white spots.

Port. G.: Abu, Formosa (Apr.) Esp. Santo 1952! **iv. C.:** Aboisso (Apr.) Chev. 16293. Abidjan Aubrév. 1942. **S. Nig.:** Omo F. R., Ijebu-Ode (Mar.) Jones & Onochie FHI 17011! 17041!

Also in **French Camerouns** and **Belgian Congo**.

44. **Ficus pseudomangifera** *Hutch.* — F.T.A. 6, 2: 204; Aubrév. l.c. 1: 74, t. 20 A; Lebrun & Boutique l.c. 169. *APD acc*

A large forest tree or epiphyte.

S. L.: Sasseni, R. Scarcies (Jan.) Sc. Elliot 4499! **Lib.:** Gola (Apr.) Bunting 13! Mano R., below Jai (Apr.) Bunting! **iv. C.:** Abidjan Aubrév. 1643; 1764! **S. Nig.:** Sapoba Kennedy 2275!

Also in **Belgian Congo** and **Uganda**.

45. **Ficus barteri** *Sprague* — F.T.A. 6, 2: 205; Chev. Bot. 599; Aubrév. l.c. 1: 74, t. 21 A; Lebrun & Boutique l.c. 164. *APD acc*

A forest shrub, or tree up to 25 ft., epiphytic at first; branchlets glabrous, purple; figs orange when ripe.

Fr. G.: Mamou to Soya Chev. 20367. **S. L.:** Njala (Oct.) Deighton 2246! **Lib.:** Greenville, Sinoe Sim 10! Ganta Harley 1116! **iv. C.:** Abidjan Aubrév. 1580. Port Bouët Aubrév. 1763. **G. C.:** Axim Chev. 13810. **Dah.:** Tohoué, Porto Novo Chev. 22800! **S. Nig.:** Epe Barter 3311! Onitsha Barter 294! Anambra F. R., Onitsha (Feb.) Jones FHI 1481! Bonny Kalbreyer 79!

Also in **Spanish Guinea** and **Belgian Congo**.

46. **Ficus scott-elliottii** *Mildbr. & Burret* — F.T.A. 6, 2: 207; Chev. Bot. 600; Aubrév. l.c. 1: 76. *APD acc*

A tree 20–40 ft. high, with glabrous grooved branchlets; by rivers.

Sen.: Carabane, Casamance (Jan.) Chev. 2658! **Port. G.:** Bissara to Barro Esp. Santo 2423! Prabis, Bissau (Mar.) Esp. Santo 1862! **Fr. G.:** Mamou to Dalaba Chev. 20260. Farana Chev. 20471. **S. L.:** Deighton 2913! Erimakuna (Mar.) Sc. Elliot 5727! Sasseni Sc. Elliot 4522! Musaia (Feb.) Deighton 4222! **iv. C.:** R. Sassandra, Soubre Chev. 19117.

47. **Ficus thonningii** *Blume* — F.T.A. 6, 2: 187; Chev. Bot. 604; Aubrév. 1: 72, t. 19 B; Lebrun & Boutique l.c. 148, t. 16; Aubrév. Fl. For. Soud.-Guin. 347, t. 71, 6–7. *APD acc*

A tree, to 60 ft. high, with dark green foliage, and numerous aerial roots; often planted as a shade tree.

Sen.: Berhaut 23 **Fr. Sud.:** Kita Dubois 144. Bamako Chev. 209. **Port. G.:** Bissalanca, Bissau (Feb.) ESP.Santo 1729! **Fr. G.:** Kade Pobéguin 2073. Kouroussa Pobéguin 891. **S. L.:** Kassa Sc. Elliot 5064! **iv. C.:** Bobo Dioulasso Chev. 915! Bondoukou Aubrév. 724! **G. C.:** Burton & Cameron! Apenkura, Achimota (Feb.) Irvine 1982! Blengo, Krepi Plains (Jan.) Johnson 532! Bokorua, Kwahu Plateau (May) Kitson 1172! **Togo:** Atakpame Doering 304; 350. Sokode Kersting A. 541! Lome Warnecke 322! **Dah.:** Savalou (May) Chev. 23688! **Fr. Nig.:** Maradi Kennedy 3002! **N. Nig.:** Bokoto (Jan.) Dalz. 397! Zurmi (Apr.) Keay FHI 16116! Kukawa E. Vogel 9! **S. Nig.:** Lagos (Sept.) Dalz. 1344! Nun R. T. Vogel 27! **Br. Cam.:** Cam. Mt., 3,000–6,000 ft. (Apr.) Hutch. & Metcalfe 40! **F. Po:** Moka (Nov.) Mildbr. 70721

Widespread in tropical Africa.

48. **Ficus basarensis** *Warb. ex Mildbr. & Burret* — F.T.A. 6, 2: 181; Chev. Bot. 603.

APD: *Synonym of Ficus thonningii Blume*

An epiphyte or tree up to 45 ft., with rather slender pubescent branchlets.

Sen.: Marsasoum, Casamance Chev. **Togo:** Basari, growing on an old baobab (June, Nov.) Kersting A. 21; 221; 533! **Dah.:** Poisson!

Also in **Ubangi-Shari**.

[Probably only a variety of *F. thonningii* Blume.]

49. **Ficus natalensis** *Hochst.* — F.T.A. 6, 2: 208; M. F. Barrett l.c. 204; Aubrév. Fl. For. Soud.-Guin. 347. *APD acc*

A shrub or tree up to 40 ft. high, sometimes epiphytic at first; figs becoming reddish.

G. C.: Cape Coast Brass! Kwahu (Mar.) Johnson 639! Prampram (May) Irvine 1432! Aburi (Sept.) Johnson 178! **N. Nig.:** Katabu, Kaduna (May, Oct.) Keay FHI 21116! 229131 **S. Nig.:** Agulu Thomas 350! **F. Po:** on the beach Mann 252!

Also in **French Cameroons**, extending to East and Central Africa, **Angola** and S. Africa.

50. **Ficus dekdekena** (Miq.) A. Rich. — F.T.A. 6, 2: 211; Aubrév. Fl. For. C. Iv. 1: 76, t. 17 C; M. F. Barrett l.c. 207; Aubrév. Fl. For. Soud.-Guin. 341, 347.

APD: Synonym of Ficus thonningii Blume

Urostigma dekdekena Miq. (1847).

A tree or epiphyte, with nearly glabrous branchlets; figs pale in colour, generally in pairs, and numerous on the young shoots.

Iv. C.: fide Aubrév. l.c. **G. C.:** Evans 4! Pong (Mar.) Kitson 617! **N. Nig.:** Zaria (Oct.) Keay FHI 21423! Maigana, Zaria (Dec.) Lamb 62! Musgu (May) E. Vogel 54!

Widespread in tropical Africa.

51. **Ficus iteophylla** Miq. — F.T.A. 6, 2: 203; Chev. Bot. 605; Aubrév. Fl. For. Soud.-Guin. 347, t. 72, 1.

APD: Synonym of Ficus thonningii Blume

Ficus spragueana Mildbr. & Burret (1911) — F.T.A. 6, 2: 202; F.W.T.A., ed. 1, 1: 434.

(?) **F. sassandrensis** A. Chev. Bot. 606, name only.

A tree up to 40 ft. high with a girth of 15 ft. and smooth pale bark, often epiphytic at first; figs crowded on the branchlets.

Sen.: Cayor (June) Leprieur! Fadiout Ezanno 56. **Gam.:** Georgetown, MacCarthy Isl. (Jan.) Dalz. 8434! **Fr. Sud.:** Bandiagara Ganay. **Fr. G.:** Diaguissa to Boulivel Chev. 12922. **N. Nig.:** Sokoto (Dec.) Dalz. 398! Katagum (Dec.) Dalz. 216! Geidam (Dec.) Elliott 133!

Extends through Ubangi-Shari and Chad to A.–E. **Sudan**.

[Perhaps only a variety of *F. dekdekena* (Miq.) Miq., the earlier name.]

52. **Ficus** sp. nr. **cyathistipuloides** De Wild. in Fedde Rep. 12: 194 (1913); Aubrév. Fl. For. C. Iv. 1: 74, t. 20 B. *APD acc*

A large epiphyte, in rain forest.

Iv. C.: Banco (Oct.) Aubrév. 1646! Port Bouët Aubrév. 1645!

[This appears to differ from *F. cyathistipuloides* De Wild., still known only from the type specimen collected in the Belgian Congo, by its large stipules (3–3.5 cm. long) and rather more numerous lateral nerves. In the original description the stipules are said to be short. More material from the Belgian Congo is needed to decide whether or not Aubréville's plant is conspecific.]

53. **Ficus umbellata** Vahl — F.T.A. 6, 2: 124; Chev. Bot. 598; Aubrév. l.c. 1: 76, t. 21 B; Fl. For. Soud.-Guin. 344; Lebrun & Boutique l.c. 134. *APD acc*

A tree 20–40 ft. high, with stout glabrous branchlets; leaves with prominent bifurcating lateral nerves; figs green with pale spots, borne in clusters on the branches away from the leaves.

Sen.: Niokolo-Koba Berhaut 119. **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1645! **Fr. G.:** LOSIsl. Pobéguin 1229. Conakry Dybowski 7. **S. L.:** Tower Hill, Freetown (May) Deighton 2902! Wallia, Scarcies (Jan.) Sc. Elliot 4639! Musaia (Feb., Dec.) Deighton 4248! 4250! 5713! **Iv. C.:** Nianglo Serv. For. 1726. And various localities fide Chev. l.c. **G. C.:** Sefwi Amitage! Apenkwa, Achimota Irvine 1984! **Togo:** Atakpame Busse 3532. **N. Nig.:** Bida (Mar.) Lamb 34! **S. Nig.:** Oni Gambari, Ibadan Jones FHI 20258!

Also in **French Cameroons**, **Ubangi-Shari**, **French Congo** and **Belgian Congo** and **Angola**.

54. **Ficus polita** Vahl — V.T.A. 6, 2: 124; Chev. Bot. 599; Aubrév. Fl. For. C. Iv. 1: 78, t. 22 C; FL. For.

Soud.-Guin. 344, t. 69, 4–5; Lebrun & Boutique in Fl. Congo Beige 1: 135. *APD acc*

A tree, to about 50 ft. high, with rather Blender almost glabrous branchlets and dense shining foliage; commonly planted as a shade tree.

Sen.: Thiès Berhaut 379. Koulaye Chev. 2662. Floup-Fedyou Chev. **Fr. Sud.:** Iton Chev. 2663. **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1653! **Fr. G.:** Los Isl. Pobéguin 1223. Conakry Dybowski 6. **S. L.:** York Deighton 2731! Njala (Jan.) Deighton 2834! **Iv. C.:** Agboville, Port Bouët, Kaya & Beriby fide Aubrév. l.c. **G. C.:** Krepi Plains (Jan.) Johnson 549! 551! Dodowa Irvine. 1985! Ejura Kitson 621! **Togo:** Ndsolo (Apr.) Baumann 561! Kete Krachi Zech 4. **Dah.:** Dinkodéniou Chev. 23219. **N. Nig.:** Mando, Birnin Gwari (June) Keay FHI 25887! Zungeru (June) Dalz. 568! Katagum Dalz, 321! **S. Nig.:** Owerri (Apr.) Sherriff! **Br. Cam.:** Barombi (Aug.) Preuss 409! Victoria Winkler 428.

Extends to A.–E. **Sudan**, E. Africa and **Angola**.

55. *Ficus kimuenzensis* Warb. — F.T.A. 6, 2; 138; Lebrun & Boutique l.c. 1: 132.

APD: Synonym of Ficus tremula subsp. kimuenzensis (Warb.) C.C. Berg

Ficus rudens Hutch. (1915) — F.T.A. 6, 2: 136.

A scandent epiphyte; receptacles greenish-yellow, tinged purple, with many prominent small pale spots.

S. Nig.: Calabar (Mar., Apr.) Brenan 9256! 9595!

Also in **Belgian Congo** and **Angola**.

56. *Ficus dryepondtiana* Gentil — F.T.A. 6, 2: 127; Lebrun & Boutique l.c. 134. An epiphytic shrub or tree. *APD acc*

Br. Cam.: on 1922 lava flow, Bibundi (June) Rosevear Cam. 64/37!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

[The description of the leaves given in the key is based only on specimens collected in Africa; specimens cultivated in hot-houses at Brussels and Kew have larger leaves distinctly cordate at the base.]

57. *Ficus macrosperma* Warb. ex Mildbr. & Burret in Engl. Bot. Jahrb. 46: 223 (1911); F.T.A. 6, 2: 130; Aubrév. Fl. For. C. Iv. 1: 78 (as *F. sp. aff. macrosperma*), t. 22 B.

APD: Synonym of Ficus sansibarica subsp. macrosperma (Mildbr. & Burret) C.C. Berg

Ficus buntingii Hutch. (1915) — F.T.A. 6, 2: 128; F.W.T.A., ed. 1, 1: 435.

Ficus mangenotii A. Chev. in Rev. Bot. Appliq. 29: 246, t. 11 (1949).

Epiphytic at first, becoming a forest tree up to 130 ft. high; figs borne on short stout slow-growing branchlets borne on the older branches and bole, mottled pink.

S. L.: Lane-Poole 428! Kangahun, Kaiyamba (Nov.) Deighton 6149! **Lib.:** Mano R., Gola Forest (Apr.) Bunting! Ganta (May) Harley 1177! **Iv. C.:** Banco Aubrév. 1587! 1907! Tabou Aubrév. 1743! Bingerville (Feb.) Chev. Yapo Mangenot & Miége. **Togo:** Enjauu-Bena, Atakpame (Jan.) Doering 356! **Br. Cam.:** Bali-Ngemba F.R., Bamenda (May) Ujor 30345!

Also in **French Cameroons** and **Gabon**.

58. *Ficus elegans* (Miq.) Miq. — F.T.A. 6, 2: 128; Chev. Bot. 599; Aubrév. l.c. 1: 78, t. 23 A.

APD: Synonym of Ficus artocarpoides Warb.

Urostigma elegans Miq. (1848).

Ficus macrosperma of Chev. Bot. 599 and of F.W.T.A., ed. 1, 1: 435, partly (Chev. 23650).

A tree, to 40 ft. high, epiphytic at first, with stiff minutely puberulous branchlets, glabrous but dull foliage and large pedunculate figs on the older branches.

Iv. C.: Agboville Aubrév. 1935. Also fide Chev. l.c. **G. C.:** Cape Coast T. Vogel 25! 87! Krobo Plains (Jan.) Johnson 559! **Togo:** east of Njande Doering 228. **Dah.:** Dassa-Zoumé (May) Chev. 23650! **S. Nig.:** Lagos (Jan.) Dalz. 1394! Millen 93! Ibadan (Feb.) Brenan & Keay 8949! Gambari Group F.R., Ibadan (Aug.) Onochie FHI 19137! **Br. Cam.:** Ninong N.W. Cam. Co. coll.

59. **Ficus ottoniifolia** (Miq.) Miq. — F.T.A. 6, 2: 134; Aubrév. l.c. 1: 78, t. 22 D; Lebrun & Boutique l.c. 133. *APD acc*

Urostigma ottoniifolium Miq. (1848).

Ficus buettneri Warb. (1894) — Chev. Bot. 599.

Ficus maculosa Hutch. (1915) — F.T.A. 6, 2: 138; F.W.T.A., ed. 1, 1: 435.

Ficus sp. aff. fasciculiflora of Aubrév. l.c. 1: 80, 22 A.

A shrub or tree to 50 ft. high, usually epiphytic at first, with smooth pale branchlets; figs rather long-stalked in pairs or clusters on older branches below the leaves.

Port. G.: Brene, Bissau (Jan.) Esp. Santo 1695! **Fr. G.:** Conakry Dybowski 3. Los Isl. Pobéguin 1236. Labé Chev. 12374.

S. L.: Musaia (Mar.) Sc. Elliot 5151! Madina (Apr.) Sc. Elliot 5568! Roruks (Nov.) Thomas 5799! Njala (Feb., Mar., Nov.)

Deighton 518! 1820! 5857! 5867! **Lib.:** Peahtah Linder 928! Mecca (Dec.) Baldwin 10824! Butaw (Mar.) Baldwin 11487!

Iv. C.: Bondoukou (Jan.) Aubrév. 736! Abidjan Aubrév. 1744. Tabou Aubrév. 1762. **G. C.:** Asientiem Chipp 292. **Togo:**

Lome (May) Warnecke 324! Bismarckburg Büttner 714. Baranmola, Tamberma (Apr.) Kersting A. 545! **Dah.:** Poisson 451.

Cotonou Chev. 4453. **S. Nig.:** Ebute Metta (Sept.) Dalz. 1342! Ibadan (Sept.) Onochie FHI 20963! Near Ajebandele (Mar.)

Jones & Onochie FHI 17208! **Br. Cam.:** Johann-Albrechtshöhe Staudt 896! **F. Po:** Mann 431! T. Vogel 176!

Also in **French Camerouns** and **Belgian Congo**, (See Appendix p. 281.)

Ficus pumila Linn.

A native of China and Japan, which is commonly grown as an ornamental creeper on houses.

Ficus carica Linn.

The edible fig.

Ficus bubu Warb. F.T.A. 6, 2: 166; F.W.T.A., ed. 1, 1: 434

Is recorded as an avenue tree at Bismarckburg, Togo, it is indigenous in Spanish Guinea and Belgian Congo.

1. **Ficus spirocaulis** Mildbr. Wiss. Ergebn. 1910-11: 181 (1922), name only.

Fragments of the two specimens cited by Mildbraed are at Kew, both are named *F. urceolaris* Welw. ex Hiern and are cited as such in F.T.A. 6, 2: 110 and F.W.T.A., ed. 1, 1: 432; one of them (Mildbr. 7010) is cited a second time under this species by Mildbraed (l.c.). More material is required.

F. Po: Bokoko Mildbr. 6900! Musola Mildbr. 7010!

Imperfectly known species.

2. **Ficus warburgii** Winkl. in Engl. Bot. Jahrb. 41: 276 (1908).

Br. Cam.: Victoria to Bota (Sept.) Winkler 449!

This species is included in F.T.A. 6, 2: 109 under *F. pendula* Welw. ex Hiern (1900), not of Link. (1822); the type number (Winkler 449) is, however, cited a second time in F.T.A. 6, 2: 110 under *F. urceolaris* Welw. ex Hiern. The specimen is too poor for accurate determination. More material is required. Imperfectly known species.

3. **Ficus** (subgen. **Sycomorus**) sp.

Possibly new; more material required. Tree with habit of an alder, straggling over rocks in stream bed; leaves similar to those of *F. vallis-choudae*, receptacles similar to those of *F. mucoso*.

S. Nig.: R. Ata, below Mt. Koloishe, Obudu Div. 4,000 ft. (Dec.) Keay & Savory FHI 25061!

Imperfectly known species.

4. **Ficus** (? subgen. **Sycomorus**) sp.

It is a tall forest tree with low but very widely spreading plank-buttresses; the figs are borne in long lax panicles on these buttresses.

Photograph No. B. 73, taken by R. Ross in the Shasha (now Omo) F.R., S. Nigeria, shows a species which does not seem to be represented by any herbarium specimen that I have seen. Imperfectly known species.

5. **Ficus** (subgen. **Bibracteatae**) sp.

Near to *F. camptoneura* and *F. cyathistipula*; more material required.

Lib.: Jaurazon (Mar.) Baldwin 11479! Mecca, Boporo (Nov.) Baldwin 10404!

Imperfectly known species.

1. **Ficus mangiferoides** *Hutch.* — F.T.A. 6, 2: 205.

A sterile specimen from our area (Kalbreyer 80 from Bonny, S. Nigeria) has been named this by Hutchinson; it is perhaps *F. barteri* Sprague; better material is needed. Doubtfully recorded species.

2. **Ficus pendula** *Welw. ex Hiern* in Cat. Welw. 1: 1008 (1900), not of Link. (1822); F.T.A. 6, 2: 108.

Recorded from our area in the first edition on account of Winkler 449, the type number of *F. warburgii* Winkl., see above. Doubtfully recorded species.

3. **Ficus urceolaris** *Welw. ex Hiern* — F.T.A. 6, 2: 109.

APD: *Synonym of Ficus asperifolia* *Miq.*

Recorded from our area in the first edition on account of Winkler 449 and Mildbr. 6900 & 7010; see above notes under *F. warburgii*, *P. pendula* and *F. spirocaulis*.

Doubtfully recorded species.

7. BOSQUEIA

APD: *Synonym of Trilepisium Thouars*

Thouars ex Baill. — F.T.A. 6, 2: 217. *Pontya* A. Chev. (1912).

- 1 Branchlets glabrous; leaves elliptic or obovate-elliptic, shortly cuneate at base, obtusely acuminate, 5–16 cm. long, 2.5–7.5 cm. broad, entire, shining above, pale beneath, glabrous; lateral nerves about 7 pairs; petiole 1 cm. long; receptacles axillary, pedunculate; bract at base of peduncle cupular, enclosing head of flowers when young, at length bursting on one side; peduncle 5 mm. long; female calyx short and tubular, acutely 5-cleft at the apex; style stout, bifurcate; fruit 2 cm. long; obliquely ellipsoid, striate, glabrous[angolensis](#)

Bosqueia angolensis *Ficalho* — F.T.A. 6, 2: 218; Aubrév. Fl. For. C. Iv. 1: 50, t. 11; Hauman in Fl. Congo Belge 1: 95.

APD: *Synonym of Trilepisium madagascariense* *DC.*

Bosqueia welwitschii *Engl.* Monogr. Afr. Morac. 36; Bot. Jahrb. 51: 439, fig. 5, A–E.

Pontya excelsa A. Chev. (1912).

Bosqueia phoberos of Aubrév. Fl. For. Soud.-Guin. 331, not of Baill.

A forest tree, up to 100 ft. high, with narrow buttresses and smooth pale bark, exuding a white latex which rapidly changes to orange and finally red; branchlets with circular leaf-scars.

Fr. G.: Lola to Nzo (fr. Mar.) Chev. 20990! Kissi Circle (Feb.) Chev. 20765. **Iv. C.:** Aubrév. 984! Findimanou (Dec.) Chev. 22480! Zaranou (young fr. Mar.) Chev. 16278! Bangouanou Chev. 22463! **G. C.:** Adeambra (fr. May) Vigne FH 858! Saraha, Wassaw F.R. (Feb.) Vigne FH 209! 985! Mampong Scarp (fr. Mar.) Vigne FH 10581 **Dah.:** Djougou (fr. June) Chev. 23885! Savalou Circle (May) Chev. 23748; 23785. **S. Nig.:** Gambari Group F.R., Ibadan (fr. June) W. D. MacGregor 568! Symington FHI 4103! Sapoba (fl. & fr. Jan.) Kennedy 566! 1681! Ikom (Dec.) Catterall 54! **Br. Cam.:** Victoria (fl. & fr. Jan.) Maitland 186! Tiko (Jan.) Dunlap 247! Likomba Mildbr. 10592!

Also in **Gabon**, **Belgian Congo**, **Cabinda**, **Angola** and **Annobon**.

8. SCYPHOSYCE

Baill. — F.T.A. 6, 2: 220.

- 1 Branchlets shortly hispid; leaves obovate or oblanceolate, not pandurate, gradually narrowed to the

asymmetrically auriculate base, obtusely caudate-acuminate, denticulate or dentate-undulate or subentire towards the apex, margin not thickened, 6–16 cm. long, 2.3–6 cm. broad; receptacles axillary, on peduncles about 1 cm. long, campanulate-obconic; fruit ovoid, glabrous, about 4 mm. long, exserted from the receptacle [1. manniana](#)

Branchlets glabrous, or nearly so; leaves pandurate, broadly ovate in the upper half, abruptly narrowed to the symmetrical subauriculate base, gradually and obtusely pointed at apex, margin strongly thickened, 10–12 cm. long, 4–5 cm. broad; receptacles axillary, on peduncles about 1 cm. long, ellipsoid-obconic [2. pandurata](#)

1. *Scyphosyce manniana* Baill. — F.T.A. 6, 2: 220; Brenan in Kew Bull. 1952: 449. *APD acc*

Scyphosyce zenkeri (Engl.) Engl. Monogr. Afr. Morac. 31, t. 10 (1898).

A woody plant of herbaceous habit, to 1 ft. high; [in rain forest](#).

S. Nig.: Okomu F.R., Benin Richards & Brenan 8865!

Also in [French Cameroons](#) and [Gabon](#).

2. *Scyphosyce pandurata* Hutch. in F.T.A. 6, 2: 221 (1917); Kew Bull. 1919: 263.

A woody undershrub of herbaceous habit; branchlets grooved with transversely peeling bark; [in rain forest](#).

S. Nig.: Oban Talbot 687! 1315! 2317.

[The fruit on a sheet of Talbot 1315 appears to be developing within the receptacle, that is below the remains of the male flowers; further material with ripe fruit is needed to elucidate the generic position of this plant.).

***Scyphosyce* sp.**

Possibly new; more material required.

S. Nig.: Oban Talbot 680!

Imperfectly known species.

9. ANTIARIS

Lesch. — P.T.A. 6, 2: 223. *APD acc*

- 1** Venation of mature leaves very prominently reticulate beneath; leaves scabrid on both surfaces; branchlets rusty-tomentose; mature crown leaves broadly oblong-obovate or oblong, unequally cordate, subcordate or rounded at base, obtuse or rounded or sometimes subacute at apex, 5.5–16 cm. long, 3.5–11 cm. broad, shortly scabrid-pubescent beneath; flowers dioecious or monoecious; male flowers on flattened receptacles, 1–1.5 cm. diam., axillary on peduncles 0.7–1.7 cm. long; female flowers solitary; fruits drupaceous, ellipsoid, 1–1.5 cm. long, tomentellous [1. africana](#)

Venation of mature leaves obscure and lax beneath; leaves not scabrid, shining above; branchlets pubescent or puberulous; mature crown leaves broadly oblong-obovate or oblong or suborbicular, unequally cordate or rounded at base, rounded or obtuse at apex, 5–14 cm. long, 3–9 cm. broad, soon glabrous or nearly so beneath; flowers and fruits similar to the above [2. welwitschii](#)

1. *Antiaris africana* Engl. — F.T.A. 6, 2: 223; Engl. Pflanzenw. Afr. 3, 1: 33, fig. 20 B; Chev. Bot. 606; Aubrév. Fl. For. C. Iv. 40–41, t. 6, 1; Hauman in Fl. Congo Beige 1: 94.

APD: *Synonym of Antiaris toxicaria* var. *africana* Scott-Elliot ex A. Chev.

Antiaris kerstingii Engl. l.c. fig. 20 A (1915); Chev. Bot. 606, partly.

Antiaris toxicaria var. *africana* Sc. Elliot — Chev. Bot. 606.

A large deciduous tree, to 130 ft. high; with grey bark, slash exuding a watery latex which soon darkens to the colour of milky tea; ripe fruits red or orange; [in the drier types of forest](#).

Sen.: Kaolak Kaichinger. Sedhiou Chev. **Gam.:** Dave 82! **Fr. Sud.:** Sansanding Chev. 2551. **Port. G.:** Bissau (young fr. Feb.) Esp. Santo 1741! **Fr. G.:** Farana (Jan.) Chev. 20457! **S. L.:** Scarcies R. Sc. Elliot 5892! Kasewe F.R. (fr. Mar.) Deighton 4593! **Iv. C.:** Dahou Chev. 16217! Bouroukrou Chev. 16639! Agboville Chev. 22337! **G. C.:** Tanosu (Feb.) Chipp 97! Aburi (Oct.) Johnson 460! **Togo:** Lome (May) Warnecke 336! Difala (ft. & young fr. Dec.) Kersting! Misahöhe Mildhr.

7331! **Dah.:** Quidat Poisson. Atacora Mts. Chev. 24101. **N. Nig.:** Zaria Shaw 102! Agate (fl. & young fr. Dec.) Yates 19! 19a! Yola (Mar.) Dalz. 177! **S. Nig.:** Dodd 399! Ibadan F.R. (Feb.) Punch 111!

Also in **Ubangi-Shari**, **A.-E. Sudan**, **Uganda** and (?) **Belgian Congo**.

2. **Antiaris welwitschii** Engl. — F.T.A. 6, 2: 224; Engl. l.c. fig. 20 D; Aubrév. l.c. t. 6, 2–7; Hauman l.c. 93, photo 6.

APD: Synonym of Antiaris toxicaria var. welwitschii

A large tree, to 130 ft. high, similar to the above but readily distinguished by the smooth mature leaves; in the wetter parts of the forest regions.

S. L.: Colonial Reserve, Freetown (Jan.) King-Church 1/1922! **Iv. C.:** Banco, Abidjan Aubrév. 48! 205! **G. C.:** Owabi (Dec.) Lyon FH 2650! Bobiri (fr. Mar.) Andoh FH 4974! Dunkwa Vigne FH 922! **S. Nig.:** Degema (young fr. Jan.) Cons. of For. OC 44! Sapoba Ainslie 2! Keay FHI 24679! Mamu River F.R. Keay! Calabar Smith 26! **Br. Cam.:** Likomba Mildbr. 10556!

Also in **Uganda**, **Tanganyika**, **Belgian Congo** and **Angola**.

Some botanists have referred all African specimens of this genus to the Asiatic species *A. toxicaria* (Rumph. ex Pers.) Lesch. There appear, however, to be at least two easily recognizable taxa in West Africa, and, pending a thorough revision of the whole genus, it seems best to continue treating these as species. The foliage of seedlings, saplings and sucker shoots is rather different from that of the crown. Specimens of such foliage cannot at present be determined with any confidence; the only record of the genus from Fernando Po (Barter 1674) is one such specimen.

10. TRECULIA

Decne. — F.T.A. 6, 2: 225.

Acanthotreculia Engl. (1908).

- 1 Floral bracts with a flat peltate apical appendage; flower-heads globose; infructescences not prickly:2
 Floral bracts of the male ovoid or subclavate at apex, of the female lanceolate; flower-heads ellipsoid or obovoid; infructescences prickly on account of the numerous elongate floral bracts, 3–5.5 (–8) cm. long, 3.5–4 cm. or more broad (including the prickles); leaves oblong-elliptic to obovate, asymmetrical at base with one side more or less cuneate and the other rounded or obtuse, abruptly caudate-acuminate, 10–24 cm. long, 4.5–9 cm. broad, main lateral nerves 7–15 on each side of midrib, looped and prominent beneath, glabrous; branchlets soon glabrous; a tree, to 25 m. high [3. obovoidea](#)
- 2 Male flower-heads 4–7 cm. diam. at anthesis; anthers 2–3 mm. long; infructescences globose, very large, often 17–35 cm. diam. and weighing up to 12 kilograms; seeds very numerous, ellipsoid, about 1 cm. long; leaves elliptic or ovate-elliptic, asymmetrical at base with one side cuneate to subcordate and the other obtuse to broadly auriculate, more or less acuminate, 8–45 cm. long, 3–20 cm. broad, main lateral nerves 9–15 on each side of midrib; forest trees, up to 35 m. high:3
 Male flower-heads about 6 mm. diam. at anthesis, borne on short axillary bracteate peduncles; anthers about 1 mm. long; infructescences not known; leaves oblong-elliptic to obovate, cuneate to rounded at base, caudate-acuminate, 7–20 cm. long, 2.5–8 cm. broad, main lateral nerves 6–12 on each side of midrib, looped and prominent beneath, glabrous; branchlets puberulous; a slender shrub, 2–3 m. high [2. zenkeri](#)
- 3 Branchlets, petioles and undersurface of leaves soon glabrous [1. africana var. africana](#)
 Branchlets, petioles and undersurface of leaves softly and shortly pilose [1a. africana var. mollis](#)

1. **Treculia africana** Decne. **var. africana** — F.T.A. 6, 2: 226; Engl. Monogr. Afr. Morac. 32, tt. 12, 13, 14 B; Chev. Bot. 607; Aubrév. Fl. For. C. Iv. 1: 42, t. 7; Hauman in Fl. Congo Belge 1: 90. *APD acc*

A forest tree, to 120 ft. high, with fluted bole up to 9 ft. in girth, bark smooth, slash exuding abundant latex; the large green infructescences are often abundant on the trunk and larger branches; Aubréville states that some cultivated trees produce infructescences up to 50 cm. diam. and weighing up to 15 kilograms.

Sen.: Heudelot. Tambanala Chev. 2640! Niokolo-Koba Berhaut 1519. **Port. G.:** Bor, Bissau Esp. Santo 5! Safim, Bissau (Mar.) Esp. Santo 1907! **Fr. G.:** Santa to Timbo Chev. 12593. Socourala Chev. 20496. **S. L.:** Tawia, Scarcies (Jan.) Sc. Elliot 4477! Njala Deighton 2829! **Lib.:** Sinoe Basin Whyte 21! **Iv. C.:** Bouroukrou Chev. 16110. **G. C.:** Pra R. Station,

Ashanti (fr. Feb.) Vigne FH 1618. **S. Nig.:** Yoruba country (fr. Apr.) Millson! Olokemeji Foster 150! Onitsha Barter 432! Awka Thomas 72! **Br. Cam.:** Amba Bay (fr. Feb.) Mann 773!

Extends to A.-E. **Sudan**, Mozambique and **Angola**, and on **Principe** and **S. Tomé Islands**.

1a. **Treculia africana var. mollis** (Engl.) J. Léonard in Bull. Jard. Bot. Brux. 18: 145 (1947); Hauman l.c. 91. *APD acc*

Treculia mollis Engl. (1908) — F.T.A. 6, 2: 229; F.W.T.A., ed. 1, 1: 436.

A **forest** tree, similar to the preceding, but more or less densely pilose; infructescences probably rather smaller.

S. Nig.: Okomu F.R., Benin (fr. Jan.) Brenan 8786! Sapoba, Benin (fl. Oct., fr. Feb., Mar.) Kennedy 1863! 2166! 2609! Oban Talbot 635!

Also in **French Cameroons**, **Cabinda** and **Belgian Congo**.

2. **Treculia zenkeri** Engl. — F.T.A. 6, 2: 229; Engl. l.c. 34, t. 15 A.

APD: *Synonym of Treculia acuminata Baill.*

A slender **forest** shrub.

S. Nig.: Oban Talbot 654! 1506! s.n.! **Br. Cam.:** S. Bakundu F.R., Kumba (fl. buds Mar.) Onochie FHI 32058!

Also in **French Cameroons**.

3. **Treculia obovoidea** N.E. Br. — F.T.A. 6, 2: 228; Hauman l.c. 92 (in note). *APD acc*

Acanthotreculia winkleri Engl. Bot. Jahrb. 40: 548, fig. 2 (1908).

A **forest** tree, 8–25 ft. high, or shrub; slash pink, immediately exuding white latex which turns brown; infructescences like little hedgehogs, borne on trunk and branches.

S. Nig.: Calabar (Feb.) Mann 2303! Thomson 104! Ojo to Nyenekosum, Itu (fr. June) Ujor FHI 28000! Oban Talbot 2321! 2335! Ikom Catterall 10/1934! **Br. Cam.:** Moliwe (fr. May) Winkler 1283. S. Bakundu F.R. (Mar., Apr.) Brenan 9272! Ejiofor FHI 29361! Olorunfemi FHI 30538! Jonann-Albrechtshöhe (Feb., Mar.) Staudt 633! 685! 934!

Also in **French Cameroons**.

11. MYRIANTHUS

P. Beauv. — F.T.A. 6, 2: 230.

- 1 Leaves digitately 5–7-foliate, rarely some very deeply digitately lobed:2
 Leaves simple, not lobed or shortly 3-lobed; female flowers up to about 15 in each of the paired pedunculate heads, ovoid, pointed at the top; infructescences rather irregularly lobulate, up to 3.5 cm. diam., consisting of 5–15 fruits united below and rounded or pointed above; leaves coriaceous, coarsely serrate:3
- 2 Terminal leaflet with 25–34 lateral nerves on each side of midrib, up to 50 cm. long and 22 cm. broad; female flowers numerous, obovoid, thickened and flattened at the top, densely aggregated into paired subglobose pedunculate heads; infructescence subglobose, up to 10 cm. diam.; male flowers more or less completely covering the short ultimate branchlets of the panicles; leaflets subcoriaceous, usually shortly petiolulate, or sessile, or shortly joined at the base, obovate, closely and coarsely serrate with numerous teeth, closely and prominently reticulate and cottony-tomentellous beneath*1. arboreus*
 Terminal leaflet with 10–22 lateral nerves on each side of midrib, up to 25 cm. long and 8 cm. broad; female flowers up to about 24 in each of the paired pedunculate heads, ovoid, pointed at the top; infructescences up to 6 cm. diam., consisting of 4–14 fruits united below and beaked with the narrow mouth of the persistent perianth; male flowers in oblong or roundish clusters sometimes more or less confluent on the short ultimate branchlets of the panicles; leaflets thin, distinctly petiolulate with petiolules up to 3 cm. long, oblong-obovate or oblong-elliptic, margin varying from subentire to undulate-dentate or serrate, rather laxly reticulate and cottony-tomentellous beneath*2. preussii*
- 3 Branchlets and petioles puberulous when young, glabrescent; male flowers more or less completely covering the short ultimate branchlets of the panicles; leaves apparently never lobed, obovate-elliptic to ovate-elliptic, rarely suborbicular, rounded to cuneate at base, acute or rounded at apex, 16–36 cm. long, 8–15 cm. broad; 8–11 main

lateral nerves on each side of midrib; petioles up to 7 cm. long; peduncle of infructescence up to 1.2 cm. long [3. serratus](#)

Branchlets and petioles densely pubescent when young and remaining distinctly pubescent; male flowers in oblong or roundish clusters; leaves often (2–) 3-lobed, strongly 3-nerved at base, unlobed leaves more or less elliptic, cuneate at base, acutely acuminate, 8–35 cm. long, 4–14 cm. broad, lobed leaves up to 37 cm. long and 34 cm. broad; 10–20 main lateral nerves on each side of midrib; petioles 1–21 cm. long; peduncle of infructescence up to 3.6 cm. long [4. libericus](#)

1. **Myrianthus arboreus** *P. Beauv.* — F.T.A. 6, 2: 231; Engl. Monogr. Afr. Morac. 37, t. 16; Aubrév. Fl. For. C. Iv. 1: 46, t. 8; Hauman in Fl. Congo Belge 1: 83. *APD acc*

Myrianthus talbotii *Rendle* (1916), partly.

A tree to 65 ft. high, with spreading branches from a short stem, male flowers yellow; fruits yellow when ripe; [in forest regrowth and damp places in forest.](#)

S. L.: Kambui F.R (fl. & fr Feb.) Lane-Poole 332! Baiima (Apr.) Deighton 3175! Bwedu to Dia (fr. Apr.) Deighton 3176! **Lib.:** Diebla (fr. July) Baldwin 6325! **Iv. C.:** Abidjan region Chev. 15394. Potou Lagoon (Feb.) Chev. 17382. Man Chev. 21546. **G. C.:** Dunkwa Cummins 7! Aburi (Jan.) Brown 939! Anobelso (Mar.) Chipp 125! **Togo:** Misahöhe (Feb.) Baumann 430. Bismarckburg Büttner 44. **Dah.:** Le Testu 240! **N. Nig.:** Lapai (Feb., Mar.) Yates 34! **S. Nig.:** Yoruba forests Barter 3407! Ajllite (Jan.) Millen 117! Benin Unwin 40! Onitsha Barter 1677! Eket Talbot! Oban Talbot 2313! **Br. Cam.:** Ambas Bay (Feb.) Mann 716!

Also in **French Cameroons, Gabon, Belgian Congo, A.-E. Sudan, Uganda, Kenya, Tanganyika** and **Angola.**

2. **Myrianthus preussii** *Engl.* — F.T.A. 6, 2: 234; Engl. l.c. 40, t. 17 A; Hauman l.c. 86 (q.v. for synonymy). *APD acc*

Myrianthus talbotii *Rendle* (1915), partly — F.T.A. 6, 2: 238; F.W.T.A., ed. 1, 1: 437.

A shrub or small tree, up to 20 ft. high; leaves whitish beneath; male flowers yellow; female flowers greenish-yellow in [rain forest.](#)

S. Nig.: Oban Talbot 18! 624! 635! 684! 1422! Afi River F.R., Ikom (Dec.) Keay FHI 28252! 28259! Obudu Dist. (fr. May) Latilo FHI 30919! **Br. Cam.:** Bimbila (fr. Feb.) Maitland 391! Barombi (Sept.) Preuss 478 (partly). Barombi-ba-Mbu to Kake (Sept.) Preuss 478 (partly). **F. Po:** Bokoko Mildbr. 6908.

Also in **French Cameroons** and **Belgian Congo.**

3. **Myrianthus serratus** (*Trécul*) *Benth.* — F.T.A. 6, 2: 235, partly; Engl. l.c. 40, t. 17 C; Chev. Bot. 608, partly; Aubrév l.c. 46, t. 9 B. *APD acc*

Dicranostachys serrata *Trécul* (1847).

A [forest](#) shrub or tree, to 50 ft. high, with stilt roots; leaves silvery beneath; male flowers yellow; [on river banks.](#)

Sen.: Messira Berhaut 888. **Fr. Sud.:** Sarakouroba Chev. 490. Kerfomouria (Mar.) Chev. 598. **Port. G.:** Bolola to Buba, Fulacunda Esp. Santo 2154! **Fr. G.:** Fouta Djallon (Apr.–Mar.) Heudelot 840! Kouroussa (Apr.) Pobégun 687! Ditinn (Apr.) Chev. 12971! Farana (May) Sc. Elliot 509! **S. L.:** Port Loko (Apr., Dec.) Sc. Elliot 5881! Thomas 6682! Njala (fl. Mar., fr. Sept) Deighton 1938! 2793! Mofari, Digissin (Jan.) Sc. Elliot 4439! Gola Forest (May) Small 673! **Lib.:** Dukwia R. (fl. Feb., fr. Aug.) Cooper 176! Linder 319! **Iv. C.:** Comôe-Aniasué Aubrév 665! **Togo:** Bismarckburg Büttner 689 **N. Nig.:** Nupe Barter 1100! Abinsi Dalz. 915! **S. Nig.:** R. Ogbesse, Owo (Mar.) Jones FHI 3084! R. Calabar (Feb.) Mann 2273! Ekemaya, Cross R. (fr. June) Latilo FHI 31843.

4. **Myrianthus libericus** *Rendle* — F.T.A. 6, 2: 236; Aubrév. l.c. t. 9 A. *APD acc*

Myrianthus serratus of F.T.A. 6, 2: 235, partly; of Chev. Bot. 608, partly.

A tree, to 30 ft. high, rarely more, apparently without stilt roots; leaves silvery beneath, variable in shape and size; male flowers yellow; [in the forest regions, locally abundant in secondary regrowth.](#)

S. L.: Unwin & Smythe 2! Heddle's Farm (young fr. June) Deighton 2722! Njala (Nov.) Deighton 2550! Small 802! Ninia (fr. Feb.) Sc. Elliot 4811! Mabonto (Oct.) Thomas 3572! Bumbuna (fr. Oct.) Thomas, 3438! **Lib.:** Mt. Barclay (Nov.) Bunting! Dukwia R. (fl. Nov., fr. Feb., July) Cooper 128! 286! Linder 209! Suen (Nov.) Linder 1396! Ganta (Feb., NOV.) Harley! Wohmen, Vonjama (Oct.) Baldwin 10102! **Iv. C.:** Yaou, Sanvi (young fr. Mar.) Chev. 16276! And other localities

fide Aubrév l.c. **G. C.**: Atauaso (young fr. May) Chipp 229! Tano R. Chipp 341! Dunkwa (fr. Nov.) Vigne 107! Bobiri F.R. (fr. Feb.) Foggie FH 4961!

12. MUSANGA

R.Br. — F.T.A. 6, 2: 238.

- 1** Leaves digitately divided into 12–15 spreading segments; segments entire, narrow, shortly acuminate, up to 45 cm. long and 10 cm. broad, covered with greyish indumentum beneath; lateral nerves numerous, very conspicuous beneath; stipules large, connate, 15–20 cm. long, densely pubescent; male flowers in numerous small round heads about 4 mm. diam.; female inflorescence about 2 cm. long on a peduncle up to 12 cm. long, in fruit yellowish green and succulent [cecropioides](#)

Musanga cecropioides *R.Br.* in Bowdich Miss Ashantee 372 (1819); G. Taylor in Cat. S. Tomé 309.

APD acc

Musanga smithii *R.Br.* (1838) — F.T.A. 6, 2: 239; Engl. Monogr. Afr. Morac. 42, fig. 4, t. 18; Aubrév Fl. For. C. Iv. 1: 48, t. 10; Hauman in Fl. Congo Belge 1: 88.

A quick-growing soft-wooded tree with straight stem, stilt-roots and an umbrella-like crown, up to about 60 ft. high; branchlets very stout and pithy; the large stipular sheaths enclosing the bud and inflorescence are wine red, densely silky inside, deciduous; **locally abundant in forest clearings.**

S. L.: Afzelius! Njala (fl. & fr. Apr., Sept.) Deighton 656! Small 390! Kenema (Jan.) Thomas 7709! **Lib.:** Dukwia R. (June) Cooper 358! Tappi (Dec.) Bunting 34! 35! **iv. C.:** Azaguié Chev. 22306! **G. C.:** Tano R. Chipp 337! Kumasi Cummins 108! Dunkwa (Aug.) Vigne FH 143! **Togo:** Baumann 200! **S. Nig.:** Ikpoba R. Farquhar 44! Sapoba Kennedy 2303! Imo R., Aba (May) Cons. of For. 113! 118! **Br. Cam.:** fide Keay **F. Po:** Barter 2067! Mann 44! 45!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea**, **Cabinda**, **Belgian Congo**, **Uganda** and **S. Tomé**.

URTICACEAE

Herbs, undershrubs, or rarely soft-wooded trees, rarely climbing, often armed with stinging hairs; epidermal cells mostly with prominent cystoliths; stems often fibrous. Leaves alternate or opposite, simple; stipules present or absent. Flowers very small, unisexual, usually cymose, sometimes crowded on a common enlarged receptacle. Male flowers with a 4–5-lobed calyx, lobes imbricate or valvate. Petals absent. Stamens as many as and opposite the calyx-lobes; filaments inflexed in bud; anthers 2-celled. Rudimentary ovary usually present. Female calyx like that of the male, often enlarged in fruit. Staminodes scale-like or absent. Ovary free or adnate to the calyx, 1-celled; style simple; ovule solitary, erect. Fruit a dry achene or fleshy drupe. Seed mostly with endosperm and a straight embryo.

A cosmopolitan family, often troublesome weeds.

Stems often fibrous; many have conspicuous rod-like or dotted cystoliths in the leaves and frequently stinging hairs; flowers minute, apetalous.

- 1** Leaves alternate: **2**
 Leaves opposite, sometimes somewhat unequal-sized in each pair: **9**
2 Stipules present, mtrapetolar: **3**
 Stipules absent; plants with dot-like cystoliths; without stinging hairs [11. Parietaria](#)
3 Cystoliths linear: **4**
 Cystoliths dot-like: **8**
4 Plants usually with stinging hairs (but see *Fleurya aestuans*); leaves distinctly petiolate, usually more or less equal-sided: **5**
 Plants without stinging hairs; leaves sessile, subsessile, or shortly petiolate, often oblique and very unequal-sided at base, not lobed: **7**
5 Female calyx 4-lobed, becoming fleshy in fruit; leaves not lobed [1. Urera](#)
 Female calyx not becoming fleshy in fruit: **6**
6 Leaves lobed usually to below the middle; female calyx 2-lobed, lobes very unequal, the larger one spathe-like [2.](#)

Girardinia

- Leaves not lobed; female calyx 4-lobed [3. *Fleurya*](#)
- 7 Flowers surrounded by an involucre of bracts [5. *Elatostema*](#)
- Flowers on a globose or subglobose receptacle, without an involucre of bracts [6. *Procris*](#)
- 8 Plants with stinging hairs; leaves coarsely toothed [4. *Laportea*](#)
- Plants without stinging hairs; leaves entire [9. *Pouzolzia*](#)
- 9 Cystoliths linear; stipules connate into one: 10
- Cystoliths dot-like; stipules free or connate only at base: 11
- 10 Flowers in paniculate clusters or heads [7. *Pilea*](#)
- Flowers sessile on a disk-like receptacle [8. *Lecanthus*](#)
- 11 Flowers in clusters spaced along a usually long rhachis [10. *Boehmeria*](#)
- Flowers in involucre in short axillary clusters [12. *Droguetia*](#)

1. URERA

Gaud. — F.T.A. 6. 2: 253.

- 1 Stems slender, creeping, rooting between or near the nodes, glabrous, not armed with prickly-like protuberances; leaves thinly membranous (at least when dry), ovate or suborbicular, mostly deeply cordate at base, acuminate at apex, margin undulate to repand-dentate, up to about 13 cm. long and 10 cm. broad; petioles up to 16 cm. long, smooth; inflorescences lax, with scattered stinging hairs [1. *repens*](#)
- Stems not slender and creeping: 2
- 2 Leaves distinctly toothed: 3
- Leaves entire or only minutely serrulate: 9
- 3 Young stems and petioles armed with prickly-like protuberances: 4
- Young stems and petioles not armed with prickly-like protuberances: 7
- 4 Leaves ovate, suborbicular or broadly elliptic, with short sparse indumentum beneath: 5
- Leaves obovate, narrowed from above the middle, abruptly acuminate, not scabrid above, sparsely puberulous beneath; prickly-like protuberances rather small: 6
- 5 Leaves cordate or widely emarginate at base, suborbicular or ovate, not scabrid above, up to 18 cm. long and 15 cm. broad; petioles up to 10 cm. long [2. *cordifolia*](#)
- Leaves rounded at base, broadly elliptic to suborbicular, more or less scabrid above, up to 24 cm. long and 16 cm. broad; petioles up to 13 cm. long [3. *rigida*](#)
- 6 Leaves 8–11 cm. long, 3.5–6 cm. broad, margin crenate; petioles slender [4. *obovata*](#)
- Leaves 18–20 cm. long, 10–12 cm. broad, margin denticulate; petioles stout [5. *cuneata*](#)
- 7 Leaves ovate, cordate or widely emarginate at base, not scabrid on the upper surface: 8
- Leaves more or less obovate, narrowed from above the middle to the rounded or obtuse base, shortly acuminate, scabrid on the upper surface rather densely and shortly pubescent beneath, margin rather coarsely and sharply dentate, 7–14 cm. long; petioles up to 5 cm. long [8. *robusta*](#)
- 8 Undersurface of leaves rather densely setose-pubescent on midrib, nerves and veins; leaves 10–29 cm. long, 6–18 cm. broad; petioles up to 13 cm. long [6. *mannii*](#)
- Undersurface of leaves sparsely pubescent; leaves 9–15 cm. long, 6–9.5 cm. broad; petioles up to 5.5 cm. long [7. *gravenreuthii*](#)
- 9 Lateral nerves 4–5 on each side of the midrib: 10
- Lateral nerves 2–3 on each side of the midrib, the basal pair ascending beyond the middle of the lamina; leaves elliptic to elliptic-lanceolate, obtuse to rounded or subcordate at base, long acuminate, 6–18 cm long, 3–8.5 cm. broad, subcoriaceous; petioles up to 6 cm. long [12. *cameroonensis*](#)
- 10 Leaves cordate or widely emarginate at base, ovate-elliptic or broadly elliptic: 11
- Leaves rounded or obtuse at base, oblong-elliptic, rather obliquely acuminate, minutely serrulate, 6.5–14 cm. long, 3–7 cm. broad, membranous; petioles up to 10 cm. long; stems with few prickly-like protuberances .. [11. *oblongifolia*](#)
- 11 Young stems not armed with prickly-like protuberances; male panicles up to 7.5 cm. long; leaves 10–14 cm. long, 6–8 cm. broad; petioles up to 7.5 cm. long [9. *batesii*](#)
- Young stems profusely armed with prickly-like protuberances; male panicles large and lax, about 20 cm. long

and 27 cm. broad; leaves 10–15 cm. long, 5–10 cm. broad; petioles up to 6 cm. long [10. talbotii](#)

1. *Urera repens* (Wedd.) Rendle in F.T.A 6, 2: 264 (1917.) *APD acc*

APD: Synonym of Urera keayi Letouzey

Laportea? repens Wedd. (1869).

A low glabrous creeping herb with thinly woody stem; leaves sometimes red-veined; flowers pale greenish pink; in forest vegetation.

Lib.: Yratoke, Webo (July) Baldwin 6255! **G. C.:** Mampong Scarp (Nov.) Irvine 1858! Cape Coast road, 28 miles from Accra (Oct.) Morton GC 7811! **S. Nig.:** Owo F.R. (July) Jones FHI 4369! Onochie FHI 33244! Nikrowa, Okomu F.R.. Brenan 9101! Richards 3318! **F. Po.:** Barter! Mann 1424!

[The specimens from Liberia and the Gold Coast may represent a taxon distinct from the type; a better range of material is, however, needed from each locality to show the degree to which leaf shape may vary.]

2. *Urera cordifolia* Engl. — F.T.A. 6, 2: 260; Engl. Pflanzenw. Afr. 3, 1: 53, fig. 33, H–J. A forest liane. *APD acc*

S. Nig.: Araromi, 5 miles S. of Okeigbo (Feb.) Jones & Onochie FHI 14725! **Br. Cam.:** Victoria (Feb.) Maitland 411! S. Bakundu F.R. Olorunfemi FHI 30548! Johann-Albrechtshöhe Staudt 892.

Also in **French Camerouns**.

3. *Urera rigida* (Benth.) Keay in Kew Bull. 1055: 141. *APD acc*

APD: Synonym of Urera gravenreuthii Engl.

Boehmeria rigida Benth. in Fl. Nigrit. 519 (1849).

Urera elliotii Rendle (1916) — F.T.A. 6, 2: 258; F.W.T.A., ed. 1, 1: 440.

Urera obovata of F.T.A. 6, 2: 257, partly.

A forest liane with stout, rather soft stems, sparsely armed with slender protuberances tipped with stinging hairs; ripe fruit red.

S. L.: Don! Bafodeya, Limba (Apr.) Sc Elliot 5559! Bulumba (Sept.) Thomas 1920! Weima, Kisi Kama (Apr.) Deighton 3151! **Lib.:** Du R. (July) Linder 71! Kitoma (Apr.) Harley 1125! Dubo, Sanokwele (Sept.) Baldwin 9474! Dime (fr. Apr.) Barker 1256! **S. Nig.:** Lagos Rowland! Abeokuta Millen 147! Akure F.R. (Apr.) Jones FHI 1092! **Br. Cam.:** Moliwe, Buea (Feb.) Dalz. 8184!

4. *Urera obovata* Benth. — F.T.A. 6, 2: 257, partly; Chev. Bot. 610. *APD acc*

A forest liane to 100 ft. high.

S. L.: Freetown (June) T. Vogel 64! Kambui F.R. (Apr.) Lane-Poole 221! **Iv. C.:** various localities fide Chev. l.c.

5. *Urera cuneata* Rendle — F.T.A. 6, 2: 261. *APD acc*

A forest liane.

Lib.: Sinoe Basin Whyte! Gletown, Tchien (July) Baldwin 6955!

6. *Urera mannii* (Wedd.) Benth. & Hook. f. ex. Rendle in J. Bot. 65: 370 (1916) F.T.A. 6, 2: 260, partly (excl. syn. *U. gravenreuthii* Engl.), incl. var. *paucinervis* Rendle. *APD acc*

Scepcarpus mannii Wedd. (1869).

A forest liane (or shrub or small tree, in more open vegetation, fide Morton).

Lib.: Linder! **G. C.:** Mankrong (Apr.) Morton A. 535! Koforidua (Apr.) Morton A. 819! **S. Nig.:** Lagos (Apr.) Dalz. 1021! Ilaro (Sept.) W. D. MacGregor 344! Benin Chief Cons. of For.! **F. Po.:** (Jan.) Mann 176!

Also recorded from Principe and S. Tomé but the specimens do not agree exactly with the type (from F.Po).

7. *Urera gravenreuthii* Engl. Bot. Jahrb. 33: 120 (1902). *APD acc*

Urera mannii of F.T.A. 6, 2: 260 and of F.W.T.A., ed. 1, 1: 440, partly.

A forest liane.

Br. Cam.: above Buea (Apr., May) Dundas FHI 15340! Maitland 649! Preuss 909! Cam. Mt., 6,000 ft. (Apr.) Morton GC 7106!

8. *Urera robusta* A. Chev. — F.T.A. 6, 2: 359; Chev. Bot. 610. *APD acc*

Urera obovata of F.W.T.A., ed. 1, 1: 440, partly.

A forest liane.

IV. C.: Man (May) Chev. 21539! Goureni Chev. 21641. **G. C.:** Owabi (May) Andoh FH 4205! Manso, Akim (fr. Dec.) Irvine 2096! Oboman, Kwahu Plateau (fl. & fr. May) Kitson 1186! Benso (fl. & fr. Aug.) Andoh FH 5398!

9. *Urera batesii* Rendle — F.T.A. 6, 2: 259. *APD acc*

A trailing or climbing forest liane.

F. Po.: 1,300 ft. Mann 305!

Also in French Cameroons and (?) Belgian Congo.

10. *Urera talbotii* Rendle — F.T.A. 6, 2: 259. *APD acc*

A forest liane; ripe fruits scarlet.

S. Nig.: Oban Talbot 618! 1502!

11. *Urera oblongifolia* Benth. — F.T.A. 6, 2: 255. *APD acc*

Urera sarmentosa A. Chev. (1917) — F.T.A. 6, 2: 358; Chev. Bot. 610.

A glabrous forest liane, climbing by adventitious roots on the slender almost unarmed reddish stems; fruits succulent, orange-red.

Port. G.: Granja, Catió (June) Esp. Santo 2089! 2090! **S. L.:** Barter T. Vogel 73! 74! 114! Freetown (May) Deighton 2986! 2987! Njala (May–July) Deighton 710! 740! 1757! Makump (fr. July) Thomas 897! **Lib.:** Mt. Barclay Bunting 160! Gbanga (Sept.) Linder 389! Ganta Harley! Jaurazon (Mar.) Baldwin 11462! **IV. C.:** Zoanlé (May) Chev. 21456! Niangouépleu to Man (May) Chev. 21530! **G. C.:** Begoro, Akim (Apr.) Irvine 1187! Assuansi (Apr.) Scholes 154! Aiyoala F.R., Akim Oda (Apr.) Andoh FH 5143!

12. *Urera cameroonensis* Wedd. — F.T.A. 6, 1: 261. *U. thonneri* of F.T.A. 6, 2: 256, partly (spec. Mann ex F.Po).

A forest liane with glabrous halt-succulent stems having adventitious roots.

G. C.: Owabi (Dec.) Lyon FH 2882! **S. Nig.:** Shasha F.R. (May) Richards 3435! Sapoba Kennedy 1545! Oban Talbot 1501! Eket Talbot **Br. Cam.:** Cam Mt., 5,000 ft. (Dec.) Mann 2173! Victoria (Mar.) Maitland 520! Buea (Dec., Jan.) Maitland 312! Ndife, Kumba (Apr.) Olorunfemi FHI 30523! **F. Po.:** (Jan.) Mann 240! s.n.!

Also extending from French Cameroons to Uganda, Tanganyika and Angola, and on S. Tomé.

Urera liberica Engl. ex Mildbr. in Fedde Rep. 41: 247 (1937), name only.

Lib.: Dinklage 2569.

Imperfectly known species

2. GIRARDINIA

Gaud. — F.T.A. 6, 2: 265.

- 1 Stems and petioles bristly with reflexed setose hairs; leaves alternate, usually pinnately or subdigitately lobed to below the middle, up to 20 cm. long and broad, spreadingly pilose beneath and setose on the nerves, lobes very coarsely serrate, acuminate; stipules connate, about 2 cm. long, soon falling off; male inflorescence axillary,

often branched, small, branches spike-like; calyx sparingly setose; female inflorescence short, dense, densely setose all over; fruits warted[condensata](#)

Girardinia condensata (*Hochst. ex Steud.*) Wedd. in Ann. Sci. Nat. sér. 4, 1: 181 (1854); F.T.A. 6, 2: 266.

APD: Synonym of Girardinia diversifolia (Link) Friis

Urtica condensata Hochst. ex Steud. (1850).

Girardinia heterophylla subsp. adoeneis (*Hochst. ex Steud.*) Cuf. (1953).

Urera cannabina A. Chev. Bot. 609, name only.

Fleurya cannabina A. Chev., ms. name only.

An erect half-succulent stemmed herb, 1 1/2–6 ft. high, with stiff stinging hairs on stem, leaves and inflorescence.

Fr. G.: Fouta Djallon: Dalaba to Diaguissa (Sept.) Chev. 18569! Diaguissa to Boulivel (Sept.) Chev. 18598. **iv. C.:** Gouékouma, Toura country (May) Chev. 21654 **S. Nig.:** Thompson 514! **Br. Cam.:** Bamenda: Lakom (May) Maitland 1774! Bambui (Dec.) Adams GC 11227!

Widespread in tropical Africa.

3. FLEURYA

Gaud. — F.T.A. 6, 2: 245.

- 1 Male inflorescence spike-like or catkin-like, unbranched, the flowers in dense clusters, peduncles long, axillary on leafy shoots or arising directly from the underground stem; female inflorescence much smaller than the male, loosely few-flowered; leaves ovate, more or less rounded at base, up to about 10 cm. long and 8 cm. broad, coarsely dentate, with short linear cystoliths on the lower surface; fruits compressed, ovate, about 3–5 mm. long, slightly rugose, sometimes subterranean[1. ovalifolia](#)

Male and female flowers in panicles; fruits about 1 mm. long, never subterranean:**2**

- 2 Plant pilose, at least on the young parts; leaves coarsely serrate with numerous teeth, very broadly ovate, rounded or subcordate at base, up to about 15 cm. long and broad; inflorescences broadly paniculate[2. aestuans](#)

Plant puberulous or glabrous, except for the large, jointed, violently stinging hairs; leaves grossly toothed with rather few teeth and a long acumen, more or less deltoid in outline, but closely cordate at the point of attachment of the petiole, up to about 15 cm. long and 12 cm. broad; inflorescences narrow, subsecund[3. mooreana](#)

1. **Fleurya ovalifolia** (*Schum. & Thonn.*) Dandy in F.W. Andr. Fl. Pl. A.-E. Sud. 2: 277 (1952); Kew Bull. 1953: 103.

APD: Synonym of Laportea ovalifolia (Schumach. & Thonn.) Chew

Haynea ovalifolia Schum. & Thonn. (1827).

Fleurya podocarpa Wedd. (1869) — F.T.A. 6, 2: 251 (incl. var. mannii Wedd.); Chev. Bot. 609; Hauman in Fl. Congo Belge 1: 191, t. 20 (incl. var. & subsp.).

Urera spicata A. Chev. Bot. 610, name only.

A creeping herb, sometimes half-shrubby, with nettle-like leaves, usually beset with stinging hairs; male inflorescence greenish-white on long naked peduncles, often directly from the underground stem.

S. L.: Yetaya (Sept.) Thomas 2396! Bo to Mongeri (July) Deighton 1992! Bafodea (Apr.) Deighton 5415! Kailahun (Sept.) Jordan 526! **Lib.:** Cape Palmas Ansell! Gbanga (Oct.) Linder 1187! Nyaake, Webo (June) Baldwin 6205! Nekabozu, Vonjama (Oct.) Baldwin 9967! **iv. C.:** foot of Mt. Momy, Dyola country (Apr.) Chev. 21356! And other localities fide Chev. **ll.c.G. C.:** Begoro, Akim (Apr.) Irvine 1183! 1366! Kumasi Cummins 173! 232! Mamfe, Akwapim (May) Adams 300! **Togo:** Baumann 182! Lome Warnecke 438! **I S. Nig.:** Angiama Barter 92! Ibadan (Jan.) Meikle 951! Osho, Omo F.R. (Apr.) Jones & Onochie FHI 16846! Nun R. (Sept.) Mann 476! Aguku Thomas 761! **Br. Cam.:** Victoria (Feb.) Dalz. 8201! Cam. Mt., 2,500–6,000 ft. (Nov.–Apr.) Mann 1950! Maitland 512! 1123! **F. Po.:** Barter! Mann 313! Moka, 4,000 ft. (Dec.) Boughey 24!

Widespread in tropical Africa.

2. **Fleurya aestuans** (*Linn.*) Miq. in Mart. Fl. Bras. 4, 1: 196 (1853); F.T.A. 6, 2: 246; Chev. Bot. 609;

Hauman l.c. 188.

APD: Synonym of Laportea aestuans (L.) Chew

Urtica aestuans Linn. (1763).

A herb 1–5 ft. high, mostly in waste places; apparently not always urticating.

Sen.: Berhaut 425. N'diaye Bop Chev. 3544. **Port. G.:** Pussubé, Bissau (Sept.) Esp. Santo 909! Sare N'gana, Geba (Nov.) Esp. Santo 3119! **Fr. G.:** Kouroussa (July) Pobéguin 303! Manou Chev. 15045. **S. L.:** Freetown (Oct.) Deighton 2160! Bafodeya (Apr.) Sc. Elliot 5507! Roruks (Apr.) Deighton 4843! Jigaya (Sept.) Thomas 2668! **Lib.:** Sinoe Basin Whyte! Gletown, Tchien (July) Baldwin 6776! **Iv. C.:** Ebikrou, Sanvi Chev. 17673. Zagoué, Dyola country Chev. 21560. **G. C.:** Aburi (Sept.) Adams 1773! Brown 413! Assuantsi (Mar.) Irvine 1580! Apedwa (Aug.) Morton GC 7780! **Togo:** Lome Warnecke 206! **N. Nig.:** Lokoja (Sept., Nov.) Barter! Dalz. 150! T. Vogel 193! Nabardo (Sept.) Lely 614! Aguji, Ilorin (Oct.) Thornton! **S. Nig.:** Lagos (Oct.) Dalz. 1173! Ogun R. Millen 130! Uzuakoli (Aug.) Jones FHI 6236! Calabar (Oct.) Holland 40! **F. Po:** Barter! Mann 154! T. Vogel 176!

Widespread in the tropics.

3. *Fleurya mooreana* (Hiern) Rendle in F.T.A. 6, 2: 250 (1917).

APD: Synonym of Laportea mooreana (Hiern) Chew

Adicea mooreana Hiern (1900).

Fleurya urophylla Mildbr. (1923) — Hauman l.c. 189.

An annual herb with violently stinging hairs.

N. Nig.: Bauchi Plateau (Sept.) Lely P. 739!

Also in **Belgian Congo**, **Uganda**, **Tanganyika** and **Angola**.

4. LAPORTEA

Gaud. — F.T.A. 6, 2: 252.

- 1 Stems covered with sharp reflexed stinging bristles; leaves ovate-elliptic, acuminate, rounded at the base, 10–15 cm. long, 5–7 cm. broad, setose and pubescent on the nerves beneath and with dot-like cystoliths on the surface, coarsely dentate-serrate; petiole 1/3 as long as the blade, setose; male inflorescences axillary, about as long as the petiole, female much longer than the leaves and subsecund; calyx glabrous; fruits flat, obliquely ovate, with a thick margin and slightly rugose surface [alatipes](#)

Laportea alatipes Hook. f. — F.T.A. 6, 2: 252; Hauman in Fl. Congo Belge 1: 194. *APD acc*

Fleurya alatipes (Hook. f.) N.E. Br. (1925).

F. urticoides Engl. (1902) — F.T.A. 6, 2: 247; F.W.T.A., ed. 1, 1: 441.

Girardinia marginata Engl. (1902).

A robust perennial herb, to 3 ft. high; in montane forest.

Br. Cam.: Cam. Mt., 4,000–7,600 ft. (fl. Nov.–Feb., Apr.–June, fr. Nov., Feb.) Mann 1973! Maitland 989! Preuss 916! Lakom, Bamenda, 6,000 ft. (May, June) Maitland 1368! 1740a! Banga, Bamenda (fr. Aug.) Ujor FHI 29958!

Also on mountains in **Belgian Congo**, **Uganda**, **Kenya**, **Tanganyika**, S. Rhodesia, Nyasaland and Natal.

5. ELATOSTEMA

J. R. & G. Forst. — F.T.A. 6, 2: 277.

- 1 Male inflorescence on a slender peduncle 1.5–2.5 cm. long; leaves obliquely oblanceolate, cuneate on both sides at base, acuminate at apex, 4–10 cm. long, 2–3 cm. broad, coarsely crenate-serrate, with about 8–10 teeth on each margin, with conspicuous cystoliths on each side; stipules lanceolate, tailed-acuminate; bracts broadly ovate, acute, about 3 mm. long [l. mannii](#)
- Male inflorescence sessile or nearly so; leaves cuneate at base only on the distal side: 2

- 2 Leaves long-acuminate, 6–24 cm. long, 2–8.5 cm. broad; herbs with erect fleshy stems up to 60 cm. high:**3**
 Leaves not acuminate, 1.5–3.5 cm. long, 0.8–2 cm. broad, obliquely obovate, rounded on the proximal side at base, laxly and coarsely dentate, with about 5–10 teeth on each margin; bracts rather small, shortly acuminate; a weak herb with trailing stems**4. *monticola***
- 3 Leaves closely serrate, with about 20 or more teeth on each margin, the teeth extending on to the acumen, obtuse or rounded on the proximal side at base, obliquely elongate-elliptic, 6–24 cm. long, 2–8.5 cm. broad, with very numerous and conspicuous cystoliths on upper surface; leaves drying bright green; male inflorescence flat and subtriangular or lobed, pubescent**2. *welwitschii***
 Leaves laxly and coarsely dentate, with about 12–16 teeth on each margin, the teeth not or scarcely extending on to the acumen, broadly auriculate on the proximal side at base, obliquely obovate, 6–15 cm. long, 2–5.5 cm. broad, with very conspicuous cystoliths on upper surface; leaves drying dark green; bracts broadly ovate, acuminate**3. *paivaeaeum***

1. ***Elatostema mannii* Wedd.** — F.T.A. 6, 2: 282; Engl. Pflanzenw. Afr. 3, 1: 60. **APD acc**

A herb with stems erect from a decumbent base, half-succulent, 6–12 in. high; leaves crowded on the upper part of the stem.

S. Nig.: Kwa Falls, Calabar (Mar.) Richards in Hb. Brenan 9235! **Br. Cam.:** Johann-Albrechtshöhe Staudt 647! Mombo to Ebonji, Kumba (May) Olorunfemi FHI 30582! **F. Po:** Mann 1431!

Also in **French Cameroons**.

2. ***Elatostema welwitschii* Engl.** — F.T.A. 6, 2: 278 (incl. var. *cameroonense* Rendle); Engl. l.c. fig. 37, A–B; Hauman in Fl. Congo Belge 1: 206. **APD acc**

A perennial herb with an erect fleshy stem, to 2 ft. high, from a creeping rooting rhizome; **in montane forest**.

S. Nig.: Mt. Koloishe, 4,000 ft. (Dec.) Keay & Savory FHI 25054! **Br. Cam.:** Mimbria, 3,800 ft. (Mar.) Brenan 9344! Johann-Albrechtshöhe Staudt 839! **F. Po:** Clarence Peak, 4,000 ft. (Dec.) Boughey 116! Mann 632! Musola (Jan.) Guinea 1058!

Also in **French Cameroons, Belgian Congo, Uganda, Tanganyika, Nyasaland, Angola** and on **S. Tomé**.

3. ***Elatostema paivaeaeum* Wedd.** — F.T.A. 6, 2: 279; Engl. l.c. (incl. var. *conrauanum* Engl.); Hauman l.c. 207. **APD acc**

A perennial herb with an erect fleshy stem, to 2 ft. high; **in forest**.

Fr. G.: R. Kakrima, Tchibofi (Dec.) Pobéguin 2054! Ditiinn (Sept.) Chev. 18525! Dalaba-Diaguissa Plateau (Oct.) Chev. 18744! **Lib.:** Karmadhun, Kolahun (Nov.) Baldwin 10169! Nekabozu, Vonjama Baldwin 9982! Bobei Mt., Sanokwele (Sept.) Baldwin 9646! **iv. C.:** Danané to Goutokouma Chev. 21308! Mt. Momy Chev. 21361! **G. C.:** Kibbi Hills, Akim (Dec.) Johnson 254. Puso Puso ravine (Oct.) Adams 1903! **Br. Cam.:** Buea (Feb.) Dalz. 8206! Cam. Mt., 4,500 ft. (Apr.) Maitland 1083! Mimbria, 3,800 ft. (Mar.) Brenan 9344! 9344a! 9344b! Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30328! **F. Po:** Clarence Peak, 4,000 ft. (Dec.) Mann 290! 631!

Also in **French Cameroons**.

4. ***Elatostema monticola* Hook. f.** — F.T.A. 6, 2: 281; Engl. l.c.; Hauman l.c. **APD acc**

A weak herb with trailing stems; **in montane forest**.

Br. Cam.: Cam. Mt., 6,000–7,000 ft. (Dec.–Apr.) Adams GC 11737! Brenan 9576! Mann 2014! Preuss 607! Bafut-Ngemba F.R., Bamenda (Jan.) Tiku FHI 22240! **F. Po:** El Pico, 6,600 ft. (Dec.) Boughey 127!

[Some at least of the material named *E. orientale* Engl. from E. Africa and the Belgian Congo is probably conspecific with *E. monticola* Hook. f.]

6. PROCRIS

Comm. — F.T.A. 6, 2: 283.

- 1 Epiphytic or on rocks; stems erect, the lower parts underground and bearing flower-heads; leaves alternate, sessile, obliquely oblanceolate, broadly acuminate, gradually narrowed to the base, up to 15 cm. long and 3

cm. broad, very remotely serrate, without obvious cystoliths; flower-heads numerous and scattered on the stem from the base upwards, very shortly pedunculate; fruits fusiform, 1·25 mm. long[crenata](#)

Procris crenata *C. B. Robinson* in Philipp. Journ. Sci. 5, C: 507 (1911); G. Taylor in Exell Cat. S. Tomé 312 (q.v. for full synonymy). *APD acc*

Procris wightiana *Wall. ex Wedd.* (1856), illegitimate name, partly; F.T.A. 6, 2: 283; Schröter in Fedde Rep. 45: 191 & 257; Hauman in Fl. Congo Belge 1: 208.

Procris laevigata of F.W.T.A., ed. 1, 1: 442, not of Blume.

An epiphyte with glabrous succulent stems up to 18 in. high and 1/2–1 in. thick in the lower part.

Br. Cam.: Buea (Sept.) Preuss 963. **F. Po:** 1,000–2,000 ft. (Nov.) Mann 566! El Pico (Dec.) Boughey 169!

Also on **Principe**, **S. Tomé**, **Annobon** and widespread in tropical Africa, as well as in the Mascarene Islands and tropical Asia.

7. PILEA

Lindl. — F.T.A. 6, 1: 267.

1 Leaves toothed, 0·7–7 cm. long, 0·5–5·8 cm. broad:[2](#)

Leaves entire, 1–8 (–10) mm. long, 1–5 (–6) mm. broad, obovate, elliptic or suborbicular, with numerous transversely arranged cystoliths on the upper surface, often strongly anisophyllous; flowers in very small axillary clusters[5. microphylla](#)

2 Flowers in axillary, small, pedunculate, lax cymes, or stalked or sessile clusters; stipules very small and early caducous; leaves with numerous cystoliths on both surfaces:[3](#)

Flowers forming a whorl-like sessile cluster at the nodes or in a terminal dense cyme; stipules broadly oblong, membranous, brownish, up to 1 cm. long, more or less persistent; leaves broadly ovate, rather coarsely dentate, 1–7 cm. long, 1–5·8 cm. broad, with scattered cystoliths on both surfaces; petioles up to 6 cm. long[3. ceratomera](#)

Flowers a flat terminal sessile corymb involucre by the 4 uppermost leaves; stipules suborbicular, membranous, about 2 mm. long; leaves broadly ovate, crenate-serrate, 2–4 cm. long, 1·5–3 cm. broad, laxly clothed with cystoliths; petioles up to 2 cm. long[4. tetraphylla](#)

3 Leaf-margin crenate-serrate, secondary lateral nerves running close to the margin and finishing in the mucro of each tooth; lamina ovate, 1–8 cm. long, 0·5–3·5 cm. broad, 3-nerved at base; petiole up to 3 cm. long[1. sublucens](#)

Leaf-margin coarsely serrate, secondary lateral nerves running up the middle of each tooth; lamina more or less ovate in outline, 0·7–4 cm. long, 0·5–3·2 cm. broad, 3-nerved at base; petiole up to 4 cm. long ..[2. angolensis](#)

1. **Pilea sublucens** *Wedd.* — F.T.A. 6, 2: 273; F.W.T.A., ed. 1, 1: 443, partly. P. chevalieri Schnell in Rev. Gén. Bot. 57; 280, fig. 2 (1950). *APD acc*

A glabrous herb with slender stems, erect, 6–18 in. high from a creeping base; leaves of each opposite pair more or less unequal in size or in length of petiole; **in montane forest**.

Fr. G.: Kimba Mts. (Apr.) Chev. 21117. Schnell 952; 4387! **Br. Cam.:** Buea, 3,500–4,450 ft. (Aug., Nov., Dec.) Adams GC 11296! Preuss 573! 953! Rosevear 102/37! **F. Po:** Clarence Peak, 6,000 ft. (Dec.) Mann 630! Boughey 130!

2. **Pilea angolensis** (*Hiern*) *Rendle* in F.T.A. 6, 2: 271 (1917); Hauman in Fl. Congo Belge 1: 200. *APD acc*

APD: *Synonym of Pilea sublucens Wedd.*

Adicea tetraphylla var. **angolensis** *Hiern* (1900).

Pilea sublucens of F.W.T.A., ed. 1, 1: 443, partly (spec. ex Fr.G. & S.L.), not of Wedd.

Urera begonioides *A. Chev.* Bot. 609, name only.

A delicate annual herb with transparent stem, **growing on wet rocks in shady places**.

Fr. G.: Haut Konkouré (Nov.) Pobéguin! Dalaba-Diaguissa Plateau (Sept.–Oct.) Chev. 18815! **S. L.:** Bikongo Falls, Suva R. (July–Aug.) Dawe 535! Bumbuna (Oct.) Thomas 3430! Yakala (Sept.) Thomas 2366! Makeni Hill (Aug.) Jordan 498! **Lib.:** Vahun, Kolahun (Nov.) Baldwin 10214! **G. C.:** Begoro Falls (Jan.) Morton 8369b! **N. Nig.:** Bauchi Plateau (Sept.)

Lely P. 781! Jos (Aug.) Keay FHI 20179! **Br. Cam.:** Metschum Falls, Bamenda (Jan., Aug.) Keay & Russell FHI 28525! Savory UCI 300!

Also in **Uganda**, **Belgian Congo** and **Angola**.

3. ***Pilea ceratomer*** Wedd. — F.T.A. 6, 2: 269; Hauman l.c. 203.

APD: *Synonym of Pilea rivularis Wedd.*

Pilea stipulata Hutch. & Dalz., F.W.T.A., ed. 1, 1: 443 (1928); Kew Bull. 1929: 19.

Stems lax, creeping and rooting, with erect smooth branches to 2 ft. high; terrestrial or epiphytic; **in montane forest**.

S. Nig.: Ikwette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25187! **Br. Cam.:** Buea Preuss 957! Cam. Mt., 7,000–8,000 ft. (Dec.) Johnston 66! Mann 2011! Above L. Oku, Bamenda, 7,500 ft. (Jan.) Keay FHI 28506! **F. Po:** Clarence Peak, 4,000–7,000 ft. (Dec.) Boughey 182! 184! Mann 626!

Also on the mountains of **Belgian Congo**, A.-E. **Sudan**, E. Africa, S. Tomé and the **Mascarene Islands**.

4. ***Pilea tetraphylla*** (Steud.) Blume — F.T.A. 6, 2: 270 (incl. var. major Rendle); Hauman l.c. 199. *APD acc*

Urtica tetraphylla Steud. (1860).

A herb, erect, slender, simple or branched, up to 16 in. high, sometimes from a creeping base, glabrous; **in montane vegetation**.

Br. Cam.: Cam. Mt., 7,000 ft. (Dec.) Mann 2012! Preuss 1001! **F. Po:** 6,000 ft. (Dec.) Boughey 10736! s.n.! Monod 10400!

Also in **A.-E. Sudan**, **Abyssinia**, **Eritrea**, **E. Africa**, **Belgian Congo** and **Madagascar**.

5. ***Pilea microphylla*** (Linn.) Liebm. in Vidensk. Selsk. Skr. 5, 2: 302 (1851). *APD acc*

Parietaria microphylla Linn. (1759).

A stout, large-leaved form is cultivated as the “Artillery Plant”; a slender, small-leaved form **occurs on walls and as a garden weed**.

Port. G.: Catió (July) Esp. Santo 2139! **S. L.:** Freetown (Oct.) Deighton 2052! Port Loko (Oct.) Jordan 363! Njala (May) Deighton 5057! **Lib.:** Monrovia (Nov.) Linder 1574! **N. Nig.:** Sokoto (Nov.) Moiser 27! **S. Nig.:** & **Br. Cam.:** fide Keay. **F. Po:** St. Isabel Boughey!

A native of tropical America, now widespread in the tropics.

8. LECANTHUS

Wedd. — F.T.A. 6, 2: 276.

- 1 Small herb with a densely rooting creeping underground stem; leaves ovate-lanceolate, cuneate at base, broadly acute, 2–3.5 cm. long, 0.8–1.5 cm. broad, coarsely dentate, with numerous linear cystoliths prominent on the upper surface; petiole 0.5 cm. long; inflorescence orbicular, up to 1 cm. diam.; peduncle slender, 2–2.5 cm. long *peduncularis*

Lecanthus peduncularis (Boyle) Wedd. — F.T.A. 6, 2: 276. *APD acc*

Procris peduncularis Royle (1836).

A weak herb, simple or branched, half-succulent, glabrous 1–10 in. high.

Br. Cam.: Cam. Mt., 6,000–7,000 ft. (Dec., Jan.) Adams GC 11766! Dunlap 237! Preuss 1034! **F. Po:** Clarence Peak, 6,000–7,600 ft. (Mar., Dec.) Boughey GC 131! Mann 1461!

Also in **Abyssinia** and widespread in the eastern tropics.

9. POUZOLZIA

Gaud. — F.T.A. 6, 2: 286.

- 1 Stems erect, leafy; leaves ovate-elliptic, rather broadly acuminate, cuneate at base, 5–10 cm. long, 1.5–4.5 cm. broad, entire, sometimes thinly woolly beneath, at length with conspicuous dotted cystoliths above; petiole slender, up to 2 cm. long; flowers clustered, sessile or subsessile, pubescent; fruits subtended by a bract
..... [guineensis](#)

Pouzolzia guineensis *Benth.* — F.T.A. 6, 2: 287; Chev. Bot. 611; Hauman in Fl. Congo Belge 1: 214.
APD acc

APD: Synonym of Pouzolzia denudata De Wild. & T. Durand

An erect or spreading herb, to 4 ft. high, slightly long-pubescent, more or less woody below; **in open places, mainly in the forest regions.**

Sen.: Berhaut 1174. **Fr. G.:** Rio Nunez Heudelot. **S. L.:** Kambia (Dec.) Sc. Elliot 4354! Kanya (Oct.) Thomas 2941! Njala (Sept.) Deighton 2106! Rogberi, Binle (Oct.) Adames 256! **Lib.:** Jabroke, Webo (July) Baldwin 6615! Gletown, Webo (July) Baldwin 6801! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Abetifi, Kwahu (Jan.) Irvine 1828! Begoro Akim (Apr.) Irvine 1194! Techiman road, 30 miles N. of Kumasi Morton GC 7708! **Togo:** Baumann 578. **N. Nig.:** Lokoja (Nov.) Barter! Dalz. 149! **S. Nig.:** Lagos (Sept.) Dodd 441! Ibadan (Oct.) Ejiofor FHI 27667! Odiani, Asaba (Aug.) Onochie FHI 33439! Oban Talbot 689! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 550! **F. Po.:** (Oct., Dec.) T. Vogel 28! 251! 299!

Extending to **Belgian Congo** and **Angola** and on **S. Tomé**.

10. BOEHMERIA

Jacq. — F.T.A. 6, 2: 284.

- 1 Leaves opposite, variable in shape, from very broadly ovate to elliptic-lanceolate, margin coarsely triangular-dentate or serrate, up to 20 cm. long and 18 cm. broad, with inconspicuous dot-like cystoliths; inflorescences axillary, spike-like, or slightly branched, up to 30 cm. long, with the flowers in separated clusters along the rachis [platyphylla](#)

Boehmeria platyphylla *D. Don* — F.T.A. 6, 2: 285; Hauman in Fl. Congo Belge 1: 210.

APD: Synonym of Boehmeria macrophylla Hornem.

A shrub 3–15 ft. or more high, with soft-wooded branches. The specimens from our area seem to fall into three groups: — (A) specimens from S.L. with densely and shortly pubescent young shoots and petioles, and usually broadly ovate leaves; (B) specimens from Cam. Mt. and F.Po, with rather sparingly and more or less appressed-puberulous young shoots and petioles, and usually slender stems, petioles and leaves; of these specimens, Mann 209 is cited by Weddell as var. *macrostachya* Wedd.; (C) specimens from Nig. and Br. Cam. (excluding Cam. Mt.), with densely spreadingly hirsute young shoots and petioles, and usually narrow leaves; this is var. *nigeriana* Wedd. (type Barter 114). The infraspecific variants require thorough and extensive revision throughout the vast range of the species.

Fr. G.: Haut Konkouré (Sept.) Pobéguin 1872! Dalaba Plateau (Dec.) Pobéguin 2063! **S. L.:** Smythe 102! Yetaya (Sept.) Thomas 2305! Yakala (Sept.) Thomas 2363! Musaia (Dec.) Deighton 4540! **Iv. C.:** Tebo (July) Chev. 19415! **N. Nig.:** Jos (Aug.) Keay FHI 20079. **S. Nig.:** Aboh Barter 114! Oban Talbot 686! **Br. Cam.:** Bambuko, Kumba (Sept.) Olorunfemi FHI 30761! Lakom, Bamenda (May) Maitland 1362! Ndop, Bamenda (fr. Dec.) Adams GC 11061! Cam. Mt., 3,700–5,500 ft. (Dec.–June) Dundas FHI 20380! Hutch. & Metcalfe 72! Maitland 41! 647! 1096! **F. Po.:** Mann 209!

The species is widespread in tropical Africa and Asia and has many varieties.

Boehmeria nivea (*Linn.*) *Gaud.*

It has alternate leaves, densely white tomentellous beneath.

A native species of eastern Asia, it is occasionally cultivated in our area.

11. PARIETARIA

Linn. — F.T.A. 6, 2: 296.

- 1 Tall slender herb up to 3 m. high; stems angular, soon becoming glabrous; leaves alternate or subopposite (or rarely quite opposite), ovate, long- and acutely acuminate, rounded or subcordate at base, 3–8 cm. long, 1.5–4 cm. broad, glabrous but with prominent dot-like cystoliths on both surfaces; petioles 1/3–1/2 as long as the blade; flowers in very small axillary clustered cymes; fruit ovate, apiculate [1. laxiflora](#)

Weak more or less decumbent herb with very thin stems; leaves broadly ovate, at most obtusely pointed, rounded at base, 1–2 cm. long and broad, very thin and flaccid, covered with conspicuous dot-like cystoliths; flowers few in sessile axillary clusters or subsolitary; fruit not apiculate [2. debilis](#)

1. **Parietaria laxiflora** Engl. — F.T.A. 6, 2: 298; Hauman in Fl. Congo Belge 1: 209. *APD acc*

A herb, often scandent and half-woody, with slender leafy branchlets; [in montane forest](#).

Br. Cam.: Cam. Mt., 4,200–7,800 ft. (Dec.–Mar., June) Brenan 9509! Mann 1230! 2013! Maitland 841! 990! **F. Po:** Clarence Peak, 8,000 ft. (Dec.) Mann 613!

Also on mountains in [Belgian Congo](#) and [Uganda](#).

2. **Parietaria debilis** Forst. f. — F.T.A. 6, 2: 298. *APD acc*

APD: *Synonym of Parietaria ruwenzoriensis Cortesi subsp. ruwenzoriensis*

APD: *Synonym of Parietaria laxiflora* Engl.

APD: *Synonym of Parietaria ruwenzoriensis subsp. keniensis Gebauer*

A slender more or less branched herb from a few inches to 1 ft. high.

Br. Cam.: Cam. Mt. (Jan.) Mann! Cam. Mt., in cave in grassland, 12,000 ft. (June) Morton GC 6902!

Widely spread in temperate regions and in tropical highlands.

12. DROGUETIA

Gaud. — F.T.A. 6, 2: 303.

- 1 A perennial herb or undershrub, stems trailing and ascending, pubescent when young; leaves opposite, ovate, acuminate, 3–5 (–8) cm. long, 1.8–2.5 (–4.5) cm. broad, 3-nerved, margins crenate-dentate, sparsely pubescent and with dot-like cystoliths above, pubescent on the nerves beneath; petioles 1–2 (–3) cm. long; stipules ovate-lanceolate, 3–4 mm. long; flowers in axillary, androgynous, bowl-shaped or campanulate involucre, or female involucre ventricose-tubular [iners](#)

Droguetia iners (Forsk.) Schweinf. — F.T.A. 6, 2: 303; Hauman in Fl. Congo Belge 1: 217. *APD acc*

Urtica iners Forsk. (1775).

To 5 ft. high; [in montane forest](#).

Br. Cam.: Cam. Mt., 3,000–6,000 ft. (Dec.–Feb.) Adams GC 11728! Maitland 219! 824! 1525! Morton GC 7110! Bambui, Bamenda 6,300 ft. (Dec.) Adams GC 11218!

Also in [Belgian Congo](#), [Uganda](#), [Abyssinia](#), [Kenya](#), [Tanganyika](#) and [Nyasaland](#); and in [Arabia](#), [India](#) and [Java](#).

CANNABINACEAE

Erect or scandent herbs. Leaves alternate or opposite, simple, undivided or more or less palmately lobed; stipules present. Flowers dioecious, axillary, male paniculate, female sessile, crowded or strobilate, with large persistent bracts. Male flower: calyx 5-partite, segments imbricate; petals absent; stamens 5, erect in bud; anthers 2-celled. Female flower: calyx closely enveloping the ovary, entire; ovary sessile, 1-celled; style 2-partite. Ovule solitary, pendulous. Fruit an achene, covered by the persistent calyx. Seed with fleshy endosperm and curved or spiral embryo.

CANNABIS

Linn. — F.T.A. 6, 2: 16.

Stem erect; leaves alternate or opposite, palmately divided; achene covered by the persistent calyx; embryo curved.

- 1 A leafy annual herb; stems minutely puberulous and glandular; leaves gland-dotted, alternate, or the lower opposite, palmately divided mostly to the base into 5 or more linear-lanceolate toothed acuminate segments; stipules subulate; male flowers greenish in lax axillary and terminal clusters; styles long and filiform; fruit about 5 mm. long, finely reticulate [sativa](#)

***Cannabis sativa* Linn.** — F.T.A. 6, 2: 16; Holl. 4: 614; Chev. Bot. 590. *APD acc*

The Common, European or Indian Hemp.

A native of Asia widely cultivated but rarely in the area of this flora.

AQUIFOLIACEAE

Trees or shrubs, mostly evergreen. Leaves alternate, simple; stipules absent, or rarely present. Flowers actinomorphic, hermaphrodite or unisexual, fasciculate or subumbellate or rarely solitary. Calyx-lobes imbricate. Petals 4 or 5, free or connate at the base, hypogynous, imbricate. Stamens hypogynous, 4 or 5, alternate with the petals, rarely more numerous, free; anthers 2-celled, opening lengthwise. Disk absent. Ovary superior, 3- or more-celled; style terminal or absent; ovules 1–2 in each cell, pendulous from the apex. Fruit drupaceous, of 3 or more 1-seeded pyrenes; seed with copious fleshy endosperm and small straight embryo.

Generally distributed throughout the world, but rare in Africa and in Australia.

ILEX

Linn. — F.T.A. 1: 359.

Petals usually connate at base; stamens as many as petals; inflorescence axillary; ovary 4–6-celled.

- 1 Tree up to 13 m. high; branches glabrous; leaves oblong, apiculate, obtuse to subacute at the base, up to 10 cm. long and 4 cm. broad, entire or remotely denticulate, glabrous, with numerous spreading looped lateral nerves; petiole 1 cm. long; flowers subfasciculate on short axillary peduncles; pedicels up to 1 cm. long; sepals minutely ciliate; petals shortly connate; stigma thick and sessile; fruit subglobose, 5 mm. diam., girt by the persistent sepals [mitis](#)

***Ilex mitis* (Linn.) Radlk.** in Rep. Brit. Ass. 1885: 1081 (1886); Engl. Bot. Jahrb. 17: 540. *APD acc*

***Sideroxylon mite* Linn.** (1767).

***Ilex capensis* Sond. & Harv.** (1860) — F.T.A. 1: 359.

A tree, to 40 ft. high, with dark green foliage; flowers cream or white; ripe fruits red; [in montane forest, especially by streams.](#)

Fr. G.: Nimba Mts., 4,500 ft. (fl. & young fr. Apr.) Adam 116! **S. L.:** Loma Mts., 5,000 ft. (Jan.) Jaeger 4162! **Br. Cam.:** Cam. Mt., 4,000–7,500 ft. (Jan.–Feb.) Keay FHI 28644! Mann 1186! Maitland 212! 237! 983! L. Bambulue, 6,700 ft., Bamenda (fr. Jan.) Keay & Lightbody FHI 28359! Kumbo, 5,600 ft., Bamenda (Jan.) Lightbody FHI 26295! Lakom, 6,000 ft., Bamenda (young fr. Apr.) Maitland 1660! **F. Po:** L. Riaba, Moka (Jan.) Guinea 2209! Tessmann 2889.

Also on mountains in French Cameroons and from Eritrea, [Uganda](#) and [Belgian Congo](#), southwards to S. Africa.

CELASTRACEAE

Small trees, shrubs or woody climbers without tendrils, sometimes spiny. Leaves simple, alternate or opposite. Stipules inconspicuous or absent. Flowers bisexual or unisexual. Sepals 4–5, usually free.

Petals 4–5, free. Stamens 3–5, alternate with petals. Carpels 3–5 united, free from or half-embedded in the disk. Ovules 2–12 in each carpel. Fruit a loculicidal capsule, an indehiscent fleshy or hard drupe, a berry, a 3-lobed capsule or a capsule with 3 nearly separate mericarps. Seed sometimes arillate, sometimes winged, sometimes neither.

A cosmopolitan family represented in Africa by endemic as well as by widespread and very variable species.

Often divided into two families, Celastraceae and Hippocrateaceae, but the genus *Campylostemon* with 4–5 stamens and a Hippocratea-like fruit connects the two into one family.

- 1 Erect shrubs (if climbing then leaves alternate), leaves opposite or alternate; stamens 4–5, anthers with longitudinal dehiscence: [2](#)
- Spineless usually climbing shrubs or small trees, with opposite (or subopposite) leaves (if some leaves alternate then only 3 stamens); stamens 3 or (in *Campylostemon* only) 4–5, anthers with transverse or longitudinal dehiscence: [3](#)
- 2 Fruit a capsule; aril present and conspicuous; shrub or tree, often with stem-spines [1. Maytenus](#)
- Fruit a drupe; aril absent or minute; shrub, not spiny [2. Cassine](#)
- 3 Inflorescence a fascicle, cyme or subumbellate cyme, on a leafy shoot: [4](#)
- Inflorescence of alternate fascicles on leafless side-shoots about 1 m. long; stamens 3; climbing shrubs, glabrous in all parts; no resinous threads on breaking leaf [6. Salacighia](#)
- 4 Fruit a 3-lobed capsule, the 3 dehiscent mericarps free almost to base; seeds with a basal membranous wing; inflorescence a pedunculate cyme: [5](#)
- Fruit a globose or oblong berry; seeds not winged; stamens 3; inflorescence a fascicle or a pedunculate cyme [5. Salacia](#)
- 5 Stamens 4–5, bent inwards; resinous threads on breaking leaf [3. Campylostemon](#)
- Stamens 3, bent outwards; no resinous threads on breaking leaf (except *H. mucronata*) [4. Hippocratea](#)

1. MAYTENUS

H. B. & K. Nov. Gen. Sp. Pl. 764 (1824–5); Loes. in E. & P. Pflanzenfam. 20B: 134 (1942); Exell & Mendonca Consp. Fl. Ang. 2: 1 (1954); Blakelock in Taxon 3: 196 (1954). APD acc

Gymnosporia (Wight & Arn.) Hook. f. in Gen. Pl. 1: 365 (1862); Loes. in Engl. Bot. Jahrb. 17: 541 (1893); l.c. 19: 231 (1895); l.c. 28: 150 (1900); 41: 298 (1908); F.W.T.A., ed. 1, 1: 444; Loes. in E. & P. Pflanzenfam. 20B: 147 (1942).

The shape and size of the leaves are very variable in all species.

- 1 Inflorescence unbranched (a fascicle of single flowers); plant without spines; no resinous threads in leaf; aril a thin oblique cup covering from basal 1/4 to the entire seed [1. undatus](#)
- Inflorescence branched with a common peduncle (sometimes very short); plants sometimes spiny; resinous threads present or not in leaf: [2](#)
- 2 Leaves cuneate at base, often coriaceous, usually glaucous; aril a thin oblique cup covering from basal 1/4 to the entire seed; no resinous threads in leaf [2. senegalensis](#)
- Leaves usually rounded to somewhat cuneate at base, usually not glaucous: [3](#)
- 3 Aril a thin oblique cup covering from basal 1/4 to the entire seed; resinous threads in leaf; peduncle often short (1 mm. long) [3. acuminatus](#)
- Aril a thick cup-like strophiole below seed; no resinous threads in leaf: [4](#)
- 4 Leaves often coriaceous; inflorescence pubescent, 0.5–3.5 cm. long; capsule 4–10 mm. long [4a. ovatus var. ovatus forma pubescens](#)
- Leaves membranous, more acute, margin more serrate; inflorescence pubescent or glabrous, (1.2–) 3–14 cm. long; capsule 0.8–1.8 cm. long [4b. ovatus var. argutus](#)

1. *Maytenus undatus* (Thunb.) Blakelock in Kew Bull. 1956: 237 (1956). APD acc

Celastrus undatus Thunb. (1794).

C. lancifolius Thonn. (1827) — F.T.A. 1: 364.

Maytenus lancifolius (Thonn.) Loes. (1942) — Exell & Mendonca Consp. Fl. Ang. 2: 2.

Celastrus luteolus Del. (1843) — F.T.A. 1: 363.

Catha fasciculata Tul. (1857).

Gymnosporia fasciculata (Tul.) Loes. (1895) — F.W.T.A., ed. 1, 1: 445.

G. maliensis Schnell in Bull. I.F.A.N. 15: 96, fig. 3 (1953).

Unarmed shrub or tree, up to 25 ft. high; flowers whitish; fruits mostly reddish when ripe.

Fr. G.: Mali (fl. & young fr. Mar.) Schnell 4822! **G. C.:** Cape Coast Brass. Adah Thonning. **Togo:** Lome Warnecke 335! **Br. Cam.:** Mt. Mba Kokeka, 7,800 ft., Bamenda Lightbody FHI 30111!

Widespread in the rest of tropical Africa and in S. Africa.

2. **Maytenus senegalensis** (Lam.) Exell in Bol. Soc. Brot. Sér. 2, 26: 223 (1952); Exell & Mendonça Consp. Fl. Ang. 2: 8.

APD: *Synonym of Gymnosporia senegalensis* (Lam.) Loes.

APD: *Synonym of Gymnosporia buxifolia* (L.) Szyszyl.

Celastrus senegalensis Lam. (1785) — F.T.A. 1: 361; Chev. Bot. 130.

Gymnosporia senegalensis (Lam.) Loes. (1893), incl. vars. — F.W.T.A., ed. 1, 1: 445; Aubrév. Fl. For. Soud.-Guin. 349–351, t. 73, 1–3 (incl. var. *djalensis*); Schnell in Ic. Pl. Afr. 1: t. 11.

Celastrus coriaceus Guill. & Perr. Fl. Seneg. 1: 142, t. 36 (1831).

A savannah shrub or small tree, up to 16 ft. high; young shoots often red; flowers whitish; fruit red.

Sen.: Walo Heudelot 200! Casamance (fl. & tr. Apr.) Perrottet 146! Tivaouane (Dec.) Chev. 3177! **Gam.:** Dawe 79! Don! **Fr. Sud.:** Timbuktu (June, July) Hagerup 93! 210! Birgo Dubois 47. **Port. G.:** Samba-Fili (fl. & tr. Apr.) Esp. Santo 2456! **Fr. G.:** Kouroussa (July) Pobéguin 273! Dalaba-Diaguissa Plateau (Oct.) Chev. 18875! Kadé Pobéguin 2010! 2040! **S. L.:** Sellakuri to Yanga (fr. Mar.) Sc. Elliot 5090! **Iv. C.:** Bondoukou Aubrév. 1610. **G. C.:** Ejura (Aug.) Chipp 723! 728! Kwomma to Nangrumba (May) Kitson 932! Yijia to Pong (fl. & fr. Mar.) Kitson 627! 628! **Togo:** Kersting A. 224! Kpedsu (Jan.) Howes 1091! **Dah.:** Boukombé Aubrév. 89d. **N. Nig.:** Borgu Barter 776! 780! Naraguta (Nov., Jan.) Lely 68! 722! P. 110! Kontagora (fl. & fr. Dec.) Dalz. 95! **S. Nig.:** Lagos Rowland! Oyo (Jan.) Keay FHI 25641! R. Tessi, Old Oyo (Feb.) Keay FHI 16025!

Widespread in the savannah regions of tropical Africa.

3. **Maytenus acuminatus** (Linn. f.) Loes. in E. & P. Pflanzenfam. 20B: 138 (1942).

APD: *Synonym of Gymnosporia acuminata* (L. f.) Szyszyl.

Celastrus acuminatus Linn. f. (1781).

A glabrous unarmed shrub or small tree; seeds orange-brown with white aril.

Br. Cam.: ridge above L. Oku, 7,700 ft., Bamenda (fr. Jan.) Keay & Lightbody FHI 28512!

Also in **Belgian Congo**, **E. Africa**, **N. Rhodesia** and **S. Rhodesia**, **Nyasaland** and **S. Africa**.

4. **Maytenus ovatus** (Wall. ex Wight & Arn.) Loes. l.c. 140 (1942).

APD: *Synonym of Gymnosporia gracilipes* (Welw. ex Oliv.) Loes. subsp. *gracilipes*

APD: *Synonym of Gymnosporia addat* Loes.

Celastrus ovatus Wall. ex Wight & Arn. (1834).

4a. **Maytenus ovatus** var. **ovatus forma pubescens** (Schweinf.) Blakelock l.c. 240 (1956). APD acc APD acc

C. littoralis A. Chev. Bot. 129, name only.

A shrub, usually spiny; flowers whitish; fruits red or yellow.

Iv. C.: Tabou to Bériby (fr. Aug.) Chev. 19944! **N. Nig.:** Anara F.R., Zaria Prov. (fr. Mar.) Olorunfemi FHI 24415! Kaduna (Dec.) Meikle 749! 779! Bauchi Plateau (fl. & fr. Jan.) Lely P. 111! **S. Nig.:** Enugu Tamajong FHI 26845! **Br. Cam.:** Mokanda, 8,000 ft. (fl. & fr. Feb.) Maitland 1326! Lakom, 6,000 ft., Bamenda (fl. May, fr. Apr.) Maitland 1496! 1513! Bapinyi, Bamenda (May) Ujor FHI 30366!

Widespread in the savannah regions of the rest of tropical Africa, also in **Arabia**.

4b. **Maytenus ovatus** var. **argutus** (Loes.) Blakelock l.c. 241 (1956).

APD: Synonym of Maytenus gracilipes subsp. arguta (Loes.) Sebsebe

Celastrus gracilipes Welw. ex Oliv. F.T.A. 1: 361 (1868).

Gymnosporia gracilipes (Welw. ex Oliv.) Loes.

Gymnosporia gracilipes (Welw. ex Oliv.) Loes. **var. arguta** Loes. (1893) — F.W.T.A., ed. 1, 1: 445.

Maytenus gracilipes (Welw. ex Oliv.) Exell (1952) — Consp. Fl. Ang. 2: 4.

A spiny shrub; petals whitish; fruits red; **in forest**.

Br. Cam.: Ambas Bay (Dec.) Mann 2153! Buea (fr. Mar.) Maitland 57! 568! Mimbia (Feb.) Maitland 1309! Nkom-Wum F.R., Bamenda (fr. Apr.) Ujor FHI 30068!

Also in **French Cameroons, A.-E. Sudan, Abyssinia, Belgian Congo, Uganda** and **Angola**.

[Specimens intermediate between the above two varieties are known, e.g. Keay FHI 16024 from Old Oyo F.R., S. Nigeria.]

2. CASSINE

Linn. Sp. Pl. 1: 268 (1753). *APD acc*

Elaeodendron Jacq. (1782) — F.T.A. 1: 365; F.W.T.A., ed. 1, 1: 445.

Mystroxydon Eckl. & Zeyh. (1835).

- 1 Twigs densely pubescent to glabrescent; leaves alternate; inflorescence subumbellate, branches generally pubescent; petals orbicular; flowers bisexual [1. aethiopica](#)

Glabrous in all parts; leaves opposite, subopposite or alternate on same plant; inflorescence a cyme with a central axis (continuation of peduncle) and side branches; petals oblong; flowers unisexual, with petaloid staminodes in female flower [2. buchananii](#)

1. **Cassine aethiopica** Thunb. Fl. Cap. 2, 1: 227 (1818); Perrier de la Bâthie in Fl. Madag. 116: 36.

APD: Synonym of Mystroxydon aethiopicum (Thunb.) Loes. subsp. aethiopicum

Elaeodendron aethiopicum (Thunb.) Oliv. F.T.A. 1: 365 (1868).

Mystroxydon aethiopicum (Thunb.) Loes. (1897).

A shrub or small tree, usually about 20 ft. high, sometimes more; leaves variable, widely ovate to narrowly elliptic, 0.7–13 cm. long; petals whitish; ripe fruits reddish; **in montane forest**.

Fr. G.: Mt. Loura, 4,800 ft. (Jan.) Roberty 16572! **Br. Cam.:** Bafut-Ngamba F.R., 6,000 ft., Bamenda (fl. Jan., May, fr. May) Keay & Lightbody FHI 26284! 28356! Uior 30310!

Widespread in tropical Africa and in S. Africa, Madagascar, the Mascarene Islands and Seychelles.

2. **Cassine buchananii** Loes. in Engl. Bot. Jahrb. 17: 551 (1893).

APD: Synonym of Elaeodendron buchananii (Loes.) Loes.

Elaeodendron afzelii Loes. (1900) — F.W.T.A., ed. 1, 1: 445.

E. warnecke Loes. (1908).

A glabrous shrub or tree, up to 100 ft. high; leaves variable, elliptic to ovate, rarely oblanceolate or narrowly elliptic, 1–13 (–17) cm. long; petals whitish; fruits pale yellow.

S. L.: Afzelius. **Togo:** Lome (Jan.) Warnecke 45! Kpedyi, Nyamassila (fl. Jan, fr. June) Kersting A. 269!

Also in **Belgian Congo, A.-E. Sudan, E. Africa, Nyasaland, N. Rhodesia** & **S. Rhodesia** and **Angola**.

3. CAMPYLOSTEMON

Welw. ex Oliv. in J. Linn. Soc. 10: 44 (1867); F.T.A. 1: 365; Loes. in Notizbl. Bot. Gart. Berl. 13: 565 (1937); in E. & P. Pflanzenfam. 20B: 111, fig. 32 (1942); Lawalrée in Bull. Jard. Bot. Brux. 18: 249 (1947).

- 1 A climbing spineless shrub, glabrous in all parts; leaves membranous to coriaceous, narrowly elliptic to ovate,

apex acuminate to long-acuminate, margin crenate-serrate, 3–16 cm. long, 1·7–10 cm. broad, petiolate; cymes solitary, axillary; flowers hermaphrodite; petals 1·5–3·5 cm. long; disk about 1 mm. diam.; ovary partially embedded in disk, 3-celled, 6–12 ovules in each cell; fruit of 3 mericarps, flattened, ovate, 3·5–4 cm. long, 2–2·3 cm. broad; seed winged[angolense](#)

Campylostemon angolense Oliv. l.c. (1867), F.T.A. 1: 366. *APD acc*

Campylostemon warneckeanum Loes. ex Fritsch (1901).

Hippocratea chevalieri Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 449 (1928); Kew Bull. 1929: 20.

H. kennedyi Hoyle (1932).

Campylostemon kennedyi (Hoyle) Hoyle & Brenan (1947).

C. mitophorum Loes (1937).

Hippocratea oliveriana of F.W.T.A., ed. 1, 1: 449, partly (Warnecke 157 & 302).

Stems reddish brown; flowers fragrant; petals white turning yellow; **in forest vegetation.**

S. L.: Smeathmann! **Lib.:** Mt. Bobei, Sanokwele (fr. Sept.) Baldwin 9611! **Iv. C.:** Mt. Kouan, 1,300 ft., Dyolas country (Apr.) Chev. 21242! **G. C.:** Kumasi (July) Vigne FH 4859! Odumase, Krobo (June) Irvine 1645! Bana Hill, Krobo (Apr.) Irvine 2894! Anyaboni (Jan.) A. S. Thomas D. 115! **Togo:** Lome Warnecke 157! 302! **S. Nig.:** Ibadan South F.R. (Apr.) Keay FHI 22820! Owena, Akure F.R. (Oct.) Ujor FHI 23915! Sapoba Kennedy 858! **Br. Cam.:** Moliwe Winkler 1467. **F. Po:** St. Isabel (Aug.) Schultze in Hb. Mildbr. 6478.

Also in **French Cameroons, Belgian Congo, Uganda, Tanganyika** and **Angola**

Only one specimen of the genus has been seen in fruit. Loesener l.c. (1937) recognizes a number of species mainly on leaf characters; as the leaves are very variable in other species of Celastraceae and as the fruit is so poorly known. It seems best to include all the African material in one species for the present, although further study may modify this view.

4. HIPPOCRATEA

Linn. Sp. Pl. 1: 363 (1753); F.T.A. 1: 366; Loes in Engl. Bot. Jahrb. 34: 103 (1904); in E. & P. Pflanzenfam. 20B: 206 (1942).

- 1 Flowers small, up to 2 (–2·5) mm. long: **2**
Flowers 3 mm. or more long: **10**
- 2 Petals, sepals and uppermost inflorescence-branches pubescent to tomentose: **3**
Petals, sepals and uppermost inflorescence-branches glabrous or glabrescent or minutely papillose: **5**
- 3 Young twigs glabrescent or glabrous; indumentum elsewhere tomentose: **4**
Young twigs shortly pubescent-tomentose; indumentum elsewhere pubescent-tomentose; petals 2 mm. long .. **3**.
[guineensis](#)
- 4 Leaves coriaceous or membranous, rounded or sometimes shortly acuminate at apex; petals 1·5–2 mm. long .. **1**.
[myriantha](#)
Leaves membranous, acuminate; petals 2·5 mm. long **2. vignei**
- 5 The petals not clawed: **6**
The petals clawed **7. preussii**
- 6 Resinous threads absent from leaves: **7**
Resinous threads present in leaves; see also below **13. mucronata**
- 7 Petals about 1 mm. long, more or less oblong; leaves up to 12·5 cm. long, reticulations not prominent; brownish or grey when dry: **8**
Petals at least 1·5 mm long, ovate; leaves often larger, reticulations prominent: **9**
- 8 Petals flat, rounded at apex; stigma sessile, above the anthers; mericarps obovate-oblong, up to 2·8 cm. long and 1·3 cm. broad **4. pallens**
Petals involute (rarely flat), so that apex appears acute; style present, stigma below or more or less on level with anthers; mericarps generally oblong, up to 5·2 cm. long, 0·7–1·4 cm. broad **5. indica**
- 9 Leaves greenish or blackish when dry; flowers 4–6 mm. diam.; disk produced into a stipe (androgynophore) in “female” flower, stipe inconspicuous or absent in “male” flower; mericarps oblong-ovate, 1·2–2·2 cm. broad **12. welwitschii**
Leaves greenish yellow, rarely brownish, when dry; flowers 2–4 mm. diam.; no stipe; mericarps ovate-oblong or obovate-oblong, 2·4–3·8 cm. broad **6. paniculata**

- 10 Flower buds shortly conic or ellipsoid and pointed: 11
 Flower-buds globose and rounded or pointed, or ellipsoid and rounded: 14
- 11 Petals triangular; disk simple (not produced into a stipe): 12
 Petals linear-triangular; disk double, lower and outer part cup-shaped, upper and inner part forming a stipe (androgynophore): 13
- 12 Outside of petals very minutely puberulous; calyx and inflorescence-branches shortly pubescent or glabrescent, greyish when dry; twigs and leaves glabrous or glabrescent; petals 3–5 mm. long; mericarps ovate-oblong or obovate-oblong, 4.4–7.5 cm. long, 1.6–4.4 cm. broad [8. africana](#)
 Outside of petals, calyx and inflorescence-branches long and densely tomentose-pubescent, red-brown when dry; petals up to 4 mm. long; mericarps ovate-oblong, about 6 cm. long and 3 cm. broad, tomentose-pubescent .. [9. iotricha](#)
- 13 Petals minutely tomentellous outside, very acute, 6–9 mm. long; mericarps oblong-ovate, 7.8–10 cm. long, 2.4–4.2 cm. broad [10. clematoides](#)
 Petals minutely tuberculate-scabrid outside, acute, 4–6 mm. long [11. rowlandii](#)
- 14 Petals not fimbriate; twigs and lower surface of leaves glabrous: 15
 Petals fimbriate, clawed, 4–5 mm. long; flower-buds globose, rounded or apiculate; outer surface of sepals and petals, inflorescence-branches, twigs and lower surface of leaves red-brown tomentose-pubescent; mericarps subterete [15. velutina](#)
- 15 Upper part of inflorescence tomentose [2. vignei](#)
 Upper part of inflorescence glabrous: 16
- 16 Flowers less than 1 cm. diam.: 17
 Flowers at least 1 cm. diam.; petals shortly clawed, membranous, entire; leaves 6–23 cm. long, reticulate; mericarps flattened, broadly obovate, 7–9.1 cm. long, 6.5–7 cm. broad; seeds bulky, wing shorter than seed; flower-buds globose, rounded; glabrous in all parts [14. macrophylla](#)
- 17 Resinous threads absent from leaves; plant often greenish or blackish when dry; flower-buds globose; petals membranous; disk produced into a stipe (androgynophore) in “female” flower, stipe inconspicuous or absent in “male” flower [12. welwitschii](#)
 Resinous threads present in leaves; plant brownish when dry; flower-buds depressed-globose; petals thick and fleshy; no stipe [13. mucronata](#)

1. **Hippocratea myriantha** Oliv. F.T.A. 1: 369 (1868); Loes. in Engl. Bot. Jahrb. 34: 106, fig. 1, D–F; Chev. Bot. 131. *APD acc*

Climbing shrub with the leaves dark green and shiny above, paler beneath; flowers small, creamy-white, very numerous in much-branched cymes; fruits oblong, flat, very glaucous.

S. L.: Bagroo R. (Apr.) Mann 790! **iv. C.:** Dabou (Feb.) Chev. 17251. Mt. Nienokué, 1,600 ft. Chev. 19456. **G. C.:** Obuom (June) Vigne FH 2975! **S. Nig.:** Sapoba (Jan.) Brenan 8936! Nun R. Barter 2117! Bonny (Feb.) Kalbreyer 491 Eket Talbot 3165! Calabar (Feb.) Mann 2309! Thomson 42! Ikette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25216! **Br. Cam.:** Bum, 4,000 ft., Bamenda (May) Maitland 1675!

Also in **Ubangi-Shari**, **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Angola**.

2. **Hippocratea vignei** Hoyle in Kew Bull. 1932: 264. *APD acc*

A forest liane; flowers cream.

G. C.: Kwahu Prasu (June) Vigne FH 1752! Sunyani (young fr. Sept) Vigne FH 2450!

3. **Hippocratea guineensis** Hutch. & M. B. Moss in F.W.T.A., ed 1, 1: 449 (1928); Kew Bull. 1929: 20.

APD: *Synonym of Loeseneriella apocynoides var. guineensis (Hutch. & M.B. Moss) N. Hallé*

APD: *Synonym of Loeseneriella apocynoides var. guineensis (Hutch. & M.B. Moss) N. Hallé*

Hippocratea apocynoides of F.T.A. 1: 368, partly (excl. Welw. spec.); Chev. Bot. 130 (incl. form & var.); not of Welw. ex Oliv.

Climbing shrub; inflorescence and calyx covered with brown indumentum, petals greenish-cream.

Fr. G.: Kouria (June) Chev. 14953! Timbikounda, Farana Chev. 20595! **S. L.:** Konnoh country Burbidge 499! Bumpé (Sept.) Deighton 4029! 5578! **Lib.:** Dukwia R. (Feb.) Cooper 181! **iv. C.:** Ahiamé, Sanvi Chev. 17776. Prolo to Bliéron Chev. 19891. **G. C.:** Akwapim Hills (Oct.) Johnson 776! **Togo:** Lome Warnecke 404! **N. Nig.:** top of Patti Lokoja Dalz.

204! Anara F.R., Zaria (Oct.) Keay FHI 20119! **S. Nig.:** Lagos Millen 60! Mouth of R. Niger (Aug.) Mann 456! Eket Dist. Talbot 3049. **Br. Cam.:** Cameroon R. (Jan.) Mann 2218!

Also in **French Cameroons**, **Uganda** and **Tanganyika**.

4. **Hippocratea pallens** *Planch. ex Oliv.* F.T.A. 1: 367 (1868); Loes. l.c. 103, fig. 1, A; Chev. Bot. 131; Loes. in E. & P. Pflanzenfam. 20B: 210, fig. 66, A.

APD: Synonym of Apodostigma pallens (Planch. ex Oliv.) R. Wilczek var. pallens

Hippocratea buchholzii Loes. (1894) — Exell & Mendonça in Consp. Fl. Ang. 2: 16.

Hippocratea oliveriana *Hutch. & M. B. Moss* in F.W.T.A., ed. 1, 1: 449 (1928), excl. Warnecke 157 & 302; Kew Bull. 1929: 20.

Climbing shrub; flowers green to yellow-cream.

Sen.: Heudelot 341! **Port. G.:** Canjabarim, Farim (Apr.) Esp. Santo 2676! **Fr. G.:** Kouroussa (Apr., May) Pobéguin 691! 892! Labé (Mar.) Chev. 12240! Dentilia (fl. & fr. Mar.) Sc. Elliot 5270! **S. L.:** Barter! Bagroo R. (Apr.) Mann 855! Njala (Feb., Apr.) Deighton 1090! 3537! 4741! Gbap (fl. & fr. Mar.) Adames 16! **Lib.:** Monrovia Whyte! **Iv. C.:** various localities fide Chev. l.c. **G. C.:** Vigne FH 3867! Ancobra R., Anibil (Mar.) Irvine 2389! E. Akim (June) Johnson 760! **Dah.:** Birni, Atacora Mts. Chev. 23976. **N. Nig.:** Katabu, Kaduna (May) Keay FHI 25791! Katagum Dalz. 412! **S. Nig.:** Igboho, Oyo Prov. (Feb.) Keay FHI 22498! Sapoba (Nov.) Kennedy 2748! Meikle 555! Uqua to Ntete, Bket (fl. & fr. May) Onochie FHI 33191! Oban Talbot 1447!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Kenya** and **Angola**.

5. **Hippocratea indica** *Willd.* Sp. Pl. 1: 193 (1797); F.T.A. 1: 368; Loes. in Engl. Bot. Jahrb. 34: 106; Chev. Bot. 130.

APD: Synonym of Reissantia indica var. orientalis N. Hallé & B. Mathew

APD: Synonym of Reissantia indica (Willd.) N. Hallé var. indica

Hippocratea loesneriana *Hutch. & M. B. Moss* in F.W.T.A., ed. 1, 1: 449 (1928); Kew Bull. 1929: 20.

Climbing shrub; flowers yellow or whitish.

Fr. Sud.: Massif de Kita, Cercle de Kita (fl. June, July, fr. Dec.) Jaeger 21! 2213! 3830! **Port. G.:** Safim, Bissau (fr. Mar.) Esp. Santo 1908! Farim Dist. (fr. Apr.) Esp. Santo 2454! **Fr. G.:** Pobéguin 815! Fouta Djallon (Apr.) Chev. 18145; 18618. Nzérékoré (fr. Oct.) Baldwin 9702! Macenta (fr. Oct.) Baldwin 9835! **S. L.:** Moyamba (June) Lane-Poole 48! Njala (fl. May, Aug., fr. Jan., Mar., Aug.) Deighton 1146! 1211! 4308! 4617! I Boruks (July) Deighton 3249! Bumbuna (fr. Oct.) Thomas 3702! **Lib.:** Gbanga (fl. May, Sept) Konneh 171! Linder 490! 808! Dukwia R. Cooper 409! Karmadhun (fr. Nov.) Baldwin 10183! 10196! Sanokwele (fr. Sept.) Baldwin 9514! 9641! **Iv. C.:** Mt. Kouan, Dyola (Apr.) Chev. 21243! **G. C.:** Kumasi (fl. June, fr. Oct.) Andoh FH 4601! 5497! Vigne FH 3011! Djadje (fr. July) Akpabla 46! **Togo:** Lome Warnecke 406! **N. Nig.:** Nupe Barter! **S. Nig.:** Lagos Dawodu 128! Ilaro (Jan.) Millen 110! Ibadan (fl. July, fr. Sept) Onochie FHI 13508! Brown! **F. Po:** Barter! Mann 185!

This species (or close relatives) is widespread in tropical Africa and tropical Asia.

6. **Hippocratea paniculata** *Vahl* Enum. 2: 28 (1806); Loes. l.c. 113; Chev. Bot. 132.

APD: Synonym of Prionostemma unguiculata (Loes.) N. Hallé

APD: Synonym of Pristimera paniculata (Vahl) N. Hallé

Hippocratea polyantha. *Loes.* (1912).

Hippocratea bequaertii *De Wild.* (1923).

A large climbing shrub; flowers white or pale greenish.

Sen.: Samatite, Casamance (Apr.) Perrottet 96! **Port. G.:** Brene, Bissau (fl. & fr. Jan) Esp. Santo 1679! Empada, Buba (fr. Dec.) Esp. Santo 2336! **Fr. G.:** Farmar 240! Labé Chev. 12392; 12406; **S. L.:** Smeathmann! Kent (May) Deighton 5533! Smythe 246! Leicester (June) Deighton 2706! Njala (Mar.) Deighton 2622! Kambui Hills (fr. Dec.) Small 868! **Iv. C.:** Guidéko Chev. 16469. Sassandra Port Chev. 1792; 17944; **G. C.:** Nkinkaro (fr. Oct.) Vigne FH 2549! **S. Nig.:** Agbemia Barter 3363!

Also in **Belgian Congo**, **Angola** and **E. Africa**.

7. *Hippocratea preussii* Loes. in Engl. Bot. Jahrb. 34:112, fig. 2B (1904).

APD: *Synonym of Pristimera preussii* (Loes.) N. Hallé

A climbing shrub

Br. Cam.: Victoria to Bimbina (July) Preuss 1306!

8. *Hippocratea africana* (Willd.) Loos. ex Engl. Pflanzenw. Afr. 3, 2: 240 (1921).

APD: *Synonym of Loeseneriella ectypetala* N. Hallé

APD: *Synonym of Loeseneriella africana* (Willd.) N. Hallé var. *africana*

Tonsella africana Willd. Sp. Pl. 1: 194 (1797); Vahl Enum. Pl. 2: 30 (1805), partly (Willd. ref. & Isert spec. only); Schum. Beskr. Guin. Pl. 20 (1827), partly (Willd. ref. only).

Salacia africana (Willd.) DC. Prod. 1: 570 (1824), partly (Willd. ref. only).

Hippocratea obtusifolia Roxb. (1820) — F.T.A. 1: 369; Loes. in Engl. Bot. Jahrb. 19: 236, incl. vars.; Chev. Bot. 131; Loes. in E. & P. Pflanzenfam. 20B: 211, 213, fig. 66, G–L, fig. 67 (1942).

Hippocratea richardiana Cambess. (1829) — Guill. & Perr. Fl. Seneg. 1: 112, t. 26; F.W.T.A., ed. 1, 1: 449; Schnell in Ic. Pl. Afr. 1: t. 12.

Hippocratea cymosa var. *togoensis* Loes. in Engl. Bot. Jahrb. 34: 108 (1904).

A liane with green twigs and bright green leaves; flowers fragrant, petals green, anthers orange; a very variable species; **mainly in fringing forest in the savannah regions of our area.**

Sen.: Perrottet 95! Richard Tol Perrottet! Richard. Walo Heudelot! R. Farèna, Thin (Feb.) Döllinger 32! Dakar (Jan.) Hagerup 776! Gam.: Genieri-Massembe Road (Feb.) Fox 57! Fr. Sud.: Niafunké (June) Hagerup 87! Badinko (Jan.) Chev. 113. Balani (Jan) Chev. 148. Sumpi to Sébi Chev. 3174. Port. G.: Cobras Isl. (Apr.) Esp. Santo 1929! For, Bissau (fl. & fr. Feb.) Esp. Santo 1782! S. L.: Barter! Musaia (Mar.) Sc. Elliot 5138! Samaia (May) Thomas 223! Likuru Sc. Elliot 4965! Lib.: Peahtah (fr. Oct.) Linder 1627! Vahon, Kolahun (fr. Nov.) Baldwin, 102161 G. C.: Aburi Road (Feb.) Dalz. 8267! Alababa (Apr.) Scholes 290! Achimota (June) Irvine 1454! Togo: Lome Warnecke 43! 158! 309! Kabosu, Hohoe Dist. St. C. Thompson FH 3678! N. Nig.: Nupe Barter 1215! Katagum Dist. Dalz. 217! Bornu Prov. (Jan., Feb.) Talbot! S. Nig.: Ifon to Sobe, Ondo Prov. (fr. Jan.) Onochie in Hb. Brenan 8948! Br. Cam.: Bama, Dikwa Div. (Jan.) McClintock 133!

Widespread in tropical Africa, S. Africa, Madagascar, India, China, Celebes and Philippines.

[We have seen photographs of the type specimen of *Tonsella africana* Willd. It was collected by Isert in “Guinea” — presumably a coastal area in what is now the Gold Coast, Togoland or Dahomey.]

9. *Hippocratea iotricha* Loes. in Engl. Bot. Jahrb. 34: 108, fig. 1, O (1904).

APD: *Synonym of Loeseneriella iotricha* (Loes.) N. Hallé var. *iotricha*

A woody climber, with dense brown indumentum; flowers pale yellow with brown indumentum, sweet-scented; **in forest vegetation.**

S. L.: Njala (fl. June, fr. Oct.) Deighton 1744! 4911! Bendu-Mamaima (Apr.) Deighton 3941! Pelewahun, Kamagai (fr. Sept.) Deighton 6116! Kandorahun, S. Prov. (Apr.) Deighton 1627! Lib.: Sanokwele (young fr. Sept.) Baldwin 9488! S. Nig.: Sapoba Kennedy 1622! 2715! Obani Talbot 1275!

Also in **French Cameroons.**

10. *Hippocratea clematoides* Loes. l.c. 109, fig. 1, P–Q (1904).

APD: *Synonym of Loeseneriella clematoides* (Loes.) R. Wilczek ex N. Hallé

Hippocratea venulosa Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 449 (1928); Kew Bull. 1929: 20.

A woody climber; petals olive-green, disk and stamens orange; **in forest vegetation.**

S. L.: Thomas 10132! 10255! 10550! Njala (Mar.) Deighton 3121! Lib.: Lormai (Feb.) Bequaert 87a! Ganta (Apr.) Harley 1137! Belefania, Gbanga (Dec.) Baldwin 10539! G. C.: Peduari, Aburi (July) Darko 907! S. Nig.: Thomas 2266! Okomu F.R., Benin (Feb.) Richards 3946! Sapoba Kennedy 1977! 2320! Br. Cam.: Kumba Div. (fr. Dec.) Ejiofor FHI 15196!

Also in **French Cameroons, Spanish Guinea, Gabon, Belgian Congo, Uganda, Nyasaland and Angola.**

11. *Hippocratea rowlandii* Loes. in Engl. Bot. Jahrb. 19: 236 (1894); op. cit. 34: 110; Chev. Bot. 132.

APD: *Synonym of Loeseneriella rowlandii* (Loes.) N. Hallé

A woody climber; calyx olive-green, petals yellowish green, disk deeper green, anthers dark yellow; in forest vegetation.

Fr. G.: Kaba valley Chev. 13126. Iv. C.: various localities fide Chev. I.c. G. C.: Kwahu (Apr.) Johnson 645! Opnoase (May) Johnson 755! Owabi (Apr.) Andoh FH 4184! Agogo, Akim (Apr., May) Irvine 933! Williams 271! S. Nig.: Lagos (Dec.) Millen 24! Rowland! Near Ibadan (Mar., Apr.) Keay FHI 22540! Meikle 1462! Oban Talbot! Br. Cam.: Johann-Albrechtshöhe Staudt 885!

Also in French Cameroons.

12. *Hippocratea welwitschii* Oliv. F.T.A. 1: 367 (1868); Loes. in Engl. Bot. Jahrb. 34: 112.

APD: *Synonym of Simicratea welwitschii* (Oliv.) N. Hallé

A woody climber; flowers pale green, except for the cream-coloured anthers.

Fr. G.: Nzérékoré (fr. Sept.) Baldwin 13304! S. L.: Makene (Apr.) Deighton 5498! Njala (Mar., May) Deighton 4631! 4717! Kamahwie (fl. & fr. Feb.) Deighton 4046! 4201! Shengama, Serabu (Apr.) Deighton 1698! Lib.: Gbanga (Dec.) Baldwin 10527! Belleyella (Dec.) Baldwin 10656a! Ganta (May) Harley 1149! Dobli Isl., St. Paul R. (Apr.) Bequaert 23! G. C.: Akwapim Hills (Mar.) Irvine 1601! Pokoase (Jan.) Irvine 1959! Abokobi (Feb.) Irvine 1908! Dodowa (May) Irvine 2678! Dah.: Poisson! S. Nig.: Lagos Foster 61! Ikire, Ibadan (fr. Jan.) Keay FHI 22464! Omo F.R., Ijebu Ode (Apr.) Onochie! FHI 15581! Idanre Hills (fr Jan.) Brenan 8713! Eket Talbot 3135! Br. Cam.: Victoria Preuss 1304! Likomba (Mov) Mildbr 10709!

Also in French Cameroons, Gabon, Belgian Congo, Uganda, Tanganyika and Angola. (See Appendix, p 289)

13. *Hippocratea mucronata* Exell in J. Bot. 65, Suppl. Polypet. 78 (1927).

APD: *Synonym of Bequaertia mucronata* (Exell) R. Wilczek

A climbing shrub, flowers yellow or white, in forest vegetation.

G. C.: Bunsu, Akim (May) Irvine 3013!

Also in Gabon, Cabinda and Uganda

14. *Hippocratea macrophylla* Vahl Enum. 2: 28 (1808), F.T.A. 1: 371; Loes. l.c. 115; Chev. Bot. 131.

APD: *Synonym of Cuervea macrophylla* (Vahl) R. Wilczek ex N. Hallé

Climbing shrub with leaves often more than 15 cm. long and 8 cm. broad; flowers white, very fragrant, in forest, often by streams.

Fr. G.: Conakry Chev. 12732 S. L.: Don! Smeathmann! Rotumba Isl. (Mar.) Kirk 21! Roruks (fr. July) Deighton 2510! Moa R., Koteimahun (Mar.) Lane-Poole 328! Mange Bure (Jan.) Jordan 860! Lib.: Monrovia (June) Baldwin 5938! Whyte! Iv. C.: several localities fide Chev. I.c. G. C.: Burton & Cameron! S. Nig.: R. Ogbesse, Owo (Mar.) Jones FHI 3080! Eket Talbot! Oban Talbot 1406! Calabar (Feb.) Mann 2292! Br. Cam.: Bulifambo, Buea (Mar.) Maitland 563!

Also in Spanish Guinea, Gabon, Belgian Congo and Angola.

15. *Hippocratea velutina* Afzel. Remed. Guin. 33 (1815); F.T.A. 1: 370; Loes. in Engl. Bot. Jahrb. 34: 120, fig. 3; Chev. Bot. 132 (incl. var. *apiculata* A. Chev.)

APD: *Synonym of Helictonema velutinum* (Afzel.) Pierre ex N. Hallé

Helictonema klaineanum Pierre (1898).

Climbing shrub with rusty-tomentose branchlets; petals brownish-green outside, fawn within, fruits rusty brown; in forest regions.

Fr. G.: Ymbo to Kouria (Nov.) Chev. 14749 S. L.: Afzelius! Heddle's Road (Sept) Lane-Poole 355! Newton (Aug.) Deighton 2203! Njala (fl. Aug., fr. May) Deighton 1829! 5936! Rokupr (Sept) Jordan 353! Pelewahun, Kamagai (Sept.)

Deighton 6007! **Lib.:** Lango (Aug.) Linder 303! Tappita (Aug.) Baldwin 9057! Vonjama (young fr. Oct.) Baldwin 9916! Gbanga (May, Aug.) Konneh 176! Traub 266! **iv. C.:** Bouaké (July) Chev. 22107! Abidjan region Chev. 15472 **G. C.:** Kumasi (Aug.) Darko 704! Sunyani (Sept.) Vigne FH 2456! **Togo:** Abohore, Hohoe Dist. (Oct.) St. C. Thompson FH 3628! **S. Nig.:** Lagos Dawodu 112! 266! Mamu F.R., Ibadan (Oct.) Keay & Mutch FHI 25431! Ibadan (fl. Oct., fr. Dec.–Mar.) Keay FHI 13747! 22636! Meikle 905! Onitsha Olona (Oct.) Thomas 1852! **Br. Cam.:** Nkom-Wum F.R., Bamenda (July) Ujor FHI 30479!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda**, **Belgian Congo**, **Uganda**, **A–E Sudan** and **S. Tomé**. (See Appendix, p 289.)

Hippocratea sp. *APD acc*

A climbing shrub, with obovate fruits 8–9 cm long and about 6 cm. broad; leaves shiny, coriaceous, elliptic to oblong, 7–8 cm long, venation prominently reticulate on both surfaces; older twigs markedly verruculose.

S. Nig.: R. Nwop, Boje, Ikom Div. (fr. May) Latilo FHI 31805!

Imperfectly known species.

1. **Hippocratea thomasii** *Hutch & M. B. Moss* in F.W.T.A., ed. 1, 1: 449 (1928); Kew Bull. 1929: 20, is *Secamone myrtifolia* Benth. (Asclepiadaceae)

APD: *Synonym of Secamone afzelii (Schult.) K. Schum.*

Excluded species.

2. **Hippocratea chevalieri** *Hutch & M. B. Moss* in F.W.T.A., ed. 1, 1: 449 (1928); Kew Bull. 1929: 20, is *Campylostemon angolense* Oliv. (see p. 626).

APD: *Synonym of Campylostemon angolense Welw. ex Oliv.*

Excluded species.

5. SALACIA

Linn. Mant. 2: 159, 293 (1771); F.T.A. 1: 372; Loes. in Engl. Bot. Jahrb. 44: 156 (1910); in E. & P. Pflanzenfam. 20B: 217 (1942).

- 1 Flowers solitary or fasciculate in leaf-axils:2
Flowers in a pedunculate subumbel or cyme (peduncle sometimes only 1 mm. long): 28
- 2 Stem with 4 (–5) sinuate wings 1.5–3 mm. broad; leaves 9.5–26.5 cm. long, 5.5–8 cm. broad; petiole up to 5 mm. long, margins crisped; pedicels about 5–10 mm. long; flowers about 6 mm. diam.; fruit globose, about 3 cm. diam., very squamate-tuberculate [1. alata](#)
Stem not winged or with narrow straight wings up to 0.5 mm. broad:3
- 3 Twigs with violet (black when dried) spreading hairs; leaves 5–25 cm. long, deep green and shiny above, paler beneath, hairy on main nerves beneath; pedicels 3–6 mm. long; flowers about 6 mm. diam. [2. hispida](#)
Twigs glabrous or slightly tomentose:4
- 4 Resinous threads present on breaking leaf:5
No resinous threads on breaking leaf: 11
- 5 Buds just before opening elongate, about twice as long as broad:6
Buds more or less globose just before opening:8
- 6 Petiole-margins straight:7
Petiole-margins crisped; twigs slightly tomentose, 4-angular; leaves subovate-oblong, 7–13 cm. long; petals about 3 mm. long [5. volubilis](#)
- 7 Twigs glabrous, smooth or slightly verruculose lenticular; flowers 2.5–4 (–6) mm. diam., petals ovate; leaves brownish or greenish when dry [3. leptoclada](#)
Twigs verruculose lenticular, 4-lineate or terete; flowers 7–16 mm. diam., petals more or less oblong; leaves

- oblongate oblong to obovate, usually reddish-brownish beneath when dry; fruit more or less globose, somewhat apiculate [4. *senegalensis*](#)
- 8 Twigs verruculose-lenticular; petioles 3–6 mm. long: 9
- Twigs not verruculose-lenticular, or only slightly so: 10
- 9 Leaf-apex rounded; leaves coriaceous, margins shallowly crenate, 3.4–6.5 (–8) cm. long, 1.3–3.5 cm. broad; twigs more or less 4-lineate or 4-angled; pedicels about 6 cm. long; flowers about 7 mm. diam.; fruit globose, 2–3 cm. diam., somewhat tuberculate with 3 raised ridges [6. *lomensis*](#)
- Leaf-apex acuminate; leaves usually larger; twigs usually not 4-lineate (sometimes irregularly longitudinally striate) [4a. *senegalensis* × *pyriformis*](#)
- 10 Flowers 2.5–4 (–6) mm. diam.; petioles 2–7 (–9) mm. long [3. *leptoclada*](#)
- Flowers 7–17 mm. diam.; petioles 7–17 mm. long, margins not crisped; leaves coriaceous, 6–20 cm. long, brownish when dry, apex acuminate or sometimes rounded; pedicels 7–20 mm. long; fruit globose, more or less tuberculate, up to 2 cm. diam. [7. *pyriformis*](#)
- 11 Twigs terete often flattened at nodes, sometimes irregularly longitudinally striate: 12
- Twigs 4-lineate or narrowly 4-winged (wings up to 0.5 mm. broad): 24
- 12 Leaves with about 6 (8–10 in No. 15) pairs of main lateral nerves: 13
- Leaves with 11–19 pairs of main lateral nerves: 22
- 13 Flowers up to 8 mm. diam.; leaves small or large: 14
- Flowers over 10 mm. diam.; leaves 7–18 cm. long, 3–8.5 cm. broad: 19
- 14 Leaves crisped and serrate at margin, narrow-elliptic to elliptic-oblong, greyish green when dry, membranous; pedicels 2–7 mm. long; fruit globose [8. *pallescens*](#)
- Leaves with flat subentire margin, greenish when dry: 15
- 15 Pedicels up to 8 mm. long; petals ovate or obovate: 16
- Pedicels 10–42 mm. long, filamentous in flower; petals obovate or oblong: 18
- 16 Flowers 5–8 mm. diam.: 17
- Flowers about 3 mm. diam.; leaves greenish when dry, much paler beneath, more acuminate, up to 20.5 cm. long; small tree. [11. *mannii*](#)
- 17 Leaves dark greenish when dry, a little paler beneath, up to 11 cm. long; flowers 5–8 mm. diam.; leaves broadly elliptic to oblong; petioles 4–8 mm. long; pedicels 5–8 mm. long; liane [9. *togoica*](#)
- Leaves grey-green when dry, paler beneath, 8–19 cm. long; flowers about 6 mm. diam. [10. *cuspidicoma*](#)
- 18 Petals obovate; leaves broadly elliptic, 11–16 cm. long, 5–9 cm. broad, grey-greenish when dry [12. *pyriformoides*](#)
- Petals oblong; very like *pyriformoides* in twigs, leaves and pedicels [13. *dusenii*](#)
- 19 Twigs verruculose-lenticular: 20
- Twigs not verruculose-lenticular: 21
- 20 Pedicels filamentous, up to 35 mm. long; leaves oblong-elliptic, 10.5–27 cm. long [14. *zenkeri*](#)
- Pedicels 10–15 mm. long, fairly stout; petiole 3–5 mm. long; sepals shortly lacerate [15. *conrauii*](#)
- 21 Pedicels stouter, up to 20 mm. long, often less; petioles 10–17 mm. long; leaves up to 22 cm. long, oblong-elliptic to broadly elliptic, grey-green when dry; sepals shortly lacerate [16. *preussii*](#)
- 22 Leaves up to 24 cm. long, with up to 14 pairs of main lateral nerves: 23
- Leaves 25–40 cm. long, 8–14 cm. broad, with 14–19 pairs of main lateral nerves [19. *sp. A*](#)
- 23 Leaves oblong to slightly obovate, 13.5–24 cm. long, acumen up to 2.5 cm. long, nerves impressed above; pedicels filamentous, up to 17 cm. long; flowers 4–5 mm. diam.; fruit globose, neither tuberculate nor apiculate, about 3 cm. long [17. *loloensis*](#)
- Leaves elliptic to oblong, 12–18 cm. long, shortly and obtusely acuminate, venation not so distinct as in the preceding; pedicels sub-filamentous, 15–20 mm. long; flowers 5–7 mm. diam. [18. *eurypetala*](#)
- 24 Flowers over 10 mm. diam.: 25
- Flowers up to 8 mm. diam.: 26
- 25 Pedicels up to 5 mm. long; leaves serrate-crenate, greenish when dry; petioles 10–12 mm. long, margins crisped; sepals lacerate [20. *fimbrisepala*](#)
- Pedicels 7–10 mm. long; petioles up to 2 mm. long; sepals entire [21. *sp. B*](#)
- 26 Flowers about 3 mm. diam., pedicels filiform, 5–20 mm. long; fruit more or less globose, neither tuberculate nor apiculate; petiole margins crisped; leaves up to 10 cm. long, usually brownish green when dry [22. *debilis*](#)
- Flowers 5–8 mm. diam.; pedicels 4–10 mm. long: 27

- 27 Twigs smooth or finely verruculose; fruit more or less globose, smooth, or verruculose at most, rounded at apex when ripe, up to 3 cm. diam.; leaves narrowly to broadly elliptic [23. erecta](#)
Twigs closely and conspicuously verruculose; fruit ellipsoid, tuberculate, apiculate; leaves ovate to elliptic-oblong [24. tuberculata](#)
- 28 Inflorescence glabrous or glabrescent: 29
Inflorescence-branches pubescent; inflorescence cymosely branched; flowers about 6 mm. diam., petals oblong or oblong-ovate, buds more or less globose; leaves 6.2–15.7 cm. long, without resinous threads; petioles 4–7 mm. long [32. howesii](#)
- 29 No resinous threads on breaking leaf: 30
Resinous threads present on breaking leaf: 36
- 30 Twigs closely verruculose: 31
Twigs not closely verruculose: 33
- 31 Fruit 1-seeded, up to 7 cm. long, 3 cm. broad, not (?) tuberculate [25. lehmbachii](#)
Fruit several-seeded, up to 5.5 cm. long, 2.5 cm. broad, tuberculate, apiculate; petiole-margins crisped: 32
- 32 Petioles 5–10 mm. long; leaves cuneate to obtuse at base, subcoriaceous, ovate to elliptic-oblong, 3.5–19.5 cm. long, 6–9 main lateral nerves on each side of midrib; peduncle up to 1 mm. long [24. tuberculata](#)
Petioles 1–5 mm. long; leaves rounded and subcordate or cuneate to obtuse at base, elliptic-oblong, rarely broadly elliptic, 6–18.5 cm. long; peduncles 3–7 mm. long [26. leonensis](#)
- 33 Petals orbicular or ovate; flowers 5–10 mm. diam.; peduncles (0.5– 1.5–6 cm. long; inflorescence subumbellate or cymose, bracts generally petiolate-spathulate; leaves stiffly papery, up to 19 cm. long; fruits oblong-ellipsoid, verruculose-rugose, apiculate, 4–5 cm. long, 2 cm. broad [27. camerunensis](#)
Petals more or less oblong; flowers 3–5 mm. diam.; peduncles up to 1.4 cm. long; inflorescence subumbellate, often with a series of small sessile bracts (bracteoles?) widest at their base and placed at base of pedicels: .. 34
- 34 Pedicels about 20 mm. long, filamentous; flowers 2–4 mm. diam.; leaves usually greenish-grey when dry [28. staudtiana](#)
Pedicels 1–10 mm. long, filamentous or stouter; flowers 3–5 mm. diam.: 35
- 35 Leaves greyish-green or green when dry, nerves not impressed above, narrowly to broadly elliptic, 3–10 (–14) cm. long, acuminate, acumen rounded at apex; pedicels filamentous, 3–7 mm. long; fruit globose, smooth, up to 2 cm. long, not apiculate, with a neck at base when young; flowers about 3 mm. diam. [29. caillei](#)
Leaves greenish-brown when dry, nerves often impressed above; pedicels filamentous or stouter, 1–10 mm. long; fruit irregularly globose to oblong-ellipsoid, slightly apiculate, without a neck at base; flowers about 5 mm. diam. [30. nitida](#)
- 36 Flowers 2.5–4 (–6) mm. diam., petals ovate; buds more or less globose or somewhat elongated just before flowering; inflorescence a fascicle or subumbel; peduncles up to 3 mm. long; pedicels 2–6 mm. long; leaves 1.5–9 (–13) cm. long; petioles 2–7 (–9) mm. long [3. leptoclada](#)
Flowers 6 mm. or more diam.; petals narrower: 37
- 37 Twigs not verruculose-lenticular: 38
Twigs verruculose-lenticular; flowers 7–16 mm. diam.; petals more or less oblong; buds elongated, about twice as long as broad just before flowering; inflorescence a fascicle or subumbel; peduncle up to 1 (–7) mm. long; pedicels 4–17 mm. long [4. senegalensis](#)
- 38 Flowers 6–8 mm. diam., petals linear-triangular, about 1 mm. broad at base; buds elongated, about thrice as long as broad; inflorescence cymosely branched; leaves 4.2–13 cm. long; petiole 7–9 mm. long, margins straight [31. lucida](#)
Flowers 7–17 mm. diam., petals oblong, obovate-oblong, rarely ovate; buds more or less globose; inflorescence a fascicle or subumbel; leaves 6–20 cm. long; petiole 7–17 mm. long, margins straight [7. pyriformis](#)

1. *Salacia alata* De Wild. Miss E. Laurent. 241 (1906); Loes. in E. & P. Pflanzenfam., 20B: 227 (1942).
APD acc

Garcinia nobilis of F.W.T.A., ed. 1, 1: 236, not of Engl.

A forest climber, with verruculose stems; flowers white or green.

S. Nig.: Nikrowa, Okomu F.R., Benin (Dec.) Brenan 8393! Oban Talbot 1385! 1611! Umon-Ndealichi, Itu Div. (fl. buds & fr. June) Ujor FHI 30182!

Also in Belgian Congo.

2. *Salacia hispida* Blakelock in Kew Bull. 1956: 243. *APD acc*

A forest climber; petals yellow-green, disk grey-brown, filaments yellow-green, anthers orange-vermilion.

S. Nig.: Okomu F.R., Benin (Jan.) Brenan 8916!

Also in **Belgian Congo**.

3. *Salacia leptoclada* Tul. in Ann. Sci. Nat., sér. 4, 8: 96 (1857). *APD acc*

APD: Synonym of *Salacia leptoclada* Tul.

Salacia floribunda Tul. l.c. 97 (1857).

Salacia elegans Welw. ex Oliv. F.T.A. 1: 373 (1868).

Salacia zanzibarensis Vatke ex Loes. in E. & P. Pflanzenfam. 3, 5: 230 (1893).

S. Nig.: Oban Talbot!

Also in **Gabon, Angola, E. Africa, Madagascar** and **the Comores**.

4. *Salacia senegalensis* (Lam.) DC. Prod. 1: 570 (1824); Guill. & Perr. Fl. Seneg. 1: 113, t. 27; F.T.A. 1: 374; Loes. in Engl. Bot. Jahrb 44: 165 (1909); Chev. Bot. 135; Loes. in E. & P. Pflanzenfam. 20B: 223. *APD acc*

APD: Synonym of *Salacia chlorantha* Oliv.

APD: Synonym of *Salacia chlorantha* Oliv.

Hippocratea senegalensis Lam. (1791).

Salacia macrocarpa Welw. ex Oliv. F.T.A., 1: 373 (1868); Loes. in Engl. Bot. Jahrb. 44: 166 (incl. vars.); Chev. Bot. 134; F.W.T. A., ed. 1, 1: 453; Loes. in E. & P. Pflanzenfam. 20B: 223; not of Korth. (1848).

Salacia oblongifolia Oliv. (1868), not of Blume (1825).

Salacia olivriana Loes. (1894) — E. & P. Pflanzenfam. 20B: 223.

Salacia angustifolia Sc. Elliot. (1895) — F.W.T.A., ed. 1, 1: 452.

Salacia demeusei De Wild. & Dur. (1900) — Exell & Mendonça Consp. Fl. Aug. 2: 23.

Salacia johannis-albrechti Loes. & Winkl. (1908) — F.W.T.A., ed. 1, 1: 458.

(?) *S. doeringii* Loes. (1910).

Salacia dalzielii Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 453 (1928); Kew Bull. 1929: 22; Brenan in Kew Bull. 1950: 220.

Salacia euryoides Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 453 (1928); Kew Bull. 1929: 21.

A shrub, erect or climbing; leaves variable; petals white or pale greenish cream, disk green, anthers orange; fruits orange or yellow; **in forest and forest regrowth**.

Sen.: Perrottet 97! Roussillon 50! Casamance (Apr.) Leprieur! Djonware, R. Salum Brunner 167! **Gam.:** Kombo (May, June) Heudelot 34! 49! **Port. G.:** Bijimita, Bissau (Feb.) Esp. Santo 1761! **Fr. G.:** Conakry (Feb.) Chev. 12089! Los Isl. (May) Pobéguin 1196! Timbo (Feb.) Pitard 104! Koukouré Paroisse 80! **S. L.:** Afzelius! Whitfield! Bafodeya, Limba (Apr.) Sc. Elliot 5486! Talla Hills (Feb.) Sc. Elliot 4870! Berria (Mar.) Sc. Elliot 5433! Bagroo R. (Apr.) Mann 798! Njala (fl. Dec., fr. Mar.) Deighton 2627! 3105! **Lib.:** Monrovia (May–July, Nov) Baldwin 5906! Linder 1555! Whyte! Mouth of Junk R. (fl. & young fr. Feb.) Cooper 187! Bushrod Isl. (fl. & fr. Mar.) Barter 1228! Greenville (Mar.) Baldwin 11550! **Iv. C.:** Bouroukrou (Dec., Jan.) Chev. 16536, 16688. Mt. Noubia (fr Apr.) Chev. 21109. Ganhoué to Bampleu (fr Apr.) Chev. 21161. **G. C.:** Odomi (Feb.) Adogla FH 4065! **N. Nig.:** Patti Lokoja (Feb.) Dalz. 92! **S. Nig.:** Idanre (Dec.) Keay in Hb. Brenan 8752! Usonigbe F.R. (Nov.) Ejiofor FHI 24688! Ezi (Feb.) Thomas 2358! Iso Bendiga to Bendiga Afi, Ikom (Dec.) Keay FHI 28262! Calabar Thomson 93! Degema Talbot!

Extends to **Belgian Congo** and **Angola**.

[Two specimens of this species in the Paris herbarium are both labelled Debeaux 330, 17 Mar. 1902, but one is said to come from Conakry (French Guinea) and the other from Cotonou (Dahomey). We have seen several other specimens of this species from Conakry, but none from Dahomey. The record of Debeaux 330 from Cotonou seems therefore to be suspect.

Salacia rufescens Hook. f. in Fl. Nigrit. 283 (1849); F.W.T.A., ed. 1, 1: 453. *APD acc*

S. L.: Roscher in Hb. T. Vogell Thomas 5197!

Appears to be intermediate between *S. senegalensis* and *S. pyriformis* and may be a hybrid.

Salacia chlorantha Oliv. F.T.A. 1: 375 (1868); Loes. in Engl. Bot. Jahrb. 44: 168; F.W.T.A., ed. 1, 1: 453. *APD acc*

N. Nig.: Nupe Barter 1658!

Appears to be intermediate between *S. senegalensis* and *S. pyriformis* and may be a hybrid.

[See also under *S. pyriformis*.]

5. **Salacia volubilis** *Loes. & Winkle.* in Engl. Bot. Jahrb. 41: 280 (1908); *Loes.* in op. cit. 44: 184; Pflanzenfam. 20B: 229. *APD acc*

A scandent shrub.

Br. Cam.: Victoria (June) Stössel & Winkler 84.

6. **Salacia lomensis** *Loes.* in Engl. Bot. Jahrb. 44: 170 (1910); Chev. Bot. 134 (as “*leonensis* *Loes.*” by error); *Loes.* in E. & P. Pflanzenfam. 20B: 225.

APD: *Synonym of Salacia stuhlmanniana Loes.*

An evergreen scrambling shrub, to 6 ft. high; flowers buff-coloured; fruits orange-red; in thickets.

IV. C.: Soubré (fr. June) Chev. 19131. Kéeta (July) Chev. 19327. Marabadiassa (fr. July) Chev. 22004. **G. C.:** Achimota (fr. June) Irvine 1648! Milne-Redhead 5096! **Togo:** Lome (fl. Nov., fr. Aug.) Mildbr. 7477! Warnecke 215!

7. **Salacia pyriformis** (*Sabine*) *Steud.* Norn. Bot., ed. 2, 2: 492 (1841); F.T.A. 1: 374; *Loes.* in Engl. Bot. Jahrb 44: 179; Chev. Bot. 135. *Loes.* in E. & P. Pflanzenfam. 20B: 227, fig. 70, F–G; Exell Cat. S. Tomé 139. *APD acc*

APD: *Synonym of Salacia laurentii De Wild.*

APD: *Synonym of Salacia lateritia N. Hallé*

Tosella pyriformis *Sabine* (1824)

Salacia talbotii *Bak. f.* in Cat. Talb. 19 (1913), *Loes.* in E. & P. Pflanzenfam. 20B: 223.

Salacia pengheensis *De Wild.* (1923).

Salacia owabiensis *Hoyle* (1934).

A forest climber, with the leaves dark glossy green above, paler below; flowers green or yellowish green; fruits orange.

Fr. Sud.: Moussaia (Feb.) Chev. 407. **Fr. G.:** Karkandy (Mar.) Heudelot 798! Ditinn to Diaguissa Chev. 12674, 12901. Dalaba (Mar.) Chev. 18038. **S. L.:** Don! Maswari (Apr.) Adames 210! Talla Hills (Feb) Sc. Elliot 4825! Rokupr (Feb.) Deighton 4190! Njala (Mar.) Deighton 1943! 4712! **Lib.:** Dukwia R. (Aug.) Linder 253! Javajai, Boporo (Nov.) Baldwin 10266! Mecca, Boporo (Nov.) Baldwin 10402! **IV. C.:** Danané (Apr.) Chev. 21266 Tébo (July) Chev. 19419 Dabou (Nov.) Roberty 15521! **G. C.:** Cape Coast Brass! Axim (fl. & fr. Feb.) Irvine 2228! 2269! Owabi (Dec.) Lyon FH 2641! Otokpe (Sept.) Vigne FH 4007! Simpa (Mar.) Andoh FH 3250! **Togo:** Assatu, Hohoe Dist. (Nov.) St. C. Thompson FH 3943! **S. Nig.:** Ibadan North F.R., (Feb.) Keay & Meikle FHI 25661! Ikirun to Igbajo (Jan.) Latilo FHI 31755! Oban Talbot 1359! 1687! 1705 (BM sheet)! Calabar (Feb.) Mann 2291! **Br. Cam.:** R. Cameroon (Jan.) Mann 2221!

Also in **Belgian Congo**, **Ubangi Shari**, **A–E Sudan** and **S. Tomé**.

[There are also specimens which agree with *S. pyriformis* except for their narrow flower buds rather similar to those of *S. senegalensis*. Possibly these are hybrids between the two species. The specimens are — *S. L.*: Lalahun to Gola Forest (Jan.) King 121b! *Lib.*: Kakatown Whyte! Mecca (Dec.) Baldwin 10787! Tappi (Dec.) Bunting 78! See also under *S. senegalensis*.]

8. **Salacia pallescens** *Oliv.* F.T.A. 1: 376 (1868); *Loes.* in Engl. Bot. Jahrb. 44: 185; Chev. Bot. 135; *Loes.* in E. & P. Pflanzenfam. 20B: 227. *APD acc*

A shrub, with purple-black petals, carpels and stamens orange; fruits red or orange.

S. L.: Thomas! **N. Nig.:** Nupe Barter! Abinsi (May) Dalz. 650! **S. Nig.:** Olokemeji Chev. 13988; 14035; 14046. Ibadan F.R., (fr. June) Symington FHI 4106! Akure F.R., (fr. Aug.) Jones FHI 19547!

9. **Salacia togoica** *Loes.* in Engl. Bot. Jahrb. 44: 181 (1910). *APD acc*

A forest liane; petals yellow-ochre to orange.

S. L.: Benna (Jan.) Sc. Elliot 4635! **G. C.:** Krobo Plains (Dec.) Johnson 500! **Togo:** Misahóhe or Tomegbe (Apr. or May) Baumann 489 (partly) **S. Nig.:** Ohumbe F.R., Ilaro (Dec.) Onochie FHI 22657! 31900! Ibadan (Jan.) Meikle 988! Iso Bendiga to Bendiga Afi, Ikom (Dec.) Keay FHI 28265!

10. **Salacia cuspidicoma** *Loes.* in Engl. Bot. Jahrb. 44: 175 (1910).

APD: Synonym of Salacia mannii Oliv.

A shrub, apparently erect, to 6 ft. high.

Br. Cam.: Johann Albrechtshöhe (fl. buds Jan., Feb.) Staudt 523; 610.

Also in **French Camerouns**.

11. **Salacia mannii** *Oliv* F.T.A. 1: 376 (1868); *Loes.* in Engl. Bot. Jahrb. 44: 187, Pflanzenfam. 20B: 227, 228. *APD acc*

A small tree, 6–20 ft. high, with twigs green becoming reddish brown; leaves deep green and glossy above, paler beneath; petals cream, ovary and stamens yellow; fruits orange red; **in forest**.

S. Nig.: Okomu F.R., Benin (Dec.) Brenan 8426! Ebuade! Usonigbe F.R., Benin (fl. & fr. Nov.) Keay FHI 25573! **F. Po:** (Jan., June) Barter! Mann 242!

12. **Salacia pyriformoides** *Loes.* in Engl. Bot. Jahrb. 44: 186 (1910). *APD acc*

A **forest** liane with stout green twigs and dense clusters of flowers.

S. Nig.: Oban Talbot 1420!

Also in **French Camerouns**, **Spanish Guinea** and (?) **Belgian Congo**.

13. **Salacia dusenii** *Loes.* in Engl. Bot. Jahrb. 19: 242 (1894); op. cit. 44: 188 (1910); Pflanzenfam. 20B: 229. *APD acc*

A **forest** liane with white flowers very similar to *S. pyriformoides*.

S. Nig.: Aboabam, Ikom Div. (May) Latilo FHI 30973! Oban Talbot 176! **Br. Cam.:** Ndian (Mar.) Dusen 307.

Also in **French Camerouns**.

14. **Salacia zenkeri** *Loes.* in Engl. Bot. Jahrb. 44: 193 (1910); Pflanzenfam. 20B: 230. *APD acc*

APD: Synonym of Salacia regeliana J. Braun & K. Schum.

APD: Synonym of Salacia bangalensis Vermoesen ex R. Wilczek

A **forest** liane or shrub; flowers green.

S. L.: Gboyama, Gardohun-Jimmi (Apr.) Deighton 1652! **Lib.:** Dukwia R. (Apr.) Cooper 387! **Iv. C.:** Yapo (Dec.) Manganot! **S. Nig.:** Oban Talbot 1589! 1589a! **Br. Cam.:** Victoria to Bimbina (May) Preuss 1254!

Also in **French Camerouns**.

15. **Salacia conrauii** *Loes.* in Engl. Bot. Jahrb. 44: 192 (1910). *APD acc*

A shrub.

Br. Cam.: Tale, Banyang, Mamfe Div. (Apr.) Conrau 104.

16. **Salacia preussii** *Loes.* in Engl. Bot. Jahrb. 19: 239 (1894); op. cit. 44: 192; Pflanzenfam. 20B: 229. *APD acc*

A **forest** shrub; petals yellow, green at base.

Br. Cam.: Barombi Preuss 21! Johann-Albrechtshöhe Staudt 935!

Also in **French Camerouns** and **Gabon**.

17. **Salacia loloensis** *Loes.* in Engl. Bot. Jahrb. 44: 172 (1910); Pflanzenfam. 20B: 227. *APD acc*

A small tree, 4–25 ft. high; flowers dirty white or pale yellow; fruits red.

S. Nig.: Omo F.R., Ijebu Ode (Apr.) Tamajong FHI 16918! Oban Talbot 1704! **Br. Cam.:** S. Bakundu F. R. (Apr.) Olorunfemi FHI 30509! N. Korup F.R., (July) Olorunfemi FHI 30674! Victoria (Apr.) Schlechter 12365!

Also in **French Cameroons**.

18. **Salacia eurypetala** *Loes.* in Engl. Bot. Jahrb. 44: 174 (1910); Pflanzenfam 20B: 227. *APD acc*

Br. Cam.: Johann-Albrechtshöhe (Apr.) Staudt 930.

19. **Salacia sp. A.** *APD acc*

“Single main stemmed shrub, about 8 ft. high”; in forest.

Br. Cam.: close to coast, Victoria (fl. buds Apr.) Brenan 9590!

The very large leaves are not matched in West Africa; other characters recall *S. loloensis*, except that the petals (at least in bud) are purple mottled with white.

20. **Salacia fimbriseppala** *Loes.* in Engl. Bot. Jahrb. 44: 190 (1910). *APD acc*

APD: *Synonym of Salacia preussii var. louisii (R. Wilczek) N. Hallé*

APD: *Synonym of Salacia fimbriseppala Loes.*

A scandent or erect shrub, or small tree (fide Johnson); flowers yellow, waxy.

G. C.: Kwahu (Apr.) Johnson 648! **Br. Cam.:** Buea (Apr.) Lehm巴赫 228.

21. **Salacia sp. B.** *APD acc*

Unbranched subshrub, about 1 ft. high; in forest.

Br. Cam.: Banga (Mar.) Brenan 9483!

22. **Salacia debilis** (*G. Don*) *Walp.* Rep. 1: 402 (1842); *Loes.* in Engl. Bot. Jahrb. 44: 184; Chev. Bot. 133; *Loes.* in E. & P. Pflanzenfam. 20B: 228. *APD acc*

Calypso debilis *G. Don* (1881).

A forest climber; flowers green or yellow.

Port. G.: Suzana to S. Domingos (Mar.) Esp. Santo 2244! Catió (young fr. June) Esp. Santo 2104! Fulacunda (fr. May) Esp. Santo 2030! **Fr. G.:** Rio Nunez (Dec.) Heudelot 698! Conakry & Loa Isl. Chev. 12079; 12262. Kabo to Haut-Mamou Chev. 12764. **S. L.:** Don! Mt. Aureole, Freetown (Mar., Dec.) Dalz. 976! Lane-Poole 212! Kora, Scarcies R. (Feb.) Sc. Elliot 4589! Musaia (young fr. Mar.) Sc. Elliot 5123! Kamabai (Feb.) Deighton 4254! Njala (fl. & fr. Feb.) Deighton 2599! **G. C.:** Bobiri F.R., Juaso (Jan.) Andoh FH 5459! Pra R. Station (Feb.) Vigne FH 1047! **F. Po.:** (Mar.) Mann 1445!

Also in **French Cameroons**.

[Sim 23 from Liberia has the small flowers of *S. debilis*, but other characters as in *S. erecta*; further research is required.]

23. **Salacia erecta** (*G. Don*) *Walp.* l.c. 1: 403 (1842); *Loes.* in Engl. Bot. Jahrb. 44: 168 (1910); Pflanzenfam. 20B: 224. *APD acc*

APD: *Synonym of Salacia erecta (G. Don) Walp. var. erecta*

APD: *Synonym of Salacia pyraertii De Wild.*

Calypso erecta *G. Don* (1831).

Salacia cornifolia *Hook. f.* (1849) — F.T.A. 1: 375 (excl. var. *crassiseppala* Oliv.); *Loes.* in Engl. Bot. Jahrb. 44: 185; Chev. Bot. 133; F.W.T.A., ed. 1, 1: 453; *Loes.* in E. & P. Pflanzenfam. 20B: 225.

Salacia baumannii *Loes.* (1910).

Salacia prinoides *DC.* var. *liberica* *Loes.* in Engl. Bot. Jahrb. 44: 179 (1910).

Salacia elliotii *Loes.* (1910) — F.W.T.A., ed. 1, 1: 452.

Salacia alpestris A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 453 (1928); Chev. Bot. 133, name only.

Salacia prinoides of F.T.A. 1: 375.

A shrub, sometimes scandent, or an understorey tree; flowers yellowish; **in forest**; a variable species.

Fr. G.: Ditinn to Diaguissa (fl. & fr. Apr.) Chev. 12859! Dalaba Chev. 18134. **S. L.:** Don! T. Vogel 118! Sugar loaf Mt. Barter! Mt. Kofiu, Scarcies (Jan.) Sc. Elliot 4595! Waterloo (Dec.) Deighton 3305! Kenema (fr. Apr.) Deighton 4293! Kambia Sc. Elliot 4359! **Lib.:** Grand Bassa T. Vogel 90! Peahtah (Oct.) Linder 952! Vahon, Kolahun (Nov.) Baldwin 10247! Mecca, Boporo (fl. & young fr. Nov.) Baldwin 10418! **iv. C.:** Nimba Mts. Boughey 18172! **G. C.:** Bana Hill, Krobo (fr. Mar.) Irvine 894! Accra Plains Imp. Inst.! **Togo:** Misahöhe or Tomegbe (Apr. or May) Baumann 489 (partly). **Dah.:** Tohoué Chev. 22768. **S. Nig.:** Lagos (Apr.) Dalz. 1067! 1153! Oban Talbot! Ikwette Plateau, Obudu Div. (Dec.) Keay & Savory FHI 25178! **Br. Cam.:** Buea Lehm巴赫 91!

Also in **E. Africa** and **Madagascar**.

24. **Salacia tuberculata** *Blakelock* in Kew Bull. 1956: 246. *APD acc*

Salacia cornifolia of F.W.T.A., ed. 1, 1: 453, partly (Sc. Elliot 5575; Thomas 2439).

Salacia talbotii of F.W.T.A., ed. 1, 1: 453, partly (Mann 2265; Talbot 170).

A scandent **forest** shrub; flowers green.

S. L.: Baiima, Jaluahun (Apr.) Deighton 3951! Njala (June) Deighton 714! Boma (Apr.) Deighton 3720! Roruks (May) Deighton 4138! Bafodeya, Limba Sc. Elliot 5575! **S. Nig.:** Oban Talbot 1705 (Kew sheet)! R. Calabar (Feb.) Mann 2265!

25. **Salacia lehmbachii** *Loes.* in Engl. Bot. Jahrb. 44: 173 (1910); Pflanzenfam. 20B: 227. *APD acc*

An erect shrub or small tree, to 6 ft. high; fruits red.

Br. Cam.: Buea (fr. Feb., Apr.) Lehm巴赫 116; 208.

Also in **French Camerouns** and (the var. *usambarensis*) in E. Africa.

26. **Salacia leonensis** *Hutch. & M. B. Moss* in F.W.T.A., ed. 1, 1: 453 (1928); Kew Bull. 1929: 22.

APD: *Synonym of Salacia lehmbachii f. leonensis*

A **forest** shrub.

S. L.: Thomas 7605b! 7944! 9360! Mano (young fr. Dec.) Deighton 2425! Falaba (May) Aylmer 82! **Lib.:** Jabroke, Webo Dist. (fr. July) Baldwin 6606! Zeahtown, Tchien Dist. (fr. July) Baldwin 6993!

[The following specimens appear to differ from typical *S. leonensis* only in the cuneate or obtuse leaf-bases: — **S. L.:** Unwin & Smythe 16! Sugar Loaf Mt. (Nov.) Deighton 5647! **G. C.:** Sefwi Bekwai (fr. Oct.) Akpabla 901!]

27. **Salacia camerunensis** *Loes.* in Engl. Bot. Jahrb. 19: 240 (1894); op. cit. 44: 176, incl. vare.; Pflanzenfam. 20B: 226.

APD: *Synonym of Salacia longipes var. camerunensis (Loes.) N. Hallé*

A **forest** liane, with smooth cable-like stems; flowers greenish-white, yellow or orange; leaves deep green and glossy above, paler beneath; fruits red or orange.

G. C.: Irvine 390! Kame R. (May) Baumann 587! **Togo:** Wiawia, Hohoe Dist. (Oct.) St. C. Thompson FH 3940! **S. Nig.:** Oshogbo Millson! Akure F.R. (Nov.) Keay FHI 26608! Oban Talbot 405! 1512! 1589! **Br. Cam.:** S. Bakundu F.R., Banga (Mar.) Brenan 9403! 9488!

Also in **French Camerouns**.

28. **Salacia staudtiana** *Loes.* in Engl. Bot. Jahrb. 44: 187 (1910), excl. var. *leonensis* Loes.; Fritsch in Bot. Centralbl. Beih. 11: 355 (1902), anatomical descr.; Loes. in E. & P. Pflanzentam. 20B: 227. *APD acc*

A **forest** liane; flowers white or yellow; fruits red.

S. Nig.: British Obobokum, Ikom (June) Latilo FHI 31854! **Br. Cam.:** Johann-Albrechtshöhe (Jan., Feb.) Staudt 563! 631!

Also in **French Camerouns**.

29. *Salacia caillei* A. Chev. ex Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 453 (1928); Kew Bull. 1929: 22.

APD: Synonym of Salacia staudtiana var. leonensis Loes.

Salacia staudtiana var. *leonensis* Loes. in Engl. Bot. Jahrb. 44: 188 (1910).

Salacia nitida of Chev. Bot. 135 and of F.W.T.A., ed. 1, 1: 453, partly (Chev. 14902, 14626).

Salacia whytei of F.W.T.A., ed. 1, 1: 453, partly (Johnson 761).

Salacia bipindensis of F.W.T.A., ed. 1, 1: 453, partly (Sc. Elliot 4930, 5638).

A shrub, often scandent; petals green; fruits red, often with a glaucous bloom; in forest and forest regrowth.

Fr. G.: Kouria (Sept., Oct.) Caille in Hb. Chev. 14902! 14928! Kouria to Longuery (fr. Aug.) Caille in Hb. Chev. 14626! **S. L.:** Afzelius! Bumbuna (Oct.) Thomas 3456! 3730! Njala (Mar., Sept.–Nov.) Deighton 2407! 2909! 3987! 5012! 5591! Ninia (Feb.) Sc. Elliot 4899! 4930! Buyabuya (fr. Feb.) Sc. Elliot 4777! Jene, Kamagai (fl. & fr. Oct.) Deighton 5989! **Lib.:** Ganta (fr. Sept.) Baldwin 9260! 9307! Road to White Plains (Apr.) Barker 1269! Dukwia R. Cooper 213! **G. C.:** E. Akim (June) Johnson 761! Simpa (May) Vigne FH 1963! **Br. Cam.:** Korup F.R. (fr. July) Olorunfemi FHI 30667!

Also in **Gabon** and **Belgian Congo**.

30. *Salacia nitida* (Benth.) N.E. Br. in F.T.A. 4, 1: 415 (1905); Loes. in Engl. Bot. Jahrb. 44: 196; F.W.T.A., ed. 1, 1: 453, partly (excl. Chev. 14902, 14626); not of Chev. Bot. 135. *APD acc*

APD: Synonym of Salacia nitida (Benth.) N.E. Br.

Gymnema nitidum Benth. in Hook. Fl. Nigrit. 456 (1849), excl. descr. flowers.

Salacia whytei Loes. l.c. 44: 184 (1910); F.W.T.A., ed. 1, 1: 453, partly (excl. Johnson 761).

Salacia bipindensis Loes. l.c. 44: 188 (1910), incl. vars.; F.W.T.A., ed. 1, 1: 453, partly (excl. Sc. Elliot 4930, 5638); Loes. in E. & P. Pflanzenfam. 20B: 227, fig. 72, A–H.

Salacia cornifolia var. *crassisejala* Oliv. F.T.A. 1: 375 (1868).

A forest liane; petals orange; ripe fruits red or orange.

S. L.: Roscher in Hb. T. Vogel 60! **Lib.:** Cape Palmas Ansell! Monrovia (Nov.) Linder 1428! Whyte! Tubman Bridge (Sept.) Barker 1413! Dukwia R. (Feb.) Cooper 254! **G. C.:** Princes, W. Prov. (Jan.) Akpabla 778! Benso, Tarkwa (fr. Aug.) Andoh FH 5397! Simpa (May) Vigne FH 1963! Bakanta, W. of Axim (Aug.) Chipp 316! **S. Nig.:** Okomu F.R., Benin (Feb., Mar.) Brenan 9066! Richards 3299! Oban Talbot 1668! Calabar R. (Feb.) Mann 2275! **Br. Cam.:** Victoria (Apr.) Brenan & Jones 9591! Buea (Jan.) Maitland 291! Abonando, Mamfe (Feb., May) Rudatis 17! 55!

Also in **French Cameroons**.

31. *Salacia lucida* Oliv. F.T.A. 1: 373 (1868); Loes. in Engl. Bot. Jahrb. 44: 165; Chev. Bot. 134; Loes. in E. & P. Pflanzentam. 20B: 223. *APD acc*

APD: Synonym of Salacia lucida Oliv.

A forest liane.

Iv. C.: Atteau (Jan.) Chev. 17090. Bingerville Chev. 17300. Zaranou to Songan (fr. Mar.) Chev. 17791. **S. Nig.:** Calabar Thompson 102!

Also in **French Cameroons**.

32. *Salacia howesii* Hutch. & M. B. Moss in F.W.T.A., ed. 1, 1: 453 (1928); Kew Bull. 1929: 22; Brenan in Kew Bull. 1950: 221. *APD acc*

A low spreading shrub or liane, older twigs black, younger ones somewhat pubescent; flowers greenish yellow; in forest.

G. C.: Anaje, 7 miles N.W. of Sekondi (Oct.) Howes 974! **S. Nig.:** Idanre Hills (Jan., Oct.) Keay in Hb. Brenan 8682! Keay FHI 25514!

1. *Salacia gilgiana* Loes. in Engl. Bot. Jahrb. 44: 168 (1910); Pflanzenfam. 20B: 225.

Near *S. senegalensis* and possibly a hybrid of it.

Br. Cam.: on lake shore, Johann-Albrechtshöhe (Feb.) Staudt 591.

Imperfectly known species.

2. *Salacia* sp. C.

“A vine, in [savannah thickets on sandy soil](#); flowers greenish yellow.”

Lib.: Cinco, Monrovia (Nov.) Linder 1544!

Imperfectly known species.

3. *Salacia* sp. D.

“small understorey shrub, about 4 ft. high; sepals velvety purple.” Resembles *S. tuberculata*, but main nerves impressed above; the specimen is without flowers.

S. Nig.: Oni R., 1 mile N. of Shasha F.R. (Feb.) Jones & Onochie FHI 17524!

Imperfectly known species.

4. *Salacia* sp. E.

“A small shrub, about 4 ft. high; flower buds pale greenish cream; fruits orange.” Probably near *S. gilgiana* (see above).

S. Nig.: Ilaro F.R., Abeokuta Prov. (Dec.) Onochie FHI 31892!

Imperfectly known species.

5. *Salacia* sp. F.

Some resemblance to *S. togoica* but the flowers are smaller.

S. Nig.: Talbot!

Imperfectly known species.

6. *Salacia* sp. G.

Near *S. togoica* but the stem is markedly verruculose. As the specimen is only in bud it is not named more accurately.

S. L.: Afzelius!

Imperfectly known species.

7. *Salacia* sp. H.

“Shrub; flowers greenish yellow.” Possibly near *S. nitida*, but the inflorescence is pubescent the leaves do not match those of *S. howesii*.

G. C.: Cape Coast (Apr.) Scholes 202!

Imperfectly known species.

8. *Salacia* sp. I.

Near *S. staudtiana* but immature.

Br. Cam.: Bimbria Road, Victoria (fl. buds May) Maitland 664!

Imperfectly known species.

9. *Salacia* sp. J.

Allied to *S. leptoclada* TuL., but the leaves are not a good match.

S. Nig.: Oban Talbot!

Imperfectly known species.

6. SALACIGHIA

Loes. in Fedde Rep. 49: 228 (1940); in E. & P. Pflanzenfam. 20B: 217 (1942).

- 1 Calyx covering corolla in late bud stage, apiculate; sepals 2–3; petals lacerate; petioles (6–)10–15 mm. long; twigs verruculose-lenticular; leaves opposite and sub-opposite, oblong, ovate or obovate-elliptic, narrowed or obtuse at base, apex long-acuminate, margin entire, 8–21 cm. long, 3–8 cm. broad; flower-buds peltate to subglobose, apiculate; pedicels 4–20 mm. long; flowers bisexual, 6–10 mm. diam. [1. *letestuana*](#)
- Calyx not covering corolla in late bud stage, not apiculate; sepals 4–5, rounded at apex; petals subentire; petioles 4–7 mm. long; twigs verruculose-lenticular; leaves alternate, papery or chartaceous, oblong, lanceolate-oblong or oblanceolate-oblong, narrowed at base, apex fairly long-acuminate, margin entire, 8–12 cm. long, 3–5 cm. broad; buds subglobose; pedicels 10–15 mm. long; flowers bisexual, about 10 mm. diam. [2. *linderi*](#)

1. *Salacighia letestuana* (Pellegr.) Blakelock in Kew Bull. 1956: 247. *APD acc*

Salacia letestuana Pellegr. in Bull. Mus. Hist. Nat. Paris 28: 312 (1922).

Salacighia malpighioides Loes. in Fedde Rep. 49: 228 (1940); in Wiss. Ergebn. 1910–11: 77 (1922), name only; in E. & P. Pflanzenfam. 20B: 217 (1942); Exell & Mendonca Consp. Fl. Ang. 2: 27 (1954).

(?) *Salacia denudata* A. Chev. Bot. 133 (1920), name only; F.W.T.A., ed. 1, 1: 453.

Forest liane, stems purplish-brown; leaves deep green and glossy above, paler beneath; petals green with pale margin, disk cream, ovary pale green.

IV. C.: Adiopodoumé (Sept., Nov.) Mangenot! **S. Nig.:** Eket Talbot! Oban Talbot 149! Kwa Falls, Calabar (Mar.) Brenan 9249!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

2. *Salacighia linderi* (Loes. ex Harms) Blakelock l.c. (1956). *APD acc*

Salacia linderi Loes. ex Harms in Notizbl. Bot. Gart. Berl. 15: 673 (1942).

Liane with yellow flowers.

S. L.: Kambui (Mar.) Lane-Poole 449! **Lib.:** Moylakwelli-Totokwelli (Oct.) Linder 1278!

PANDACEAE

Trees. Leaves alternate, simple, serrulate; stipules present. Flowers dioecious. Male flowers racemose, the racemes fasciculate from the old wood. Calyx cupular, open in bud. Petals 5, valvate. Stamens 10, alternately long and short; anthers 2-celled, opening lengthwise. Rudimentary ovary linear-subulate. Female flowers arranged like the male. Calyx cupular, truncate or toothed. Petals 5 [imbricate?]; staminodes absent. Ovary subsessile, 3–4-celled; stigmas 3–4, reflexed; ovule solitary, pendulous. Fruit drupaceous. Seeds with copious oily endosperm; cotyledons cordate.

A small family endemic to West Tropical Africa.

PANDA

Pierre in Bull. Soc. Linn. Paris 2: 1255 (1894).

Porphyranthus Engl. (1899).

- 1 A tree; branchlets slightly angular; leaves elliptic or ovate-elliptic, unequal-sided and more or less cuneate at base, obliquely caudate-acuminate, 10–18 cm. long, 4–9 cm. broad, glabrous, rather closely reticulate beneath; petiole about 1 cm. long; flowers in elongated fasciculate or paniculate racemes; pedicels about 2 mm. long, puberulous; calyx truncate, about 1.25 mm. long; petals puberulous on the margin, 3 mm. long; fruit subglobose, 3–4-seeded, about 6 cm. diam., with a thick exocarp and a hard bony endocarp traversed by cavities giving the outside a deeply pitted appearance; seeds boat-shaped [oleosa](#)

Panda oleosa *Pierre* l.c. (1896); Chev. Bot. 612; Aubrév. Fl. For. C. Iv. 1: 300, t. 120; Kennedy For. Fl. S. Nig. 143. *APD acc*

Porphyranthus zenkeri Engl. (1899).

An understorey forest tree, up to 60 ft. or more high; slashed bark mottled pink and purple; dioecious; flowers red or purplish; inflorescences often in axils of fallen leaves; fruits green.

Lib.: Harley 990! **Iv. C.:** Guidéko (June) Chev. 19043! Bouroukrou Chev. 16122! Rasso Aubrév. 140! **G. C.:** Sa, Bonsa R. (Aug.) Vigne FH 980! Anwhiaso F.R. (Mar.) Vigne FH 224! Baku, Saltpond Dist. (fr. June) Vigne FH 949! Amentia (Sept.) Vigne FH 1357! **S. Nig.:** Sapoba (fl. Jan., fr. May, Nov.) Kennedy 186! 1669! Keay FHI 28069! Nikrowa, Okomu F.R. (fr. Oct.) Nwonkolo FHI 24152! Ikom Catteral 49! **Br. Cam.:** Victoria (Mar.) Maitland 474! 628!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

ICACINACEAE

Trees, shrubs or rarely climbers. Leaves alternate or rarely opposite, simple; stipules absent. Flowers hermaphrodite or rarely unisexual, actinomorphic. Calyx small, 3–5-lobed; lobes imbricate or valvate, rarely enlarging and enveloping the fruit. Petals 3–5, free or united, valvate, rarely absent. Stamens the same number as the petals and alternate with them; anthers 2-celled; filaments often hairy, free. Disk rarely present. Ovary superior, 1-celled, 1-seeded. Seeds mostly with endosperm; embryo usually small, more or less straight.

A small tropical family.

With a tendency to a gamopetalous corolla; petals valvate; petals inside or anthers sometimes hairy.

- 1 Leaves alternate; tendrils absent:.....2
Leaves opposite, or subopposite; flowers dioecious in lax cymes; climbers with extra-axillary tendrils [12. Iodes](#)
- 2 Corolla not accrescent in fruit:3
- 3 Flowers in fascicles, cymes or panicles, bisexual:.....4
Flowers in spikes or slender racemes, or rarely female flowers in heads, bisexual or unisexual:.....9
- 4 Inflorescences on the leafy shoots, cymose or fasciculate:.....5
Inflorescences on the main stem, paniculate; petals free, glabrous inside [7. Lavigeria](#)
- 5 Petals united into a tubular corolla; flowers in extra-axillary, shortly pedunculate clusters [1. Leptaulus](#)
Petals free or nearly so:6
- 6 Inflorescences not leaf-opposed; anthers not densely villous:7
Inflorescences leaf-opposed, pedunculate, consisting of several umbellate heads; anthers densely villous[3. Lasianthera](#)
- 7 Flowers in pedunculate cymes:8
Flowers fasciculate; fruits slightly 2-lobed, reticulate [4. Rhapsiostylis](#)
- 8 Petals glabrous inside; sepals free, linear or lanceolate; fruits pilose, pubescent or glabrous [2. Alsodeiopsis](#)
Petals bearded inside; sepals united into a calyx with short or long lobes; fruits tomentose or tomentellous[6. Icacina](#)
- 9 Perianth consisting of distinct sepals and petals:..... 10
Perianth consisting of a single whorl of (3–) 4 tepals; flowers unisexual[8. Pyrenacantha](#)
- 10 Flowers bisexual; small trees or shrubs, sometimes scandent [5. Desmostachys](#)
Flowers unisexual; slender lianes [11. Neostachyanthus](#)
Corolla of female flowers accrescent and enveloping the fruit: 12
- 12 Corolla 3-lobed, campanulate; style divided into several radiating arms; flowers in heads; leaves often lobed ..[9. Polycephalum](#)
Corolla 4-partite; style simple; flowers in spikes; leaves not lobed[10. Chlamydocarya](#)

Icacinopsis *Roberty* in Bull. I.F.A.N. 15: 1420 (1953)

Is *Dichapetalum barteri* Engl. (Chailletiaceae); see p. 436. Excluded genus.

1. LEPTAULUS

Benth. — F.T.A. 1: 354; Sleumer in E. & P. Pflanzenfam. 20B: 358 (1942).

- 1 Branchlets and petioles glabrous; flowers numerous in each extra-axillary cluster:2
 Branchlets and petioles densely puberulous; flowers solitary or few in extra-axillary clusters; pedicels 1–2 mm. long; calyx 1.5 mm. long; corolla about 1 cm. long; fruits ellipsoid, about 1.5 cm. long; leaves oblong-elliptic, obtuse or cuneate at base, abruptly long-caudate acuminate, the acumen itself subspathulate, 6–12 cm. long, 3.5–5 cm. broad, with 4–5 main lateral nerves on each side of midrib; petioles up to 3 mm. long [3. zenkeri](#)
- 2 Pedicels well-developed, 3–4 mm. long; calyx 1–5 mm. long, lobes not recurved; corolla 1.3–1.4 cm. long; fruits ellipsoid, about 1.3 cm. long and 1 cm. diam.; leaves elliptic, cuneate at base, gradually long-acuminate, acumen itself blunt, 3–14 (–16) cm. long, 1.5–6 (–7.8) cm. broad, with 5–7 main lateral nerves on each side of midrib, venation distinct beneath, nerves not impressed above; petioles 0.5–1 cm. long [1. daphnoides](#)
 Pedicels up to 1 mm. long; calyx 3–4 mm. long, lobes recurved; corolla about 1–5 cm. long; fruits oblong-ovoid, 2.8–3 cm. long and up to 1.5 cm. diam.; leaves coriaceous, oblong-elliptic to oblong-obovate, cuneate at base, abruptly and acutely acuminate, 14–28 cm. long, 6–10 cm. broad, with 5–9 main lateral nerves on each side of midrib, venation obscure beneath, nerves often impressed above; petioles 1.5–2 cm. long [2. grandifolius](#)

1. **Leptaulus daphnoides** *Benth.* — F.T.A. 1: 354, partly (Bagroo River spec. only); Oliv. in Hook. Ic. Pl. t. 2339 (1894), excl. var. *macrophylla* Oliv.; Chev. Bot. 127; Aubrév. Fl. For. C. Iv. 1: 91, t. 27, 7–11; Sleumer in E. & P. Pflanzenfam. 20B: 358, fig. 101, C–E. *APD acc*

A forest shrub or tree, up to 60 ft. high; flowers white, very fragrant.

Fr. G.: Fouta Djallon (May) Heudelot 863! Forécariah (June) Jac.-Fél. 1714! **S. L.:** Bagroo R. (Apr.) Mann 806! Madina, Limba (Apr.) Sc. Elliot 5562! Kessewe Hill (May) Lane-Poole 124! Njala (fl. May, fr. Sept.) Deighton 663! 2910b! **Lib.:** Bonuta (Oct.) Linder 873! Brewer's Landing (Nov.) Linder 1403! Grand Cess (fl. & fr. Mar.) Baldwin 11619! Dobli Isl., St. Paul R. (Apr.) Bequaert 170! 174! **Iv. C.:** Man (Mar.) Aubrév. 1092! Malamalasso (Mar.) Chev. 16251! Soubré (June) Chev. 19125! **G. C.:** Anibil, Axim (Nov.) Vigne 1399! Bonsa Su (May) Vigne FH 1965! Begoro (Apr., Oct.) Irvine 1190! Moor 203! Sefwi Bekwai (young fr. Oct.) Akpabla 942! **S. Nig.:** Oaho, Omo F.R. (fl. buds Apr.) Jones & Onochie FHI 17238! Okomu F.R. (May) A. F. Ross 204! Oban Taltot 427! **Br. Cam.:** Musake Camp, Cam. Mt. 4,500 ft. (May) Maitland 686! Johann-Albrechtshöhe Preuss 1356! Staudt 547! Bali-Ngembra F.R., Bamenda, 6,000 ft. (June) Tiku FHI 30418! Nkom-Wum F.R., Bamenda (Apr.) Ujor FHI 30067!

Also in **French Cameroons**, **Gabon**, **A.–E. Sudan**, **Uganda**, **Tanganyika**, **Belgian Congo** and **Cabinda**.

2. **Leptaulus grandifolius** *Engl.* Bot. Jahrb. 43: 180 (1909). *APD acc*

Leptaulus daphnoides of F.T.A. 1: 354, partly (Kongui River spec.).

Leptaulus daphnoides var. *macrophyllus* *Oliv.* in Hook. Ic. Pl. sub t. 2339 (1894).

A small forest tree, up to 15 ft. high; flowers white.

Br. Cam.: S. Bakundu F.R., Kumba (Mar.) Brenan 9274!

Also in **French Cameroons** and **Spanish Guinea**.

3. **Leptaulus zenkeri** *Engl.* l.c. 179 (1909). *APD acc*

A forest shrub or small tree.

S. Nig.: Oban Talbot 1410! Eket Talbot 3322!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

2. ALSODEIOPSIS

Oliv. ex Benth. in Benth. & Hook. f. Gen. Pl. 1, 3: 996 (1867); F.T.A. 1: 356; Sleumer in E. & P. Pflanzenfam. 20B: 359 (1942). *APD acc*

- 1 Lower surface of leaves and branchlets pilose with rather long spreading hairs:2
 Lower surface of leaves shortly appressed-pubescent:3
- 2 Upper surface of leaves setose-pilose, without short appressed hairs, undersurface rather loosely pilose; sepals, petals and inflorescence-branches whitish hispid and with a few longer whitish hairs; flowers few; sepals about 1 mm. long; fruits ellipsoid, about 9 mm. long, reticulate, pubescent; leaves oblong-obovate, sub-cordate and

unequal-sided at base, acutely acuminate, 7–10 cm. long, 3–5 cm. broad, with 5–8 main lateral nerves on each side of midrib [1. chippii](#)

Upper surface of leaves appressed-puberulous and with long stiff hairs on the midrib and nerves, undersurface densely pilose; sepals, petals and inflorescence-branches densely villose with long reddish-brown hairs; flowers several in paired cymes; sepals about 2 mm. long; fruits ellipsoid, about 15 mm. long, densely orange-pilose; leaves oblong-oblancheolate to oblong-lanceolate, very unequal-sided at base with one side cordate and the other obtuse to rounded, acutely acuminate, 9–18 cm. long, 3–7 cm. broad, with 4–10 main lateral nerves on each side of midrib [2. villosa](#)

- 3 Main lateral nerves (7–) 10–19 on each side of midrib; leaves oblanceolate to oblong-obovate, rounded or obtuse and subequal at base, gradually long-acuminate, (7–) 10–25 cm. long, (2.5–) 3.5–7 cm. broad, shining beneath; peduncles axillary, perennial, becoming woody and up to 8 cm. long, with the rather dense-flowered cymes clustered towards the ends, pedicels up to 4 mm. long; fruits oblong-ellipsoid, 2.5–3.3 cm. long, 9–13 mm. diam., glabrous [3. mannii](#)

Main lateral nerves 3–9 on each side of midrib; fruits ellipsoid or ovoid-ellipsoid, up to 1.8 cm. long and 6 mm. diam., pubescent; pedicels 3–13 mm. long: [4](#)

- 4 Peduncles 6–8 mm. long, pedicels up to 6 mm. long; fruits ovoid-ellipsoid, about 1.2 cm. long; leaves ovate to obovate, subcordate and very unequal-sided at base, obtuse or broadly acuminate at apex, mucronate, 2.7–8.5 cm. long, 1.2–4 cm. broad, main lateral nerves 3–9 with small pocket-like structures in the axils [4. staudtii](#)

Peduncles 16–28 mm. long, pedicels up to 13 mm. long; fruits ellipsoid, 1.6–1.8 cm. long; leaves elliptic, narrowed to the obtuse, rounded or subcordate rather unequal base, acutely long-acuminate, 5.2–16 cm. long, 1.6–6 cm. broad, main lateral nerves 7–9 [5. rowlandii](#)

1. *Alsodeiopsis chippii* Hutch. in Kew Bull. 1912: 224. *APD acc*

A yellow flowered shrub.

G. C.: Burton & Cameron! Dompem, Atissiabo, Axim Dist. (Dec.) Chipp 46!

2. *Alsodeiopsis villosa* Keay in Bull. Jard. Bot. Brux. 26: 185 (1956). *APD acc*

A shrub, to 4 ft. high; fruit orange.

Lib.: Duo, Sinoe (Mar.) Baldwin 11346! About 15 miles inland from R. Cess, Grand Bassa (fr. Mar.) Baldwin 11241! Jabroke, Webo (fl. & fr. July) Baldwin 6476!

3. *Alsodeiopsis mannii* Oliv. in J. Linn. Soc. 10: 43 (1867), excl. the form with smaller leaves which is *A. weissenborniana* J. Braun & K. Schum.; F.T.A. 1: 356, partly. *APD acc*

A forest shrub, about 4 ft. high, with glossy leaves; flowers pale green in drooping cymes; fruits orange.

Br. Cam.: S. Bakundu F.R., Banga, Kumba Div. (fl. & fr. Mar.) Brenan 9267! 9267a!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

4. *Alsodeiopsis staudtii* Engl. Bot. Jahrb. 24: 479 (1898). *APD acc*

APD: *Synonym of Alsodeiopsis poggei* Engl.

Alsodeiopsis weissenborniana of Chev. Bot. 128, not of J. Braun & K. Schum.

A shrub or small tree, to 8 ft. high; flowers yellow; ripe fruits red; in forest.

IV. C.: Guidéko (May) Chev. 16374! Alépé, Chev. 17410. **G. C.:** near Essuasu (fl. & fr. May) Chipp 215! Vigne 168! Asuansi (Feb.) Williams 23! Prestea (Sept.) Vigne FH 3089! Simpa (May) Vigne FH 1955! **S. Nig.:** on hills, Ibadan (Mar.) Schlechter 13011!

Also in **French Cameroons** and **Belgian Congo**.

5. *Alsodeiopsis rowlandii* Engl. l.c. (1898). *APD acc*

A shrub, to 10 ft. high; flowers yellow; ripe fruits red; in forest by streams.

S. Nig.: Lagos (Aug.) Rowland! Etemi, Omo F.R., Ijebu Ode (fr. Mar.) Jones & Onochie FHI 16824! Akure F.R. (fl. & fr. Aug.) Jones FHI 20208! Okomu F.R., Benin (fl. & fr. Mar.) Akpabla 1107! Degema Talbot!

Also in **Belgian Congo**.

Alsodeiopsis rubra Engl. — Sleumer in E. & P. Pflanzenfam. 20B: 360 (1942), records this species from Liberia.

Perhaps the Liberian specimens were of *A. villosa* Keay, a species which looks rather like *A. rubra* but differs in several important characters.

Doubtfully recorded species.

3. LASIANTHERA

P. Beauv. — F.T.A. 1: 353; Sleumer in E. & P. Pflanzenfam. 20B: 362 (1942).

- 1 Branchlets terete and slightly ridged, glabrous; leaves oblong-elliptic, long-caudate-acuminate, shortly cuneate at the base, 8–15 cm. long, 3–6 cm. broad, glabrous; lateral nerves about 6 pairs, looped; cymes leaf-opposed, small, the flowers in small partial heads; petals 3 mm. long; anthers densely villous; fruits oblong-elliptic, flattened, beaked, about 1 cm. long, longitudinally ribbed [africana](#)

Lasianthera africana *P. Beauv.* Fl. Oware 1: 85, t. 51 (1806); F.T.A. 1: 353; Sleumer l.c., fig. 102, A–O; Chev. & Walker in Rev. Bot. Appliq. 27: 502, t. 24. *APD acc*

A glabrous shrub, 3–12 ft. high, with terete branchlets and small white flowers in umbellate head-like clusters; **in rain forest**.

S. Nig.: R. St. Jacques, Chama Beauvois. Mamu River F.R. (Nov.) Keay FHI 22291! Onwudinjoh FHI 21913! Oban (fl. & fr. May) Talbot 422! Ujor FHI 31797! Okwango, Obudu Div. (fl. & fr. May) Latilo FHI 30967! **Br. Cam.:** Victoria (Nov.) Maitland 93! Kumba Preuss 501! 1175! Staudt 490! Abonando, Mamfe (Apr.) Rudatis 38! **F. Po:** (fl. & fr. Dec.) Mann 73

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

4. RHAPHIOSTYLIS

Planch. ex Benth. in Hook. Fl. Nigrit. 259 (1849); Sleumer in E. & P. Pflanzenfam. 20B: 368 (1942).

- 1 Leaves and branchlets glabrous or tomentellous or puberulous; leaves not cordate at base:2
Leaves and branchlets densely spreading-pilose; leaves cordate at base, ovate-elliptic, obtusely long-acuminate, 5–12 cm. long, 2–6 cm. broad; flowers in axillary clusters; pedicels up to 3 mm. long; ovary villous5.
[cordifolia](#)
- 2 Pedicels, flowers, branchlets and leaves glabrous or nearly so:3
Pedicels and calyces brownish-tomentellous; branchlets and leaves on both surfaces puberulous; leaves oblong or oblong-elliptic, cuneate or obtuse at base, rather long and subacutely acuminate, 9–12 cm. long, 3–4 cm. broad; flowers rather numerous in axillary fascicles; pedicels 7–9 mm. long; ovary densely pilose; fruits 2.5–3 cm. broad, coarsely verrucose4. [ferruginea](#)
- 3 Ovary glabrous; leaves oblong-elliptic or elliptic, obtuse or rounded at base, obtusely acuminate, 7.5–16.5 cm. long, 2.5–6.5 cm. broad, the lower lateral nerves ascending; flowers rather numerous in axillary fascicles; pedicels 7–8 mm. long; fruits subdidymous, quadrate, 1–1.5 cm. broad, reticulate1. [beninensis](#)
Ovary densely pilose except sometimes at base; leaves elliptic:4
- 4 Lateral nerves ascending; pedicels 5–7 mm. long; leaves 6–15 cm. long, 2.5–7.5 cm. broad2. [preussii](#)
Lateral nerves spreading; pedicels about 10 mm. long; leaves about 8 cm. long and 3–4 cm. broad3. [poggei](#)

1. **Rhaphiostylis beninensis** (*Hook. f. ex Planch.*) *Planch. ex Benth.* in Hook. Fl. Nigrit. 259, t. 28 (1849). *APD acc*

Apodytes beninensis *Hook. f. ex Planch.* in Hook. Ic. Pl. t. 778 (1848); F.T.A. 1: 355, partly (excl. var. B); Chev. Bot. 127.

A glabrous scandent shrub, rarely arborescent; flowers white, fragrant; ripe fruits red, shining, fleshy; the whole plant goes black when dried; **in forest vegetation**.

Fr. G.: Heudelot 723! Timbo Pobéguin 76! 128! Kouria (Dec.) Chev. 14890! Labé (fr. Apr.) Chev. 12389! **S. L.:** Bonthe (fl. & fr. Feb.) Dalz. 937! Kukuna road, Scarcies R. (Jan.) Sc. Elliot 4711! Njala (Nov.) Deighton 3092! Laoma Smythe 94! Kenema (Feb.) Lane-Poole 324! **Lib.:** Cape Palmas (July) T. Vogel 46! Ganta (Nov., Dec.) Harley! Barter 1119! **Iv. C.:**

Adiopodoumé (Jan.) Miège 1491! Baoulé (Oct.) Pobéguin 256! **G. C.:** Aburi (Jan.) Brown 881! Akropong (Oct.) Johnson 825! Tukobo (Nov.) Vigne FH 1430! Achimota (Jan.) Irvine 1971! **Togo:** Lome Warnecke 407! 475! Kabosu (Dec.) St. C. Thompson FH 3724! **Dah.:** Boukoutou forests, Saketé (Jan.) Chev. 22846! **S. Nig.:** Lagos (Dec.) Millen 22! 170! Gambari Group F.R., Ibadan (Nov.) Latilo FHI 33668! Mamu River F.R., Awka (Feb., Mar.) Jones FHI 4848! 6916! Cross River area (Jan.–Mar.) Johnston!

Extends to **Uganda**, N. Rhodesia and **Angola**.

2. **Rhaphiostylis preussii** *Engl.* Bot. Jahrb. 17: 72 (1893). *APD acc*

A glabrous scandent shrub, in **forest**; similar to the preceding species but with densely pilose ovary, leaves and branchlets which usually do not dry black, and rather longer acumen.

S. L.: Njala (Oct.) Deighton 5599! Bonganema, Kori (Oct.) Deighton 6134! Makump (Oct.) Thomas 3956! Bumbuna (Oct.) Thomas 3852! **Lib.:** Karmadhun, Kolahun (Nov.) Baldwin 10181! Peahtah (Oct.) Linder 1030! **Iv. C.:** Jolly 49! **G. C.:** Banka (Sept.) Vigne FH 1372! Pra River Station (Feb.) Vigne FH 1824! Kwahu Prasu (Feb.) Vigne FH 1630! Sefwi Bekwai (Oct.) Akpabla 902! **S. Nig.:** Akure F.R. (Oct.) Keay FHI 25485! **Br. Cam.:** Barombi, Kumba (Sept.) Preuss 522!

[Two fruiting species (Esp. Santo 2250; 2253) from Portuguese Guinea may belong either to this species or to the last.]

3. **Rhaphiostylis poggei** *Engl.* Bot. Jahrb. 17: 73 (1893); op. cit. 43: 181. *APD acc*

A glabrous scandent shrub.

Br. Cam.: Barombi (Sept.) Preuss 561.

Also in **French Cameroons**.

4. **Rhaphiostylis ferruginea** *Engl.* op. cit. 43: 181 (1909); Sleumer in E. & P. Pflanzenfam. 20B: 369, fig. 105. *APD acc*

Apodytes beninensis var. **B Oliv.** in F.T.A. 1: 356.

Icacina? **sarmentosa** *A. Chev.* Bot. 127, name only.

A **forest** shrub, often scandent.

Iv. C.: Yapo (Oct.) Chev. 22373! **G. C.:** Abosso (Aug.) Vigne FH 3034! **S. Nig.:** Epe Barter 3286! Ehor F.R., Benin (fl. & fr. Mar.) Chizea FHI 8268! **Br. Cam.:** Victoria (Mar.) Maitland 1062! Moliwe (May) Winkler 1280.

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

5. **Rhaphiostylis cordifolia** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 455 (1928); Kew Bull. 1929: 23. *APD acc*

A scandent shrub; flowers white or cream; in **forest**.

Lib.: Gbanga (Oct.) Linder 1218! **Iv. C.:** Banco (Nov.) Miège 1418! **G. C.:** Opon Mansi F.R. Akpabla 934! Subiri F.R., Benso (Sept.) Andoh FH 5575! Vigne FH 4747!

5. DESMOSTACHYS

Planch. ex Miers — F.T.A. 1: 353; Sleumer in E. & P. Pflanzenfam. 20B: 369 (1942).

- 1 Petals 10–11 mm. long, loosely joined below to form a tube about 6 mm. long which eventually splits from the bottom; style about 14 mm. long, exerted beyond the petals and stamens; flowers 5-merous in markedly supra-axillary spikes, up to 36 cm. long, with a tendency for the flowers to be arranged in 2 ranks; calyx 2.5 mm. long; leaves oblong to oblong-oblancoate, obtuse or cuneate at base, acuminate, 12–30 cm. long, 3.5–11 cm. broad, with 5–8 main lateral nerves on each side of midrib, very minutely puberulous beneath; fruits ellipsoid, about 2 cm. long *1. vogelii*

Petals 3–6 mm. long, free; style as long as or shorter than the petals; flowers 4-merous in solitary or superposed pairs of spikes, axillary, up to 35 cm. long, on leafy shoots, rhachis flattened, flowers more or less in 2 ranks; calyx 1.5 mm. long; leaves more or less elongate-elliptic or oblong, cuneate at base, acuminate, 12–23 cm. long, 5–11 cm. broad, with (5–) 6–9 (–10) main lateral nerves on each side of midrib, very minutely puberulous beneath; fruits ellipsoid, 2.5–2.8 cm. long *2. tenuifolius*

1. **Desmostachys vogelii** (*Miers*) *Stapf* in Johnston Lib. 2: 587 (1906); Chev. Bot. 126. *APD acc*

Sarcostigma vogelii Miers (1852).

A **forest** shrub or small tree, often scandent; flowers white and fragrant, in pendulous spikes; fruits yellow.

S. L.: Kpetema (Apr.) Deighton 3693! Gola Forest, Gorahun (Mar.) Deighton 4097! **Lib.:** Cape Palmas (fr. July) T. Vogel 25! 27! 68! Kakatown Whyte! Bumbuna, Moala (Nov.) Linder 1345! Dukwia R. (fl. & fr. Feb.) Cooper 156! Boporo (Nov.) Baldwin 10377! **iv. C.:** Grabo (July) Chev. 19624! Tabou to Bériby Chev. 19970! N'Zida (fr. June) Miège 1587!

2. *Desmostachys tenuifolius* Oliv. in F.T.A. 1: 353 (1868); F.W.T.A., ed. 1, 1: 454, in part only (excl. distrib. S.L. and Dah.). *APD acc*

APD: *Synonym of Stachyanthus occidentalis (Keay & J. Miège) Boutique*

Desmostachys preussii Engl. Bot. Jahrb. 17: 70 (1893).

A **forest** shrub or small tree, to 30 ft. high; flowers cream, in slender pendulous spikes; ripe fruits orange.

S. Nig.: Port Harcourt (Jan.) Joanes FHI 5005! Calabar (July) Holland 63! Robb! Oban (May) Talbot 100! Ujor FHI 31790! **Br. Cam.:** Preuss 1327! Likomba (Dec.) Mildbr. 10746! S. Bakundu F.R. (fl. & fr. Mar.) Brenan 9276! Onochie FHI 30867! S. Bakossi F.R. (May) Olorunfemi FHI 30596! Abonando (June) Rudatis 69! Barombi (June) Preuss 306; 351. **F. Po:** (June) Barter! Mann 421!

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

[The record from Sierra Leone in the first edition is based on a Barter specimen which is most probably a second sheet of his Fernando Po specimen, the species does not seem to occur west of E. Nigeria.]

6. ICACINA

A. Juss. — F.T.A. 1: 356; Sleumer in E. & P. Pflanzenfam. 20B: 370 (1942).

- 1 Flowers in lax terminal corymbose cymes; leaves ovate to obovate, obtusely acuminate to rounded and emarginate, 5–15 cm. long, 4–10 cm. broad, conspicuously reticulate and glabrous or nearly so; calyx short; petals shortly hairy outside; fruits obovoid, 3 cm. long, tomentellous, slightly wrinkled when dry *1. senegalensis*
- Flowers in axillary clusters or short dense cymes: **2**
- 2 Flowers rather lax and pedicellate; leaves broadly obovate-elliptic, abruptly acuminate, more or less cuneate at base, up to 20 cm. long and 12 cm. broad, glabrescent beneath; calyx much shorter than the petals; petals appressed-pubescent outside *2. mannii*
- Flowers densely crowded and subsessile; leaves broadly elliptic, abruptly acute, rounded at base, 10–28 cm. long, up to 17 cm. broad, thinly pilose with simple, fascicled hairs beneath; calyx nearly as long as the petals; petals villous outside; fruits ellipsoid-globose, 2.5 cm. long, tomentose *3. trichantha*

1. *ICACINA senegalensis* A. Juss. — F.T.A. 1: 357; Chev. Bot. 128.

APD: *Synonym of Icacina oliviformis (Poir.) J. Raynal var. oliviformis*

A **savannah** suffrutex, sending up glabrous or pubescent leafy shoots 2–3 ft. high from a large fleshy tuber with long roots; flowers cream or yellow; ripe fruits red; locally abundant and troublesome as a weed in some parts, but rare in Nigeria.

Sen.: Perrottet 129! Kaolak Kaichinger. Floup-Fedyan, Sédhiou and Samandiny fide Chev. l.c. **Gam.:** Mungo Part! Karawan and Cape St. Mary (Jan.) Dalz. 8084! Genieri (Feb.) Fox 95! Kuntaur (July) Ruxton 38! 42! **Fr. G.:** Pobéguin 2142! Labé Chev. 12297. Pita (Mar.) Jac.-Fél. 797! **G. C.:** Kintampo (Mar.) Dalz. 34! Tamale (Apr.) Williams 152! Dogonkadi (fl. & fr. Apr.) Kitson 633! Grube (Mar.) Rea FH 1671! **Togo:** Kete Krachi (Jan.) Vigne FH 1527! **Dah.:** Agouagon to Savé (May) Chev. 23559! **S. Nig.:** Barter 3422! Lanlate, Oyo Prov. (fl. & fr. May) Onochie FHI 19173!

Also in **Ubangi-Shari** and **A.-E. Sudan**.

2. *ICACINA mannii* Oliv. in F.T.A. 1: 357 (1868); Bot. Mag. t. 6260. *APD acc*

A scandent shrub, to 20 ft. high, with a large tuber; flowers cream, scented; **in forest**.

S. L.: Thomas 8241! **Lib.:** Logantown, New Cess R. (Mar.) Baldwin 11179! **Iv. C.:** Adiopodoumé (Apr.) Miège 1828! **G. C.:** Kumasi (Mar.) Vigne FH 1092! 1845! Abiabo, Axim (Nov.) Vigne FH 1431! **S. Nig.:** Okomu F.R. (Feb.) Brenan 8477! 9080! Eket Talbot! Okpanam (Mar.) Kitson! Calabar (Feb.) Mann 2241!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

3. *Icacina trichantha* Oliv. in F.T.A. 1: 358 (1808). *APD acc*

A scandent shrub, with a very large tuber; flowers cream; ripe fruits red, velvety; in forest and forest regrowth vegetation.

S. Nig.: Lagos (fl. & fr. Jan., fr. Oct.) Dalz. 1094! 1398! Rowland 58! Ibadan (fl. Jan., Feb., fr. Mar.) Meikle 968! 1166! Shasha F.R. (fl. & fr. Feb., Mar.) Richards 3142! Ross 11! Okomu F.R. (fr. Jan.) Brenan 8887! Sapoba (Nov.) Ajayi FHI 26985! Onitsha Barter 1793! Degema Talbot 3692!

[The specimens from Lagos differ from the others in having the leaves more thickly covered with fascicled hairs beneath.]

7. LAVIGERIA

Pierre Fl. For. Cochinch. fasc. 17, sub t. 267 (1892); Sleumer in E. & P. Pflanzenfam. 20B: 371 (1942).

- 1 Leaves oblong-elliptic, shortly pointed, rounded at base, 15–25 cm. long, 7–11 cm. broad, slightly stellate-pubescent beneath, coarsely reticulate; panicles clustered on the main stem, tomentellous; flowers very small, sessile; petals nearly glabrous outside, not hairy inside; fruit ovoid, about 7 cm. long, corrugated [macrocarpa](#)

Lavigeria macrocarpa (Oliv.) *Pierre* l.c. (1892); Sleumer l.c., fig. 106. *APD acc*

Icacina macrocarpa Oliv. in F.T.A. 1: 357 (1868); Hook. Ic. Pl. t. 2338.

Lavigeria salutaris *Pierre* (1892).

A large forest liane, cauliflorous; branchlets pubescent; flowers pinkish.

S. Nig.: Cross River area (Dec.) Holland 184! **Br. Cam.:** Likomba (Oct.) Mildbr. 10536! L. Barombi, Kumba (Mar.) Brenan 9467! **F. Po:** (fl. & fr. Dec.) Mann 43!

Also in **French Cameroons**, **Belgian Congo** and **Gabon**.

8. PYRENACANTHA

Wight in Hook. Bot. Misc. 2: 107 (1831); Sleumer in E. & P. Pflanzenfam. 20B: 384 (1942).

- 1 Leaves ovate, widely cordate and 3–5-nerved at base, acuminate at apex, 15–25 cm. long, 9.5–15.5 cm. broad, puberulous on the nerves beneath; petioles 3.5–9.5 cm. long; racemes in fascicles on the old wood, well below the leaves; male racemes up to 6 cm. long; tepals and stamens 3; fruits flattened-ellipsoid, about 2.5 cm. long and 1.3 cm. broad, rugose, minutely tomentellous [1. klaineana](#)
- Leaves more or less elliptic or lanceolate or obovate or oblanceolate, rounded to cuneate at base, or narrowed to a narrowly cordate or auriculate base, up to 9 cm. broad; petioles up to 3 cm. long; racemes or spikes amongst the leaves; tepals and stamens 4: [2](#)
- 2 Lower surface of leaves quite glabrous, except for a few scattered hairs on the midrib and nerves; leaves drying black, broadly elliptic or obovate-elliptic, obtuse or cuneate at base, shortly acuminate, 3.2–16 cm. long, 1.8–9 cm. broad; female flower spikes up to 10 cm. long; fruits oblong-ellipsoid, 2.5–35 cm. long, 1.5–1.8 cm. broad, puberulous [2. mangelotiana](#)
- Lower surface of leaves puberulous, pubescent; leaves drying green, gradually long-acuminate and mucronate: [3](#)
- 3 Leaves beneath densely puberulous with curly hairs, not presenting a “combed” appearance and not closely appressed; branchlets rusty-yellowish tomentellous; male flowers in very densely-flowered spikes up to 3 cm. long; female flowers in congested shortly pedunculate globose heads; fruits obovoid-ellipsoid, 1.1–1.4 cm. long, tomentose; leaves oblong-obovate, oblong or oblong-oblanceolate, rounded to slightly cordate at base, 7–19 cm. long, 3–8 cm. broad, margins denticulate or undulate-denticulate [3. staudtii](#)
- Leaves beneath with closely appressed straight hairs; branchlets appressed-puberulous; inflorescences slender racemes or spikes, not densely-flowered: [4](#)
- 4 Male flowers sessile; lower surface of leaves closely appressed-puberulous, the hairs well separated from one another; leaves narrowed to a closely cordate or auriculate base, elliptic, oblong-elliptic or oblong-lanceolate,

5–17 cm. long, 1·6–7 cm. broad, margins undulate; male spikes up to 8 cm. long; female spikes up to 10 cm. long; fruits flattened-ovoid, with a long beak, strongly reticulate, 1·6–2 cm. long, 1·1–1·5 cm. broad, puberulous [4. vogeliana](#)

Male flowers with pedicels about 1 mm. long; lower surface of leaves densely appressed-pubescent, the hairs having a “combed” appearance; leaves cuneate to narrowly cordate at base: **5**

- 5** Bract of each male flower borne on the inflorescence axis below the pedicel; leaves narrowly elliptic to lanceolate, margins subentire or undulate, 5–13 cm. long, 1·8–4·5 cm. broad; fruits flattened-ellipsoid, scarcely beaked, about 1·3 cm. long and 8 mm. broad [5. acuminata](#)

Bract of each male flower borne on the pedicel; leaves more or less elliptic, margins undulate, 6–14 cm. long, 2·5–6 cm. broad; fruits not known [6. sp. A](#)

1. *Pyrenacantha klaineana* Pierre ex Exell & Mendonça in Consp. Fl. Ang. 1: 345 (1951). *APD acc*

A forest liane reaching to the tree tops, with flowers and fruits on the stem in the understorey.

IV. C.: Guiglo to Tai, Cavally Basin (fr. Aug.) Miège Also in Gabon, Belgian Congo and Cabinda.

2. *Pyrenacantha mangelotiana* Miège in Bull. I.F.A.N. 17: 8, tt. 1 & 2 (1955).

APD: Synonym of Pyrenacantha glabrescens (Engl.) Engl.

A forest liane, with stems up to 100 ft. long and 1 in. diam.

Fr. G.: Sérédou Miège 2388. **Lib.:** Baldwin! **IV. C.:** Adiopodoumé (Mar.) Miège 1798! 1809! Abidjan (fr. Dec.) Chev. 17326! Sassandra Port (fr. May) Chev. 17063! 17971!

[Baldwin's specimen from Liberia is associated with a label bearing the following particulars: — “E. Prov., Tchien Dist., Bahtown, on Cess R.; procumbent, with red fruit; 11 Aug. 1947; Baldwin 8032.” As the note about the red fruit is quite inapplicable to the specimen which has only male flowers, I conclude that the label has been wrongly associated with the specimen. This species is close to *P. glabrescens* (Engl.) Engl. from Gabon.]

3. *Pyrenacantha staudtii* (Engl.) Engl. Pflanzenw. Afr. 3, 2: 262, 264 (1921); Sleumer in E. & P. Pflanzenfam. 20B: 385, fig. 115, A–D, excl. syn. *APD acc*

Chlamydocarya tenuis Engl.; Exell & Mendonça l.c.

Chlamydocarya staudtii Engl. (1898).

Pyrenacantha ugandensis Hutch. & Robyns (1924).

A shrub or small tree, with twisted petioles; flowers pale green.

S. Nig.: Thompson 511! Abeokuta Barter 3375! Ibadan (Apr.) Meikle 1435 Sapoba Kennedy 2200! 2217! 2342! Degema Talbot! Eket Talbot 3152! **Br. Cam.:** Banga (fr. Apr.) Ejiofor FHI 29338! Johann-Albrechtshöhe (Jan.) Staudt 787!

Also in **French Cameroons** and extending to **Uganda, Belgian Congo** and **Angola**.

4. *Pyrenacantha vogeliana* Baill. in Adansonia 10: 271 (1872); Chev. Bot. 128, partly. *APD acc*

APD: Synonym of Pyrenacantha acuminata Engl.

Pyrenacantha dinklagei Engl. (1909).

A slender liane with small yellow flowers and orange or red fruits.

S. L.: Yonibana (fl. buds Oct.) Thomas 4099! Mano (fr. Oct.) Deighton 2411! **Lib.:** Grand Bassa (fr. Mar., July) T. Vogell 13! Baldwin 11284! Ganta (fr. Feb.) Baldwin 11009! Nyaake, Webo (fr. June) Baldwin 6150! Kle (fr. Dec.) Baldwin 10637! **IV. C.:** Makougué (fr. Jan.) Chev. 16961! Sampleu to Ganhoué (fr. Apr.) Chev. 21155! Digoulé to Gouané (fr. May) Chev. 21511! Sanrou to Ouodé (fr. May) Chev. 21624! **G. C.:** Kwahu Prasu (Feb.) Vigne VH 1617! Kumasi (fr. Nov.) Andoh FH 2371! **S. Nig.:** Eribovhe waterside, Benin (fr. Nov.) Ujor FHI 23935!

Also in **French Cameroons, Gabon, Belgian Congo** and **Tanganyika**.

5. *Pyrenacantha acuminata* Engl. Bot. Jahrb. 24: 483 (1898). *APD acc*

APD: Synonym of Pyrenacantha sylvestris S. Moore

Chlamydocarya tenuis Engl. (1898).

Pyrenacantha vogeliana of Chev. Bot. 128, partly.

A slender liane with small green flowers and pinkish-orange fruits.

S. L.: Njala (Jan., May, June) Deighton 4622! 4768! 5021! Mabonto (July) Deighton 3267! **Lib.:** Ganta (May) Harley! Javajai (fr. Nov.) Baldwin 10258a! **Iv. C.:** Singrobo Miège! Sampleu to Ganhoué (fr. Apr.) Chev. 21156!

Also in **French Cameroons**, **Belgian Congo** and **Gabon**.

[The specimens from Angola cited as this species in Consp. Fl. Ang. 1: 345 are quite different and should be called *P. sylvestris* S. Moore.]

6. *Pyrenacantha* sp. A. *APD acc*

A slender liane with very small greenish flowers. Fruits not known.

G. C.: Agogo (May) Chipp 448! New Tafo (Oct.) Lovi WACRI 3936! Akumadan (June) Vigne FH 2565! Jimira F.R. Vigne FH 2969! **S. Nig.:** Oban Talbot 1509!

Possibly this is *P. undulata* Engl., see below.

1. *Pyrenacantha undulata* Engl. Pflanzenw. Afr. 3, 2: 262 (1921), without proper description; no specimen cited.

Possibly this is *P. sp. A*, see above.

Togo: Tove.

Imperfectly known species.

2. *Pyrenacantha* sp. B.

Leaves densely puberulous beneath; male flowers pedicellate, with bract on pedicel. Better material needed.

S. L.: riverside, 6 miles N. of Kundita, 3,600 ft. (Mar.) Sc. Elliot 5043!

Imperfectly known species.

3. *Pyrenacantha* sp. C.

Slender liane with bright orange very long-beaked fruits at the end of a peduncle 7 cm. long, leaves elliptic, cuneate at base, long-acuminate, drying blackish. Flowers not known; better material needed.

Br. Cam.: Mbalange to Ndifo, on Kumba — Victoria road (fr. Mar.) Onochie FHI 30856!

Imperfectly known species.

9. POLYCEPHALIUM

Engl. in E. & P. Pflanzenfam. Nachtr. 227 (1897); Sleumer in E. & P. Pflanzenfam. 20B: 385 (1942).

- 1 Stems and petioles long-spreading-pilose; undersurface of leaves at first densely covered with long pilose hairs, which remain on the nerves, but tend to come off the lamina and expose a dense indumentum of shorter hairs; leaves variable in shape, often 3-lobed, strongly 3-nerved at the base, apices of leaves and lobes acutely acuminate, up to 20 cm. long and 10 cm. broad; male and female flowers in pedunculate heads, solitary or a few together; fruits densely clustered, each covered by the enlarged persistent ovoid corolla, up to 2.5 cm. long
..... *capitatum*

Polycephalum capitatum (Baill.) Keay in Bull. Jard. Bot. Brux. 26: 184 (1956). *APD acc*

Chlamydocarya capitata Baill. in Adansonia 10: 277 (1872); Chev. Bot. 128; F.W.T.A., ed. 1, 1: 457; Sleumer l.c. 388.

Phytocrene sp. — F.T.A. 1: 359.

Synclisia scabrida of Chev. Bot. 17, partly (Chev. 20989 & 21157).

S. ferruginea of Chev. Fl. Viv. 1: 100, partly (Chev. 20989 & 21157).

A small liane with brown-pilose indumentum; flowers green; corolla in fruit orange.

Fr. G.: Lola to Nzo (Mar.) Chev. 20989! Foot of Mt. Nzo (Mar.) Chev. 21003 (partly)! Kaoulendougou, Nzo (fr. Mar.) Chev. 21057! **S. L.:** Freetown (fr. Jan., Mar.) Dalz. 986! Kirk 35! Njala (fr. Feb.) Deighton 3115! Rokupr (fl. Sept., fr.

Mar.) Jordan 408! Yungera (Jan.) Thomas 7368! Jepihun Smythe 90! **Lib.:** Dukwia R. (fr. Sept.) Cooper 363! Peatah (Oct.) Linder 1076! Zwedru, Tchien (fr. Aug.) Baldwin 7029! **Iv. C.:** Sampleu to Ganhoué (fr. Apr.) Chev. 21157!

10. CHLAMYDOCARYA

Baill. in Adansonia 10: 276 (1872), partly; Sleumer in E. & P. Pflanzenfam. 20B: 387 (1942), partly.

- 1 Corolla in fruit densely and closely setose-pubescent, elongated beyond the body of the fruit into an inflated cone 2.5–4 cm. long and 1.5–2.2 cm. broad at base; leaves sparingly pubescent beneath, elliptic, rounded or obtuse at base, broadly acuminate, 9.5–22 cm. long, 4–11 cm. broad, reticulate beneath, margins entire *1. macrocarpa*
- Corolla in fruit with spreading bristly hairs, elongated beyond the body of the fruit into a tube 4–8 cm. long and less than 1.5 cm. broad at the conical base; leaves densely to sparingly pilose on the nerves beneath, elliptic, oblong or obovate-elliptic, rounded or obtuse at base, broadly acuminate or acute at apex, 10–28 cm. long, 4–11.5 cm. broad, reticulate beneath, margins denticulate *2. thomsoniana*

1. *Chlamydocarya macrocarpa* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 456 (1928); Kew Bull. 1929: 23; Chev. Bot. 128, name only. *APD acc*

A woody climber; male flowers in long catkins; corolla in fruits yellow or orange-red when ripe, borne on the stems.

Iv. C.: Dabou (fr. Feb.) Chev. 17216! Adiopodoumé (fl. July, fr. Oct.) Miège 1700! **G. C.:** Axim (fr. Jan., Feb.) Akpabla 822! Irvine 2186! Simpa (fr. Feb.) Vigne FH 2802! S. Scarp F.R. (fr. Feb.) Moor 235!

[Closely related to *C. soyauxii* Engl. from French Cameroons and Gabon.]

2. *Chlamydocarya thomsoniana* Baill. in Adansonia 10: 276 (1872); Sleumer in E. & P. Pflanzenfam. 20B: 388, fig. 114. *APD acc*

Chlamydocarya rostrata Bullock in Kew Bull. 1933: 469, partly (fruits only, the leaves are *Prevostea africana* Benth.).

A small liane with more or less bristly stems; male flowers in catkins; corolla in fruit orange to scarlet when ripe.

S. L.: Gorahun (young fr. Mar.) Deighton 4109! **Lib.:** Ganta (fr. Sept.) Baldwin 9299! **Iv. C.:** Mé (fr. Aug.) Miège 1856! **S. Nig.:** Okomu F.R. Benin (fr. Dec.) Brenan 8512! Usonigbe F.R., Benin (fr. Nov.) Keay FHI 25553! Sapoba Kennedy 2225! Oban Talbot 1355! 1422! Calabar Thomson 12! **Br. Cam.:** Mamfe (fr. Jan.) Maitland 1167 (partly)!

Also in **French Cameroons**, **Belgian Congo** and **Gabon**.

11. NEOSTACHYANTHUS

Exell & Mendonça in Bot. Soc. Brot., sér. 2, 25: 111 (1951).

Stachyanthus Engl. (1897) — Sleumer in E. & P. Pflanzenfam. 20B: 388 (1942); not of DC. (1836).

- 1 Anthers about 2.25 mm. long, about as long as the filaments; male flowers normally 6-merous, rarely 5-merous, petals about 4.75 mm. long, calyx about 1 mm. long; male spikes up to 25 cm. long, in fascicles from the stem below the leaves; leaves obovate-oblong, slightly cordate at base, long-acuminate, 12–21 cm. long, 4.3–9.2 cm. broad, with 6–9 main lateral nerves on each side of midrib; branchlets and petioles at first rather long bristly-pilose *1. zenkeri*
- Anthers about 1 mm. long, only about half as long as the filaments; male flowers 4–5-merous, petals about 3.25 mm. long, calyx about 0.7 mm. long; male racemes up to 28 cm. long, in fascicles from the stem below the leaves and solitary and slightly supra-axillary among the leaves; leaves elliptic-ovate to elliptic-obovate, narrowed to an obtuse, rounded or very slightly cordate base, acutely acuminate, 9–20 cm. long, 4–8.5 cm. broad, with 6–9 main lateral nerves on each side of midrib; branchlets and petioles sparingly pubescent or glabrous; fruits flattened-ellipsoid, about 1.2 cm. long, endocarp pitted *2. occidentalis*

1. *Neostachyanthus zenkeri* (Engl.) Exell & Mendonça in Bol. Soc. Brot, sér. 2, 25: 111 (1951).

APD: Synonym of *Stachyanthus zenkeri* Engl.

Stachyanthus zenkeri Engl. in E. & P. Pflanzenfam. Nachtr. 1: 227 (1897); Bot. Jahrb. 24: 487, t. 8, E–K; Sleumer in E. & P.

Pflanzenfam. 20B: 390, fig. 115, E–K.

A slender twining liane, in **forest**; flowers greenish-yellow, in pendulous, cauliflorous spikes.

S. Nig.: Akure F.R. (Oct.) Keay FHI 25453! Benin Prov. (Apr.) Fairbairn 46! **F. Po:** Mildbr. 6923.

Also in **French Cameroons**, **Belgian Congo** and **Cabinda**.

2. *Neostachyanthus occidentalis* Keay & Miège in Bull. Jard. Bot. Brux. 25: 271, figs. 47–51 (1956).

APD: *Synonym of Stachyanthus occidentalis (Keay & J. Miège) Boutique*

Desmostachys tenuifolius of Chev. Bot. 126 and of F.W.T.A., ed. 1, 1: 454, partly (Dah. record), not of Oliv.

A slender twining liane, in **forest**; flowers green with yellow anthers; ripe fruits orange; midrib and main nerves of leaves yellow or orange beneath.

Iv. C.: Singrobo (Oct.) Miège 2070! La Kassa (Oct.) Miège 2075. **G. C.:** Volta River F.R. (Apr.) Vigne FH 4377! Kwahu

Prasu (Feb.) Vigne FH 1620! New Tafo (Oct.) Lovi WACRI 3925! **Dah.:** Cabolé to Bassila, Savalou (May) Chev. 23794!

S. Nig.: Gambari Group F.R., Ibadan (fl. Mar., fr. Aug.) Keay FHI 22532! Onochie FHI 19148! Iguobazowa F.R., Benin (fr. Feb.) Onochie FHI 27143!

***Neostachyanthus nigeriensis* (S. Moore) Exell & Mendonça** l.c. (1951).

Stachyanthus nigeriensis S. Moore in J. Bot. 58: 221 (1920).

The type (Talbot s.n. from Oban) consists of a single inflorescence probably of *Neostachyanthus zenkeri* and a leafy shoot of *Prevostea heudelotii* (Bak. ex Oliv.) Hall f. (Convolvulaceae). The name *N. nigeriensis* is therefore rejected under Art. 76 of the International Code of Botanical Nomenclature (1952). Excluded species.

12. IODES

Blume — F.T.A. 1: 358; *Sleumer* in E. & P. Pflanzenfam. 20B: 377 (1942).

- 1** Leaves densely tomentose beneath, broadly ovate-elliptic, acutely and abruptly acuminate, rounded at base, 10–15 cm. long, 6–8 cm. broad, glabrous above; lateral nerves about 6 pairs; cymes axillary, about 6 cm. long, tomentellous; fruits broadly ovoid, 1.3 cm. long, coarsely reticulate, thinly tomentellous. [1. *kamerunensis*](#)

Leaves thinly pilose or nearly glabrous beneath:.....**2**

- 2** Branchlets and leaves thinly pilose with long weak hairs; leaves ovate, shortly acuminate, cordate at base, 5–9 cm. long, with prominent nerves beneath; cymes short, pilose; fruits broadly ellipsoid, 1.3 cm. long, coarsely reticulate and tomentellous [2. *klaineana*](#)

Branchlets very shortly pubescent or glabrescent; leaves glabrous**3**

- 3** Leaves not shining, very laxly reticulate, broadly ovate or ovate-rounded, abruptly acuminate, rounded or subcordate at base, 9–15 cm. long, up to 11 cm. broad; fruits broadly ovoid-ellipsoid, 8 mm. long, reticulate, glabrous [3. *africana*](#)

Leaves shining and closely reticulate, otherwise as in preceding[4. *liberica*](#)

1. *Iodes kamerunensis* Engl. Bot. Jahrb. 24: 481 (1898). *APD acc*

A **forest** liane with tendrils, covered with yellow-rusty tomentum.

Br. Cam.: Johann-Albrechtshöhe (Jan.) Staudt 557. Buea (Mar.) Maitland 491!

Also in **French Cameroons**.

2. *Iodes klaineana* Pierre in Bull. Soc. Linn. Paris 1321 (1897). *APD acc*

***Iodes laurentii* De Wild.** (1907).

***Iodes talbotii* Bak. f. ex Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 457 (1928); Kew Bull. 1929: 23.

A **forest** liane with tendrils, spreadingly yellow-hairy.

S. Nig.: Oban Talbot 572!

Also in **Gabon**, **Belgian Congo** and **Angola**.

3. *Iodes africana* Welw. ex Oliv. F.T.A. 1: 358 (1868); Sleumer in E. & P. Pflanzenfam. 20B: 377, fig. 108, D, G–J. *APD acc*

A weak climber with tendrils and small yellow flowers in irregularly forked cymose panicles.

S. Nig.: Gambari Group F.R., Ibadan (Feb., Aug.) Jones FHI 20259! Keay & Meikle FHI 25663! Okomu F.R., Benin (Feb.) Akpabla 1116! Ejiofor FHI 19742! Calabar (Feb.) Mann 2322! Oban Talbot 1758! **Br. Cam.:** Victoria (fr. Feb.) Maitland 436!

Extends to **Belgian Congo** and **Angola**.

4. *Iodes liberica* Stapf in Johnston Lib. 2: 588 (1906); Chev. Bot. 129. *APD acc*

Iodes reticulata Stapf (1905), not of King (1895).

A slender climbing shrub with yellowish down branchlets and tendrils, yellow flowers and red fruits.

Fr. G.: Bérézia to Diorodougou, Toma (fl. & fr. Feb.) Chev. 20785! Nzérékoré (fl. Dec., fr. Feb., May, Dec.) Adam 3833! 5265! 7345! Baldwin 13284! Macenta (Feb., Dec.) Adam 4207! 7315! **S. L.:** nr. Zimi (fl. & fr. Apr.) Deighton 3641! 3688! Matotoka (July) Thomas 1261! Panguma (fr. July) Deighton 4130! **Lib.:** Sinoe Basin Whyte! Kakatown Whyte! Zigida (fl. & fr. Mar.) Bequaert 138! 139! Ganta (fl. & fr. May) Harley 1152! Robertsport (fr. Dec.) Baldwin 10963! **Iv. C.:** Guidéko Chev. 16426! Aboisso (fl. & fr. Apr.) Chev. 17826! Alepé (Feb.–Mar.) Chev. 17424! Fort Binger to Toula Chev. 19545!

Also in **Belgian Congo**.

SALVADORACEAE

Trees or shrubs, sometimes with axillary spines. Leaves opposite, simple; stipules minute. Flowers in dense axillary fascicles or panicles, hermaphrodite or dioecious, actinomorphic. Calyx 3–4-toothed. Petals 4, free or shortly united, imbricate. Stamens 4, inserted on or near the base of the petals and alternate with them; anthers 2-celled, opening lengthwise. Disk absent or of separate glands. Ovary superior, 1–2-celled; style short. Ovules 1–2, erect. Fruit a berry or drupe. Seed erect, without endosperm; embryo with thick cordate cotyledons.

A small family mainly in tropical Africa and the Mascarene Islands.

SALVADORA

Linn. — F.T.A. 4, 1 23; Sleumer in E. & P. Pflanzenfam. 20B: 238 (1942).

Leaves opposite, entire; flowers small, subunisexual, paniculate; petals 4, united into a short tube; stamens 4; ovary 1-celled ovule 1, basal, erect.

- 1 Branches light greyish green, glabrous; leaves lanceolate to elliptic, mucronate, rounded to subacute at base, 3–7 cm. long, 1.5–3 cm. broad, rigidly chartaceous, grey when dry, glabrous, the few lateral nerves equally prominent on both sides; petiole nearly 1 cm. long; panicles divaricate, lax; calyx shallowly lobed; petals 1.5 mm. long; berry subglobose, about 6 mm. diam. *persica*

Salvadora persica Linn. — F.T.A. 4, 1: 23; Chev. Bot. 399; Sleumer l.c., fig. 74, A & G–J; Aubrév. Fl. For. Soud.-Guin. 352, t. 73, 7. *APD acc*

A shrub or small tree, up to 30 ft. high; leaves glaucous green; flowers yellowish; fruits red or purplish when ripe.

Maur.: Tichoten Charles in Hb. Chev. 28893. **Sen.:** R. Senegal Perrottet 797! Richard Tol Döllinger 75! **Fr. Sud.:** Kabarah (Aug.) Chev. 1357! Timbuktu (July) Chev. 1201! Niafounké Hagerup 89! **Fr. Nig.:** Agadès De Wailly 4935! **N. Nig.:** shores of L. Chad (fl. & fr. Dec., Jan.) Elliott 146! Foster 94! E. Vogel! Kukawa (fl. & fr. May) Rosevear FHI 26607! Bornu (Jan., Feb.) Talbot!

Extends throughout the dry regions of tropical Africa to **Egypt**, Palestine, **Arabia** and India and Ceylon.

OLACACEAE

Trees, shrubs or climbers. Leaves alternate, simple; stipules absent. Flowers actinomorphic, usually hermaphrodite and small. Calyx-lobes imbricate or open in bud. Petals free or variously connate, valvate. Disk often present, usually annular. Stamens free or rarely united into a column, the same number as and opposite the petals or fewer or more numerous, some often without anthers; anthers 2-celled, opening by slits or pore-like slits. Ovary superior or slightly immersed in the disk, 1–3-celled; style 1, with a 2–5-lobed stigma; ovules 1–5 from the apex of a central placenta in a 1-celled ovary, or pendulous from the inner angle of a 2- or more-celled ovary. Fruit drupaceous, sometimes inferior by accrescence of the calyx or receptacle. Seeds with copious endosperm and small or medium-sized straight embryo.

Confined to the tropics and subtropics.

- 1 Stamens free from each other:2
 Stamens united into a column; calyx strongly accrescent in fruit:9
- 2 Stamens (and staminodes if present) more numerous than the petals; fruit superior, sometimes enveloped by the accrescent calyx:3
 Stamens the same number as the petals; fruit wholly or partially enclosed by the accrescent receptacle; flowers in axillary clusters or very short racemes; calyx not accrescent in fruit:7
- 3 Main lateral nerves of leaves continued to the margin; stamens 3–4 times as numerous as the petals; flowers in panicles [1. Coula](#)
 Main lateral nerves looped or ending within the margin; stamens (and staminodes if present) about twice as numerous as the petals; flowers in short racemes or fascicles:4
- 4 Flowers shortly pedicellate in few-flowered axillary fascicles; calyx much enlarged in fruit and deeply lobed [Heisteria](#)
 Flowers in short racemes; calyx not enlarged in fruit, or if enlarged then truncate:5
- 5 Branchlets usually armed with spines; staminodes absent; flowers in umbellate racemes; petals densely villous within [3. Ximenia](#)
 Branchlets without spines; flowers in narrow racemes; staminodes present or absent; petals glabrous within or pilose about the middle:6
- 6 Calyx obvious, disciform in fruit or strongly accrescent and enveloping the fruit; petals glabrous within; staminodes present [4. Olax](#)
 Calyx very small, obsolete in fruit; petals pilose about the middle within; staminodes absent .. [5. Ptychopetalum](#)
- 7 Flowers 5-merous; anthers not e receptaclefused to the petals:8
 Flowers 4-merous; anthers fused to the petals for 1/3 to 1/2 their length [8. Strombosiopsis](#)
- 8 Fruit completely enclosed by th [6. Strombosia](#)
 Fruit only partially enclosed by the receptacle whose margin makes a ridge around the fruit just above its middle [7. Diogoa](#)
- 9 Calyx not splitting, much expanded in fruit; flowers in very short axillary racemes, dioecious; a shrub or small tree [9. Aptandra](#)
 Calyx in fruit at length splitting into 2–3 segments, not expanded, at first enveloping the fruit; flowers in paniculate clusters, hermaphrodite; a large tree [10. Ongoeka](#)

1. COULA

Baill. — F.T.A. 1: 351; Sleumer in E. & P. Pflanzenfam. 16B: 12 (1935).

- 1 Leaves elliptic to elongate-oblong-elliptic, long-caudate-acuminate, shortly cuneate at base, up to 30 cm. long and 9 cm. broad, papery, often rust-coloured, laxly gland-dotted beneath, with up to 14 pairs of lateral nerves and numerous faint forked parallel tertiary nerves; petiole up to 2.5 cm. long, rusty-puberulous; flowers in short rusty-puberulous panicles; calyx rim-like; petals small, thick, valvate, becoming glabrous; fruits ellipsoid-globose, 4 cm. long, with a woody shell about 6 mm. thick, smooth [edulis](#)

Coula edulis *Baill.* — F.T.A. 1: 351; Sleumer l.c., fig. 4; Aubrév. Fl. For. C. Iv. 1: 86, t. 26; Louis & Léonard in Fl. Congo Belge 1: 251, t. 23. *APD acc*

A forest tree, to 100 ft. high, rusty-pubescent on the young parts, with coriaceous leaves and walnut-like fruits.

S. L.: Hangha to Bumbu, Kambui F.R. (fr. Mar.) Lane-Poole 351! Gola Forest (fl. & fr. Apr., May) Small 597! 647! **Lib.:** Dukwia R. (Mar.) Cooper 262! 281! 368! Tappita (fr. Aug.) Baldwin 9119! Butaw, Sinoe (Mar.) Baldwin 11496! **iv. C.:** Bettié, R. Comoé Chev. 16260! Widespread in forest fide Aubrév. l.c. **G. C.:** Tanosu (fl. & fr. Jan.) Brent 2dd! Chipp 361! Apollonia Greene! Samreboi, Prestea (Jan.) Andoh FH 5619! **S. Nig.:** Okomu F.R. (fr. May) A. F. Ross 203! Sapoba Kennedy 1130! 1563! Degema (Oct.) King-Church 44! Oban Talbot! **Br. Cam.:** S. Bakundu F.R., Kumba (Apr.) Olorunfemi FHI 30539! Ejiofor FHI 29360!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

2. HEISTERIA

Jacq. — F.T.A. 1: 345; Sleumer in E. & P. Pflanzenfam. 16B: 16 (1935).

Phanerocalyx *S. Moore* (1921).

- 1 Branchlets narrowly winged, glabrous; leaves more or less oblong, obtusely caudate-acuminate, 8–12 cm. long, 3–6 cm. broad, glabrous, with about 6 pairs of lateral nerves and very laxly reticulate tertiary nerves; flowers at first very small, 2–3, axillary, very shortly pedicellate, usually only one developing into fruit, with the calyx much enlarged and divided nearly to the base into 5 more or less ovate spreading segments; fruits broadly ellipsoid to globose, 1.3–2 cm. long, glabrous [1. parvifolia](#)
- Branchlets, etc., as above, but calyx very broad in fruit and very shortly lobed, broader than long ... [2. zimmereri](#)

1. **Heisteria parvifolia** *Sm.* —F.T.A. 1: 346; Chev. Bot. 123; Sleumer in E. & P. Pflanzenfam. 16B: 16, fig. 6; Louis & Léonard in Fl. Congo Belge 1: 254. **APD acc**

Phanerocalyx talbotiorum *S. Moore* (1921).

Heisteria elegans *A. Chev.* Bot. 123, name only.

A glabrous shrub or small tree up to 40 ft. high, with small greenish-white or yellowish flowers; calyx enlarged, persistent, deep red in fruit; fruit itself greyish-white; **in forest**.

Fr. Sud.: Banancoro (Feb.) Chev. 492! **Port. G.:** Mato de Amedi (fr. Apr.) Esp. Santo 1963! Ponte de Dada, Fulacunda (Oct.) Esp. Santo 2206! **Fr. G.:** Heudelot 672! Kouria (Nov.) Caille in Hb. Chev. 14808! **S. L.:** Don! Kenema (fr. Feb., May) Lane-Poole 166! Small 76! Gbinti, Dibia (fr. Oct.) Deighton 5734! Bagbe, Gola Forest (fr. Apr.) Small 580! **Lib.:** Grand Bassa (fl. July, fr. Oct.) Dinklage 1670! T. Vogel 86! Monrovia (fl. & fr. July–Nov.) Linder 1534! Whyte! Jabroke, Webo (fr. July) Baldwin 6478! 6621! Yangi (Sept.) Linder 845! **iv. C.:** various localities fide Chev. l.c. **G. C.:** Ashanti Cummins 105! Axim (fr. Dec.) Johnson 889! Kohura Chipp! Benso, Tarkwa (fl. & fr. Nov.) Andoh FH 5409! **S. Nig.:** Lagos Moloney! Benin City (fr. July) Unwin 53! 106! Itu (fr. Apr.) Holland 39! Oban Talbot 450! **Br. Cam.:** Rio del Rey Johnston! Victoria (fr. Mar.) Maitland 444! Barombi (fr. Mar.) Preuss 7! **F. Po:** Ureka (fr. Feb.) Guinea 2402!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo**, **Angola**, **Principe** and **S. Tomé**.

2. **Heisteria zimmereri** *Engl.* in Notizbl. Bot. Gart. Berl. 2: 288 (1899); Pflanzenw. Afr. 3, 1: 85, fig. 50. **APD acc**

A small spreading tree.

(?)**Br. Cam.:** Barombi Preuss 274!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**.

[Preuss 274 has as locality “Barombi am ufer des Kribi Fluss”; the Kribi R. is well within the **French Cameroons**, a long way from Barombi (i.e. Kumba), so the record of this species from our area is doubtful.]

- Heisteria winkleri** *Engl.* Bot. Jahrb. 43: 169 (1909).

Quoted in the first edition as a synonym of *H. parvifolia* Sm., is *Diospyros physocalycina* Gürke (Ebenaceae); see Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1052 (1926). The type specimen of *H. winkleri* Engl. is Winkler 758 from Victoria, British Cameroons. Excluded species.

3. XIMENIA

Linn. — F.T.A. 1: 346; Sleumer in E. & P. Pflanzenfam. 16B: 22 (1935).

- 1 Branchlets often armed with rigid axillary spines, flexuous; leaves narrowly elliptic, emarginate, 3–7 cm. long, up to 3 cm. broad, glabrous, obscurely nerved; flowers in axillary umbellate racemes; pedicels about 5 mm. long; sepals 4, ovate-triangular; petals 4, oblong-linear, bearded inside; fruit superior, ellipsoid, about 3 cm. long, glabrous [americana](#)

Ximenia americana *Linn.* — F.T.A. 1: 346; Sleumer l.c. 23, fig. 11; Louis & Léonard in Fl. Congo Belge 1: 256; Aubrév. Fl. For. Soud.-Guin. 354, t. 73, 4–6. *APD acc*

APD: Synonym of Olax gossweileri Exell & Mendonça

A glabrous shrub or small tree, with white fragrant flowers and a yellow plum-like fruit; **common in the savannah regions but also near the coast.**

Sen.: Heudelot! Thiès De Wailly 4645. Casamance Chev. 3169. **Fr. Sud.:** Bamako Waterlot 1077. Sicoro (Jan.) Chev. 214! Sangarala (Feb.) Chev. 342! **Port. G.:** Bissau (Mar.) Esp. Santo 1899! **Fr. G.:** Boké Chillou! Kouroussa Pobéguin 182. Los Isl. Pobéguin 1225. **S. L.:** Hutton! Moyamba (fr. Mar.) Deighton 1918! Falaba (Mar.) Sc. Elliot 5117! 52S3! Bendu (Mar.) Adames 13! **Lib.:** Grand Bassa Baldwin 11268! **Iv. C.:** Bobo Dioulasso Aubrév. 1840; 1853. Ferkessedougou Aubrév. 1527; 2287. **G. C.:** Wuchian to Black Volta R. (Mar.) Kitson 632! Aburi road (Feb.) Dalz. 8262! Krobo Plains (Jan.) Johnson 539! Achimota (Jan.) Irvine 1970! **Togo:** Lome Warnecke 234! **Dah.:** Natitingou to Bocorona Chev. 24209! Savalou Aubrév. 68d **N. Nig.:** Zurmi (Apr.) Keay FHI 15615! Zaria (Apr.) Lamb 92! Bauchi Plateau (Apr.) Lely P. 216! **S. Nig.:** Lagos Foster 54! Old Oyo (Feb.) Keay FHI 16010! **Br. Cam.:** Ambas Bay (Feb.) Mann 764!

Widespread in the tropics.

4. OLAX

Linn. — F.T.A. 1: 348; Sleumer in E. & P. Pflanzenfam. 16B: 24 (1935).

- 1 Calyx disciform in fruit, not strongly accrescent and not enveloping the whole fruit: **2**
 Calyx strongly accrescent and completely surrounding the fruit: **3**
- 2 Fertile stamens 3 (–4), staminodes 5–6; flowers 2.5–3 mm. long, in axillary racemes 1–2.5 cm. long; fruits globose, 6–8 mm. diam.; leaves ovate-elliptic to oblong-elliptic or lanceolate, obtuse or rounded at base, very gradually long-acuminate, 7.5–16 cm. long, 3–6 (–8) cm. broad [1. gambecola](#)
- Fertile stamens 5–6, staminodes 3; flowers about 5 mm. long, on numerous short lateral often leafy branchlets; fruits depressed-globose, 11–15 mm. diam.; leaves elongate-elliptic to elliptic-lanceolate, obtuse at base, gradually acuminate, mostly less than 7.5 cm. long and 2.5 cm. broad, but sometimes up to 10 cm. long and 3.8 cm. broad [2. subscorpioidea](#)
- 3 Fertile stamens 3 (–4), staminodes 4–5; flowers 6–7 mm. long, in axillary racemes 1–2 cm. long; fruits (including the calyx) depressed-globose, about 2 cm. diam. and 1.5 cm. long; leaves lanceolate to ovate-lanceolate or elliptic, 6–15 cm. long, 1.5–6.5 (–8) cm. broad, thinly coriaceous, with about 5–6 main lateral nerves on each side of midrib, looped, strongly impressed above, margin sometimes lobulate towards the apex [3. mannii](#)
- Fertile stamens (5–) 6, staminodes 3 (–4); flowers about 4 mm. long, in axillary racemes 1–2.5 (–3.5) cm. long; fruits (including the calyx) subglobose, about 2 cm. diam., leaves elliptic to broadly oblong, rounded or cuneate at base, abruptly long-acuminate, 7–22 cm. long, 3–10 cm. broad, papery, with about 8 main lateral nerves on each side of midrib, looped, impressed above [4. latifolia](#)

1. Olax gambecola *Baill.* in Adansonia 3: 121 (1882–63); F.T.A. 1: 349. *APD acc*

APD: Synonym of Olax subscorpioidea Oliv. var. subscorpioidea

Olax viridis *Oliv.* F.T.A. 1: 349 (1868); Chev. Bot. 125; F.W.T.A., ed. 1, 1: 460; Sleumer in E. & P. Pflanzenfam. 16B: 27; Louis & Léonard in Fl. Congo Belge 1: 258, t. 24 & fig. 1.

Alsodeiopsis glaberrima *Engl. ex Hutch. & Dalz.*, F.W.T.A., ed. 1, 1: 455 (1928).

Olax pyramidata *A. Chev.* Bot. 124, name only.

A glabrous low shrub, up to 4 ft. high, rarely more; flowers white; ripe fruits red; **in forest, especially by streams.**

Fr. G.: Fouta Djallon (fr. Jan.) Heudelot 715! **S. L.:** Surinua, Talla (Apr.) Sc. Elliot 5530! Njala (young fr. Aug.) Deighton 3244! Roboli, Rokupr (July) Jordan 289! Nganyama, Tikonko (fr. Nov.) Deighton 5266! **Lib.:** Ganta (July) Harley! Tawata, Boporo (fr. Nov.) Baldwin 10316! Congotown (fl. & fr. Aug.) Barker 1407! **iv. C.:** Kéeta (July) Chev. 19342! Atteou (Jan.) Chev. 17089! Guidéko (May) Chev. 16348! **G. C.:** Pompo Headwaters F.R. (fl. & fr. May) Jackson FH 2255! Amentia (Mar.) Vigne FH 1894! S. Scarp F.R. Moor FH 2118! **Dah.:** Boukoutou forests, Saketé (young fr. Jan.) Chev. 22859! **S. Nig.:** Ikoyi Plains, Lagos (Mar.) Dalz. 1365! Epe Barter 3303! Sapoba (Jan.) Richards 3898! Stubbs Creek F.R., Eket (fl. & fr. May) Onochie FHI 32908! **Br. Cam.:** Barombi Preuss 352!

Also in **French Camerouns**, **Belgian Congo**, **Uganda**, **Angola** and **N. Rhodesia**.

2. **Olox subscorpioidea** *Oliv.* F.T.A. 1: 350 (1868); Chev. Bot. 125; Sleumer l.c. fig. 13, E–G; Aubrév. Fl. For. C. Iv. 1: 88, t. 27, 1–6; Louis & Léonard l.c. 263. *APD acc*

Olox gambecola of Chev. Bot. 124, not of Baill.

A shrub or small tree, to 30 ft. high; cut bark smelling of garlic; flowers greenish-white; ripe fruits yellow; **mostly in forest, but extending far into the savannah regions.**

Sen.: Bignona (fr. Feb.) Chev. 3171! **Fr. G.:** Kououndala to Kaba Chev. 20383. **S. L.:** Erimakuna (young fr. Mar.) Sc. Elliot 5221! **iv. C.:** Anoumaba (Nov.) Chev. 22405! Bondoukou Aubrév. 718! **G. C.:** Larte Hills (Nov.) Johnson 810! Anum Hills, Krepi (Jan.) Johnson 546! Bana Hill, Krobo (fr. Jan., Feb.) Irvine 223! 1925! Volta River F.R. (Nov.) Morton GC 6070! **Togo:** Atakpame Mildbr. 7415! Assatu, Hohoe (Nov.) St. C. Thompson 3702! **Dah.:** Adjouéré, Zagnanado (fr. Feb.) Chev. 22951! **N. Nig.:** Gurara R. (Dec.) Elliott 214! Katagum Dalz. 381! Vom (young fr. Jan.) Dent Young 27! **S. Nig.:** Lagos (Aug.) Dalz. 148! 1037! 1407! Idanre (Jan.) Brenan & Keay 8668! Onitsha Barter 1785! Unwin 61! Oban Talbot 1353! **Br. Cam.:** Mamfe (fr. Jan.) Maitland 1163!

Also in **French Camerouns**, **Ubangi-Shari** and **Belgian Congo**.

3. **Olox mannii** *Oliv.* F.T.A. 1: 349 (1868); Sleumer l.c. fig. 14, A–C. *APD acc*

Olox zenkeri *Engl.* (1899) — F.W.T.A., ed. 1, 1: 460.

Olox macrocalyx *Engl.* (1899) — Sleumer l.c., fig. 14, D.

Olox longiflora *Engl.* (1899).

Olox major *Stapf* (1905).

Olox insculpta *Hutch.* (1917) — F.W.T.A., ed. 1, 1: 460.

A **forest** shrub, to 7 ft. high. rarely more; flowers greenish-white; ripe fruits orange; as interpreted here, this species shows a wide range of variation in the size and shape of the leaves

S. L.: Njala (fl. Jan., fr. Mar.) Dalz. 8038! Deighton 4620! 4720! Blama (Dec.) Deighton 317! Jombohun, Tunkia (Jan.) Deighton 3881! **Lib.:** Monrovia Whyte! Dukwia R. (Feb.) Cooper 240! 257! Logantown, New Cess R. (fr. May) Baldwin 11176! Ba, Little Kola R. (fr. Mar.) Baldwin 11191! **S. Nig.:** Oban Talbot 1334! 1354! Itu Dist. (Jan.–May) Jones FHI 4836! Onochie FHI 33226! **Br. Cam.:** R. Cameroon (fl. & young fr. Jan.) Mann 2201! R. Joke, Malende to Muyuka (fr. Mar.) Brenan 9324! S. Bakundu F.R. (fl. Jan–Mar., fr. Apr.–Aug.) Brenan 9473! Keay FHI 28567! Olorunfemi FHI 30728! Johann-Albrechtshöhe Staudt 508! 904!

Also in **French Camerouns** and **Gabon**.

4. **Olox latifolia** *Engl.* in Notizbl. Bot. Gart. Berl. 2: 284 (1899); Sleumer l.c.; Louis & Léonard l.c. 262. *APD acc*

A **forest** shrub, to 6 ft. high; flowers pink; ripe fruit orange.

Br. Cam.: Johann-Albrechtshöhe Staudt 465!

Also in **French Camerouns**, **Gabon** and **Belgian Congo**.

5. PTYCHOPETALUM

Benth. — F.T.A. 1: 347; Sleumer in E. & P. Pflanzenfam. 16B: 24 (1935).

- 1 Flower-buds very acute, about 7 mm. long; fruits ellipsoid, 1.3 cm. long, minutely verruculose; leaves sessile, oblong-elliptic, acuminate, 6–10 cm. long, 2.5–3.5 cm. broad, with distinct looped lateral nerves; branchlets winged; bracts large and apiculate, enclosing the flower-buds *L. anceps*

Flower-buds rounded at the apex, 4–5 mm. long; fruits oblong-ellipsoid, 2 cm. long; leaves petiolate, more or less as above but larger; branchlets mostly terete; bracts small and early deciduous; fruits broadly ellipsoid, 2

cm. long [2. petiolatum](#)

1. *Ptychopetalum anceps* Oliv. F.T.A. 1: 347 (1868), incl. vars.; Hook. Ic. Pl. t. 2329; Chev. Bot. 124. *APD acc*

O lax anceps (Oliv.) Roberty (1953).

A glabrous shrub, 2–10 ft. high, with acutely angled branchlets, short scanty racemes of white flowers and cherry-red drupes; **in forest**.

S. L.: Bagroo R. (fl. & fr. Apr.) Mann 838! Kambui F.R. (Mar.) Lane-Poole 205! Gola Forest (fr. Mar.) Small 550! **Lib.:** Grand Bassa (Sept.) Dinklage 2037! T. Vogel 12! Dukwia R. (fl. Apr., fr. Feb.) Cooper 72! 150! 209! Peahtah Bequaert in Hb. Linder 980! Yeh R. (Oct.) Linder 998! Gbanga (Oct.) Linder 1240! Karmadhun (Nov.) Baldwin 10206a! **iv. C.:** various localities fide Chev. l.c. **G. C.:** Tano Anwia F.R., Enchi Andoh FH 5609! Prestea (fl. & fr. Sept.) Vigne FH 3080! Bobiri F.R. (fr. Feb.) Foggie FH 4940!

2. *Ptychopetalum petiolatum* Oliv. F.T.A. 1: 347 (1868); Hook. Ic. Pl. t. 2330. *APD acc*

A glabrous **forest** shrub or small tree, 12–35 ft. high.

S. Nig.: Oban Talbot 1747! **Br. Cam.:** Banga, S. Bakundu F.R. (Mar.) Brenan 9443!

Also in **French Cameroons** and **Spanish Guinea**.

6. STROMBOSIA

Blume — F.T.A. 1: 350; Sleumer in E. & P. Pflanzenfam. 16B: 21 (1935).

- 1** Veins between the main lateral nerves close (0.5–1 mm. apart), more or less parallel and conspicuous beneath; pedicels 1–3 mm. long, without bracteoles; petals 2–3 mm. long; disk 5-lobed, forming a cap around the top of the ovary; branchlets terete; petioles 1–3 cm. long; leaves ovate-elliptic to oblong, cuneate to obtuse at base, acute or shortly acuminate at apex, 7–30 cm. long, 3–16 cm. broad, with 4–8 main lateral nerves on each side of midrib; fruits ovoid or ellipsoid about 1.7 cm. long and 1.2 cm. diam. [1. grandifolia](#)

Veins between the main lateral nerves more than 1 mm. apart, distinct or indistinct; petals 3–5 mm. long:..... **2**

- 2** Pedicels without bracteoles; leaves without pustules: **3**

Pedicels with small bracteoles; disk 5-lobed, forming a cap around the top of the ovary; branchlets slightly ridged or subterete; leaves often with minute pustules on the surfaces: **4**

- 3** Branchlets subterete and slightly ridged; petioles up to 1.3 cm. long; petals about 2.5 mm. long; pedicels about 1.5 mm. long, elongating in fruit; leaves narrowly elliptic, obtuse at base, gradually rather long-acuminate, 5–15 cm. long, 1.5–5.5 cm. broad, with 5–7 main lateral nerves on each side of midrib, venation obscure; fruits obovoid-ellipsoid, 2–2.5 cm. long, 1.2–1.7 cm. diam. [2. zenkeri](#)

Branchlets strongly angled; petioles 1–3 cm. long; petals 3–5 mm. long; pedicels 3–5 mm. long; disk forming an elongated cone about 1 mm. long at the top of the ovary; leaves ovate, elliptic or oblong, obtuse or rounded at base, rounded or acute at apex, 6–20 cm. long, 3–13 cm. broad, with 5–8 main lateral nerves on each side of midrib, venation distinct; fruits obconical, 2–2.5 cm. long, 1.5–2.5 cm. diam. [3. scheffleri](#)

- 4** Petals about 3 mm. long; branchlets slightly ridged: **5**

Petals 4–5 mm. long; branchlets subterete; leaves oblong, ovate-oblong or elliptic-oblong, obtuse or rounded at base, slightly acuminate, 4.5–10.5 (–13) cm. long, 2.1–4.5 (–5.3) cm. broad, with 4–6 main lateral nerves on each side of midrib, lower surface matt when dry, with indistinct venation, usually with abundant minute pustules; petioles 1–1.5 cm. long [5. pustulata](#)

- 5** Leaves more or less shining when dry, not usually with pustules, venation on lower surface distinct; main lateral nerves 4–6 (–7) on each side of midrib; leaves elliptic, ovate-elliptic or oblong-elliptic; cuneate to obtuse or rounded at base, shortly acuminate, 5–15 cm. long, 2.5–7 (–8) cm. broad; petioles 0.7–1.2 (–2) cm. long .. [4a. glaucescens var. lucida](#)

Leaves matt when dry, usually with pustules, venation on lower surface indistinct; main lateral nerves (5–) 7–10 on each side of midrib; leaves oblong, ovate or elliptic, obtuse or rounded at base, obtuse or shortly and obtusely acuminate at apex, 6–19 cm. long, 3–8 cm. broad; petiole 1–2.5 cm. long [4. glaucescens var. glaucescens](#)

- 1. *Strombosia grandifolia* Hook. f. ex Benth.** — F.T.A. 1: 350; F.W.T.A., ed. 1, 1: 460, in part only; Sleumer in E. & P. Pflanzenfam. 16B: 22, excl. fig. 10; Louis & Léonard in Fl. Congo Belge 1: 268. *APD acc*

APD: Synonym of Strombosia scheffleri Engl.

Lavalleopsis grandifolia (Hook. f. ex Benth.) Van Tiegh. ex Engl. (1897).

L. densivenia Engl. (1897), name only.

An understorey tree, to 40 ft. (to 80 ft. fide Louis & Léonard l.c.) high, with short bole and wide spreading crown of dense shining foliage; slash revealing red sapwood; flowers cream; **in forest**.

Dah.: Boukoutou forests, Sakété (Jan.) Chev. 22871! **S. Nig.:** Akure F.R. (young fr. Apr.) Symington FHI 3398! Okomu F.R. (Jan.) Breanan & Richards 8843! Eket Talbot 3155! Oban Talbot! Afi River F.R. (Dec.) Keay FHI 28251! **Br. Cam.:** Victoria (fl. Feb., fr. Jan.) Maitland 180! 27! Preuss 1329! Johann-Albrechtshöhe Staudt 548! 750! **F. Po:** (Nov.–Jan.) Mann 172! T. Vogel 156!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Cabinda** and **Belgian Congo**.

2. *Strombosia zenkeri* Engl. Bot. Jahrb. 43: 167 (1909). *APD acc*

A **forest** tree, to 40 ft. high; flowers pale green.

S. Nig.: Calabar (fl. & fr. Mar.) Brenan 9227! Smith 45b! Stubbs Creek F.R. Onochie FHI 32905!

Also in **French Cameroons**.

3. *Strombosia scheffleri* Engl. in Notizbl. Bot. Gart. Berl. 5, App. 21: 4, fig. A–C (1909); Louis & Léonard l.c. 1: 270. *APD acc*

Strombosia grandifolia of F.W.T.A., ed. 1, 1: 460, partly; of Sleumer l.c. fig. 10; not of Hook. f. ex Benth.

A **forest** tree, to 100 ft. high; flowers greenish-yellow or -white.

S. Nig.: Cross River North F.R., Ikom (young fr. June) Latilo FHI 31826! **Br. Cam.:** Buea (fl. Dec., young fr. Jan.) Maitland 567! Migeod 255! Bamenda (fr. Mar.) Johnstone 96/31! **F. Po:** Moka, 4,000–4,500 ft. (young fr. Feb.) Exell 846!

Also in **Uganda**, **Kenya**, **Tanganyika**, **Nyasaland**, **Belgian Congo** and **Angola**.

4. *Strombosia glaucescens* Engl. var. *glaucescens* — Bot. Jahrb. 43: 167 (1909); Louis & Léonard l.c. 267. *APD acc*

APD: Synonym of Strombosia pustulata Oliv. var. pustulata

A **forest** tree, up to 150 ft. high, with straight bole.

S. Nig.: frequent in neighbourhood of gully, Compt. 55, Okomu F.R., Benin Onochie in Hb. Brenan 9190! [The only specimen from our area is sterile and so its identification is open to some doubt.].

Also in **French Cameroons**, **Cabinda** and **Belgian Congo**.

4a. *Strombosia glaucescens* var. *lucida* J. Léonard in Bull. Jard. Bot. Brux. 18: 148 (1947); Fl. Congo Belge 1: 268.

APD: Synonym of Strombosia pustulata var. lucida (J. Léonard) Villiers

Strombosia pustulata Oliv. in Hook. Ic. Pl. t. 2299 (1894), partly (Sc. Elliot 4733, on which are based the description and drawing of the fruits); Chev. Bot. 125; F.W.T.A., ed. 1, 1: 460, partly; Aubrév. Fl. For. C. Iv. 1: 84, t. 25.

A **forest** tree, up to 80 ft. high, with straight bole; flowers white; ripe fruit blackish purple.

S. L.: Kambia (fr. Jan.) Sc. Elliot 4733! Njala (Sept.) Deighton 5173! Momenga, Kori (Oct.) Deighton 6133! Kai, Fogbo (Sept.) Tindall 37! **Lib.:** Dukwia R. (Mar.) Cooper 178! 269! Bangee, Boporo (young fr. Nov.) Baldwin 10355! Mecca (fr. Dec.) Baldwin 10814! **Iv. C.:** Bouroukrou Chev. 16103! Voguié Chev. 16178! Akabilékrou, Morénou (fr. Dec.) Chev. 22510! Adzope Aubrév. 158! **G. C.:** Fiakwae (Aug.) Hughes FH373! Jimira F.R. (Aug.) Vigne FH 3996! Awoso, Sefwi Bekwai (fr. Oct.) Akpabla 883!

Also in **Belgian Congo**.

[Possibly specifically distinct from var. *glaucescens*, but further study is needed to determine how far it is distinct from some other species in the French Cameroons and Gabon.]

5. *Strombosia pustulata* Oliv. in Hook. Ic. Pl. t. 2299 (1894), excl. Sc. Elliot 4733 and description and

drawing of fruits which are *S. glaucescens* var. *lucida*; F.W.T.A., ed. 1, 1: 460, in part only (Nigerian spec.); Kennedy For. Fl. S. Nig. 145. *APD acc*

A forest tree, to 70 ft. high, with straight bole; flowers whitish.

S. Nig.: near Lagos Rowland! Akure F.R. (young fr. Nov.) Keay FHI 25533! Nikrowa, Okomu F.R. (fr. Dec.) Brenan 8441! 8441a! Sapoba (Oct.) Kennedy 408! 1623! Ohsu F.R. Hide 10/38!

Also (?) in French Cameroons.

7. DIOGOA

Exell & Mendonça in Bol. Soc. Brot., sér. 2, 25: 109 (1951).

- 1 A glabrous tree, to 30 m. high; petioles 1·5–3·5 cm. long; leaves membranous, more or less oblong-lanceolate, cuneate or obtuse at base, gradually long-acuminate, 15–40 cm. long, 4–12 cm. broad; flowers 5-merous, in short congested axillary racemes; petals 5–6 mm. long, 2–3 mm. broad; anthers free from the petals; fruits subglobose, partially embedded in the accrescent receptacle whose margin makes a ridge around the fruit just above its middle, about 4–5 cm. diam. *zenkeri*

Diogoia zenkeri (*Engl.*) *Exell & Mendonça* l.c. t. 3 (1951); Consp. Fl. Ang. 1: 336, t. 17. *APD acc*

Strombosiosis zenkeri *Engl.* (1909) — Louis & Léonard in Fl. Congo Belge 1 272, t. 26.

Strombosia retivenia *S. Moore* (1920).

S. grandifolia of F.W.T.A., ed. 1, 1: 460, partly.

A forest tree; flowers cream.

S. Nig.: Okomu F.R., Benin (Feb.) Brenan 8996! 8996a! Richards 3294! Oban Talbot 1403! 1465! **Br. Cam.:** Ebonji, Kumba (fr. May) Olorunfemi FHI 30594! R. Metem Wum (fr. June) Ujor FHI 29261!

Also in French Cameroons, Gabon, Cabinda and Belgian Congo.

8. STROMBOSIOPSIS

Engl. in E. & P. Pflanzenfam. Nachtr. 1: 148 (1897); *Exell & Mendonça* in Bol. Soc. Brot., sér. 2, 25: 109 (1951).

- 1 A glabrous tree, to 30 m. high; petioles 1–2 cm. long; leaves coriaceous, ovate-elliptic or oblong to oblong-lanceolate or lanceolate, acute or rounded at base, shortly acuminate, 5–25 cm. long, 2·5–10 cm. broad; flowers 4-merous, in short congested axillary racemes, 0·5–1 cm. long; petals 4–5 mm. long, about 1·5 mm. broad; anthers partially fused to the petals; fruits completely embedded in the accrescent receptacle, ellipsoid, 2·5–3·5 cm. long, 2–3 cm. diam. *tetrandra*

Strombosiosis tetrandra *Engl.* l.c. (1897); Sleumer in E. & P. Pflanzenfam. 16B: 19, fig. 8; Louis & Léonard in Fl. Congo Belge 1: 271; *Exell & Mendonça* in Consp. Fl. Ang. 1; 337. *APD acc*

A forest tree, exuding red sap when slashed; flowers cream.

S. Nig.: Oban Talbot! Calabar (Mar.) Brenan 9226! Smith 45a! Aking, Calabar (young fr. Apr.) Ejiofor FHI 21888! Aboabam, Ikom Div. (fr. May) Jones & Onochie FHI 18713! **Br. Cam.:** Likomba Mildbr. 10541!

Also in French Cameroons, Spanish Guinea, Gabon, Cabinda and Belgian Congo.

9. APTANDRA

Miers in Ann. & Mag. Nat. Hist., ser. 2, 7: 201 (1851); Sleumer in E. & P. Pflanzenfam. 16B: 28 (1935). *APD acc*

- 1 Branchlets terete, glabrous; leaves oblong-elliptic, acutely acuminate, shortly cuneate at base, 6–10 cm. long, 3–5 cm. broad, glabrous and with very obscure nerves beneath; petiole up to 1 cm. long; flowers in very short axillary racemes; pedicels up to 8 mm. long, crowded; calyx very small, undulate; petals about 3 mm. long,

becoming reflexed in the upper part; fruits ellipsoid-ovoid, 2.5 cm. long, black, shining, surrounded by the spreading much-enlarged coloured entire calyx up to 8 cm. in diam. [zenkeri](#)

Aptandra zenkeri *Engl.* in E. & P. Pflanzenfam. Nachtr. 1: 147 (1897); Sleumer l.c. 29, fig. 16; Louis & Léonard in Fl. Congo Belge 1: 275. *APD acc*

A dioecious shrub, or small tree up to 40 ft. high, with green branchlets and small greenish-white flowers; enlarged calyx pink, waxy in texture; **in forest**.

G. C.: Amentia (Apr.) Vigne FH 2896! Bobiri F.R. (July) Andoh EH 5544! Kwahu Prasu (Feb.) Vigne FH 1604! Pra River Station (fr. Feb.) Vigne FH 1034! **S. Nig.:** Lagos (fr. Feb.) Millen 25! Punch! Ajilite Millen 163! Agege (fr. Nov.) Baldwin 13707! Ibadan-Ijebu Ode road (fr. Mar.) Meikle 1251!

Also in **French Cameroons**, **Spanish Guinea**, **Belgian Congo** and **Angola**.

10. ONGOKEA

Pierre in Bull. Soc. Linn. Paris 2: 1313 (1897); Sleumer in E. & P. Pflanzenfam. 16B: 30 (1935).

- 1 Branchlets compressed or slightly winged; leaves broadly oblong-elliptic, obtusely acuminate, 4–7 cm. long, 2.5–3.5 cm. broad, with obscure nerves, minutely papillose beneath; flowers in panicle clusters, small, numerous; pedicels filiform, about 3 mm. long; calyx saucer-shaped, undulate; petals at first connivent, about 3 mm. long, with oblong claw and ovate limb; fruit globose, about 2.5 cm. diam., closely invested by the persistent enlarged calyx, which ruptures into 3 segments [gore](#)

Ongokea gore (*Hua*) *Pierre* l.c. 1314 (1897); Sleumer l.c. fig. 17, D–H; Aubrév Fl. For. C. Iv. 1: 84, t. 24; Louis & Léonard in Fl. Congo Belge 1: 276, t. 27. *APD acc*

Aptandra gore *Hua* (1895).

Ongokea klaineana *Pierre* (1897) — Chev. Bot. 122; F.W.T.A., ed. 1, 1: 461; Kennedy For. Fl. S. Nig. 146.

Ongokea kamerunensis *Engl.* (1909) — Sleumer l.c. fig. 17, A–C.

A glabrous **forest** tree, up to 125 ft. high, with straight cylindrical bole without buttresses; flowers white; fruit yellow.

S. L.: Njala (May) Deighton 3953! 3971! **Iv. C.:** Bouroukrou (Dec., Jan.) Chev. 19128! Yapo (fr. Oct.) Chev. 22330! Abidjan Aubrév. 107! **G. C.:** Atieku (May) Vigne FH 1946! Kumasi (May) Andoh FH 4386! **S. Nig.:** Sapoba (fr. Apr., May) Kennedy 1132! 1650! **Br. Cam.:** Likomba (Nov.) Mildbr. 10703!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Angola**.

PENTADIPLANDRACEAE

Arborescent shrubs or climbers. Leaves exstipulate, alternate, simple, penni-nerved. Flowers dioecious, racemose; racemes short, axillary; bracts small, subulate. Sepals 5, free, lanceolate, imbricate. Petals 5, scale-like, thicker and loosely connivent at the base, with lanceolate free limbs. Stamens 9–13, inserted on a short stout androgynophore; filaments free, filiform; anthers basifixed, 2-celled. Rudimentary ovary present, short, 3–5-celled, with 2 series of ovules in each cell. Staminodes about 10 from the top of the gynophore in the female flower. Ovary superior, at the top of the thick gynophore, 4–5-celled, with numerous axile 2–3-seriate ovules; style 4–5-fid at the apex. Fruit a rounded berry; seeds small, numerous, immersed in pulp.

PENTADIPLANDRA

Baill. in Bull. Soc. Linn. Paris 1: 611 (1886). *Cercopetalum* Gilg (1897).

- 1 Arborescent shrub or climber; branchlets closely sulcate, glabrous; leaves oblong-obovate, obliquely cuspidate-acuminate, shortly cuneate at base, 8–12 cm. long, 3–4 cm. broad, glabrous and closely reticulate on both surfaces, venation elevated on both sides; lateral nerves 6–8 pairs, looped; petiole 5–6 mm. long; flowers about 1.5 cm. long, in short axillary and terminal racemes; pedicels 0.5–1 cm. long; sepals lanceolate, 5 mm. long, very minutely puberulous; female flower with about 10 filiform staminodes; ovary 4–5-celled, glabrous; fruit

ovoid-globose, about 3-5 cm. long[brazzeana](#)

Pentadiplandra brazzeana *Baill.* l.c. (1886); Pax & K. Hoffm. in E. & P. Pflanzenfam. 17B: 206, fig. 114 (1936); Hauman & Wilczek in Fl. Congo Belge 2: 480. *APD acc*

Cercopetalum dasyanthum *Gilg* in Engl. Bot. Jahrb. 24: 308, t. 3 (1897); op. cit. 53: 266.

Erect or half scandent; flowers conspicuous, petals white, spotted red or bluish towards the tips.

Recorded from Dschang, Ndonge and Semukina in the French Cameroons, just outside the area of our Flora; very likely to be found in the British Cameroons. Extends through French Cameroons to **Belgian Congo**.

OPILIACEAE

Trees, shrubs or woody climbers. Leaves alternate, simple; stipules absent. Flowers mostly hermaphrodite. Calyx minute. Petals conspicuous in bud, 4–5, free or more or less united, valvate. Stamens as many as the petals and opposite to them, free or united to the base of the petals; anthers 2-celled, opening lengthwise by slits. Disk-glands alternating with the stamens. Ovary superior or semi-inferior, 1-celled; stigma sessile or style slender; ovule solitary, pendulous or erect. Fruit drupaceous, often fleshy. Seeds with copious endosperm and rather small embryo.

A small family formerly included in the Olacaceae; confined to the tropics; rare in America.

Mostly with very long slender racemes.

- 1 Racemes much shorter than the leaves, clothed in bud with broad imbricate scales, the latter caducous; disk 5-partite[1. Opilia](#)
- Racemes much longer than the leaves, not clothed with scales when young; disk entire[2. Urobotrya](#)

1. OPILIA

Roxb. — F.T.A. 1: 352; Sleumer in E. & P. Pflanzenfam. 16B: 38 (1935), excl. subgen. Urobotrya.

- 1 Branchlets slightly flexuous, glabrous; leaves alternate, oblong to obovate-oblongate, acutely acuminate, cuneate at base, 6–12 cm. long, 3–5 cm. broad, glabrous, with about 5 pairs of prominent lateral nerves; racemes at first covered with broad imbricate bracts and shortly catkin-like, at length slender and about 3–4 cm. long; pedicels fasciculate, 2 mm. long, puberulous; fruits ellipsoid, 2–2.5 cm. long, finely puberulous[celtidifolia](#)

Opilia celtidifolia (*Guill. & Perr.*) *Endl. ex Walp.* Rep. 1: 377 (1842); Louis & Léonard 1: 282.

APD: Synonym of Opilia amentacea Roxb.

Groutia celtidifolia *Guill. & Perr.* Fl. Sen. 1: 101, t. 22 (1831).

Opilia amentacea of F.T.A. 1: 352; of Chev. Bot. 126; of Aubrév. Fl. For. Soud.-Guin. 366, t. 73, 8–9.

A woody climber, sometimes suberect with straight branches; flowers small, greenish-white or yellowish, fragrant; **especially common in fringing forest in the savannah regions.**

Sen.: Heudelot 341! Perrottet 127! Bignona to Sindialone Chev. 3645. **Gam.:** Kudang (Jan.) Dalz. 8125! **Fr. Sud.:** Badinko (Jan.) Chev. 116. Balani (Jan.) Chev. 145. Niana to Damesa (Feb.) Chev. 329. **Port. G.:** Canjadudi, Gabu (Jan.) Esp. Santo 2352! Jangada, Contubo (fr. June) Esp. Santo 2260! **Fr. G.:** Timbo Chev. 13592. **S. L.:** Moria, Scarcies (Feb.) Sc. Elliot 4795! Wallia, Scarcies (young fr, Jan.) Sc. Elliot 4791! **Iv. C.:** Bobo Dioulasso Serv. For. 1970. Pa Serv. For. 2207. Black Volta R. Serv. For. 2401! **G. C.:** Prang (Jan.) Vigne FH 1560! Wa (Dec.) Adams GC 4467! Kulmasa to Jagalo (Feb.) Kitson 630! **Togo:** Lome Mildbr. 7507! Warnecke 307! Kpedsu (Dec.) Howes 1065! **Dah.:** Ady, Savé Chev. 23570. Djougou circle Chev. 23830. **Fr. Nig.:** Diapaga to Fada Chev. 24439. **N. Nig.:** Wawa, Borgu Barter 720! Nupe Barter 990! Kontagora (Jan.) Dalz. 71! Lokoja (Mar.) Elliott 34! **S. Nig.:** Ibodebere road, Lagos (fr. May) Denton 15! Ibadan North F.R. (Feb.) Chizea FHI 23973!

Widespread in the drier parts of tropical Africa.

2. UROBOTRYA

Stapf in J. Linn. Soc. 37: 89 (1904).

Opilia subgen. Urobotrya (*Stapf*) *Engl.* — Sleumer in E. & P. Pflanzenfam. 16B: 38 (1935).

- 1 Basal lateral nerves strongly developed, ascending up to the middle of the leaf and rather conspicuously looped with the rather widely spreading upper main lateral nerves; pedicels at anthesis 7–12 mm. long, in fascicles along the up to 30 cm. long puberulous or glabrescent axis of the racemes; fruits ellipsoid-subglobose, 1·7–2 cm. long, about 1·4 cm. diam.; leaves varying from narrowly elongate-oblong-elliptic to oblong-elliptic or ovate, usually cuneate to obtuse at base but sometimes rounded, gradually acuminate at apex, 8–22 cm. long, 1·5–8 cm. broad [1. afzelii](#)
- Basal lateral nerves not ascending to the middle of the leaf and not conspicuously looped with the upper main lateral nerves; pedicels at anthesis 5–8 mm. long, in fascicles along the up to 30 cm. long axis of the racemes; fruits ellipsoid about 2·5 cm. long and 1·4 cm. diam.; leaves oblong-elliptic to oblong-ovate, rounded or obtuse at base, rather abruptly and narrowly acuminate, 9–22 cm. long, 3·5–10 cm. broad [2. minutiflora](#)

1. **Urobotrya afzelii** (*Engl.*) *Stapf ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 463 (1928).

APD: Synonym of Urobotrya congolana subsp. afzelii (*Engl.*) *Hiepko*

Opilia afzelii *Engl.* in E. & P. Pflanzenfam. Nachtr. 1: 143 (1897); Notizbl. Bot. Gart. Berl. 2: 282 (1899).

Urobotrya angustifolia *Stapf* (1904) — Johnston Lib. 2: 587, t. 248; F.W.T.A., ed. 1, 1: 463.

Opilia angustifolia (*Stapf*) *Engl.* (1909).

Urobotrya latifolia *Stapf* (1904) — F.W.T.A., ed. 1, 1: 463.

Opilia latifolia (*Stapf*) *Engl.* (1909).

Urobotrya trinervia *Stapf* (1906) — F.W.T.A., ed. 1, 1: 463.

Opilia trinervia (*Stapf*) *Engl.* (1909).

Urobotrya stapfiana *Hutch. & Dalz.*, F.W.T.A., ed. 1, 1: 463 (1928).

Opilia stapfiana (*Hutch. & Dalz.*) *Sleumer* in E. & P. Pflanzenfam. 16B: 38 (1935).

A forest shrub, to 15 ft. high, with pendulous racemes of greenish flowers and yellow fruits.

S. L.: Afzelius. Smeathmann! Bafi R. (Feb.) Macdonald 6! Buri Town (Dec.) Unwin & Smythe 3! Mt. Aureole (Feb.) Dalz. 1006! Lane-Poole 154! Joro (Jan.) Deighton 886! **Lib.:** Reynolds! Kakatown Whyte! Monrovia Whyte! Dukwia R. (fr. Feb.) Cooper 249! Javajai (fr. Nov.) Baldwin 10274a! Zuie, Boporo (Dec.) Baldwin 10682!

2. **Urobotrya minutiflora** *Stapf* in J. Linn. Soc. 37: 90 (1904).

APD: Synonym of Urobotrya congolana (*Baill.*) *Hiepko subsp. congolana*

Opilia minutiflora (*Stapf*) *Engl.* (1909) — Sleumer l.c.

An erect forest shrub, to 8 ft. high, with pendulous racemes; flowers green except for the conspicuous long white filaments.

S. Nig.: Eket Talbot! Oban Talbot! Afi River F.R., Ikom (Dec.) Keay FHI 28196! 28220! 28255! **Br. Cam.:** Victoria (Jan.) Kalbreyer 6! Buea to Mayuko (fl. & fr. Feb.) Dalz. 8244! Bimbria (fr. May) Maitland 707!

[*Opilia macrocarpa* Pierre & Engl. and other species from the French Cameroons, Gabon and Spanish Guinea are probably not distinct.]

MEDUSANDRACEAE

Trees or shrubs. Leaves alternate, simple, entire or crenate; stipules present, sometimes small and early caducous. Flowers hermaphrodite, racemose or spicate, actinomorphic, hypogynous or perigynous. Sepals 5, open or imbricate in bud, free, or united only at the base. Petals 5, free, imbricate in bud. Stamens numerous, or 5 fertile opposite the petals alternating with 5 staminodes, free from each other; anthers 4-celled, opening laterally. Disk present or absent. Ovary superior, syncarpous, 1-celled, with a central column; ovules 6–8, pendulous from the apex of the column, anatropous; styles 3 (–4), free. Fruit with persistent calyx, capsular, dehiscing into 3 (–4) valves, or by the cohesion of 2 valves appearing 2-valved. Seed solitary in each fruit, with copious endosperm and small straight embryo.

A small family confined to the tropical rain forests of western Africa.

Soyauxia has been hitherto placed in the Flacourtiaceae or Passifloraceae but has remarkable affinities with the newly discovered Medusandra.

- 1 Stamens numerous, filaments much longer than the petals; staminodes absent; sepals imbricate in bud; ovary surrounded by a collar-like disk at the base; styles long; leaves entire [1. *Soyauxia*](#)
- Stamens 5, opposite the petals, filaments much shorter than the petals; staminodes 5, much longer than the petals, alternating with the fertile stamens; sepals open in bud; disk absent; styles very short; leaves crenate or crenate-serrate [2. *Medusandra*](#)

1. SOYAUXIA

Oliv. in Hook. Ic. Pl. t. 1393 (1882); Brenan in Kew Bull. 1953: 507–511.

- 1 Inflorescence very dense-flowered, continuous, 6–12 cm. long; branchlets minutely puberulous, glabrescent; leaves elongate-oblong, rounded or subacute at base, gradually acutely acuminate, 12–32 cm. long, 4–11 cm. broad, glabrous with 10–20 main lateral nerves on each side of midrib; sepals rusty tomentellous, spreading in fruit; fruit an inflated 3-angled capsule with valves suborbicular to broadly ovate, 2–3.5 cm. long and 2–2.5 cm. broad; seed trigonous, up to 2 cm. diam. [1. *grandifolia*](#)
- Inflorescence with scattered flowers, not continuous; sepals cupular in fruit; fruits, where known, oblong, not exceeding 8 mm. broad: [2](#)
- 2 Sepals glabrous outside, except at the base; mature leaves glabrous beneath; branchlets closely pubescent, leaves oblong to elliptic, rounded at base, gradually acuminate, 8–27 cm. long, 3–8 cm. broad, with 12–16 main lateral nerves on each side of midrib; fruits oblong, 12–18 mm. long; seeds black, rod-like, more or less trigonous in section, about 15 mm. long and 3–4 mm. diam. [2. *floribunda*](#)
- Sepals densely pilose or tomentose outside (except towards the margin in No. 3); mature leaves pubescent or pilose on the midrib and nerves beneath: [3](#)
- 3 Sepals outside glabrous towards the margins, about 2.5 mm. long; branchlets shortly pubescent; leaves obovate-oblong or elliptic obtuse at base, long-acuminate, 8–20 cm. long, 3–7 cm. broad with 10–15 main lateral nerves on each side of midrib [3. *gabonensis*](#)
- Sepals outside densely pilose to the margins, about 3 mm. long; leaves as above: [4](#)
- 4 Branchlets with long spreading hairs [4. *velutina*](#)
- Branchlets shortly pubescent at first, soon glabrous [5. *talbotii*](#)

1. *Soyauxia grandifolia* Gilg & Stapf in J. Linn. Soc. 37: 102 (1905); Aubrév. Fl. For. C. Iv. 3: 30, t. 255 B. *APD acc*

Shrub or tree, to 45 ft. high with velvety spikes of white flowers with cream stamens and purple styles; fruits red.

Lib.: Grand Bassa Dinklage 2051! Sinoe Basin Whyte! Dukwia R. (fl. Feb., fr. Oct.) Cooper 106! 233! 259! 286! Nvaake, Webo (fr. June) Baldwin 6222! Ba, Little Kola R. (Mar.) Baldwin 11189! **Iv. C.:** Tabou (fr. Dec.) Aubrév. 1675! **G. C.:** Benso (fr. Aug.) Andoh FH 5390! Prestea (fl. & fr. Sept.) Vigne FH 3105!

2. *Soyauxia floribunda* Hutch. in Kew Bull. 1915: 44; Aubrév. l.c. 32, t. 255 A; Brenan in Kew Bull. 1953: 509, fig. 1. *APD acc*

Soyauxia gatonensis of Chev. Bot. 288, not of Oliv.

Shrub or tree, to 30 ft. high; petals white; stamens bluish.

Gam.: Garrett! **S. L.:** Bonjema (June) Aylmer 86! Njala (May–July) Deighton 1161! 1754! 5915! Kambul F.R. (Apr.) King 184! Kenema (fr. Jan.) Thomas 7601! 7735! Ronietta (fr. Nov.) Thomas 5385! 5645! **Lib.:** Mt. Barclay (June) Bunting! Du R. (fr. Aug.) Linder 289. Ganta (May) Harley 1195! Gletown, Tchien (July) Baldwin 6915! Bobei Mt., Sanokwele (Sept.) Baldwin 9602! **Iv. C.:** Nimba Mts., Aubrév. 1163! Guidéko (May) Chev. 16452.

3. *Soyauxia gabonensis* Oliv. in Hook. Ic. Pl. t. 1393 (1882). *APD acc*

APD: *Synonym of Soyauxia floribunda Hutch.*

Soyauxia bipinaensis Gilg ex Hutch. & Dalz. in F.W.T.A., ed. 1, 1: 170 (1927); Bak. f. in Cat. Talb. 128 (1913) and J. Bot. 52: 4 (1914), name only.

Soyauxia laxiflora Gilg ex Hutch. in Kew Bull. 1915: 44, name only.

Small tree or shrub, to 10 ft. high; flowers white.

S. Nig.: Ogabi, Obudu Div. (June) Unwin 5! Oban Talbot 1614! Nkpure, Ikom Div. (Apr.) Jones FHI 6487!

Also in **French Cameroons** and **Gabon**.

4. ***Soyauxia velutina* Hutch. & Dalz.** in F.W.T.A., ed. 1, 1: 170 (1927); Kew Bull. 1928: 213; Aubrév. l.c. 32. *APD acc*

Soyauxia laxiflora of Chev. Bot. 288.

Shrub, sometimes scandent, or small tree to 35 ft. high; **often by water**.

iv. C.: Grabo (May) Aubrév. 1289! Bingerville Chev. 16444. Guidéko (May) Chev. 16427. **S. Nig.:** Atigere (Feb.) Millen 147! Eba Isl. (Jan.) Thornewill 249! Omo F.R. (Jan.) Jones & Onochie FHI 17358! 20668! Okomu F.R. (Jan.) A. F. Ross 247!

5. ***Soyauxia talbotii* Bak. f.** in J. Bot. 52: 4 (1914). *APD acc*

An erect shrub, to 10 ft. high; calyx green with yellow indumentum, corolla and filaments white, anthers grey, ovary yellow-green.

S. Nig.: Ikotobo Road, Eket Talbot 3254! Uquo, Eket (fl. & fr. May) Onochie FHI 33151!

2. MEDUSANDRA

Brenan in Kew Bull. 1952: 228.

- 1 Tree, to 18 m. high; branchlets minutely puberulous; petioles 3–9 cm. long with a swollen pulvinus at each end; leaves coriaceous or subcoriaceous, elliptic or oblong-elliptic, broadly cuneate or slightly rounded at base, shortly and acutely acuminate, (6–) 10–30 cm. long, (2.5–) 5–14 cm. broad, with about 8 main lateral nerves on each side of midrib, prominent beneath, minutely puberulous beneath; inflorescences numerous, spiciform, 3–15 cm. long, solitary or paired in the leaf-axils; sepals about 1 mm. long; petals about 2 mm. long; staminodes about 8 mm. long, densely pubescent; sepals in fruit reflexed, 6–8 mm. long; capsules subglobose, 1.3–1.5 cm. long, 1.4–1.7 cm. diam., glabrescent, each with a large flattened seed [richardsiana](#)

Medusandra richardsiana Brenan l.c. 229, figs. 1 & 2 (1952). *APD acc*

An understory tree in **rain forest**; inflorescence conspicuous on account of the long white staminodes; fruits at first white with green persistent calyx, becoming brown when dry; locally abundant.

Br. Cam.: Kumba Div.: Buea to Kumba Road (fr. June) Dundas FHI 8360! Road to Bombe (fr. Nov.) Dundas FHI 8485! S. Bahundu F.R., Banga (fl. Jan.–Apr., fr. Apr.–July) Brenan 9402! 9486! Eiiojor FHI 29305! Keay & Russell FHI 28682!

OCTOKNEMATACEAE

Trees and shrubs; leaves alternate, simple, entire, exstipulate. Flowers unisexual in axillary racemes, or hermaphrodite in panicles borne on the older branches. Sepals 5, valvate. Petals absent. Stamens (or in female flower staminodes) 5, opposite the sepals, free. Disk present. Ovary inferior, 1-celled or 3 (–4)-celled almost to the top; ovules 3 (–4), at the apex of a basal threadlike placenta which reaches and is adnate to the top of the ovary; style very short, stigmas 3–5-lobed, lobes bifid. Fruit drupaceous, with a single seed; endosperm slightly ruminant, with small embryo, the radical much longer than the cotyledons.

A family of only two genera, confined to tropical Africa.

- 1 Flowers in axillary spike-like racemes, dioecious; indumentum only of stellate, sometimes scale-like hairs; fruits 1.5–3 cm. long; endocarp with 6–10 narrow ridges protruding into the seed [1. Octoknema](#)
- Flowers sessile in lax panicles borne on the older branches, apparently hermaphrodite; indumentum of simple, forked and stellate hairs; fruits 9 cm. or more long; endocarp without internally projecting ridges [2. Okoubaka](#)

1. OCTOKNEMA

Pierre in Bull. Soc. Linn. Paris 2: 1290 (1897); Mildbr. in E. & P. Pflanzenfam. 16B: 42 (1935).

- 1 Indumentum of bushy stellate hairs; leaves obovate-oblong, shortly cuneate, acuminate, 8–30 cm. long, 3–11 cm. broad, with 6–8 (–10) main lateral nerves on each side of midrib; petioles 0.8–3 cm. long, swollen towards the top; spike-like racemes axillary, densely stellate-tomentose, the males 5–8 cm. long, the females few-flowered, shorter; fruits subglobose about 1.5 cm. long, capped by the broad persistent calyx lobes [1. borealis](#)

Indumentum of appressed scale-like stellate hairs; leaves oblong, obtuse or rounded at base, narrowly acuminate, 11–38 cm. long, 4–13 cm. broad, with 6–8 main lateral nerves on each side of midrib; petioles up to 6 cm. long, swollen towards the top; spike-like racemes axillary, with scaly indumentum, the males 3–6 cm. long; fruits ellipsoid or ovoid, 1.5–3 cm. long, capped by the persistent calyx-lobes [2. winkleri](#)

1. *Octoknema borealis* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 464 (1928); Kew Bull. 1929: 24; Mildbr. in E. & P. Pflanzenfam. 16B: 45; Aubrév. Fl. For. C. Iv. 1: 92, t. 28. *APD acc*

Octoknema affinis of Chev. Bot. 125.

A forest tree, 15–75 ft. or more high, with pale flaking bark; dioecious; flowers yellowish-green; ripe fruits red.

Fr. G.: Kissidougou (Feb.) Chev. 20707! Kouria Chev. 18183. S. L.: N. of Kundita (Mar.) Sc. Elliot 5042! Njala (Jan., Apr.) Deighton 1566! 4612! Kwaoma (Apr.) Deighton 3682! Gola Forest (fl. & fr. Apr.) Small 588! Lib.: Dukwia R., (fl. & fr. Feb.) Cooper 91! 138! 267! 302! Mt. Barclay (tr. Apr.) Dinklage 3040! Fortsville (fl. Mar.) Baldwin 12539! Bama, Loffa R. (Dec.) Baldwin 10677! Iv. C.: Alépé, Attie (Mar.) Chev. 16246! Abidjan Aubrév. 194! Banco Aubrév. 351! Oua, Haut-Cavally (fr. Apr.) Chev. 21321! G. C.: Ankasa F.R. Vigne FH 3177! Axim (Feb.) Irvine 2400! Konongo (Feb.) Akpabla 252!

2. *Octoknema winkleri* Engl. Bot. Jahrb. 43: 177 (1909).

APD: Synonym of Octoknema affinis Pierre

A forest tree, up to 60 ft. high, with pale flaking bark; dioecious; fruits orange-red.

S. Nig.: Osho, Omo F.R., Ijebu-Ode (Apr.) Jones & Onochie FHI 17294! Etemi, Omo F.R., (Mar.) Jones & Onochie FHI 16611! Lower Enyong F.R., Itu (fr. May) Onochie FHI 33214! Br. Cam.: N'Bamba to Man-o'-War Bay (fr. Apr.) Winkler 1238. Victoria (fl. Apr., fr. Feb.) Maitland 401! 608! S. Bakundu F.R. Onochie FHI 30869!

2. OKOUBAKA

Pellegr. & Normand in Bull. Soc. Bot. Fr. 93: 139 (1946); op. cit. 91: 20 (1944), French descr. only.

- 1 A large tree; branchlets pubescent; petiole about 7 mm. long; leaves ovate-elliptic to ovate-oblong, unequally rounded or subcordate at base, acute at apex, 8–15 cm. long, 3.5–8 cm. broad, densely pubescent with simple hairs beneath, glabrescent, with 3–5 main lateral nerves on each side of midrib, ascending, prominent beneath; inflorescences borne on the older branches, paniculate, up to 40 cm. long; flowers sessile apparently hermaphrodite; sepals deltoid, 1 mm. long; fruits drupaceous, ellipsoid, about 9 cm. long and 5 cm. broad, capped by the persistent sepals [aubrevillei](#)

Okoubaka aubrevillei Pellegr. & Normand in Bull. Soc. Bot. Fr. 93: 139 (1946); op. cit. 91: 25 (1944), French descr. only; Louis & Léonard in Fl. Congo Belge 1: 292, t. 31, photo 11 (the var. glabrescentifolia J. Léonard). *APD acc*

Octoknema okoubaka Aubrév. & Pellegr. in op. cit. 84: 392, fig. 1 (1937).

Okoubaka of Aubrév. Fl. For. C. Iv. 1: 88.

A forest tree, to 90 ft. high, with a cylindrical bole lacking buttresses; flowers greenish; fruits yellow when ripe. This tree has the reputation of killing the surrounding trees.

Iv. C.: Yapo, Agboville and Yakassé Aubrév. 603; 1503; 1788. G. C.: Mampong Scarp Vigne FH 1760! Krakaw, on N.E. corner of Kade Bepo F.R., Kwahu, Mpraeso (Feb.) St. C. Thompson FH 4388!

The species also occurs in Belgian Congo as var. glabrescentifolia J. Léonard.

LORANTHACEAE

Parasitic shrubs on trees, or rarely erect terrestrial trees or shrubs. Leaves mostly opposite or whorled, simple, entire, sometimes reduced to scales, rarely alternate; stipules absent. Flowers mostly actinomorphic, bisexual or unisexual, often brightly coloured. Receptacle sometimes with a calyx-like rim (calyculus). Perianth-segments valvate, free or united high up into a tube which is often split down one side. Stamens the same number as the perianth-segments and inserted on them or at their base; anthers 2-celled or rarely 1-celled, sometimes divided into numerous small cells, opening lengthwise or by pores or transverse slits. Disk present or absent. Rudimentary ovary sometimes (not in Africa) present in male, staminodes in female. Ovary inferior, usually without a distinct placenta and ovule; style simple or absent, stigma more or less capitate. Fruit a berry or drupe. Seed solitary, without a distinct testa; endosperm present or absent; embryo large.

Numerous in the tropics of both hemispheres.

Easily detected by the usually parasitic habit, inferior ovary, often brightly coloured perianth, with as many stamens as perianth-segments, inserted on them.

- 1 Flowers hermaphrodite; perianth petaloid; filaments distinct; anthers dehiscing by 2 longitudinal slits; calyculus distinct, formed by a rather deep border of the receptacle; floral bract fused with the pedicel for all its length (Subfamily LORANTHOIDEAE): **2**
- Flowers unisexual, plant monoecious or dioecious, always glabrous; perianth calyx-like; anthers sessile, opening by pores; calyculus and floral bract absent; branches articulated at the nodes; leaves opposite, with sub-basal nervation; inflorescence cymose, axillary or terminal, with 3–5 flowers arranged in a line within a cupule of 2 connate bracts; flowers (3–) 4-merous, male flowers with a hollow receptacle; perianth-lobes ovate or triangular, usually rather unequally in pairs [8. *Viscum*](#)
- 2 Inflorescence racemose; each perianth-segment composed of a lower erect part and an upper reflexed part; flowers 4-merous; filaments remaining erect at anthesis; anthers long-linear; style much shorter than the tepals; plant glabrous [1. *Helixanthera*](#)
- Inflorescence never racemose, but in umbels, heads or fascicles, or flowers solitary; perianth-segments united, the tube splitting on one side at anthesis: **3**
- 3 Flowers (3–) 4-merous: **4**
- Flowers 5-merous: **5**
- 4 Filament without a tooth in front of the anther but a little thickened and papillose at the apex; lower part of the perianth-tube with very small appendages inside, alternate with the tepals, at the top of the 4 longitudinal papillose areas [2. *Berhautia*](#)
- Filament with a small tooth at the top in front of the anther, neither thickened nor papillose; perianth-tube without internal appendages and longitudinal papillose areas; plant glabrous [3. *Englerina*](#)
- 5 Lobes of the perianth about the same length as the tube, curled back at anthesis; free part of the filaments inrolled at anthesis; anthers short, trapeziform with the connective thickened and emarginate at apex ... [4. *Globimetula*](#)
- Lobes of the perianth always much shorter than the tube, remaining erect or reflexing at anthesis; anthers rather long, with the connective always slender and never emarginate at apex: **6**
- 6 Anthers never transversely septate: **7**
- Anthers transversely septate [7. *Phragmanthera*](#)
- 7 Filament always without an apical tooth [5. *Agelanthus*](#)
- Filament always elongate, with a tooth on the inside in front of the anther [6. *Tapinanthus*](#)

1. HELIXANTHERA

Lour. Fl. Cochinch. 142 (1790); emend. Danger in Bull. Jard. Bot. Buitenz., ser 3, 10: 292 (1929); Verh. Akad. Wetensch. Amst. Afd. Natuurk., sect. 2, 29: 55 (1933); Balle in Webbia 11: 579 (1955).

Sycophila Welw. ex Van Tiegh. (1894).

Loranthus Sect. *Sycophila* (Welw. ex Van Tiegh.) Engl. (1897) — F.T.A. 6, 1: 257; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 147 (1935).

- 1 Racemes 2–15 cm. long, about 50-flowered; bracts unilateral, about 1 mm. long; flowers 6–23 mm. long, lower part of perianth segments 2–4 mm. long, remaining erect and more or less lyriform, with inside near the apex a small appendage carrying a filament, upper part of perianth-segment linear, reflexing at anthesis; anthers 2–12

mm. long, transversely septate forming 9–40 superposed cells; style quadrangular, broadened at base; fruits ellipsoid, about 6 mm. long and 3 mm. broad [mannii](#)

Helixanthera mannii (Oliv.) Danser in Verh. Akad. Wetensch. Amst. Afd. Natuurk., sect. 2, 29: 58 (1933). *APD acc*

APD: Synonym of Helixanthera spathulata Wiens & Polhill

Loranthus mannii Oliv. (1864) — F.T.A. 6: 274; S. Balle in Fl. Congo Belge 1: 316, t. 33.

L. rosaceus Engl. (1808) — F.T.A. 6, 1: 275.

L. subulacinus Sprague — F.T.A. 6, 1: 275 (1910); F.W.T.A., ed. 1, 1: 466.

L. ternatus Engl. (1897) — F.T.A. 6, 1: 275.

L. patentiflorus Engl. & K. Krause (1910) — F.T.A. 6, 1: 1025.

L. rubrostamineus Engl. & K. Krause (1910) — F.T.A. 8, 1: 1025.

A very variable species, particularly in size of flowers and leaves, the position of the leaves, the shape of the base of the perianth-segments and of the bracts; flowers pale pink. On Coffea, Citrus, Ficus, Hymenocardia ulmoides and Thecacoris manniana.

S. Nig.: Lower Enyong F.R., Calabar (May) Onochie FHI 33216! **Br. Cam.:** Johann-Albrechtshöhe Staudt 757!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola**, **Uganda** and **S. Tomé**.

2. BERHAUTIA

Balle in Bull. Soc. Roy. Bot. Belg. 88: 133 (1956). *APD acc*

- Plant completely covered with greyish branched hairs; leaves alternate or subopposite, suborbicular or broadly ovate, rarely elliptic, truncate, rounded or cuneate at base and always slightly decurrent, rounded or obtuse at apex, 2–4 cm. long, 1.2–4.5 cm. broad, nerves irregularly pinnate; petiole 3–10 mm. long; flowers 2–4 in axillary umbels, shortly pedicellate and pedunculate; perianth about 4 cm. long, not inflated at base, lobes acute, about 1 cm. long, elliptic in the upper 6 mm., remaining erect at anthesis; filaments inflexed at anthesis; anthers lanceolate, about 3 mm. long, slightly exceeded by the pointed connective; style filiform; fruit obovoid, up to 1 cm. long and 7 mm. broad [senegalensis](#)

Berhautia senegalensis Balle l.c. (1956). *APD acc*

Loranthus berhautii Balle in Berhaut Fl. Sen. 96, fig. 12, 1 (1954), French descr. only.

Flowers mauve. On Combretum glutinosum.

Sen.: Tambacounda to Niokolo-Koba Berhaut 1507! 2998; 4074; 4154; 4374! 4741.

3. ENGLERINA

Van Tiegh. in Bull. Soc. Bot. Fr. 42: 257 (1895); emend. Balle in Webbia 11: 581 (1955). *APD acc*

Loranthus Sect. Ischnanthus Engl. (1894) — F.T.A. 6, 1: 272; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 164 (1935).

- Apical swelling of the bud obtuse or rounded; perianth-lobes not thickened at the end, erect at anthesis; perianth-tube usually rather shorter than the lobes; filaments involute at anthesis; flowers less than 3 cm. long; peduncles longer than the pedicels; umbels generally about 12-flowered: **2**
Apical swelling of the bud truncate; perianth-lobes thick at the end, remaining erect at anthesis; perianth-tube usually rather longer than, or rarely the same length as, the lobes; filaments with an acute tooth 0.75–1 mm. long; anthers 1.5–3 mm. long; peduncles usually rather shorter or rarely slightly longer than the pedicels; umbels few-flowered, 5–6 (–15); flowers (3.2–) 4–5.6 cm. long; leaves lanceolate, elliptic or ovate, acuminate, 4.5–16 cm. long, 1.8–6 cm. broad [3. gabonensis](#)
- Flowers golden-yellow or orange, 2.2–2.7 cm. long; bud just before anthesis with apical swelling about 7 mm. long; anthers (3–) 6 mm. long; leaves elliptic, ovate or lanceolate, 3.5–9 cm. long, 1.4–4.6 cm. broad; bracts sometimes shortly spurred on the back [1. lecardii](#)
Flowers red, 18–22 mm. long; apical swelling of bud about 2.5 mm. long; anthers 1–2.3 mm. long; leaves lanceolate, oblong, elliptic or ovate, 6.3–11.3 cm. long, 1.6–3.8 cm. broad [2. parviflora](#)

1. *Englerina lecardii* (Engl.) Balle in Kew Bull. 1956: 168. *APD acc*

Loranthus lecardii Engl. (1894) — F.T.A. 6, 1: 384; F.W.T.A., ed. 1, 1: 467; Berhaut Fl. Sen. 96.

On *Butyrospermum* and *Combretum glutinosum*.

Sen.: Lecard 180! Bellamy! Djourbel Roberty 5197! Kaolak Berhaut 406! Upper Senegal Lecard 193! **Fr. Sud.:** Bamako Waterlot 1312! 1386! Macina (Mar.) Chev. 24843! **Port. G.:** Buruntuma Esp. Santo 2719! **Fr. G.:** Scaëtta 3325! Fouta Djallon Pobéguin 1912! Kouroussa Pobéguin 425! 2128! Koïn Maclaud 308!

2. *Englerina parviflora* (Engl.) Balle l.c. (1956). *APD acc*

Loranthus parviflorus Engl. (1894) — F.T.A. 6, 1: 383; F.W.T.A., ed. 1, 1: 467.

Hosts unknown.

Port. G.: Bissau to Cupulra Esp. Santo 2382! **Fr. G.:** Dalaba Chev. 19104! Fouta Djallon Pobéguin 2288! Labé (Apr.) Chev. 12311! 12322! **S. L.:** Batkanu (Apr.) Thomas 26! Gbonjema (May) Deighton 6060! Bagroo R., (Apr.) Mann 823! **Lib.:** Belefana Baldwin 10536!

3. *Englerina gabonensis* (Engl.) Balle l.c. (1956). *APD acc*

Loranthus gabonensis Engl. (1894) — F.T.A. 6, 1: 382; E. & P. Pflanzenfam. 16B: 164, fig. 81; Balle in Fl. Congo Belge 1: 326.

L. micrantherus Engl. ex Th. Dur. & De Wild. (1900) — F.T.A. 6, 1: 383; F.W.T.A., ed. 1, 1: 467.

L. tessmannii Engl. & K. Krause (1909).

Flowers yellow, red at the base. On *Ficus* and *Platysepalum chevalieri*.

S. L.: Bagroo R. (Apr.) Mann 889! Bonjema Deighton 5329! **G. C.:** Abetifi Irvine 1661! **S. Nig.:** Akilla, Ijebu Ode Prov. Jones & Onochie FHI 17304!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon** and **Belgian Congo**.

4. GLOBIMETULA

Van Tiegh. in Bull. Soc. Bot. Fr. 42: 244, 264 (1895); Danser in Verh. Akad. Wetensch. Afd. Natuurk., sect. 2, 29: 54 (1933); Balle in Webbia 11: 583 (1955). *APD acc*

Loranthus Sect. Cupulati DC. — F.T.A. 6, 1: 262; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 160 (1935).

- 1 Leaves usually short, 1–2 times as long as broad; **2**
 Leaves usually long, 2–3 times as long as broad, narrowing in the upper half: **3**

- 2 Leaves large, thick and coriaceous, broadly ovate or broadly elliptic, round-cordate at base, acute or obtuse at apex, 4.5–17 cm. long, 3–12.5 cm. broad; petioles 6–18 mm. long; calyculus longer than the receptacle; flowers (2.5–) 3.2–3.7 cm. long [1. cupulata](#)

Leaves usually rather thin, elliptic, obtuse or acute at each end, rarely cordate at base, variable in size; calyculus usually rather short, rarely the same length as the receptacle; flowers with an apical slightly 5-winged swelling; umbels 4–8-flowered [2. braunii](#)

- 3 Umbels usually 8–20-flowered, peduncles 1–3 cm. long, much longer than the 2–6 mm. long pedicels; flowers 3.4–3.8 cm. long; apical swelling of bud globular; leaves rather narrowly ovate to lanceolate, round-cordate at base, 5.2–14 cm. long, 2.5–5.4 cm. broad, pinnately nerved; petiole 8–18 mm. long [3. oreophila](#)

Umbels usually 4–6-flowered; peduncles 0.5–1.1 (–2.5) cm. long; flowers 2.5–3.6 cm. long; swollen apex of bud narrowly 5-winged; leaves lanceolate, rarely ovate, lamina cuneate or rounded at base, acuminate, obtuse or acute at apex, 4–10 cm. long, 1.6–5 cm. broad, the lower (1–) 2 pairs of lateral nerves much more prominent than the others usually arising in the lower half of the lamina and more or less parallel with the midrib [4. dinklagei](#)

1. *Globimetula cupulata* (DC.) Van Tiegh. in Bull. Soc. Bot. Fr. 42: 264 (1895). *APD acc*

Loranthus cupulatus DC. (1830) — F.T.A. 6, 1: 305; F.W.T.A., ed. 1, 1: 466; Balle in Fl. Congo Belge 1: 371.

L. mayombensis De Wild. (1905) — F.T.A. 6: 302.

Flowers rose-pink. A species for long imperfectly known as the type was mixed with *Phragmanthera rufescens*; this led to much confusion in determinations and descriptions. On *Dacryodes edulis* and a Myrtaceous plant.

Sen.: Casamance Leprieur! Perrottet! **Lib.:** Monrovia Baldwin 5865!

Also in **Belgian Congo**.

2. **Globimetula braunii** (Engl.) Van Tiegh. l.c. 265 (1895). *APD acc*

Loranthus braunii Engl. (1894) — F.T.A. 6, 1: 303, 1028; F.W.T.A., ed. 1, 1: 466; Balle l.c. 369 (q.v. for full synonymy).

Climber with many suckers. This species occurs throughout most of the area of the genus; it is variable and can be confused with most of the other species. Parasitic on a large number of hosts especially on cultivated plants such as *Coffea*, *Citrus*, *Hevea*, *Theobroma*.

G. C.: Kitson! **Togo:** Bagida Warnecke 109! **Dah.:** Porto Novo Chev. 22833! **S. Nig.:** Igbajun, Lagos Moloney 24! Ilaro (Oct.) Punch 40! Akpaka, Onitsha Jones FHI 6679! Eket Talbot! Oban Talbot 1522! Old Calabar (Feb.) Mann. 2294!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Spanish Guinea**, **Belgian Congo**, **Angola**, **Rhodesia**, **Tanganyika** and **Uganda**.

3. **Globimetula oreophila** (Oliv.) Van Tiegh. l.c. (1895). *APD acc*

Loranthus oreophilus Oliv. (1862) — F.T.A. 6, 1: 801, 1028; F.W.T.A., ed. 1, 1: 466.

Flowers red with green tips. On *Agauria*, *Hypericum lanceolatum* and *Maesa*.

Br. Cam.: Cam. Mt., 6,000–8,300 ft. (Dec., Mar., May) Mann 1210! 2163! Preuss 811! Maitland 684! Hutch. & Metcalfe 20! Lakom, 6,000 ft., Bamenda Maitland 1584! Lightbody FHI 28373! Tiku FHI 22157! Ujor FHI 30017! Ndu, Bamenda Johnston 111/31!

Also in **French Cameroons**.

4. **Globimetula dinklagei** (Engl.) Van Tiegh. l.c. (1895). *APD acc*

Loranthus dinklagei Engl. (1894) — F.T.A. 6, 1: 301; F.W.T.A., ed. 1, 1: 466 (?).

L. fulgens Engl. & K. Krause (1914).

Parasitic on *Theobroma*.

Br. Cam.: Victoria Hanke 622. Boru-Bonge, Mamfe (Nov.) Thorold 74!

Also in **French Cameroons**.

5. **AGELANTHUS**

Van Tiegh. in Bull. Soc. Bot. Fr. 42: 246 (1895); emend. Balle in *Webbia* 11: 583 (1955). *APD acc*

Loranthus Sect. Infundibuliformes Engl. — F.T.A. 6, 1: 264; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 161 (1935).

- 1 Perianth of opened flower at about 1 mm. above its base with a very distinct globular or ellipsoid swelling above which the tube is strongly constricted and then progressively widened towards the top; flowers in axillary fascicles (3·2–) 3·7–4·5 cm. long, the lobes erect 7–11 mm. long; fruits ellipsoid or obovoid, about 6 mm. long; leaves ternate, opposite or alternate, usually elliptic but sometimes ovate, lanceolate or obovate, rounded or obtuse at apex rarely acute, 1·7–14 cm. long, 7–50 mm. broad, usually rather thin, with 3–5 basal or subbasal nerves, subparallel and equally prominent [brunneus](#)

Agelanthus brunneus (Engl.) Van Tiegh. l.c. (1895). *APD acc*

Loranthus brunneus Engl. (1894) — F.T.A. 6, 1: 325; Balle in *Fl. Congo Beige* 1: 331; Berhaut *Fl. Sen.* 96.

Leaves extremely variable; flowers rose-pink or red with a white ring at the base of the lobes; berries reddish. Parasitic on numerous hosts, e.g.: — *Carissa edulis*, *Crateva religiosa*, *Diplorhynchus*, *Ficus*, *Funtumia*, *Gossweilodendron*, *Ipomaea*, *Landolphia heudelotii*, *L. owariensis*, *Morus alba*, *Nerium oleander*, *Saba senegalensis*, *Scorodophloeus* and *Sterculia guinqueloba*.

Maur.: El Cheddla Chev. 28776. **Sen.:** Niokolo-Koba Berhaut 1193! **Port. G.:** Jangada, Contubo (June) Esp. Santo 2258! **Fr. G.:** Timbo Pobéguin 1659! Moussaia Chev. 460! Kollangui Chev. 12549! Labé Vuillet 29! Ouasana Chev. 618! **S. L.:** Njala (Feb.) Deighton 1089! **S. Nig.:** Omo R., Onochie & Jones FHI 16684!

Also in **French Cameroons**, **Ubangi-Shari**, **Gabon**, **Belgian Congo**, **Angola**, **S.W. Africa**, **Tanganyika** and **Uganda**.

6. TAPINANTHUS

Blume in Schultes f. Syst. Veg. 7: 1730 (1830); *Danser* in Verh. Akad. Wetensch. Amst. Afd. Natuurk., sect. 2, 29: 107 (1933); *Balle* in Webbia 11: 583(1955). *APD acc*

Loranthus Sect. Constrictiflori Engl. — F.T.A. 6, 1: 268.

Loranthus Sect. Erectilobi Sprague — F.T.A. 6, 1: 270.

Loranthus Sect. Purpureiflori Engl. — F.T.A. 6, 1: 267; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 166,167 (1935).

- 1 Perianth-lobes remaining erect at anthesis (Sect. Erectilobi):2
 Perianth lobes reflexing at anthesis (Sect. Constrictiflori):4
- 2 Leaves broadly ovate or elliptic, rounded or more rarely obtuse at base, rounded or obtuse rarely cuneate at apex, 9–14 cm. long, 6–9.5 cm. broad; perianth 5–7 cm. long, the lobes about 1.5 cm. long, acute and thickened at the apex and narrowly winged on both sides; apical swelling of bud just before anthesis ovoid-acute, 5-winged in the upper half; umbels 5–7-flowered[1. buntingii](#)
 Leaves smaller, not very broad (up to 5.5 cm.) in relation to their length:.....3
- 3 Plant pilose with hairs 0.5–1 mm. long, at least on younger parts; flowers distinctly pedicellate, (2–8–) 3–5–5 cm. long, perianth lobes 5–12 mm. long; umbels (2–) 4–8 (–9)-flowered; calyculus up to 3 mm. long, never tubular; leaves ovate, ovate-oblong, ovate-lanceolate or oblong-elliptic, 2.5–13.5 cm. long, 1–5.5 cm. long; bracts unilateral, ovate-elliptic, often very concave; fruits ellipsoid or obovoid up to 12 mm. long and 9 mm. broad, pilose[2. heteromorphus](#)
 Plant glabrous; flowers (1–) 2–4, (2–8–) 4–5 cm. long, often thick and rigid, subsessile in head-like umbels; calyculus tubular 5 mm. or more long; leaves lanceolate, oblong or linear, sometimes falciform, 4–18.5 cm. long, 5–27 mm. broad, more or less glaucous; fruits up to 1.3 cm. long, ellipsoid or pear-shaped[3. dodoneifolius](#)
- 4 Leaves petiolate:.....5
 Leaves sessile, broadly ovate or ovate-lanceolate, cordate at base, obtuse or subacute at apex, 2.5–8.5 cm. long, 1.8–6.2 cm. broad; umbels (2–) 4–8 (?–12)-flowered; perianth 3.7–4.2 cm. long:13
- 5 Plants entirely glabrous:6
 Plant shortly pubescent on young branchlets, peduncles, pedicels, bracts and sometimes on the receptacles, calyculi and perianths; petioles 0.5–1 cm. long; leaves ovate or elliptic, cuneate, rounded or slightly cordate at base, obtuse, acute or sometimes emarginate at apex, 2.5–12.5 cm. long, 1.5–7.5 cm. broad; umbels 8–10-flowered; perianth 3–3.8 cm. long, with the lobes slightly thickened at top; apical swelling of bud ellipsoid-oblong, about 3 mm. long and 2 mm. broad, more or less flattened on top.[12. truncatus](#)
- 6 Apical swelling of bud not distinctly 5-winged:.....7
 Apical swelling of bud distinctly 5-winged:11
- 7 Apical swelling of bud not flattened at top and without appendages, globose, ovoid or ellipsoid, 5-gonous (sometimes very slightly 5-winged in upper half), 3–3.75 mm. long, 2–3 mm. broad; perianth 2.7–3.8 (–5) cm. long; flowers subsessile, 4–8 together in subsessile umbels; leaves subopposite or sometimes subternate:8
 Apical swelling of bud flattened and with 5 minute bumps or appendages at top:9
- 8 Leaves bright green when fresh, rather broadly ovate or ovate-lanceolate, rarely elliptic or ovate-oblong, rounded or slightly cordate or sometimes obtuse at base, acute or obtuse at apex, 6–18 cm. long, 2–12 cm. broad, with 1–3 long-ascending lateral nerves arising on each side from near the base of the midrib[4. bangwensis](#)
 Leaves generally glaucous, usually narrowly elliptic, oblong or obovate, sometimes broadly elliptic, ovate, lanceolate or linear, usually cuneate or acute, sometimes obtuse, rarely rounded or subcordate at base, rounded or obtuse at apex, (1–) 2–9 (–12) cm. long, (0.4–) 0.7–3 (–5) cm. broad, with irregular pinnately arranged lateral nerves[5. globiferus](#)
- 9 Perianth lobes without subapical dorsal appendages, but with 5 minute bumps and sometimes very slightly 5-winged at the angles; perianth 2.2–3.5 cm. long:.....10
 Perianth lobes each bearing dorsally just beneath the apex a more or less triangular appendage about 0.75 mm. long; perianth about 4.4 cm. long; apical swelling of bud ellipsoid, about 4 mm. long and 2.3 mm. broad; leaves ovate to lanceolate or elliptic, rounded or cuneate at base, obtuse or acute at apex, 6–9.5 cm. long, 2.5–4.4 cm. broad, with pinnate nervation[8. farmari](#)
- 10 Apical swelling of bud 3.5–4 mm. long, 2–2.25 mm. broad; leaves subopposite or alternate, ovate or lanceolate, rarely elliptic, cordate, rounded or cuneate at base, acute or obtuse at apex, 3.5–12.5 cm. long, 1.6–6 cm. broad[6. belvisii](#)
 Apical swelling of bud 2.5–3.5 mm. long, 1.7–2.25 mm. broad; leaves subopposite or subternate, oblong, elliptic, obovate or more rarely ovate, usually narrowly cuneate at base, rounded or rarely obtuse at apex, 1–8.5 cm. long, 0.3–2.5 cm. broad[7. voltensis](#)

- 11** The apical swelling of bud globose, 4–5 mm. diam.; perianth (4.5–) 5.5–7 cm. long; leaves broadly ovate or elliptic, rounded or slightly cordate at base, abruptly acuminate (acumen itself acute and often slightly recurved), 6–12.5 cm. long, 3.7–7.5 cm. broad [9. preussii](#)

The apical swelling of bud distinctly longer than broad: **12**

- 12** Apical swelling of bud conical, about 5 mm. long and 2 mm. broad at base, 5-gonous, with the angles narrowly winged; perianth 3–3.5 cm. long, with the lobes both very acute and distinctly thickened at their extremities; leaves usually elliptic or lanceolate, rarely ovate or oblanceolate, 5–9.5 cm. long, 1.5–3 (–4) cm. broad, with crisped margins [10. ophiodes](#)

Apical swelling of bud clavate, ellipsoid or ovoid, 4–7 mm. long, 2–5 mm. broad, with 5 undulate wings 0.25–1 mm. wide, always better developed in the upper half; perianth 3–4 cm. long, with the lobes reflexed or remaining erect at anthesis; leaves glaucous and coriaceous, usually ovate, sometimes ovate-lanceolate or elliptic, 1.3–12 cm. long, 0.8–8 cm. broad, usually rounded or broadly cuneate at base, obtuse at apex. [11. pentagonia](#)

- 13** Apical swelling of bud ellipsoid, without appendages; umbels sessile or subsessile; plant glabrous [13. sessilifolius](#)

Apical swelling of bud campanulate, 5-gonous, depressed at the top and bearing 5 spreading triangular appendages about 0.75 mm. long; umbels pedunculate; plant pubescent [14. warneckei](#)

1. *Tapinanthus buntingii* (Sprague) Danser in Verh. Akad. Wetensch. Amst. Afd. Natuurk., sect. 2, 29: 109 (1933). *APD acc*

Loranthus buntingii Sprague in Kew Bull. 1916: 178; F.W.T.A., ed. 1, 1: 467.

Perianth green with rose-pink lobes. On *Cassia sieberiana*.

S. L.: Njala (Sept.) Deigliton 6122. **Lib.:** Mt. Barclay Bunting 165!

Also in (?) **A.-E. Sudan**.

2. *Tapinanthus heteromorphus* (A. Rich.) Danser l.c. 113 (1933).

APD: Synonym of Agelanthus heteromorphus (A. Rich.) Polhill & Wiens

Loranthus heteromorphus A. Rich. (1847) — F.T.A. 6, 1: 381.

L. brevilobus Engl. & K. Krause (1914).

L. tambermensis Engl. & K. Krause (1909) — F.T.A. 6, 1: 380; F.W.T.A., ed. 1, 1: 467.

L. terminaliae Engl. & Gilg (1903) — F.T.A. 6, 1: 379.

Vegetative and floral parts covered with a rusty tomentum, hairs branched, rather long and close, disappearing partly on mature leaves and branches; flowers yellow below and orange-red above. On *Anogeissus leiocarpus*, *Detarium microcarpum*, *Parkia clappertoniana* and *Terminalia avicennioides*.

Togo: Tamberna Kersting A. 502! **N. Nig.:** Sokoto (May) Dalz. 524! Zamfara F.R., Sokoto Prov. (Apr.) Keay FHI 15893! 16174! Bauchi Plateau (July) Lely P. 597! Naraguta Kennedy 7234! Yola (June) Dalz. 214!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Abyssinia**, **Eritrea**, **Angola** and **N. Rhodesia**.

3. *Tapinanthus dodoneifolius* (DC.) Danser l.c. 111 (1933).

APD: Synonym of Agelanthus dodoneifolius (DC.) Polhill & Wiens

Loranthus dodoneifolius DC. (1830) — F.T.A. 6, 1: 341; F.W.T.A., ed. 1, 1: 467; Berhaut Fl. Sen. 96.

L. chevalieri Engl. & K. Krause (1909).

Leaves opposite, alternate or ternate. Varies particularly in leaf-width and thickness and in the size and texture of the perianth; flowers white, golden yellow, deep rose or red. On *Acacia*, *Azvelia*, *Adansonia*, *Anogeissus*, *Butyrospermum*, *Ceiba*, *Combretum glutinosum*, *Mimosa*, *Parkia*, *Piliostigma*, *Pterocarpus erinaceus*, *Tamarindus* and *Terminalia*.

Sen.: Gandon Leprieur! St. Louis Perrottet! Tambacounda Berhaut 1245! Upper Senegal Bellamy 15! **Fr. G.:** Kouroussa (Dec.) Pobéguin 235! 596! Télivel Maclaud 200! **G. C.:** Nangodi (July) Vigne FH 3294. Tono, Navrongo Darko 465! **Togo:** Gbele Busse 3624. Sokode Kersting A. 57; 200. **Dah.:** Adja Ouéré Le Testu! Dan Poisson 252! Pelebina to Djougou Chev. 23854! Parakou Poisson 83! **N. Nig.:** Abinsi (May) Dalz. 764! Jebba Barter. Kano Kennedy 2942! Katagum Dalz. 203! Bauchi Plateau (May) Lely P. 306! P. 307! Naraguta (Aug.) Lely 498! Nupe Barter 1559! Yola (fr. Oct.) Shaw 92! **S. Nig.:** Lagos Dawodu! Old Oyo F.R. (fr. Feb.) Keay FHI 16279! **Br. Cam.:** Buea Mildbr. 9426! Bama, Dikwa Div. (fr. Dec.) McClintock 66.

Also in **Ubangi-Shari**, **A.-E. Sudan** and **Uganda**.

4. *Tapinanthus bangwensis* (Engl. & K. Krause) Danser l.c. 108 (1933). *APD acc*

Loranthus bangwensis Engl. & K. Krause (1909) — F.T.A. 6, 1: 353; F.W.T.A., ed. 1, 1: 467; Berhaut Fl. Sen. 97.

(?) *L. thoningii* Schum. & Thonn. (1827) — F.T.A. 6, 1: 363.

Branchlets abundantly covered with brown lenticels; leaves very variable in size and thickness, reduced in Senegal but well developed in Liberia and Sierra Leone; perianth red below, pink then grey above; filaments and style green; becoming purple. On many species including *Acacia farnesiana*, *A. nilotica*, *Alchornea cordifolia*, *Cola nitida*, *Coffea liberica*, *Crossopteryx* *Croton*, *Drepanocarpus lunatus*, *Manihot glaziovii*, *Terminalia catappa* and *Theobroma*.

Sen.: Brunner! Perrottet 480! 481! Thiés De Wailly 4405! **Gam.:** Bathurst Dawe 74! **Fr. G.:** Conakry Maclaud! Tristao Isl. Paroisse 16! Mamou Boué 15! Téliélé Roberty 10766! Timbo Maclaud 186! **S. L.:** Rokupr Jordan 255! Bagroo R. (Apr.) Mann 803! Newton Deighton 5642! Mapotalon Adames 140! Bintumane Peak, 5,400 ft. T. S. Jones 60! **Lib.:** Grand Bassa (May) Dinklage 1908! Buchanan Baldwin 11198! Gbanga Baldwin 10519! Greenville Baldwin 11566! Nyaake-Webo Baldwin, 6149! **Iv. C.:** Oua to Goura Chev. 13763! 21342! **G. C.:** Cape Coast Castle (July) T. Vogel 45! Tarkwa (June) Chipp 243! Kumasi (June) Andoh FH 4221! Vigne FH 2961! **Togo:** Sanhokofi St. C. Thompson FH 3594! **Dah.:** Kitou Chev. 23018! Ouidah Lestevé 112! Porto Novo Lestevé 105! **S. Nig.:** Lagos Dalz. 1089! Barter 2229! Ibo country (Aug.) T. Vogel 40! Oban Talbot 605! **Br. Cam.:** Bangwe Conrau 253. **F. Po:** Laka (Aug.) Thorold TF 81!

Also in **Ubangi-Shari**, **French Cameroons**, **Gabon** and **Belgian Congo**.

5. *Tapinanthus globiferus* (A. Rich.) Van Tiegh. in Bull. Soc. Bot. Fr. 42: 267 (1895). *APD acc*

Loranthus globiferus A. Rich. (1847) — F.T.A. 6, 1: 352; F.W.T.A., ed. 1, 1: 467 (incl. vars.); F. W. Andr. Fl. Pl. A.-E. Sud. 2: 293, fig. 105.

(?) *L. rosiflorus* Engl. & K. Krause (1914).

(?) *L. rubrovittatus* Engl. & K. Krause (1914).

Apparently takes the place of *T. bangwensis* in the drier regions; forms transitional in the consistence, colour and shape of the leaves are known in Senegal and Nigeria. Flowers shining red. Some forms seem to connect these two species with *T. voltensis* and *T. pentagonia*. Careful field observations on the colour of flowers and fruits are needed. A form with small leaves seems to be localized around Timbuktu. On numerous hosts, including *Salvadora* and *Sclerocarya*.

Fr. Sud.: Timbuktu Chev. 1206! (July) Hagerup 166! 208! **Dah.:** Dan Gaillard! Konkobiri (July) Chev. 24308! **G. C.:** Navrongo (Nov.) Darko 453! Tumu (Apr.) Hughes 328! **Fr. Nig.:** Maradi Gailiard! **N. Nig.:** Zurmi (Apr.) Keay FHI 15683! 16186! Kano Kennedy 2943! Bornu E. Vogel 79!

Also in **Ubangi-Shari**, **A.-E. Sudan**, **Belgian Congo**, **Kenya**, **Eritrea** and **Arabia**.

6. *Tapinanthus belvisii* (DC.) Danser l.c. 108 (1933). *APD acc*

Loranthus belvisii DC. (1830) — Brenan in Kew Bull. 1950: 366.

L. lanceolatus P. Beauv. (1808) — F.T.A. 6, 1: 354 (? incl. var.); F.W.T.A., ed. 1, 1: 467; not of Ruiz & Pav. (1802).

A poorly known species, often confused with *T. bangwensis* which is similar in habit. Leaves thick when fresh; perianth tube red, lobes green.

G. C.: Chama Beauvois! Axim (Jan.) Chipp 54 (partly)! Yapei (June) Williams 825! Yezi Vigne FH 3315! **Togo:** Banyatera Schröder 224. **Dah.:** Savalou (May) Chev. 23695! **Nig.:** MacDonald A. 113/35. R. Niger Baike!

Also in **Gabon**, **Belgian Congo** and **Angola**.

7. *Tapinanthus voltensis* Van Tiegh. ex Balle in Bull. Soc. Bot. Belg. 58: (1956).

APD: *Synonym of Tapinanthus globiferus* (A. Rich.) Tiegh.

Branchlets and leaves glaucous, similar in appearance to *T. globiferus*; perianth tube red, apex greenish white. On *Acacia nilotica*, *Adansonia*, *Bauhinia rufescens*, *Butyrospermum parkii* and *Maytenus senegalensis*.

Fr. Sud.: Dioubéba Chev. 12! El Onaladjii Chev. 1175! San Chev. 1058! Ségou to Dioila Roberty 10501! **Iv. C.:** Fô Chev. 960!

8. *Tapinanthus farmari* (Sprague) Danser l.c. 111 (1933). *APD acc*

Loranthus farmari Sprague in F.T.A. 6, 1: 345 (1910); F.W.T.A., ed. 1, 1: 466.

Perianth rose-red with blood-red ring just below base of lobes outside; lobes green outside with reddish horns, grey inside; tube whitish inside; fruit green turning red. On *Dalbergia ecastaphyllum*.

G. C.: Farmer 503! Accra Dalz. 122! Achimota (fl. & fr. May) Milne-Redhead, 5081a!

Also in **Gabon** and **Belgian Congo**.

9. *Tapinanthus preussii* (Engl.) Van Tiegh. in Bull. Soc. Bot. Fr. 42: 267 (1895). *APD acc*

Loranthus preussii Engl. Bot. Jahrb. 20: 118, t. 3, A (1894); F.T.A. 6, 1: 348; F.W.T.A., ed. 1, 1: 468.

L. pachycaulis Engl. & K. Krause (1909).

Perianth grey outside with red stripes, red inside (fide Preuss), or red and green (fide Ledermann).

Br. Cam.: N. of Barombi Preuss 419!

Also in **French Cameroons**.

10. *Tapinanthus ophiodes* (Sprague) Danser l.c. 111 (1933). *APD acc*

Loranthus ophiodes Sprague (1912) — F.T.A. 6, 1: 1031; F.W.T.A., ed. 1, 1: 467.

On *Parkia biglobosa*.

Fr. G.: Kouroussa Chev. 15728; 15753. **Dah.:** Konkobiri (July) Chev. 24307. **Fr. Nig.:** Diapaga (July) Chev. 24371! 24438! Fada to Koupéla (July) Chev. 24532!

11. *Tapinanthus pentagonia* (DC.) Van Tiegh. l.c. (1895). *APD acc*

APD: *Synonym of Tapinanthus globiferus* (A. Rich.) Tiegh.

Loranthus pentagonia DC. (1830) — F.T.A. 6, 1: 349; F.W.T.A., ed. 1, 1: 466.

L. senegalensis De Wild. (1903) — F.T.A. 6, 1: 349; F.W.T.A., ed. 1, 1: 466; Berhaut Fl. Sen. 96, 97, fig. 12.

L. apodanthus Sprague (1913).

An extremely polymorphic species as regards the leaves and the development of the wings on the perianth. Perianth red, whitish at the tip. On *Acacia*, *Butyrospermum*, *Ceiba*, *Ficus*, *Gardenia*, *Landolphia heudelotii* and *Ziziphus mauritiana*.

Maur.: Alenda Chudeau! **Sen.:** Lecard 83! 84! Dogana Leprieur! Casamance Perrottet! Tambacounda Berhaut 1467! Oualia (Dec.) Chev. 36! **Fr. Sud.:** Bamako Waterlot! Quiébéfé (June) Chev. 1004! San (July) Chev. 1059! Koulikoro Dybowski 2! Vuillet 652! 666! [**G. C.:** Lawra Smith 3! — determination doubtful.] **S. Nig.:** Oyo Latilo FHI 3422!

Also in **French Cameroons**.

12. *Tapinanthus truncatus* (Engl.) Danser l.c. 121(1933).

APD: *Synonym of Tapinanthus belvisii* (DC.) Danser

Loranthus truncatus Engl. (1894) — F.T.A. 6, 1: 356; F.W.T.A., ed. 1, 1: 467.

Acrostephanus truncatus (Engl.) Van Tiegh. (1895).

Loranthus pubiflorus Sprague (1912) — F.T.A. 6, 1: 356; F.W.T.A., ed. 1, 1: 467.

Perianth red, with yellowish green lobes.

S. L.: Afzelius. **iv. C.:** Pobéguin 23! Bingerville (Dec.) Chev. 16047! 16059! **G. C.:** Krause 95! Atwabo (Feb.) Irvine 2288!

Apparently rare, but has probably been confused with *T. bangwensis* and *T. belvisii*.

13. *Tapinanthus sessilifolius* (P. Beauv.) Van Tiegh. l.c. (1895). *APD acc*

APD: *Synonym of Tapinanthus cordifolius* Polhill & Wiens

Loranthus sessilifolius P. Beauv. (1808) — F.T.A. 6, 1: 355; F.W.T.A., ed. 1, 1: 467.

Perianth tube red, lobes green. On *Canarium* and *Strychnos*.

Togo: Keta Beauvois! N. Nig.: Bauchi Plateau Lely P. 163! W. D. MacGregor 423!

14. *Tapinanthus warneckei* (Engl.) Danser l.c. 122 (1933).

APD: *Synonym of Tapinanthus sessilifolius* (P. Beauv.) Tiegh.

Loranthus warneckei Engl. (1908) — F.T.A. 6, 1: 356; F.W.T.A., ed. 1, 1: 467; E. & P. Pflanzenfam. 16B: 167, fig. 85 (1935).

On Pithecellobium dulce and Nerium oleander.

Togo: Messenger! Lome (Jan., Nov.) Busse 3255; Warnecke 36!

7. PHRAGMANTHERA

Van Tiegh. in Bull. Soc. Bot. Fr. 42: 243, 261 (1895); Balle in Webbia 11: 583 (1955). *APD acc*

Loranthus Sect. Lepidoti Engl. — F.T.A. 6, 1: 260.

Loranthus Sect. Rufescentes Engl. — F.T.A. 6, 1: 259; Engl. & K. Krause in E. & P. Pflanzenfam. 16B: 158 (1935).

- 1 Perianth-lobes remaining erect at anthesis;2
- Perianth-lobes reflexed at anthesis; perianth rusty-tomentose; anthers short:8
- 2 Inflated apex of bud club-shaped or long-ellipsoid; anthers 2.7–12 mm. long, with 6–30 superposed small cells:3
- Inflated apex of bud usually globular or shortly elliptic; anthers relatively short, 1–2.5 mm. long:6
- 3 Apical swelling of bud not 5-winged; perianth 2.8–6.3 cm. long, the lobes 1.2–2.2 cm. long; anthers 2.7–6.5 mm. long, with 6–10 superposed cells:4
- Apical swelling of bud narrowly 5-winged, 1.1–1.4 cm. long; perianth (6.5–) 7–10.5 cm. long, glabrescent, lobes 2.2–3 cm. long; anthers (5–) 7–12 mm. long, with 20–30 superposed cells; leaves elliptic, elliptic-oblong or rarely ovate-oblong, 5–11.3 cm. long, 3–5.6 cm. broad; petioles 1.2–2 cm. long; fruits ellipsoid, up to 1.5 cm. long[4. kamerunensis](#)
- 4 Most of the leaves with a short lamina, 1–2 times as long as broad:5
- Most of the leaves with a long lamina, 2–3 times as long as broad, 10–15 cm. long, 4–5.5 cm. broad, rigid and coriaceous, glabrous at maturity; receptacle and calyculus up to about 3 mm. long; perianth yellow towards apex, about 4 cm. long, sparsely hairy, lobes 1.2–1.4 cm. long, linear-lanceolate, acute; anthers 3–4 mm. long[3. lapathifolia](#)
- 5 Lamina mostly reaching its greatest width in the lower half, ovate, ovate-elliptic or ovate-lanceolate, 5–20 cm. long, 2.5–14 cm. broad, cordate, truncate, rounded or rarely obtuse at base; petioles 6–30 mm. long; perianth (2.8–) 3.7–6.3 cm. long, yellow, sometimes reddish especially at the apex; fruits obovoid or pear-shaped, 7–10 mm. long[1. incana](#)
- Lamina mostly reaching its greatest width in the middle, elliptic or elliptic-oblong, 3–8.8 cm. long, 1.5–4.2 cm. broad, obtuse or cuneate, rarely rounded at base; petioles 5–12 mm. long; perianth (3–) 3.5–4 cm. long, tube red, the lobes yellow below and red above; apical swelling of bud ellipsoid about 6 mm. long[2. redingi](#)
- 6 Leaves 15–18.5 cm. long, 6.3–8 cm. broad, ovate-oblong or lanceolate, thick and coriaceous, cordate at base, rusty-tomentose, subsessile (petioles up to 8 mm. long); perianth 4–4.7 cm. long, rusty-tomentose; lobes 10–11 mm. long, elliptic in the upper 3.5 mm.; anthers with 3–4 superposed cells; bracts 3–4 (–8) mm. long, sometimes foliaceous[6. talbotiorum](#)
- Leaves 3–14 cm. long, 1.2–5.8 cm. broad; petioles relatively long, 4–28 mm. long; perianth 2.7–5 cm. long, with rusty verticillate-branched hairs to 1 mm. long:7
- 7 Leaves concolorous, the tomentum rapidly caducous on both surfaces; lamina usually elliptic, rarely ovate, rounded or obtuse at each end; bracts ovate, 2–4 mm. long, not foliaceous.[7. rufescens](#)
- Leaves generally discolorous, the red tomentum persisting longer on the lower surface than above; lamina lanceolate or ovate, rarely elliptic, usually cordate or rounded at base, acute at apex; bracts 1–2.5 (–6) mm. long, sometimes foliaceous[5. polycrypta](#)
- 8 Bracts ovate, 1.5–2 mm. long, never foliaceous; leaves lanceolate-oblong or elliptic-oblong, 3–11.3 cm. long, 1.8–4.4 cm. broad, round-cordate at base, acuminate at apex, rusty-tomentose beneath with verticillate-branched hairs; petioles 2–10 mm. long; perianth 3.8–4.5 cm. long, covered with hairs about 1 mm. long; apical swelling of bud about 4 mm. diam.; lobes 9–11 mm. long; anthers 2–2.5 mm. long, with 6–7 superposed cells[8. leonensis](#)
- Bracts foliaceous, 3–25 mm. long, rounded or emarginate at apex:9
- 9 Leaves narrowly ovate, ovate-elliptic or lanceolate, 2.5–10 cm. long, 1.2–3 cm. broad, rounded or cordate at base, obtuse or cuneate at apex, usually discolorous; petioles 4–10 mm. long; perianth 3.7–4 cm. long, pubescent with hairs up to 2 mm. long; lobes 8–10 mm. long; anthers 1.5–3 mm. long, with 4–5 (–10)

superposed cells; bracts oblong-obovate, concave, 3–7 mm, long [9. nigrimana](#)

Leaves broadly ovate-elliptic or obovate, 3.5–10 cm. long, 1.8–7.5 cm. broad, rounded or cuneate at base, rounded or obtuse at apex, distinct and prominent only in lower 2/3, glabrous; petioles thick, 4–16 mm. long; perianth 4–5 cm. long, covered with rusty verticillate-branched bristles up to 5 mm. long; lobes 1–1.7 cm. long; anthers 1.75–3 mm. long, with 7–10 superposed cells; bracts unilateral, rather deeply concave, very differently developed on the same plant and sometimes on the same inflorescence [10. vinei](#)

1. *Phragmanthera incana* (Schum.) Balle in Kew Bull. 1956: 168.

APD: Synonym of Phragmanthera capitata (Spreng.) Balle

Loranthus incanus Schum. (1827) — F.T.A. 6, 1: 292, 1028; F.W.T.A., ed. 1, 1: 466; Balle in Fl. Congo Belge 1: 353.

Young parts and perianth more or less densely covered with white or brown hairs; berries red. Very variable in the shape and size of the flowers and leaves. On Alchornea, Aleurites moluccana, Anacardium occidentale, Annona senegalensis, Bauhinia, Bersama, Bombax sessile, Caloncoba welwitschii, Citrus aurantium, Coffea, Cola nitida, Croton tiglium, Funtumia, Hevea brasiliensis, Hibiscus rosa-sinensis, Lophira lanceolata, Macaranga spinosa, Manihot glaziovii, Melia azedarach, Musa, Nauclea latifolia, Parinari, Piptadeniastrum, Rauwolfia vomitoria, Sapium ellipticum and Theobroma.

S. L.: Falaba Adames 266! **Iv. C.:** Adiokrou Chev. 17228! Bingerville Chev. 17315 bis! Dybowski 1! Sanvi Chev. 18881! **G. C.:** Volta Thonning. Newtown (July) Chipp 277! Aburi Howes 1176! **Togo:** Lome Warnecke 332! Tuaro Kersting A. 261! **Dah.:** Dogba Le Testu 32! 295! Ouidah (Apr.) Chev. 23440! Porto Novo Lestevé 106! **N. Nig.:** Nupe Barter 1147! Patti Lokoja (Nov.) Dalz. 215! Idah (Sept.) T. Vogel 47! **S. Nig.:** Ibadan Onochie FHI 3420! Newberry 191! Cross R. Johnston! Old Calabar Holland! Thompson 129! **Br. Cam.:** Cam. Mt., up to 3,000 ft. (Mar., Apr.) Kalbreyer 95! Hutch. & Metcalfe 90! Victoria (Feb.) Maitland 383! Victoria to Kumba (July) Thorold TN 70! **F. Po:** Mann 275!

Also in **Gabon**, **Spanish Guinea**, **Ubangi-Shari**, **Belgian Congo** and **Angola**.

2. *Phragmanthera redingi* (De Wild.) Balle in Kew Bull. 1956: 168.

APD: Synonym of Phragmanthera batangae (Engl.) Balle

Loranthus redingi De Wild. (1914) — Balle in Fl. Congo Belge 1: 355.

On Albizia.

Fr. G.: Kouroussa Roberty 10550!

Also in **Gabon** and **Belgian Congo**.

3. *Phragmanthera lapathifolia* (Engl. & K. Krause) Balle in Kew Bull. 1956: 168.

APD: Synonym of Phragmanthera capitata (Spreng.) Balle

Loranthus lapathifolius Engl. & K. Krause (1914).

Br. Cam.: Babangi (Oct.) Ledermann 5827.

4. *Phragmanthera kamerunensis* (Engl.) Balle l.c. (1956). *APD acc*

Loranthus kamerunensis Engl. (1908) — F.T.A. 6, 1: 282; F.W.T.A., ed. 1, 1: 466.

On Chlorophora excelsa and Isoberlinia doka.

N. Nig.: Kontagora Dalz. 551! **S. Nig.:** Oban Dist. Talbot 606! **Br. Cam.:** Meandja Winkler 1067!

5. *Phragmanthera polycrypta* (F. Didr.) Balle l.c. (1956). *APD acc*

Loranthus polycryptus F. Didr. (1854) — F.T.A. 6, 1: 284; Balle in Fl. Congo Belge 1: 360.

L. angolensis Engl. (1894) — F.T.A. 6, 1: 285.

L. discolor Engl. ex Th. Dur. & De Wild. (1900) — F.T.A. 9, 1: 284; Balle l.c. 361.

L. luteo-vittatus Engl. & K. Krause (1910) — F.T.A. 6, 1: 1027.

L. nitidulus Sprague in F.T.A. 6, 1: 283 (1910); F.W.T.A., ed. 1, 1: 466.

Flowers with an orange tube and violet lobes; berries red. On *Annona senegalensis*, *Borassus*, *Coffea*, *Hymenocardia acida*, *Cathormion altissimum* and *Sapium ellipticum*.

Fr. G.: Pita Pobéguin 2302! Labé Pobéguin 2129! **Br. Cam.:** Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1651! **F. Po:** 7,000 ft. (fl. & fr. Mar.) Mann 2346!

Also in **Belgian Congo**, **Uganda** and **Angola**.

6. **Phragmanthera talbotiorum** (*Sprague*) *Balle* in Kew Bull. 1956: 168. *APD acc*

Loranthus talbotiorum *Sprague* in F.T.A. 6, 1: 1026 (1910); F.W.T.A., ed. 1, 1: 466.

Hosts unknown.

S. Nig.: Eket Talbot. Oban Talbot 1281!

7. **Phragmanthera rufescens** (*DC.*) *Balle* l.c. (1956). *APD acc*

Loranthus rufescens *DC.* (1830) — F.T.A. 6, 1: 291; F.W.T.A., ed. 1, 1: 466; *Balle* in Fl. Congo Belge 1: 367.

L. usuiensis *Oliv.* (1873) — F.T.A. 6, 1: 288.

Extremely variable in the shape and size of the leaves, and in the size and pubescence of the flowers. On *Ficus*, *Myrica* and *Lachnopylis*.

Sen.: Nghianga Leprieur! Casamance Perrottet 379! Leprieur!

Also in **Belgian Congo** and in eastern Africa from **Uganda** and **Kenya** to Rhodesia.

8. **Phragmanthera leonensis** (*Sprague*) *Balle* in Kew Bull. 1956: 168. *APD acc*

Loranthus leonensis *Sprague* in F.T.A. 6, 1: 282 (1910); F.W.T.A., ed. 1, 1: 466.

Young parts, leaves beneath and flowers covered with rusty tomentum. On *Cola acuminata*, *Psidium guajava*, *Nauclea diderrichii*, and (?) *Rhizophora racemosa*.

Port. G.: Bafata (June) Esp. Santo 2696! **Fr. G.:** Bambaya Pobéguin 66! Koussi Pobéguin 2212! **S. L.:** Bagroo R. Mann! Batkanu Deighton 3004! Falaba Sc. Elliot 5294! Kabusa (Apr.) Sc. Elliot 5472! Talla Hills (Feb.) Sc. Elliot 4997! Oldfield's Farm Barter! **Lib.:** Dukwia R. Linder 177!

9. **Phragmanthera nigritana** (*Hook. f. ex Benth.*) *Balle* l.c. (1956). *APD acc*

Loranthus nigritanus *Hook. f. ex Benth.* (1849) — F.T.A. 6, 1: 282; F.W.T.A., ed. 1, 1: 466.

L. hirsutissimus *Engl.* (1894).

Young parts and flowers covered with rusty tomentum. Very variable in the pubescence of the flowers and development of the bracts, also in the relative width and in the form of the apex of the leaves. On *Melia* and *Morinda lucida*.

Iv. C.: Bingerville Chev. 15354! **G. C.:** Cape Coast (fr. Mar.) Irvine 2421! Prang Vigne FH 1556! Pepeease (fr. July) Akpabla 174! **N. Nig.:** Patti Lokoja (Sept.) T. Vogel 170! **S. Nig.:** Oban Talbot 1572! Abeokuta (Jan.) Barter 3383! Barrison 9! Rouland!

10. **Phragmanthera vignei** *Balle* in Bull. Soc. Roy. Bot. Belg. 88: 141 (1956). *APD acc*

A robust plant; the young parts and flowers covered with rusty tomentum; leaves opposite or subopposite; heads or axillary fascicles 4-flowered.

Fr. G.: Kouroufing Pobéguin 1509! **S. L.:** Bintumane Peak, 5,400 ft. T. S. Jones 63! **G. C.:** Ankasa Vigne 3182!

Also in **Gabon**.

8. VISCUM

Linn. — F.T.A. 6, 1: 393. *APD acc*

- 1 Plant monoecious; branches flattened for most of their length with the upper internodes enlarged at the base, only sub-cylindrical at the base of the branches; cymes 3–5-flowered, unisexual or exceptionally bisexual; cupule

about 2·5 mm. long; peduncles 3–6 mm. long; fruits globular, about 5 mm. diam., sessile; leaves narrowly obovate or oblong, cuneate or acute at base, rounded at apex, 1·8–5 cm. long, 8–23 mm. broad ... [1. *decurrens*](#)

Plant dioecious; branches subcylindrical, furrowed or angular nearly the whole length, sometimes slightly flattened only at the tips; cymes 3–5-flowered, unisexual; cupule 2·5–4 mm. long; peduncle 1·5–5 mm. long; fruits ellipsoid, 6–9 mm. long, translucent; pedicel about 1 mm. long; leaves elliptic, ovate, obovate, rarely lanceolate, cuneate, obtuse or rounded at base, obtuse or rounded at apex, 2·5–10 cm. long, 1·6–5 cm. broad [2. *congolense*](#)

1. ***Viscum decurrens* (Engl.) Bak. & Sprague** in F.T.A. 6, 1: 398 (1910); Balle in Fl. Congo Belge 1: 376. *APD acc*

*APD: Synonym of *Viscum longiarticulatum* Engl.*

***Viscum obscurum* var. *decurrens* Engl.** (1894).

On Symphonia globulifera.

S. Nig.: Lagos Dalz. 1038! Epe Barter 3314! Old Calabar (fr. Feb.) Mann 2278! Oban Talbot 66a! **Br. Cam.:** Victoria (Oct.) Winkler 550!

Also in **French Cameroons, Gabon, Belgian Congo, Angola, Tanganyika** and **Mozambique**.

2. ***Viscum congolense* De Wild.** in Bull. Herb. Boiss., sér. 2, 1: 44 (1900); — F.T.A. 6, 1: 400; Balle l.c. 378. *APD acc*

***Viscum grandifolium* Engl.** (1908) — F.T.A. 6, 1: 400; F.W.T.A., ed. 1, 1: 467.

***Viscum senkeri* Engl.** (1908) — F.T.A. 6, 1: 401; F.W.T.A., ed. 1, 1: 467.

Very variable in the shape and size of the leaves. On Albizia, Combretodendron africanum, Hevea, Funtumia elastica, Polyalthia suaveolens, Oxystigma oxyphyllum, Scorodophloeus zenkeri and Strychnos.

Iv. C.: Sanvi (fr. Apr.) Chev. 17847! **G. C.:** Amaneakrom Chipp 374! **S. Nig.:** Oban Talbot 604! **Br. Cam.:** Victoria (Jan.) Winkler 23a! Maitland 1303! Mopanya, 2,600–3,000 ft. (fl. & fr. Mar.) Kalbreyer 103!

Also in **Gabon, Belgian Congo** and **Uganda**.

SANTALACEAE

Trees, shrubs or herbs, sometimes parasitic on trees or roots. Leaves alternate or opposite, entire, sometimes reduced to scales, exstipulate. Flowers often greenish, hermaphrodite or unisexual, actinomorphic. Calyx often fleshy, adnate to the ovary, lobes 3–6, valvate or slightly imbricate. Petals absent. Stamens the same number as the calyx-lobes and opposite to them; anthers 2-celled, opening lengthwise. Disk epigynous. Ovary inferior or half inferior, 1-celled; style simple. Ovules 1–3, pendulous from the top of a basal placenta. Fruit nut-like or drupaceous. Seed without a testa; endosperm copious; embryo straight; cotyledons mostly terete.

A small family, very sparingly represented in the area of this flora.

Marks of identification are the inferior ovary, basal placenta, often parasitic habit, absence of testa to the seed, etc.

***Santalum album* Linn.**

Sandalwood

A species native to India, has been introduced into parts of our area.

THESIUM

Linn. — F.T.A. 6, 1: 411.

Semi-parasitic herbs or undershrubs with much-reduced leaves; flowers hermaphrodite; calyx-tube adnate to ovary and continuing above it; calyx-lobes 4 or 5, valvate, glabrous or pubescent within; stamens as many as calyx-lobes and opposite to them, with a short filament, inserted near the base of the lobe; ovary inferior; ovules 2–4, pendulous; fruits dry, globose, crowned by the persistent calyx.

-
- 1 Small appendages present outside at the base of and between calyx-lobes; calyx-lobes densely pubescent inside, otherwise the whole plant glabrous; stems sparingly branched:2
- Small appendages absent between calyx-lobes; calyx-lobes glabrous or rarely sparsely villous inside, about 1 mm. long; plants glabrous or pubescent; stems much-branched:3
- 2 Calyx-lobes about 5 mm. long, 4 in number; flowers in short spikes about 1 cm. long at the end of slender branches; bracts and bracteoles few, lanceolate, 2–3 mm. long [1. leucanthum](#)
- Calyx-lobes 1.5–2 mm. long, 4 (–5) in number; flowers in axillary clusters or solitary; bracts and bracteoles several, linear-lanceolate, 1–2 mm. long [2. libericum](#)
- 3 Montane plant; stems glabrous, angular; flowers several or solitary in the axil of a scaly bract; calyx-lobes 4 (–5), glabrous outside, rarely sparsely villous inside [3. tenuissimum](#)
- Savannah plant; stems pubescent at least at the base with short scabrid hairs, subterete and grooved; flowers on short lateral branches and axillary; calyx-lobes 5, sometimes scabrid-pubescent outside, glabrous inside [4. viride](#)
1. **Thesium leucanthum** Gilg — F.T.A. 8, 1: 420. *APD acc*
- Stems about 18 in. high, erect and not spreading; flowers yellow; [in savannah](#).
- N. Nig.:** Naraguta Lely 66!
- Also in **S. Angola**.
2. **Thesium libericum** Hepper & Keay in Bull. Jard. Bot. Brux. 26: 186, fig. 58 (1956). *APD acc*
- Stems about 18 in. high, tufted from a woody rootstock; flowers whitish; [in coastal savannah](#).
- Lib.:** near Monrovia (June, Aug.) Baldwin 5850! 9183! Paynesville (Apr.) Barker 1240! Duport (Nov.) Linder 1455!
3. **Thesium tenuissimum** Hook.f. — F.T.A. 6, 1: 421. *APD acc*
- A small undershrub with numerous, slender, glabrous, angular stems, 4–10 in. high, from a woody rootstock; [in montane grassland](#).
- S. L.:** Bintumane Peak, 5,500 ft. Glanville 471! **Iv. C.:** Nimba Mts., 4,900 ft. (fl. & fr. Apr.) Schnell 973! **Br. Cam.:** Cam. Mt., 7,600–12,000 ft. (fl. & fr. Nov.–Jan., fl. Feb.) Mann 1223! 1961! Maitland 1187! 1279! Dalz. 8327! **F. Po:** Clarence Peak, 9,000–9,700 ft. (fl. & fr. Dec., Mar.) Mann 595! Guinea 2862!
4. **Thesium viride** A. W. Hill — F.T.A., 6, 1: 426. *APD acc*
- A small perennial undershrub, with greyish-green grooved branches glabrous or scabrid, up to 15 in. high, from a woody rootstock; [in savannah woodland](#).
- N. Nig.:** Sokoto (fl. & fr. June) Dalz. 549! Kaduna (fl. & fr. Mar., Dec.) Hill 52! Meikle 765! Zungeru to Funtua (fl. & fr. Feb.) Meikle 1229! Anara F.R., Zaria (fr. May) Keay FHI 22951! Ilorin to Jebba (Feb.) Meikle 1198!
- Also in **French Cameroons** and **A.-E. Sudan**.

BALANOPHORACEAE

Fleshy herbs parasitic on roots, annual or perennial, destitute of chlorophyll and stomata. Flowers unisexual, very rarely hermaphrodite, densely crowded into unisexual or androgynous inflorescences; male flowers without or with a valvate 3–8-lobed perianth. Stamens 1–2 in the achlamydeous flowers, in those with a perianth often equal in number to, and opposite the lobes; filaments free or connate; anthers 2–4-celled or with many cells, free or connate, opening by pores or slits. Ovary 1–3-celled, adnate to the perianth when present; styles 1–2, terminal or rarely the stigma sessile and discoid; ovule solitary in each cell, mostly pendulous, nude or with a single integument. Fruit small, nut-like, 1-celled, 1-seeded. Seeds with abundant endosperm and very small embryo.

THONNINGIA

Vahl — F.T.A. 6, 1: 436; Bullock in Kew Bull. 1948: 363.

- 1 A herb, parasitic on roots of trees and shrubs; rhizome subterranean, more or less horizontal, tuberous at the point of attachment, branched, pubescent; peduncles variable in length, up to 7 cm. long; peduncles and flower-heads, densely covered with closely imbricate, rigid, ovate to lanceolate, up to 3 cm. long scales; flowers numerous in each head, unisexual; flower heads up to 4 cm. diam. [sanguinea](#)

Thonningia sanguinea *Vahl* in Skrivt. Nat. Selsk. 6: 125, t. 6 (1810); F.T.A. 6, 1: 438; Bullock l.c. 366, q.v. for full references and synonymy; Staner in Fl. Congo Belge 1: 395. *APD acc*

Thonningia dubia Hemsl. (1911) — F.T.A. 6, 1: 438; F.W.T.A., ed. 1, 1: 470.

Thonningia elegans Hemsl. (1911) — F.T.A. 6, 1: 439; F.W.T.A., ed. 1, 1: 410.

Thonningia coccinea *Vahl* of Mangenot in Rev. Gén. Bot. 56: 201–244 (1947).

Peduncle and flower-heads with crimson or pink scales, turning brown; only creamy white pollen and anthers show in the open flower-heads; **common in forest, rare in savannah**; parasitic on many different hosts.

S. L.: Bagroo R. (Apr.) Mann 907! Freetown (Aug.) Kelsall! Kabala (July) Glanville 413! Jigaya (Sept.) Thomas 2769! Sasa, Tonko Limba (Sept.) Jordan 326! Makali (Feb.) Deighton 4088! **Lib.:** Ba, Mano R. (Dec.) Baldwin 10703! **Iv. C.:** Danané (June) Collette 41! Bouroukrou (Dec.) Chev. 16779. Languira, Baoulé-Nord (July) Chev. 22212. **G. C.:** Aquapim Thonning! Kumasi Cummins 192! Aburi (Mar.–May) Johnson 521! Leslie! Thorold! Kanyiri (Feb.) A. S. Thomas D. 130! Achimota (Sept.) Milne-Redhead 5129! **N. Nig.:** Mt. Purdy (Aug.) Barter! Lokoja (Aug.) Elliott 187! Katsina Ala Dalz. 759! **S. Nig.:** Lagos (Feb.) Millen 172! Olokemeji (July) Nwokolo FHI 7918! Akure F.R., (June) Latilo FHI 3533! **Br. Cam.:** Buea (Jan., Nov.) Maitland 376! Migeod 117! Cam. Mt., 5,000 ft. Kalbreyer 105!

Also in **French Cameroons, Gabon, Belgian Congo, A.-E. Sudan, Kenya, Uganda, N. Rhodesia** and **Angola**.

RHAMNACEAE

Trees or shrubs, sometimes climbing. Leaves simple, alternate or opposite; stipules mostly present. Flowers often cymose or fasciculate, small, hermaphrodite or polygamous. Calyx-lobes valvate. Petals 4 or 5, small, or absent. Stamens 4–5, opposite the petals; anthers 2-celled, opening lengthwise. Disk mostly present, perigynous. Ovary sessile, superior or subinferior, 2–4-celled; ovules solitary or rarely paired, erect from the base, anatropous. Fruit various, often drupaceous. Seeds mostly with copious endosperm and large straight embryo.

Mainly tropics and temperate regions; comparatively rare in Africa.

Recognized at once by the stamens being opposite the free often spathulate petals and presence of a disk.

- 1 Leaves alternate, or if subopposite then stipules extrapetiolar: **2**
 Leaves opposite; stipules interpetiolar; branchlets without spines or tendrils; ovary subinferior, 3-celled **6.**
[Lasiodiscus](#)
- 2 Leaves strongly 3 (–5)-nerved from the base, branchlets with stipular spines; fruits subglobose, drupaceous, 1-celled **1. Ziziphus**
 Leaves pinnately nerved; branchlets not spiny: **3**
- 3 Branchlets without tendrils; ovary superior or subsuperior; fruits without 3 lateral wings: **4**
 Branchlets with tendrils; ovary and fruit inferior, the latter with 3 lateral wings, separating when ripe into 3 cocci **6. Gouania**
- 4 Fruits drupaceous, not winged: **5**
 Fruits nut-like, 1-celled, with a long terminal wing **4. Ventilago**
- 5 Ovary 1-celled; flowers in axillary cymes, several- to many-flowered **2. Maesopsis**
 Ovary 3–4-celled; flowers solitary or few together in the leaf-axils **3. Rhamnus**

Hovenia dulcis *Thunb.*

A native of China and Japan

Colubrina ferruginosa (*Jacq.*) *Brongn.*

A native of the West Indies and tropical America.

1. ZIZIPHUS

Mill. — F.T.A. 1: 379; Suessenguth in E. & P. Pflanzenfam. 20D: 123 (1953).

- 1 Flowers solitary or 2 (–3) together; leaves suborbicular or broadly elliptic to ovate, 0.5–1.2 (–1.5) cm. long, 0.4–1 (–1.3) cm. broad, margins crenate-serrulate, densely pubescent beneath and somewhat less so above; internodes on branchlets less than 1 cm. long; fruits about 1 cm. diam [1. *lotus* subsp. *saharae*](#)
Flowers several to many, in cymes; leaves at least 1.3 cm. long and 0.9 cm. broad and usually more than 2 cm. long and 1.5 cm. broad: **2**
- 2 Leaves densely and softly tomentose all over the lower surface: **3**
Leaves pubescent beneath mainly on the nerves or nearly glabrous: **4**
- 3 Bases of leaves more or less symmetrical and equal; flowers in sessile or very shortly pedunculate, subcapitate cymes; leaves elliptic to broadly elliptic or ovate-elliptic, (1.3–) 2–7 cm. long, (0.9–) 1.1–3 cm. broad; fruits 1.5–2 cm. diam. [2. *mauritiana*](#)
Bases of leaves asymmetrical and unequal; flowers in shortly but distinctly pedunculate, branched cymes; leaves ovate to ovate-oblong or elliptic, 3.5–10 cm. long, 1.3–5.5 cm. broad; fruits about 1.8 cm. diam. [3. *abyssinica*](#)
- 4 Leaves asymmetrical and subcordate at base, ovate or broadly ovate, narrowed above to the obtuse or acute often more or less acuminate apex, 3–9 cm. long, 1.5–6 cm. broad, margins crenate-serrate; flowers in distinctly branched, pedunculate, many-flowered cymes; branches and branchlets red-brown; fruits 1.2–1.8 cm. diam. [4. *mucronata*](#)
Leaves more or less symmetrical and rounded to cuneate at base, elliptic or ovate-lanceolate; branchlets whitish: **5**
- 5 Leaves ovate-lanceolate, narrowed to the acute or obtuse apex, 2.5–8.5 cm. long, 1–3.5 cm. broad, margins slightly crenulate, strongly 3-nerved from the base, nerves often reaching to the apex, upper lateral nerves obscure; branches whitish; cymes many-flowered, subsessile or with peduncle up to 1.5 cm. long, a tree; fruits about 2 cm. diam [5. *spina-christi* var. *spina-christi*](#)
Leaves broadly elliptic or ovate-elliptic, rounded at apex, 1.4–3.4 cm. long, 1–3.4 cm. broad, margins subentire, basal nerves not reaching to the apex, with 1–2 strong upper lateral nerves on each side of midrib; branches becoming reddish-brown; cymes several-flowered, with a distinct peduncle 2–3 mm. long; a much-branched shrub; fruits 0.8–1 cm. diam. [5a. *spina-christi* var. *microphylla*](#)

1. *Ziziphus lotus* (Linn.) Desf. in Act. Acad. Sci. Paris 1788; 443, t. 21 (1788); Lam. Encycl. 3: 317 (1789). *APD acc*

Ziziphus lotus subsp. *saharae* Maire in Bull. Soc. Hist. Nat. Afr. Nord 20: 179 (1929). *APD acc*

Ziziphus saharae Batt. & Trab. (1907), provisional name only.

Ziziphus nummularia var. *saharae* (Maire) A. Chev. in Rev. Bot. Appliq. 27: 474 (1947).

Ziziphus nummularia of Aubrév. Fl. For. Soud.-Guin. 357–361, t. 74, 6.

A much-branched shrub, to 4 ft. high.

Fr. Sud.: Gao (fl. & young fr. Aug., Sept.) Bates! Hagerup 337a! Bourem Monod 483.

Also in **Rio de Oro**, **Mauritania** and **the Sahara**.

[The subsp. *lotus* occurs in N. Africa and the Mediterranean area; the subsp. *saharae* is quite distinct from *Z. nummularia* (Burm.) Wight & Arn. with which it has been confused.]

2. *Ziziphus mauritiana* Lam. Encycl. 3: 319 (1789); Chev. l.c. 476, excl. var. *abyssinica*; Aubrév. l.c. t. 74, 1–4, (as *Z. “mauritica”*), incl. vars. *APD acc*

APD: *Synonym of Ziziphus abyssinica Hochst.*

Ziziphus orthacantha DC. (1825).

Ziziphus jujuba (Linn.) Lam. (1789); F.T.A. 1: 379, partly, Chev. Bot. 136, and F.W.T.A., ed. 1, 1: 471, partly; not of Mill. (1768).

A shrub or tree to 40 ft. high, **widespread in the drier regions and often cultivated**; flowers cream; fruits reddish, edible.

Sen.: Heudelot 433! Parrot 143! Roger! **Gam.:** Dawe 78! MacCarthy Isl. (fr. Jan.) Dalz. 8041! **Fr. Sud.:** Bongouni (Apr.) Chev. 689! Bamako Hagerup 39! Timbuktu (July) Hagerup 142! Niore to Mountan Kagoro Roberty 10216! **Fr. G.:** Dombiagu Pobéguin 2111. **S. L.:** Freetown, cult. (Oct.) SLFD 26! Kambia, cult. (Dec.) Deighton 901! **Iv. C.:** Ouagadougou Serv. For. 2333. Bobo Dioulasso Serv. For. 2220. **G. C.:** Tamale Anderson 34 (partly)! Bjury (July) Chipp 497! Yegl (July)

Vigne FH 1249! **Togo:** Kratchi Anderson 34 (partly)! **Fr. Nig.:** Zinder (fl. & fr. Nov.) Hagerup 597! **N. Nig.:** Zurmi (Apr.) Keay FHI 16149! Katagum Dalz. 144! N. Bornu (Oct.–Dec.) Daggash FHI 22006! E. Vogel 23! Yola (fr. Oct.) Shaw 91!

Widespread in the drier parts of tropical Africa and in Asia.

[There are a number of forms or varieties included in this widespread, often cultivated, species. Chev. 23923 from Djougou, Dah., Hagerup 610 from Zinder, Fr. Nig., and Elliott from the Komadugu Yobe, N.Nig., appear to be hybrids between *Z. mauritiana* and *Z. spina-christi*.]

3. *Ziziphus abyssinica* *Hochst. ex A. Rich.* Fl. Abyss. 1: 136 (1847); Aubrév. l.c. *APD acc*

Ziziphus mauritiana var. *abyssinica* (*Hochst. ex A. Rich.*) *Fiori* (1912) — Chev. in Rev. Bot. Appliq. 27: 477.

Ziziphus atacorensis *A. Chev.* l.c. 479 (1947), incl. var. *oblongifolia*.

Ziziphus jujuba of various authors, including F.T.A. 1: 379, partly and F.W.T.A., ed. 1, 1: 471, partly; not of Mill. (1768).

A shrub, sometimes scandent, to 12 ft. high, with purple-brown bark; branchlets and underside of leaves with fawn indumentum; flower yellow-green; fruits deep purple-brown.

Sen.: Niokolo-Koba Berhaut 1454. **Fr.G.:** Kouroussa Pobéguin 426! **Iv. C.:** Léo Serv. For. 2485! **G. C.:** Pan to Bujan Kitson 913! Tumu (fr. Apr.) Vigne FH 3778! **Dah.:** Atacora Mts. (June) Chev. 24090. **Fr. Nig.:** Konkobiri to Diapaga, Gourma (July) Chev. 24367 (partly)! **N. Nig.:** Sohoto Ryan 8! Nupe Barter 1330! Zaria (fl. Mar.–Aug., fr. June–Aug.) Keay FHI 25893! Hubbard T. 71! Yola (fl. July, fr. July, Oct.) Dalz. 88! Shaw 101! **S. Nig.:** Lagos, cult. (Aug.) Dalz. 1373!

Widespread in the drier parts of tropical Africa.

4. *Ziziphus mucronata* *Willd.* Enum. Pl. Berol. 251 (1809); F.T.A. 1: 380; Chev. Bot. 136; Aubrév. Fl. For. Soud.-Guin. 359–361, t. 74, 5. *APD acc*

An erect or scandent shrub (or, in other parts of Africa, a tree), with dark reddish-brown branchlets; flowers greenish-yellow.

Sen.: Perrottet 144! Roger! Rufisque (Sept.) Monod! Richard Tol (Oct.) Martine 13! **Fr. Sud.:** Bakel Vuillet 274. Koulikoro Vuillet 151. S. of Ségou (fr. May) Irvine 3204! Arbala Dubois 76. **Fr. G.:** Youkounkoun Pobéguin 2146. **Iv. C.:** Ouagadougou Aubrév. 2425. Boromo Aubrév. 2748. **G. C.:** Passankwia to Bugiyenga, White Volta R. Kitson 752! **Fr. Nig.:** Konkobiri to Diapaga, Gourma (July) Chev. 24367 (partly)! **N. Nig.:** Jebba (Dec.) Barter 1173! Hagerup 688! Zungeru (Sept.) Dalz. 75! Zaria (Aug.) Keay FHI 28028! Geidam (Dec.) Elliott 132! **S. Nig.:** R. Tessi, Old Oyo (Feb.) Keay FHI 16286! Olokemeji (fl. & young fr. Nov.) A. F. Ross 31! **Br. Cam.:** Gulumba, Dikwa Div. (Dec.) McClintock 48!

Widespread in the drier parts of tropical Africa and in S. Africa.

5. *Ziziphus spina-christi* (*Linn.*) *Desf.* var. *spina-christi* — Fl. Atlantica 1: 201 (June 1798); Willd. Sp. Pl. 1: 1105 (1798); F.T.A. 1: 380; Chev. in Rev. Bot. Appliq. 27: 475; Aubrév. l.c. t. 74, 7. *APD acc*
APD acc

Rhamnus spina-christi *Linn.* (1753).

A tree, to 30 ft. high, with pale grey-bark; **planted in towns and villages**; flowers greenish-yellow; fruits reddish when ripe.

Sen.: Niokolo-Koba Berhaut 125! **Fr. Sud.:** Koulikoro, R. Niger Vuillet 14. **Fr. Nig.:** Zinder (Oct.) Hagerup 564! **N. Nig.:** Rabba Barter 3428! Nupe Barter 736! 1707! Katsina (fl. & fr. Mar.) Meikle 1351! Gujba (Dec.) Foster 82! Dunjere, Komadugu Yobe (fl. & fr. Dec.) Elliott 138! Kukawa (fl. & fr. Jan.) E. Vogel 31!

Widespread in the drier parts of tropical Africa and **Egypt** to tropical Asia.

[The description of this cultivated variety in the key above is based only on specimens collected in W. Africa. The differences between the cultivated and wild forms are less clear in other areas.]

5a. *Ziziphus spina-christi* var. *microphylla* *Hochst. ex A. Rich.* Fl. Abyss. 1: 137 (1847). *APD acc*

Ziziphus amphibia *A. Chev.* in Rev. Bot. Appliq. 27: 480 (1947); Aubrév. l.c. 359–361.

Ziziphus spina-christi of F.W.T.A., ed. 1, 1: 470, partly (Barter 738).

A much-branched shrub **forming impenetrable thickets in river-beds**; flowers pale yellow; fruits red when ripe; an indigenous plant.

Sen.: Walo Berhaut 1396. **Fr. Sud.:** R. Bani, San (June) Chev. 1084! Sansanding Chev. 28. Tandifarma, Niafunké Chev. 42926. Bamako Vuillet. **Fr. G.:** Rio Grande, Kadé Pobéguin 1990. **G. C.:** Mpeasun Anderson 31! **N. Nig.:** Nupe Barter 738!

Also in [N.E. Africa](#) and the [Middle East](#).

2. MAESOPSIS

Engl. Pflanzenw. Ost-Afr. C: 255 (1895); Suessenguth in E. & P. Pflanzenfam. 20D: 149 (1953).

- 1 Leaves alternate or subopposite, broadly oblong-lanceolate, rounded at base, gradually acuminate, 8–15 cm. long, 3–5 cm. broad, entire or remotely toothed, slightly puberulous on the nerves beneath, with about 8–10 pairs of lateral nerves and numerous fine parallel tertiary nerves; petiole 0.5–1 cm. long; stipules subulate, 7 mm. long; cymes axillary, rusty-pubescent, about ¼ as long as the leaves; sepals puberulous; fruit oblong, acute, turgid, 3 cm. long, glabrous [eminii](#)

Maesopsis eminii *Engl.* l.c. (1895); Aubrév. Fl. For. C. Iv. 2: 207, t. 208, 1–5; Eggeling Indig. Trees Uganda, ed. 2: 323, fig. 68, photo 52; Suessenguth l.c. fig. 40. *APD acc*

Karlea berchemioides *Pierre* (1897).

Maesopsis berchemioides (*Pierre*) *A. Chev.* (1917).

A fast-growing deciduous tree, up to 90 ft. high, or rarely more; flowers small, greenish; fruits purplish-black when ripe; [in forest regrowth](#); rare in our area, except in S.E. Nigeria and the Cameroons.

Lib.: Dukwia R. (fr. May) Cooper 429! **Iv. C.:** Abidjan Aubrév. 1489. Yapou Aubrév. 606. Agboville Aubrév. 2355. **G. C.:** Mampong Scarp (fl. & fr. May) Vigne FH 1724! 2749! **Togo:** Togo Plateau F.R. (fr. Dec.). St. C. Thompson FH 3707! Misahöhe Mildbr. **S. Nig.:** Sapoba (Feb.) Kennedy 2142! Udi Plateau Carter! Kataban, Ikom Div. (fr. May) Latilo FHI 31000! **Br. Cam.:** Johann-Albrechtshöhe Staudt 533! **F. Po:** Bokoko Mildbr. 6876.

Also in [French Cameroons](#), [Gabon](#), [Belgian Congo](#), [Angola](#), [A.-E. Sudan](#), [Uganda](#) and [Tanganyika](#).

3. RHAMNUS

Linn. — F.T.A. 1: 381; Suessenguth in E. & P. Pflanzenfam. 20D: 59 (1953).

- 1 Shrub or small tree; branchlets pubescent at first, then glabrescent; leaves ovate to elliptic or elliptic-lanceolate, cuneate to rounded at base, acute or acutely acuminate, 2–10 cm. long, 1–4 cm. broad, margins serrulate, with 5–7 main lateral nerves on each side of the midrib; glabrous, or sparsely pubescent beneath; petioles 0.5–1.2 cm. long; flowers solitary or a few together in leaf-axils, on slender pedicels about 1 cm. long; calyx 2.5–3 mm. long, lobes triangular; petals spatulate, about 1 mm. long; disk and ovary glabrous; fruits containing 3–4 single-seeded pyreneae, globose, about 5 mm. diam., on pedicels about 2 cm. long [prinoides](#)

Rhamnus prinoides *L'Hérit.* Sert. Angl. 6, t. 9 (1788); F.T.A. 1: 382; Engl. Pflanzenw. Afr. 3, 2: 311; Staner in Bull. Jard. Bot. Brux. 15: 403, fig. 48. *APD acc*

Celtis rhamnifolia *C. Preal* (1845).

To 25 ft. high; [in montane woodland and margins of montane forest](#); flowers greenish-yellow; fruits red.

Br. Cam.: Bamenda Prov.: slopes of Mba Kokeka Mt., 6,700 ft. (fl. & fr. Jan.) Keay FHI 28391! Lakom, 6,000 ft. (fl. & fr. Apr.) Maitland 1666! Bansa Ledermann.

Also in [French Cameroons](#), and widespread on the mountains of Africa from Abyssinia to the Cape and [Angola](#).

4. VENTILAGO

Gaertn. — F.T.A. 1: 378; Suessenguth in E. & P. Pflanzenfam. 20D: 151 (1953).

- 1 Branchlets, inflorescences, outside of flowers, petioles and nerves on underside of leaves sparingly pubescent and then glabrescent; upper surface of leaves glabrous and shining from the start; leaves oblong-elliptic to oblong-lanceolate, rounded or subcordate at base, obtusely and broadly acuminate, 2.5–12.5 cm. long, 1–5 cm. broad, margins serrulate, with 5–7 main lateral nerves on each side of midrib; flowers in axillary fascicles,

sometimes on leafless branchlets; fruits broadly ovoid, produced above into an elongate-oblong-lanceolate, glabrous wing up to 5 cm. long and 1 cm. broad, girt at base by the rim-like calyx [1. africana](#)

Branchlets, inflorescences, outside of flowers, petioles and undersurfaces of leaves densely brownish-pubescent, becoming less so with age; upper surface of leaves pubescent at first; leaves ovate to oblong-lanceolate, rounded and sometimes unequal at base, acute or subacute and mucronate at apex, 2.5–8 cm. long, 1.3–4 cm. broad, margins crenulate; fruit-wings up to 6 cm. long and 1.1 cm. broad, densely golden-puberulous; otherwise similar to above [2. diffusa](#)

1. **Ventilago africana** *Exell* in J. Bot. 65, Suppl. Polypet. 80 (1927); Staner in Bull. Jard. Bot. Brax. 15: 396, fig. 45. *APD acc*

Ventilago leiocarpa of F.T.A. 1: 378, partly (Barter spec.); of Chev. Bot. 136; not of Benth.

Ventilago madraspatana of Engl. Pflanzenw. Afr. 3, 2: 310, partly, not of Gaertn.

A large, evergreen, softly woody liane; flowers greenish; **in forest, especially marshy areas.**

Port. G.: Fonte, Bubaque (May) Esp. Santo 2019! **Fr. G.:** Kouria (Oct.) Chev. 14898! **S. L.:** Mamaha (Nov.) Thomas 4586! Senge, between Gbangbama to Gbangbatok (Nov.) Deighton 2370! **iv. C.:** Bouroukrou (fr. Jan.) Chev. 16532! R. Mé, Attie (Feb.) Chev. 17386. **G. C.:** Huniso (fr. Jan.) Irvine 1067! **S. Nig.:** Epe Barter 3287! Sunmoge, Ijebu Ode Prov. (fr. Jan.) Onochie FHI 20659! Iso Bendiga to Bendiga Afl, Ikom (fr. May) Latilo FHI 31817!

Also in **French Cameroons, Uganda, Belgian Congo** and **Angola**.

2. **Ventilago diffusa** (*G. Don*) *Exell* Cat. S. Tomé 139 (1944). *APD acc*

Celastrus diffusus *G. Don* (1832).

Ventilago leiocarpa of F.T.A. 1: 378, partly.

Br. Cam.: Victoria (Dec.) Winkler 606!

Also in **Uganda** and on **S. Tomé**.

5. GOUANIA

Jacq. — F.T.A. 1: 383; Suessenguth in E. & P. Pflanzenfam. 20D: 166 (1953).

- 1 Leaves glabrous beneath except on the main nerves; main lateral nerves 3–4 on each side of midrib, venation not prominent; petals much longer than the sepals; disk not lobed; leaves ovate, rounded or subcordate at base, broadly acuminate, 3.5–9.5 cm. long, 2–6 cm. broad, obtusely crenulate; petioles 0.5–3 cm. long; racemes terminal or axillary, slender, sometimes bearing tendrils; flowers small, in separate clusters on the racemes; fruits inferior, 3-winged, broadly orbicular, cordate at each end, nearly 1 cm. diam., glabrous, wings very loosely reticulate [1. longipetala](#)

Leaves tomentellous beneath; main lateral nerves 5–7 on each side of midrib, venation prominent and closely reticulate beneath; petals of the same length as the sepals; disk lobed; otherwise similar to the above [2. longispicata](#)

1. **Gouania longipetala** *Hemsl.* in F.T.A. 1: 383 (1868), partly (excl. Kirk spec.); M. L. Green in Kew Bull. 1916: 198; Chev. Bot. 138; Staner in Bull. Jard. Bot. Brux. 15: 419, figs. 58, 59. *APD acc*

Gouania klainei *Pierre*, name only.

Cissus uvifera of Chev. Bot. 147, not of Afzel.

A scandent shrub or liane; flowers white, fragrant; **in forest regrowth and on forest margins.**

Fr. G.: R. Konkouré, Kouria (Oct.) Caille in Hb. Chev. 14969! Macenta (Oct.) Baldwin 9768! Nzérékoré (Oct.) Baldwin 9687! **S. L.:** Kukuna, Scarcies (fr. Jan.) Sc. Elliot 4741! Kambui Lane-Poole 454! Njala (fr. Nov.) Deighton 2563! Jigaya (Sept.) Thomas 2801! **Lib.:** Kakatown Whyte! Ganta (Nov.) Harley! Gbanga (Sept.) Linder 807! Vonjama (Oct.) Baldwin 9857! 9900! **iv. C.:** Anoumaba (fr. Nov.) Chev. 22402! Guidéko Chev. 16431! Abradine Chev. 17568! Kassigné (fr. Jan.) Chev. 17170! **G. C.:** Anyinam (fl. & fr. Dec.) Dalz. 113! Obuasi (Nov.) Chipp 582! Larte Hills (Nov.) Johnson 812! Assuantsi road (fr. Jan.) Fishlock 12! **S. Nig.:** Akure F.R. (Oct.) Ejiofor FHI 24607! Nikrowa, Benin (fl. & fr. Dec.) Brennan 8391! Ubuluku (fr. Dec.) Thomas 2095! Oban Talbot 1361! **Br. Cam.:** Victoria (fr. Feb., Nov.) Maitland 114! 379! **F. Po:** (Dec.) Mann 17!

Also in **French Cameroons, Spanish Guinea, Gabon, Belgian Congo** and **Angola**.

2. **Gouania longispicata** *Engl.* Pflanzenw. Ost-Afr. C: 256 (1895); M. L. Green l.c.; Staner l.c. 421, fig.

60. *APD acc*

A scandent shrub or liane; leaves greyish beneath; flowers greenish-yellow; **in montane forest.**

S. Nig.: west side of Mt. Koloishe, 4,300 ft., Obudu Div. (Dec.) Keay & Savory FHI 25055!

Also in **Belgian Congo, A.-E. Sudan, Uganda, Kenya, Tanganyika, Rhodesia, Nyasaland** and **Mozambique.**

6. LASIODISCUS

Hook. f. — F.T.A. 1: 385; Suessenguth in E. & P. Pflanzenfam. 20D: 109 (1953).

- 1 Flowers in pedunculate cymes:2
 Flowers in axillary fascicles; branchlets and petioles pubescent; leaves opposite, elliptic-obovate, more or less narrowed at base, long-acuminate, 15–20 cm. long, 5–7 cm. broad, glabrous or slightly pubescent on the nerves beneath; lateral nerves about 7–9 pairs, with subparallel tertiary nerves; pedicels 3–4 mm. long, softly tomentose; sepals 2–5 mm. long, tomentose [3. fasciculiflorus](#)
- 2 Branchlets and petioles pilose-hispid; leaves opposite, elliptic, unequal-sided and cordate at base, broadly acuminate, 7–12 cm. long, 4–6 cm. broad, thinly pilose on the nerves beneath or nearly glabrous; lateral nerves 6–8 pairs, very prominent beneath, with slender subparallel tertiary nerves; petiole about 5 mm. long; cymes few-flowered, up to 8 cm. long; flowers subumbellate; pedicels about 7 mm. long, softly tomentellous; young fruits truncate, broadly campanulate, tomentellous [1. mildbraedii](#)
 Branchlets and petioles more or less villous; leaves more or less as above but not cordate, up to 20 cm. long and 10 cm. broad, shortly pubescent beneath; lateral nerves about 9 pairs; cymes lax, dichotomously branched; pedicels about 4 mm. long, tomentose; fruits depressed-globose, slightly trilobed, about 1.4 cm. diam., finely tomentellous [2. mannii](#)

1. **Lasiodiscus mildbraedii Engl.** Bot. Jahrb. 40: 552 (1908); Staner in Bull. Jard. Bot. Brox. 15: 412, fig. 54. *APD acc*

APD: *Synonym of Lasiodiscus chevalieri Hutch.*

APD: *Synonym of Lasiodiscus lebrunii Figueiredo, Estrella*

APD: *Synonym of Lasiodiscus pervillei Baill. subsp. pervillei*

APD: *Synonym of Lasiodiscus mannii Hook. f.*

Lasiodiscus chevalieri Hutch. (1912) — F.W.T.A., ed. 1, 1: 472; Aubrév. Fl. For. C. Iv. 2: 208.

A small tree, up to about 30 ft. high, with spreading crown; flowers small, white in golden-brown hairy cymose panicles; **locally abundant in the drier parts of the forest regions.**

Iv. C.: Anno, between Tchumkrou and Akakoumökrou (fl. & fr. Dec.) Chev. 22526! Soubéré (fr. June) Chev. 19120. Morénou (Dec.) Chev. 22525. Groumania Aubrév. 785! **G. C.:** Tanoso (Mar.) Thompson 51! Anobeko, W. Ashanti (fl. & young fr. Mar.) Chipp 126! Drabonso, Ashanti (Feb.) Cansdale FH 4143! Ejan, N. Agogo (Jan.) Vigne FH 1793! **S. Nig.:** Iguobazowa F.R., Benin Onochie FHI 19744!

Also in **French Cameroons, Belgian Congo, A.-E. Sudan, Uganda, Tanganyika** and **S. Tomé.**

2. **Lasiodiscus mannii Hook. f.** — F.T.A. 1: 385; Aubrév. l.c. 210, t. 207, 7–8; Staner l.c. 413, fig. 55; Exell in Cat. S. Tomé 140. *APD acc*

APD: *Synonym of Lasiodiscus palustris Figueiredo, Estrella*

APD: *Synonym of Lasiodiscus marmoratus C.H. Wright*

APD: *Synonym of Lasiodiscus chevalieri Hutch.*

A tree up to 30 ft. high with several trunks, forming a wide crown, or a shrub; flowers white; **in moist places in rain forest.**

S. L.: Kambui F.R. (Oct.) Edwardson 152! **iv. C.:** Man to Danané (Mar.) Aubrév. 1094! **S. Nig.:** Eket Talbot 3238! **Br. Cam.:** Bopo (Mar.) Onochie in Eb. Brenan. 9439!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Principe**.

[The specimen Preuss 695a, with the suggested locality “? Victoria,” cited in the first edition, proves to be Zenker 695a from Yaunde in the French Cameroons and is the type of *L. zenkeri* Suessenguth; see Milne-Redhead in Kew Bull. 1950: 366.]

3. *Lasiodiscus fasciculiflorus* Engl. l.c. 550 (1908); Aubrév. l.c. 210, t. 208, 6–10; Staner l.c. 411, fig. 53. *APD acc*

A shrub or small tree up to 15 ft., or rarely to 40 ft., high; flowers white; ripe fruits brown; **in forest, especially In moist places.**

S. L.: Njala (fl. & fr. Jan., fl. Sept.) Deighton 4696! 5593! Taïama (fl. & fr. Nov.) Deighton 2558! R. Seli (Aug., Oct.) Deighton 1399! Thomas 3106! Yonibana (Oct.) Thomas 4228! 4309! **Lib.:** Gbanga (Sept.) Linder 769! Ganta (fl. Sept., fr. Feb.) Baldwin 11018! 12510! Genna Tanyehun, Brand Cape Mount (fr. Dec.) Baldwin 10745! **iv. C.:** Agbo bridge (Jan.) Chev. 16757! Bouroukrou (Dec.–Jan.) Chev. 16772. Guidéko to R. Zozro (June) Chev. 19020. Mt. Momy Chev. 21369. **G. C.:** Amentia (Sept.) Vigne FH 1374! **S. Nig.:** Ondo (Dec.) A. F. A. Lamb 74! Oluwa F.R.. Kennedy 2495! Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8487! 8503! Oban Talbot **Br. Cam.:** N. Korup F.R., Kumba Div. (June) Olorunfemi FHI 30651!

Also in **French Cameroons** and **Belgian Congo**.

AMPELIDACEAE

Climbing shrubs or small trees or herbs from a perennial rootstock, with nodose or jointed stems, often with watery juice. Leaves alternate or the lower sometimes opposite, simple or digitately or bipinnately compound, often pellucid-punctate; stipules usually present. Flowers hermaphrodite or unisexual, actinomorphic, small, in leaf-opposed spikes, racemes, cymes or panicles; peduncles often cirrhose. Calyx small, entire or toothed. Petals 4–5, free or united, valvate. Stamens 4–5, opposite the petals. Disk present within the stamens. Ovary 2–6-celled, cells 1–2-ovuled; style short. Fruit baccate. Seeds with copious sometimes ruminant endosperm and small embryo.

General in the tropics and warm temperate regions.

Distinguished by the usually climbing habit with tendrils, the small flowers, valvate petals with the stamens opposite to them.

- 1** Leaves simple, or 3-foliolate or digitately compound, sometimes pedate; stamens free from each other; ovary 2-celled, cells 2-ovuled; tendrils mostly present:.....**2**
 Leaves bipinnate; stamens united into a tube adnate to the base of the petals; ovary 3–6-celled, cells 1-ovuled; tendrils absent**4. *Leea***
- 2** Tendrils leaf-opposed, never borne on the inflorescence, or absent; flowers bisexual:**3**
 Tendrils borne on the inflorescence; flowers polygamo-monoecious**3. *Ampelocissus***
- 3** Petals 4; disk with margin 4-lobed, adnate to base of ovary only; style long and slender; leaves various **1. *Cissus***
 Petals 5–7; disk entire, with the ovary immersed in it; style short and stout; leaves trifoliolate**2. *Rhoicissus***

***Vitis vinifera* Linn.**

The Grape Vine is sometimes cultivated in our area.

1. CISSUS

Linn. Sp. Pl. 1: 117 (1753); Suessenguth in E. & P. Pflanzenfam. 20D: 237 (1953).

- 1** Leaves simple, sometimes lobed, but not digitately compound; ultimate branching of inflorescence subumbellate; unexpanded corolla mostly conical or subglobose, rarely cylindrical (No. 4), not constricted in the middle; mostly climbing or creeping plants, with tendrils (but see Nos. 3, 8, 9 & 22):.....**2**
 Leaves digitately compound:.....**23**
- 2** Leaves when mature digitately lobed nearly to the base, lobes often again deeply lobulate, margins dentate,

- young leaves entire or only partially lobed; leaves up to 11 cm. long, pubescent beneath; unexpanded corolla ovoid to subglobose, about 1 mm. long; fruits 4–5 mm. diam [1. *palmatifida*](#)
- Leaves not lobed or sometimes slightly so: **3**
- 3** Stems very succulent, sharply quadrangular, with sides 6–15 mm. wide, constricted at the nodes, green, usually with only a few leaves near the tips; leaves ovate-triangular, widely truncate or subcordate at base, obtuse or subacute at apex, margins rather coarsely toothed, rarely 3-lobed, up to 11 cm. long and broad; petioles up to 3.5 cm. long; flowers rather few, in short cymes; plant glabrous [2. *quadrangularis*](#)
- Stems not or only slightly succulent, if quadrangular then sides less than 6 mm. wide; leaves pubescent or glabrous: **4**
- 4** Leaves as long as broad or only slightly longer than broad, more or less cordate or very broadly rounded at base: **5**
- Leaves always longer than broad, not, or not much, cordate at base: **19**
- 5** Undersurface of leaves with a very short but dense tomentellous indumentum covering the lamina between the veins, longer hairs present or absent on the nerves and veins: **6**
- Undersurface of leaves glabrous, or pubescent or pilose mainly on the nerves and veins, but without a close tomentellous covering on the lamina between the veins: **9**
- 6** Plant erect, with stout woody stems up to 1 m. high; tendrils absent or only vestigial; leaves ovate to orbicular or polygonal-orbicular, rounded or sometimes cordate at base, rounded or obtuse at apex, up to 7.5–15 cm. long and broad, margin with setaceous teeth; petioles 1–2 cm. long; inflorescences rather densely many-flowered [3. *doeringii*](#)
- Plant climbing or trailing; tendrils well developed: **7**
- 7** Unexpanded corolla cylindrical, 2–3 mm. long, about 1 mm. diam.; flowers in ample panicles at the ends of the branches; leaves broadly ovate, cordate at base, long-acuminate, 5–10 cm. long and broad; petioles 2.5–5 cm. long [4. *amoena*](#)
- Unexpanded corolla ovoid: **8**
- 8** Outside of corolla densely pubescent; stems glabrous, with a glaucous, waxy bloom; with black medifixed structures scattered over undersurface of leaves; leaves variable in shape, often broadly ovate-orbicular, cordate at base, rounded or subacute at apex, 7–12 cm. long and broad, margins sometimes lobulate, with the nerves and veins extended into setaceous teeth; petioles 1–4 cm. long; fruits obovoid-ellipsoid, about 7 mm. long .. [5. *caesia*](#)
- Outside of corolla minutely puberulous; stems sparingly pubescent, without a glaucous bloom; undersurface of leaves without black medifixed structures; leaves broadly ovate, widely cordate at base, acutely acuminate, 5–15 cm. long, 4–14 cm. broad, margins dentate; petioles 3–8 cm. long; fruits fusiform-ellipsoid, 9–10 mm. long and 4 mm. broad [6. *oreophila*](#)
- 9** Leaves on both surfaces, petioles, stems, inflorescences and outside of flowers densely woolly-pilose, the hairs drying reddish-brown; leaves suborbicular or ovate, sometimes lobulate, broadly truncate or widely cordate at base, 5–10 cm. long and broad, margins jagged-toothed; petioles 1–5.5 cm. long; fruits glabrous [7. *rubiginosa*](#)
- Leaves not woolly-pilose beneath: **10**
- 10** Plants erect; tendrils absent or only vestigial: **11**
- Plants climbing or trailing; tendrils well developed: **12**
- 11** Leaves sparingly pubescent beneath, not reticulate, ovate, cordate at base, acuminate, 5–7 cm. long, 3.5–6 cm. broad, margins dentate; petioles 2–4 cm. long; cymes few-flowered, corolla about 2 mm. long, glabrous outside; stems glabrous [8. *touraensis*](#)
- Leaves densely pubescent on the nerves and veins beneath, conspicuously reticulate, broadly ovate to suborbicular, often repand-lobulate, deeply cordate at base, rounded at apex, 7–18 cm. long and broad, margins with setaceous teeth; petioles 3–7 cm. long; flowers rather numerous in wide panicles, corolla about 1.5 mm. long, pubescent outside; stems densely pubescent [9. *corylifolia*](#)
- 12** Outside of corolla densely pubescent; leaves rather densely but shortly pubescent beneath on nerves and veins and also on the lamina, apex acuminate, margins with setaceous teeth: **13**
- Outside of corolla glabrous or very finely puberulous; leaves glabrous, puberulous or pubescent beneath: **14**
- 13** Leaves with numerous black medifixed structures beneath; corolla about 2 mm. long; stems nearly glabrous; leaves ovate-orbicular, often with short, pointed lobes, deeply cordate at base, 10–18 cm. long, 10–14 cm. broad [10. *kouandeensis*](#)
- Leaves without black medifixed structures beneath; corolla about 1 mm. long; stems densely pubescent at first, then more or less glabrescent; leaves broadly ovate or oblong-ovate, sometimes with short, pointed lobes, widely cordate at base, 6–12 cm. long and broad [11. *sp. A*](#)
- 14** Corolla 1–1.5 mm. long, glabrous or minutely puberulous outside; fruits up to 8 mm. long: **15**
- Corolla 2–3 mm. long, glabrous outside; leaves and stems at first pubescent beneath, then more or less glabrescent; fruits 9–22 mm. long: **17**

- 15 Branchlets and petioles glabrous or nearly so; leaves beneath papillose on the lamina and finely puberulous on the midrib and nerves, otherwise glabrous; leaves drying a dull reddish-brown, broadly ovate, widely cordate at base, acutely acuminate, 6–12 cm. long, 4–11 cm. broad, margins irregularly and usually rather coarsely dentate; petioles 2–8.5 cm. long; fruits obovoid, about 5 mm. long [12. *glaucophylla*](#)
- Branchlets and petioles rather densely spreading pubescent; leaves curly pubescent on nerves and veins beneath: **16**
- 16 Leaves rounded at apex, variable in shape but usually more or less suborbicular; stems trailing; tendrils absent or short and unbranched and not coiled; flowers congested in the inflorescences; fruits about 8 mm. long; leaves 5–13.5 cm. long and broad, sometimes 3–5-lobulate, margins with setaceous teeth; petioles 0.5–4 (–7) cm. long [13. *rufescens*](#)
- Leaves acuminate, often acutely caudate-acuminate, usually broadly ovate, widely cordate at base; stems climbing; tendrils well developed, bifurcate and coiled; flowers in rather lax panicles; fruits about 4 mm. long; leaves 6–12 cm. long, 5–11 cm. broad, margins with setaceous teeth; petioles 3–9 cm. long [14. *polyantha*](#)
- 17 Stems terete; leaves ovate-suborbicular, widely cordate at base, acuminate, 10–28 cm. long and broad, margins subentire or denticulate; petioles 3–13 cm. long; fruits ellipsoid, 1.7–2.2 cm. long [15. *populnea*](#)
- Stems 4-gonous; leaf-margins distinctly toothed: **18**
- 18 Older stems with 4 or more corky wings; upper surface of leaves appressed-pubescent when young, venation rather obscure beneath; pedicels about 1 cm. long; fruits subglobose, about 1.2 cm. diam.; leaves ovate-polygonal, cordate at base, acuminate or more or less pointed at apex, 7–15 cm. long, 5.5–13 cm. broad; petioles up to 18 cm. long [16. *petiolata*](#)
- Older stems without corky wings; upper surface of leaves glabrous even when young, venation distinct and parallel beneath; pedicels 6–8 mm. long; fruits ellipsoid, about 9 mm. long and 7 mm. broad; leaves broadly ovate or suborbicular-ovate or polygonal-ovate, cordate at base, shortly acuminate, 5–12 cm. long, 5–9 cm. broad; petioles up to 6 cm. long [17. *arguta*](#)
- 19 Stems climbing or trailing; tendrils well developed: **20**
- Stems erect, or suberect, eventually becoming woody, up to 1 m. high, terete, red-tomentose when young; tendrils absent; flowers in lax cymes, appearing before the leaves; fruits ellipsoid, apex acute, about 1.2 cm. long; leaves ovate or oblong-lanceolate, rounded at base, acute at apex, 4–11 cm. long, 2.5–4.5 cm. broad, glabrous or nearly so beneath, margins subentire; petioles 0.2–1 cm. long [22. *cornifolia*](#)
- 20 Cymes with peduncles 1 cm. or more long; leaves and stems glabrous or very nearly so, petioles more than 1 cm. long: **21**
- Cymes with the common peduncle less than 5 mm. long, the flowers appearing to be subfasciculate in the leaf-axils; stems and midrib and nerves on underside of leaves quite densely pubescent to nearly glabrous; unexpanded corolla about 1 mm. long; fruits pyriform, about 6 mm. long; leaves oblong or oblong-lanceolate, rounded at base, acutely acuminate, 5.5–11 cm. long, 2–4.5 cm. broad, margins remotely denticulate; petioles 0.3–1 cm. long [21. *diffusiflora*](#)
- 21 Unexpanded corolla 2.5–3.5 mm. long, conical, acute at apex: **22**
- Unexpanded corolla 1–1.5 mm. long, ellipsoid-subglobose, rounded at apex; leaves oblong, oblong-ovate or obovate-oblong, cordate, truncate-cordate or obtuse at base, acuminate, 6–9 (–16) cm. long, 2.5–5.5 (–8.5) cm. broad, margins denticulate or dentate; petioles up to 5.5 cm. long; fruits pyriform, about 9 mm. long and 7 mm. broad [20. *barbeviana*](#)
- 22 Pedicels puberulous; unexpanded corolla 3–3.5 mm. long; leaves oblong-lanceolate or oblong-ovate, obtuse to truncate at base, rarely slightly cordate, acuminate, 8–14 cm. long, 3–9 cm. broad, margins markedly denticulate; petioles 2–6 cm. long; fruits ellipsoid, 1.1–1.8 cm. long, 0.8–1 cm. broad [18. *producta*](#)
- Pedicels glabrous; unexpanded corolla about 2.5 mm. long; leaves usually rather narrowly oblong-ovate, truncate to cordate at base, long-acuminate, 8–15 cm. long, 3–8 cm. broad, margins undulate-dentate; petioles 1–3.5 cm. long [19. *barteri*](#)
- 23 Stems creeping or climbing; with tendrils: **24**
- Stems erect, without tendrils, produced annually from a robust perennial underground stock: **40**
- 24 Leaflets pedate (i.e. lateral ones on a common stalk forked above the middle), 5 (–7): **25**
- Leaflets not pedate, 3–7: **27**
- 25 Unexpanded corolla cylindrical, much longer than broad, constricted in the middle; stipules ovate-lanceolate, persistent; terminal leaflet more or less ovate-elliptic, up to 7.5 cm. long and 4.5 cm. broad, margins serrate, petiolule long, lateral leaflets similar but smaller; plant puberulous or nearly glabrous [23. *adenocaulis*](#)
- Unexpanded corolla short and subglobose; stipules small and deciduous: **26**
- 26 Fruits 3–4 mm. diam.; pedicels of terminal flowers usually 5–6 mm. long; inflorescences usually 15–40 cm. long; leaflets usually slightly toothed or sub-entire, mostly cuneate at base; petioles and petiolules rather long; leaflets glabrous or slightly puberulous beneath [24. *debilis*](#)
- Fruits 5–8 mm. diam.; pedicels of terminal flowers usually 2–3 mm. long; inflorescences usually 5–15 cm. long; leaflets rather coarsely serrate, mostly rounded or cordate at base; petioles and petiolules rather short; leaflets

- puberulous or densely shortly pubescent on nerves beneath [25. *gracilis*](#)
- 27** Unexpanded corolla subglobose or ovoid, not constricted: **28**
- Unexpanded corolla subcylindrical, constricted in the middle; ultimate branching of inflorescence cymose: ... **29**
- 28** Ultimate branching of inflorescence cymose; unexpanded corolla subglobose; leaflets 3, oblong-elliptic, rounded at base, sharply apiculate at apex, 4–7 cm. long, 2–3 cm. broad, margins repand-denticulate with rather sharp teeth, main lateral nerves 6–9, close; petiolules well developed; stems, leaves and inflorescences crisped-puberulous; fruits subglobose, 0.7–1 cm. diam., 3–4-seeded [26. *ibuensis*](#)
- Ultimate branching of inflorescence subumbellate; unexpanded corolla oblong-ovoid; leaflets normally 5, oblong-obovate, cuneate into a fairly long petiolule at base, rounded or shortly acuminate at apex, 6–14 cm. long, 2–5 cm. broad, margins subrepand-serrate, main lateral nerves 3–5, rather distant; stems and leaves glabrous; fruits ellipsoid, up to 2.5 cm. long, 1-seeded by abortion [27. *aralioides*](#)
- 29** Petiolules 3–5 cm. long; stems half-woody; leaflets (1–) 3–5, broadly elliptic-obovate to ovate-suborbicular, rounded or subcordate at base, abruptly acuminate, 12–15 cm. long, 8–9 cm. broad, pubescent on the nerves beneath, margins undulate-crenate; petioles 12–18 cm. long; inflorescences long-pedunculate, lax, ultimate branches and flower-buds rusty-puberulous; unexpanded corolla, 2–2.5 mm. long, with sessile glands at apex [28. *ornata*](#)
- Petiolules up to 1 cm. long; stems herbaceous; leaflets not as above: **30**
- 30** The leaflets with long hairs beneath: **31**
- The leaflets with short hairs beneath: **32**
- 31** Leaflets 3, very thinly membranous, with long, jointed, mostly non-glandular hairs; stems and petioles with long, jointed sometimes gland-tipped hairs; central leaflet elliptic, cuneate or obtuse at base, shortly acuminate, 6–11 cm. long, 2.5–5 cm. broad, lateral leaflets strongly asymmetrical, broadly rounded on one side at base, margins coarsely crenate-dentate; inflorescence puberulous and with gland-tipped hairs; flower-buds glabrous or with a few non-glandular hairs [29. *adenopoda*](#)
- Leaflets 5, rarely 3, with gland-tipped hairs on midrib and nerves beneath; stems and petioles with long, gland-tipped hairs; leaflets obovate-elliptic, the central ones 9–13 cm. long, 4.5–6 cm. broad, acute at each end, margins crenate-dentate; inflorescence spreading pubescent, with gland-tipped hairs; flower-buds pubescent, sometimes with gland-tipped hairs at apex [30. *rubrosetosa*](#)
- 32** Leaflets often 7, sometimes 3–5, lanceolate, about 4 times as long as broad, cuneate at base, acute or obtuse at apex, 7–12 cm. long, 1.5–3.2 cm. broad, curly-pubescent beneath, rather densely so when young, margins dentate; petioles 1–6.5 cm. long; stems, petioles, inflorescence and flower-buds more or less densely curly-pubescent, usually with short gland-tipped hairs [35. *lelyi*](#)
- Leaflets 1–3 times as long as broad, 3–5:..... **33**
- 33** Gland-tipped hairs present on the apices of the flower-buds:..... **34**
- Gland-tipped hairs absent from the apices of the flower-buds: **37**
- 34** Leaflets and inflorescence sparingly puberulous; flower-buds almost glabrous except for the gland-tipped hairs; leaflets 3 (–4), elliptic, acute at each end, up to 8 cm. long and 3 cm. broad, crenate-dentate in upper half; petioles up to 4 cm. long [31. *sp. B*](#)
- Leaflets beneath and inflorescence more or less densely pubescent; leaves normally 5-foliolate; flower-buds puberulous:..... **35**
- 35** Stems and petioles rather densely puberulous without longer gland-tipped hairs; petioles 6–10 cm. long; leaflets elliptic or obovate-elliptic, acute or subacute at each end, up to 12.5 cm. long and 6.5 cm. broad, margins crenate-dentate [32. *sp. C*](#)
- Stems and petioles with longer and often gland-tipped hairs as well as the shorter puberulous indumentum: ... **36**
- 36** Petioles 5–17 cm. long; stems and petioles with long, often gland-tipped hairs; leaflets elliptic or obovate-elliptic, long-cuneate at base, acuminate at apex, 7.5–15 cm. long, 3.5–7 cm. broad, shortly puberulous beneath, margins crenate-dentate; fruits about 5 mm. diam., on pedicels 1–2 cm. long [33. *vogelii*](#)
- Petioles 0.8–4 cm. long; stems and petioles with rather short gland-tipped hairs; leaflets obovate-oblongate or obovate-elliptic, cuneate at base, subacute to rounded at apex, up to 12 cm. long and 6 cm. broad, densely puberulous to tomentellous beneath when young, margins irregularly serrate to subentire; leaves sometimes 3-foliolate near the apices of shoots; fruiting pedicels up to 1 cm. long [34. *cymosa*](#)
- 37** Stems and petioles with gland-tipped hairs about 1 mm. long as well as the curly-puberulous indumentum; leaflets (3–) 5, elliptic or elliptic-obovate, the lateral ones obliquely ovate, cuneate to subrounded at base, acute or acuminate at apex, up to 9 cm. long and 4.5 (–5.5) cm. broad, finely puberulous beneath, margins crenate-dentate in upper part; flower-buds puberulous [36. *lageniflora*](#)
- Stems and petioles without long gland-tipped hairs; leaflets 5:..... **38**
- 38** Unexpanded corolla 4–5 mm. long; inflorescence and flower-buds densely tomentellous, with a few sessile glands but without gland-tipped hairs; leaflets elliptic or obovate-elliptic, cuneate at base, long-acuminate at apex, up to 10 cm. long and 4 cm. broad, sparingly puberulous on midrib, nerves and veins beneath, margins denticulate towards base, crenate-serrate with sharp teeth in upper part [37. *mannii*](#)

- Unexpanded corolla about 3 mm. long; leaflets rounded at base: 39
- 39 Leaflets very minutely puberulous all over the lower surface; inflorescence puberulous; leaflets broadly obovate, obtuse at apex, central leaflet 5–7 cm. long, 4–5 cm. broad, margins rather distantly crenate ..38. [griseo-rubra](#)
 Leaflets densely puberulous on midrib, nerves and veins beneath; inflorescence shortly and densely pubescent; leaflets broadly obovate, acute at apex, central leaflet up to 6.5 cm. long and 4.5 cm. broad, margins rather sharply crenate-serrate 39. [sp. D](#)
- 40 Leaves, stems and peduncles glabrous; leaves 3-foliolate; stems unbranched, with a terminal panicle: 41
 Leaves, stems and peduncles densely hairy; leaves 3–5 (–7)-foliolate:..... 42
- 41 Leaves sessile or rarely with a petiole up to 8 mm. long; leaflets linear-lanceolate, up to 20–24 cm. long and 1.3–2.4 (–3) cm. broad, margins denticulate; stipules ovate-lanceolate, up to 17 mm. long and 7 mm. broad, with ciliate margins, persistent 40. [juncea](#)
 Leaves with distinct stout petioles 2–8 cm. long; leaflets lanceolate, or elliptic-lanceolate, 10–28 cm. long, 1.5–8 cm. broad, margins denticulate to irregularly and rather coarsely serrate in the upper part; stipules lanceolate, up to 8 mm. long and 2 mm. broad, with sparsely ciliate margins, caducous41. [jatrophoides](#)
- 42 Leaves sessile, rarely some very shortly petiolate: 43
 Leaves distinctly petiolate, rarely some at the apex nearly sessile: 44
- 43 Undersurface of leaves and stems tomentose, stems also with longer gland-tipped hairs; leaves 3-foliolate; leaflets obovate-oblongate or oblongate, up to 18 cm. long and 8 cm. broad, margins doubly crenate .42. [crotalarioides](#)
 Undersurface of leaves and stems pulverulent-puberulous, stems with longer gland-tipped hairs; leaves 3–5-foliolate; leaflets oblongate, 8–12 (–20) cm. long, 3–4 (–11) cm. broad, irregularly serrate in the upper part, with sessile reddish glands on both surfaces 43. [waterlotii](#)
- 44 Stems and petioles with long, slender, spreading, gland-tipped hairs, 1–10 mm. long; stipules large, ovate-lanceolate, up to 2.5 cm. long; leaves (3–) 5 (–7)-foliolate; leaflets oblongate, very acute, up to 24 cm. long and 7 cm. broad, thinly pubescent beneath, coarsely toothed; petioles 2–12.5 cm. long; cymes rather densely many-flowered, with long subsistent bracts 44. [crinita](#)
 Stems and petioles with short hairs, sometimes with glandular hairs up to 1 mm. long:..... 45
- 45 Flower-buds with long gland-tipped hairs at the apices, otherwise only sparingly pubescent; leaves 5–7-foliolate; leaflets lanceolate, the lateral ones oblique, gradually acute at each end, up to 22 cm. long and 7.5 cm. broad, densely pubescent beneath, puberulous above, margins irregularly crenate-serrate45. [sokodensis](#)
 Flower-buds densely and loosely pilose but without gland-tipped hairs at the apices:..... 46
- 46 Leaflets pilose with long curly hairs on both surfaces; more or less oblongate, up to 12 cm. long and 3.5 cm. broad or more; leaves (1–) 5–7 (–8)-foliolate46. [chevalieri](#)
 Leaflets puberulous above, sometimes with longer hairs beneath: 47
- 47 Leaflets scabrid-puberulous beneath; more or less oblongate, up to 12 cm. long and 5 cm. broad; leaves (3–) 5–7-foliolate47. [zechiana](#)
 Leaflets at first densely tomentose between the veins beneath, becoming shortly pubescent as the lamina expands, up to 26 cm. long and 8.5 cm. broad, central leaflets elliptic-lanceolate, cuneate at base, lateral leaflets broadly rounded at base on proximal side; leaves (3–) 5-foliolate48. [flavicans](#)

1. **Cissus palmatifida** (Bak.) Planch. in DC. Monogr. Ampelid. 473 (1887); Gilg & Brandt in Engl. Bot. Jahrb. 46: 484; Chev. Bot. 145, incl. var. *integrifolia* A. Chev. **APD acc**

Vitis palmatifida Bak. in F.T.A. 1: 397 (1868).

Cissus triangularis A. Chev. in Rev. Bot. Appliq. 30: 454 (1950).

Cissus vuilletii A. Chev. l.c. 455 (1950).

Stems suberect at first, then trailing or climbing, often purple-tinged; flowers yellow; ripe fruit black; in savannah.

Fr. Sud.: Sindou (May) Chev. 865! Fô (June) Chev. 963! Koulikoro Chev. 3190! Koulouba Vuillet 137! 418! **Fr. G.:** Kankan Chev. 15679! Kouroussa (Apr.) Pobéguin 214! **G. C.:** Kintampo (Mar.) Dalz. 44! Salaga Krause! Gbongoda, Gambaga (June) Akpabla 698! Mangkurugu, N.T. (May) Kitson! **Dah.:** Agouagon to Savé (May) Chev. 23552! Kouandé to Konkobiri (fr. June) Chev. 24254! Atacora Mts. Chev. 23955! **N. Nig.:** Nupe Barter 974! 1278! Abinsi (fl. & fr. Apr.) Dalz. 678! Yola (June) Dalz. 65! **S. Nig.:** Olokemeji (Mar.) Foster 292! Meikle 1301! Ijaiye F.R. (fl. & young fr. May) Onochie FHI 21998!

Extends to A.-E. **Sudan.**

2. **Cissus quadrangularis** Linn. Syst. Nat., ed. 12, 2: 124 & Mant. Pl. 39 (1767); Gilg & Brandt l.c. 481; Chev. Bot. 146. **APD acc**

APD: Synonym of Cissus phymatocarpa Masinde & L.E. Newton

Vitis quadrangularis (Linn.) Wall. ex Wight & Arn. (1834) — F.T.A. 1: 399.

A glabrous large climber or trailer, with stout succulent quadrangular and almost winged stems, leafy only on the young shoots; fruits glabrous, red when ripe; [in savannah](#) regions.

Sen.: Bakel Leprieur! **Gam.:** MacCarthy Isl. Dalz. 8039! **Fr. Sud.:** Bani, San (June) Chev. 1097! **iv. C.:** Kodiokoffi Dist. (Aug.) Chev. 22348! **Dah.:** Cotonou (July) Debeaux 163! Ouandoukouana, Atacora Mts. Chev. 24162! **N. Nig.:** Nupe Barter! Katagum (fr. July) Dalz. 80! Bauchi Plateau Lely P. 670! 38 miles from Kaduna on Kachiya road (fr. Dec.) Meikle!

Widespread in the drier parts of Africa, [Arabia](#) and India.

3. *Cissus doeringii* Gilg & Brandt l.c. 473 (1912); White in Kew Bull. 1951: 58. *APD acc*

Cissus corylifolia var. *latifolia* A. Chev. Bot. 142 (1920), name only.

A subshrub, with erect stems about 3 ft. high; [in savannah](#).

Fr. G.: Kesseridou to Oussoudou (Feb.) Chev. 20838! **S. L.:** Borawa Plateau Edwardson 89! Musaia (Mar., Apr.) Deighton 5422! 5424! **iv. C.:** Mt. Dourou, Koualé (fr. May) Chev. 21734. Koualé to Kouroukoro (May) Chev. 21750. **G. C.:** Techeri (fr. June) Chipp 476! **Togo:** Misahöhe (May) Baumann 30! 479; Doering 204.

4. *Cissus amoena* Gilg & Brandt l.c. 467, fig. 4 (1912). *APD acc*

A climbing shrub with nearly glabrous branches; [in forest](#).

Br. Cam.: Ekumba-Liongo Dusen 263. Kumba Preuss 537.

Also in [French Cameroons](#).

5. *Cissus caesia* Afzel. Remed. Guin. 55 (1815); Gilg & Brandt l.c. 474; F.W.T.A., ed. 1, 1: 476, partly; White l.c. 54. *APD acc*

Vitis caesia (Afzel.) Sabine (1824) — F.T.A. 1: 396, partly.

A climber with green or pinkish flowers and black fruits; [mainly in savannah](#).

S. L.: Afzelius! Don! Waterloo (June) Lane-Poole 306! Kennedy Ridge, Freetown (Apr.) Johnston 6! Laminaiya (Apr.) Thomas 149! Pujehun (Apr.) Deighton 3690!

[White also records Barter 563 from Nupe, N. Nigeria, as this species, but the specimen is poor and the determination is open to some doubt.]

6. *Cissus oreophila* Gilg & Brandt l.c. 471 (1912). *APD acc*

Cissus clematitis A. Chev. Bot. 142, name only.

Cissus glaucophylla of F.T.A. 1: 392, partly; of Gilg & Brandt l.c. 471, partly (Barter 3277).

Cissus polyantha of F.W.T.A., ed. 1, 1: 475, partly.

A large herbaceous climber with tough stems; flowers pink in bud, cream when open; [in forest](#).

Lib.: Tappita (fr. Aug.) Baldwin 9059! Gbanga (fl. Aug., fr. Dec.) Baldwin 10519a! Traub 254! Flumpa (fr. Sept.) Baldwin 9345! **iv. C.:** Guidéko (May) Chev. 16381! **G. C.:** Bunsu (June) Hughes 1125! **S. Nig.:** Gambari, S. of Ibadan (Aug.) Jones FHI 20257! Epe Barter 3277! **Br. Cam.:** Cam. Mt., 4,500 ft. Mann 1279! Buea (Mar.) Maitkind 441!

[This is closely related to *C. myriantha* Gilg & Brandt from French Cameroons and Belgian Congo, and to *C. tiliifolia* Planch. from Belgian Congo and A.-E. Sudan.]

7. *Cissus rubiginosa* (Welw. ex Bak.) Planch. l.c. 485 (1887); Gilg & Brandt l.c. 475. *APD acc*

Vitis rubiginosa Welw. ex Bak. in F.T.A. 1: 394 (1868).

A climbing or trailing herb; [in savannah](#) regions.

S. L.: Kabala to Musaia (Sept.) Miszewski 48! **Togo:** Büttner 6! Bismarckburg Kling 58. **N. Nig.:** Bauchi Plateau (Apr.) Lely P. 204! Jos (Aug.) Keay FHI 20054! Mongu, Plateau Prov. (fl. & fr. July) Lely 388! **S. Nig.:** Awba Hills F.R., Ibadan (Oct.) Jones FHI 6363!

Widespread in tropical Africa.

8. *Cissus touraensis* A. Chev. in Rev. Bot. Appliq. 30: 455 (1950). *APD acc*

Stems erect, 11/2–3 ft. high, from a deep rootstock; in savannah.

Iv. C.: Koualé to Kouroukoro, Toura country (May) Chev. 21747!

9. *Cissus corylifolia* (Bak.) Planch. l.c. 484 (1887); Gilg & Brandt l.c. 473; White l.c. 59. *APD acc*

APD: *Synonym of Cissus doeringii Gilg & M. Brandt*

Vitis corylifolia Bak. in F.T.A. 1: 396 (1868).

Cissus dahomensis A. Chev. Bot. 143, name only, partly.

Stems thick and succulent, erect, to 3 ft. high, from a stout rootstock; calyx green in bud, becoming purple, petals yellow.

G. C.: Afram Plains (Mar.) Johnson 704! **Togo:** Sokode fide Gilg & Brandt l.c. **Fr. Nig.:** Diapaga, Gourma (July) Chev. 24426 bis! **N. Nig.:** Nupe Barter 1271! Nabardo (May) Lely 207! Abinsi (Apr.) Dalz. 673! **S. Nig.:** Upper Ogun F.R., E. of Igboho (Feb.) Keay FHI 23437!

Also in **French Cameroons**.

10. *Cissus kouandeensis* A. Chev. in Rev. Bot. Appliq. 30: 454 (1950). *APD acc*

Cissus arguta of Chev. Bot. 140, partly.

Cissus polyantha of F.W.T.A., ed. 1, 1: 475, partly.

Stems widely scandent, glaucous.

Dah.: Kouandé, Atacora Mts. (June) Chev. 24007!

[Chevalier states that his description of this species was made in the field and that the specimen was not kept; Chev. 24007, of which there is a good duplicate at Kew, was, however, collected at the same place on the same day as Chevalier cites and agrees very well with his description.]

11. *Cissus* sp. A. *APD acc*

Cissus hederifolia A. Chev. Bot. 144, name only.

Stems widely scandent or trailing; inflorescence lax, flowers small.

Fr. G.: Pobéguin 2166! Timbo to Ditinn (Sept.) Chev. 18517! **N. Nig.:** Bauchi Plateau (July) Lely P. 352!

Also in **French Cameroons** and **A.-E. Sudan**.

12. *Cissus glaucophylla* Hook. f. in Fl. Nigrit. 263 (1849); Gilg & Brandt l.c. 471, partly (excl. Barter 3277). *APD acc*

Vitis glaucophylla (Hook. f.) Bak. in F.T.A. 1: 392 (1868), partly.

V. smithiana Bak. l.c. 390 (1868).

Cissus smithiana (Bak.) Planch. (1887) — Gilg & Brandt l.c. 466.

A liane; in the forest regions.

S. L.: Afzelius. **Lib.:** Fortsville, Grand Bassa (fr. Mar.) Baldwin 11157! **S. Nig.:** Ondo (Nov.) Onochie FHI 34235! **Br. Cam.:** Victoria (fr. Feb.) Maitland 402! Mundame to Johann-Albrechtshöhe Staudt 432. Winkler 1011. **F. Po:** Clarence Cove (Nov.) T. Vogel 101!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Angola**.

13. *Cissus rufescens* Guill. & Perr. Fl. Seneg. 1: 133 (1831); Gilg & Brandt l.c. 473; White in Kew Bull. 1951: 55. *APD acc*

Vitis rufescens (Guill. & Perr.) Miq. (1863).

V. caesia of F.T.A. 1: 396, partly.

Cissus caesia of F.W.T.A., ed. 1, 1: 476, partly.

Cissus corylifolia of Chev. Bot. 142, partly.

Cissus pseudocaesia of F.W.T.A., ed. 1, 1: 476, partly.

Perennial herb with underground stock and prostrate creeping annual stems; stems and petioles crimson; flower-buds red, open flowers yellow; **in savannah**.

Sen.: Kaolak Kaichinger. **Gam.:** Albreda Leprieur; Perrottet 139! Genieri to Kaiaff (fl. & fr. July) Fox 115! **Fr. Sud.:** Ténétou (Mar.) Chev. 660. **Fr. G.:** Heudelot 837! **G. C.:** Zantana waterside (May) Kitson. Ejura Andoh FH 5040! **Dah.:** Kouba to Farfa, Atacora Mts. (June) Chev. 24030! **N. Nig.:** Loin Barter 1273! Zaria (May) Keay FHI 25735! Pankshin (July) Lely 434! Abinsi (May) Dalz. 672! **S. Nig.:** road to Asipa, Lagos Colony Phillips 23! Olokemeji (Mar.) Keay FHI 25692! Bateriko to Bendi (fr. June) Jones & Onochie FHI 18987!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan** and **Uganda**.

14. *Cissus polyantha* Gilg & Brandt in Engl. Bot. Jahrb. 46: 467 (1912). *APD acc*

APD: Synonym of Cissus oliveri (Engl.) Gilg

A half-woody climber with subterete brown-pubescent branches later glabrescent; flowers small, numerous, in ample panicles; **in forest vegetation**.

S. L.: Afzelius! Kokoru, Gaura (fr. Oct.) Deighton 5208! Gegbwema, Tunkia (fr. Oct.) Deighton 5216! **Lib.:** Fishtown (young fr. Sept.) Dinklage 1671! Duport (Aug.) Linder 308! Jabroke, Webo (July) Baldwin 6631a! 6697! Monroviatown (young fr. Aug.) Baldwin 8002! **Togo:** Misahöhe Baumann 314. **S. Nig.:** Lagos MacGregor 190! Calabar (Aug.) Holland 76! Oban Talbot 562!

Also in **French Cameroons**, **Ubangi-Shari**.

15. *Cissus populnea* Guill. & Perr. l.c. 134 (1831); Gilg & Brandt l.c. 463; Chev. Bot. 145. *APD acc*

Vitis pallida of F.T.A. 1: 393, partly.

A liane with pale woody stems up to 3 in. diam.; cut stems exuding copious clear watery sap; flowers cream; fruits blackish-purple when ripe; **in savannah**.

Sen.: Berhaut 145. Perrottet 137! **Gam.:** Albreda (June, July) Leprieur! Genieri to Massembe (July) Fox 170! **Fr. Sud.:** Koulikoro Chev. 3189. **iv. C.:** various localities fide Chev. l.c. **G. C.:** Ejura (fr. Aug.) Chipp 742! Wanki (June) Chipp 480! Agomeda, Shai Plains (June) Irvine 1640! Gbongoda, Gambaga (July) Akpabla 721! **Togo:** Lome Warnecke 315! **Dah.:** Agouagon Chev. 23483. Savalou Chev. 23691. **N. Nig.:** Nupe Barter 1276! Gayam, Birnin Gwari (June) Keay FHI 25818! Anara F.R., Zaria (May) Keay FHI 22988! Katagum Dalz. 79! **S. Nig.:** Lagos Rowland! Ijaiye F.R., near R. Ogun (Apr.) Onochie FHI 21988!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Abyssinia** and **Uganda**.

16. *Cissus petiolata* Hook. f. l.c. 262 (1849); Gilg & Brandt l.c. 464. *APD acc*

Vitis suberosa Welw. ex Bak. in F.T.A. 1: 392 (1868).

Cissus suberosa (Welw. ex Bak.) Planch. (1887).

Vitis pallida of F.T.A. 1: 393.

Cissus koumiensis A. Chev. Bot. 144, name only.

A climber with tetragonal stems becoming woody with age and bearing 4 or more corky wings; flowers greenish-white; fruits reddish when ripe.

Fr. G.: Koumi, between Dalaba and Songuéta (Oct.) Chev. 20167! Nzérékoré (Oct.) Baldwin 9730! **S. L.:** Gonkwi Mt., Talla Hills (fr. Feb.) Sc. Elliot 4880! **Lib.:** Vonjama (Oct.) Baldwin 9909! **G. C.:** Akwapim T. Vogel! Okroase (May) Johnson 751! Achimota (Jan., June, Sept.) Irvine 860! 1469! 1968! Akwaseho (fl. & young fr. Jan.) Irvine 1671! **Togo:** Lome Warnecke 362! **S. Nig.:** Ibadan (fr. Feb.) Ujor FHI 27972! Gambari, Ibadan (June) Jones FHI 3626! **Br. Cam.:** Victoria (Apr.) Ejiofor FHI 29332! Bulifambo, Buea (Mar.) Maitland 552! Kumba (Apr.) Hutch. & Metcalfe 149!

Also in **Belgian Congo**, **A.-E. Sudan**, **Abyssinia**, **Eritrea**, **E. Africa**, **N. Rhodesia** and **Angola**.

17. *Cissus arguta* Hook. f. l.c. 261 (1849). *APD acc*

APD: Synonym of Cissus kouandeensis A. Chev.

Vitis arguta (Hook. f.) Bak. in F.T.A. 1: 392.

Cissus producta of Gilg & Brandt l.c. 477, partly.

Herbaceous climber with somewhat succulent tetragonous stems; internodes short.

Lib.: Christy! **S. Nig.:** Lagos (June, Oct.) Dalz. 1148! 1414! Millen 77! Ibadan (Oct.) Jones & Keay FHI 13750! Ibo country (Aug.) T. Vogel 3! Addaenda, R. Niger (Sept.) T. Vogel 141!

18. **Cissus producta** *Afzel.* **Remed. Guin.** 63 (1815); Gilg & Brandt l.c. 477, partly (excl. syn. *C. arguta* Hook. f.); Chev. Bot. 145. *APD acc*

Vitis producta (*Afzel.*) *Bak.* in F.T.A. 1: 389 (1868).

Cissus purpurascens *A. Chev.* Bot. 141, name only.

Cissus arguta of F.W.T.A., ed. 1, 1: 475, partly.

Cissus barteri of Chev. Bot. 141.

Cissus afzelii of Chev. Bot. 140, partly.

A large herbaceous climber with pinkish flowers; ripe fruits black; **in forest**.

Sen.: Berhaut 1859. **Fr. Sud.:** Moussaia (fr. Feb.) Chev. 411! **Fr. G.:** Rio Nunez Heudelot 820! Massadou, S. of Macenta (May) Collenette 24! Nzérékoré to Macenta (fr. Oct.) Baldwin 9746! **S. L.:** Afzelius! T. Vogel 106! Rokupr (Oct.) Jordan 136! Bumpe (fl. & fr. Nov.) Deighton 4951! Njala (Oct.) Deighton 1346! Jigaya (Sept.) Thomas 2700! **Lib.:** Gbanga (Sept.) Linder 634! Monrovia Dinklage 2772! Whyte! Sinoe Basin Whyte! Dukwia R. (Feb.) Cooper 198! **Iv. C.:** Ahiane to Ahinta (Mar.) Chev. 17733! Kéeta (July) Chev. 19349! Guidéko (May) Chev. 16347! Alépé to Malamalasso (Mar.) Chev. 17518! Soubre (June) Chev. 19109! 19155! San Pedro (July) Thoiré 298! **G. C.:** Aburi (June) Brown 314! Pamu-Berekum F.R. (Sept.) Vigne FH 2484! Abofaw (May) Andoh FH 5496! **Togo:** Amedzofe (May) Scholes 48! **S. Nig.:** Oban Talbot 570! Ikom (June) Latilo FHI 31853! **F. Po:** Mann 273!

Also in **French Cameroons, Belgian Congo, Uganda, Tanganyika, N. Rhodesia, Angola** and **S. Tomé**.

19. **Cissus barteri** (*Bak.*) *Planch.* in DC. Monogr. Ampelid. 491 (1887); Gilg & Brandt l.c. 476. *APD acc*

Vitis barteri *Bak.* in F.T.A. 1: 390 (1868).

Herbaceous climber with rather succulent terete stems, glabrous; calyx pale green; petals crimson outside, pale red within, centre of flowers white; **in forest**.

S. Nig.: Okomu F.R., Benin (Dec.) Brenan 8565! Usonigbe F.R., Benin (Nov.) Keay FHI 24668! Meikle 618! Aboabam, Ikom (Dec.) Keay FHI 28224! **Br. Cam.:** Victoria (Aug.) Kalbreyer 5! Johann-Albrechtshöhe Büsgen 69. **F. Po:** (Dec.) Barter! Mann 11!

Also in **French Cameroons, Belgian Congo** and **Cabinda**.

20. **Cissus barbeyana** *De Wild. & Th. Dur.* in Contrib. Fl. Congo 2: 11 (1900); Gilg & Brandt l.c. 478. *APD acc*

Cissus producta of F.W.T.A., ed. 1, 1: 474, partly (Barter 3258).

A small liane; corolla yellow; fruits purplish; **in forest**.

S. Nig.: Epe Barter 3258! Omo F.R., Ijebu Ode (Apr.) Tamajong FHI 16929! Okomu F.R., Benin (fl. & fr. Mar.) Ross 128! **Br. Cam.:** Buea (July) Maitland 33! S. Bakundu F.R. (Mar.) Onochie FHI 30859! Kumba (Apr.) Hutch. & Metcalfe 150! Abonando, Mamfe (Mar.) Rudatis 18!

Also in **French Cameroons, Spanish Guinea, Gabon, Belgian Congo, Angola, S. Tomé, Principe** and (?) **E. Africa**.

21. **Cissus diffusiflora** (*Bak.*) *Planch.* l.c. 496 (1887); Gilg & Brandt l.c. 479. *APD acc*

Vitis diffusiflora *Bak.* in F.T.A. 1: 390 (1868).

V. afzelii *Bak.* l.c. 389 (1868).

Cissus afzelii (*Bak.*) *Gilg & Brandt* l.c. 478 (1912); Chev. Bot. 140, partly; F.W.T.A., ed. 1, 1: 476.

A slender climber; flowers greenish, fruits red; **in regrowth forest**.

Port. G.: Buba to Saucunda, Fulacunda (fr. Sept.) Esp. Santo 2184! **Fr. G.:** Kouria (Aug.) Chev. 15065! **S. L.:** Afzelius! Don! Leicester Peak (fr. Dec.) Sc. Elliot 3830! Sugar Loaf Mt. (Sept.) Welw. 1501! Njala (fl. & fr. Oct.) Deighton 4906! Mabum (fl. & fr. Aug.) Thomas 1644! Rokupr (Sept.) Jordan 352! **Lib.:** Dukwia R. (July) Linder 69! Jabroke, Webo (July) Baldwin 6455! Gbawia, Webo (July) Baldwin 6713! **Iv. C.:** fide Chev. l.c. **G. C.:** Aguna (Aug.) Vigne FH 1304! Oda (July) Irvine 27911 **S. Nig.:** Lagos Millen 28! Akure F.R. (fr. Nov.) Latilo FHI 15283! Usonigbe F.R. (fl. & fr. Nov.) Ejiofor FHI 24624! Meikle 631! Oban Talbot 755! **Br. Cam.:** Ngusi to Mafura (fr. Jan.) Schlechter 12908! Johann-Albrechtshöhe Büsgen 50. **F. Po:** (fl. & fr. Nov.) Mann 570!

Also in **French Cameroons, Spanish Guinea, Gabon, Uganda, A.-E. Sudan, Belgian Congo** and **Angola**.

22. *Cissus cornifolia* (Bak.) Planch. l.c. 492 (1887); Gilg & Brandt l.c. 480. *APD acc*

Vitis cornifolia Bak. in F.T.A. 1: 390 (1868).

A **savannah** plant, with a woody base sending up erect or suberect shoots each year after the fires; flowers greenish-yellow, appearing first on leafless shoots; fruits black-purple.

G. C.: Lissa to Lambussie (fr. Mar.) Kitson 814! **N. Nig.:** Nupe Barter 1072! Zaria (Feb., June) Dalz. 420! Keay FHI 25908! Funtua (Dec.) Meikle 825! Bornu (Jan., Feb.) Talbot 1219!

Extends to Abyssinia and S. Africa.

23. *Cissus adenocaulis* Steud. ex A. Rich. Fl. Abyss. 1: 111 (1847); Gilg & Brandt l.c. 516 (q.v. for syn.); Chev. Bot. 140.

*APD: Synonym of *Cyphostemma adenocaulis* (Steud. ex A. Rich.) Desc. ex Wild & R. B. Drumm. subsp. adenocaulis*

Vitis adenocaulis (Steud. ex A. Rich.) Miq. (1863) — F.T.A. 1: 404.

Cissus tenuicaulis of Chev. Bot. 147.

Vitis tenuicaulis of F.T.A. 1: 404, partly.

A somewhat fleshy herbaceous climber with striate stems; inflorescence and flowers reddish; fruits glabrous, purplish or black; **in savannah**.

Sen.: Lecard 13! **Gam.:** Albreda Perrottet. Kuntaur (July) Ruxton 52! **Fr. Sud.:** Ségou (fr. Sept.) Chev. 3188! Bamako (July) Waterlot 1207! **S. L.:** Musaia (July) Deighton 4815! **Iv. C.:** Ouagadougou to Ouahigouya (Aug.) Chev. 24728! Linoré to Gompéla (Aug.) Chev. 24623. Gouékouma (May) Chev. 21688! Mankono (June) Chev. 21868! **Togo:** Sokode-Basari Kersting A. 85! **Dah.:** Atacora Mts. (June) Chev. 24195! Agouagon (May) Chev. 23504! **Fr. Nig.:** Diapaga (fl. & fr. July) Chev. 24407! 24481! **N. Nig.:** Nupe Barter 1272! Anara F.R., Zaria (May) Keay FHI 22978! Tilde Filani (May) Lely 224! Yola (fl. & fr. July, Oct.) Dalz. 59! Shaw 64!

Widespread in the savannah regions of tropical Africa.

24. *Cissus debilis* (Bak.) Planch. l.c. 569 (1887); Gilg & Brandt l.c. 486, fig. 5, H–K, fig. 6, D–K.

*APD: Synonym of *Cayratia debilis* (Baker) Suess.*

Vitis debilis Bak. in F.T.A. 1: 403 (1868).

Cayratia debilis (Bak.) Suesseng. in E. & P. Pflanzenfam. 20D: 278 (1953).

Cissus repens A. Chev. Bot. 146, name only.

A slender climber with nearly glabrous, grooved, almost quadrangular stems, and very small flowers and fruits; calyx green, corolla white; **in forest regions**.

Lib.: Tappita (fr. Aug.) Baldwin 9028! Cess R., Tchien Dist. (fr. Aug.) Baldwin 9008! 9018a! **Iv. C.:** Mid. Sassandra to Mid. Cavally (fr. June) Chev. 19208! Guidéko to Zozro (June) Chev. 19063! **G. C.:** Bobiri F.R., Juaso Dist. (fr. June) Andoh FH 5513! **S. Nig.:** Oluwa F.R., Ondo (fl. & young fr. July) Onochie FHI 33414! Sapoba (fr. Sept.) Onochie FHI 34278! Oban Talbot 407! **Br. Cam.:** Victoria Preuss 1128. Barombi Preuss 308. Nkom-Wum F.R., Metschum R., Bamenda (fr. July) Ujor FHI 29292! **F. Po.:** (June) Mann 412!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola** and **S. Tomé**.

25. *Cissus gracilis* Guill. & Perr. l.c. 134 (1831); Gilg & Brandt l.c. 487, fig. 6, A–E; Chev. Bot. 144, partly.

*APD: Synonym of *Cayratia gracilis* (Guill. & Perr.) Suess.*

Vitis gracilis (Guill. & Perr.) Bak. in F.T.A. 1: 404 (1868), partly, not of Wall. (1824).

Cayratia gracilis (Guill. & Perr.) Suesseng. l.c. (1953).

Cissus tenuicaulis Hook. f. (1849).

Vitis tenuicaulis (Hook. f.) Bak. in F.T.A. 1: 404 (1868), partly.

A slender climber with nearly glabrous, angular, grooved stems, very small greenish flowers and black currant-like fruits; **in forest and savannah regions**.

Sen.: N'ghiengol & Casamance fide Guill. & Perr. l.c. **Fr. G.:** Fouta Djallon (fr. Sept.) Chev. 18313! **S. L.:** T. Vogel 77! Rokupr (fl. & fr. Sept.) Jordan 314! Joru, Gaura (fr. Oct.) Deighton 5233! Musaia to Kabala (fr. Sept.) Deighton 4884! **Lib.:** Peahtah (fl. & fr. Oct.) Linder 984! Cess R., Tchien Dist. (fr. Aug.) Baldwin 9018! **Iv. C.:** Guidéko (June) Chev. 19004! **G. C.:** Aburi (fl. & fr. June, July) Brown 315! Johnson 975! **Togo:** Lome Warnecke 366. Sokode-Basari Kersting 378. Kpandu Robertson 25! **N. Nig.:** Katagum (Sept.) Dalz. 78! **Br. Cam.:** Buea Deistel 178. Bali-Ngamba F.R., Bamenda (fl. & fr. May) Ujor FHI 30391! **F. Po:** Mann 1167!

Widespread in tropical Africa.

26. **Cissus ibuensis** *Hook. f.* in Fl. Nigrit. 265 (1849); Gilg & Brandt l.c. 486; not of Chev. Bot. 144.

APD: Synonym of Cayratia ibuensis (Hook. f.) Suess.

Vitis ibuensis (*Hook. f.*) *Bak.* in F.T.A. 1: 402(1868).

Cayratia ibuensis (*Hook. f.*) *Suesseng.* l.c. (1953).

Vitis intricata *Bak.* l.c. 404 (1868).

A slightly fleshy climber; flowers creamy-green; **by streams and rivers.**

Togo: Bismarckburg Büttner 80. **N. Nig.:** Nupe Barter 1133! Jebba (Mar., Dec.) Hagerup 717! Meikle 1279! R. Niger, Koton Karifl (Nov.) Keay FHI 28086! Yola (July) Dalz. 58! **S. Nig.:** R. Ogbesse, Owo (Mar.) Jones FHI 3088! R. Niger, Ibo country (fr. Aug.) T. Vogel 37! Nun R. T. Vogel 13! Ikom (May) Jones FHI 6490!

Extends to A.-E. **Sudan**, E. Africa, **Belgian Congo** and **Angola**.

27. **Cissus aralioides** (*Welw. ex Bak.*) *Planch.* in DC. Monogr. Ampelid. 513 (1887); Gilg & Brandt l.c. 485. *APD acc*

APD: Synonym of Cissus aralioides subsp. orientalis Verdc.

Vitis aralioides *Welw. ex Bak.* in F.T.A. 1: 411 (1868).

V. constricta *Bak.* l.c. 409 (1868).

Cissus constricta (*Bak.*) *Planch. ex A. Chev.* Bot. 142 (1920).

Cissus oliviformis *Planch.* l.c. (1887).

Cissus caillei *A. Chev.* in Rev. Bot. Appliq. 30: 459 (1950).

A lofty climber, woody at the base, with stout succulent terete stems constricted at the nodes, and sometimes subsucculent leaves; flowers greenish or whitish, comparatively large; fruits reddish, turning blue-purple.

Sen.: Mt. Roland, Thiés (fr. Mar.) De Wailly 4504! **Port. G.:** Pussube, Bissau (Nov.) Esp. Santo 1563! **Fr. G.:** Kouria (Oct.) Caille in Hb. Chev. 14983! Fouta Djallon (Sept., Oct.) Chev. 18279! 18739! Bembaya, Farana (fr. Feb.) Chev. 20678! **S. L.:** Regent (fr. Feb.) Johnston 84! Njala (Sept.) Deighton 4894! Mattru to Gbangbama (Nov.) Deighton 2394! Ronietta (Nov.) Thomas 5288! 5535! **Lib.:** Careysburg Dinklage 2450. Soplina, Vonjama (Nov.) Baldwin 10051a! Wohmen, Vonjama (Oct.) Baldwin 10080a! **Iv. C.:** Guidéko (fr. May) Chev. 16444! **G. C.:** Ancobra Junction (fr. Jan.) Irvine 1073! Aburi Hills Johnson 458! Juaso Dist. (Oct.) Andoh FH 5581! **Togo:** Sokode-Basari Kersting 458. Jege, Bismarckburg Büttner 158. **N. Nig.:** Nupe Barter! **S. Nig.:** Lagos (Oct.) Dalz. 1147! Kiesene, Iwo road, Oyo (Oct.) Jones FHI 6366! Sapoba (Nov.) Meikle 538! Nun R. (Sept.) Mann 503!

Widespread in tropical Africa.

28. **Cissus ornata** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 477 (1928); Chev. Bot. 144, name only; Chev. in Rev. Bot. Appliq. 30: 456 (1950).

APD: Synonym of Cyphostemma ornatum (A. Chev. ex Hutch. & Dalziel) Desc.

A large liane, with rather stout half-woody glabrous stems.

Iv. C.: Azaguié (Sept.) Chev. 22276!

29. **Cissus adenopoda** *Sprague* in Kew Bull. 1906: 247; Bot. Mag. t. 8278; Gilg & Brandt l.c. 538, fig. 16.

APD: Synonym of Cyphostemma adenopodum (Sprague) Desc.

Cissus rowlandii *Gilg & Brandt* l.c. 523 (1912); F.W.T.A., ed. 1, 1: 477.

Cissus ibuensis of Chev. Bot. 144, partly.

Herbaceous climber with pink or purplish hairs and often with purple spots on the undersurface of the leaves; flowers greenish-yellow with purplish markings; fruits red; **in forest**.

iv. C.: Capiecrou (Jan.) Chev. 17084! **Togo:** Misahöhe Baumann 488. **S. Nig.:** Lagos (Aug.) Rowland! Gambari Group F.R., Ibadan (fr. June, Aug.) Keay FHI 16232! Oni River F.R., Ife-Ilesha (Apr.) Onochie FHI 15507! Okomu F.R., Benin (Jan.) Brenan 8902! **Br. Cam.:** Victoria to Tole Winkler 127.

Also in **French Cameroons**, **Belgian Congo**, **Uganda** and (?) **Cabinda**.

30. *Cissus rubrosetosa* Gilg & Brandt in Engl. Bot. Jahrb. 46: 532 (1912).

APD: Synonym of Cyphostemma rubrosetosum (Gilg & M. Brandt) Desc.

Cissus glandulifera A. Chev. Bot. 143, name only, partly.

Herbaceous climber with purplish glandular hairs; flowers white.

Fr. G.: Dalaba-Diaguissa Plateau (fl. & fr. Sept., Oct.) Chev. 18577! 18854 (partly)! Nimba Mts. (Feb.–Apr.) Schnell 332! 1090! Pita (July) Pobéguin 2097! **iv. C.:** Mt. Tonkui (Sept.) Schnell 1741! Mt. Dou, Zoanlé (May) Fleury in Hb. Chev. 21474! **Togo:** Bagu, Sokode-Basari Kersting 381. Aledjo, Sokode-Basari Kersting 309. Jege, Bismarckburg Büttner 114. **N. Nig.:** Bauchi Plateau (Aug.) Lely P. 501! **Br. Cam.:** Lakom, Bamenda (May) Maitland 1432!

Also in **French Cameroons** and **Ubangi-Shari**.

31. *Cissus* sp. **B. APD acc**

Herbaceous climber, red-tinged; **in savannah**.

S. L.: Mahinti, Tonko Limba (Sept.) Jordan 341!

32. *Cissus* sp. **C. APD acc**

Herbaceous climber, often widely spreading, with rather fleshy stems tinged red; inflorescences held horizontally, reddish, with pale green flowers; **by margins of forest**.

S. Nig.: Ibadan North F.R. (fl. & young fr. Oct.) Keay & Mutch FHI 25432! Idanre F.R. (July) Onochie FHI 33401! Awoiki, Ishan (Aug.) Onochie FHI 33279!

33. *Cissus vogelii* Hook. f. l.c. 267 (1849); Gilg & Brandt l.c. 531; Berhaut Fl. Sen. 23.

APD: Synonym of Cyphostemma vogelii (Hook. f.) Desc.

Vitis vogelii (Hook. f.) Bak. in F.T.A. 1: 409 (1868).

An extensive herbaceous climber, setose on the young parts, the leaves and stems often purple-tinged; flowers greenish; ripe fruits black.

Sen.: Adam 9655. **S. L.:** Njala (fl. Sept., fr. Oct., Nov.) Deighton 5598! 5866! Senneya, Scarcies R. (fr. Jan.) Sc. Elliot 4278! Mano (fr. Sept.) Deighton 4882! **Lib.:** Memmeh's Town Linder 358! Jabroke, Webo (July) Baldwin 6631! Suacoco, Gbanga (Sept.) Traub 284! **G. C.:** Kumasi Cummins 151! Awisa, Akim Swedru (young fr. Dec.) Irvine 2061! **N. Nig.:** Bauchi Plateau (July) Lely P. 596! **S. Nig.:** Lagos Dawodu 254! Millen 36! **Br. Cam.:** Johann-Albrechtshöhe Büsgen 136. Abonando Rudatis 83. Bangwa Conrau 137. **F. Po:** on the beach T. Vogel 24!

Also in **French Cameroons** and **Spanish Guinea**.

See also *C. sp. aff. vogelii* Hook. f. in Consp. Fl. Ang. 2: 66, t. 15.

34. *Cissus cymosa* Schum. & Thonn. Beskr. Guin. Pl. 82 (1827); Gilg & Brandt l.c. 537.

APD: Synonym of Cyphostemma cymosum (Schumach. & Thonn.) Desc. subsp. cymosum

Vitis thonningii Bak. in F.T.A. 1: 407 (1868), excl. Welw. spec.

Cissus bakeriana Planch. (1887) — Gilg & Brandt l.c. 543; Chev. Bot. 141; F.W.T.A., ed. 1, 1: 477.

A strong herbaceous climber; cymes forming large flat panicles; petals green with purple tips.

Sen.: Berhaut 193. **G. C.:** Thonning! Accra T. Vogel 35! Akwaseho, Kwahu (fr. Jan.) Irvine 1674! Achimota (fl. & young fr. June) Milne-Redhead 5103! **Dah.:** Atacora Mts. (June) Chev. 24084! **Fr. Nig.:** Gourma Chev. 24381! 24419! **N. Nig.:** Nupe Barter 101! Kukawa (Sept.) E. Vogel 71!

Also in **French Cameroons** and **Uganda**.

35. **Cissus lelyi** *Hutch.* in Kew Bull. 1921: 361.

APD: Synonym of Cyphostemma serpens (A. Rich.) Desc. subsp. serpens

Cissus serpens of F.W.T.A., ed. 1, 1: 476, not of Hochst. ex A. Rich.

Herbaceous, climbing or trailing, several feet long, with greenish-white flowers.

Sen.: Cayor (Aug.) Heudelot 473! Kaolak Kaichinger! **N. Nig.:** top of Mt. Zaranda, 5,800 ft., Bauchi (May) Lely 194! Bauchi Plateau (Apr.) Lely P. 205! Katagum Dalz. 77! Lantewa, Damaturu (June) Onochie FHI 23377!

36. **Cissus lageniflora** *Gilg & Brandt* l.c. 537 (1912).

APD: Synonym of Cyphostemma lageniflorum (Gilg & M. Brandt) Desc.

Cissus glandulifera A. Chev. Bot. 143, name only, partly.

Herbaceous climber with red gland-tipped hairs on stems and petioles; inflorescence tinged pink, flowers green.

Fr. G.: Kouria to Ymbo (Oct.) Caille in Hb. Chev. 14974! **S. L.:** Sasa, Tonko Limba (Sept.) Jordan 338! **Iv. C.:** Sanrou to Ouodé Chev. 21611! **S. Nig.:** Ondo (Sept.) Keay FHI 22570! **F. Po:** Moka (Jan.) Exell 819!

37. **Cissus mannii** (*Bak.*) *Planch.* l.c. 610 (1887); *Gilg & Brandt* l.c. 530.

APD: Synonym of Cyphostemma mannii (Baker) Desc.

Vitis mannii *Bak.* in F.T.A. 1: 477 (1868).

Herbaceous climber; in forest.

Br. Cam.: Cam. Mt., from Buea up to 7,000 ft. (fl. Nov.–Dec., young fr. Jan.) Dunlap 94! Mann 1989! Mildbr. 10805! **F. Po.:** Mildbr. 7073.

Also in **French Cameroons**.

38. **Cissus griseo-rubra** *Gilg & Brandt* l.c. 528 (1912).

APD: Synonym of Cyphostemma griseo-rubrum (Gilg & M. Brandt) Desc.

Herbaceous climber.

Togo: Lome Warnecke 365!

39. **Cissus sp. D.** *APD acc*

Scrambling herb, with fleshy stem; flowers cream; among rocks.

N. Nig.: Kufena Rock, Zaria (July) Keay FHI 25915!

40. **Cissus juncea** *Webb* in Fragm. Flor. Aethiop.-Aegypt. 57 (1854); *Gilg & Brandt* in Engl. Bot. Jahrb. 46: 490.

APD: Synonym of Cyphostemma junceum (Webb) Wild & R. B. Drumm. var. junceum

Vitis juncea (*Webb*) *Bak.* in F.T.A. 1: 401 (1868).

Perennial herb, with erect, fleshy stems to 4 ft. high, glaucous green or dull mauve; flowers and ripe fruits red; in savannah woodland.

N. Nig.: Anara F.R., Zaria (fl. & fr. May) Keay FHI 22946! 25767! Bauchi Plateau (Apr.) Lely P. 206! **Br. Cam.:** Bum, Bamenda (fr. Apr.) Maitland 1620!

Also in **French Camerouns** and **A.-E. Sudan**.

41. **Cissus jatrophoides** (*Welw. ex Bak.*) *Planch.* in DC. Monogr. Ampelid. 579 (1887); Gilg & Brandt l.c. 491.

APD: Synonym of Cyphostemma junceum subsp. jatrophoides (Baker) Verdc.

Vitis jatrophoides *Welw. ex Bak.* in F.T.A. 1: 400 (1868).

Cissus stenopoda *Gilg ex Gilg & Brandt* l.c. 490 (1912); F.W.T.A., ed. 1, 1: 476.

Cissus atacorensis *A. Chev.* in Rev. Bot. Appliq. 30: 457 (1950); Bot. 140.

Cissus pobeguini *Chev.* l.c. 458 (1950).

Ampelocissus atacorensis *A. Chev.* Bot. 138, name only.

Perennial herb with erect, fleshy stems to 4 ft. high, glaucous green or tinged purple; calyx reddish, petals yellow; fruits purple when ripe; **in savannah woodland**.

Fr. G.: Kouroussa (Mar.) Pobéguin 1083! Dalaba (Apr.) Chev. 18143! Timbo (Mar.) Chev. 12579! Pobéguin 1579! **Iv. C.:** Koualé to Kouroukoro Chev. 21748! **G. C.:** Salaga (Apr.) Krause! Maluwe, N.T. (fr. Mar.) Todd 334! **Togo:** Quamikrum Schlechter 12955. **Dah.:** Djougou (fl. & fr. June) Chev. 23863! **N. Nig.:** Lare Barter 3436! Mando (May) Keay FHI 25808! R. Raboutu, Birnin Gwari (June) Keay FHI 25858! **S. Nig.:** Igboho, Oyo Prov. (Feb.) Keay FHI 22514!

Also in **French Camerouns**, **Ubangi-Shari**, **E. Africa** and extending to **Angola** and Mozambique.

42. **Cissus crotalarioides** *Planch.* l.c. 577 (1887); Gilg & Brandt l.c. 498.

APD: Synonym of Cyphostemma crotalarioides (Planch.) Desc. ex Wild & R. B. Drumm.

Cissus menyanthifolia *A. Chev.* Bot. 144, name only.

Perennial herb with stout underground stock, sending up each year branched fleshy stems, pinkish at the nodes, to 4 ft. high; flowers red in bud, yellow when open; fruits grey; **in savannah woodland**.

Dah.: Pira to Cabolé Chev. 23766! Atacora Mts. (fr. June) Chev. 23941! **N. Nig.:** Nupe Barter 1669! Zaria (May) Keay FHI 25729! Anchau (fr. May) Oguia FHI 7959! Anara F.R., Zaria (May) Keay FHI 25764! Nabardo (May) Lely 210! Naraguta (Apr., May) Lely 72! P. 208!

Also in **French Camerouns**, **Ubangi-Shari**, **A.-E. Sudan**, **Belgian Congo**, **N. Rhodesia** and **Nyasaland**.

43. **Cissus waterlotii** *A. Chev.* in Rev. Bot. Appliq. 30: 456 (1960).

APD: Synonym of Cyphostemma waterlotii (A. Chev.) Desc.

Cissus koualensis *A. Chev.* Bot. 144, name only.

Cissus chevalieri of Chev. Bot. 141, partly.

Cissus crotalarioides of Berhaut Fl. Sen. 24, 173.

Perennial herb with stout underground stock, sending up annually erect, branched, fleshy stems to 3 ft. high; **in savannah**.

Sen.: Berhaut 311. Kaolak Kaichinger! **Gam.:** Farafenni (July) Fox 153! Bondali (July) Rhind in Hb. Deighton 5582! **Fr. Sud.:** Bamako (June) Waterlot 1144! **Port. G.:** Bambadinca, Bafata (June) Esp. Santo 2519! **Fr. G.:** Kouroussa (July) Pobéguin 346! 348! Kandafara Paroisse 16! Timbo to Ditinn (fr. Sept.) Chev. 18378! **Iv. C.:** Mankono (June) Chev. 21869! Sogui to Koualé (May) Chev. 21694! Tiébisson to Languira, Baoulé-Nord (fr. July) Chev. 22201!

44. **Cissus crinita** *Planch.* l.c. 581 (1887); Gilg & Brandt l.c. 494; Suesseng. in E. & P. Pflanzenfam. 20D: 241, fig. 64 L.

APD: Synonym of Cyphostemma sokodense (Gilg & M. Brandt) Desc.

APD: Synonym of Cyphostemma crinitum (Planch.) Desc.

Perennial herb, with stout underground stock, sending up annually fleshy, sparingly branched stems, to 11/2 ft. high, clothed with very long glandular hairs; flowers red in bud, cream when open; ripe fruits black.

N. Nig.: Mando, Birnin Gwari (June) Keay FHI 25811! 25832! Bauchi Plateau (May) Lely P. 312! Abinsi (Oct.) Dalz. 674!

Also in **A.-E. Sudan**.

45. *Cissus sokodensis* Gilg & Brandt l.c. 506 (1912).

APD: Synonym of Cyphostemma sokodense (Gilg & M. Brandt) Desc.

Cissus chevalieri of Chev. Bot. 141, partly.

Cissus crinita of Chev. Bot. 143, partly.

Perennial herb with stout underground stock and erect stems to 3 ft. high, glandular-pubescent.

Fr. G.: Timbo to Ditinn (fr. Sept.) Chev. 18387! Pita (May–July) Pobéguin 2096! **Togo:** Aledjo, Sokode-Basari Kersting 303. **Dah.:** near Cabolé, Savalou (May) Chev. 23767! 23801! Birni to Konkobiri (June) Chev.! Firou to Konkobiri (July) Chev. 24347! **N. Nig.:** Bauchi Plateau (May) Lely P. 340!

[The type specimen has, presumably, been destroyed and the other specimens cited here are named from the description.]

46. *Cissus chevalieri* Gilg & Brandt l.c. 508 (1912); Chev. Bot. 141, partly.

APD: Synonym of Cyphostemma pobeguinianum Desc.

APD: Synonym of Cyphostemma flavicans (Baker) Desc.

Perennial herb with stout underground stock and erect stems to 3 ft. high.

Fr. Sud.: Koba, between Diéouessikalana and Kéméné (Mar.) Chev. 607! **Fr. G.:** Kankan (fl. & fr. Aug.) Pobéguin 1086! Dalaba-Diaguissa Plateau (fr. Sept.) Chev. 18574! Kouroussa (July) Pobéguin 347!

47. *Cissus zechiana* Gilg & Brandt l.c. 46: 506 (1912).

APD: Synonym of Cyphostemma zechianum (Gilg & M. Brandt) Desc.

APD: Synonym of Cyphostemma crotalarioides (Planch.) Desc. ex Wild & R. B. Drumm.

Perennial herb, to 3 ft. high; **in savannah**.

G. C.: Navrongo (fl. & fr. May) Andoh FH 5178! **Togo:** Kete Krachi Zech 363.

[As the type specimen has, presumably, been destroyed, Andoh FH 5178 is named from the description only. Of the two specimens mentioned by Chevalier in Rev. Bot. Appliq. 30: 458 (1950), Chev. 23941 is *C. crotalarioides* and Chev. 22201 is *C. waterlotii*.]

48. *Cissus flavicans* (Bak.) Planch. l.c. 591 (1887); Gilg & Brandt l.c. 505.

APD: Synonym of Cyphostemma flavicans (Baker) Desc.

Vitis flavicans Bak. in F.T.A. 1: 413.

Cissus dahomensis A. Chev. in Rev. Bot. Appliq. 30: 458 (1950); Bot. 143.

Cissus crinita of Chev. Bot. 143, partly.

Perennial herb, with stout underground stock, sending up annually stout branched stems to 5 ft. high, covered with reddish glandular hairs; inflorescences, fruits and margins of leaflets purplish-red; open flowers cream; whole plant sticky; **in savannah woodland**.

Iv. C.: Mbayakro, Baoulé-Nord (Aug.) Chev. 22263! **G. C.:** Nkoranza (fl. & fr. Apr.) Irvine 924! **Togo:** Kpandu (fl. & fr. Apr.) Asamany 169! **Dah.:** Agouagon to Savalou (fr. May) Chev. 23679! **N. Nig.:** Nupe Yates! Anara F.R., Zaria (fl. & fr. May) Keay FHI 22859! **S. Nig.:** Kitson! Yoruba country Barter 912! 1271!

***Cissus pseudocaesia* Gilg & Brandt** l.c. 473 (1912). *APD acc*

S. L.: T. Vogel! Sc. Elliot 4155! Falaba (Feb.) Sc. Elliot 4907!

White, in Kew Bull. 1951: 57–58, suggests this may be a hybrid between *C. caesia* and *C. rufescens*. Imperfectly known species.

2. RHOICISSUS

Planch. in DC. Monogr. Ampelid. 463 (1887); Suessenguth in E. & P. Pflanzenfam. 20D: 329 (1953).

- 1 Leaflets entire, pilose when young, later glabrescent; median leaflets oblong-elliptic to obovate, obtuse or subacute at apex, 5–8 cm. long, 2.5–4 cm. broad, lateral leaflets asymmetric, subfalcate-oblong; petiolules 0.3–1.2 cm. long; petioles 1–2.5 cm. long; flowers in short, pedunculate, rusty-pilose, leaf-opposed cymes; fruits subglobose, about 1 cm. diam. [1. *revoilii*](#)

Leaflets coarsely dentate to sinuate-dentate towards the apex, persistently tomentose beneath; median leaflets more or less obovate, 3.5–11 cm. long, 3–8 cm. broad, lateral leaflets asymmetric, falcate-oblong; petiolules of the median leaflets up to 2 cm. long, of the laterals up to 0.5 cm. long; petioles 2–10 cm. long; flowers in pedunculate, tomentose, leaf-opposed cymes; fruits subglobose, about 1.2 cm. diam. [2. *erythrodes*](#)

1. **Rhoicissus revoilii** *Planch.* in DC. Monogr. Ampelid. 469 (1887); Gilg & Brandt in Engl. Bot. Jahrb. 46: 440. *APD acc*

A scrambling shrub or large climber with flexible porous stems containing copious watery sap; flowers brownish; fruits black; [in dry types of forest](#).

G. C.: 10 miles N. of Mampong, Ashanti (fl. & fr. Nov.) Vigne FH 3430! Nkontanang, Kwawu (fr. July) Akpabla 195! Asofa Hill, Achimota (Dec.) Irvine 2582!

Also in [Belgian Congo](#), [Somaliland](#), [E. Africa](#), [Mozambique](#), [S. Rhodesia](#), [Transvaal](#), [S. Arabia](#) and the [Comores](#).

2. **Rhoicissus erythrodes** (*Fres.*) *Planch.* l.c. 463 (1887); Gilg & Brandt l.c.; Suesseng. in E. & P. Pflanzenfam. 20D: 332, fig. 97.

APD: *Synonym of Rhoicissus tridentata subsp. cuneifolia (Eckl. & Zeyh.) Urton*

Vitis erythrodes *Fres.* (1837) — F.T.A. 1: 401.

A scandent shrub or climber, or trailing; [on rocky ground in savannah regions](#).

N. Nig.: Bauchi Plateau Lely P. 254!

Also in [Belgian Congo](#) and [Angola](#) and from Abyssinia and [Arabia](#) southwards to S. Africa.

3. AMPELOCISSUS

Planch. in Journ. Vigne Am. 8: 372 (1884); DC. Monogr. Ampelid. 368 (1887); Suessenguth in E. & P. Pflanzenfam. 20D: 299 (1953). *APD acc*

- 1 Leaves simple, entire or lobed:.....2

Leaves digitately compound, with 5 leaflets nearly glabrous beneath, the central ones obovate-oblongate, cuneate at base into a short petiolule, acutely acuminate, 10–17 cm. long, 3–6 cm. broad, distantly serrate-dentate, lateral leaflets usually obliquely ovate-elliptic, shorter, broader and more coarsely serrate; inflorescence puberulous; fruits about 1.2 cm. long [7. *multistriata*](#)

- 2 Undersurface of adult leaves covered by a more or less dense woolly indumentum, drying reddish- or pinkish-brown:3

Undersurface of adult leaves without a woolly indumentum, only the nerves and veins pubescent, or nearly glabrous, younger leaves sometimes with whitish loose woolly indumentum:4

- 3 Stems and petioles with long gland-tipped bristly hairs; inflorescence paniculate, with a strong main axis, the branches and axis pubescent; calyx truncate; leaves suborbicular to rather deeply 5-lobed, cordate at base, 12–30 cm. long and broad, margins doubly dentate; petioles 10–15 cm. long; fruits about 1.4 cm. long [1. *leonensis*](#)

Stems and petioles without gland-tipped hairs; inflorescence widely cymose, the branches and axis woolly-pilose; calyx distinctly lobed; leaves broadly ovate-polygonal to rather deeply 3–5-lobed, cordate at base, 9–22

- cm. long and broad, margins doubly dentate; petioles 4–14 cm. long; fruits about 1 cm. long [2. bombycina](#)
- 4 Inflorescence and young shoots, including undersurface of leaves woolly-pilose; petioles pubescent; subglobose, about 8 mm. diam.: [5](#)
- Inflorescence and young shoots puberulous; leaves puberulous on nerves and veins only beneath; petioles glabrous or nearly so: [6](#)
- 5 Flowers in densely-flowered cymes rarely more than 3.5 cm. diam.; calyx distinctly lobed; fruits crowded; leaves suborbicular in outline, with 3–5 broad lobes rounded at apex, or ovate-orbicular and only slightly lobed, cordate at base, 8–17 cm. long and broad, margins rather sharply dentate; petioles 4–14 cm. long [3. grantii](#)
- Flowers in a spreading cyme more than 3.5 cm. diam.; calyx truncate; fruits not crowded, infructescence up to 15 cm. diam.; leaves suborbicular or broadly ovate, or 3–5 lobed, acuminate at apex, cordate at base, 9–14 cm. long and broad, margins closely dentate; petioles 6–13 cm. long [4. gracilipes](#)
- 6 Leaves not lobed, or only slightly 3-lobed, suborbicular, deeply cordate at base, shortly acuminate, 17–20 cm. long, 19–22 cm. broad, margins distantly shortly dentate; petioles up to 20 cm. long; inflorescence a stout panicle [5. macrocirrha](#)
- Leaves deeply 5–7-lobed, sometimes the lobes themselves with secondary lobes, widely cordate or truncate at base, acute to long-acuminate at apices of lobes, margins irregularly denticulate or serrulate, up to 35 cm. long and broad; petioles up to 21 cm. long; inflorescence a slender pyramidal panicle [6. cavicaulis](#)

1. **Ampelocissus leonensis** (*Hook. f.*) *Planch.* in Journ. Vigne Am. 9: 30 (1885); Gilg & Brandt in Engl. Bot. Jahrb. 46: 427 (excl. Barter 1276); Chev. Bot. 139. *Cissus leonensis* Hook. f. (1849). **APD acc**

Vitis leonensis (*Hook. f.*) *Bak.* in F.T.A. 1: 398 (1868) (excl. Barter 1276).

V. salmonea *Bak.* l.c. 394 (1868).

Ampelocissus salmonea (*Bak.*) *Planch.* (1885) — Gilg & Brandt l.c. 426; Chev. Bot. 139; F.W.T.A., ed. 1, 1: 478, partly (excl. distrib. S. Nig.); Berhaut Fl. Sen. 149.

Ampelocissus bakeri *Planch.* (1885) — Gilg & Brandt l.c.; Chev. Bot. 138; F.W.T.A., ed. 1, 1: 478.

An extensive climber with stout but scarcely woody stems, pubescent and with purple gland-tipped setae; flowers green; ripe fruits purple.

Sen.: Ouassadou Berhaut 1286; 3090. **Gam.:** Balingho (July) Fox 159! **Fr. Sud.:** Nafadié Chev. 3036. **Fr. G.:** Rio Nunez & Rio Pongo Heudelot 906. Farana Chev. 13190. Labé Chev. 12286. Fouta Djallon Chev. 18293; 18481. **S. L.:** Barter! T. Vogel 10! Bagroo R. (Apr.) Mann 865! Freetown (Sept.) Welw. 1498! 1500! Waterloo (May) Deighton 2656! Rokupr (May) Jordan 265! Pendembu (July) Deighton 4340! **Lib.:** Sarbo, Webo (fr. July) Baldwin 6449! **Iv. C.:** Guidéko Chev. 16429; 16448; 16485; 19007. Soubre Chev. 17962; s.n. Koualé to Kouroukoro Chev. 21751. **Togo:** Aledjo Kersting 301. **Dah.:** Poisson! Pira to Cabolé (May) Chev. 23759! Cabolé to Bassila Chev. 23805. **N. Nig.:** Loin Barter 1275! Kaduna Lamb 106! Abinsi (July) Dalz. 676! Katsina Ala Dalz. 675! **S. Nig.:** Yoruba country Barter 1279!

2. **Ampelocissus bombycina** (*Bak.*) *Planch.* l.c. 31 (1885); Gilg & Brandt l.c. 431; Chev. Bot. 138. **APD acc**

Vitis bombycina *Bak.* in F.T.A. 1: 399 (1868).

Ampelocissus cinnamochroa *Planch.* (1885) — Gilg & Brandt l.c.; F.W.T.A., ed. 1, 1: 478.

Ampelocissus lecardii of Chev. Bot. 139.

Ampelocissus salmonea of F.W.T.A., ed. 1, 1: 478, partly (distrib. S. Nig.).

A climbing or trailing herb, with subwoody stems; flowers reddish.

Fr. G.: Kouroussa Pobéguin 349! Irébéléya to Timbo Chev. 18281. **Iv. C.:** Mt. Goula, Danane Chev. 21217. Toura country Chev. 21588; 21635; 21749. **G. C.:** Salaga Krause! **Togo:** Lome Warnecke 346! Misahöhe Baumann 312. Sokode-Basari Kersting 364. **Dah.:** Haévetgi to Massi (Mar.) Chev. 23263! Kouandé to Konkobiri Chev. 24255! **N. Nig.:** Nupe Barter 1276! 1277! Gayam, Birnin Gwari (June) Keay FHI 25831! Rinjim Mukr (May) Lely 223! Katsina Ala (Aug.) Dalz. 677! Yola (June) Dalz. 61! **S. Nig.:** Lagos (May) Dennett 501! MacGregor 96! Yoruba country Millson 53! Ibadan (Apr., June) Jones FHI 18835! Meikle 1413! **Br. Cam.:** Buea to Mayuko (Feb.) Dalz. 8231!

Also in **French Cameroons**, **Ubangi-Shari-Chad**, **Spanish Guinea**, **Belgian Congo**, **A.-E. Sudan** and **Eritrea**.

3. **Ampelocissus grantii** (*Bak.*) *Planch.* in Journ. Vigne Am. 9: 32 (1885); Gilg & Brandt l.c. 428, fig. 1, D, & fig. 2, A–F; Chev. in Rev. Bot. Appliq. 3: 451.

APD: *Synonym of Ampelocissus africana* (*Lour.*) *Merr. var. africana*

Vitis grantii *Bak.* in F.T.A. 1: 400 (1868).

V. asarifolia *Bak.* l.c. 396 (1868).

Ampelocissus asarifolia (*Bak.*) *Planch.* (1885).

Vitis chantinii Lécord ex Carrière (1881).

Ampelocissus chantinii (Lécord ex Carrière) Planch. (1885) — Chev. Bot. 139.

Ampelocissus gourmaensis A. Chev. in Rev. Bot. Appliq. 30: 452 (1950), and as subsp. of *A. grantii* on the previous page; Chev. Bot. 139, name only.

Stems herbaceous, climbing, from a perennial underground stock, flowers yellow; **in savannah, especially among rocks.**

Fr. G.: Kouroussa (Apr.) Pobéguin 702! **Iv. C.:** Ouagadougou to Ouahigouya (fl. & fr. Aug.) Chev. 24742! **Dah.:** Konkobiri Chev. 24346; 24341. Djougou Chev. 23918. Kouandé to Konkobiri Chev. 24294. **Fr. Nig.:** Kodjar (July) Chev. 24388! **N. Nig.:** Sokoto (fl. & fr. Sept.) Dalz. 354! Zaria (May) Keay FHI 2291! 25732! Maiduguri (July) Ujor FHI 21945! Yola (fl. & young fr. June) Dalz. 63! 64!

Also in **French Cameroons, Ubangi-Shari-Chad, A.-E. Sudan, E. Africa, N. Rhodesia & S. Rhodesia, Nyasaland and Mozambique.**

4. *Ampelocissus gracilipes* Stapf in J. Linn. Soc. 37: 90 (1905); Gilg & Brandt l.c. 425. *APD acc*

A climber with softly woody stout stems, pale brownish woolly-pilose on the young parts, minutely warted on older stems; flowers and fruits reddish; **in forest vegetation.**

Lib.: Sinoe Basin Whyte! R. Cestos, Grand Bassa Dinklage 1941. Gletown, Tchien (fr. July) Baldwin 9941a! **G. C.:** Akwapim (fr. June) Rumsey 9!

5. *Ampelocissus macrocirrha* Gilg & Brandt l.c. 424, fig. 1, A (1911). *APD acc*

A climber with stout woody glabrous stems and strong branched tendrils.

Br. Cam.: Buea Deistel. Johann-Albrechtshöhe Staudt 620. **F. Po:** (Jan.) Mann 226!

Also in **French Cameroons.**

[Doubtfully distinct from the next species.]

6. *Ampelocissus cavicaulis* (Bak.) Planch. l.c. 32 (1885); Gilg & Brandt l.c. 426, fig. 1, C.

APD: Synonym of *Cissus bathyrhakodes* Werderm.

APD: Synonym of *Ampelocissus abyssinica* (Hochst. ex A. Rich.) Planch.

Vitis cavicaulis Bak. in F.T.A. 1: 400 (1868).

A large climber.

S. Nig.: Sapoba (Aug.) Latilo FHI 27323! **Br. Cam.:** Bulifambo, Buea (Mar.) Maitland 583!

Also in **French Cameroons, Spanish Guinea, Gabon, Belgian Congo, A.-E. Sudan, Uganda and Angola.**

7. *Ampelocissus multistriata* (Bak.) Planch. in DC. Monogr. Ampelid. 398 (1887); Chev. Bot. 139; Chev. in Rev. Bot. Appliq. 30: 450. *APD acc*

Vitis multistriata Bak. in F.T.A. 1: 410 (1868).

V. pentaphylla Guill. & Perr. Fl. Seneg. 1: 135, t. 33 (1831), not of Thunb. (1784).

Ampelocissus pentaphylla (Guill. & Perr.) Gilg & Brandt l.c. 427 (1911); F.W.T.A., ed. 1, 1: 478.

Ampelocissus leprieurii Planch. (1885).

Cissusibuensis of F.W.T.A., ed. 1, 1: 477, partly (S.L. record).

A large herbaceous climber with glabrous, striate stems; inflorescence crowded, reddish; fruits smooth, grape-like; **in the savannah regions.**

Sen.: Kaolak Kaichinger. **Gam.:** Ingram! Albreda (June, July) Perrottet. Abuko Dalz. 8040! Genieri (July) Fox 137! **Fr. Sud.:** Kalédougou (June) Chev. 983. **Fr. G.:** Karkandy Heudelot 860! **S. L.:** Sulimania Sc. Elliot 5305! **G. C.:** Ashanti Irvine 659! **N. Nig.:** Nupe Barter 1280! Anara F.R., Zaria (young fr. May) Keay FHI 22893! Bauchi Plateau (Apr.) Lely P. 207! Yola (June) Dalz. 62!

Also in **French Cameroons, Ubangi-Shari-Chad, A.-E. Sudan, Tanganyika and Mozambique.**

Ampelocissus multiloba Gilg & Brandt l.c. 426, fig. 1, B (1911). *APD acc*

Close to *A. cavicaulis* and perhaps conspecific; specimen not seen.

Br. Cam.: Bangwa Conrau 92.

Imperfectly known species.

4. LEEA

Linn. — F.T.A. 1: 415; Suessenguth in E. & P. Pflanzenfam. 20D: 382 (1953).

- 1** Leaves bipinnate; leaflets opposite, imparipinnate, oblong-elliptic, rounded or slightly narrowed at base, acuminate, up to 18 cm. long and 8 cm. broad, glabrous, crenate-serrate; petiolules about 5 mm. long; cymes leaf-opposed, large and spreading; calyx cupular, 5-lobed; petals 5, glabrous, short; stamens 5; filaments united in a tube; fruit depressed, 5–8-lobulate, nearly 1 cm. in diam., glabrous [guineensis](#)

Leea guineensis *G. Don* Gen. Syst. 1: 712 (1831); Gilg & Brandt in Engl. Bot. Jahrb. 46: 547, fig. 18; Chev. Bot. 147. *APD acc*

Leea sambucina of F.T.A. 1: 415; of Chev. Bot. 147; not of Willd.

An erect or suberect soft-wooded shrub, up to 20 ft. high; flowers bright yellow, orange or red; fruits brilliant red then turning black; **locally abundant in moist shaded places.**

Fr. Sud.: Sarakourouba (fr. Feb.) Chev. 485. Karankasso Chev. 896. **Fr. G.:** Labé Chev. 12412. Kouria Chev. 14645. Konkouré to Timbo Chev. 12483. **S. L.:** Barter! Don. Hedde's Farm (fr. Dec.) Sc. Elliot 3923! Njala Deighton 2520! Musaia (July, Aug.) Deighton. 4353! 4814! **Lib.:** Dukwia R. (May) Cooper 444! Sinoe Basin Whyte! Cape Palmas (July) T. Vogel 11! **iv. C.:** several localities fide Chev. l.c. **G. C.:** Cape Coast Brass! Nuba (July) Chipp 308! Kumasi Cummins! Boankra (May) Chipp 435! **Togo:** Amedzofe (fr. Feb.) Irvine 175! Sokode-Basari Kersting 158. **N. Nig.:** Patti Lokoja (Nov.) Dalz. 201! Katsina Ala (July) Dalz. 792! **S. Nig.:** Lagos Dawodu 121! Sapoba Kennedy 1774! Onitsha Barter 1754! **Br. Cam.:** Buea (Nov.) Migeod 64! **F. Po:** Barter! T. Vogel 92!

Widespread in tropical Africa in moister woodland and forest.

RUTACEAE

Shrubs or trees, rarely herbs. Leaves simple or compound, mostly gland-dotted; stipules absent. Flowers hermaphrodite or unisexual, actinomorphic. Sepals 4–5, imbricate, free or connate. Petals imbricate, rarely valvate, mostly free. Stamens the same or double the number of the petals, rarely numerous, free or rarely united; anthers 2-celled, introrse, opening lengthwise. Disk usually present within the stamens. Ovary superior, syncarpous and often 4–5-celled, or the carpels free (secondary apocarp); styles free or connate. Ovules often 2, superposed. Fruit baccate, drupaceous or coriaceous, rarely a capsule. Seeds with or without endosperm.

Readily recognized by the gland-dotted usually compound leaves.

- 1** Fruits consisting of 1–5 separate dehiscent carpels each containing a single shining black or bluish seed; branchlets, and often main stem and branches, leaves and inflorescences covered with prickles; leaves imparipinnate with several to many leaflets; flowers unisexual [1. Fagara](#)
- Fruits indehiscent; plants without prickles but sometimes with axillary spines; leaves simple, 1–3-foliolate, digitate or imparipinnate: **2**
- 2** Leaves imparipinnate with numerous alternately arranged leaflets; branchlets without spines; flowers bisexual; fruits fleshy, 1-seeded [2. Clausena](#)
- Leaves simple, 1–3-foliolate, digitate, or imparipinnate with up to 3 pairs of opposite leaflets: **3**
- 3** Branchlets with single or rarely paired axillary spines; leaves simple, 1–3-foliolate or imparipinnate; flowers bisexual: **4**
- Branchlets without spines; leaves digitately (2–) 3–5-foliolate; flowers often unisexual³²: **6**
- 4** Fruits hard-shelled, 5–10 cm. diam.; ovules and seeds numerous in each cell; styles short: **5**
- Fruits soft, up to 3 cm. diam.; ovary (3–) 4–5-celled; ovules solitary in each cell; style longer than the ovary; stamens 8–10; leaves simple, 1–3-foliolate, or imparipinnate with up to 3 pairs of opposite leaflets; petioles and rhachides often winged [5. Citropsis](#)
- 5** Stamens 15–20; disk slightly lobed; ovary about 8-celled; leaves normally 3-foliolate [3. Afraegle](#)

- Stamens 8–10; disk large, with about 10 rounded lobes; ovary 5–6-celled; leaves normally simple, but apparently sometimes 1–3-foliolate [4. *Aeglopsis*](#)
- 6 Ovary 4-celled; fruit 4-celled, each cell 2-seeded; stamens or staminodes 8; leaves (3–) 5-foliolate [6. *Araliopsis*](#)
 Ovary 1–2-celled, or composed of up to 4 carpels which separate in fruit, each 1-seeded; stamens or staminodes 4–5; leaves (1–) 3 (–5)-foliolate: [7](#)
- 7 Carpels 2–4, more or less free, becoming quite free in fruit, or 1–3 aborting but evident [7. *Oricia*](#)
 Carpels solitary, or 2 united, not separating in fruit: [8](#)
- 8 Ovary and fruit 2-celled [8. *Diphasia*](#)
 Ovary and fruit 1-celled [9. *Teclea*](#)

Citrus spp.

Oranges, lemons, limes, grapefruits, etc.

Are cultivated.

***Chloroxylon swietenia* DC.**

Satinwood.

From tropical Asia is cultivated.

***Glycosmis citrifolia* (Willd.) Lindl.**

A native species of China, it is cultivated.

***Eriander* H. Winkl. in Engl. Bot. Jahrb. 41: 277 (1908).**

This is *Oxystigma* Harms (Caesalpiniaceae), see p. 466. Excluded genus.

1. FAGARA

*APD: Synonym of *Zanthoxylum* L.*

Linn. Syst. Nat., ed. 10: 897 (1759); *Engl. in E. & P. Pflanzenfam.* 19A: 217 (1931).

- 1 Leaflets not acuminate or only very slightly so, rigidly papery, oblong or oblong-oblong, sometimes emarginate at the apex, subacute at the base, 5–10 cm. long, 2–4 cm. broad, glabrous; branchlets and leaf-rhachis armed with sharp recurved prickles; panicles nearly as long as the leaves; flowers clustered and sessile; fruits ellipsoid, about 6 mm. long; seeds black and shining [1. *zanthoxyloides*](#)
 Leaflets conspicuously acuminate: [2](#)
- 2 The leaflets pilose or pubescent beneath: [3](#)
 The leaflets glabrous beneath: [5](#)
- 3 Branchlets, leaf-rhachides and lower surface of leaves softly and densely pubescent; leaflets 9–15, oblong-lanceolate, 12–13 (–20) cm. long, 4–6 (–9.5) cm. broad, margins crenulate, closely gland-dotted; fruits ovoid, 1 cm. long, slightly pubescent [2. *pubescens*](#)
 Branchlets, leaf-rhachides and midrib and nerves hirsute with rather long spreading hairs: [4](#)
- 4 Leaflets 5–10 cm. long, 2–3.5 cm. broad, usually 13–15, with few scattered glands, with petiolules 1–1.5 mm. long; lamina oblong-oblong, abruptly acuminate; inflorescence with few or many long spreading hairs; pedicels 2–3 mm. long; fruits subglobose, 5–6 mm. long, glabrous and muricate [3. *viridis*](#)
 Leaflets 6.5–25 cm. long, 4–8 cm. broad, 9–11, with numerous gland-dots, lateral leaflets sessile; lamina oblong-obovate, oblong or ovate-oblong, long-acuminate; inflorescence densely pubescent; pedicels 1 mm. long [4. *buesgenii*](#)
- 5 Trees and erect shrubs: [6](#)
 Lianes; stems, petioles and rhachides of leaves and inflorescences with numerous recurved prickles: [12](#)
- 6 Leaf-rhachides 50–100 cm. long; leaflets 31–51, elongate-oblong, asymmetrical at the base, 12–25 cm. long, 3.5–9 cm. broad, with numerous spreading lateral nerves; panicles very large; flowers sessile on the branches; fruits suborbicular about 5 mm. diam.: [7](#)
 Leaf-rhachides up to 45 cm. long, with 8–25 leaflets; leaflets up to 13 cm. long and 5 cm. broad, or if larger than main lateral nerves 8–10 and flowers distinctly pedicellate; pedicels 0.5–3 mm. long; fruits up to 7 mm. long: [8](#)

- 7 Petiolules up to 5 mm. long, leaflets obtuse to subcordate at base, asymmetrical but usually with the two sides of the lamina joining the petiolule at about the same level; leaf-rhachides prickly; leaflets 12–25 cm. long, 3.5–9 cm. broad [5. *macrophylla*](#)
- Petiolules 7–10 mm. long, leaflets strongly asymmetrical at base, the distal side broad, rounded, joining the petiolule well below the narrow, cuneate proximal side; leaf-rhachides unarmed or with a few prickles near the base only; leaflets 12–20 cm. long, 5–8 cm. broad [6. *melanorhachis*](#)
- 8 Main lateral nerves 8–10 on each side of midrib, bowed and looped; leaflets 9–13, rather obliquely oblong-elliptic or ovate-elliptic, rounded or obtuse at base, rather abruptly and often long-acuminate, 5–20 (–25) cm. long, 2.5–9 (–12.5) cm. broad, usually the upper leaflets larger than the lower ones, with very numerous translucent yellowish gland-dots, rhachis up to 45 cm. long; pedicels 2–3 mm. long; lateral branches of inflorescence paniculate; fruits 5–7 mm. long [7. *rubescens*](#)
- Main lateral nerves more than 10 on each side of midrib, close and more or less parallel; leaflets up to 13 cm. long and 5 cm. broad; gland-dots few or numerous; pedicels 0.5–1.5 mm. long: 9
- 9 Lateral branches of inflorescence paniculate; pedicels 1–1.5 mm. long; fruits 3.5–4.5 mm. long; leaflets up to 10.5 cm. long and 3.2 cm. broad, with gland-dots mostly confined to the margins: 10
- Lateral branches of inflorescence spike-like; pedicels up to 0.75 mm. long; leaflets 3–13 cm. long, 1.8–5 cm. broad, distinctly petiolulate: 11
- 10 Leaflets sessile, 20–25, each with a small pouch on one side at the base, oblanceolate, sometimes slightly oblique, cuneate at base, crenate towards the shortly acuminate apex, acumen itself emarginate, 1.4–7.5 cm. long, 0.6–1.8 cm. broad [8. *parvifoliola*](#)
- Leaflets with petiolules 1.5–3 mm. long, 8–18, without pouches at the base, narrowly oblong-falcate, asymmetrically cuneate to rounded at base, longcaudate-acuminate, margins subentire, 4–10.5 cm. long, 1.2–3.2 cm. broad [9. *lemairei*](#)
- 11 Leaflets with reddish translucent glands scattered over the surface; flowers in small fascicles along the lateral branches of the inflorescence, pedicels 0.5 mm. long or less; leaflets 9–21, oblong to ovate, often obliquely so, rounded or obtuse at base, long-acuminate, margins crenulate, 3–13 cm. long, 1.8–4.8 cm. broad [10. *lepreurii*](#)
- Leaflets with glands which do not appear translucent; flowers separate along the lateral branches of the inflorescence, pedicels about 0.75 mm. long; leaflets about 9, oblong or oblong-obovate, cuneate at base, abruptly long-acuminate, margins crenate, 6.5–12 cm. long, 3–5 cm. broad [11. *sp. A*](#)
- 12 Leaflets 9–11, oblong, rounded at base (except the apical leaflet which is cuneate), long-acuminate, margins crenate, 4.5–13 cm. long, 2–4.5 cm. broad; pedicels about 4 mm. long in flower, up to 7 mm. long in fruit; fruits 8–9 mm. long [12. *dinklagei*](#)
- Leaflets up to about 43, oblong, cordate at base, rather abruptly acuminate, margins inrolled, 5–9 cm. long, 3.5–5.5 cm. broad, terminal leaflet up to 22 cm. long and 7.5 cm. broad; leaf-rhachides up to about 70 cm. long; pedicels 1–1.5 mm. long in fruit; fruits 5–6 mm. long [13. *sp. B*](#)

1. ***Fagara zanthoxyloides* Lam.** Encyl. Méth. Bot. 2: 446 (1786); Aubrév. Fl. For. C. Iv. 2: 84–86, t. 159, D; Fl. For. Soud.-Guin. 364, t. 80, 4–7.

APD: *Synonym of Zanthoxylum zanthoxyloides (Lam.) Zepern. & Timler*

***Zanthoxylum senegalense* DC.** (1824) — F.T.A. 1: 305; Chev. Bot. 100.

***Fagara senegalensis* (DC.) A. Chev.** Bot. 101 (1920).

***Zanthoxylum polygamum* Schum.** (1827).

A glabrous shrub or tree, up to 40 ft. high, with shining aromatic foliage and bark; flowers cream-white; **locally abundant in coastal areas.**

Sen.: Kounoun & Saffal Isl. Perrottet 141! Carabane (Jan.) Chev. 3153! Floup-Fedyan Chev. 3152. R. Casamance (fr. May) Leprieur! R. Salum Brunner 71! **Gam.:** Hayes 518! **Fr. Sud.:** Ténétou Chev. 661. **Port. G.:** Botelhe, Caravela Isl. (fr. May) Esp. Santo 2000! **Fr. G.:** Kouroussa Pobéguin 646; 847. **Iv. C.:** Bondoukou Aubrév. 1611! **G. C.:** Cape Coast (fr. July) T. Vogel 77! Asientiem (July) Chipp 289! Birrifwa to Lawra (Mar.) Kitson 808! Achimota (fl. & fr. June, Aug.) Irvine 66! Milne-Redhead 5108a! **Togo:** Lome Warnecke 249! 389! Kpedsu (Dec.) Howes 1067! **Dah.:** Cotonou Debeaux! Abomey Chev. 23141. **N. Nig.:** Nupe Barter 1137! Jebba Barter! **S. Nig.:** Lagos (fr. Dec.) Millen 39! Rowland! Olokemeji (Feb.) Foster 110! A. F. Ross 78!

2. ***Fagara pubescens* A. Chev.** in Bull. Soc. Bot. Fr. 58, Mém. 8: 144 (1912); Aubrév. Fl. For. C. Iv. 2: 86.

APD: *Synonym of Zanthoxylum chevalieri P. G. Waterman*

***Zanthoxylum melanacanthum* of Chev.** Bot. 100.

A shrub, or small tree, 6–20 ft. high, with tomentose branchlets armed with straight spines; flowers white; fruits red when ripe.

Fr. G.: Dalaba-Diaguissa Plateau (Sept., Oct.) Chev. 18348! 18882. Labé (fr. Feb.) Chev. 12267! **S. L.:** Bafodeya (Apr.) Sc. Elliot 5495! **G. C.:** Sang, W. Prov. (Aug.) Vigne FH 1289!

3. **Fagara viridis** A. Chev. l.c. 143 (1912); Aubrév. l.c. t. 160, C.

APD: Synonym of Zanthoxylum viride (A. Chev.) P. G. Waterman

Fagara attiensis Hutch. & Dalz., F.W.T.A., ed. 1, 1: 481 (1928), partly (Johnson 750).

A small tree or shrub, 6–12 ft. high with pubescent, spiny branchlets; flowers greenish-white in large terminal panicles.

S. L.: Musaia (fl. July, fr. Sept., Oct.) Deighton 4800! 4892! Miszewski 3! 12! Jigaya (fr. Sept.) Thomas 2672! Yetaya (fr. Sept.) Thomas 2459! Kabala (fr. Sept.) Thomas 2244! 2603! **Iv. C.:** Droupleu (May) Chev. 21445! **G. C.:** Kumasi (June) Vigne FH 1743! Okroase (May) Johnson 750!

4. **Fagara buesgenii** Engl. Bot. Jahrb. 46: 407 (1911).

APD: Synonym of Zanthoxylum buesgenii (Engl.) P. G. Waterman

Fagara viridis of F.W.T.A., ed. 1, 1: 481, partly (Talbot 1274).

A scandent shrub; in forest.

S. Nig.: Oban Talbot 1274! 1508!

The type is from an unspecified part of the Cameroons.

5. **Fagara macrophylla** Engl. in E. & P. Pflanzenfam. 3, 4: 118 (1896); Chev. Bot. 100; Aubrév. Fl. For. C. Iv. 2: 88, t. 159, B.

APD: Synonym of Zanthoxylum gillettii (De Wild.) P. G. Waterman

Zanthoxylum? macrophyllum Oliv. F.T.A. 1: 304 (1868), not of Miq. (1859).

An evergreen forest tree 30–40 ft. high, rarely up to 120 ft. high; bole and larger branches covered with large woody-based prickles; leaves very large, clustered at the ends of the branches.

S. L.: Bandama (fr. Mar.) Aylmer 582! Njala Deighton 1826! **Lib.:** Bonuta (Oct.) Linder 919! **Iv. C.:** Aubrév.! **G. C.:** Dunkwa Vigne 888! **S. Nig.:** Ibadan F.R., (fl. Sept., fr. Jan.) Punch 127! Shasha F.R. (May) Richards 3433! Uregin, Benin (young fr. July) Unwin 114! Sapoba Kennedy 332! 2288! **Br. Cam.:** Victoria Maitland 202!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **A.-E. Sudan**, **Uganda**, **Angola** and **the islands of Principé** and **S. Tomé**.

There appear to be several infraspecific variants; intensive and extensive field research is needed.

6. **Fagara melanorhachis** Hoyle in Kew Bull. 1933: 174.

APD: Synonym of Zanthoxylum gillettii (De Wild.) P. G. Waterman

A forest tree, similar to the last.

S. Nig.: Sapoba (Apr.) Kennedy 337! 2086! 2297! Enugu Rosevear 2/28!

[Perhaps not distinct from *F. inaequalis* Engl. (1917) from French Cameroons, Belgian Congo and N. Rhodesia.]

7. **Fagara rubescens** (Planch. ex Hook. f.) Engl. in E. & P. Pflanzenfam. 3, 4: 118 (1896).

APD: Synonym of Zanthoxylum rubescens Planch. ex Hook. f.

Zanthoxylum rubescens Planch. ex Hook. f. (1849); F.T.A. 1: 305.

Z. melanacanthum Planch. ex Oliv. F.T.A. 1: 305 (1868).

Fagara melanacantha (Planch. ex Oliv.) Engl. (1896) — F.W.T.A., ed. 1, 1: 481; Aubrév. Fl. For. C. Iv. 2: 90, t. 160, A.

Fagara welwitschii Engl. (1896).

Fagara afzelii Engl. (1896).

Fagara altissima Engl. (1911).

Fagara bouetensis Pierre ex Engl. (1915).

Fagara attiensis Hutch. & Dalz., F.W.T.A., ed. 1, 1: 481 (1928) and Kew Bull. 1929: 24, partly (Chev. 17423, Thomas 1747); Aubrév. l.c.

Zanthoxylum attiense A. Chev. Bot. 99, name only.

An **understorey forest** tree, to 30 ft. high, armed with black thorns; flowers greenish or whitish, numerous in large panicles.

Port. G.: Dandum, Bafata (June) Esp. Santo 2690! Fulacunda Esp. Santo 2204! **S. L.:** Afzelius! T. Vogel 181! Njala (fl. June, fr. Aug.) Deighton 3013! 3017! 3242! Russell (May) Deighton 2685! Leicester (June) Lane-Poole 292! Makump (fr. July) Thomas 959! **Iv. C.:** Alépé, Attie (young fr. Feb–Mar.) Chev. 17423! Abouabon Forest (fr. Jan.) Miège 2231! Vridi Forest (Mar.) Miège 2255! Abidjan Aubrév. 284; 389. Djibi Chev. 1327. **G. C.:** Cape Coast (July) T. Vogel 15! Komenda (young fr. Aug.) Andoh FH 5553! Volta River F.R. (June) Vigne FH 4411! Aburi Hills (Nov.) Johnson 233! **S. Nig.:** Thomas 1797! Lagos Dawodu 196! Ibadan North F.R. (Aug.) Keay FHI 25357! Okomu F.R., Benin (Feb.) Brenan 9035! Odiani, Asaba (Aug.) Onochie FHI 33428! **Br. Cam.:** Nkom-Wum, Bamenda (fr. July) Ujor FHI 29278!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola** and **S. Tomé**.

8. *Fagara parvifoliola* A. Chev. ex Keay in Bull. Jard. Bot. Brux. 26: 187 (1956); Aubrév. Fl. For. C. Iv. 2: 88, t. 159, A (1936), French descr. only.

APD: Synonym of Zanthoxylum parvifoliolum A. Chev. ex Keay

Zanthoxylum parvifolium A. Chev. Vég. Util. 5: 233 (1909), not validly described; Chev. Bot. 100.

Fagara leprieurii of F.W.T.A., ed. 1, 1: 481, partly.

A **forest** tree, to about 7 ft. girth; bole smooth, without thorns, young shoots with small thorns.

Iv. C.: Aubrév. 1787! Mbasso Chev. 16263! Rasso Aubrév. 582!

Also in **Belgian Congo**.

9. *Fagara lemairei* De Wild. in Fedde Rep. 13: 380 (1914).

APD: Synonym of Zanthoxylum lemairei (De Wild.) P. G. Waterman

Fagara unwinii Hutch. & Dalz., F.W.T.A., ed. 1, 1: 481 (1928); Kew Bull. 1929: 24.

A **forest** tree, up to 80 ft. high and 6 ft. girth, with thorny stem.

G. C.: Dunkwa (fr. July) Vigne FH 4763! Amentia Vigne FH 1872! **S. Nig.:** Idu, Sapoba F.R., Benin (fr. Nov.) A. F. Ross 223! Sapoba Kennedy 1835! 1915! 2281! Boji Hills, Ikom (fr. June) Unwin 13!

Also in **French Cameroons** and **Belgian Congo**.

10. *Fagara leprieurii* (Guill. & Perr.) Engl. in E. & P. Pflanzenfam. 3, 4: 118 (1896); Aubrév. Fl. For. C. Iv. 2: 86–88, t. 160, B, partly; Fl. For. Soud.-Guin. 362.

APD: Synonym of Zanthoxylum parvifoliolum (A. Chev. ex Keay) W.D. Hawth.

APD: Synonym of Zanthoxylum mezoneurispinosum (Aké Assi) W.D. Hawth.

Zanthoxylum leprieurii Guill. & Perr. (1831) — F.T.A. 1: 306; Chev. Bot. 100.

Fagara angolensis Engl. (Sept. 1896) — F.W.T.A., ed. 1, 1: 481; Aubrév. Fl. For. C. Iv. 2: 90, t. 159, C.

Fagara polyacantha Engl. (1896).

Zanthoxylum nitens Hiern (Dec. 1896).

Fagara nitens (Hiern) Engl. (1915).

Fagara attiensis Hutch. & Dalz. F.W.T.A., ed. 1, 1: 481, partly (Sc. Elliot 5745, Chev. 22471).

An **understorey forest** tree, 15–80 ft. high; stems covered with large broad-based thorns having sharp points; flowers white.

Sen.: Maloum (May, June) Leprieur! Niokolo-Koba Berhaut 1495. **Port. G.:** Catió (July) Esp. Santo 2142! Bijimita (fr. Sept.) Esp. Santo 2182! Mansoa to Jugudal (fr. Oct.) Esp. Santo 3096! **Fr. G.:** Mamou to Labé Chev. 61. **S. L.:** Afzelius! Sc. Elliot 5745! York Pass (June) Lane-Poole 314! 315! Tombo to Kent (May) Deighton 2671! Mano to Kailahun (Apr.) Deighton 3179! **Lib.:** Tchien (fr. Aug.) Baldwin 7048! **Iv. C.:** Bangouanou to Endé Chev. 22471. **G. C.:** Ejura (June) Vigne

FH 2038. Mpraeso (May) Beveridge FH 4207! **N. Nig.**: Bauchi Plateau (Apr.) Lely P. 231! **S. Nig.**: Ibadan South F.R. (fl. buds Apr.) Keay FHI 22822! Awka Dist. (June) Jones FHI 602! 6626! Umuaku, Okigwi (May) Cousens FHI 3847!

Extends to **Angola**, **Belgian Congo**, A.–E. **Sudan** and **Uganda**.

11. *Fagara* sp. **A.** *APD acc*

Zanthoxylum crenatum A. Chev. Bot. 99, name only.

Fagara angolensis of F.W.T.A., ed. 1, 1: 481, partly; Aubrév. Fl. For. C. Iv. 2: 88, partly.

Perhaps only a form of *F. lepreurii*, but further material required.

Iv. C.: Soubré to Pehiri (June) Chev. 19183!

12. *Fagara dinklagei* Engl. Bot. Jahrb. 23: 147 (1896).

APD: *Synonym of Zanthoxylum dinklagei* (Engl.) P. G. Waterman

Fagara klainei Pierre ex De Wild. (1925).

(?) *F. poggei* Engl. (1896).

A liane with numerous sharp thorns; **in forest**.

S. Nig.: Okomu F.R. (fl. Feb., fr. Sept.) Onochie FHI 19731! 34326! Oban Talbot 427!

Also in **French Cameroons** and **Gabon**.

13. *Fagara* sp. **B.** *APD acc*

A liane with prickly stems up to 3 in. diam.; **in forest**.

Iv. C.: Téké Forest (fr. Aug.) Miège 1935!

2. CLAUSENA

Burm. f. — F.T.A. 1: 307; Engl. in E. & P. Pflanzenfam. 19A: 320 (1931); Swingle in Webber & Batchelor, Citrus Industry 1: 158 (1943).

- 1 Leaflets 17–32, alternate, obliquely ovate or ovate-lanceolate, cuneate to rounded at base, acuminate, acute, obtuse or rounded at apex, very variable in size, up to about 11 cm. long and 5 cm. broad, margins entire or crenulate, nearly glabrous to densely pubescent beneath, glandular-punctate; flowers in lax narrow panicles at least half as long as the leaves; petals glabrous; fruits ellipsoid, about 9 mm. long and 7 mm. broad, glabrous *anisata*

Clausena anisata (Willd.) Hook. f. ex Benth. in Fl. Nigrit. 256 (1849); F.T.A. 1: 308; Chev. Bot. 101 (incl. var.); Swingle l.c. 183 (incl. var.). *APD acc*

Amyris anisata Willd. (1799).

Clausena pobeguini Pobéguin (1906).

Clausena inequalis of F.T.A. 1: 307; of Chev. Bot. 102; of F.W.T.A., ed. 1, 1: 479; not of (DC.) Benth.

A shrub or small tree, up to 20 ft. high, with odorous leaves, cream-white flowers and shining black drupes.

Fr. G.: Labé Chev. 12292. Timbo Pobéguin 118. Diaguissa Chev. 12646. Mamou (Nov.) Chev. 14662. Farana Chev. 1341. **S. L.**: Regent Sc. Elliot 4146! Bafodeya Hills (Apr.) Sc. Elliot 5685! Limba (Apr.) Sc. Elliot 5487! Dodo (Apr.) Deighton 3912! **Iv. C.**: Bouroukrou Chev. 16785. Attéou Chev. 17083. Mt. Do Chev. 21427. Languira, Baoulé-Nord Chev. 22205. **G. C.**: Cape Coast (fl. & fr. July) T. Vogel 5! 85! Kintampo (Mar.) Dalz. 16! Volta R., Krepi (Jan.) Johnson 563! Accra Plains (Mar.) Howes 1137! **Dah.**: Massé to Kétou Chev. 23004. Koussi Chev. 23233. Ouidah Chev. 23447. Savalou Chev. 23693. **N. Nig.**: Bauchi Plateau (Jan.) Lely P. 109! Idah Barter 1638! **S. Nig.**: Lagos Dawodu 55! Abeokuta Barter 3339! Ibadan (Mar.) Keay FHI 16037! Meikle 1263! Oban Talbot 428! 1500! **Br. Cam.**: Cam. Mt., 5,000–7,500 ft. (fl. & fr. Dec.–Apr.) Mann 1187! 2183! Maitland 1068! Bambui, Bamenda (Apr.) Maitland 1464! L. Oku (Jan.) Keay & Lightbody FHI 28491! **F. Po.**: Musola (Jan.) Guinea! Moka (Jan.) Exell 811!

Widespread in tropical Africa.

There are probably several infraspecific taxa; extensive field research and experiments are needed.

3. AFRAEGLE

(*Swingle*) *Engl. Pflanzenw. Afr. 3, 1: 761 (1915); E. & P. Pflanzenfam. 19A: 352, fig. 161 (1931); Swingle in Webber & Batchelor, Citrus Industry 1: 456 (1943). APD acc*

- 1** Branchlets often armed with axillary spines about 2 cm. long; leaves trifoliolate; leaflets shortly stalked, obovate or oblanceolate, obtuse or emarginate at the apex, 4–6.5 cm. long, 2–3.5 cm. broad, glabrous, entire, finely pellucid-glandular; flowers few in short axillary cymes; pedicels constricted and jointed at the base; calyx coriaceous, short and broadly lobed; petals oblong, imbricate; stamens 12–20, free; fruit globose, about 9 cm. diam. *paniculata*

Afraegle paniculata (*Schum. & Thonn.*) *Engl. Pflanzenw. Afr. 3, 1: 761, fig. 355 (1915); Aubrév. Fl. For. C. Iv. 2: 94, t. 163, 1–3; Fl. For. Soud.-Guln. 365; Swingle l.c. 457, fig. 70. APD acc*

Citrus paniculata *Schum. & Thonn. (1827).*

Balsamocitrus paniculata (*Schum. & Thonn.*) *Swingle (1912) — Chev. Bot. 102.*

Aegle barteri *Hook. f. in Hook. Ic. Pl. t. 2285 (1895).*

Limonia warneckeii *Engl. (1905) — Chev. Bot. 101.*

A shrub or tree, to 50 ft. high, with grey-green branchlets, white fragrant flowers and hard-shelled orange-like fruits 2–4 in. diam.; **usually found planted in villages.**

Sen.: Berhaut 1324. **Fr. G.:** Maclaud. **Lib.:** (?) fide Swingle l.c. **Iv. C.:** Groumania Aubrév. 794. Ouangolo Aubrév. 1401. Banfara Vuillet 708. **G. C.:** Thonning. Achimota (June) Milne-Redhead 5101! Yijia to Pong Kitson 635! Kologu, N.T. (fr. Apr.) Vigne FH 4738! **Togo:** Lome Warnecke 113! **Dah.:** Pénésoulou to Pelebina (May) Chev. 23833! Pira Chev. 23749. **N. Nig.:** Kutigi, Niger Prov. (Mar.) Lamb 44! **S. Nig.:** Abeokuta (Jan.) Rowland! Ogbomosho Barter 3404! Rowland! Igboho (Feb.) Keay FHI 22494!

Afraegle mildbraedii *Engl. l.c. (1915); Swingle l.c. 460. APD acc*

Specimen imperfect, presumably now destroyed.

F. Po: San Carlos Mildbr. 6978.

Imperfectly known species.

4. AEGLOPSIS

Swingle in Bull. Soc. Bot. Fr. 58, Mém. 8: 237 (1912); Engl. in E. & P. Pflanzenfam. 19A: 353 (1931); Swingle in Webber & Batchelor, Citrus Industry 1: 460 (1943). APD acc

- 1** Branchlets with axillary spines; leaves simple, subsessile, elliptic, shortly acuminate, shortly cuneate at the base, 5–12 cm. long, 2.5–7 cm. broad, densely glandular-punctate; flowers in very short axillary panicles up to 5 cm. long; buds ovoid; calyx shortly lobed; petals 4 or 5, oblong or lanceolate, about 1 cm. long; stamens 8–10, free; ovary 5–6-celled, style very short; fruit spherical or pear-shaped, 6–9 cm. diam. *chevalieri*

Aeglopsis chevalieri *Swingle Bull. Soc. Bot. Fr. 58, Mém. 8: 240, t. 2, 1–9, t. 3 (1912); op. cit. 60: 406, fig. A; Engl. l.c., fig. 162; Aubrév. 2: 94, t. 162; Baldwin & Speese in Bull. Torrey Bot. Cl. 77: 368, fig. 1. APD acc*

Balsamocitrus chevalieri (*Swingle*) *A. Chev. Bot. 102 (1920).*

A shrub or small tree, up to 20 ft. high; flowers white.

Lib.: Bobei, Sanokwele (fr. Feb.) Baldwin 14182. **Iv. C.:** Sassandra Port, near sea (May) Chev. 17940. Tabou Pobéguin 180. Agnéby, Guiglo & Bondoukou fide Aubrév. l.c. **G. C.:** Kumasi (Mar.) Vigne FH 1656! Aburi Hills (fl. Feb., fr. Apr.) Howes 1188! Obeng! Amentia (Apr.) Vigne FH 2901! Aboma F.R. (fr. Nov.) Vigne FH 3449! **Togo:** Kabosu, Hohoe Dist. St. C. Thompson FH 3607!

Aeglopsis sp.

A forest shrub, with spiny stems; leaves simple and 3-foliolate or 1-foliolate by abortion; flowers similar to *A. chevalieri*; fruits not known. *A. eggelingii* M. R. F. Taylor from Uganda has similar

foliage, but larger flowers with more numerous stamens. Further material, especially with ripe fruits, required.

S. L.: Njala Deighton 2506! 3100! Konia (Apr.) Deighton 3945!

Imperfectly known species.

5. CITROPSIS

(*Engl.*) *Swingle & Kellerman* in Journ. Agric. Research 1: 421 (1914); *Engl.* in E. & P. Pflanzenfam. 19A: 347 (1931); *Swingle* in Webber & Batchelor, Citrus Industry 1: 302 (1943).

- 1 Leaves simple; petioles 3·5–4 mm. long, wingless, not articulated with the lamina; calyx-lobes short; petals 7 mm. long and 3 mm. broad; stamens 5·5–6 mm. long; ovary 1 mm. high, style 4·6 mm. long; leaves broadly lanceolate, broadly cuneate at base, with a short, wide, blunt acumen, 8–10 cm. long, 6–3 (–4) cm. broad; fruit not known [1. *tanakae*](#)
- Leaves imparipinnate, 3-foliolate or 1-foliolate; petioles 1–8 cm. long, winged, articulated with the lamina; calyx-lobes acute: **2**
- 2 Petals about 4 mm. long; ovary about 1 mm. high, style 1·5 mm. long; wing of petioles up to 2 mm. wide; leaves (1–) 3-foliolate; leaflets very variable in shape, the terminal ones up to 15 cm. long and 6 cm. broad, the lateral ones considerably smaller; fruits subglobose, 1–1·5 cm. diam. [2. *sp. nr. gabunensis*](#)
- Petals about 15 mm. long; ovary about 3 mm. high, style 12–15 mm. long; wing of petiole and rhachis 8–20 mm. wide; leaves (3–) 5 (–7)-foliolate; leaflets broadly elliptic to obovate, up to 19 cm. long and 10·5 cm. broad; fruits subglobose, probably about 2 cm. diam. [3. *articulata*](#)

1. ***Citropsis tanakae* Swingle & Kellerman** in Journ. Arn. Arb. 21: 121, t. 3, fig. 1–5 (1940); *Swingle* in Webber & Batchelor, Citrus Industry 320.

APD: *Synonym of Citropsis gabunensis (Engl.) Swingle & M. Kellerm.*

S. L.: Afzelius.

2. ***Citropsis sp. nr. gabunensis (Engl.) Swingle & Kellerman*** in Journ. Agric. Research 1: 430 (1914); *Engl.* in E. & P. Pflanzenfam. 19A: 348, fig. 158, L-N; *Swingle* l.c. 315. *APD acc*

Limonia gabunensis Engl. (1895).

A forest shrub; flowers white; fruits red.

S. L.: Kambia, Scarcies R. (fr. Jan.) Sc. Elliot 4425! Gola Forest (Mar.) Small 533! **Lib.:** Dukwia R. (fr. July, Oct., Nov.) Cooper 39! Linder 87a!

[Material from Spanish Guinea, Gabon (type locality) and Belgian Congo has the leaves often 5-foliolate and the petioles and rhachides more widely winged and rather larger flowers; there is however a good deal of variation in both areas.]

3. ***Citropsis articulata (Willd. ex Spreng.) Swingle & Kellerman*** l.c. 433, figs. 3 & 4, A (1914); *Engl.* l.c., fig. 158, F-H; *Swingle* l.c. 308. *APD acc*

Citrus articulata Willd. ex Spreng. (1826).

Limonia preussii Engl. (1895).

Citropsis preussii (Engl.) Swingle & Kellerman (1914).

Limonia mirabilis A. Chev. (1912).

Citropsis mirabilis (A. Chev.) Swingle & Kellerman (1914) — *Engl.* l.c., fig. 158, J.

A forest shrub or tree, to 20 ft. high; flowers white, very fragrant.

S. L.: Bumbuna (young fr. Oct.) Thomas 3784! 3897! **iv. C.:** Sanrou to Ouodé, R. Koué (May) Chev. 21609! **G. C.:** Suhuma F.R. (fl. & fr. Oct.) Cansdale FH 3961! Jimira F.R. (Aug.) Vigne FH 3321! 3991! Mountains 30–45 miles N. of Accra Isert. **Togo:** Misahöhe Baumann 552! Santrokofi, Hohoe Dist. (fl. & fr. Oct.) St. C. Thompson FH 3597! **S. Nig.:** Oban Talbot 1348! 1472! Bashua, Ikom Div. Jones & Onochie FHI 18703! **Br. Cam.:** Johann-Albrechtshöhe Staudt 747! Barombi (Sept.) Preuss 548!

Also in **French Cameroons** and **Gabon**.

6. ARALIOPSIS

Engl. in E. & P. Pflanzenfam. 3, 4: 175 (1896); op. cit. 19A: 304 (1931); Verdoorn in Kew Bull. 1926: 393. *APD acc*

- 1 Branchlets and leaves glabrous; leaves (3–) 5-foliolate, petioles 5–19 cm. long; leaflets obovate-oblong to obovate, cuneate into the 1–2 cm. petiolule at the base, abruptly long-acuminate, 8–27 cm. long, 3.5–10.5 cm. broad, with numerous parallel lateral nerves; panicles many-flowered, axillary, pubescent, pedicels up to 4 mm. long; flowers glabrous outside, unisexual [tabouensis](#)

Araliopsis tabouensis Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 83: 488, fig. 1 (1936); Aubrév. Fl. For. C. Iv. 2: 90, t. 161.

APD: Synonym of Vepris tabouensis (Aubrév. & Pellegr.) Mziray

An evergreen tree to 100 ft. high with cylindrical bole and rough bark; flowers whitish; **in rain forest.**

Lib.: Dukwia R. Cooper 341! **Iv. C.:** Youkou to Patokla, Tabou region (May, June) Aubrév. 1304! **G. C.:** Simpa (Feb., Mar.) Kinloch FH 3235! Vigne FH 2807! Axim (Feb.) Irvine 2249! **S. Nig.:** Umon-Ndealichi F.R., Itu, Calabar Prov. Iyizoba FHI 20809!

Araliopsis sp.

Forest tree, about 10 ft. high; leaves 5-foliolate, petioles 17–28 cm. long; leaflets more or less obovate elliptic, 13–34 cm. long, 7–16.2 cm. broad; male panicles terminal, very dense; sepals and petals green without, petals within and filaments white. On account of its 8 stamens I refer this plant provisionally to Araliopsis; fruits are however required to determine its exact position. It is possible that the specimen (Olorunfemi FHI 30709) which I have tentatively referred to as Oricia sp. B, on account of its apocarpous fruits, is conspecific; the distinctions between the genera Oricia, Araliopsis and Vepris and their allies need to be thoroughly revised.

S. Nig.: Boje to Iso Bendiga, Afi River F.R., Ikom Div. (Dec.) Keay FHI 28258!

Imperfectly known species.

7. ORICIA

Pierre in Bull. Soc. Linn. Paris 2: 1288 (1897); Verdoorn in Kew Bull. 1926: 411; *Engl.* in E. & P. Pflanzenfam. 19A: 303.

- 1 Branches of inflorescence tomentose, flowers sessile, outside of corolla glabrous; leaves (1–) 3-foliolate; leaflets obovate-elliptic to elongate-elliptic, cuneate at base, obtuse or subacute at apex, 3.5–28 cm. long, 1.5–10 cm. broad [l. suaveolens](#)
- Branches of inflorescence tomentellous, pedicels 1.5–3 mm. long, outside of corolla puberulous; leaves 3-foliolate; leaflets elongate-oblong, cuneate at base, shortly acuminate, 10–35 cm. long, 4–12 cm. broad [2. trifoliolata](#)

1. **Oricia suaveolens (Engl.) Verdoorn** in Kew Bull. 1926: 413; Aubrév. Fl. For. C. Iv. 2: 92, t. 162, 1–5.

APD: Synonym of Vepris suaveolens (Engl.) Mziray

Teclea suaveolens Engl. (1896).

Oricia leonensis Engl. (1903).

An **understorey forest** tree, to 30 ft. high; flowers greenish-white.

Fr. G.: Kindia (Mar.) Chev. 13100! **S. L.:** Afzelius! Freetown Vohsen. Top of Sugar Loaf Mt. (Mar.) Dalz. 977! Kangama to Dia (Apr.) Deighton 3152! Loma Mts., 2,500 ft. Jaeger 4027! **Iv. C.:** Dakpadou (fr. Dec.) Aubrév. 214. Mt. Momy, Man Aubrév. 1176. Patokla Aubrév. 1303. Anyama (Sept.) Aubrév. 1589. **S. Nig.:** Gambari Group F.R. (fl. Mar., fr. May, July) Adekunle FHI 14777! W. D. MacGregor 508! 509! Symington FHI 4116!

2. *Oricia trifoliolata* (Engl.) Verdoorn l.c. (1926).

APD: Synonym of Vepris trifoliolata (Engl.) Mziray

Araliopsis trifoliolata Engl. (1917).

A forest tree.

Br. Cam.: Victoria (Mar.) Maitland 586! Zahn 499!

1. *Oricia* sp. A. *APD acc*

Tree, to 45 ft. high; leaves 3-foliolate, midribs densely pubescent beneath. Flowers not known.

Lib.: Mecca (fr. Dec.) Baldwin 10807!

Imperfectly known species.

2. *Oricia* sp. B. *APD acc*

Forest tree, to 25 ft. high; leaves 5-foliolate, leaflets up to 40 cm. long. Flowers not known; but see note under *Araliopsis* “imperfectly known species.”

Br. Cam.: S. Bakundu F.R. (fr. Aug.) Olorunfemi FHI 30709!

Imperfectly known species.

8. DIPHASIA

APD: Synonym of Vepris Comm. ex A. Juss.

Pierre in Bull. Soc. Linn. Paris, nouv. sér. 70 (1898); Verdoorn in Kew Bull. 1926: 411; Engl. in E. & P. Pflanzenfam. 19A: 304 (1931).

- 1 Branchlets, petioles and midribs and nerves on underside of leaflets hispid with yellowish or grey hairs; petioles 2–10 cm. long; leaflets 3, elliptic-obovate, cuneate into a short petiolule at base, acuminate at apex, 5–18 cm. long, 2·3–7 cm. broad; inflorescence of terminal and axillary panicles; fruits about 1 cm. long, 2-lobed, or of one oblique carpel with the other aborting and forming a swelling at the base of the fruit [klaineana](#)

Diphasia klaineana Pierre l.c. (1898).

APD: Synonym of Vepris hiernii Gereau

Diphasia angolensis of Verdoorn in Kew Bull. 1926: 411, partly; of Aubrév. Fl. For. C. Iv. 2: 84.

An understorey forest tree, to 50 ft. high; flowers white.

Iv. C.: Port Bouët Aubrév. 2004! Agnéby (Apr.) Aubrév. 2264. **G. C.:** Bosusu (July) Moor FH 340! S. Scarp F.R. Moor FH 2239! S. Fomang Su F.R. (fr. Jan.) Vigne FH 2698! Bobiri F.R. (fl. May, fr. Sept.) Foggie FH 4893! C. J. Taylor FH 5273! Worobong F. R. (fl. & fr. Nov.) Vigne FH 4269! 4270!

Also in **Gabon**.

9. TECLEA

APD: Synonym of Vepris Comm. ex A. Juss.

Del. in Ann. Sci. Nat., sér. 2, 20: 90 (1843); Verdoorn in Kew Bull. 1926: 401; Engl. in E. & P. Pflanzenfam. 19A: 314 (1931).

- 1 Inflorescences quite glabrous, up to 2·5 cm. long, axillary, racemose or sparingly branched; petioles not winged;

leaflets distinctly petiolulate, with numerous lateral nerves:2

Inflorescences rather densely but minutely spreading-puberulous, up to 4 cm. long, axillary and terminal, usually many-flowered and paniculate; petals 1·5–2 mm. long; petioles (0·8–) 2–7 cm. long, narrowly winged; leaflets sessile, elongate-elliptic, cuneate at base, acuminate at apex, 4·5–21 cm. long, 1·2–8 cm. broad; fruits oblong-ellipsoid, at least 8 mm. long and 4 mm. broad [3. verdoorniana](#)

- 2 Petals 3–4 mm. long; racemes up to 1·5 cm. long, with 1–3 (–5) flowers; petioles 2·5–13·5 cm. long; petiolules 0·5–2·5 cm. long; leaflets elongate-elliptic, cuneate at base, obtusely long-acuminate, 8·5–15 cm. long, 3·2–6·3 cm. broad; fruits ellipsoid, up to 2·5 cm. long and 1·5 cm. broad [1. afzelii](#)

Petals 2 mm. long; racemes up to 2·5 cm. long with several flowers; petioles 1·8–4 cm. long; petiolules up to 6 mm. long; leaflets lanceolate-elongate-elliptic, cuneate at base, gradually long-acuminate, 4·3–12·5 cm. long, 1·7–4·8 cm. broad [2. sudanica](#)

1. **Teclea afzelii** Engl. Bot. Jahrb. 23: 153 (1896); Chev. in Rev. Bot. Appliq. 30: 76. (?) T. acuminata Engl. Bot. Jahrb. 36: 245 (1905).

APD: Synonym of Vepris afzelii (Engl.) Mziray

Teclea zenkeri of Verdoorn in Kew Bull. 1926: 407, partly, of F.W.T.A., ed. 1, 1: 482; not of Engl. (1896).

A glabrous forest shrub or small tree; flowers orange-red; ripe fruits yellow.

Fr. G.: Mt. Loura, Fouta Djallon Chev. **S. L.:** Afzelius! **S. Nig.:** Afi River F.R., Ikom (fr. May) Latilo FHI 30993! **Br.**

Cam.: Johann-Albrechtshöhe Staudt 590! Bibundi (Apr.) Schlechter 12410.

Also in **French Cameroons**.

2. **Teclea sudanica** A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 5: 408 (1933); Rev. Bot. Appliq. 30: 78, t. 4 C.

APD: Synonym of Vepris heterophylla (Engl.) Letouzey

A shrub, to 10 ft. high; on rocky hills in savannah regions.

Fr. Sud.: Boulouli (Sept.) Vuillet 749! Kita Dubois 55! Fô (June) Chev. 966! **G. C.:** Yeji Dist. Kitson!

[Apparently close to T. nobilis Del. which is widespread in N.E. and E. Africa.]

3. **Teclea verdoorniana** Exell & Mendonça in Consp. Fl. Ang. 1: 270 (1951).

APD: Synonym of Vepris verdoorniana (Engl. & Mendonça) Mziray

Teclea grandifolia of Verdoorn in Kew Bull. 1926: 407; of F.W.T.A., ed. 1, 1: 482; of Chev. in Rev. Bot. Appliq. 30: 76, t. 4 A; not of Engl. (1896).

A forest shrub or small tree; petals greenish-white, stamens white.

S. L.: Sugar loaf Mt. (May) Barter! **Lib.:** Mt. Bili (Dec.) Barker 1181! **Iv. C.:** Groumania (fl. Jan., fr. May) Aubrév. 795!

2365! **G. C.:** Irvine 952! Ejun (Apr.) Vigne FH 1100! Volta River F.R. (Feb., Apr.) Moor FH 2343! Vigne FH. 4350!

Akwapim (Apr.) Irvine 1155! **Br. Cam.:** Johann-Albrechtshöhe Staudt 472! 493! Kumba (Feb.) Dundas FHI 20355! **F. Po:** Bokoko Mildbr. 6960.

Also in **Belgian Congo (Haut Uele)**.

1. **Teclea ferruginea** A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 5: 409 (1933); Rev. Bot. Appliq. 30: 76.

A shrub, 5 ft. high.

Fr. Sud.: Sangali, 150 km. from Bandiagara (fl. buds May) Rogeon 293.

Type specimen not traced. Imperfectly known species.

2. **Teclea carpopunctifera** A. Chev. in Rev. Bot. Appliq. 30: 78, t. 4 B (1950). *APD acc*

A small tree; in forest.

Iv. C.: Kokroum Bégué 2951.

Type specimen not traced.

SIMAROUBACEAE

Trees or shrubs, sometimes with bitter bark, rarely spiny. Leaves alternate or rarely opposite, imparipinnate, rarely simple, not or very rarely gland-dotted; stipules absent. Flowers small, unisexual or polygamous, actinomorphic. Calyx-lobes 3–5. Petals 3–5, imbricate or valvate, rarely absent, free or united into a tube. Disk present. Stamens inserted at the base of the disk, equal or double the number of the petals, rarely more numerous, free, sometimes with a scale at the base; anthers 2-celled, opening lengthwise. Ovary 2–5-lobed, 1–5-celled, or carpels quite separate; styles 2–5; ovules usually solitary, rarely 2 or more, axile. Fruit usually indehiscent, dry or drupaceous. Seeds with or without endosperm; embryo straight or curved.

Mainly tropical regions.

Sometimes with bitter bark; leaves eglandular, pinnate, exstipulate.

- 1 Ovary 4 (–5)-celled; branchlets often with thorns; stamens 8–10, each with a hairy petaloid scale at the base. [1. *Harrisonia*](#)
Ovary of 4–5 free carpels, each with a single ovule; branchlets not thorny: [2](#)
- 2 Stamens each with a hairy petaloid scale at the base: [3](#)
Stamens without petaloid scales at the base: [5](#)
- 3 Calyx open in bud, regularly lobed: [4](#)
Calyx closed in bud, rupturing into 2–3 (–4) unequal segments; stamens 10 (–14) [4. *Hannoa*](#)
- 4 Leaf-rhachis narrowly winged; leaflets 3–4 pairs; stamens 10. [2. *Quassia*](#)
Leaf-rhachis not winged; leaflets 5–15 pairs; stamens 10–18. [3. *Pierreodendron*](#)
- 5 Stamens 10; leaf-rhachis not constricted at the base and nodes; leaflets 6–12 pairs; fruits about 10 cm. long. [5. *Gymnostemon*](#)
Stamens 4; leaf-rhachis (when dry) constricted at the base and nodes; leaflets 4–6 pairs; fruits about 1 cm. long. [6. *Bucea*](#)

Picrasma javanica Bl.

A species native of tropical Asia is sometimes cultivated in our area.

1. HARRISONIA

R.Br. ex A. Juss. — F.T.A. 1: 311; Engl. in E. & P. Pflanzenfam. 19A: 382 (1931).

- 1 Leaflets usually opposite, 4–8 pairs, oblanceolate to elliptic, narrow at base, rounded or slightly acuminate at apex, about 4 cm. long and 1.5 cm. broad, entire or crenate, slightly pubescent beneath; rhachis narrowly winged; panicles terminal, many-flowered; flowers globose in bud, tomentose, small; fruits depressed-globose, 7–8-lobulate, hollowed on the top, about 6 mm. diam. [abyssinica](#)

Harrisonia abyssinica Oliv. F.T.A. 1: 311 (1868); Engl. l.c., fig. 177. *APD acc*

Harrisonia occidentalis Engl. (1895) — Chev. Bot. 105; F.W.T.A., ed. 1, 1: 485; Aubrèv. Fl. For. C. Iv. 2: 100, t. 167.
Zanthoxylum guineense Stapf (1906).

A shrub, or small tree up to 30 ft. high; the leaves often with paired thorns at the base, with branches sometimes long and sarmentose, and erect panicles of small white flowers; [characteristic of areas marginal between forest and savannah](#).

Fr. G.: Farana (May) Chev. 13408! And other localities fide Chev. l.c. **S. L.:** Afzelius! Sulimania and Falaba (Mar.) Sc. Elliot 5310! Dunnia (Feb.) Sc. Elliot 4887! Daru to Baiima (Apr.) Deighton 3145! Batkanu (fr. July) Small 127! **Lib.:** Cape Palmas Ansell! Wohmen, Vonjama (fr. Oct.) Baldwin 10101! Tappita (fr. Aug.) Baldwin 9095! **Iv. C.:** Dimbokro Serv. For. 438! And other localities fide Chev. l.c. **G. C.:** Ejura, N. Ashanti (Mar.) Dalz. 4! Sunyani, W. Ashanti (Apr.) Irvine 921! Afram Plains (Mar.) Johnson 711! Aburi Hills (Mar.) Johnson 896! Opro River F.R. (Feb., Mar.) Andoh FH 4673! Lyon FH 2856! **Togo:** Lome Warnecke 465! **Dah.:** Allada (Mar.) Chev. 23388! 23421! **S. Nig.:** Lagos Foster 52! Millen 106! Rowland! Olokemeji (Apr.) Obaseki FHI 23821! Ijaye Barter 3338! **Br. Cam.:** Johann-Albrechtshöhe Staudt 963!

Widespread in tropical Africa.

2. QUASSIA

Linn. — F.T.A. 1: 312; Engl. in E. & P. Pflanzenfam. 19A: 377 (1931).

- 1 Leaflets opposite, 3–4 pairs, obliquely elliptic, unequal-sided at base, caudate-acuminate, 10–15 cm. long, 4–6 cm. broad, thin, glabrous, with about 9 pairs of obscure lateral nerves; rhachis narrowly winged, often constricted at the joints; panicles very narrow, shorter than the leaves; pedicels 5 mm. long; petals linear-oblong, 1.5 cm. long; stamens shortly pilose towards the base; fruits slightly flattened, obovate-elliptic, with sharp edges, about 2.5 cm. long, very laxly reticulate. [africana](#)

Quassia africana (Baill.) Baill. in *Adansonia* 8: 89 (1868); F.T.A. 1: 312. *APD acc*

Simaba africana Baill. (1867) — Cronquist in *Lloydia* 7: 81.

A glabrous shrub, 8–12 ft. high; in forest.

Br. Cam.: R. Cameroon (Jan.) Mann 2191!

Extends to **Belgian Congo** and **Angola**.

Quassia amara Linn.

A native species of tropical America is cultivated in our area.

3. PIERREODENDRON

Engl. Bot. Jahrb. 39: 575 (1907); Little in *Phytologia* 3: 156 (1949).

Simarubopsis Engl. (1911).

Mannia Hook. f. (1862) — F.T.A. 1: 312; F.W.T.A., ed. 1, 1: 484; not of Opiz (1829), nor of Trevis. (1857).

- 1 Stamens 15–18; anthers 2–3 mm. long; leaves up to 1 m. long, with 5–15 pairs of subopposite leaflets, plus the terminal one; leaflets oblong-elliptic, rounded and unequal sided at base, rounded and with a very abrupt, short, thick acumen at apex, 10–30 cm. long and 3–9 cm. broad, leathery, with numerous much-branched lateral nerves, slightly impressed above; petiolules about 3 mm. long; racemes clustered or paniculate, up to 40 cm. long; pedicels up to 7 mm. long; calyx-lobes orbicular, about 2.5 mm. long, petals up to 1 cm. long; fruits oblong-ellipsoid, about 7 cm. long and 4–5 cm. broad, apiculate, woody. [1. africanum](#)
- Stamens 10; anthers 4–5 mm. long; otherwise, apparently, as above. [2. kerstingii](#)

1. Pierreodendron africanum (Hook. f.) Little in *Phytologia* 3: 156 (1949).

APD: *Synonym of Quassia grandifolia* (Engl.) Noot.

Mannia africana Hook. f. (1862) — F.T.A. 1: 312; F.W.T.A., ed. 1, 1: 484, partly; Kennedy For. Fl. S. Nig. 152.

Pierreodendron grandifolium Engl. (1907).

A forest tree, to 60 ft. high, with straggling habit; inflorescences and flowers reddish-purple.

S. Nig.: Ewusa to Ebele, Ishan (Aug.) Onochie FHI 33251! Sapoba (fl. Aug.–Sept., fr. Sept., Oct.) Kennedy 1809! Nun R. (Sept.) Mann 480! Calabar (Feb.) Mann 2266!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

2. Pierreodendron kerstingii (Engl.) Little l.c. (1949). *APD acc*

Simarubopsis kerstingii Engl. Bot. Jahrb. 46: 280, fig. 1 (1911).

Mannia kerstingii (Engl.) Harms in E. & P. Pflanzentam. 19A: 371, fig. 168 (1931).

M. simarubopsis Pellegr. in Bull. Soc. Bot. Fr. 77: 665 (1930); Aubrév. Fl. For. C. Iv. 2: 102, t. 168.

A large forest tree, to 80 ft. high; flowers red, ripe fruits yellow.

Iv. C.: Abidjan Aubrév. 192; 346. **G. C.:** Kwaben (Aug.) Vigne FH 1297! Aburi Johnson 985! **Togo:** Kulumi, Sokode-Basari (fr. Dec.) Kerling A. 708!

This genus is still poorly known; more good specimens and field observations are much needed. Aubréville (l.c.) suggests that the Ivory Coast plant may be different from *P. kerstingii*. It is possible, however, that there is really only one species in the genus, with dimorphic flowers. The genus is also represented at Kew by the following sterile specimens which may

belong to either species: — S. L.: Bo to Yele King 276! Iv. C.: Dabou Chev. 16212! (cited as *Trichoscypha mannoides* A. Chev. Bot. 161, name only). S. Nig.: Olokemeji Onochie & Jones FHI 14179! Illa Thomas 1916!

4. HANNOA

Planch. — F.T.A. 1: 309; Engl. in E. & P. Pflanzenfam. 19A: 380(1931).

- 1 Tree to 35 m. high, with tall straight bole in rain forest; leaflets (2–) 3–8 pairs, plus the terminal leaflet, on petiolules up to 1.2 cm. long, oblong or elliptic, cuneate at base, rounded and broadly mucronate or emarginate at apex, 3.5–19 cm. long, 2–7.5 cm. broad, leathery, glabrous, main lateral nerves impressed above and beneath; panicles terminal, lax, longer than the leaves, puberulous; flowers more or less glomerate, puberulous outside; petals about 4 mm. long; fruits oblong, 2.5–3.2 cm. long, 1.5–2.5 cm. diam., glabrous. .. [1. *klaineana*](#)

Tree to 10 m. high in understorey of montane forest; leaflets 2–3 pairs, plus the terminal leaflet, on petiolules up to 2.2 cm. long, oblong, cuneate at base, rounded and mucronulate or emarginate at apex, 6–16 cm. long, 2–6 cm. broad; panicles rather shorter than the leaves; otherwise similar to above. [2. *ferruginea*](#)

Tree to 12 m. high, with fire-tolerant, deeply furrowed bark, in [savannah](#); leaflets 2–5 pairs, plus the terminal leaflet, on petiolules up to 4 cm. long, oblong-elliptic or obovate-oblong, cuneate at base, rounded and mucronulate or emarginate at apex, 3.5–9.5 cm. long, 1.5–5.2 cm. broad; panicles longer than the leaves; fruits oblong, 1.6–2 cm. long, 1–1.3 cm. diam., glabrous; otherwise similar to *klaineana* [3. *undulata*](#)

1. **Hannoa klaineana** *Pierre & Engl.* in Engl. Bot. Jahrb. 46: 282 (1911), incl. vars.; Chev. Bot. 103; Aubrév. Fl. For. C. Iv. 2: 102, t. 169; Kennedy For. Fl. S. Nig. 153.

APD: Synonym of Quassia silvestris Cheek & Jongkind

A large [forest](#) tree, with straight clear bole covered with smooth grey bark, without buttresses; wood white, soft; foliage shining, glabrous; flowers yellowish-white; ripe fruits black and shining.

Fr. G.: Kouria (Oct.) Chev. 14711! Conakry (fr. Dec.) Chev. 25690! **S. L.:** Devils' Hill, Hangha (Sept.) Aylmer 595! Njala (fr. Feb.) Deighton 2608! 5299! Heddle's Farm (Oct.) Lane-Poole 393! Kambui (Oct.) Edwardson 138! **Lib.:** Dukwia R. (fr. Oct., Nov.) Cooper 82! 116! Moylakwelli (fr. Oct.) Linder 1312! **Iv. C.:** Fleury 7! And various localities fide Chev. l.c. **G. C.:** Ampakrom, Tanosu (Sept.) Chipp 356! Brahababum (Aug.) Vigne FH 918! Dunkwa (Aug., Sept.) Rea 289! Vigne FH 149! Tafo (Sept.) Andoh FH 4522! **Togo:** Misahöhe Mildbr. 7375! **S. Nig.:** Lagos (Sept.) Dalz. 1266! Dawodu 91! Sapoba (fl. July, fr. Dec.) Kennedy 277! 344! 425! Niger Delta (Aug.) Mann 458! Degema (July) Unwin 3! Ikom (Sept.) Catterall 32! **Br. Cam.:** Victoria (Sept.) Maitland 748!

Extends to [Belgian Congo](#) and [Angola](#).

2. **Hannoa ferruginea** *Engl.* Bot. Jahrb. 32: 122 (1902).

APD: Synonym of Quassia sanguinea Cheek & Jongkind

A tree of [montane forest](#); branchlets, rachides and midribs crimson, leaflets dark glossy green above, pale beneath, crimson on the margins; flowers yellowish-cream.

S. Nig.: Mt. Koloishe, 4,000 ft., Obudu Div. (fl. & young fr. Dec.) Keay & Savory FHI 25052! **Br. Cam.:** Bangwe, 2,900 ft. (Jan.) Conrau 53.

3. **Hannoa undulata** (*Guill. & Perr.*) *Planch.* — F.T.A. 1: 309; Engl. Bot. Jahrb. 46: 283, incl. var.; E. & P. Pflanzenfam. 19A: 380, fig. 174; Aubrév. Fl. For. Soud.-Guin. 368, t. 76, 6–7.

APD: Synonym of Quassia undulata (Guill. & Perr.) D. Dietr.

APD: Synonym of Quassia silvestris Cheek & Jongkind

Simaba? *undulata* *Guill. & Perr.* Fl. Seneg. 1: 136, t. 34 (1831).

A [savannah](#) tree with grey corky bark, deeply furrowed; leaflets dark green and matt above, pale beneath; flowers yellowish-cream, sweetly scented; ripe fruits black.

Sen.: Heudelot 435! Djibelor Aubrév. 3065. Sinédone Chev. 3156. **Gam.:** Albreda (fr. Mar., Apr.) Perrottet. Georgetown (Jan.) Dalz. 8037! Kombo Dawe 2! **Fr. Sud.:** Balani (Jan.) Chev. 142! Koundian Chev. 415. **Port. G.:** Madina de Boé

(Jan.) Esp. Santo 2861! Brene, Bissau (fr. Feb.) Esp. Santo! 1736! **Fr. G.:** Kouroussa (Nov.) Pobéguin 594! 854! Mangata to Laya (Jan.) Chev. 20434! **S. L.:** Falaba, Sulima (Nov.) Miszewski 14! **Iv. C.:** Banfora Serv.For. 1819. **G. C.:** Yefri Dist., Ashanti (Feb.) Kitson! Tamale (fr. May) Kitson 953! Bosomoa F.R. (Dec.) Lyon FH 2725! Nsawkaw Vigne FH 3542. **Togo:** Sokode (Dec.) Kersting A. 322! Kete Krachi (Jan.) Vigne FH 1532! **Dah.:** Djougou Chev. 23865. **Fr. Nig.:** Gaya Aubrév. N. 21. **N. Nig.:** Sokoto (Nov.) Lely 853! Jebba Barter 1023! Kontagora (fl. Nov., fr. Dec.) Dalz. 76! Lafia to Makurdi (Nov.) Keay FHI 22272!

Also in **French Camerouns** and **Ubangi-Shari**.

5. GYMNOSTEMON

Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 84: 183 (1937).

- 1 A tree, with glabrous stems and imparipinnate leaves; leaf-rhachis 20–45 cm. long; leaflets coriaceous, subsessile, 6–12 pairs, opposite or subopposite, oblong, cuneate or obtuse at base, long-caudate-acuminate, 8–13.8 cm. long, 2–4.5 cm. broad, with 12–16 main lateral nerves on each side of midrib; panicles terminal; pedicels about 5 mm. long, like the flowers rusty-villous; calyx about 2 mm. long; petals about 4.5 mm. long, villous on both sides; disk fleshy, lobed, pubescent; stamens 10, about 3 mm. long; carpels 5, free, villous; fruits ovoid, about 10 cm. long and 8 cm. diam., pustulose outside. [zaizou](#)

Gymnostemon zaizou *Aubrév. & Pellegr.* l.c. 184, fig. 1 (1937). *Mannia?* zaizou Aubrév. Fl. For. C. Iv. 2: 104 (1936), French descr. only. *APD acc*

A large forest tree, with habit of an Entandrophragma; leaves clustered at the ends of the branches.

Iv. C.: Gagnoa to Sassandra Aubrév. 707! Guigio Aubrév. 1225! 2773!

6. BRUCEA

J. F. Mill. — F.T.A. 1: 309; Engl. in E. & P. Pflanzenfam. 19A: 386 (1931).

- 1 Leaflets rusty-tomentose beneath, densely so at first; leaves imparipinnate, with 4–5 opposite or subopposite leaflets; leaf-rhachis (when dry) constricted at the joints, 10–35 cm. long; leaflets oblong-ovate to ovate-lanceolate, unequal and rounded or obtuse at base, gradually acuminate, 4.5–14 cm. long, 2–7 cm. broad, margins undulate, with 6–9 main lateral nerves on each side of midrib; panicles elongated, up to about 35 cm. long, the flowers clustered and subsessile on the tomentose axis; fruits ellipsoid, about 1 cm. long, reticulate. [1. antidysenterica](#)

Leaflets pubescent on the midrib and nerves beneath; leaves imparipinnate, with 4–6 pairs of opposite or subopposite leaflets; leaf-rhachis up to 100 cm. long; leaflets ovate-oblong, rounded or slightly cuneate at base, gradually acuminate, 11–27 cm. long, 4–13 cm. broad; panicles very narrow, many-flowered, up to 40 cm. long; otherwise similar to above. [2. guineensis](#)

1. **Brucea antidysenterica** *Lam.* Encycl. Méth. Bot. 1: 471 (1785); F.T.A. 1: 309. *APD acc*

Brucea salutaris *A. Chev.* (1912) — Chev. Bot. 104.

A shrub or tree, to 30 ft. high; flowers green; ripe fruits brown; **in montane forest**.

Fr. G.: Diaguissa Plateau, 3,200–4,200 ft. Chev. 12703! 18596; 18760. **S. Nig.:** Oban Talbot 1347! **Br. Cam.:** Cam. Mt., 7,000–8,000 ft. (Dec., Jan.) Mann 1188! 2174! Maitland 1329! Lakom, Bamenda (fr. May) Maitland 1588! Abakpa (fr. Apr.) Ujor FHI 30051! Bafing, 4,000 ft. (Feb.) Johnstone 63/31!

Widespread on mountains in tropical Africa.

2. **Brucea guineensis** *G. Don* Gen. Syst. 1: 801 (1831). *APD acc*

Brucea macrophylla *Oliv.* F.T.A. 1: 310 (1868); F.W.T.A., ed. 1, 1: 486.

Brucea paniculata of F.T.A. 1: 310, partly (syn. *B. guineensis* *G. Don* only).

A shrub or tree, to 15 ft. high, with long panicles of small flowers with red corollas; **in clearings in lowland rain forest**; possibly only varietally distinct from the above.

S. L.: Don! **G. C.:** Obuom Mine (June) Vigne FH 2974! **Br. Cam.:** Ambas Bay (Feb.) Mann 774! Victoria (fr. May, Aug.) Maitland 703! Bulifambo (Mar.) Maitland 579!

Also in **French Cameroons** and **Spanish Guinea**.

Brucea paniculata Lam. — F.T.A. 1: 310 (excl. syn. *B. guineensis* G. Don).

This is *Trichoscypha smeathmannii* Keay (Anacardiaceae).

Excluded species.

IRVINGIACEAE

Trees; leaves alternate, simple, not gland-dotted, with well-developed stipules enclosing the young buds, caducous and leaving a scar around the stem. Flowers hermaphrodite, actinomorphic. Calyx-lobes 4–5, imbricate. Disk present. Stamens 8–10; anthers 2-celled, opening lengthwise. Ovary 2-celled; ovules 1 per cell; style solitary. Fruits drupaceous or samaroid. Seeds without or with scant endosperm.

A small family of tropical Africa

Distinguished from the Simaroubaceae mainly by the large stipules with their annular scars; clearly differentiated from the Simaroubaceae on anatomical grounds (see, for instance, Metcalfe & Chalk, *Anatomy of the Dicotyledons* 1: 324).

- 1 Ovary (4–) 5 (–6)-celled; fruits depressed, (4–) 5 (–6)-seeded and -angled; stipules up to 10 (–20) cm. long. ... [1. Klainedoxa](#)
Ovary 2-celled; stipules up to 3 cm. long: [2](#)
- 2 Fruit drupaceous. [2. Irvingia](#)
Fruit samaroid. [3. Desbordesia](#)

1. KLAINEDOXA

Pierre ex Engl. (1896) — E. & P. *Pflanzenfam.* 19A: 396 (1931).

- 1 A glabrous tree; leaves ovate-elliptic or elliptic, cuneate, obtuse or rounded at base, gradually tapered to an acute or subacuminate apex, 5–16 cm. long, 2–6.5 cm. broad, leathery, closely and finely reticulate on both surfaces, with numerous main lateral nerves; petioles 5–8 mm. long; stipules linear, acute, up to 10 cm. long, caducous; on young trees leaves lanceolate, up to 40 cm. long and 10 cm. broad, stipules up to 20 cm. long; racemes paniculate, up to about 12 cm. long; pedicels about 3 mm. long; sepals broadly obovate, about 1.5 mm. long; petals about twice as large; fruits depressed-globose, usually 5-angled, hard, 5–8 cm. diam. ... [gabonensis var. oblongifolia](#)

Klainedoxa gabonensis var. oblongifolia Engl. *Bot. Jahrb.* 32: 125 (1902); E. & P. *Pflanzenfam.* 19A: 396, fig. 185, A–D; Kennedy *For. Fl. S. Nig.* 150.

APD: Synonym of Klainedoxa gabonensis Pierre ex Engl.

Klainedoxa oblongifolia (Engl.) Stapf in Broun & Massey *Fl. Sud.* 228 (1929); F.W.T.A., ed. 1, 1: 483, in syn.

Klainedoxa zenkeri Van Tiegh. (1905).

Klainedoxa gabonensis of F.W.T.A., ed. 1, 1: 483; Aubrév. *Fl. For. C. Iv.* 2: 95, t. 164.

An evergreen tree to 150 ft. high, with broad crown and narrow very widely spreading buttresses; flowers pinkish; **in forest**. Young trees have thorny stems, very large leaves and long stipules.

Port. G.: Empacaca, Canchungo Esp. Santo 1944! **S. L.:** Njala (Nov.) Deighton 1942! 1944! 2812! Kambui Hills (Dec.) Edwardson 7! Gola Forest (fr. Apr.) Small 606! Loko country Sc. Elliot 5717! **Lib.:** Dukwia R. Cooper 118! 349! Buchanan (young fr. Mar.) Baldwin 11208! **Iv. C.:** Yapo (Oct.) Chev. 22320! And other localities fide Aubrév. **I.c.G. C.:** Essiama (Nov.) Vigne FH 1448! Huniso Irine 1066! Obuasi (fr. Jan.) Soward 648! Sikamang to Akrofuam Kitson 1252! **Togo:** Kadjakpe, Hohoe Dist. St. C. Thomson FH 3671! **S. Nig.:** Oni Sankey 18! Sapoba (fl. Apr., fr. June) Kennedy 302! 1385! 1647! **Br. Cam.:** Victoria (Jan.) Kalbreyer 10! Bibundi Mildbr. 10641! Likomba (Nov.) Mildbr. 10736!

The species extends to A.–E. **Sudan**, **Uganda**, **Belgian Congo** and Cabinda.

Klainedoxa sp.

Forest tree, to 80 ft. high; leaves broadly obovate-elliptic, very shortly but distinctly acuminate, up to 8.5 cm. long and 5.5 cm. broad; flowers and mature fruits required.

G. C.: Bonsa Su (fr. Dec.) Vigne FH 1994! Atuna Viyne FH 3528.

Imperfectly known species.

2. IRVINGIA

Hook. f. — F.T.A. 1: 313; Engl. in E. & P. Pflanzenfam. 19A: 398 (1931).

Irvingella Van Tiegh. (1905).

- 1 Flowers distinctly pedicellate; sepals about 1 mm. long; petals about 4 mm. long; petioles up to 1 cm. long:**2**
Flowers subsessile borne in terminal, panicles 7–15 cm. long; sepals about 1 mm. long; petals about 3 mm. long; leaves elliptic-oblong, cordate or subcordate at base, shortly and broadly acuminate, 10–27 cm. long, 4.8–13.5 cm. broad, with 14–16 main lateral nerves on each side of midrib; petioles up to 1.5 cm. long; stipules up to 3 cm. long, caducous; fruits ovoid, about 2.5 cm. long [3. grandifolia](#)
- 2 Flowers in short, clustered, mostly axillary racemes, or subpaniculate; pedicels up to 10 mm. long; leaves obovate-elliptic or elliptic, more or less cuneate or narrowly rounded at base, shortly and broadly acuminate, 3.5–16 cm. long, 1.8–7.5 cm. broad, with 5–11 main lateral nerves on each side of midrib; stipules up to 1.5 cm. long, caducous; fruits broadly ellipsoid, somewhat flattened, about 5–6 cm. long with smooth skin, fibrous exocarp and hard endocarp [1. gabonensis](#)
Flowers in terminal panicles 6–12 cm. long; pedicels 3–5 mm. long; leaves broadly ovate, broadly rounded or subcordate at base, gradually broadly acuminate, 2.5–13 cm. long, 1.8–7 cm. broad, with 12–14 main lateral nerves on each side of midrib; stipules 2–2.5 cm. long, caducous; fruits oblong-ellipsoid, 4–5 cm. long [2. smithii](#)

1. *Irvingia gabonensis* (*Aubry-Lecomte ex O'Rorke*) *Baill.* Trait. Méd. Phan. 2: 881 (1883); Aubrév. Fl. For C. Iv. 2: 96, t. 165; E. & P. Pflanzenfam. 19A: 398, fig. 187. *APD acc*

APD: *Synonym of Irvingia wombolu Vermoesen*

Mangifera gabonensis *Aubry-Lecomte ex O'Rorke* (1857).

Irvingia barteri *Hook. f.* (1862) — F.T.A. 1: 314, incl. var. *tenuifolia*; Chev. Bot. 104.

Irvingia tenuifolia *Hook. f.* (1860).

Irvingia tenuinucleata *Van Tiegh.* (1905).

A forest tree, to 120 ft. high, with dark green shining foliage; flowers greenish, fragrant; fruits yellow, edible; often seen in villages and towns in the forest regions.

Sen.: Fogny, Casamance (fr. Feb.) Chev. 3157! **Fr. G.:** Dyeke (Oct.) Baldwin 9652a! Longuery, Kouria to Ymbo (Nov.) Chev. 14789! **S. L.:** Kjala (fr. Feb.) Deighton 2606! Songo (Oct.) Tindall 43! Gola Forest (fr. Apr.) Small 623! **Iv. C.:** Yapó (young fr. Oct.) Chev. 22331! Byanouan, Sanvi Chev. 17753. Davo to Soubré Chev. **G. C.:** Axim Morgan FH 4929! Bobiri F.R. Andoh FH 4936! **Dah.:** Adjara, Porto Novo (Jan.) Chev. 22752! **N. Nig.:** Agaie (Nov.) Yates 26! **S. Nig.:** Lagos (Feb.) Dalz. 929! Abeokuta Irving! Sapoba Kennedy 2040! 2062! Eket Talbot 3139! 3140! Calabar (Feb.) McLeod! Oban Talbot 1470! **Br. Cam.:** R. Cameroon (Jan.) Mann 2206! Abokum, Mamfe Div. Johnstone 247/31!

Extends to the **Belgian Congo**, A.–E. **Sudan** and **Angola**, also on **Principe Island**.

2. *Irvingia smithii* *Hook. f.* in Trans. Linn. Soc. 23: 167 (1860); F.T.A. 1: 314. *APD acc*

Irvingella smithii (*Hook. f.*) *Van Tiegh.* (1905).

A glabrous tree, 30–60 ft. high, with small yellowish fragrant flowers and scarlet plum-like fruits; by river banks, especially in savannah regions.

N. Nig.: Nupe Barter 1319! Kontagora (Nov.) Dalz. 98! Bida (Jan.) Yates 43! Izom, Abuja Dist (Jan.) Savory UCI 142! **S. Nig.:** Ibo country (fr. Sept.) T. Vogel 10! Aboh T. Vogel! Osomari F.R. Onitsha (ft. July) Odiachi FHI 15465!

Extends to A.–E. **Sudan** and **Angola**. *Engl. Bot. Jahrb.* 46: 288, fig. 4 (1911). *APD acc*

Klainedoxa grandifolia *Engl.* (1907) — F.W.T.A., ed. 1, 1: 483, excl. syn.

K. buesgenii *Engl.*

Irvingella grandifolia (*Engl.*) *H. Hallier* (1921).

A tall **forest** tree, deciduous; old leaves tinted bright red.

S. Nig.: Ologbon Sankey! Onitaha (Apr., June) Chesters 158! Cons. of For. 131! **Br. Cam.:** Kempong F.R., Mamfe Div. Aninze FHI 24720!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Angola**.

3. DESBORDESIA

Pierre ex Van Tiegh. in Ann. Sci. Nat. 9, 1: 289 (1905); Engl. in E. & P. Pflanzenfam. 19A: 402 (1931).

- 1** A glabrous tree; leaves oblong, cuneate to obtuse at base, often somewhat asymmetric, acutely acuminate at apex, 5–16 cm. long, 2–6.5 cm. broad, leathery, with 8–10 main lateral nerves on each side of midrib, closely reticulate on both surfaces, shining above, dull and often glaucous beneath; petioles about 1 cm. long; stipules thin, up to 1 cm. long, very early caducous; racemes more or less paniculate up to about 10 cm. long; pedicels about 3 mm. long; sepals about 1 mm. long; petals about 2 mm. long; fruits samaroid, more or less oblong, obtuse, rounded or emarginate at each end, 8.5–14.5 cm. long, 3–4.5 cm. broad, about 5 mm. thick, glabrous [glaucescens](#)

Desbordesia glaucescens (Engl.) Van Tiegh. l.c. 290 (1905); Engl. l.c., fig. 185. *APD acc*

Irvingia glaucescens Engl. Bot. Jahrb. 32: 124 (1902).

Desbordesia soyauxii Van Tiegh. (1905).

Desbordesia pierreana Van Tiegh. (1905).

A large **forest** tree, with buttresses.

S. Nig.: Ikom Catterall 8! Ukon F.R., Ikom Div. Kennedy 3078! **Br. Cam.:** Victoria (Apr.) Maitland 625! Likomba Mildbr. 10741! Malende Ejiofor FHI 29366! Johann-Albrechtshöhe (Feb.) Staudt 940!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea**, **Gabon** and **Cabinda**.

A sterile specimen (Keay FHI 25629) from Usonigbe F.R., Benin Prov., S. Nig., is probably this also.

BURSERACEAE

Trees or shrubs, secreting resin or oil. Leaves alternate, rarely opposite, pinnate, rarely 1-foliolate; stipules absent. Flowers hermaphrodite or often unisexual, small. Sepals 3–5, imbricate or valvate. Petals 3–5, rarely absent, free or variously connate, imbricate or valvate. Disk present. Stamens the same or double the number of the petals; filaments free; anthers 2-celled, opening by slits. Ovary superior, 2–8-celled; ovules 2 or 1 in each cell, axile. Fruit a drupe or rarely a capsule. Seeds without endosperm; cotyledons often contortuplicate.

Confined to the tropics.

Recognized by the frequently fragrant resinous wood, pinnate leaves, usually drupaceous fruit, and seeds without endosperm.

- 1** Fruits capsular; flowers bisexual; sepals and petals 5; stamens 10 [1. Boswellia](#)
Fruits drupaceous; flowers bisexual or unisexual: [2](#)
- 2** Sepals and petals 4; stamens 8; receptacle concave; leaves simple, 3-foliolate or imparipinnate, leaflets often toothed [2. Commiphora](#)
Sepals and petals 3; stamens 6; receptacle flat or convex; leaves imparipinnate; leaflets entire: [3](#)
- 3** Fruits excentric with style lateral; only species in our area a tree with stilt roots and glabrous stems, leaves and inflorescences [3. Santiria](#)
Fruits symmetrical with style terminal; all species in our area trees without stilt roots and with pubescent stems, leaves and inflorescences: [4](#)
- 4** Indumentum stellate; ovary (in our species) 2-celled, the cells not separated by an axial intrusion .. [4. Dacryodes](#)
Indumentum simple; ovary 3-celled, the cells separated by a 3-winged axial intrusion and covered by mesocarpal lids forming a 3-gonous spindle-shaped “stone” in fruit [5. Canarium](#)

1. BOSWELLIA

Roxb. — F.T.A. 1: 323; Engl. in E. & P. Pflanzenfam. 19A: 419 (1931).

- 1 Inflorescence a simple raceme; racemes numerous and bunched at the end of the thick shoots, up to 25 cm. long, glabrous or nearly so; pedicels spreading, about 1 cm. long; sepals triangular-ovate, 1.25 mm. long; petals about 7 mm. long; leaflets about 8 pairs, opposite, obliquely lanceolate, acutely acuminate, 7–9 cm. long, 1.5–2 cm. broad, coarsely serrate [1. dalzielii](#)

Inflorescence a panicle; panicles few, up to 30 cm. long, softly pubescent; pedicels about 0.5 cm. long; sepals broadly triangular; petals as above; leaflets sub-alternate, linear-lanceolate, long-acuminate, about 8 cm. long and 1.5 cm. broad, serrate [2. odorata](#)

1. **Boswellia dalzielii** *Hutch.* in Kew Bull. 1910: 136; Chev. Bot. 110; Aubrév. Fl. For. Soud.-Guin. 371, t. 77, 1–3. *APD acc*

A [savannah](#) tree, to 12–40 ft. high, with pale papery bark; flowers white, fragrant, the petals sometimes red-veined, flowering before the leaves.

Iv. C.: Mossi Dist. (Aug.) Chev. 24612. **Fr. Nig.:** Gourma Dist. Chev. 24424! **N. Nig.:** Sokoto (Feb.) Lely 811! Kontagora (Feb.) Dalz. 279! Zaria Prov. Dalz. 340! Shaw 105! Bauchi Plateau (Mar.) Lely P. 176! **Br. Cam.:** Gwoza, Dikwa Div. (Dec.) McClintock 79!

Also in [French Cameroons](#) and [Ubangi-Shari](#).

2. **Boswellia odorata** *Hutch.* l.c. 137 (1910); Aubrév. l.c., t. 77, 4–5.

APD: *Synonym of Boswellia papyrifera (Delile) Hochst.*

APD: *Synonym of Boswellia dalzielii Hutch.*

A [savannah](#) tree, similar to the last.

N. Nig.: Yola town and province (Feb.) Dalz. 167!

Also in [French Cameroons](#).

2. COMMIPHORA

Jacq. Hort. Schoenb. 2; 66 (1797); Engl. in E. & P. Pflanzenfam. 19A: 429 (1931).

Balsamodendrum *Kunth* (1824) — F.T.A. 1: 324.

Heudelotia *A. Rich.* (1832).

- 1 Leaves imparipinnate; flowers in pedunculate inflorescences: [2](#)
 Leaves 3-foliolate, or simple; flowers subsessile or shortly pedicellate in the leaf-axils: [3](#)

- 2 Leaflets 5–6 pairs, very acutely acuminate, oblong-ovate, unequal-sided at base, 6–12 cm. long, 2.5–4.5 cm. broad, thin, obscurely crenulate, glabrous; petiolule 1 cm. long; panicles as long as or longer than the leaves, the flowers crowded at the ends of the lateral branchlets, thinly pubescent; male flowers turbinate, pedicellate, about 5 mm. long; fruits subglobose, about 1.2–2 cm. diam., verrucose when dry [1. kerstingii](#)

Leaflets (1–) 2–4 (–5) pairs, rounded at apex, oblong, 2–5 cm. long, 1–2 cm. broad, softly pubescent on both sides, subsessile; flowers few on an axillary peduncle up to 5 cm. long; calyx villous; fruits ellipsoid, about 1 cm. long, shortly pubescent [2. pedunculata](#)

- 3 Leaves 3-foliolate; leaflets softly pubescent beneath, coarsely crenate-dentate, obovate, cuneate at base, the terminal one the largest, up to 4 cm. long and 2.5 cm. broad; petiole shorter than the leaflets; branchlets often terminated by a spine; flowers axillary, subsessile, glabrous; fruits broadly ellipsoid, 7–8 mm. long, glabrous, with a purplish bloom [3. africana](#)

Leaves 3-foliolate or simple, glabrous, margins obscurely crenate or entire: [4](#)

- 4 Leaves 3-foliolate; leaflets obovate-rhomboid, acute or subacute at each end, 2.5–6.5 cm. long, 1.5–3 cm. broad, very thin; petioles 2–6 cm. long; fruits ellipsoid-globose, 1 cm. long; mesocarp covering the endocarp [4. dalzielii](#)

Leaves simple (rarely 3-foliolate), broadly ovate to suborbicular or oblong, rounded at each end, 1.2–5 cm. long, 0.8–3.8 cm. broad; petioles 1–4.5 cm. long; fruits ellipsoid, beaked, about 8 mm. long; mesocarp consisting of 4 narrow arms [5. quadricincta](#)

1. ***Commiphora kerstingii* Engl.** Bot. Jahrb. 44: 152 (1910); Aubrév. Fl. For. Soud.-Guin. 373, 375, t. 78, 6-7. *APD acc*

Commiphora ararobba Engl. (1911).

A tree 20–30 ft. high, with smooth green bark eventually peeling in brownish papery strips; panicles crowded at the ends of the branches which are brownish tomentellous and marked by leaf-scars; often planted.

Togo: Ssoruba village (Apr.) Kerstings A. 553! **N. Nig.:** Sokoto Dalz. 572! Bauchi Plateau (Mar) Lely P. 195! Yola (May) Dalz. 165! **S. Nig.:** Ibadan (Mar.) Chizea FHI 24484! Oban Talbot 1549!

Also in **French Cameroons**, **Chad Territory** and **Ubangi-Shari**.

2. ***Commiphora pedunculata* (Kotschy & Peyr.) Engl.** in DC. Monogr. Burserac. 23 (1883); Chev. Bot. 110; Aubrév l.c., t. 78, 5. *APD acc*

Balsamodendrum pedunculatum Kotschy & Peyr. (1867) — F.T.A. 1: 326.

A small tree with leaves usually crowded at the ends of the yellowish pubescent branchlets; flowers whitish the lateral branchlets occasionally hardening into spines.

Sen.: Berhaut 237. **Fr. Sud.:** Quiébéle (June) Chev. 1002! Yatenga North (fr. Aug) Chev 24811! Koutiala Vuillet 716. **Iv. C.:** Dédougou Aubrév. **G. C.:** Guo Hill, Nebiowalli (May) Kitson 773! **Dah.:** Atacora Mts., Kouandé Chev. 23967. **N. Nig.:** NUPEBarter 1678! Katagum (fr. Sept.) Dalz. 224! Damatura (June, July) Kennedy FHI 7269! Onochie FHI 23372! Yola (May) Dalz. 174!

Extends to A.–E. **Sudan**.

3. ***Commiphora africana* (A. Rich.) Engl.** l.c. 14 (1883); Chev. Bot. 110, incl. var. *togoensis* Engl.; Aubrév. l.c. t. 78, 1–3. *APD acc*

Heudelotia africana A. Rich. in Guill. & Perr. Fl. Seneg. 1: 150, t. 39 (1831).

Balsamodendrum afraicnum (A. Rich.) Arn. (1839) — F.T.A. 1: 325.

A shrub or small tree up to 20 ft. high, usually with spines; leaves and bark fragrant-resinous, bark of branchlets reddish purple; flowers reddish, usually produced when leafless; in dry savannah woodland.

Sen.: Heudelot 129! Perrottet 152! Tielimane (fr. June) Leprieur! **Fr. Sud.:** Goundam Chev. 3038! Bandiagara De Ganav 147. Gao De Wailly 5101. **Iv. C.:** Kaya Aubrév. 2174. Koupéla Chev. 24542. **G. C.:** Bawku Vigne FH 4717! **Togo:** by lagoons, Lome Warnecke 341! **Dah.:** Daasa-Zoumé Chev. 23609 **Fr. Nig.:** Diapaga to Fada N'Gourma Chev. 24455 Niamey (Oct) Eagerup 558! **N. Nig.:** Jebba Barter! Katagum (fr May) Dalz 223! Karasuwa, Nguru (fr June) Onochte FHI 23349! Kukawa (fr Mar, Dec) Elliot 107! E Vogel 102!

Widespread in the drier parts of tropical Africa (See Appendix, p 316)

4. ***Commiphora dalzielii* Hutch.** in F.W.T.A., ed 1, 1: 488 (1928); Kew Bull. 1929 25, Aubrév. l.c. 375. *APD acc*

A glabrous shrub or small tree up to 25 ft. high, with spiny branchlets; bark silvery and reddish, peeling off in papery scales; in clumps of shrubs.

G. C.: Winneba Plain (fr. Feb.) Dalz. 8296! Achimota (fr. Feb.) Irvine 2118!

5. ***Commiphora quadricincta* Schweinf. ex Engl.** in E & P Pflanzenfam 3, 4: 253, fig. 149 (1896); Aubrév. l.c. t. 78 4; E. & P. Pflanzenfam. 19A: 436, fig. 204, V–W. *APD acc*

Commiphora airica A Chev. in Bull. Mus. Hist. Nat., sér. 2, 4: 584 (1932).

A shrub or small tree; in dry regions

Fr. Nig.: E. of Agadés fide Aubrév l.c. S. of Aïr Chev. **N. Nig.:** Gashagar to Zari, N. Bornu Prov (fr. Sept.) Daggash FHI 24866!

Extends through Chad Territory to A–E **Sudan**, Eritrea, Abyssinia and Yemen

Blume in Mus. Bot. Lugd.-Bat. 1: 209 (1850); Engl. in E. & P. Pflanzenfam. 19A: 452 (1931); H. J. Lam in Bull. Jard. Bot. Buitenz., sér. 3, 12: 367 (1932).

Santiriopsis Engl. (1890) — E. & P. Pflanzenfam. 19A: 455 (1931).

- 1 A glabrous tree; leaves with (1–) 2–3 (–4) pairs of leaflets, plus the odd terminal leaflet, lateral leaflets oblong-elliptic or rarely ovate-elliptic, cuneate to obtuse or rarely rounded at base, abruptly long-acuminate, 7.5–22 cm. long, 3–9.3 cm. broad, with 6–10 main lateral nerves on each side of midrib, prominent on both surfaces; panicles axillary, up to 13 cm. long, flowers in fascicles or solitary, pedicels 1–7 mm. long; fruits ellipsoid, flattened, excentric, with the remains of the style on one side, 1.9–2.5 cm. long, 1.4–1.7 cm. broad [trimera](#)

Santiria trimera (Oliv.) Aubrév. in Rev. Boiset For. Trop. 4, 8: 344 (1948). *APD acc*

Sorindeia? trimera Oliv. F.T.A. 1: 441 (1868)

Pachylobus trimerus (Oliv.) Guillaum (1909) — Aubrév Fl. For. C. Iv. 2: 112, t. 172, 2–4

Santiriopsis trimera (Oliv.) Engl. (1912) — Exell Cat. S. Tomé 135.

Dacryodes trimera (Oliv.) H. J. Lam (1932)

Santiria? balsamifera Oliv. in Hook. Ic. Pl. t. 1573 (1886).

Santiriopsis balsamifera (Oliv.) Engl. (1890)

Pachylobus balsamifera (Oliv.) Guillaum (1908) — F.W.T.A., ed 1, 1: 487; Aubrév. l.c. t. 172, 1; Kennedy For. Fl. S. Nig. 154.

A forest tree, to 50 ft. high, with stilt roots; flowers yellow; ripe fruits black, edible; cut bark and fruits smelling of turpentine

S. L.: Freetown (fl. & fr. Sept) Deighton 3444a! 3444b! Bridge between Heddles' Farm and Mt Aureol Lane-Poole 396! Njala (fl. Sept., fr. Mar., Nov.) Deighton 1318! 2628! 4963! **Lib.:** Dukwia R (fl. Aug., fr. Mar.) Cooper 110! 357a! Linder 226! Peahat (fr. Dec.) Baldwin 10597! Linder 931! Mecca (fr. Dec.) Baldwin 10828! Wohmen, Vonjama (Oct.) Baldwin 10073! **Iv. C.:** Mt. Tonkoui Aubrév 1002! Man Aubrév. 1632. Nimba Mts. Aubrev. 1148. **S. Nig.:** Sapoba Kennedy 2226! 2324! 2336! Oban Talbot 1600! 1713!

Also in **French Cameroons**, **Gabon**, **Cabinda** and **Belgian Congo**

4. DACRYODES

Vahl in Skrivt. Nat. Selsk. 4: 116 (1810); H. J. Lam in Bull. Jard. Bot. Buitenz., sér 3, 12: 334 (1932).

Pachylobus G. Don (1832) — F.W.T.A., ed. 1, 1: 487; Engl. in E. & P. Pflanzenfam. 19A: 450 (1931).

- 1 Leaflets 6–8 pairs, plus the terminal one; petiole short; lateral leaflets oblong to oblong-elliptic, obliquely rounded at base, caudate acuminate, up to 23 cm. long and 6.5 cm. broad, minutely stellate-puberulous, and (usually) with long spreading hairs as well on the nerves beneath, with 9–12 main lateral nerves on each side of midrib, prominent beneath; inflorescence paniculate, rhachides deeply grooved, rusty stellate-tomentose; sepals and petals outside rusty-stellate-tomentellous; ovary glabrous; fruits oblong-ellipsoid, about 7 cm. long and 3.5 cm. diam. [l. edulis](#)

Leaflets usually 3 pairs, plus the terminal one; petiole long; lateral leaflets oblong-elliptic to oblong, very obliquely cuneate or obtuse at base shortly acuminate, up to 20 cm. long and 9 cm. broad, stellate-scaly-puberulous beneath, with 9–12 main lateral nerves on each side of midrib, prominent beneath; inflorescence paniculate, rhachides slightly grooved, like the outside of sepals and petals rusty-stellate-scaly-puberulous; female or hermaphrodite flowers borne separately, or males in small fascicles; ovary stellate puberulous; fruits oblong-ellipsoid or subglobose, 2–3 cm. long, 1.5–2 cm. diam. [2. klaineana](#)

1. *Dacryodes edulis* (G. Don) H. J. Lam in Bull. Jard Bot Buitenz, sér 3, 12 336 (1932), Aubrév. in Rév. Bois et For. Trop. 4, 8: 342 *APD acc*

Pachylobus edulis G. Don (1832) — Hook. Ic. Pl. tt. 2566–7, F.W.T.A., ed. 1, 1: 487, Kennedy For. Fl. S. Nig. 153.

Canarium? edule (G. Don) Hook. f. (1849) — F.T.A. 1: 327.

C. saphu Engl. (1893).

Pachylobus saphu (Engl.) Engl. (1896).

Sorindeia deliciosa A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 507 (1928), partly (Thompson 9).

A forest tree 30–60 ft. high, often planted, with dark foliage and scaly bark exuding a whitish resin; flowers in dense rusty panicles; traits bright blue when ripe, edible.

S. Nig.: Thompson 9! Ondo (Mar.) A.F.A. Lamb 148! Benin City Unwin 41! Sapoba (fl. Feb., fr. Aug.) Kennedy 2064! 2132! 2334! Uwet (Feb.) McLeod! Calabar Thomson 46! **Br. Cam.:** Victoria (Feb.) Maitland 382! Cameroon R. (Jan.) Mann 741! Barombi Preuss 362!

Extends to **Belgian Congo** and **Angola**, also in **Principe** and **S. Tomé**

2. **Dacryodes klaineana** (*Pierre*) *H. J. Lam* l.c. (1932); Aubrév. l.c. 344, incl. var. *lepidota* Aubrév (1948) *APD acc*

Santiriopsis? *klaineana* *Pierre* (1897)

Pachylobus klaineanus (*Pierre*) *Engl.* (1899)

P. barteri *Engl.* (1899) — F.W.T.A., ed. 1, 1: 487, excl. syn. *P. dahomensis* *Engl.*; Kennedy l.c. 154

Dacryodes? *barteri* (*Engl.*) *H. J. Lam* (1932)

Sorindeia deliciosa *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 507 (1928) and *Kew Bull* 1929: 27, partly (*Chev.* 22683); *Chev.* Bot. 160, name only.

Haematostaphis deliciosa (*A Chev. ex Hutch. & Dalz.*) *Pellegr.* (1931)

Pachylobus deliciosus (*A Chev. ex Hutch. & Dalz.*) *Pellegr.* (1934) — Aubrév. *Fl. For. C. Iv.* 2: 110, t. 171.

P. paniculatus *Hoyle* (1934).

P. albiflorus *Guillaum* (1909), name only, partly (*Jolly* 161)

P. macrophyllus of F.W.T.A., ed 1, 1: 487, partly (*Talbot* 1715), not of *Engl.*

A forest tree, to 60 ft. high, sometimes branching only a few feet from the ground; flowers pale yellow; fruits orange red; cut bark and, in some forms, the fruits, smelling of turpentine

S. L.: Gola Forest (Oct.) D. G. Thomas 122! Sembahun, Gaura (fr. Dec.) King 301! 304! Bogboabu-Ngelwahun road (Sept.) D. G. Thomas 113! **Lib.:** Gbanga (Sept) Baquaert 740! **Iv. C.:** Boudepé to Agboville (young fr. Dec.) *Chev.* 22683! Rasso Aubrév. 141! Man Aubrév. 1631! Banco Serv. For. 373! **G. C.:** Kintampo (Oct.) Vigne FH 2535! Sekodumasi (Oct.) Vigne FH 3398! Mampong, Ashanti (Nov.) Vigne FH 3426! **Togo:** Alavanyo (Sept.) St. C. Thompson FH 3577! Wiawia (Oct.) St. C. Thompson FH 3620! Misahöhe Mildbr. 7322. **N. Nig.:** Patti Lokoja (Oct.) Dalz. 189! **S. Nig.:** Lagos Dalz. 1400! Ominla, Ondo Prov. (fr. Apr.) Symington FHI 3387! Sapoba (Feb.) Kennedy 1619! 1620! 2230! Onitsha Barter 1775! Udi F.R., Enugu (Oct.) Smith S. 1! Oban Talbot 1715! **Br. Cam.:** S. Bakundu F.R. (fr. Aug.) Olorunfemi FHI 30715!

Also in **Gabon**.

Dacryodes afzelii (*Engl.*) *H. J. Lam* l.c. (1932).

Pachylobus afzelii *Engl.* (1899).

S. L.: Afzelius. Specimen not traced.

Imperfectly known species.

5. CANARIUM

Linn. — F.T.A. 1: 327; *Engl.* in *E. & P. Pflanzenfam.* 19A: 443 (1931).

- 1 A large tree; young parts densely rusty-pubescent; leaves 25–65 cm. long, with 8–12 pairs of opposite or subopposite leaflets, plus the odd terminal one; leaflets oblong or ovate to oblong lanceolate, cordate at base, 4.5–20 cm. long, 2.8–5.5 cm. broad, with 12–24 main lateral nerves on each side of midrib, prominent and pubescent beneath; rachis flat on the upper side towards the base; panicles in the upper leaf-axils, 15–30 cm. long; pedicels 2–4 mm. long; flowers unisexual, 1–1.2 cm. long; fruits ellipsoid, 3.4–3.7 cm. long, 1.7–2 cm. broad, glabrous [*schweinfurthii*](#)

Canarium schweinfurthii *Engl.* in *DC. Monogr. Burserac.* 145 (1883); *Chev.* Bot. 111; Aubrév. *Fl. For. C. Iv.* 2: 10, t. 170; Kennedy *For. Fl. S. Nig.* 154. *APD acc*

Canarium chevalieri *Guillaum* (1908) — *Chev.* Bot. 110.

Canarium occidentale *A. Chev.* (1909) — *Chev.* Bot. 110.

Canarium khiala *A. Chev.* Bot. 110, name only.

A large forest tree, to 120 ft. high, with very slight blunt buttresses; cut bark copiously exuding gum which solidifies to a whitish resin; flowers creamy white; ripe fruits purplish, plum-like, containing a hard spindle-shaped, trigonous “stone.”

Sen.: Banfara (fl. & fr. Jan.) Vuillet 561. **Fr. G.:** Timbikounda (fr. Jan.) *Chev.* 20589. **Port. G.:** Cumura to Bor, Bissau (Mar.) Esp. Santo 1889! **S. L.:** Lane-Poole 190! Mano (fr. Apr) Deighton 4738! Njala (fr. Mar.) Deighton 5320! Dodo Hills F.R. King 183! **Lib:** Dukwia R. (Apr.) Cooper 125! 192! 385! **Iv. C.:** Azaguié (fr. Sept.) *Chev.* 22288! Alépé (Mar.) *Chev.* 16236! Grabo *Chev.* 20066. Abidjan (June) Aubrév. 21; *Chev.* 15272. **G. C.:** Kwaben (Mar.) Gent! Axim (Feb.) Irvine 2237! Mumuni camp, Prestea road (Mar.) Andoh FH 5620! **Togo:** Misahöhe (fr. Nov.) Mildbr. 7278! **N. Nig.:** Bida (Jan.) Yates 21! Kutigi Niger Prov. (fr. Mar.) Lamb 43! Bauchi Plateau (Jan.) Lely P. 4! **S. Nig.:** Modakeke Foster 204! Okomu

F.R. (Dec.–Jan.) Brenan 8430! Sapoba (fl. May, fr. June) Kennedy 503! 1665! Opobo (fr. Sept.) King–Church 42! Eket Talbot 3323! **Br. Cam.:** Johann-Albrechtshöhe Staudt 507!

Extends to A.-E. **Sudan**, Abyssinia, **Tanganyika** and **Angola**.

Canarium zeylanicum (Retz.) Blume

Canarium auriculatum H. Winkl. (1908) — F.W.T.A., ed. 1, 1: 488)

A native of Ceylon, it has been introduced into our area.

MELIACEAE

Trees or shrubs, mostly with hard scented wood, very rarely subherbaceous. Leaves alternate, mostly pinnate; stipules absent. Flowers actinomorphic, mostly hermaphrodite. Calyx often small, imbricate, rarely valvate. Petals free or partially connate, contorted or imbricate, or adnate to the staminal tube and valvate. Stamens mostly 8 or 10, rarely numerous, mostly with connate filaments, and the anthers often sessile in the tube; anthers 2-celled, opening lengthwise; disk various. Ovary superior, often 3–5-celled, stigma often disci-form or capitate; ovules mostly 2, rarely 1 or more. Fruit baccate, capsular or rarely a drupe, often with a large central axis. Seeds with or without endosperm, sometimes winged.

Mainly a tropical family.

Readily recognized by the pinnate eglandular leaves and the stamens, usually connate into a tube resembling a corolla.

- 1 Leaves pinnate or bipinnate, rarely 3-foliolate, very rarely 1-foliolate, flowers mostly in panicles or racemes: ...2
 Leaves simple, flowers solitary, paired, subumbellate or in very short racemes; ovary 4–10 (or more) celled, fruit capsular; seed not winged [11. Turraea](#)
- 2 Leaves not bipinnate:3
 Leaves bipinnate or tripinnate; leaflets toothed, anthers borne just within the staminal tube, ovary and fruit usually 5 celled; fruit drupaceous, introduced trees [13. Melia](#)
- 3 Petals free to the base; leaves pinnate:4
 Petals united into a club shaped tube; anthers borne just within the staminal tube; ovary 4–5-celled, with 2 ovules per cell, fruit capsular; seed not winged, arillate; leaves pinnate or (1–) 3 foliolate [10. Turraeanthus](#)
- 4 Seed winged; fruit a woody or coriaceous, dehiscent capsule; ovary (3–) 4–5-celled, each cell containing 4–12 ovules:5
 Seed not winged, fruit fleshy, at least at first.....8
- 5 Capsule more or less globose, woody, 4–5-valved, erect; seed flat, winged all round; anthers included within the staminal tube; all parts glabrous [1. Khaya](#)
 Capsule much longer than broad; seed with a long terminal or basal wing; anthers exerted or nearly exerted from the staminal tube:.....6
- 6 Flowers 5-merous; capsule with 5 woody valves; seed attached by the body end to the distal end of the central column, the wing thus directed towards the base:7
 Flowers 4-merous; capsule with 4 coriaceous valves, pendulous; seed attached by the wing end to the distal end of the central column, the body thus hanging freely at the base [4. Lovoa](#)
- 7 Anthers borne on the rim of the entire or lobed staminal tube; capsule pendulous, without fibres between the valves; leaves entire or nearly so; forest trees [2. Entandrophragma](#)
 Anthers borne just within the lobes of the staminal tube; capsule erect, with fibres adhering loosely between the valves after dehiscence; leaves undulate on the margins; savannah trees [3. Pseudocedrela](#)
- 8 Fruit a large, at least 6 cm. diam, septicidal capsule, ovules 2–8 per cell; seed large, anthers included in the staminal tube [5. Carapa](#)
 Fruit up to 5.5 cm diam, a loculicidal or septicidal capsule, or indehiscent, ovules 1–2 per cell9
- 9 Leaflets entire, indigenous plants 10
 Leaflets coarsely serrate or lobed, introduced trees, ovary 3 celled; fruit drupaceous, 1-seeded; anthers borne just within the staminal tube [12. Azadirachta](#)
- 10 Ovary and fruit 2–5-celled, fruit capsular (except No. 7), seeds mostly with brightly coloured arils..... 11
 Ovary and fruit 1-celled; fruit indehiscent, beaked, more or less moniliform, 1–4 seeded, baccate, anthers borne just within the staminal tube [9. Heckeldora](#)
- 11 Anthers borne on the rim of the entire or lobed staminal tube..... 12
 Anthers borne within the staminal tube; fruit dehiscent [8. Guarea](#)

- 12 Fruit dehiscent; staminal tube deeply lobed (except in *T. preuriana*) [6. *Trichilia*](#)
 Fruit indehiscent, staminal tube entire or slightly denticulate [7. *Ekebergia*](#)
Cedrela mexicana *M. J. Roem.*
 Native of tropical America
Canarium odorata *Linn.*
 Native of tropical America
Toona ciliata *M. J. Roem.*
Cedrela toona *Roxb.*
 A native of tropical Asia
Chukrasia tabularis *A. Juss.*
 A native of tropical Asia
Swietenia mahagons (*Linn.*) *Jacq.*
 A native of tropical America.
S. macrophylla *King*
 A native of tropical America.
S. humilis *Zucc.*
 A native of tropical America.

1. KHAYA

A. Juss. — F T A: 337; Harms in E. & P. Pflanzenfam. 19B, 1; 49 (1940).

Saplings of all the species have large leaves with more numerous leaflets; the measurements given in the above key are for crown leaves.

- 1 Trees of savannah and fringing forest outliers in the savannah regions; flowers normally 4-merous, ovary tapering into a slender style, fruit normally 4-valved, 4–6 cm. diam, leaflets usually drying pale glaucous green, 3–4 (–7) pairs, oblong or oblong-elliptic, more than twice as long as broad, rounded or obtuse or shortly acuminate at apex, 6–12 cm long, 2–5 cm broad, with 8–16 main lateral nerves on each side of midrib [1. *senegalensis*](#)
 Trees of the forest regions and forest outliers in the savannah; flowers (4–) 5-merous; ovary abruptly contracted into a very short style; fruit (4–) 5 valved, 4–10 cm. diam, leaflets not drying pale glaucous green..... [2](#)
 2 Leaflets 10–25 cm long, 6–10 cm broad, with 12–15 main lateral nerves on each side of midrib, flowers 5 merous; fruit 7–10 cm diam, with 5 valves, 5–12 mm. thick; leaves with (3–) 4 (–5) pairs of rather thin papery leaflets, broadly elliptic or ovate-elliptic, shortly cuneate or rounded at base, shortly acuminate; bark scaly; in forest outliers and the drier parts of the forest regions [2. *grandifoliola*](#)
 Leaflets mostly up to 15 cm long and 8 cm broad, rarely more, rather leathery, with 5–9 main lateral nerves on each side of midrib, valves of fruit up to 3 mm., rarely to 5 mm thick..... [3](#)
 3 Leaflets (2–) 3 (–4) pairs, broadly elliptic or ovate-elliptic, very shortly acuminate, 8–15 cm long, 4–8 cm broad, flowers 4–5-merous; fruit 4–5-valved, 6–10 cm. diam, bark smooth and pale, in the drier parts of the forest regions [3. *anthotheca*](#)
 Leaflets (4–) 5–6 (–7) pairs, oblong, abruptly long acuminate, 5–14 cm. long, 2–5 7 cm. broad, flowers usually 5-merous; fruit usually 5-valved, 4–7 cm. diam.; bark scaly, often brown, in the moister parts of the forest regions [4. *ivorensis*](#)
1. *Khaya senegalensis* (*Desr.*) *A. Juss.* in Mém. Mus. Hist. Nat. Paris 19: 250, t. 21 (1830); Guill. & Perr. Fl. Seneg. 1: 130, t. 32; F. T. A. 1: 338; Chev. Bot. 117 (incl. vars); Aubrév. Fl. For. C. Iv. 2: 118–122; For. Trees & Timbers Brit. Emp. 4: 68, fig. 11, t. 11; Pellegr. in Notulae Syst. 9: 32; Harms in E. & P. Pflanzenfam. 19B, 1: 51–54, fig. 4, A–I, fig. 5; Aubrév. Fl. For. Soud.-Guin. 377–381, t. 79, 1–3. *APD acc*

Swietenia senegalensis *Desr.* in Lam. Encycl. 3: 679 (1791).

A tree with shining foliage, up to 100 ft. high, with wide dense crown and thick stem; sepals pale green; petals and staminal tube cream, the latter suffused pink below; stigma yellow; [in savannah and especially by streams in the savannah regions.](#)

Sen.: Roussillon. Bargny (Feb.) Perrottet 130! **Gam.:** Albreda Perrottet. N. bank (July) Ozanne 9! 10! **Fr. Sud.:** Ouassala (Mar.) Chev. 519! Bamako (Apr.) Hagerup 34! Siguiri Chev. 284. **Port. G.:** Bissau (Mar., Apr.) Esp. Santo 1875! 1913! Canchungo (Apr.) Esp. Santo 1946! **Fr. G.:** Kouroussa (Apr.) Pobéguin 685! Mamou Dals.! **S. L.:** Falaba (Apr.) Sc. Elliot 5898! **Iv. C.:** Aubrév. 734! **G. C.:** Ashanti (fr. Apr.) Thompson 60! Busa, Wa (Mar.) McLeod 827! Navrongo (Mar.) Vigne FH 4686! Sa (Mar.) Kitison 846! **Togo:** Kersting 1! **Dah.:** Atacora Mts. Chev. 24031. **Fr. Nig.:** Diapaga to Fada Chev. 24031; 24426; 24427. **N. Nig.:** E. of Zurmi (fl. & fr. Apr.) Keay FHI 16168! Zaria (Apr.) King-Church 48! Zungeru (fl. & fr. Jan.) Elliott 24! Lokoja Barter 580! Katagum (fr. Dec.) Elliott 165! **S. Nig.:** Lagos Rowland! Onitsha Chesters 200!

Extends to A.–E. **Sudan** and **Uganda**.

2. **Khaya grandifoliola** **C. DC.** in Bull. Soc. Bot. Fr. 54, Mém. 8: 10 (1907); Aubrév. Fl. For. C. Iv. 2: 118–124, t. 173, 6–10, t. 174, 4–5; For. Trees & Timbers Brit. Emp. 4: 64, fig. 10, t. 10; Pellegr. l.c. 29; Harms l. c.; Aubrév. Fl. For. Soud.-Guin. 377–379. **APD acc**

Khaya punchii *Stapf* (1908) — Chev. Bot. 117.

Khaya grandis *Stapf* (1908).

Khaya kerstingii *Engl.* (1915).

Khaya kissiensis *A. Chev.* Bot. 117, name only.

A large **forest** tree, to 130 ft. high; young foliage conspicuously reddish.

Fr. G.: Doudou, Kissi (Feb.) Chev. 20687! Kissidougou & Guékédou fide Aubrév. l.c. **Iv. C.:** Abidjan Aubrév. 63! And many other localities fide Aubrév. l.c. **G. C.:** Agogo (fr. Jan.) Chipp 627! Kobroso, N. of Abofuo (fl. & fr. Feb.) Vigne FH 1803! Sekodumasi (fr. Oct.) Vigne FH 3395! L. Bosumtwi (fr. May) Thompson 74! **Togo:** Sokodé-Basari Kersting 562. **Dah.:** Cabolé, Savalou Chev. 23774! **N. Nig.:** Kafanchan (Jan.) Kerr! **S. Nig.:** Unwin 18! Foster 89! Ibadan F.R. Punch 104! Tupelle, W. Prov. Thompson 7! Onitsha Dist. (Jan.) Kennedy 2506! Rosevear 2/29!

Extends to A.–E. **Sudan**, **Belgian Congo** and **Uganda**.

3. **Khaya anthotheca** (*Welw.*) **C. DC.** in DC. Monogr. 1: 72! (1878); Aubrév. Fl. For. C. Iv. 2: 118–124, t. 174, 1–3; For. Trees & Timbers Brit. Emp. 4: 57, fig. 9, t. 9; Harms l.c.; Staner in Bull. Jard. Bot. Brax. 16: 214; Pellegr. l.c. 30. **APD acc**

Garretia anthotheca *Welw.* (1859).

Khaya euryphylla *Harms* (1902).

Khaya mildbraedii *Harms* (1917).

Khaya agboensis *A. Chev.* in Rev. Bot. Appliq. 8: 209 (1928); Chev. Bot. 116, name only.

A large **forest** tree, to 180 ft. high, with ashy-brown, grey or almost white, smooth bark.

S. L.: Kosala, Pendembu (fr. July) Deighton 4133! Nyangol Forest Sawyerr FHK 13601! Kambul Hills F.R. (July) Douay 19035! Kenema (fr. May) Small 64! 64a! **Iv. C.:** Agboville (fr. Nov.) Chev. 22342! Krukoff 102! Abidjan Aubrév. 10! And other localities fide Aubrév. l.c. **G. C.:** Nyinahin, Ashanti Thompson 47! Pamou-Bereknm F.R. (fr. Sept.) Vigne FH 2516! Kibbi (Mar.) Brent 542! **Br. Cam.:** Johann-Albrechtshöhe (Mar.) Staudt 677!

Also in French Cameroons and extending to **Uganda**, **Belgian Congo**, **Angola** and (?) **Tanganyika**.

[There is no authentic record of this species from Nigeria. Barter 580 from Lokoja cited as *K. anthotheca* in the first edition is *K. senegalensis*.]

4. **Khaya ivorensis** *A. Chev.* Vég. Util. 5: 207 (1909); Chev. Bot. 116 (incl. vars.); Aubrév. l.c., t. 173, 1–5; Kennedy For. Fl. S. Nig. 156; Pellegr. l.c. 30. **APD acc**

Khaya klainei *Pierre ex Pellegr.* (1911) — Chev. Bot. 117.

Khaya caudata *Stapf ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 490 (1928).

A large **forest** tree, to 180 ft. high, with bole up to 90 ft., strongly buttressed; leaves crowded at the ends of the branchlets; panicles lax, comparatively few-flowered.

Iv. C.: Agboville (Nov.) Chev. 22388! Bouroukrou (fr. Dec.–Jan.) Chev. 18106! Yapo Chev. 22317! **G. C.:** Suka Suku (Nov.) Chipp 12! Tano R. (fl. Dec., fr. Feb., July) Chipp 37! 302! Thompson 171 Kumasi (Aug.) Vigne FH 3331! Wassidimo, E. of Esuasus (May) Chipp 213! Dunkwa (June) Vigne FH 892! **S. Nig.:** Ilaro F.R., (Sept.) W. D. MacGregor 348! Ibadan South F.R. Keay & Mutch FBI 25413! Sapoba & Usonigbe F.R. (fi. Oct–Dec., fr. Apr.–June) Ejiofor FHI 24641! Kennedy 428! 1602! A. F. Ross 212! Aboh Unwin 45! Calabar (Jan.) Chev. 14151; Smit 20! **Br. Cam.:** Kumbé-Balue F.R., Kumba Dist. Mbai FHI 24804!

Also in **French Cameroons**, **Gabon** and **Cabinda**.

2. ENTANDROPHRAGMA

C.DC. in Bull. Herb. Boiss. 2: 582 (1894); Harms in E. & P. Pflanzenfam. 19B, 1: 55 (1940); Notizbl. Bot. Gart. Berl. 14: 43! (1940).

Saplings of all the species below have leaves which may be considerably larger than the crown leaves whose measurements are given above.

- 1** Central column of fruit with a 1–2.5 cm. long, slender stipe above the insertion of the thin valves; petals velutinous outside, 5–7 mm. long; staminal tube deeply lobed; leaves with 5–9 pairs of somewhat bullate leaflets; main lateral nerves 14–22 pairs, very prominent beneath, impressed above; rachides 5–30 cm. long, petioles 6–15 cm. long, laterally winged, rusty-tomentellous; leaflets oblong, oblong-elliptic or obovate-oblong, obtusely cuneate or rounded at base, obtuse or obtusely somewhat acuminate at apex, 3.5–15 cm. long, 2–6 cm. broad, pubescent on the midrib and nerves beneath; fruits (9–) 17–23 (–30) cm. long, 3–5 cm. broad, valves opening from the apex and strongly recurving, 1.7–2 cm. broad in the widest part, 3–4 mm. thick, seeds 3–10 on each face of column [1. candollei](#)

Central column of fruit without a stipe above the insertion of the valves; petals puberulous or glabrous outside; staminal tube not lobed; leaflets with 6–16 pairs of main lateral nerves, not impressed above: **2**

- 2** Valves of fruit 7–12 mm. thick, opening from the apex, remaining firmly attached at base to the central column, not recurved, 3–4 cm. broad at widest part, roughly lenticellate outside; fruit 18–28 cm. long, 5–7 cm. broad; seeds 5–6 on each face of column, hilum small, suborbicular; petals puberulous outside, about 6 mm. long; leaves with 8–16 pairs of subopposite or alternate leaflets; rachides 10–30 cm. long, petioles 5–14 cm. long, slightly winged, rusty-puberulous; leaflets oblong-lanceolate, the lower ones often ovate, asymmetrically rounded or subcordate at base, gradually acuminate at apex, 3.5–15 cm. long, 1.5–5 cm. broad, with 10–16 pairs of main lateral nerves prominent beneath, often with tufts of hair in the axils [2. utile](#)

Valves of fruit 2.5–4 mm. thick, either opening from the base and remaining joined together for some time at the apex, or splitting at apex and base at about the same time, always falling away from the central column; leaflets with 6–12 pairs of main lateral nerves: **3**

- 3** Fruit 14–22 cm. long, 3.5–5 cm. broad; valves 2.5–3 cm. broad, not ridged, opening from base and remaining joined together for some time at the apex; column attenuated to the base, dark red-brown in colour, with 5–6 seeds per face, hilum linear; petals glabrous, 4–5 mm. long; leaves with 7–10 opposite or subopposite pairs of leaflets; rachides 25–45 cm. long, petioles 12–16 cm. long, scarcely winged, glabrous or puberulous; leaflets oblong, oblong-elliptic or obovate-oblong, rounded or obtuse at base, rounded at apex and usually mucronate, 7–28 cm. long, 3–10.5 cm. broad, with 9–12 pairs of main lateral nerves, not very prominent beneath, venation obscure, usually rather densely pubescent on the sides of the midrib and nerves beneath [3. angolense](#)

Fruit 6.5–10 (–15.5) cm. long, 2.7–3.5 cm. broad, valves 1.4–2.2 cm. broad, with an indistinct median ridge, opening at apex and base more or less simultaneously; column broad at base, rather pale brown or yellow, with 3–4 seeds per face, hilum linear-lanceolate; petals puberulous, about 2 mm. long; leaves with 5–9 pairs of opposite or subopposite leaflets; rachides 15–55 cm. long, petioles 5–10 cm. long, flattened and slightly winged, rusty-tomentellous; leaflets oblong to oblong-lanceolate, the lower ones ovate to ovate-oblong, cuneate to rounded and usually asymmetrical at base, shortly and obtusely, rarely acutely acuminate, 8–13 cm. long, 2.5–5 cm. broad, with 6–12 pairs of main lateral nerves, venation closely reticulate, almost glabrous when mature [4. cylindricum](#)

- 1. Entandrophragma candollei** Harms in Notizbl. Bot. Gart. Bert. 1: 181 (1898); Aubrév. Fl. For. C. Iv. 2: 142, t. 180, 1–2, t. 181, d–d1t. 182, d; Kennedy For. Fl. S. Nig. 172; Harms in E. & P. Pflanzenfam. 19B, 1: 58, fig. 7 (but stipe of fruit not shown); Pellegr. in Notulae Syst. 9: 40; Staner in Bull. Jard. Bot. Brux. 16: 232. *APD acc*

Entandrophragma ferrugineum A. Chev. Vég. Util. 5: 195 (1909); Chev. Bot. 118.

A large forest tree, to 160 ft. high, with straight bole of up to 90 ft. high and dense crown of dark foliage; buttresses blunt and often rather indistinct; bark somewhat scaly, slash white and pink with orange granules, without a sweet scent; leaflets often galled; inflorescences tomentellous; flowers cream.

Fr. G.: Moussadougou to Lola Chev. 20968. **Iv. C.:** 60 miles E. Agboville (fr. July) Krukoff 100! Mbasso Chev. 16261! Abidjan Aubrév. 9! **G. C.:** Kunso, W. Ashanti (fr. Feb.) Chipp 106! Owabi Vigne FH 2601. **S. Nig.:** Akure F.R. (Nov.) Keay FHI 25596! Sapoba (fl. Nov., fr. June) Kennedy 404! 1152! 1640! **Br. Cam.:** Bopo, Kumba Rosevear Cam. 85/37! Johann-Albrechtshöhe (Nov.) Staudt 459!

Extends to Cabinda and **Belgian Congo**.

- 2. Entandrophragma utile** (Dawe & Sprague) Sprague in Kew Bull. 1910: 180; Aubrév. l.c. 144, t. 180,

4–5, t. 181, b, t. 182, b, t. 183, 1–2; Kennedy l.c. 171; For. Trees & Timbers Brit. Emp. 4: 48, fig. 8, t. 8; Harms l.c. 60, fig. 8; Pellegr. l.c. 41; Staner l.c. 239. *APD acc*

Pseudocedrela utilis Dawe & Sprague (1906).

Entandrophragma macro-carpum A. Chev. Vég. Util. 5: 203 (1909).

A large forest tree, to 210 ft. high, with long straight bole; buttresses usually well developed; bark usually grey-brown with well-marked longitudinal fissures; slash thick, reddish brown with paler lines, almost scentless; leaves clustered at the ends of the branches; inflorescences tomentellous; flowers white.

S. L.: Kambui Hills North (fr. Nov.) Small 840! **Iv. C.:** 60 miles E. of Agboville Krukoff 101! Various localities fide Aubrév. l.c. **G. C.:** Fiapere, Sunyani (fr. Feb.) Chipp 88! Nyinahin (fl. & fr. Mar.) Thompson 48! Juaso Vigne FH 1890! Wiresu, Ashanti (fr. Mar.) Vigne FH 1839! 1840! **S. Nig.:** Akure. F.R. (fr. Nov.) Latilo FHI 32980! Aboabam, Ikom Div. (fr. Dec.) Keay FHI 28201! **Br. Cam.:** Tombel Forteh FHI 8396!

Also in French Cameroons, Gabon, Belgian Congo and Angola.

3. *Entandrophragma angolense* (Welw.) C. DC. in Bull. Herb. Boiss. 2: 582, t. 2! (1894); Aubrév. l.c. 138, t. 179, t. 181, a, t. 182, a, t. 183, 3–4; For. Trees & Timbers Brit. Emp. 4: 36, fig. 5, t. 5; Harms l.c. 57, fig. 6; Pellegr. l.c. 38; Staner l.c. 224. *APD acc*

Swietenia angolensis Welw. (1859).

Entandrophragma macrophyllum A. Chev. Veg. Util. 5: 196 (1909) — F.W.T.A., ed. 1, 1: 495; Kennedy l.c. 168.

Entandrophragma angolense var. *macrophyllum* (A. Chev.) Panshin (1933).

Entandrophragma septentrionale A. Chev. l.c. 205 (1909) — F.W.T.A., ed. 1, 1: 495.

Entandrophragma rederi Harms (1910) — F.W.T.A., ed. 1, 1: 495; Kennedy l.c. 180.

Entandrophragma leplaei Vermoesen (1921) — Kennedy l.c.

A large forest tree, to 160 ft. high, with long straight bole and rather open crown; buttresses broad, but low; bark relatively smooth, pale grey-brown to orange-brown, with scales flaking off high up the tree; slash dark red and pink with white radial streaks, very slightly scented; leaves clustered at the ends of the branches; inflorescences puberulous or glabrous; flowers yellowish.

Fr. G.: Kissi Circle (Feb.) Chev. 20698. **S. L.:** Niyagoi, Dama Chieftdom King 173! Gorahun (fr. June) Small 715! Kambul Hills North Small 842! **Iv. C.:** Bouroukrou (Jan.) Chev. 16145! 16146! Azaguié Chev. 22299! Assikasso (Dec.) Chev. 22580! Banco Aubrév. 485! **G. C.:** Axim (fr. Oct.) Chipp 388! Amentia (Dec.) Vigne FH 1496! Tsifufu (young fr. Mar.) Thompson 36! Nsuta (May) Vigne FH 1725! **S. Nig.:** Gambari Group F.R. W. D. MacGregor 559! 560! Sapoba (Nov.–Jan.) Kennedy 456! 1174! 1194! 1237! 1264! 1793! 1984! 2077! **Br. Cam.:** Victoria Maitland 410! Likomba (fr. Dec.) Mildbr. 10796! Buea (fl. & fr. Mar.) Maitland 461! 534! Nchan, Bamenda (Mar) Johnstone 90/31! **F. Po:** Mildbr 6432.

Extends to A.–E. Sudan, Uganda, Belgian Congo and Angola. Thompson 16! Tsifufu (fr. Mar.) Thompson 34! Ahiraso (fr. Mar.) Chipp 122! Popo-kyere (fr. Apr.) Chipp 200! S. Fomang Su F.R. (Feb.) Vigne FH 1825! **Togo:** Misahöhe Mildbr. 7376. **S. Nig.:** Sapoba (fl. Nov., fr. May & June) Kennedy 429! 1184! 2036! 2065! 2155! Ugo, Benin Div. (fr. May) Kennedy 1126! **Br. Cam.:** Likomba Mildbr. 10770! Ngale, Kumba Div. (Feb.) Forteh FHI 8394! 8395!

Extends to Uganda, Belgian Congo and Cabinda.

Trees with longer (10–15.5 cm.) fruits in Gold Coast and Ivory Coast, and with pyriform fruits in Benin may prove to be distinct varieties. A certain amount of variation is known within each of the above species. These variations occur especially in the size and shape of fruit, in the amount of indumentum and probably also in the bark. They do not seem of sufficient taxonomic importance to warrant specific or varietal rank. In view, however, of the great economic importance of the genus it would be as well for forest officers to study whether the infraspecific variation has any importance silviculturally or from the point of view of the quality of the timber. Reference should be made to Panshin in Amer. Journ. Bot. 20: 648 (1933), Harms in Notizbl. Bot. Gart. Bert. 14: 431 (1939), and Pellegrin in Notulae Syst. 9: 37 (1940).

3. PSEUDOCEDRELA

Harms in Engl. Bot. Jahrb. 22: 153 (1895); E. & P. Pflanzenfam. 19B, 1: 67 (1940).

- 1 Leaves pinnate; leaflets alternate or rarely subopposite, 6–8 on each side, ovate-oblong or ovate-lanceolate, rounded and unequal-sided at base, obtuse at apex, undulately toothed or subentire, up to 15 cm. long and 6 cm. broad, softly pubescent mainly on the nerves beneath; lateral nerves about 10–12 pairs, spreading; rhachis softly tomentose; panicles thyrsoid, up to about 30 cm. long; branches rather long; pedicels about 4 mm. long, puberulous; calyx about 1 mm. long, 5-lobed; petals contorted, 2.5–3 mm. long, thinly pubescent up the

middle, staminal column broadly campanulate, about 25 mm. long; anthers 10, fruits 5 celled, oblanceolate in outline, 10–12 cm long, 3 cm thick, opening by 5 nearly flat recurving woody valves and leaving the sharply 5 angled axis, seeds with a long terminal membranous wing about 6 cm long with a stronger nerve on one side

.....[kotschy](#)

Pseudocedrela kotschy (*Schweinf*) *Harms* in Engl. Bot. Jahrb. 22: 154(1895), Chev. Bot. 117; For Trees & Timbers Brit. Emp. 2: 66, fig. 13 & photo, *Harms* in E. & P. Pflanzenfam 19B, 1: 67, fig. 11; Pellegr. in Notulae Syst. 9: 34, fig. 2; Aubrév. Fl. For. Soud.-Guin. 383, t. 81. *APD acc*

Cedrela kotschy *Schweinf* Reliq. Kotachyanae 36, t. 35 (1868)

Pseudocedrela chevalieri *C. DC.* (1907)

A *savannah* tree, commonly 20–30 ft high, sometimes up to 60 ft high and 6 ft girth, bark grey, fissured, panicles of fragrant white flowers, foliage grey silvery when young, fruits erect, often gregarious on heavy soils

Sen.: Niokolo-Koba Berhaut 152. **Fr. Sud.:** Ségou Vuillet 5. Arbala Dubois 160. **Iv. C.:** Bondoukou Aubrév 727! Baoulé Aubrév 43, Chev. 22344 Ferkéssédougou Aubrév. 2237 Black Volta R. Aubrév. 2409. **G. C.:** Bere, N. T. (Feb) Dudgeon 105! Wa (Mar) McLeod 839! Ejura (fr. Aug) Chipp 751! **Togo:** Sokode (Apr) Kerting 68! **Dah.:** Agouagon to Save Chev. 23553! **N. Nig.:** Nupe Barter 1633! 1712! Ejidogari F. R., Ilorin (Mar) Latilo 32963! Katagum (Feb) Dalz. 218! Abinsi Dalz.! Yola Prov. Dalz. 169! **S. Nig.:** Lagos Colony Foster 17! Ijaiye F. R. (Mar) Keay & Ladipo FHI 21191!

Extends to A–E *Sudan*, *Belgian Congo* and *Uganda* (See Appendix, p 328)

4. LOVOA

Harms in Engl. Bot. Jahrb. 23: 164 (1896); E. & P. Pflanzenfam 19B, 1: 74 (1940).

- 1 Leaflets about 6 pairs, subopposite, elliptic, rounded or shortly pointed at base, very slightly acuminate and emarginate, up to 20 cm long and 9 cm broad, glabrous, with numerous rather faint spreading lateral nerves, rachis slightly winged; flowers numerous and small in large lax glabrous subcorymbose panicles, pedicels about 1.5 mm. long, sepals broad and truncate, wrinkled, petals elliptic, about 4 mm long, fruits narrowly oblong, quadrangular, 4–7 cm long, valves very thin, deciduous, seeds with a long terminal wing about 3 cm long and 8 mm. broad[trichilioides](#)

Lovoa trichilioides *Harms* in Engl. Bot. Jahrb. 23: 164 (1896); Staner in Bull. Jard. Bot. Brux. 16: 246. *APD acc*

Lovoa klaineana *Pierre ex Sprague* (1906) — F. W. T. A., ed. 1, 1: 493; For Trees & Timbers Brit. Emp. 2: 59, fig. 12 & photo, Aubrév Fl. For. C. Iv. 2: 133, t. 178; Kennedy For Fl. S. Nig. 164; Pellegr. in Notulae Syst. 9: 34, fig. 3.

A large *forest* tree, to 150 ft high with cylindrical bole and rather short blunt buttresses, crown of dark, heavy, evergreen foliage, bark relatively smooth with large irregular flaking pieces, slash dull red to pink, with faint whitish streaks moist and very sweetly scented, flowers greenish white, fruits pendulous, black or purplish black, seeds attached to the distal end of the column by the wing, the bodies of the seeds thus being free from the column at its base

S. L.: (Dec) Unwin & Smythe 35! Kenema Div King 161! 238! **Iv. C.:** various localities fide Aubrév l.c. **G. C.:** Tsifufu (fr. Mar) Thompson 33! Ancobra R. (fr. Jan) Thompson 9! Tano R. (Dec.) Chipp 39! S Fomang Su F. R. (Jan) Vigne FH 2686! Worobong F. R. (Jan) Vigne FH 4315! **S. Nig.:** Abeku, Omo F. R. Jones & Onochie FHI 16726! Sapoba (fl. Feb–Apr, June, Oct, fr. Mar) Kennedy 478! 2860! Uregin, Benin Unwin 110!

Extends to *Belgian Congo* and *Angola* (See Appendix, p 826)

5. CARAPA

Aubl. — F.T.A. 1: 336; *Harms* in E. & P. Pflanzenfam 19B, 1: 77 (1940).

- 1 Petals about 8 mm long, fleshy, pedicels stout, staminal tube about 6 mm. long, deeply dentate, ovules 2 per cell, fruits subglobose, shortly pointed at apex, 5-valved, valves not ridged, 12–15 cm. diam, containing up to 10 seeds, leaves up to 1.2 m long, with 4–7 pairs of opposite or subopposite leaflets, leaflets oblong, cuneate to obtuse or rounded at base, shortly acuminate, 10–30 cm. long, 5–10 cm broad, glabrous; panicles narrow,

clustered, up to 45 cm long, glabrous, surface of axis and branches conspicuously rough with transverse cracks when dry, outside of flowers glabrous [1. grandiflora](#)

Petals 5–5.5 mm long, thin, pedicels slender, staminal tube 4–4.5 mm long, shallowly dentate, ovules 5–7 per cell, fruits oblong ellipsoid, long beaked, or truncate and shortly beaked, with knobby ridges along each valve, 6.5–15 cm long, containing 15–20 seeds, leaves very variable in size, up to 2 m long, with 6–21 pairs of opposite or alternate leaflets, leaflets very variable in size and shape, usually more or less elongate oblong, up to 50 cm long and 15 cm. broad, panicles narrow, clustered, up to 80 cm long, glabrous or puberulous, surface of axis and branches usually smooth, not cracked when dry, outside of flowers puberulous, or glabrous except for the ciliate margins of the sepals [2. procera](#)

1. **Carapa grandiflora** *Sprague* in J. Linn. Soc. 37: 507 (1906); For Trees and Timbers Brit. Emp. 4: 29, fig. 4, t. 4, C; Staner in Bull. Jard. Bot. Brux. 16: 119, t. 1.

APD: Synonym of Carapa procera DC. var. procera

Carapa macrantha *Harms* (1917), from descr.

A tree up to 30 ft high (to 80 ft. in Uganda), with short stem and wide spreading crown, sepals and petals greenish, staminal tube white, disk orange, stigma white, [in montane forest](#)

S. Nig.: Mackay 2! Ikette Plateau, Obudu, 5,200 ft. (Dec.) Keay & Savory FHI 25181! **Br. Cam.:** Bamenda Prov.: Lakom Nchan, 6,000 ft. (Apr.) Maitland 1663! Batut-Ngemba F. R. (Apr.) UJORFHI 30002!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**

[The description of the fruit given in the above key is based on specimens from Uganda; I have not seen fruit from our area — R. W. J. K.]

2. **Carapa procera** *DC.* Prod. 1: 626 (1824); Chev. Bot. 115; Aubrév. Fl. For. C. Iv. 2: 125, t. 175; Kennedy For. Fl. S. Nig. 159; Harms in E. & P. Pflanzenfam 19B, 1: 80, fig. 16, A–E, fig. 17, fig. 18; Pellegr in Notulae Syst. 9: 27; Staner l.c. 116. *APD acc*

Carapa guineensis *Sweet ex A. Juss.* (1830)

Carapa touloucouna *Guill. & Perr.* (1831)

Carapa gummiflua *C. DC.* (1907) — Chev. Bot. 115.

Carapa velutina *C. DC.* (1907) — Chev. Bot. 116.

Carapa microcarpa *A. Chev.* (1909) — Chev. Bot. 115.

Forest trees with large leaves clustered at the ends of the branches, flowers white and pink, fragrant. Habit varies from a sprawling tree with arching branches up to about 50 ft high [in swamp forest, to a tall tree with clear bole in lowland rain forest.](#)

Sen.: R. Casamance (Apr.) Chev. 3164; 3166; 3168; Leprieur; Perrottet! **Port. G.:** Cacheu (Feb.) Esp. Santo 1310! **Fr. G.:** Heudelot 749! Moussaia (Feb.) Chev. 461! Kissi Circle (Feb.) Chev. 20685! Farana (Jan.) Chev. 20474! Kouroussa (Feb.) Pobéguin 587! **S. L.:** Don! Hedde's Farm (Jan.) Deighton 1058! York (fr. May) Deighton 5525! Ninia, Talla Hills (Feb.) Sc. Elliot 4813! Njala (Dec.) Deighton 1860! **Lib.:** Peahtah (Oct.) Linder 905! Gbanga (Oct.) Linder 1156! Zigida (Oct.) Baldwin 10008! Begwai (Oct.) Bunting 17! **Iv. C.:** Grabo (July.) Chev. 19640! Alépé (Mar.) Chev. 16233! Abidjan Aubrév. 67! Bouroukrou Aubrév. 720! **G. C.:** Aburi Hills (Nov.) Johnson 295! Bataba, N. Beyin (July) Chipp 262! Abosso (Aug.) Vigne 217! Amokokrom, W. Apollonia (Aug.) Chipp 320! **S. Nig.:** Lagos (Jan.) Dalz. 1372! Epe Barter 3248! Oban Talbot 1462! 1602! Boje, Ikom Div. (May) Jones & Onochie FHI 18934! **Br. Cam.:** Victoria (Dec. –Mar.) Maitland 430! 431! 469! 533! 533a! 1348! 1350! Amba Bay (Feb.) Mann 9! Molyko, Buea (Feb.) Maitland 1349! **F. Po.:** (Jan., June) Barter 1724! Mann 153!

Extends to **Belgian Congo** and **Angola**; also in **West Indies** and **Guiana** Leprieur, Perrottet 134! R. Fasena Dollinger Floup-Fedyan (Jan.) Chev. 3159, 3161, 3162. Bignona (Feb) Chev. 3165. **Gam.:** Abuko Waterworks (Jan.) Dalz. 8128! **Port. G.:** Biombo, Bissau (Feb.) Esp. Santo 1791! Prabis, Bissau (Feb.) Esp. Santo 1830! **Fr. G.:** Heudelot 775! Conakry Debeaux 178! Los Isl. (May) Kalbreyer 205! **S. L.:** Hedde's Farm (fl. & fr. Mar.) Lane-Poole 354! Kofiu Mt, Scarcies (Jan.) Sc. Elliot 4620! Musaia (Feb.) Deighton 4176! Wara Wara, Yagalu (Jan.) King 192! **Lib.:** Zigida, Vonjama (Oct.) Baldwin 10016! **Iv. C.:** Aubrév 2125! Bangouanou to Endé (young fr. Dec.) Chev. 22469! Rasso Aubrév 139! And other localities fide Aubrév and Chev. l.c. **G. C.:** Agogo, Ashanti (Dec.) Chipp 600! 601! Aboso, Tarkwa (Aug.) Vigne 220! Volta River F.R. (Jan.) Moor FH 2183! Bana Hill, Krobo (Jan.) Irvine 1924! **Togo:** Lome Warnecke 416! Sokode-Basan Kersting A. 720! **Dah.:** Adjara, Porto Novo (Jan.) Chev. 22754! **N. Nig.:** Jemaa Div. (Feb.) Onyeagocha FHI 7625! **S. Nig.:** Lagos (Jan.) Barter 2146! Dalz. 1265! Olokemeji (Jan.) Keay FHI 14614! Idanre Hills (Jan.) Brenan 8640! Urhuehue, Benin Div (Dec.) Olorunfemi FHI 31924! Onitsha Barter 1676! **Br. Cam.:** Tiko (Jan.) Dunlap 181!

Extends to A–E **Sudan**, **Uganda**, **Belgian Congo**, **Angola** and N. Rhodesia A. F. A. Lamb 111! Oban Talbot 1370 (partly)! 1711! Calabar (Jan.) Smith 33! Umaji, Obudu Div. (young fr. May) Latilo FHI 30918! **Br. Cam.:** Amba Bay (Feb.) Mann

20! Bimbia road, Victoria (fl. & young fr. Feb) Maitland 406! 434! Tiko (Jan.) Dunlap 170! **F. Po:** (Jan.) Mann 163 (partly)!

Also in **French Cameroons**, **Ubangi-Shari**, **Spanish Guinea**, **Gabon**, **Belgian Congo**, **Uganda** and **Tanganyika**

3. **Trichilia heudelotii** *Planch. ex Oliv.* F. T. A. 1: 334 (1868); Chev. Bot. 114; Aubrév. l.c. 154, t. 186a; Kennedy l.c. 163; Harms l.c. 110; Pellegr. l.c. 23, fig. 1 A; not of Staner l.c. 155.

APD: Synonym of Trichilia monadelpha (Thonn.) J. J. de Wilde

Trichilia zenkeri Harms (1896) — F.W. T. A., ed. 1, 1: 493; Staner l.c. 165, t. 6.

Trichilia heudelotii var. **zenkeri** (Harms) Aubrév. l.c. 154, t. 186b (1936).

Trichilia djaloni A. Chev. (1912) — Chev. Bot. 113.

Trichilia acutifoliata A. Chev. (1909), name only

Trichilia candollei A. Chev. (1909), name only — Chev. Bot. 113.

Trichilia acutifoliola A. Chev. Bot. 112, name only

Trichilia velutina A. Chev. Bot. 115, name only, not of C. DC.

Trichilia oddoni of Pellegr. l.c. 24, partly.

A tree 20–60 ft. high, **in understorey of rain forest**, especially in secondary regrowth types and in moist places, bark brown, slash dark pink with slight exudate of whitish latex, flowers greenish yellow, fruits buff-coloured

Port. G.: Catiö (June) Esp. Santo 2100! **Fr. G.:** Karkandy Heudelot 842! Dioromandou to Koudian (Feb.) Chev. 20736! **S. L.:** Afzelius! Mt. Gonkwi, Ninia (Feb.) Sc. Elliot 4986! Sasseni, Scarcies (Jan.) Sc. Elliot 4542! Njala (May) Deighton 2996! Gola Forest (Mar.) Small 541! **Lib.:** Grand Bassa Dinklage 1878! Dukwia R. (Aug.) Linder 230! Little Kola R. (Mar.) Baldwin 11192! Butan (Mar.) Baldiwin 11495! Ganta (Apr.) Barley 1135! **Iv. C.:** Mbaaso (Mar.) Chev. 16262! Toula (July) Chev. 19565! Mt. Dou, Zoanlé (May) Fleury in Hb. Chev. 21480! Grabo (July.) Chev. 19641! Potou lagoon (Feb.) Chev. 20110! Abidjan Aubrév 20! 115! Banco Aubrév 262! **G. C.:** Boaso, W. Ashanti (Mar.) Chipp 136! Kumasi (Mar.) Vigne FH 1640! Aburi (Feb.) Brown 932! Assuantsi (Mar.) Irvine 1560! **Dah.:** Allada (Mar.) Chev. 23405! **S. Nig.:** Ibadan (May) Keay FHI 22844! Baba-Eku, Ijebu Ode Prov. (Feb.) Ross 47! Sapoba Kennedy 653! 1936! 2153! Degema Talbot! Oban Talbot 1370 (partly)! 1712! **Br. Cam.:** Victoria (Jan.) Maitand 317! Johann-Albrechtshöhe Staudt 592! **F. Po:** Barter! Mann 163 (partly)!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Cabinda** King 299! **Iv. C.:** Yapo Aubrév. 1365. Rasso Aubrév. 572. Banco Aubrév. 853; 924! Agboville Aubrév. 1920

[Kennedy 2184 from Sapoba, S. Nig. is close to this, but has oblong elliptic leaflets cuneate at base, the leaflets, which are rather old, do not appear to have gland dots. It is near *T. hylobia* Harms from the French Cameroons.

5. **Trichilia gilgiana** Harms in Engl. Bot. Jahrb. 23: 161! (1896); E. & P. Pflanzenfam. 19B, 1: 110; Pellegr. l.c. 21; Staner l.c. 161, t. 5. *APD acc*

A tree, to 70 ft. high, **in understorey of rain forest**, with fluted lower bole; bark pale brown; slash pinkish-brown with a little latex, sweetly scented; petals cream without, pink within.

S. Nig.: Ikom (Nov.) Catterall 60! 64! Afi River F.R., Ikom (Dec.) Keay FHI 28222! **Br. Cam.:** Bali-Ngamba F.R., Bamenda (young fr. June) Tiku & Ujor FHI 30421!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and **Cabinda**.

6. **Trichilia megalantha** Harms in Engl. Bot. Jahrb. 23: 160 (1896); Aubrév. l.c. 156, t. 185, 6; Harms l.c. 110; Pellegr. l.c. 25. *APD acc*

A **forest** tree 50–100 ft. high, with rough dark grey bark; flowers whitish, strongly scented; fruits greyish-pink.

Iv. C.: Man Aubrév. 946. Agnéby Aubrév. 2357. **G. C.:** Ofin Headwaters F.R. (Apr.) Vigne FH 1906! **S. Nig.:** Western Lagos Rowland! Ibadan (June) Ogua FHI 3423!

7. **Trichilia splendida** A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 147 (1912); Aubrév. l.c. 156, t. 184, 1–3; Harms l.c. 110. Pellegr. l.c. 26.

APD: Synonym of Trichilia dregeana Sond.

Trichilia tomentosa A. Chev. Bot. 115, name only, not of H. B. & K.

A **forest** tree, to 80 ft. high; slash exuding a little latex; flowers white, very fragrant.

Fr. G.: Kissidougou (Feb.) Chev. 20708! Diaguissa (Apr.) Chev. 12916. **Iv. C.:** Mt. Tonkoui Aubrév. 993. Bondoukou Aubrév. 731! (? sterile). Also Mt. Dou and Nzo fide Aubrév. l.c.

[The plants described under this name from Belgian Congo (Staner l.c. 159, fig. 9, t. 4) and from Uganda (Eggeling, Indig. Trees Uganda, ed. 2: 198) are best referred to *T. strigulosa* Welw. ex C. DC.; the plant referred by Eggeling (l.c. 197) to *T. megalantha* is also *T. strigulosa*.]

8. **Trichilia lanata** *A. Chev.* in Bull. Soc. Bot. Fr. 58, Mém. 8: 146 (1912); Chev. Bot. 114; Aubrév. l.c. 150, t. 184, 4–7; Harms l.c. 109; Pellegr. l.c. 26, fig. 1 B.

APD: Synonym of Trichilia tessmannii Harms

Trichilia montchali *De Wild.* (1914) — Staner l.c. 172, t. 7, C–D; Pellegr. l.c. 27.

Trichilia mildbraedii *Harms* (1917) — F.W.T.A., ed. 1, 1: 493; Kennedy l.c. 164.

A **forest** tree, to 100 ft. or more high, with slight buttresses and straight, cylindrical bole; flowers greenish-white; fruits carmine pink.

S. L.: Peninsular F.R. (Dec.) Vigne 38! Njala Deighton 4730! **Iv. C.:** Agboville (young fr. Nov.) Chev. 22382! Abidjan Aubrév. 45! 160! Banco Aubrév. 376! And various other localities fide Aubrév. l.c. **G. C.:** S. Fomang Su F.R. (fr. Jan.) Vigne FH 2688! Kumasi Andoh FH 4852! **Dah.:** E. of Henoi Poissan. **S. Nig.:** Sapoba Kennedy 516! 1598! 1741! 1794! 1846! 1856! Mamu River F.R., Awka Div. Onwudinjoh FHI 21912!

Also in **French Cameroons** and extending to **Belgian Congo** and Cabinda.

[A tree at Idanre, S. Nigeria (Keay & Onochie FHI 21568) is close to this species but the leaflets have rather fewer main lateral nerves and are slightly less densely hairy beneath. This tree needs further study; possibly it is a hybrid between *T. lanata* and *T. heudelotii*.]

9. **Trichilia roka** (*Forsk.*) *Chiov.* Flora Somala 2: 13! (1932); Brenan in Mem. N.Y. Bot. Gard. 8, 3: 235.

APD: Synonym of Trichilia emetica Vahl subsp. emetica

Elcaja roka *Forsk.* (1775).

Trichilia emetica *Vahl* (1790) — F.T.A. 1: 335; F.W.T.A., ed. 1, 1: 493; Harms l.c. 109; Pellegr. l.c. 24; Staner l.c. 175, t. 7, E–F; Aubrév. Fl. For. Soud.-Guin. 381, t. 80, 1–3.

A **savannah** tree, to 30 ft., with fissured corky bark; flowers pale green except for the fawn anthers; ripe fruits crimson.

Sen.: Perrottet 133! Djibelor Aubrév. 3045. **Gam.:** Heudelot 15. Albreda (May) Leprieur! **Fr. Sud.:** Kougueniéba (Mar.) Chev. 556! Kolokani Aubrév. 3047. Arbaia Dubois 172. **Port. G.:** Prabis, Bissau (Feb.) Esp. Santo 1808! Canjadudi, Gabu (young fr. June) Esp. Santo 2511! **Fr. G.:** Kouroussa Pobéguin 190; 687. Timbo Chev. 12527. Fouta Djalou Chev. 12834. **S. L.:** unknown collector! **Iv. C.:** Ferkéssédougou Serv. For. 2284. Ouagadougou Aubrév. 2424. Mt. Kangoroma Chev. 22177. **G. C.:** Lambussie to Belong (young fr. Mar.) Kitson 784! Afram Plains (young fr. May) Kitson 1094! Nakong, N.T. (Feb.) Vigne FH 4718! Yendi (fr. Apr.) Vigne FH 1714! **Togo:** Sansanné Mango Aubrév. 130d. Kpandu (Feb.) Robertson 104! **Dah.:** Ouémé to Agouagon Chev. 23606! Savé Aubrév. 70d. **Fr. Nig.:** Gourma Chev. 24457. **N. Nig.:** Sokoto (Feb.) Lely 848! Kontagora (Feb.) Dalz. 89! Alagbede F.R., Ilorin (Feb.) Ejiofor FHI 19810! Bauchi Plateau (Mar.) Lely P. 191! **S. Nig.:** 12 miles E. of Shepeteri (Mar.) Keay FHI 22521! Old Oyo F.R. (Feb.) Keay FHI 16007! Ado to Iseyin Rowland!

Widespread in tropical Africa, extending to S. Africa, Madagascar, Réunion and **Arabia**.

10. **Trichilia retusa** *Oliv.* F.T.A. 1: 334 (1868); Harms l.c. 110; Pellegr. l.c. 17; Staner l.c. 152, t. 2, D–F.
APD acc

A nearly glabrous tree of **fringing forests**, up to 40 ft. high, with fragrant white flowers and usually 2-valved fruits.

N. Nig.: Nupe Barter 1181! Jebba (Dec.) Hagerup 733! Ibaji-Ojoku F.R. (Feb.) J. E. Taylor L. 9! Idah T. Vogel 50! Echonga, Kabba Prov. (Feb.) Jones FHI 634! Abinsi (Jan.) Dalz. 865!

Also in **Ubangi-Shari**, **A.-E. Sudan** and **Belgian Congo**.

Limonia? monadelphina *Thonn.* in Schum. Beskr. Guin. Pl. 217 (1827); F.T.A. 1: 336.

I have examined an authentic specimen of this from the Vahl herbarium, Copenhagen. It consists only of an incomplete leaf, which might possibly be regarded as coming within the rather broad interpretation of *Trichilia heudelotii* which I have given above. A more exact determination would be most unconvincing. I consider, therefore, that it is scientifically undesirable to make a new combination to replace the well-known *T. heudelotii* Planch. ex Oliv. which has excellent and widely distributed type specimens. Imperfectly known species.

7. EKEBERGIA

Sparrm. — F.T.A. 1: 332; Harms in E. & P. Pflanzenfam. 19B, 1: 119 (1940).

Charia C. DC. (1907).

- 1 Leaves pinnate; leaflets oblong or elliptic, unequal-sided and shortly cuneate at base, shortly acuminate, 5–10 cm. long, 2.5–4.5 cm. broad, glaucescent and finely reticulate beneath; rachis flat on the upper surface towards the base; panicles axillary, up to 3/4 as long as the leaves, puberulous; pedicels up to 2 mm. long; flower-buds ellipsoid; calyx saucer-shaped, dentate, about 1.5 mm. long, puberulous; petals about 5 mm. long, pubescent; stamens 10, monadelphous; fruits drupaceous, subglobose, 1.5–2 cm. long, glabrous. [.senegalensis](#)

Ekebergia senegalensis A. Juss. in Mém. Mus. Hist. Nat. Paris 19: 234, t. 17, fig. 16a (1830); Guill. & Perr. Fl. Seneg. 1: 126, t. 31; F.T.A. 1: 333; Chev. Bot. 112; Aubrév. Fl. For. C. Iv. 2: 157, t. 187; Pellegr. in Notulae Syst. 9: 5; Aubrév. Fl. For. Soud.-Guin. 383.

APD: Synonym of Ekebergia capensis Sparrm.

Charia chevalieri C. DC. (1907).

Ekebergia chevalieri (C. DC.) Harms (1911).

Charia indeniensis A. Chev. (1909).

Ekebergia indeniensis (A. Chev.) Harms (1915).

Sorindeia doeringii Engl. & K. Krauae (1911).

Ekebergia dahomensis A. Chev. Bot. 112, name only.

A tree to 50 ft. high, rarely more, with spreading crown and dense foliage, and smooth grey bark becoming rough and scaly; petals yellowish; fruits reddish when ripe, containing 2–4 bright red seeds with yellow aril; [in savannah regions and drier parts of the forest regions](#). The species seems to vary a good deal in size of leaflets and indumentum of the leaves.

Sen.: Berhaut 1000. Kounoum Leprieur. **Gam.:** Albreda Heudelot 107! 378! Perrottet 131! **Fr. Sud.:** Sikasso Vuillet 565. **Port. G.:** Bissau (Mar.) Esp. Santo 1881! Bolama (fr. Apr.) Esp. Santo 1930! **Fr. G.:** Moriquénieba (Feb.) Chev. 448! **Iv. C.:** Bettié (Mar.) Chev. 16255! Ferkéssédougou, Ouangolo, Niangoloko & Bondoukou fide Aubrév. **IcG. C.:** Fiapiro Chipp 92. Wenché (Mar.) Dalz. 17! **Togo:** Kersting 99! Njande, Atakpame (fr. May) Doering 230. **Dah.:** Abomey (Feb.) Chev. 23133! Cabolé (fr. May) Chev. 23779! Birni Aubrév. 59d. **N. Nig.:** Sokoto (Mar.) Lely 850! Zaria Dalz. 355! Anara F.R., Zaria (fl. & young fr. May) Keay FHI 22905! 22910! Bauchi Plateau (Jan.) Lely P. 55! **S. Nig.:** Olokemeji Unwin 14! Ibadan (Mar.) Abubakar FHI 3008! E. of Igboho, Oyo Div. (Feb.) Keay FHI 23439!

Extends to Ubangi-Shari, [Belgian Congo](#) and [Angola](#).

8. GUAREA

Allem. in Linn. Mant. 2: 150 (1771); Harms in E. & P. Pflanzenfam 19B, 1: 129 (1940), excl. Sect. Heckeldora (Pierre) Harms.

- 1 Trees up to 13 m. high or shrubs, in the understorey of forest; inflorescences pendulous, long and slender, with few flowers on the short lateral branches; leafy branchlets slender; leaflets alternate, rarely subopposite, venation very obscure; seeds with the cotyledons juxtaposed and radicles terminal:2
- Trees up to 50 m. high, attaining the highest stratum of the forest; inflorescences erect, stout, more or less pyramidal, with relatively long lateral branches, 1–15 (–25) cm. long; leafy branchlets stout; leaflets opposite or subopposite; seeds with the cotyledons superposed and radicles lateral, completely enveloped in an aril: ...3
- 2 Petals hairy all over the outer surface, 6–10 mm. long; flowers aggregated in fascicles; inflorescences up to 65 cm. long; petioles 8–12 cm. long, rhachides 15–34 cm. long, shortly tomentellous, glabrescent; leaflets 8–13 (–17), elongate-oblong, obtuse or cuneate and often asymmetrical at base, long-acuminate, 5.5–23 cm. long, 3–6.5 cm. broad, with numerous rather faint main lateral nerves, minutely puberulous beneath; fruits subglobose,

rather deeply lobed, 1–2 cm. diam., tomentellous [1. *glomerulata*](#)

Petals hairy only on the margins, 8–10 mm. long; flowers borne laxly and often singly on the inflorescences which are up to 20 cm. long; petioles 4.5–10 cm. long; rachides 6–17 cm. long, minutely puberulous; leaflets 5–13, oblong-elliptic, cuneate to rounded at base, long-acuminate, 3–16 cm. long, 1.2–5.8 cm. broad, with 6–12 rather obscure main lateral nerves, nearly glabrous; fruits depressed-globose, apparently not lobed, 2–2.5 cm. diam., minutely tomentellous [2. *leonensis*](#)

- 3 Petioles 2–4.5 cm. long, with distinct incurved wings 3–6 mm. wide; reticulation of veins distinct on undersurface of leaflets; calyx denticulate; petals 5–7 mm. long, densely tomentellous outside; fruits velvety-tomentellous, subglobose, 3–5.5 cm. diam.; rachides 2–18 cm. long; leaflets 6–15, oblong, oblong-lanceolate or oblong-oblancheolate, cuneate, or sometimes rounded, and often asymmetrical at base, gradually obtuse to long-acuminate at apex, margins often undulate, 8–32 cm. long, 2.5–10.5 cm. broad, glabrous except for a few hairs on midrib and nerves beneath, with 16–22 main lateral nerves on each side of midrib, prominent beneath; slash without latex [3. *cedrata*](#)

Petioles 7–14 cm. long, scarcely winged; ultimate reticulation of veins obscure on undersurface of leaflets; calyx subtruncate; petals 8–10 mm. long, tomentellous outside; fruits glabrous and often rugose outside, subglobose, 3–4 cm. diam.; rachides 8–30 cm. long; leaflets 7–17, elongate-elliptic, cuneate or obtuse at base, obtuse to acute or acuminate at apex, 9–24 cm. long, 3–9 cm. broad, glabrous, with 9–16 main lateral nerves on each side of midrib; slash with white latex [4. *thompsonii*](#)

1. ***Guarea glomerulata* Harms** in Engl. Bot. Jahrb. 23: 150 (1896); in E. & P. Pflanzenfam. 19B, 1: 134; Staner in Bull. Jard. Bot. Brux. 16: 199, t. 11, D.

APD: *Synonym of Neoguarea glomerulata (Harms) E.J.M. Koenen & J. J. de Wilde*

***Guarea glomerulata* var. *obanensis* Bak. f.** in Cat. Talb. 18 (1913).

A shrub or small tree, 10–20 ft. high, with drooping branches and pendulous racemes; petals pink; fruits dull scarlet, with golden hairs, dehiscing to expose deep orange shining seeds in a white floss; [in rain forest](#).

S. Nig.: Eket Talbot! Oban Talbot 412! 417! 1285! Aboabam, Ikom Div. (Dec.) Keay FHI 28212! 28227! Boje, Ikom Div. (fr. May) Jones & Onochie FHI 18736! **F. Po:** Mildbr. 6371.

Also in [French Cameroons](#), [Gabon](#) and [Belgian Congo](#).

2. ***Guarea leonensis* Hutch. & Dalz.** F.W.T.A., ed. 1, 1: 492 (1928); Kew Bull. 1929: 25; Harms l.c. 135.

APD: *Synonym of Heckeldora leonensis (Hutch. & Dalziel) E.J.M. Koenen*

A small tree, 15–40 ft. high, with very spreading and drooping branches; flowers cream or white; fruits yellow; [in rain forest](#).

S. L.: Koteimahun Lane-Poole 337! Benduhun, Tunkia (Dec.) Deighton 3817! Gorahun to Bobobu (fr. Apr.) Deighton 3652! Gola Forest (fl. Jan., Apr., fr. Apr.) Small 611! 632! Unwin & Smythe 39! **Lib.:** Bumbumi to Moala (Nov.) Linder 1342! Jabrocca (Dec.) Baldwin 10865! Jaurazon (fr. Mar.) Baldwin 11467! Bomi Hills (Feb.) Baldwin 14084!

3. ***Guarea cedrata* (A. Chev.) Pellegr.** in Bull. Soc. Bot. Fr. 85: 180 (1928); Aubrév Fl. For. C. Iv. 2: 130, t. 177, 1–7; Kennedy For. Fl. S. Nig. 162; Harms l.c. 135; Staner l.c. 187, t. 9, t. 10, A, t. 11, A.

APD: *Synonym of Leplaea cedrata (A. Chev.) E.J.M. Koenen & J. J. de Wilde*

***Trichilia cedrata* A. Chev.** Vég. Util. 5: 215 (1909); F.W.T.A., ed. 1, 1: 493.

A large [forest](#) tree, to 160 ft. high, with dense crown, long bole and rather heavy buttresses; bark pale grey-brown, flaking to expose “mussel shell” markings; slash fawn-pink, moist but without latex, very fragrant; flowers greenish-yellow; ripe fruits orange-yellow with a reddish bloom; seeds surrounded by an orange-coloured aril.

S. L.: Dodo Hills F.R. (fr. Jan.) Sawyerr FHK 13597! Kambui Hills, Kenema (fr. Dec.) Small 909! **Lib.:** Dukwia R. Cooper 415! **Iv. C.:** Yapo Chev. 22321! Makouguié (fr. Jan.) Chev. 16171! Alépé (May) Krukoff 58! And other localities fide Chev. and Aubrév **Il. C. G. C.:** Jabo, Upper Wassaw F.R. (June) Vigne FH 967! Sefwi-Bekwai (fl. & fr. Aug.) Vigne FH 1330! Aguna (fr. Aug.) Vigne FH 1303! Bediaku, Goaso Dist. (June) Andoh FH 5502! **S. Nig.:** Omo F.R. Tamajong FHI

20271! Okomu F.R. (young fr. Mar.) Brenan! Ross 135! Sapoba (fl. Nov.–Jan., fr. June, July) Kennedy 310! 311! 1878! 1893! Usonigbe F.R. (young fr. Nov.) Ejiofor FHI 24656!

Also in **French Cameroons**, **Belgian Congo** and **Uganda**.

4. **Guarea thompsonii** *Sprague & Hutch.* in Kew Bull. 1906: 245; Aubrév l.c. 132, t. 177, 8–10; Kennedy l.c. 160; Harms l.c. 136; Staner l.c. 196, t. 10, C, t. 11, C.

APD: Synonym of Leplaea thompsonii (Sprague & Hutch.) E.J.M. Koenen & J. J. de Wilde

A large **forest** tree, to 160 ft. high, with dense crown, long bole and low buttresses; bark dark grey to mid brown, more or less smooth, but flaking to expose “mussel shell” markings; slash yellow, with sticky white latex; flowers yellow; ripe fruits orange or purplish-red; seeds surrounded by an orange-coloured aril.

Lib.: Nyaake, Webo (June) Baldwin 6117! **iv. C.:** Abidjan Aubrév. 79! 202! Banco Aubrév 354! Danané Aubrév 1040! **G. C.:** Prestea Vigne FH 3086! Jamang, W.P. (Apr.) Vigne FH 955! **S. Nig.:** Benin City Thompson 16! Nikrowa (young fr. Mar.) Ross 115! Sapoba (fl. Oct., fr. May, June) Kennedy 1653! Degema Talbot 3757!

Also in **Gabon** and **Belgian Congo**.

9. HECKELDORA

Pierre in Bull. Soc. Linn. Paris 2: 1287 (1896); Staner in Bull. Jard. Bot. Brux. 16: 206 (1941).

Guarea Sect. Heckeldora (Pierre) Harms — E. & P. Pflanzenfam. 19B, 1: 135 (1940).

- 1 A shrub or small tree, to 10 m. high; branchlets puberulous, more or less glabrescent; leaves imparipinnate, with 5–9 opposite to alternate leaflets; petioles 3–14 cm. long, rachides 8–19 cm. long, more or less densely pubescent to nearly glabrous; leaflets very variable in shape and size, often elliptic, oblong, oblanceolate or obovate, round to cuneate and often asymmetrical at base, acuminate at apex, 3–23 cm. long, 2–9.5 cm. broad, pubescent or glabrous beneath, pubescent on the midrib above, with 6–14 main lateral nerves, rather markedly looped on each side of midrib; racemes or narrow panicles 6–70 cm. long, solitary or several together, puberulous; calyx cupuliform, subtruncate; petals 6–8 mm. long, glabrous or nearly so outside; ovary glabrous to densely pubescent, 1-celled, with 2 parietal placentas each bearing 2 ovules; fruits baccate, ovoid or cylindrical, often asymmetrical and slightly monili-form, with several longitudinal ridges, stipitate, long-beaked, 2.5–8 cm. long and 0.8–3 cm. broad, puberulous outside, containing 1–4 seeds[staudtii](#)

Heckeldora staudtii (Harms) Staner l.c. 207, fig. 13 (1941). *APD acc*

Guarea staudtii Harms in Notizbl. Bot. Gart. Berl. 1: 180 (Aug. 1896).

G. zenkeri Harms (Sept. 1896).

Heckeldora zenkeri (Harms) Staner (1941).

Heckeldora latifolia Pierre (Nov. 1896).

Heckeldora angustifolia Pierre (Nov. 1896).

Guarea angustifolia (Pierre) Pellegr. (1939), not of C. DC. (1903).

G. pierreana Harms (1940).

G. leptotricha Harms (1897).

G. nigerica Bak. f. (1913) — F.W.T.A., ed. 1, 1: 492.

G. parviflora Bak. f. (1913).

A small tree or shrub, in **forest**, with pendulous inflorescences of cream fragrant flowers and yellow fruits.

Lib.: Jaurazon (Mar.) Baldwin 11468! **S. Nig.:** Oban Talbot 590! 1281! 1350! 1701! s.n.! Ikette Plateau, Obudu Div. (Dec.) Keay & Savory FHI 25209! **Br. Cam.:** Victoria (Jan.) Kalbreyer 4! Likomba (Nov.) Mildbr. 10630! Johann-Albrechtshöhe (Jan.) Staudt 534. Bambuko F.R., Kumba Div. (Sept.) Olorunfemi FHI 30772!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

Baldwin 11378 from Liberia, 25 miles from mouth of Sangwin R., may also be this species. Further study in the field is needed to see if any satisfactory subdivision of this variable species is possible.

10. TURRAEANTHUS

Baill. in *Adansonia* 11: 261 (1874); Harms in *E. & P. Pflanzenfam.* 19B, 1: 147 (1940).

- 1 Leaves pinnate, with (5–) 8–24 (–30) alternate or subopposite leaflets; petioles 5–10 cm. long, rhachides 4–60 cm. long, densely rusty-puberulous when young; petiolules 0.5–1.5 cm. long; leaflets more or less elongate-oblong, rounded or shortly cuneate at base, rounded or obtuse and shortly apiculate at apex, the apiculum itself spatulate or with the margins up rolled, 6–25 cm. long, 2.5–8 cm. broad, soon glabrous, with 15–30 main lateral nerves on each side of midrib, slightly prominent beneath; flowers in lateral panicles up to 70 cm. long, all parts rusty-tomentellous; corolla 1.5–2 cm. long, stout; capsules subglobose or pyriform about 3 cm. diam., puberulous, glabrescent [1. africanus](#)

Leaves pinnately (1–) 3 (–5)-foliolate; petioles 6–16 cm. long, rhachides up to 10 cm. long, glabrous or sparingly puberulous; petiolules often twisted, about 5 mm. long; leaflets very broadly elliptic, very shortly cuneate at base, obtusely caudate acuminate, 10–25 cm. long, 8–14 cm. broad, thin, glabrous, with 3–4 looped main lateral nerves on each side of midrib, prominent beneath; flowers in axillary cymes up to 2 cm. long; corolla 0.8–1.4 cm. long, slender; fruits not known [2. mannii](#)

1. **Turraeanthus africanus** (*Welw. ex C. DC.*) *Pellegr.* in *Notulae Syst.* 2: 16 & 68 (1911); Chev. *Bot.* 111; Aubrév. *Fl. For. C. Iv.* 2: 126, t. 176; Harms in *E. & P. Pflanzenfam.* 19B, 1: 149; Pellegr. in *op. cit.* 9: 8; Staner in *Bull. Jard. Bot. Brux.* 16: 210. *APD acc*

Guarea africana *Welw. ex C. DC.* (1878).

Bingeria africana (*Welw. ex C. DC.*) *A. Chev.* (1909).

Turraeanthus zenkeri *Harms* (1896) — *F.W.T.A.*, ed. 1, 1: 496.

Turraeanthus vignei *Hutch. & Dalz.* *F.W.T.A.*, ed. 1, 1: 496 (1928); *Kew Bull.* 1929: 25.

A forest tree, 40–110 ft. high, with heavy dark green foliage; bark whitish or yellowish, fissured; slash pale yellow, strongly scented; flowers white or yellowish; fruit a yellow fleshy capsule with 4–5 seeds; often gregarious, especially in moist places.

S. L.: Kambui Hills South Small 856! **Iv. C.:** Aboisso (Apr.) Chev. 16298! Abidjan Aubrév 30! Koumasi Alepe Krukoff 56! 62! Azaguié Chev. 22300. Yapo Chev. 22309. **G. C.:** Tano R. Thompson 8! Akotiase, Cape Coast (fr. Mar.–Sept.) Vigne FH 933! Nfoum, Cape Coast (Apr., May) Vigne FH 948! Konongo, Ashanti (Apr.) Vigne FH 1081! Begoro (Nov.) Vigne FH 4266! **S. Nig.:** Boshi, Okwango F.R., Obudu Div. (Apr.) Latilo FHI 30908! Cross River North F.R., Ikom Div. (June) Latilo FHI 31830! Oban Talbot 1547! **Br. Cam.:** Buea (Feb.) Dalz. 8209! Deistel 129! Maitland 129! 231! 1351!

Also in **French Cameroons**, **Gabon**, **Belgian Congo**, **Angola** and (?) **Uganda**.

2. **Turraeanthus mannii** *Baill.* in *Adansonia* 11: 261 (1874); Harms l.c. *APD acc*

A forest shrub or small tree, 8–10 ft. high; branchlets glabrous, but roughly lenticellate

S. Nig.: Calabar R. (Feb.) Mann 2304! Oban Talbot 1352! **Br. Cam.:** Korup F.R., Kumba Div. (young (fr. June) Olorunfemi FHI 30639!

11. TURRAEA

Linn. — *F.T.A.* 1: 330; Harms in *E. & P. Pflanzenfam.* 19B, 1: 85 (1940).

- 1 Staminal tube 2.5–2.8 cm. long, anthers exserted, 1 mm. long, lobes much shorter; petals about 3.5 cm. long and 2.5 mm. broad; calyx with obtuse lobes about 2 mm. long; ovary 5-celled; flowers several together in small racemes 1–1.5 cm. long; leaves elliptic to ovate-elliptic, often sinuate-lobate, cuneate to rounded at base, acuminate, very thin, up to 12 cm. long and 3.5 cm. broad [1. leonensis](#)

Staminal tube 0.9–1.4 cm. long; petals 1.3–2.3 cm. long; flowers in fascicles or pseudo-umbels or solitary or paired: [2](#)

- 2 Anthers inserted at the top of the staminal tube, 1.5–2.5 mm. long, directly visible from the outside, not hidden by the linear or filiform alternating lobes; flowers not in subsessile fascicles; ovary 5–10 (or more)-celled; main lateral nerves 4–6 on each side of midrib; leaves sometimes lobate: [3](#)

Anthers inserted within the broad apical lobes of the staminal tube, about 1 mm. long; staminal tube 1 cm. long; petals 1.3–1.5 cm. long; flowers up to 20 together in subsessile fascicles; ovary 5-celled; stigma ovoid-ellipsoid; leaves elliptic or obovate-elliptic, cuneate at base, acuminate, 5–15 cm. long, 1.3–6 cm. broad, with 8–10 main lateral nerves [4. pellegriniana](#)

- 3 Flowers up to 15 together in pseudo-umbels on peduncles (0.9–) 2.5–4.5 (–6.5) cm. long; style-apex clavate below stigma; Staminal tube 1.2–1.4 cm. long; petals spatulate with long slender claw, 1.8–2.3 cm. long;

leaves broadly elliptic or ovate-elliptic, sometimes lobate, rounded to cuneate at base, acuminate, 4–16 cm. long, 2–7·3 cm. broad [2. vogelii](#)

Flowers solitary or paired, on peduncles up to 0·3 cm. long; style-apex ellipsoid below stigma; staminal tube 0·9–1·3 cm. long, petals oblanceolate, 1·4–2·3 cm. long; leaves more or less oblong-obovate to rhomboid, usually lobate, rounded to cuneate at base, shortly and obtusely acuminate, 2·5–9 cm. long, 1·3–5 cm. broad [3. heterophylla](#)

1. **Turraea leonensis** *Keay* in Bull. Jard. Bot. Brux. 26: 188 (1956). *APD acc*

Turraea heterophylla of F.W.T.A., ed. 1, 1: 496, partly.

A small tree, 12–15 ft. high.

S. L.: ex Hb. Thomas Moore! Hangha (Apr.) Lane-Poole 272!

2. **Turraea vogelii** *Hook. f. ex Benth.* in Hook. Fl. Nigrit. 253 (1849); F.T.A. 1, 330 (incl. var.); Harms in E. & P. Pflanzenfam. 19B, 1: 89, fig. 20, A–C; Staner in Bull. Jard. Bot. Brux. 16: 133, fig. 6. *APD acc*

Turraea propinqua *Hook. f. ex Benth.* (1849).

Turraea heterophylla of F.W.T.A., ed. 1, 1: 496, partly.

A scandent shrub or woody climber, 10–15 ft. high; calyx green; petals and staminal tube white, turning creamy; anthers yellow; fruits opening to expose the black seeds with red arils; [in forest margins, etc.](#)

G. C.: Kwahu Prasu (June) Vigne FH 1755! Bunsu (June) Hughes 1157! **S. Nig.:** Lagos (June) Dodd 421! Foster 106! Ajilite Millen 173! Owenna, Ondo Div. (Apr.) Symington FH 3381! Aguku Thomas 1015! Afi River F.R., Ikom (May) Latilo FHI 30992! Calabar Milne! Oban Talbot 1309! **Br. Cam.:** Victoria (Jan.) Maitland 269! Buea Deistel 586! Johann-Albrechtshöhe Staudt 478! **F. Po:** near the sea (Nov., Dec.) Mann 66! T. Vogel 65!

Also in [French Cameroons](#), [Gabon](#), [Belgian Congo](#), [A.-E. Sudan](#), [Uganda](#), [Angola](#) and on [Principe](#) and [S. Tomé](#).

3. **Turraea heterophylla** *Sm.* in Rees Cyclop. 36 (1819); F.T.A. 1: 330; Chev. Bot. 112. *APD acc*

Turraea lobata *Lindl.* in Bot. Reg. 1843, Misc. 61 (1843); op. cit. 1844, t. 4. (?)

Turraea quercifolia *G. Don* (1831), type not found.

Turraea gracilis *A. Chev.* Bot. 111, name only, fide Hutch. & Dalz.

An evergreen shrub, 3–6 ft. high with white flowers.

S. L.: Afzelius Whitfield! Murray Town (May) Deighton 5932! King Tom (fr. Oct.) Deighton 199! Mahela, Samu (fr. Dec.) Sc. Elliot 4029! **iv. C.:** fide Chev. l.c. **G. C.:** Cape Coast Brass! Jimira F.R., (June) Vigne FH 2965! Benso, Ashanti (Mar.) VIGNEFH 1856! Abokobi (Oct.) Vigne FH 4258! Aburi Road (Feb.) Dalz. 8271! Achimota (fl. Mar., young fr. Nov.) Irvine 359! Milne-Redhead 51301! **Togo:** Lome Warnecke 205! Santrokofi, Hohoe (fr. Oct.) St. C. Thompson FH 3599! **Dah.:** Poisson 105.

4. **Turraea pellegriniana** *Keay* l.c. 188, fig. 59 (1956). *APD acc*

Turraea tisseranti *Pellegr.* in Notulae Syst. 9: 10 (1940), French descr. only.

A shrub or small tree, to 25 ft. high; calyx and corolla pale green; staminal tube cream; flowers sweetly scented; fruits orange.

N. Nig.: Jemaa (fl. & fr. Feb.) McClintock 190! Bauchi Plateau (fl. & fr. Jan.) Lely P. 107! **S. Nig.:** Ijua, Obudu Div. (Dec.) Keay & Savory FHI 25029!

Also in [French Cameroons](#).

12. AZADIRACHTA

A. Juss. in Mém. Mus. Hist. Nat. Paris 19: 220 (1830); Harms in E. & P. Pflanzenfam. 19B, 1: 102 (1940). *APD acc*

- 1 Leaves pinnate; leaflets 5–8 pairs, ovate-lanceolate to lanceolate, falcate, very asymmetrical at base, long-acuminate, coarsely serrate on margins and occasionally lobed, up to about 11 cm. long and 3 cm. broad,

glabrous; panicles many-flowered, axillary, glabrous; pedicels about 1.5 mm. long; sepals ovate-suborbicular, about 1 mm. long; petals oblanceolate, 5–6 mm. long; staminal column about 4.5 mm. long, anthers within the lobed apex; fruits ellipsoid, drupaceous, 1-seeded, glabrous, 1.2–2 cm. long [indica](#)

***Azadirachta indica* A. Juss.** l.c. 221, t. 13, 5 (1830); Kennedy For. Fl. S. Nig. 182; Harms l.c. fig. 26, M–S.

***Melia azadirachta* Linn.** (1753).

***M. indica* (A. Juss.) Brandis** (1874).

An evergreen tree, to 80 ft. high, with abundant panicles of white flowers, and yellow fruits; introduced for shade and firewood, and known as “Neem.”

A native of India, now widely distributed and often naturalized in tropical and subtropical countries.

13. MELIA

Linn. — F.T.A. 1: 332; Harms in E. & P. Pflanzenfam. 19B, 1: 99 (1940).

- 1 Leaves bipinnate; leaflets 4–6 pairs, ovate-lanceolate, unequal-sided at base, long-acuminate, 3–8 cm. long, 1–3 cm. broad, serrate, glabrous or nearly so; panicles subcorymbose, nearly as long as the leaves; pedicels up to 1 cm. long, slightly pubescent; sepals elliptic, pubescent, 2.5 mm. long; petals contorted, oblanceolate, about 8 mm. long, thinly pubescent; staminal column 7–8 mm. long, slender, glabrous, anthers within the apex; fruit ellipsoid, drupaceous, usually 5-celled, 1–1.5 cm. long [azedarach](#)

***Melia azedarach* Linn.** — F.T.A. 1: 332; Harms l.c., fig. 26, A–L.

A small tree, with abundant panicles of lilac flowers; introduced for ornament and known as Persian Lilac.

A native of India, now widely distributed and often naturalised in tropical and subtropical countries.

SAPINDACEAE

Trees, shrubs or climbers. Leaves alternate or rarely opposite, simple, or 1- or 3-foliolate, or pinnate or bipinnate; stipules rarely present. Flowers actinomorphic or zygomorphic, sometimes very small, mostly unisexual, variously arranged. Sepals imbricate or rarely valvate. Petals 1–5, sometimes absent, imbricate. Disk usually present, sometimes unilateral. Stamens hypogynous, often 8, inserted within the disk or unilateral; filaments free, often hairy; anthers 2-celled. Ovary superior, entire or vertically lobed to the base, 1–8-celled; style terminal or gynobasic; ovules 1–2, rarely many in each cell, axile. Fruit capsular or indehiscent, rarely winged. Seeds without endosperm, often conspicuously arillate; embryo with usually plicate or twisted cotyledons.

A fairly large and mostly tropical family

With reduced unisexual flowers and often pinnate leaves; no endosperm.

- 1 Leaves imparipinnate, or biternate, or 1- or 3-foliolate, or simple: [2](#)
 Leaves paripinnate; tendrils absent: [5](#)
 2 Tendrils present, circinate coiled, borne on the peduncles; climbing herbs and shrubs; calyx 4-merous (in our species); petals 4; stamens 8; ovary 3-celled; ovules 1 per cell: [3](#)
 Tendrils absent; trees or shrubs; ovary 2–3-celled; calyx 4-merous (in our species): [4](#)
 3 Fruits firm, not bladder-like; leaves imparipinnate; woody plants [1. Paullinia](#)
 Fruits bladder-like and membranous; leaves biternate; leaflets coarsely toothed or lobed; herbaceous climbers [2. Cardiospermum](#)
 4 Fruits apocarpous, usually only 1 coccus developing, not winged, indehiscent; ovules 1 per cell; petals 4; stamens 8; leaves 1- or 3-foliolate [3. Allophylus](#)
 Fruits syncarpous, membranous, winged, tardily dehiscent; ovules 2 per cell; petals absent; stamens 5–8; leaves simple [16. Dodonaea](#)
 5 Fruits indehiscent: [6](#)

-
- Fruits dehiscent; calyx (4–) 5-merous: **13**
- 6** Petals (3–) 4–5; calyx (4–) 5-merous; ovules 1 per cell: **7**
- Petals absent; flowers regular: **10**
- 7** Fruits with a basal style, mostly only 1 lobe fertile; flowers regular; petals usually 5; ovary 2–3-lobed: **8**
- Fruits with a terminal style, lobed or ribbed; flowers zygomorphic; petals usually 4: **9**
- 8** Leaflets 2–10 or more pairs; ovary apocarpous; stamens (8–) 12–30 [4. *Deinbollia*](#)
- Leaflets 1–2 pairs; ovary syncarpous; stamens 6–8 [5. *Aphania*](#)
- 9** Calyx urceolate; stamens 7–15; ovary 3–8-celled; fruits 3–8-ribbed; inflorescences borne on the thick main stem, sometimes close to the ground [6. *Chytranthus*](#)
- Calyx campanulate; stamens (6–) 8; ovary 3-celled; fruits 3-lobed; inflorescences borne on slender branches .. [7. *Pancovia*](#)
- 10** Stamens (6–) 8–13; ovules 1 per cell: **11**
- Stamens (3–) 4–5; ovules 2 per cell; calyx 4–5-merous; ovary 2-celled; fruits normally 1-celled and 1-ovuled by abortion [17. *Zanha*](#)
- 11** Calyx 5-merous; stamens 8–13; ovary 3-celled: **12**
- Calyx usually 4-merous; stamens 6–8; ovary 2-celled; fruits 1–2-lobed; seed without aril [9. *Melanodiscus*](#)
- 12** Stamens 8; fruits 1–3-lobed; seed without aril [8. *Placodiscus*](#)
- Stamens (8–) 10–13; fruits normally 1-celled by abortion; seed with a glutinous aril [10. *Lecaniodiscus*](#)
- 13** Petals (4–) 5; ovules 1 per cell; seed with fleshy aril: **14**
- Petals absent, or 1–2, without scales; ovary 3-celled; ovules 2 per cell; fruits (2–) 3-lobed; seed blue, pilose by the hilum but without a fleshy aril; stamens 7–8 [18. *Majidea*](#)
- 14** Ovary 3-celled; stamens 7–18: **15**
- Ovary 2-celled; fruits 1–2-lobed; seed with cupular aril; petals each with 2 scales; stamens 6–8 [12. *Aporrhiza*](#)
- 15** Calyx with free sepals, imbricate in 2 series; stamens 7–10 [11. *Laccodiscus*](#)
- Calyx with slightly imbricate sepals, or small and toothed: **16**
- 16** Stamens 10–18; seed completely covered by the red or orange aril [13. *Lychnodiscus*](#)
- Stamens 8–10; aril cupular or short, not surrounding the seed: **17**
- 17** Petals funnel-shaped through the concrescence of the scales; fruits more or less pyriform, valves not woody; seed shining black with yellow cupular aril [14. *Blighia*](#)
- Petals with free scales; fruits subglobose, valves woody [15. *Eriocoelum*](#)

***Sapindus saponaria* Linn.**

A native of tropical America.

***S. trifoliatu*s Linn.**

A native of tropical Asia.

***Litchi chinensis* Sonnerat**

A native of the Far East.

***Melicocca bijuga* Linn.**

A native of tropical America.

***Schleichera trijuga* Willd.**

A native of tropical Asia.

***Harpullia pendula* Planch. ex F. Müll.**

A native of Australia.

Talbot 720 from Oban, S. Nigeria, appears to belong to this family. It is a woody plant with simple oblanceolate leaves, 33–36 cm. long and 12–13.5 cm. broad, with about 20 main lateral nerves on each side of the puberulous midrib. The brown-tomentellous axillary racemes are about 4 cm. long. A painting of the living plant, done by Mrs. Talbot, shows flowers with white petals, reminiscent of *Pancovia*. The fruits also resemble *Pancovia*. More material of this remarkable plant is needed.

Linn. — F.T.A. 1: 419; Radlk. in Engl. Pflanzenr. Sapindac. 219 (1931).

- 1 Branchlets softly pubescent to nearly glabrous, ribbed; leaves imparipinnate; rachis conspicuously winged, wings leafy; leaflets 2 pairs and an odd one, opposite, oblong to obovate, rather coarsely and remotely toothed, glabrous to pubescent beneath and with hairy pits in the axils of the nerves; flowers racemose; peduncle axillary, stout, with one or two spirally coiled tendrils at the apex, with a short raceme of clustered small flowers beyond; capsule woody, turbinate, slightly 3-lobed at the top, shortly beaked, about 3 cm. long; septa spongy [pinnata](#)

Paullinia pinnata *Linn.* — F.T.A. 1: 419; Chev. Bot. 148; Radlk. l.c. 247; Schnell in Ic. Pl. Afr. 36. *APD acc*

A woody or subwoody climber with tendrils, small white flowers and scarlet capsular more or less 3-angled fruit; **usually in regrowth vegetation in the forest regions, and in streamside vegetation in the savannah regions.**

Sen.: Heudelot 18! Sieber 26! Ziguinchor Chev. 3032. **Gam.:** Hayes 552! Skues! **Fr. Sud.:** Kangaba, Tabacroni & Samandini fide Chev. l.c. **Port. G.:** Pussubé Esp. Santo 895. **Fr. G.:** Los Isl. (May) Pobéguin 1195! Conakry (Apr.) Debeaux 325! Farana (Apr.) Chev. 13319! Massadou, S. of Macenta (May) Collenette 20! **S. L.:** Rotomba Isl. (Mar.) Kirk 18! Njala (May) Deighton 686! Kambia, Scarcies (Dec.) Sc. Elliot 4209! Falaba-Musaia Road (fr. Sept.) Small 328! **Lib.:** road to White Plains (fl. & fr. Apr.) Barker 1274! Gletown, Tchien (fr. July) Baldwin 6957! Gbau, Sanokwele (fr. Sept.) Baldwin 9446! **Iv. C.:** Danané (June) Collenette 43! Bingerville, Nzi region & Morénou fide Chev. l.c. **G. C.:** Cape Coast (fl. & fr. July) T. Vogel 6! 16! Kumasi (fl. & fr. Feb.) Irvine 95! Aburi Hills (fl. & fr. Dec.) Johnson 438! Kumbungu (May) Kitson 954! **Togo:** Kpedsu (fl. & fr. Dec.) Howes 1047! Ho (Mar.) Williams 57! Lome Warnecke 69! **Dah.:** Poisson! Kétou Chev. 23020. **N. Nig.:** Nupe Barter 1187! Lokoja (Mar.) Shaw 15! Jemaa (Feb.) McClintock 182! Bauchi Plateau (Jan., June) Lely 330! P. 104! **S. Nig.:** Lagos Dawodu 7! Benin City Dennett 100! Oban Talbot 1405! **Br. Cam.:** Amba Bay (Feb., Apr.) Mann 13! Victoria (July) Maitland 29! Johann-Albrechtshöhe Staudt 487! **F. Po.:** on the shore (Nov.) T. Vogel 244!

Widespread throughout tropical Africa, except in very dry regions; also in Madagascar and tropical America.

2. CARDIOSPERMUM

Linn. — F.T.A. 1: 417; Radlk. in Engl. Pflanzenr. Sapindac. 370 (1932).

- 1 Flowers 8–10 mm. long; posterior disk glands elongate; fruits up to 6.5 cm. long and 3.5 cm. broad; stems often, but not always, with long spreading setose hairs; leaflets more or less curly-pubescent beneath, especially in the axils of the main lateral nerves [1. grandiflorum](#)
- Flowers about 3 mm. long; disk-glands small; fruits 1–4 cm. long and broad, often truncate at the top and more or less trigonous; stems without long spreading setose hairs; leaflets rather stiffly puberulous or shortly pubescent beneath, not hairy in the axils of the main lateral nerves [2. halicacabum](#)

1. **Cardiospermum grandiflorum** *Swartz* Prod. 64 (1788); Radlk. in Engl. Pflanzenr. Sapindac. 372. *APD acc*

Cardiospermum barbicaule *Bak.* in F.T.A. 1: 418 (1868).

Cardiospermum caillei *A. Chev.* Bot. 148, name only.

(?) **C. halicacabum** var. **grandiflorum** *A. Chev.* Bot. 149.

Herbaceous climber with creamy-white fragrant flowers, a pair of tendrils at the apex of the inflorescence and more or less 3-angled bladderly fruits. Plants with the stems setose-pilose are called, by Radlkofer, forma *hirsutum* (Willd.) Radlk.; those specimens from our area whose stems lack the long setose hairs are Radlkofer's forma *elegans* (Kunth) Radlk.

Fr. G.: Kouria Caille in Hb. Chev. 14959! Macenta (Oct.) Baldwin 9854! Follo (Dec.) Caille in Hb. Chev. 14825! **S. L.:** Panguma Smythe 92! Kukuna, Scarcies (fl. & fr. Jan.) Sc. Elliot 4680! Hangha (fr. Jan.) Thomas 7773! Makump (Dec.) Glanville 118! **Lib.:** Ganta (fl. & fr. Dec.) Barker 1146! Zigida, Vonjama (Oct.) Baldwin 10009! **Iv. C.:** Bingerville (Dec.) Chev. 16027. Sassandra Port (May) Chev. 17955. **G. C.:** Kumasi (fl. & fr. Jan.) Cummins 75! Irvine 87! Boankra (fl. & fr. May) Chipp 434! Abuantem (Sept.) Andoh FH 5354! Sekodumase (fl. & fr. Jan.) Kitson! Aquapim Thonning **Togo:** Kpandu Robertson 49! **Dah.:** Le Testu 465! **N. Nig.:** Lokoja (fl. & fr. Oct., Nov.) Dalz. 82! Parsons 63! **S. Nig.:** Lagos Dawodu 78! Punch! Abeokuta Rowland! Ogbomoshoh Rowland! Ogwashi (Dec.) Thomas 2063! Oban Talbot 1363! **Br. Cam.:** Victoria (fr. Apr.) Dundas FHI 20502! Cam. Mt., 2,000 ft. (Jan.) Mann 1299!

Extends to A.-E. **Sudan**, **Uganda** and **Angola**; also in tropical America.

2. **Cardiospermum halicacabum** *Linn.* — F.T.A. 1: 417; Chev. Bot. 149; Radlk. l.c. 379, fig. 8, A–C; Schnell in Ic. Pl. Afr. t. 13. *APD acc*

Cardiospermum microcarpum *Kunth* (1821) — F.T.A. 1: 418.

A slender climber like the last, but with much smaller flowers; extending into drier regions. In var. *microcarpum* (Kunth) Blume (see Radlk. l.c. 387) the fruits are 1–2 cm. long, but as so many specimens lack mature fruits the varieties are not separated in the following citation.

Sen.: Walo Heudelot! Richard Tol (Mar., Apr.) Perrottet 103! M'bidjem (Sept.) Thierry 16! **Port. G.:** Formosa (Apr.) Esp. Santo 1956! **Fr. Sud.:** Kabarah (fl. July, Sept., fr. Sept.) Chev. 1312! Hagerup 297! Sicoro Chev. 223! Tambacoroni (Apr.) Chev. 720! **Fr. G.:** Timbo (Nov.) Pobéguin 1468! **S. L.:** Don34! Regent (fl. & fr. Dec.) Sc. Elliot 4101! Njala (fl. & fr. Aug.) Deighton 3237! Pujehun (fl. & fr. Feb.) Thomas 8273! Giema (Nov.) Deighton 403! **Lib.:** Kassa Ta (fl. & fr. Sept.) Linder 833! **G. C.:** Bjury (fl. & fr. July) Chipp 509! **Togo:** Lome Warnecke 219! **N. Nig.:** Aguji, Ilorin Thornton! Bauchi Plateau (fl. & fr. July) Lely P. 386! Panyam (fl. & fr. July) Lely 436! Bornu (fl. & fr. Apr.) E. Vogel 80! **S. Nig.:** Lagos Rowland! Ibadan (fl. & fr. July, Aug.) Onochie FHI 7544! Ibo country (fl. & fr. Aug.) T. Vogel 35! Ibuzo (fl. & fr. Nov.) Thomas 1992! 1993! Calabar Robb! **Br. Cam.:** Gwoza Hills, Dikwa Div. (Jan.) McClintock 153! **F. Po:** Mann 406!

Widespread in tropical and subtropical regions.

The infraspecific variation in the above two species requires study in the field and by experiment.

3. ALLOPHYLUS

Linn. Sp. Pl. 1: 348 (1753); Radlk. in Engl. Pflanzenr. Sapindac. 455 (1932). *APD acc*

Schmidelia *Linn.* (1767) — F.T.A. 1: 420.

- 1 Leaves 3-foliolate; petioles usually more than 3.5 cm. long:2
Leaves 1-foliolate, toothed; inflorescence with an unbranched main axis bearing numerous distinctly pedunculate cymules; petioles 1–3.5 cm. long: 11
- 2 Inflorescence with several well-developed lateral branches (but see No. 2d), mostly longer than the leaves:3
Inflorescence simple or subsimple, or with short lateral cymules; leaflets toothed, hairy:9
- 3 Leaflets toothed, pubescent or pilose beneath:4
Leaflets entire, glabrous, membranous, obovate, shortly cuneate at base, obtusely acuminate, central ones 7–10.5 cm. long, 3–5.3 cm. broad; panicles longer than the leaves, slender, sparingly puberulous, 10–20 cm. long. [.4. talbotii](#)
- 4 Leaflets bullate, sparsely puberulous beneath except for conspicuous tufts of hairs in the axils of veins as well as along the midrib; a tree of montane forest; central leaflets obovate, cuneate at base, rounded or very shortly acuminate, 8–19 cm. long, 3.7–9.5 cm. broad [1. bullatus](#)
Leaflets not bullate, undersurface densely or sparsely hairy, without tufts in the axils of the veins, but sometimes with tufts along the midrib; shrubs and small trees, not in montane forest:5
- 5 Central leaflets up to 16 cm. long and 7.5 cm. broad; petioles up to 6 cm. long; flowers borne singly or in sessile fascicles along the inflorescence-axes:6
Central leaflets 18–38 cm long, 8.5–16 cm broad; petioles 8–16 cm long, stout, semiterete and slightly winged above; flowers borne in distinctly pedunculate lateral cymules along the axes of the inflorescence which is shorter than the leaves; central leaflets more or less obovate, long-cuneate at base, acuminate, lateral leaflets rather strongly asymmetrical; branchlets, petioles and under surface of leaflets sparingly puberulous or glabrescent. [3. grandifolius](#)
- 6 Branchlets, petioles and undersurface of leaflets long-spreading pilose [2c. africanus forma chrysothrix](#)
Branchlets, petioles and undersurface of leaflets pubescent or puberulous:7
- 7 Undersurface of leaflets very densely pubescent [2b. africanus forma subvelutinus](#)
Undersurface of leaflets sparingly pubescent or puberulous or with tufts along the midrib:8
- 8 Venation of leaflets prominently reticulate beneath; inflorescences well-branched [2a. africanus forma africanus](#)
Venation of leaflets obscure beneath; leaflets with conspicuous tufts along the midrib beneath, otherwise nearly glabrous; inflorescences sparingly branched or some simple; leaflets up to 7 cm. long [2d. africanus forma senegalensis](#)
- 9 Flowers borne singly or in fascicles directly on the main axis of the inflorescence; branchlets, petioles and

undersurface of leaflets spreading-pilose with brown hairs; central leaflets 4.5–11 cm. long and 2.5–5.5 cm. broad; inflorescences simple or subsimple, 17 cm long. [5. *spicatus*](#)

Flowers borne in distinctly pedunculate lateral cymes along the main axis of the inflorescence: **10**

- 10** Branchlets, petioles and undersurface of leaflets softly pubescent, sometimes glabrescent; inflorescences up to 12 cm. long, usually longer than the petioles, lateral cymes short; central leaflets 7–21 cm. long, 3–8 cm. broad [6. *welwitschii*](#)

Branchlets, petioles and undersurface of leaflets spreading-setose; inflorescences up to 9.5 cm. long, usually shorter than the petioles, lateral cymes up to 3 cm. long; central leaflets 11–18 cm. long, 4–9 cm. broad. .. [7. *conraui*](#)

- 11** Leaves cuneate at base, 18–45 cm. long, 6.5–15 cm. broad oblong-oblongeolate, margins sinuate-dentate in upper half, long acuminate, with 12–15 main lateral nerves on each side of midrib; inflorescences 2.5–8 cm. long; branchlets and petioles densely pubescent; leaves pubescent mainly on midrib beneath. [8. *megaphyllus*](#)

Leaves rounded, obtuse or rarely some subcuneate at base, 9–22 cm. long, 3.5–10 cm. broad, acuminate; inflorescences 2–3 cm long: **12**

- 12** Branchlets, petioles and both sides of leaves densely spreading setose; leaves oblong-oblongeolate or oblong-lanceolate, up to 22 cm. long and 7 cm. broad, with 12–16 main lateral nerves on each side of midrib. [9. *nigericus*](#)

Branchlets and petioles pubescent; leaves pubescent mainly on and near midrib beneath, elongate elliptic or more or less obovate, 9–20 cm. long, 3.5–10 cm. broad, with 10–14 main lateral nerves on each side of midrib. .. [10. *hirtellus*](#)

1. *Allophylus bullatus* Radlk. in Sitzb. Math.-Phys. Akad. Münch. 38: 223 (1908): Pflanzenr. 534. *APD acc*

A tree 30–50 ft. high, with erect inflorescences, terminal and in the upper leaf-axils; **in montane forest.**

Br. Cam.: Cam. Mt., 3,200–7,600 ft. (fl. Apr., May, fr. Dec., Feb.) Mann 1184! 2167! Maitland 685! 690! 1089! 1317! Bamenda Lightbody! L. Oku, 7,000 ft., Bamenda (fr. Jan.) Keay FHI 2487!

2. *Allophylus africanus* P. Beauv. Fl. Oware 2: 75, t. 107 (1819); Radlk. in Pflanzenr. 536, fig. 12; Aubrév Fl. For. C. Iv. 2: 182, t. 206, 7–12; Fl. For. Soud.-Guin. 390, t. 82, 3. *APD acc*

***Schmidelia africana* (P. Beauv.) DC. (1824) — F.T.A. 1: 421; Chev. Bot. 149.**

Usually shrubs, sometimes small trees to 25 ft. high; flowers creamy-white in almost catkin-like racemes, sweet-scented; ripe fruits red; **especially in forest regrowth and margins, and in protected places in the savannah regions.**

A variable species, widespread in tropical Africa, which requires intensive and extensive experimental study. Of the forms described by Radlkofer the following seem worth maintaining, for the moment, in our area, but some specimens are intermediate:

2a. *Allophylus africanus forma africanus* *APD acc*

Some of the specimens from drier regions are more hairy and approach the forma subvelutinus.

Gam.: Genieri (July) Fox 165! **Port. G.:** Pirada, Gabu (June) Esp. Santo 3029! **Fr. G.:** Kouroussa (June) Pobéguin 265! Seredou (May) Collenette 30! Timbo (July) Pobéguin 743! **S. L.:** Afzelius! Freetown (July) Deighton 1! Njala (fl. July, fr. Sept.) Deighton 1313! 1999! Small 181! Batkanu (July) Small 147! Rowala (fr. July) Thomas 1171! **Lib.:** Grand Bassa (July) T. Vogel 36! Sanokwele (fr. Sept.) Baldwin 9518! Bonja Town (June) Barker 1352! **Iv. C.:** Banco Martineau 291! **G. C.:** Cape Coast Brass! Aburi Hills (fl. & fr. Oct.) Johnson 478! Akropong (Aug.) Irvine 794! Mampong, Ashanti (July) Adjei FH 1257! **Togo:** Misahöhe Baumann 214! **Dah.:** fide Aubrév l.c. **N. Nig.:** Lokoja (Aug.) Barter 524! Elliott 191! Mongu (July) Lely 389! Yola (July) Dalz. 171! **S. Nig.:** Abeokuta Irving! Nun R. (Sept.) Mann 487! Ubaja (Aug.) Oyeade FHI 20401! Ibo country T. Vogel 16! Oban Talbot 1365! **Br. Cam.:** Victoria (Oct.) Maitland 748! Bambuko F. R., Kumba Div. (young fr. Sept.) Olorunfemi FHI 30766!

2b. *Allophylus africanus forma subvelutinus* Radlk. l.c. 538 (1932). *APD acc*

In **savannah regions**; several specimens at Kew are intermediate between this and forma africanus.

S. L.: Musaia (fr. Oct.) Thomas 2648! **G. C.:** Bosomoa F.R. (Aug.) Talmie FH 4421! **N. Nig.:** Loin, Nupe Barter 1095! Bauchi Plateau (Apr.) Lely P. 220! Vodni, 4,600 ft. (July) Lely 428!

2c. *Allophylus africanus forma chrysothrix* Radlk. l.c. 538 (1932) *A. spicatus* of F.W.T.A., ed. 1, 1:

500, partly. *APD acc*

Schmidelia touraca A. Chev. Bot. 150, name only.

Allophylus touracus Pellegr. in Bull. Soc. Bot. Fr. 100: 191, name only.

Usually scandent, covered with stiff brown hairs; in forest regrowth.

Fr. G.: Maclaud 174. **S. L.:** Berria (Mar.) Sc. Elliot 5411! **iv. C.:** Digoualé to Gouané (May) Chev. 21510! Guidéko to Soubre Chev. 19084. **G. C.:** Nsuta (May) Vigne FH 1737! Aburi (June) Brown 318! Howes 1184! Okroase (May) Johnson 752! Boankra (May) Chipp 437! **S. Nig.:** Busogboro Ibadan North F.R. (fl., June fr. Sept.) Idahosa FHI 23870! Jones FHI 3613! Obanigba, Owo (May) Jones FHI 3613a!

2d. *Allophylus africanus forma senegalensis* Radlk. l.c. 538(1932). *APD acc*

Sen.: Roger 15! Sieber 29! Walo Heudelot! Richard Tol (Feb., Mar.) Perrottet 107!

3. *Allophylus grandifolius* (Bak.) Radlk. in E. & P. Pflanzenfam. 3, 5: 313 (1896); Pflanzenr 532; Aubrév. Fl. For. Soud.-Guin. 390. *APD acc*

Schmidelia grandifolia Bak. in F.T.A. 1: 421 (1868).

Allophylus megaphyllus Hutch. & Dalz. F.W.T.A., ed. 1, 1: 500 (1928) and Kew Bull. 1929: 25, partly (Talbot 414).

A shrub or small tree; in forest.

S. Nig.: Oban Talbot 414! **Br. Cam.:** Victoria to Busumbu (Aug.) Preuss 1326. Kebo (June) Conrau 214.

Also in **French Cameroons**, **Principe** and **S. Tomé**.

4. *Allophylus talbotii* Bak. f. in J. Bot. 57: 186 (1919); Radlk. l.c. 550, 1485. *APD acc*

Schmidelia nuonensis A. Chev. Bot. 150, name only.

A liane; in forest.

S. L.: Jimmi, Gbagbo (Apr.) Deighton 1593! **Lib.:** Dukwia R. (Apr.) Cooper 405! Monrovia Dinklage 936, 2210. **iv. C.:** Sampleu to Ganhoué, Upper Nuon Basin (Apr.) Chev. 21147! **S. Nig.:** Oban Talbot 1713!

5. *Allophylus spicatus* (Poir.) Radlk. in E. & P. Pflanzenfam. 3, 5: 313 (1895); F.W.T.A., ed. 1, 1: 500, partly; Pflanzenr. 528; Aubrév. Fl. For. C. Iv. 2: 182; Fl. For. Soud.-Guin. 390. *APD acc*

APD: *Synonym of Allophylus decipiens* (Sond.) Radlk.

Ornitrophe spicata Poir. (1808).

O. magica Schum. & Thonn. (1827).

Schmidelia magica (Schum. & Thonn.) Bak. in F. T. A. 1: 423 (1868); Chev. Bot. 150.

Allophylus warneckei Gilg ex Engl. (1913) — F.W.T.A., ed. 1, 1: 500.

A shrub 4–12 ft. high, with pendulous inflorescences; calyx green, petals white; ripe fruits red; rocky areas and by streams, especially in the savannah regions.

iv. C.: Mankono Chev. 21910. Ady, Savé Chev. 23566. **G. C.:** Thonning. Achimota (July) Irvine 683! Pabarabo Hill, Afram Plains (May) Kitson 1107! Samdu Kitson 720! Navrongo (May) Andoh FH 5168! Gura (May) Vigne FH 1171! **Togo:** Lome (fl. May, fr. July) Warnecke 160! 376! Kete Krachi Zech. **Dah.:** Tanguéta (June) Chev. 24100! **Fr. Nig.:** Gourma Dist. Chev. 24315; 24476. **N. Nig.:** Nupe Barter 1648! Anara F.R., Zaria (May) Keay FHI 22954! Lokoja Barter 502! Zaranda Filani (May) Lely 187! Yola (fl. & fr. July) Dalz. 175! **S. Nig.:** Olokemeji (June) Foster 96! Jones & Keay FHI 18819! Hill N. of Owo F.R. (fr. July) Onochie FHI 33353!

6. *Allophylus welwitschii* Gilg in Engl. Bot. Jahrb. 24: 287(1897); Radlk. in Pflanzenr. 530.

APD: *Synonym of Allophylus ferrugineus* Taub. var. *ferrugineus*

A shrub, often scandent., flowers greenish-white; in forest vegetation.

S. Nig.: Appiapum to Obubra, Ogoja Prov. (Apr.) Jones FHI 12367!

Also from French Cameroons to A.-E **Sudan**, **Uganda**, **Belgian Congo** and **Angola**.

7. *Allophylus conraui* Gilg ex Radlk. in Sitzb. Math -Phys. Akad. Münch. 28: 221 (1908); Pflanzenr.

529. *APD acc*

A shrub, with white flowers; **in forest**.

Br. Cam.: Banyeme to Ayon, Kumba Div. (June) Olorunfemi FHI 30611! Bali-Ngemba F.R., Bamenda (fr. May) Ujor FHI 30334! Kebo (fl. & young fr. June) Conrau 219.

[As Radlkofer points out, this species recalls *A. hirtellus*, except for the 3-foliolate leaves.]

8. ***Allophylus megaphyllus* Hutch. & Dalz.** F. W. T. A., ed. 1, 1: 500. (1928) and Kew Bull. 1929: 25, excl. Talbot 414; Radlk. in Pflanzenr. 1485; Brenan in Kew Bull. 1952: 449. ***APD acc***

A shrub, to 12 ft. high., flowers white; ripe fruits scarlet; **in forest**.

S. Nig.: Oban Talbot 1393! **Br. Cam.:** Banga, S. Bakundu F.R., Kumba Div. (fl. Aug., fr. Mar.) Brenan 9275! 9275a! Olorunfemi FHI 30741!

9. ***Allophylus nigericus* Bak. f.** in J. Bot. 57: 158 (1919); F.W.T.A., ed. 1, 1: 500, partly (excl. syn. *hirtellus* var. *barteri*); Radlk. l.c. 549. ***APD acc***

A shrub 2–6 ft. high; flowers white; **in forest**

S. Nig.: Camp 4, Calabar to Mamfe Road (Apr.) Ejiofor FHI 21872! Ukon F.R., Obubra Div. (July) Latilo FHI 31873! Oban Talbot 442! 447! 448!

10. ***Allophylus hirtellus* (Hook. f.) Radlk.** in E. & P. Pflanzenfam. 3, 5: 312 (1895); Pflanzenr. 516. ***APD acc***

***Schimdellia hirtella* Hook. f.** in Fl. Nigrit. 248, t. 25(1849); F.T.A. 1: 424.

***Allophylus hirtellus* var. *barteri* Bak. f.** (1919).

Allophylus nigericus of F.W.T.A., ed. 1, 1: 500, partly.

A shrub, 3–20 ft. high; flowers white; **in forest**.

S. Nig.: Angiama Barter 85! Oban Talbot 1392! **Br. Cam.:** Amba Bay (Jan.) Mann 727! Likomba (Oct.) Mildbr. 10501! **F. Po:** (Nov.) Mann! T. Vogel 96!

1. ***Allophylus* sp.**

More material and field observations required. “Small tree by stream.”

Br. Cam.: Bambui, Bamenda (Apr.) Maitland 1462!

Perhaps a form of *A. africanus*, but possibly distinct. Imperfectly known species.

2. ***Allophylus oreodryadum* Gilg ex Mildbr.** Wiss. Ergebn. 1910–11: 186 (1922), name only.

Specimen not traced.

F. Po: 4,5000–4,800 ft. Mildbr. 6406.

Imperfectly known species.

4. **DEINBOLLIA**

Schum. — F.T.A. 1: 431; Radlk. in Engl. Pflanzenr. Sapindac. 669 (1932).

- | | | |
|---|---|----------------------------|
| 1 | Rhachides, petiolules and undersurface of leaflets densely to sparingly hirsute: | 2 |
| | Rhachides, petiolules and undersurfaces of leaflets glabrous or sparingly puberulous: | 4 |
| 2 | Leaflets 2–3 pairs, rounded and more or less reflex at apex; petioles 5–9 cm. long, usually longer than the 4–6 cm. long rhachides, both very slightly winged; leaflets opposite or alternate, elliptic-oblongate, unequally cuneate at base, 6.5–9 cm. long, 2–3.2 cm. broad. | <u><i>I. voltensis</i></u> |
| | Leaflets (3–) 5–12 or more pairs, more or less distinctly acuminate at apex; petioles shorter than the rhachides; leaflets mostly larger than above: | 3 |
| 3 | Leaflets (3–) 5–9 (–12) pairs, elliptic to oblong, rounded to subacute at base, shortly acuminate, 5–18 cm. long; | |

- 2.3–7.5 (–10) cm. broad, with 6–12 main lateral nerves on each side of midrib; racemes or panicles up to 60 cm. long, together with the calyces densely brownish-hirsute; petals 5–7 mm. long; fruits subglobose, 1.3–1.5 cm. diam., tomentose. [2. *pinnata*](#)
- Leaflets probably at least 12 pairs, elongate-oblong or elliptic, rounded at base, subacute or subacuminate at apex, up to 40 cm. long and 10.8 cm. broad, with 17–20 main lateral nerves on each side of midrib; leaves up to 1.3 m. long, crowded at the top of the stem; panicles terminal, erect, up to 1 m. long and 1.3 m. wide, together with the calyces densely brownish-hirsute; petals about 5 mm. long, fruits subglobose, at least 1 cm. diam., tomentose. [3. *sp. A*](#)
- 4 Leaflets more than 2.5 cm. broad: [5](#)
- Leaflets 0.6–2.4 cm. broad, lanceolate, long-cuneate, gradually acuminate, 4–12 cm. long; petioles 3–6.5 cm. long, rhachides 7–14 cm. long; leaflets 5–7 pairs, alternate or subopposite; inflorescences axillary, narrow, 1.5–11 cm. long, puberulous; sepals 2 mm. long, sparingly puberulous outside; developing fruit soon glabrous [10. *saligna*](#)
- 5 Flowers 2–5 mm. long, sparingly puberulous outside: [6](#)
- Flowers 6–8 mm. long: [9](#)
- 6 Flowers 3–5 mm. long: [7](#)
- Flowers 2 mm. long; inflorescence-axis and pedicels whitish-pubescent; ovary pubescent, developing fruit soon glabrous; petioles 10–22 cm. long, rhachides about 40 cm. long; leaflets 4–6 pairs, alternate, oblong-elliptic or ovate-oblong, obtuse or cuneate at base, acuminate, 12–25 cm. long, 6–10 cm. broad; inflorescences simple or paniculate, usually on old wood, 10–30 cm. long. [7. *maxima*](#)
- 7 Inflorescence-axes and pedicels sparingly puberulous with whitish hairs; ovary pubescent; developing fruit soon glabrous, 1.3–1.5 cm. diam. when mature: [8](#)
- Inflorescences-axes and pedicels rather densely pubescent or puberulous with brown hairs; ovary densely villous, fruit eventually glabrescent about 1.5 cm. diam.; petioles (7–) 11–27 cm. long, stout, rhachides (18–) 40–60 cm. long; leaflets (5–) 7–10 pairs, alternate or subopposite, more or less oblong-elliptic, obtuse at base, shortly acuminate, 6–28 cm. long, 3–10 cm. broad; inflorescences paniculate, in leaf-axils, and on old wood, 5–50 cm. long. [6. *grandifolia*](#)
- 8 Leaflets 4–8 pairs, 7–20 cm. long, 2.5–7 cm. broad, opposite to alternate, usually cuneate at base, long-acuminate; petioles 8–28 cm. long, rhachides 19–30 cm. long; inflorescences often unbranched, or with only a few branches, borne on woody parts of the stem below the leaves, 8–80 cm. long. [4. *cuneifolia*](#)
- Leaflets 3–4 pairs, 20–33 cm. long, 8–12 cm. broad, opposite or subopposite, cuneate or obtuse at base, shortly acuminate; petioles 17–25 cm. long, rhachides 18–32 cm. long; inflorescences with few branches, axillary, about 20 cm. long; [5. *calophylla*](#)
- 9 Sepals densely pubescent or pilose outside except for the margins; stamens 20–24; petioles about 20 cm. long, rhachides about 40 cm. long; leaflets 6–7 pairs, subopposite or alternate, oblong-elliptic, subfalcate, obtuse at base, acuminate, 16–25 cm. long, 7.5–10 cm. broad; inflorescences paniculate or subsimple, terminal and (?) from old wood below the leaves, up to 70 cm. long, pubescent. [8. *insignis*](#)
- Sepals glabrous or very minutely and laxly puberulous outside; stamens 27–29; leaves about 1 m. long; leaflets alternate, lanceolate-oblong, subacute and slightly unequal at base, subsessile, long-acuminate, 20–22 cm. long, 6.7 cm. broad; panicles terminal, glabrous, about 40 cm. long. [9. *macrantha*](#)

1. **Deinbollia voltensis** *Hutch. ex Burtt. Davy & Hoyle* Checklists Brit. Emp. 3: 126 (1937), English descr. only. *APD acc*

An undershrub, “common on land flooded annually by Volta R.”; flowers white in clusters on the long slender branches of the terminal panicle.

G. C.: Yeji, Volta R. (Apr.) Dalz. 21! Vigne FH 1702!

[This name is only provisional. The species seems to be close to a group common in eastern and southern Africa, which includes *D. oblongifolia* (E. Mey.) Radlk. and is in need of thorough revision. More material of the West African plant is required.]

2. **Deinbollia pinnata** *Schum. & Thonn.* Beskr. Guin. Pl. 242(1827); F.T.A. 1: 432; Chev. Bot. 151; Radlk. in Engl Pflanzenr Sapindac. 676; Aubrév Fl. For. C. Iv. 2: 196, t. 195, 1–6 *APD acc*

APD: *Synonym of Deinbollia molliuscula Radlk.*

Ornitrophe pinnata Poir. (1808).

Schmidelia? pinnata (Poir) DC. (1824).

Prostea pinnata (Poir) Camb. (1829).

Deinbollia elliotii Gilg (1897) — Radlk. l.c. 677.

Deinbollia leptophylla Gilg ex Radlk. l.c. 679 (1932).

Deinbollia dahomensis A. Chev. Bot. 151, name only.

An erect shrub or small tree, 4–15 ft. high, rarely more, with the inflorescence erect towards the top of the shoots; flowers creamy-white; fruits orange; **especially in regrowth forest vegetation.**

Fr. G.: Macenta (young fr. May) Collenette 27! Dalaba-Diaguissa Plateau Chev. 18710, Nzo Chev. 21074. **S. L.:** Kafogo (Apr.) Sc. Elliot 5494! Bafodeya (Apr.) Sc. Elliot 5126b! Beria, Falaba (Mar.) Sc. Elliot 5427! Dia (Apr.) Deighton 3181! Musaia (Apr.) Deighton 5408! **Lib.:** Tappita (fr. Aug.) Baldwin 9089! Ganta (Apr.) Harley! **Iv. C.:** Mt. Gouan, Oua (Apr.) Chev. 21334! And other localities fide Chev. and Aubrév. l.c. **G. C.:** Kumasi (May) Chipp 432! Winneba Plain (Feb.) Dalz. 8304! Accra Plains (fr. Apr.) Irvine 201! Adiembra to Domiabra (June) Kitson 1232! **Togo:** Kpedsu (fl. & fr. Jan.) Howes 1118! Aflahu (fl. & fr. Jan.) Warnecke 48! Togo Plateau F.R., (Apr.) Beveridge FH 2940! **Dah.:** Abomey (Feb.) Chev. 23148! **N. Nig.:** Lokoja (fr. Mar.) Barter 509! Shaw, 24! **S. Nig.:** Lagos Rowland! Abeokuta Irving! Benin City Unwin 52! Onitsha Barter 1667!

[Also recorded in Consp. Fl. Ang. 2: 51, but I do not think the specimen (Christen Smith s. n.) is true *D. pinnata*]

3. *Deinbollia* sp. A.

A small tree, to 20 ft. high, with a cluster of large leaves at the top of the unbranched main stem; calyx green, petals white, ovary brown-tomentose, filaments green, anthers yellow

S. Nig.: Omo F.R., Ijebu Ode Prov.: Grace Camp (fr. Mar.) Jones & Onochie FHI 17038! Osho (Mar.) Jones & Keay FHI 17045!

Possibly new, but more complete material required.

4. *Deinbollia cuneifolia* Bak. in F.T.A. 1: 432 (1868); Chev. Bot. 150; Radlk. l.c. 685; Aubrév. Fl. For. C. Iv. 2: 196. *APD acc*

Deinbollia stenobotrys Gilg (1897) — Radlk. l.c. 686

Deinbollia polypus Stapf (1905), partly; F.W.T.A., ed. 1. 1: 503, partly; Radlk. l.c. 682.

A shrub or small tree, 2–12 ft. high; flowers greenish-white; fruits orange; **in forest.**

Fr. G.: Timbikounda Chev. 20615. Fassakoidou to Kesséridou Chev. 20823. **S. L.:** Bagroo R. (Apr.) Mann 831! Sugar Loaf Mt. (May) Barter! Kabusa, Limba (Apr.) Sc. Elliot 5475! Njala (fr. July) Deighton 1821! 2224! **Lib.:** Lormai (Feb.) Bequaert 88! Sinoe Basin Whyte! Jaurazon (Mar.) Baldwin 11443! Ganta (fr. Sept.) Baldwin 9324! **Iv. C.:** Abidjan region Chev. 15367 (See appendix, p. 333.)

5. *Deinbollia calophylla* Gilg ex Radlk. in Engl. Pflanzenr. Sapindac. 684 (1932). *APD acc*

Deinbollia polypus of F.W.T.A., ed. 1, 1: 503, partly (Dinklage 1887).

A shrub, 10–12 ft. high; fruits orange.

Lib.: Fishtown, Grand Bassa (fr. May) Dinklage 1887! About 15 miles inland from R. Cess, Grand Bassa (Mar.) Baldwin 11251! (See appendix, p. 333.)

6. *Deinbollia grandifolia* Hook. f. in Fl. Nigrit. 249(1849) Radlk. l.c. 682; Aubrév. l.c. 196. *APD acc*

Deinbollia indeniensis A. Chev. (1909) — Chev. Bot. 151.

Deinbollia insignis of F.T.A. 1: 431, partly.

Deinbollia polypus Stapf (1905), partly; F.W.T.A., ed. 1, 1: 503, partly.

A shrub or small tree 3–25 ft. high, perhaps to 50 ft; flowers greenish yellow; **in forest**

S. L.: Madina, Limba (Apr.) Sc. Elliot 5594! Lumbaraya, Talla Hills (Feb.) Sc. Elliot 5008! Njala (Feb.–May) Deighton 1100! 5747! 6058! **Lib.:** Cape Palmas (fr. July) T. Vogel 66! Kakatown Whyte! Bobel, Sanokwele (Feb.) Baldwin 14179! Dukwia R. (fr. Apr.) Cooper 357! **Iv. C.:** Indénié, Zaranou (Mar.) Chev. 1761a! And other localities fide Chev. l.c. **G. C.:** Moinsi Hills Cummins! Bunso, E. Prov. (Oct.) Darko 1042! Anibil Wharf (Feb.) Vigne FH 2821! Dakabansa-Bekwai (Feb.) Vigne FH 4947! Krokosua F.R. (Feb.) Cansdale FH 3988! **Togo:** Ntumada, Hohoe Dist. (Dec.) St. C. Thompson FH 3566!

[This species is recorded by Andrews in his Fl. Pl. A.-E. Sud. 2: 339 (1952), but the specimen (Hoyle 826) on which the record is based is not *D. grandifolia* Hook. f.]

7. *Deinbollia maxima* Gilg in Mém. Soc. Linn. Normand. 26, 2: 73 (1924); Radlk. l.c. 683. *APD acc*

A small tree; **in forest.**

S. Nig.: Oban Talbot 1290! 1751!

Also in **French Camerouns** and **Gabon**.

[Radlk. also records this species from Sierra Leone, but I have not seen the specimen (Afzetim s.n.), nor any other specimens of the species from Sierra Leone.]

8. **Deinbollia insignis** *Hook. f.* in *Fl. Nigrit.* 250 (1849); *F.T.A.* 1: 431, partly (spec. ex *F. Po* only); *Radlk. l.c.* 680, partly (spec. ex *F. Po* only); *Kennedy For. Fl. S. Nig.* 185. *APD acc*

A forest tree 12–25 ft. high; calyx green, corolla yellow; ripe fruits yellowish-orange.

S. Nig.: Sapoba (June) *Kennedy* 768! 1121! 2290! *Onochie FHI* 20698! **F. Po:** (Nov., Jan.) *Mann* 159! 591. *T. Vogel* 166!

[The Nigerian material has the sepals and inflorescence rather more densely covered with rather longer hairs than the *F. Po* material.]

9. **Deinbollia macrantha** *Radlk. l.c.* 681 (1932). *APD acc*

A small tree in forest.

Br. Cam.: Kumba (Nov.) *Büsgen* 29.

10. **Deinbollia saligna** *Keay* in *Bull. Jard. Bot. Brux.* 26: 193, fig. 60 (1956). *APD acc*

A shrub, up to 3 ft. high, with white flowers; on rocky beds and banks of rivers in forest country.

S. Nig.: Oban Talbot 583! *Kwakam, Anigeje, Calabar Prov. (Apr.) Ujor FHI* 31776! **Br. Cam.:** Ndian R., Kumba (Mar.) *Smith* 80/36!

1. **Deinbollia brachybotrys** *Gilg* in *Engl. Bot. Jahrb.* 24: 295 (1897); *Radlk. l.c.* 686.

APD: *Synonym of Deinbollia dasybotrys Gilg ex Radlk.*

S. L.: Afzelius.

Probably equals *D. cunneifolia* Bak., but type specimen presumably destroyed. Imperfectly known species.

2. **Deinbollia unguiculata** *Gilg l.c.* 296 (1897); *Radlk. l.c.* 685. *APD acc*

S. L.: Afzelius.

Probably equals *D. cuneifolia* Bak., but type specimen presumably destroyed. Imperfectly known species.

5. APHANIA

Blume, *Bijdr. Fl. Nederl. Ind.* 5: 236 (1825); *Radlk. in Engl. Pflanzenr. Sapindac.* 699 (1932).

APD: *Synonym of Lepisanthes Blume*

- 1 Branchlets, inflorescences, petioles, rhachides and petiolules yellowish-pubescent; leaflets 1 or 2 pairs, opposite or subopposite, with swollen petiolules, broadly oblanceolate to obovate-elliptic or elongate-oblong, cuneate or obtuse at base, obtusely pointed at apex, 8–25 cm. long, 3–8 cm. broad, strongly reticulate on both surfaces, glabrous; petioles 0·1–2·5 cm. long, rhachides 0 or 0·7–4·8 cm. long; flowers polygamous in rather lax terminal panicles; bracts and sepals ciliate; petals (3–) 5; stamens 7–8, filaments villous; ovary didymous, one carpel usually abortive, glabrous; fruits obovoid or ellipsoid, 1·3–1·8 cm. long, with a basal style and the abortive carpel persisting at the base[senegalensis](#)

- Aphania senegalensis** (*Juss. ex Poir.*) *Radlk. in Sitzb. Math.-Phys. Akad. Münch.* 8: 238 (1878); *Chev. Bot.* 151; *Radlk. in Engl. Pflanzenr. Sapindac.* 703; *Aubrév. Fl. For. C. Iv.* 2: 192–194, t. 202, incl. var. *silvatica* (*A. Chev. ex Hutch. & Dalz.*) *Aubrév.* (1936); *Aubrév. Fl. For. Soud.-Guin.* 386, t. 82, 4. *APD acc*

Sapindus senegalensis *Juss. ex Poir.* (1804) — *F.T.A.* 1: 430.

Aphania silvatica *A. Chev. ex Hutch. & Dalz.* *F.W.T.A.*, ed. 1, 1: 502 (1928); *Kew Bull.* 1929: 26; *Radlk. l.c.* 705; *Chev. Bot.* 152,

name only.

A forest tree to 55 ft. high, with short bole and dense drooping foliage; flowers greenish-white, fragrant; ripe fruits red, edible; in moist places in the forest regions and especially in fringing forest in the savannah regions.

Sen.: Walo Heudelot! Richard Tol (fl. Jan., Feb., fr. May) Roger 11! Perrottet 109! R. Salum Brunner 156! Samanding (Feb.) Chev. 3031! **Gam.:** Don! Genieri (Feb.) Fox 30! **Port. G.:** Brene, Bissau (Jan.) Esp. Santo 1687! Pussubé (fr. Mar.) Esp. Santo 1235! 1506! **Fr. G.:** Conakry Chev. 13036. **iv. C.:** Aubrév. 792! Akakoumoëkrou (fr. Dec.) Chev. 22561! Tabou (fr. Aug.) Chev. 20064! **G. C.:** Tano R. (Sept.) Chipp 345! Durimo to Jambuso (fr. Mar.) Kitson 935! Bomfa, Ashanti (Aug.) Cansdale FH 4426! Kwadaso (Oct.) Darko 738! Keta Thonning. **Togo:** Lome Warnecke 42! 383! Okrabi, Hohoe Dist. (Nov.) St. C. Thompson FH 3694! **Dah.:** Dassa-Zoumé Chev. 23649. **S. Nig.:** Ibadan North F.R. (fr. Oct.) Chizea FHI 23959! Awba Hills F.R., Ibadan Prov. (Oct.) Jones FHI 7062! R. Ogbesse, Owo Dist. Jones FHI 3134! **Br. Cam.:** Victoria (fr. Jan.) Maitland 186a! 266! 913! Johann-Albrechtshöhe (fr. Dec.) Staudt 777. Bambuko F.R. (Sept.) Olorunfemi FHI 30771!

Also in French Cameroons, Ubangi-Shari, Gabon, Belgian Congo, A.-E. Sudan, Abyssinia, Eritrea, E. Africa and Angola.

6. CHYTRANTHUS

Hook. f. — F.T.A. 1: 429; Radlk. in Engl. Pflanzenr. Sapindac. 782 (1932).

Glossolepis Gilg (1897) — F.W.T.A., ed. 1, 1: 503; Radlk. l.c. 778.

- 1 Leaves hairy, at least on the petioles, rachides, petiolules and midribs and main nerves beneath; stamens 7–9: 2
Leaves quite glabrous; stamens 12–15: 6
- 2 Leaflets 3–4 pairs, densely setose on midrib and nerves beneath; ovary and fruit 6–8-celled; inflorescences up to 15 cm. long: 3
Leaflets 5–11 pairs, puberulous on midrib and nerves beneath, sometimes with long weak hairs as well especially when young and near the petiolules; ovary and fruit 3–6-celled; inflorescences up to 35 cm. long: 4
- 3 Leaflets obtuse to cuneate at base; rachides 15–21 cm. long; inflorescences and flowers densely bristly-tomentose, up to 8 cm. long; leaflets oblanceolate-elliptic or oblong-elliptic, long-acuminate, 16–30 cm. long 5.2–9.5 cm. broad, with 14–22 main lateral nerves on each side of midrib; petioles 12–20 cm. long. [1. setosus](#)
Leaflets rounded to subcordate and unequal at base; rachides 10–15 cm. long; inflorescences up to 15 cm. long; leaflets oblong-elliptic, 17–25 cm. long, 6.5–10 cm. broad, with 11–16 main lateral nerves on each side of midrib; petioles 10–15 cm. long. [2. ellipticus](#)
- 4 Leaflets 5–6 pairs, 9–15 cm. broad, 20–40 cm. long, oblong, obtuse to rounded at base, acuminate, rather densely puberulous on midrib nerves and sometimes on lamina beneath, without long weak hairs; main lateral nerves 21–25 on each side of midrib, prominent beneath, midrib pubescent above; inflorescences 20–35 cm. long; ovary 6-celled. [3. atrovioleaceus](#)
Leaflets 7–11 pairs, up to 7.5 cm. broad, with long weak hairs especially when young and near the petiolules; main lateral nerves 12–20; ovary 3- or 5-celled: 5
- 5 Leaflets 7–9 pairs, upper pairs usually larger than the rest, midribs glabrous above; inflorescences and flowers densely bristly tomentose; main axis of inflorescence up to 30 cm. long, with, often secondly arranged, short lateral branches each bearing several flowers; upper leaflets narrowly oblong-oblanceolate, middle ones elongate-oblong, lower ones oblong-lanceolate, all more or less obtuse at base and long-acuminate, up to 32 cm. long and 7.5 cm. broad; petioles 15–25 cm. long, rachides 36–48 cm. long; ovary 3-celled (? always). [4. villiger](#)
Leaflets 9–11 pairs, upper pairs usually smaller than the middle ones, midribs pubescent above; inflorescences and flowers tomentellous; main axis of inflorescence 15–24 cm. long, bearing the flowers 1–3 together, with conspicuous bracts; leaflets elongate-oblong to oblanceolate, obtuse at base, abruptly long-acuminate, up to 28 cm. long and 6.8 cm. broad; petioles 13–23 cm. long, rachides 36–54 cm. long; ovary 5-celled; fruits with 5 broad and 5 alternating narrow wings. [5. bracteosus](#)
- 6 Leaflets 4–6 pairs, the upper more or less obovate-oblong and much larger than the lower which are more or less ovate-oblong, rounded to cuneate at base, shortly acuminate, 8–38 cm. long, 5–12 cm. broad; petioles 16–27 cm. long, rachides 26–40 cm. long; racemes up to 30 cm. long; calyx subglobose-saccate, about 6 mm. long, shortly tomentose outside; petals broad at base, oblong, 7–8 mm. long, 2–3 mm. broad; fruits ribbed, 10–15 cm. long. [6. macrobotrys](#)
Leaflets 8–11 pairs, all more or less the same size and shape, oblong, rounded to cuneate at base, abruptly and often long-acuminate, 11–24 cm. long, 4.2–6.8 cm. broad; petioles 16–22 cm. long, rachides 48–66 cm. long; racemes up to 60 cm. long; calyx ovoid-saccate, 10–12 mm. long, tomentellous outside; petals narrowed at

base, loriform, 12–13 cm. long, 2 mm. broad; fruits ribbed. [Z. talbotii](#)

1. **Chytranthus setosus** *Radlk.* in Sitzb. Math.-Phys. Akad.-Münch. 20: 240 (1890); Chev. Bot. 152; Engl. Pflanzenr. Sapindac. 785, fig. 18. *APD acc*

A shrub or small tree, to 15 ft. high, cauliflorous, with cream flowers in short dense spike-like inflorescences; [in forest](#).

Dah.: Sakété (Jan.) Chev. 22884; 22885. **S. Nig.:** Omo F.R., Ijebu-Ode Prov. (fl. buds Jan.) Onochie FHI 20680! Okomu F.R., Benin (ft. buds Feb.) Brenan 9127! Calabar R. (Feb.) Mann 2281!

Also in [French Cameroons](#) and extending to Cabinda and [Belgian Congo](#).

2. **Chytranthus ellipticus** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 504 (1928); Kew Bull. 1929: 26; Radlk. in Engl. Pflanzenr. Sapindac. 798. *APD acc*

A tree, up to 30 ft. high, cauliflorous, with whitish flowers in dense spike-like inflorescences; [in forest](#).

S. Nig.: Sapoba Kennedy 2222! Okomu F.R., Benin (Dec.) Brenan 8579! Oban Talbot 1399! Eket Talbot 3129!

3. **Chytranthus atrovioleaceus** *Bak. f. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 504 (1928); Kew Bull. 1929: 26; Radlk. l.c. 786. *APD acc*

Chytranthus macrophyllus var. **obanensis** *Bak. f.* in Cat. Talb. 19 (1913).

A shrub or small tree (? up to 60 ft. fide Talbot); flowers on the main stem, with deep red velvety calyx; [in forest](#).

S. L.: Heirakohun Smythe 126! **G. C.:** Kwahu Prasu (Feb.) Vigne FH 1608! **S. Nig.:** Shasha F.R. (Feb.) Lamb 192! Oban Talbot 1583! 1596!

4. **Chytranthus villiger** *Radlk.* l.c. 794 (1932).

APD: Synonym of Chytranthus carneus Radlk.

A small tree, to 15 ft. or more high; cauliflorous, with white velvety flowers in slender panicles at the base of the stem; [in forest](#).

S. L.: Makump (July) Thomas 960! Yonibana (Nov.) Thomas 4993! **Lib.:** Gbanga (Sept.) Linder 611! Nyaake, Webo (June) Baldwin 6214! **iv. C.:** Banco Aubrév. 480! **G. C.:** Huniso, W. Prov. (fr. Jan.) Irvine 1063! Bawdia, W. Prov. (Dec.) Vigne FH 3152!

Also in [French Cameroons](#).

5. **Chytranthus bracteosus** *Radlk.* l.c. 787 (1932).

APD: Synonym of Chytranthus angustifolius Exell

A tree, 10–55 ft. high, almost unbranched; inflorescences brown, rigid, borne all up the trunk; [in forest](#).

Br. Cam.: S. Bakundu F.R., Banga (fl. buds Mar., young fr. Aug.) Brenan 9487! Olorunfemi FHI 30720!

Also in [French Cameroons](#).

[Our material is determined from the description as the type is not available; a sterile specimen (Linder 983) from Peahtah, Lib., may also belong here.]

6. **Chytranthus macrobotrys** (*Gilg*) *Exell & Mendonça* in Consp. Fl. Ang. 2: 84 (1954). *APD acc*

Glossolepis macrobotrys *Gilg* in Engl. Bot. Jahrb. 24: 299, t. 1 (1897); Radlk. in Engl. Pflanzenr. Sapindac. 780, fig. 17.

A [forest](#) shrub or small tree, to 35 ft. high, rarely more, sparingly branched; racemes on old wood, pendulous, with erect brownish flowers.

G. C.: Amentia (Dec.) Vigne FH 1490! S. Fomang Su F.R. (Jan.) Vigne FH 2678! Kumasi (Jan.) Vigne FH 999! Owabi (Dec.) Lyon FH 2632! **Togo:** Kabosu, Kobo River F.R., (Dec.) St. C. Thompson FH3567! **S. Nig.:** Gambari Group F.R., Ibadan (fl. & fr. Jan.) Keay FHI 19801! 19802! W. D. Mac-Gregor 570! Sapoba Kennedy 3049! Cross River North F.R.

(young fr. June) Latilo FHI 31850! Boje, Ikom Div. (May) Jones & Onochie FHI 17331! **Br. Cam.:** S. Bakundu F.R., Kumba Div. (Aug.) Dundas FHI 8368! Korup F.R., Kumba Div. (June) Olorunfemi FHI 30640! Moliwe (young fr. July) Winkler 1457.

Also in **French Cameroons**, **Cabinda** and **Belgian Congo**.

[Aubrév. Fl. For. C. Iv. 2: 177 records *Glossolepis* in the Ivory Coast (Aubrév. 391) but does not give the species; it may be this.]

7. **Chytranthus talbotii** (*Bak. f.*) *Keay* in *Bull. Jard. Bot. Brux.* 26: 194 (1956). *APD acc*

Glossolepis talbotii *Bak. f.* in *Cat. Talb.* 20 (1913); *Radlk. l.c.* 781.

G. pilgeriana *Gilg ex Engl.* *Pflanzenw. Afr.* 3, 2: 276 (1921); *Mém. Soc. Linn. Normand* 26, 2: 71 (1924); *Radlk. l.c.* 780.

A forest tree, to 30 ft. high, sparingly branched; racemes on the basal part of the trunk, pendulous, with erect whitish flowers with mauve filaments and reddish anthers.

S. Nig.: Oban Talbot 1258a! 1686! Boshi-Okwango F.R., Obudu (May) Latilo FHI 30940! **Br. Cam.:** Mombo, Kumba Div. (May) Olorunfemi FHI 30564! S. Bakundu F.R., Banga (Mar.) Brenan 9417!

Also in **French Cameroons**, **Gabon** and **Spanish Guinea**.

1. **Chytranthus brunneo-tomentosus** *Gilg ex Radlk. l.c.* (1932).

APD: *Synonym of Chytranthus atrovioleaceus Baker f. ex Hutch. & Dalziel*

A small tree, leaflets 3–6 pairs; stamens 7–8; ovary 5-celled.

Br. Cam.: Bangwe, on margin of forest (Apr.) Conrau 94; 172.

Type specimen presumably destroyed. [An incomplete specimen (Ujor FHI 29262), from Wum Dist., Bamenda, British Cameroons, may also belong here; better material needed.]. Imperfectly known species.

2. **Chytranthus prieurianus** *Baill.* in *Adansonia* 9: 241 (1874); *Radlk. l.c.* 793. *APD acc*

Described from a plant formerly cultivated in a hot house at Paris and said to have been collected by Leprieur possibly in West Africa,

Imperfectly known species.

3. **Chytranthus sp. A.** *APD acc*

Shrub or tree, to 33 ft. high; inflorescences produced from raised woody cushions around the base of the trunk; fruits succulent, orange-yellow, 3-celled. This incomplete material is possibly *C. welwitschii* Exell or *C. mannii* Hook. f.

S. Nig.: Akilla plantations, Ijebu Ode Prov. (fr. Jan.) Onochie & Oladoyinbo FHI 20660! Okomu F.R., Benin Brenan 8611!

Imperfectly known species.

4. **Chytranthus sp. B.** *APD acc*

Leaflets 5 pairs, upper pairs large, lower pairs small, sparingly pilose on midrib beneath and on rachis and petiolules. Better material needed.

S. Nig.: Oban Talbot!

Imperfectly known species.

7. PANCOVIA

Willd. Sp. Pl. 2: 285 (1799); *Radlk. in Engl. Pflanzenr. Sapindac.* 799 (1932).

- 1 Racemes or flower-clusters not exceeding 13 cm. long:2

Racemes 15–30 cm. long; pedicels about 5 mm. long; calyx shortly campanulate, about 4 mm. long, with rather long lobes; petioles 8–14 cm. long; leaflets 3–4 pairs, ovate-lanceolate to elliptic-oblong, subcuneate to the up

to 1 cm. long petiolule, acutely acuminate, 14–20 cm. long, 4.5–8 cm. broad, without scale-like glands beneath.

..... [5. *polyantha*](#)

2 Leaflets without scale-like glands: **3**

Leaflets with minute scale-like glands beneath; petioles 3.5–9 cm. long; leaflets 2–3 pairs, elliptic-lanceolate, cuneate at base, shortly acuminate, 7–20 cm. long, 5–9 cm. broad; racemes about 4 cm. long, pedicels short; calyx campanulate, tomentellous. [6. *subcuneata*](#)

3 Flowers subsessile in axillary clusters less than 5 mm. long; calyx cupular, about 4 mm. long, tomentellous; petioles 1.5–6.5 cm. long, rhachides 0.5–1.2 cm. long; leaflets 2 pairs, opposite or subopposite, obovate-elliptic, cuneate at base, distinctly but obtusely acuminate, 4.5–17 cm. long, 1.5–6.5 cm. broad, glabrous, reticulate on both surfaces. [1. *sessiliflora*](#)

Flowers in racemes 1–10 cm. long; **4**

4 Pedicels up to 2 mm. long; calyx turbinate, about 3 mm. long, tomentellous; racemes 1–7 cm. long; petioles 2–9 cm. long; leaflets 1–2 pairs, opposite or sub-opposite, elliptic, cuneate or obtuse at base, obtusely acuminate, 3–17 cm. long, 2.3–8.3 cm. broad, glabrous, reticulate on both surfaces. [2. *turbinata*](#)

Pedicels 3–8 mm. long; calyx shortly campanulate, about 4 mm. long, with rather long lobes: **5**

5 Racemes 1–2 (–4) cm. long; pedicels 5–8 mm. long; calyx shortly tomentose; petioles 2–6 cm. long, rhachides 0 or 1.5–6 cm. long; leaflets (1–) 2 (–3) pairs, opposite or subopposite, oblong-elliptic to obovate-elliptic, obtuse or cuneate at base, shortly and obtusely acuminate or obtuse at apex, 4.5–14 cm. long, 3.2–6.2 cm. broad, glabrous, reticulate beneath. [3. *bijuga*](#)

Racemes (2–) 4–13 cm. long; pedicels 3–5 mm. long; calyx tomentellous or puberulous; petioles 4–9 cm. long, rhachides 0 or 2–13 cm. long; leaflets (1–) 3–4 pairs, opposite or alternate, lanceolate to elliptic cuneate or obtuse at base, distinctly acuminate, 4–20 cm. long, 1.5–8 cm. broad, glabrous, reticulate on both surfaces. [4. *pedicellaris*](#)

1. *Pancovia sessiliflora* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 504 (1928); Kew Bull. 1929: 27; Radlk. in Engl. Pflanzenr. Sapindac. 1495. *APD acc*

A small shrub, sometimes trailing, with small whitish flowers and red 2-lobed fruit.

S. Nig.: Ikoyi Plains, Lagos (Feb.) Dalz. 1178! Agege (Nov.) Kitson! Olokemeji (Nov.) Jones, Keay & Onochie FHI 4920! S. of Okeigbo (fr. Feb.) Jones & Onochie FHI 14728! Etemi, Omo F.R. (Mar.) Jones & Onochie FHI 17016!

2. *Pancovia turbinata* Radlk. in Sitzb. Math.-Phys. Akad. Münch. 8: 270 (1878); Engl. Pflanzenr. Sapindac. 804 (excl. syn. *Aphania golungensis* Hiern); Aubrév. Fl. For. C. Iv. 2: 203, t. 206, 2–6 (excl. syn.). *APD acc*

Pancovia bijuga of F.W.T.A., ed. 1, 1: 504, partly.

An erect shrub or small tree; flowers dull yellowish cream.

Fr. G.: Heudelot 869! **Iv. C.:** Port Bouët Aubrév. 1518. **Br. Cam.:** Barombi (fl. buds Mar.) Preuss 9. S. Bakundu F.R., Banga, Kumba Div. (Jan.) Keay FHI 28562!

3. *Pancovia bijuga* Willd. Sp. Pl. 2: 285 (1799); Chev. Bot. 152; Radlk. l.c. 802; Aubrév. l.c. 203, t. 206, 1. *APD acc*

Erioglossum cauliflorum Guill. & Perr. Fl. Seneg. 118, t. 28 (1831); F.T.A. 1: 420.

Pancovia guineensis Willd. ex A. Chev. Bot. 152, name only.

A small tree, much-branched; flowers cream.

Sen.: Itou, R. Casamance (Apr., May) Perrottet. **Iv. C.:** Akakoumoëkrou (Dec.) Chev. 22527! 22536! 22547! **G. C.:** Drabonso, Ashanti (Feb.) Cansdale FH 4144! Pokoase (Feb.) Irvine 2658! **Togo:** Lome (Feb.) Warnecke 67! **S. Nig.:** Lagos Moloney! Ogun River F.R., Lagos (Dec.) Onochie FHI 32033!

4. *Pancovia pedicellaris* Radlk. & Gilg in Engl. Bot. Jahrb. 24: 302 (1897); Radlk. in Engl. Pflanzenr. Sapindac. 803.

APD: *Synonym of *Pancovia turbinata* Radlk.*

A shrub or small tree, 15–30 ft. high, with very hard wood; in forest.

Br. Cam.: Johann-Albrechtshöhe (Jan., Feb.) Staudt 596! 798.

Also in **French Cameroons** and **Spanish Guinea**.

5. **Pancovia polyantha** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 276 (1921); Radlk. l.c. 803. *APD acc*

A forest shrub (?).

Br. Cam.: Johann-Albrechtshöhe (Mar.) Staudt 906!

6. **Pancovia subcuneata** *Radlk.* in Engl. Pflanzenr. Sapindac. 806 (1932); E. & P. Pflanzenfam. Nachtr. 3: 203 (1907), name only. *APD acc*

Pancovia bijuga of F.W.T.A., ed. 1, 1: 504, partly (S.L. record).

A shrub (?).

S. L.: Afzelius.

Pancovia sp. *APD acc*

Understorey tree, 15 ft. high; **in forest outlier**; leaves with a single pair of lanceolate leaflets; flowers and fruits required.

N. Nig.: Kurmin Damisa, Jemaa, Plateau Prov. Keay & Onochie FHI 21660!

Imperfectly known species.

8. **PLACODISCUS**

Radlk. in Sitzb. Math.-Phys. Akad. Münch. 8: 332 (1878); Engl. Pflanzenr. Sapindac. 810 (1932).

- 1 Leaflets 2–5 (–6) pairs:.....2
 Leaflets 8–18 pairs, the lowest pair well away from the stem and not resembling leafy stipules; racemes borne on the main stem and among the lower leaves, axes without glandular hairs:.....8
- 2 Leaves sessile, quite glabrous; leaflets 2 pairs, the lowest pair resembling large leafy stipules, ovate, upper pair larger, elongate-elliptic, cuneate at base, acuminate, 7–25 cm. long, 2.5–8 cm. broad, with 7–12 main lateral nerves on each side of midrib; rhachides 1–12.5 cm. long; male racemes axillary, 3–11 cm. long, bracts 1.5 mm. long, conspicuous; female racemes axillary or on older wood below the leaves, up to 34 cm. long; flowers subsessile, crowded, calyx turbinate, about 3.5 mm. long and wide, puberulous; fruits 1–2-lobed by abortion, up to 3 cm. long and broad, tomentellous at least when young.[1. pseudostipularis](#)
 Leaves distinctly petiolate; leaflets 2–5 (–6) pairs, the lowest pair well away from the stem and not resembling leafy stipules; flowers distinctly pedicellate:.....3
- 3 Inflorescence-axes without glandular hairs:4
 Inflorescence-axes with numerous glandular hairs; racemes borne on the main stem:.....7
- 4 Inflorescences axillary and sometimes just below the foliage; calyx about 5 mm. long; bracts up to 1 mm. long; leaflets 2–3 pairs:5
 Inflorescences on the main stem; pedicels 1.5–2.5 mm. long; calyx 2.5–3 mm. long; leaflets (2–) 4–5 (–6) pairs, opposite to alternate, with 8–12 main lateral nerves on each side of midrib:6
- 5 Pedicels of male flowers 5–10 mm. long; inflorescence and calyx puberulous; inflorescence racemose except for a few short lateral branches near the base, up to 15 cm. long; petioles 5.5–7.5 cm. long, rhachides 4.5–6 cm. long; leaflets alternate or opposite, elliptic or oblong-elliptic, cuneate at base, shortly acuminate, 6–22 cm. long, 3–8.5 cm. broad, with 5–9 main lateral nerves on each side of midrib.[2. boya](#)
 Pedicels of flowers up to 2 mm. long (to 5 in fruit); inflorescence and calyx densely tomentellous; inflorescence a very narrow spike-like panicle with very short 1–3-flowered lateral branches, 3–13 cm. long; petioles 1.8–12 cm. long, rhachides 2.8–11 cm. long; leaflets opposite or subopposite, oblong-elliptic to oblanceolate-elliptic, obtuse or cuneate at base, rounded, obtuse, or obtusely and shortly acuminate at apex, 3–20 cm. long, 1.5–7 cm. broad, with 6–12 main lateral nerves on each side of midrib.[3. riparius](#)
- 6 Axes of inflorescence and calyx tomentellous; bracts up to 2 mm. long; racemes up to 40 cm. long; leaflets 2–5 pairs, oblong to oblong-elliptic, cuneate to obtuse at base, more or less long-acuminate, 10–30 cm. long, 3–8–10 cm. broad; petioles 6–17 cm. long, rhachides 11–29 cm. long.[4. leptostachys](#)
 Axes of inflorescence and calyx shortly tomentose; bracts about 5 mm. long; racemes up to 22 cm. long; leaflets 4–5 pairs, oblong-oblanceolate, cuneate, very shortly acuminate, 12–28 cm. long, 6–11 cm. broad; petioles 4.5–14 cm. long, rhachides 14–20 cm. long.[5. sp. A](#)
- 7 Flowers subsessile; calyx 3 mm. long, tomentose; racemes up to 20 cm. long; leaflets 3–4 pairs, subopposite or opposite, oblong-elliptic, obtuse to cuneate at base, acuminate, 5.5–21 cm. long, 3–7.2 cm. broad, with 7–14

main lateral nerves on each side of midrib; petioles 2–11 cm. long, rhachides 5.5–16 cm. long [6. *turbinatus*](#)

Flowers with distinct pedicels 1–2 mm. long; calyx 2 mm. long, puberulous-tomentellous; racemes up to 36 cm. long; leaflets 3–6 pairs, alternate or sub-opposite, oblong-elliptic, cuneate to obtuse at base, acuminate, 10–30 cm. long, 3.5–9 cm. broad, with 10–17 main lateral nerves on each side of midrib; petioles 10–19 cm. long, rhachides 13–25 cm. long. [7. *glandulosus*](#)

- 8 Leaflets 8–12 pairs, elongate-oblong or oblong-lanceolate, cuneate and oblique at base, caudate-acuminate, 5.5–23 cm. long, 1.5–4.8 cm. long, with 11–15 main lateral nerves on each side of midrib; petioles 9.5–18 cm. long, rhachides 25–48 cm. long, petiolules 3–6 mm. long; racemes up to 15 cm. long, tomentose; flowers very shortly pedicellate; calyx obconic-subglobose, 2.75–4 mm. long, 3.5–4.5 mm. diam., lobes never wide open, tomentose outside; fruits 3-lobed, but only 1 or 2 lobes fully developed, 2.5–3.5 cm. long, 3–3.5 cm. broad, pubescent, later glabrescent [8. *splendidus*](#)

Leaflets 18–24 pairs, lanceolate and subfalcate, cuneate at base and subsessile, acute and mucronate at apex, up to 30 cm. long and 7.5 cm. broad, with 8–10 main lateral nerves on each side of midrib; rhachides triangular in cross-section; leaves up to 100 cm. or more long; racemes up to 35 cm. long, tomentose; pedicels up to 1 cm. long. [9. *bancoensis*](#)

1. **Placodiscus pseudostipularis** *Radlk.* in Sitzb. Math.-Phys. Akad. Münch. 20: 242 (1890); Chev. Bot. 152; Radlk. in Engl. Pflanzenr. Sapindac. 812; Aubrév. Fl. For. C. Iv. 2: 200. *APD acc*

A shrub or small tree, 3–48 ft. high; flower buds brown; [in forest](#),

S. L.: Afzelius. Njala (May–Sept.) Deighton 3016! 3230! 5335! Makump (fr. July) Thomas 950! Gola Forest (young fr. Apr.) Small 595! **Lib.:** Dukwia R. (May, Oct.) Cooper 266! 374! **iv. C.:** Alépé Chev. 16242. Mt. Tou Chev. 19681. Agnéby Aubrév. 2119. **G. C.:** Axim Burton & Cameron! Bonsa Su (May) Vigne FH 1996!

2. **Placodiscus boya** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 85: 292 (1938); Aubrév. Fl. For. C. Iv. 2: 200, t. 204, 1–3 (1936), French descr. only. *APD acc*

APD: Synonym of Placodiscus attenuatus J.B. Hall

An understory tree, to 65 ft. high, with short irregular bole and dense spreading crown; [in forest](#).

iv. C.: Bondoukou Aubrév. 703! Man Aubrév. 1035! Akoupé Aubrév. 1771 Guiglo Aubrév. 2017. **G. C.:** near Ejian, N. Agogo (Jan.) Vigne FH 1791!

3. **Placodiscus riparius** *Keay* in Bull. Jard. Bot. Brux. 26: 194 (1956). *APD acc*

APD: Synonym of Placodiscus attenuatus J.B. Hall

A small tree, branching low down, to 30 ft. high (to 60 ft. fide Cooper), growing on riverbanks and sometimes completely submerged in rainy season; calyx pale green, tinged pink; filaments white.

Port. G.: R. Geba, Bafata (Sept.) Esp. Santo 3094! R. Mad-Jobe, Gabu (young fr. Oct.) Esp. Santo 3115! **S. L.:** Njala (fl. Sept., Oct., fr. Dec.) Deighton 1841! 5594! 5602! 5723! 5853! Bumpe (Sept.) Deighton 5577! **Lib.:** Gbanga (fl. & young fr. Sept.) Linder 770! Dukwia R. (Oct.) Cooper 75!

4. **Placodiscus leptostachys** *Radlk.* in Sitzb. Math.-Phys. Akad. Münch. 9: 606 (1879); Pflanzenr. 813. *APD acc*

APD: Synonym of Placodiscus oblongifolius J.B. Hall

APD: Synonym of Placodiscus bracteosus J.B. Hall

A slender tree, 12–20 ft. high, cauliflorous; [in forest](#).

Lib.: Brewerville (Aug.) Baldwin 13079! Bushrod Isl. (Aug.) Baldwin 13095! **S. Nig.:** Aboabam, Ikom Div. (young fr. May) Latilo FHI 30970! **Br. Cam.:** Cam. Mt., 2,000–3,000 ft. (Dec.) Mann 2150! Bangwe Conrau 207.

5. **Placodiscus sp. A.** *APD acc*

A slender tree or shrub, cauliflorous; flowers greenish-yellow; [in understory of forest, especially by streams](#).

G. C.: Kwahu Prasu (fl. Feb., young fr. June) Vigne FH 1612! 1612a! S. Fomang Su F.R. (fl. & young fr. Jan.) Vigne FH 2694! Oda, W. Akim (June) Darko 682! **S. Nig.:** Ibadan North F.R. (fr. Dec.) Chizea FHI 23967!

[Previously determined as *P. leptostachys* Radlk., but possibly distinct; more good material of this and of the above species is required.]

6. **Placodiscus turbinatus** Radlk. in Sitzb. Math.-Phys. Akad. Münch. 8: 332 (1878); Pflanzenr. 815.
APD acc

A slender tree, to 15 ft. high, cauliflorous; leaves drying green; **in forest**.

S. Nig.: Calabar R. (Feb.) Mann 2239! Oban Talbot 1438! [**Br. Cam.:** S. Bakundu F.R. (young fr. Apr.) Ejiofor FHI 29348! — an incomplete specimen, included here with some doubt.]

7. **Placodiscus glandulosus** Radlk. in Engl. Pflanzenr. Sapindac. 814 (1932). *APD acc*

A small tree, cauliflorous; leaves drying reddish-brown; **in forest**.

S. Nig.: Boje, Ikom Div. (young fr. May) Jones & Onochie FHI 18633! **Br. Cam.:** Victoria (Nov.) Maitland 766!

Also in **French Cameroons** and **Gabon**.

8. **Placodiscus splendidus** Keay l.c. 197, fig. 61 (1956). *APD acc*

A tree 10–30 ft. high, often unbranched, with leaves in a cluster at the top, cauliflorous; sepals pinkish-brown; ripe fruits yellow; **in forest**.

S. L.: Njala (fl. Aug., Sept., fr. Oct.) Deighton 4907! 5560! 5587! 5588! 5590! Kenema (fl. & fr. Oct.) Small 819! Taiama (Aug.) Deighton 5560! **Lib.:** Peahtah (young fr. Oct.) Linder 1040!

9. **Placodiscus bancoensis** Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 85: 292 (1938); Aubrév. Fl. For. C. Iv. 2: 200, t. 204, 4–6. *APD acc*

A tree, to 50 ft. high, cauliflorous; fruits yellow; **in forest**.

Iv. C.: Banco (fl. & young fr. Nov.) Aubrév. 883! 1661! **G. C.:** Boin River F.R., Yakasi (Dec.) Vigne FH 3193! Suburi F.R. (Nov.) Vigne FH 4751!

9. MELANODISCUS

Radlk. in Th. Dur. Ind. Gen. 75 (1888); Engl. Pflanzenr. Sapindac. 816 (1932).

- 1 Branchlets, rhachides and inflorescence softly pubescent; leaflets 2–4 pairs, the lowest pair small ovate-cordate, very close to the stem, the upper pairs larger, oblong-elliptic, obtuse or cuneate at base, gradually acuminate, up to 20 cm. long and 8 cm. broad, densely pubescent beneath and on midrib above; panicles terminal, about as long as the leaves, pedicels up to 4 mm. long; calyx about 2.5 mm. long, stamens glabrous, 7–10 mm. long.

.....[africanus](#)

Melanodiscus africanus Radlk. in Th. Dur. Ind. Gen. 75 (1888); Engl. Pflanzenr. Sapindac. 817.

A tree to 20 ft. high; **in forest regrowth**.

S. Nig.: Lagos Moloney! **Br. Cam.:** Bombe (Jan.) Lobe Babute Cam. 52/36!

Burbidge 497 from “Konnoh Country,” Sierra Leone, possibly belongs to this genus but better material is needed. Imperfectly known species.

10. LECANIODISCUS

Planch. ex Benth. — F.T.A. 1: 428; Radlk. in Engl. Pflanzenr. Sapindac. 879 (1932).

- 1 Branchlets thinly pubescent; leaves paripinnate; leaflets opposite or nearly so, with a short swollen petiolule, oblong or elliptic, cuneate at base, broadly caudate-acuminate, 6–18 cm. long, 4–9 cm. broad, with rather numerous spreading lateral nerves, glabrous; racemes axillary, much shorter than the leaves, puberulous;

flowers more or less clustered, polygamous or dioecious; pedicels about 5 mm. long, slender; petals absent; stamens 10, glabrous; ovary densely setose-tomentose; fruits broadly ovoid, 2 cm. long, often slightly 2-lobed, tomentellous, shortly beaked by the terminal style. [cupanioides](#)

Lecaniodiscus cupanioides *Planch. ex Benth.* — F.T.A. 1: 429; Chev. Bot. 153; Radlk. l.c. 880; Aubrév. Fl. For. C. Iv. 2: 202, t. 205. *APD acc*

A small tree, or shrub, 5–30 ft. high, with spreading crown; flowers greenish-yellow or whitish, fragrant; ripe fruits red or yellowish, indehiscent.

Sen.: Niokolo-Koba Berhaut 952. **Port. G.:** Pussubé (Mar.) Esp. Santo 1144! **Fr. G.:** Heudelot 854! Mamou (Mar.) Dalz. 8394! Kouroussa (Apr.) Pobéguin 673! **S. L.:** Don! Talla Hills (fl. Feb., fr. Apr.) Sc. Elliot 4934! 5004! 5006! Njala (fl. Feb., fr. Apr.) Deighton 2615! 2616! 2896! Rokupr (Mar.) Jordan 416! Falaba (Mar.) Sc. Elliot 5226! **Lib.:** Zorzor (Mar.) Bequaert 143! **Iv. C.:** many localities fide Aubrév. ll.c. **G. C.:** Cape Coast Brass! Kibbi (fr. Mar.) Brent 409! Assuantsi (Mar.) Irvine 1568! Bjury, Black Volta R. (July) Chipp 508! Achimota (Feb.) Irvine 2004! **Togo:** several localities fide Radlk. l.c. **Dah.:** Cabolé to Bassila, Savalou (May) Chev. 23812! N. Nig: Zaria Weir 3! Lokoja (fr. June) Elliot 228! Agaie (fr. May) Yates 28b! **S. Nig.:** Lagos Phillips 10! Abeokuta Barter 3389! Ibadan (Mar.) Ujor 27974! Benin City Unwin 28! **Br. Cam.:** Johann-Albrechtshöhe (Feb.) Staudt 589!

Also in **Ubangi-Shari, French Cameroons, Gabon, Belgian Congo, A-E Sudan, Uganda** and **Angola** *Radlk.* in Sitzb. Math-Phys. Akad. Münch. 9: 514 (1879); Engl. Pflanzenr. Sapindac. 1132. *APD acc*

Cupania ferruginea *Bak.* in F.T.A. 1: 425 (1868).

A slender tree, to 20 ft. high, or subscandent; densely clothed with brown hairs; fruits bright red when ripe; seeds with a bright orange aril.

S. Nig.: Oban Talbot 415! 1750! Aboabam-Boje path, Ikom Div. (fr. May) Jones & Onochie FHI 8303! **Br. Cam.:** Victoria (fr. Apr.) Maitland 587! Banga (fr. Mar.) Brenan 9426! **F. Po.:** (Jan.) Mann 189!

Also in **French Cameroons Spanish Guinea** and **Gabon**

2. **Laccodiscus cauliflorus** *Hutch. & Dalz.* F.W.T.A., ed. 1, 1: 500 (1928); Kew Bull. 1929: 26; Radlk. in Engl. Pflanzenr. Sapindac. 1134.

APD: *Synonym of Chytranthus cauliflorus (Hutch. & Dalziel) Wickens*

A small tree; in forest.

Lib.: Traub 179! Dukwia R. (July) Linder 92! **G. C.:** Amaneakrom (Sept.) Chipp 372! Prestea (Sept.) Vigne FH 3072! Ankasa F.R. (young fr. Dec.) Vigne FH 3180! Amuni, W. Prov. (July) Vigne FH 1274!.

12. APORRHIZA

Radlk. in Sitzb. Math.-Phys. Akad. Münch. 8: 338 (1878); Engl. Pflanzenr. Sapindac. 1134 (1933). *APD acc*

- 1 Margins of leaflets revolute (i.e. inrolled on lower surface) at their cuneate bases; midrib with short appressed puberulous hairs beneath; inflorescence-axes greyish tomentellous, up to 40 cm long; petals longer than sepals, not spreading; fruits closely tomentellous; leaflets 6–12, alternate or subopposite, lanceolate, gradually acuminate, 3–17 cm. long, 1–6 cm. broad [1. urophylla](#)

Margins of leaflets not revolute at base; midrib beneath and inflorescence-axes with spreading pubescent hairs, sometimes with appressed hairs as well; fruits tomentose; leaflets subopposite: 2

- 2 Leaflets 8–14; petals about 5 mm. long, not clawed, longer than the erect calyx; leaflets obovate-elliptic or elliptic, acuminate, 6–15 cm. long, 3.5–5.5 cm. broad; panicles up to 40 cm. long [2. talbotii](#)

Leaflets 4–8; petals about 3 mm. long, clawed, about as long as the spreading calyx; leaflets oblong-elliptic or oblong obovate, 6–20 cm. long, 2.5–10 cm broad, coriaceous, shining above; panicles 20–30 cm. long [3. nitida](#)

1. **Aporrhiza urophylla** *Gilg* in Engl. Bot. Jahrb. 24: 305 (1897), *Radlk.* in Engl. Pflanzenr. Sapindac. 1136. *APD acc*

Aporrhiza rugosa. *A. Chev.* Bot. 153.

A talbotii of F.W.T.A., ed. 1, 1: 501, partly (S.L. and Iv.C. records); of Aubrév. Fl. For. C. Iv. 2: 184, t. 197; not of Bak. f.

A **forest** tree, 15–30 ft. high, rarely to 80 ft., with long panicles of creamy-white flowers; fruits grey-tomentellous outside, brown, glabrous and shining within; seeds with yellow arils.

S. L.: Ronietta (fr. Nov.) Thomas 5597! Taiama (fr. Nov.) Deighton 3448a! 3448b! Mano (Oct.) Deighton 4035! Panguma (young fr. Apr.) Deighton 3904! **Lib.:** Peahtah (Oct.) Linder 907! Fayapulu (fr. Oct.) Linder 1136! Gbanga (Sept.) Linder 708! Sanokwele Dist. (Sept., Oct.) Baldwin 9290! 9512! Harley! Dukwia R. (Oct.) Cooper 108! **iv. C.:** Bingerville etc. Chev. 15249! Banco, Djibi, Massa-Mé and Rasso Forests fide Aubrév. l.c. **G. C.:** Aburi (fl. & young fr. Oct.) Vigne FH 4259! Axim (Aug) Beavan FH 3127! Subiri F.R. (Aug.) Andoh FH 5590!

Also in **French Cameroons**.

2. **Aporrhiza talbotii** *Bak. f.* in Cat. Talb. 20 (1913); Radlk. l.c. 1137. *APD acc*

A small **forest** tree.

S. Nig.: Oban Talbot 416! 1292!

Also in **Ubangi-Shari**.

3. **Aporrhiza nitida** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 280 (1921); Milne-Redhead in Kew Bull. 1931: 272; Radlk. l.c. 1136.

APD: *Synonym of Aporrhiza paniculata Radlk.*

Aporrhiza talbotii of Kennedy For. Fl. S. Nig. 183.

A small **forest tree, by streams**; flowers creamy-white; seeds black, with orange aril.

S. Nig.: Jamieson R., Benin Prov. Kennedy 1952! 2054! 2057!

Also in **Belgian Congo, N. Rhodesia, Nyasaland** and **Tanganyika**.

13. LYCHNODISCUS

Radlk. in Sitzb. Math.-Phys. Akad. Münch. 8: 332 (1878); Engl. Pflanzenr. Sapindac. 1137 (1933).

- 1 Leaflets (3–) 4 (–6) pairs, sparingly puberulous beneath, with 6–15 main lateral nerves on each side of midrib, lower surface closely reticulate, not silvery, venation not parallel; petioles 3–7.5 cm. long, rhachides 4.5–20 cm long; leaflets elongate-elliptic, cuneate at base, acuminate, often toothed, 5–22 cm long, 2.2–5 cm. broad; panicles terminal, up to 25 cm. long; calyx 4 mm. long; stamens 10–12; fruits 1.5–2 cm. long and broad, 3-lobed, tomentellous outside *1. reticulatus*

Leaflets (5–) 6 pairs, densely rusty-pubescent beneath, with 20–22 main lateral nerves on each side of midrib, lower surface often silvery, with parallel venation; petioles 10–17 cm. long, rhachides 17–31 cm. long; leaflets elliptic or ovate-oblong, cuneate at base, acuminate, often entire, 10–40 cm. long, 4.2–13.5 cm. broad; panicles terminal, up to 30 cm. long; calyx 6–8 mm. long; stamens 15–18; fruits 3–3.7 cm. long, 2.6–3 cm. broad, 3-lobed, bristly tomentose outside *2. dananensis*

1. **Lychnodiscus reticulatus** *Radlk.* in Sitzb. Math.-Phys. Akad. Münch. 333 (1878); Engl. Pflanzenr. Sapindac. 1139. *APD acc*

A tree, to 45 ft. high, with spreading crown, in **understorey of forest**; flowers greenish cream; fruits creamy-yellow suffused pink outside, the valves magenta pink inside; seeds scarlet, shiny and sticky.

G. C.: Kakanentumi, E. Akim (Mar.) Johnson 601! Kwahu Prasu (fl. Feb., fr. June) Vigne FH 1609! 1609a! Juaso (Mar.) Akpabla 288! Atewa Range (Feb.) Vigne FH 4335! Worobong F.R. (Jan.) Vigne FH 4317! **S. Nig.:** Ibadan South F.R. (Apr.) Ahmed & Chizea FHI 19807! Akure F.R. (fl. Oct., fr. Apr.) Keay FHI 21558! Symington FHI 3394! **F. Po:** Mann 1422!

2. **Lychnodiscus dananensis** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 85: 291 (1938); Aubrév. Fl. For. C. Iv. 2: 184, t. 196 (1936), French descr. only. *APD acc*

A shrub or small tree, to 50 ft. high, in **understorey of forest**; flowers pale greenish; fruits greenish outside, the valves red inside; seeds orange.

S. L.: Peri, Guiglo (fl. & fr. Dec.) Deighton 5889! **Iv. C.:** Man Aubrév 1041! R. Sassandra to Dué Koué Aubrév. 934. Guiglo Aubrév. 1227! **G. C.:** Aiyola FR., Akim Oda (fl. & fr. Apr.) Andoh FH 5142! 5146! Prah-Anum, Amentia (Mar.) Wills 67! Banka, Ashanti (Mar.) Vigne FH 1853! 1854!

14. BLIGHIA

Konig — F.T.A. 1: 426; Radlk. in Engl. Pflanzenr. Sapindac. 1142 (1933); Wilczek in Bull. Jard. Bot. Brux. 21: 149 (1951).

Phialodiscus Radlk. (1879) — F.W.T.A., ed. 1, 1: 502; Radlk. l.c. 1147.

- 1 Midrib and main lateral nerves impressed, or at any rate not prominent, above; disk thick, fleshy, puberulous or glabrous; fruits large, 3–8 cm. long, pyriform, sub-trigonal or acutely triangular in section, tomentose within:2

Midrib and main lateral nerves prominent or prominulous above; disk thin, glabrous; fruits 1.5–3 cm long, 1.5–2.2 cm. broad, obovoid-triangular with winged lobes, glabrous or pilose and glabrescent within; calyx-lobes about 1 mm. long; petals 1–1.5 mm. long, shorter than the appendages; branchlets, petioles, rhachides and petiolules golden-pubescent and more or less glabrescent; petioles 0–7 cm. long, rhachides 0–5 cm. long; leaflets 1–3 (–4) pairs, upper ones largest, rarely leaves 1-foliolate, oblong-elliptic or oblong-oblancheolate, cuneate to rounded at base, broadly acuminate, 3.5–25 cm. long, 1.5–10 cm. broad, usually pubescent in the axils of the main lateral nerves beneath; racemes axillary, up to 11 cm. long, pubescent3. *unijugata*

- 2 Capsules with rounded valves, 4–6 cm. long, about 3 cm. diam., rugose outside when dry; calyx-lobes 2–2.5 mm. long; petals 3–4 mm. long, exceeding the appendages; leaflets rounded or shortly acuminate at apex; branchlets, petioles, rhachides and petiolules rather densely yellowish pubescent; petioles flattened above, 0.5–3.5 cm. long; rhachides 1.5–16 cm long; leaflets (2–) 3–5 pairs, the upper ones largest, obovate, oblong or subelliptic, acute to rounded at base, 3–18 cm long, 2–8.5 cm. broad, pubescent on the nerves beneath; racemes axillary, 5–20 cm. long, densely pubescent1. *sapida*

Capsules with acutely angled or winged valves, 3–8 cm. long, 3–4.5 cm. diam., smooth outside when dry; calyx lobes 1–1.2 mm long; petals 1.8–3 mm. long, shorter than or equalling the appendages; leaflets usually distinctly and sometimes long-acuminate at apex; branchlets, petioles, rhachides and petiolules tomentellous or puberulous; petioles more or less winged, 1.5–10 cm long; rhachides 0.5–10 cm. long; leaflets (2–) 3–4 pairs, the upper ones largest, elliptic or oblong-elliptic; acute to rounded at base, 5–19 cm. long, 2–8 cm. broad, glabrous or pubescent only on the nerves beneath; racemes axillary, 4–15 cm. long, tomentellous to glabrous 2. *welwitschii*

1. *Blighia sapida* *Konig* in *Konig & Sims*, Ann. Bot. 2: 571, tt. 16 & 17 (1806); F.T.A. 1: 426; Chev. Bot. 153; Radlk. in Engl. Pflanzenr. Sapindac. 1142, fig. 32; Aubrév. Fl. For. C. Iv. 2: 188, t. 199; Wilczek in Bull. Jard. Bot. Brux. 21: 152, fig. 39. *APD acc*

A forest tree 20–80 ft. high, with spreading crown and ribbed branchlets; flowers bisexual and male on separate trees, greenish-white, fragrant; capsules bright red when ripe, opening to expose 3 shining black, oblong seeds, each with a large yellow or whitish aril; native in forest outliers in the savannah regions and in drier parts of the forest regions of the eastern half of our area, but most usually seen planted near dwellings.

Sen.: Ravin des Voleurs Berhaut 1145! **Fr. Sud.:** Fincolo Chev. 740. **Port. G.:** Binte, Carache Esp. Santo 1998! **Fr. G.:** Beyla (Mar.) Chev. 20867! Kouroussa (Apr.) Pobéguin 686! **S. L.:** Freetown Johnston 69! Magbile (Dec.) Thomas 6035! Tombo Deighton 2676! **Iv. C.:** Boubo Forest Aubrév. 15! And other localities fide Chev. and Aubrév. Il.c. **G. C.:** Mampong (Apr.) Vigne FH 1930! Akuse (May) Brent 547! Achimota (May) Irvine 1637! Tamale (fr. Apr.) Bally 139! **Togo:** Jegge (Mar.) Büttner 423. Atikpui (Apr.) Schlechter 12985! **Dah.:** Kétou, Zagnanado (Feb.) Chev. 23028! **N. Nig.:** Kontagora (Feb.) Dalz. 282! Agaie (Oct.-Dec.) Yates 5! Nupe Barter 1004! **S. Nig.:** Lagos (Dec.) Barter 2140! Dalz. 1386! Lanlate (Jan.) Keay & Russell FHI 22466! Ibadan (Mar.) Bolude FHI 3025! Benin Unwin 27!

Also in French Cameroons, Principe and S. Tomé; cultivated in India and tropical America.

2. *Blighia welwitschii* (*Hiern*) Radlk. in Engl. Pflanzenr. Sapindac. 1146 (1933); Wilczek l.c. 155, fig. 40, q.v. for synonymy. *APD acc*

Phialodiscus welwitschii *Hiern* (1896).

P. bancoensis Aubrév. & Pellegr. (1938) — Aubrév. Fl. For. C. Iv. 2: 192, t. 201 (1936), French descr. only.

P. unijugatus of F.W.T.A., ed. 1, 1: 502, partly; of Kennedy For. Fl. S. Nig. 184, partly.

P. plurijugatus of Aubrév. l.c. 192, t. 200, 8–9.

Blighia sapida of F.W.T.A., ed. 1, 1: 501, partly.

A forest tree, to 150 ft. high, with cylindrical bole; flowers yellowish-white; ripe fruits yellowish red with 3 shining black seeds, each with a large yellow aril.

S. L.: Bo (Feb.) Lane-Poole 165! 107! Jalahun (fr. May) Lane-Poole 286! Rokupr (Feb.) Jordan 383! Njala (Oct.) Deighlon 2244! **Lib.:** Gbanga (Sept.) Bequaert in Hb. Linder 738! Peahtah (Oct.) Linder 923! Dime (fl. July, fr. Aug.) Barter 1051! 1377! Mecca (fr. Dec.) Baldwin 10788! **iv. C.:** Aubrév.! Abidjan Aubrév. 176! Banco Aubrév. 345. Dabou Chev. 17240. **G. C.:** Obuasi (young fr. Jan.) Soward 659! Mim (Nov.) Vigne FH 2572! Dunkwa Vigne FH 876! **S. Nig.:** Usonigbe F.R., Benin (young fr. Nov.) Ejiofor FHI 24663! Sapoba Kennedy 1678! Calabar (Nov., Dec.) Unwin 26! 32! **Br. Cam.:** N. Korup F.R., Kumba Div. (fr. July) Olorunfemi FHI 30685!

Also in **Ubangi-Shari, Gabon, Belgian Congo, Uganda** and **Angola**.

3. *Blighia unijugata* Bak. in F.T.A. 1: 427 (1868); Chev. Bot. 154; Wilczek l.c. 159, fig. 41. *APD acc*

Phialodiscus unijugatus (Bak.) Radlk. (1879) — Chev. Bot. 154; F.W.T.A., ed. 1, 1: 502, partly; Radlk. in Engl. Pflanzenr. Sapindac. 1147; Aubrév. l.c. 190, t. 200, 1–7.

A forest tree, 10–60 ft. high; flowers whitish, very fragrant; ripe fruits red or pinkish red, with 3 shining black seeds, each with a yellow aril.

S. L.: Rokupr (Mar.) Jordan 418! Njala (Mar.) Deighton 2875! 4713! Mabasike (Feb.) Lane-Poole 70! Sasseni, Scarcies (Jan.) Sc. Elliot 4539! **Lib.:** Gletown (July) Baldwin 6737! Ganta (young fr. Feb.) Baldwin 11027! **iv. C.:** various localities fide Chev. and Aubrév. Il.c. **G. C.:** Kumasi (Dec.) Vigne FH 1780! Odumase, Krobo Irvine 900! Winneba (fr. Mar.) Dalz. 8288! Ofuasi (fr. Mar.) Vigne FH 1849! Boaso, W. Ashanti (fr. Mar.) Chipp 137! **Dah.:** Adjara, Porto Novo (Jan.) Chev. 22743! Aouandjitoumé, Zagnanado (fr. Mar.) Chev. 23288! **N. Nig.:** Matyoro Thornewill 120! Dogon Kurmi, Jemaa Keay FHI 22262! **S. Nig.:** Lagos Moloney 12! Otta Barter 3356! Busogboro, Ibadan (fl. Dec., fr. Mar.) Chizea FHI 23968! Idahosa FHI 23861! Apomu (fr. Apr.) Foster 210a! **Br. Cam.:** Amba Bay (Feb.) Mann 760! Likomba (Oct.) Mildbr. 10553! Johann-Albrechtshöhe Staudt 497! 574! Bamenda (fr. Feb.) Johnstone 83!

Widespread in tropical Africa.

15. ERIOCOELUM

Hook. f. —F.T.A. 1: 427; Radlk. in Engl. Pflanzenr. Sapindac. 1150 (1933).

- 1 Fruits large, 2.3–3 cm. long, valves 3.5–4 cm. wide and 4 mm. thick, glabrous outside except occasionally for a few short hairs near the base; branchlets, rhachides and petiolules shortly pubescent; inflorescence paniculate, up to 21 cm. long, the axes rusty puberulous; leaflets (2–) 3 pairs, the uppermost pair much the largest, obovate-elliptic or obovate, shortly acuminate, up to 30 cm. long and 14.5 cm. broad, soon glabrous beneath [L. macrocarpum](#)
Fruits smaller, 1.4–2.3 cm. long, valves 1.7–3.2 cm. wide and 1–3 mm. thick; inflorescence-axes tomentose or pilose; leaflets up to 20 cm. long and 7 cm. broad, more or less pilose or pubescent at least on the midrib beneath: **2**
- 2 Fruits 1.8–2.3 cm. long, valves 2.2–3.2 cm. wide and 2.5–3 mm. thick, pubescent, at least near the base; inflorescence paniculate or racemose, densely rusty-tomentose; branchlets, rhachides and petiolules rusty-tomentose or -pilose: **3**
Fruits 1.4–1.8 cm. long; valves 1.7–2 cm. wide and 1–1.5 mm. thick; leaflets up to 16.5 cm. long and 7 cm. broad, pilose or pubescent on the midrib only beneath: **4**
- 3 Midrib impressed above; main lateral nerves 13–16, leaving the midrib at 60° or more, impressed above; leaflets 3–4 (–5), oblong, broad and rounded at base, shortly acuminate, rather densely curly-pubescent on midrib, nerves and lamina beneath; fruits about 2.3 cm. long, valves 2.8–3.2 cm. wide and 3 mm. thick; inflorescence up to 12 cm. long [2. oblongum](#)
Midrib prominent above; main lateral nerves 6–13, leaving the midrib at about 45°, prominent above; leaflets (2–) 3, elliptic to obovate-elliptic, upper leaflets cuneate at base, subacute, obtuse or rounded at apex, sparingly pilose or pubescent on midrib and nerves beneath; fruits 1.8–2 cm. long, valves 2.2–2.5 cm. wide and 2.5–3 mm. thick; inflorescence up to 20 cm. long [3. kerstingii](#)
- 4 Branchlets and rhachides with long weak pilose hairs, often dense; fruits pilose then partially glabrescent outside; leaflets (3–) 4–5 pairs, elliptic, elliptic-oblongate or obovate-elliptic, distinctly acuminate, midrib sparingly pilose or pubescent beneath; racemes up to 35 cm. long [4. racemosum](#)
Branchlets and rhachides shortly pubescent; leaflets 2–4 pairs, the uppermost pair the largest, more or less elliptic, usually cuneate at base and acuminate at apex, glabrous or sparingly pubescent on midrib beneath; racemes up to 9 cm long: **5**
- 5 Fruits densely covered with pungent bristles, then partially glabrescent, outside; branchlets, leaves and

inflorescence-axes sometimes with scattered pungent bristles *5. pungens* var. *pungens*

Fruits shortly pubescent; pungent bristles absent 5a. *pungens* var. *inermis*

1. **Eriocoelum macrocarpum** *Gilg ex Engl.* Pflanzenw. Afr. 3, 2: 284 (1921); Radlk. in Engl. Pflanzenr. Sapindac. 1155; not of Chev. Bot. 154. *APD acc*

Eriocoelum racemosum of F.W.T.A., ed. 1, 1: 502, partly (syn. *E. macrocarpum* Gilg, only).

Eriocoelum kerstingii of F.W.T.A., ed. 1, 1: 502, partly (Leslie 34 ex S. Nig., only); of Kennedy For. Fl. S. Nig. 184.

A forest tree, to 80 ft. high; flowers whitish; fruits hard, brown and shining when ripe; seeds black, shiny, each with a red aril.

S. Nig.: Benin Prov. (fr. Nov.) Ejiofor FHI 24670! Sapoba Kennedy 1676! 2094! 2316! Usonigbe F.R. (fr. Nov.) Keay FHI 25569! Warifi, Jekri-Sobo Dist. (fr. Sept.) Onochie FHI 34319! Asaba Leslie 34! **Br. Cam.:** Victoria (fl. Apr., Oct., fr. Dec.) Maitland 101! 622! 670! Winkler 520. Also in **French Cameroons**, **Spanish Guinea**, Gabon and Belgian Congo; also (?) Cabinda (see. Consp Fl. Angol. 2: 90).

2. **Eriocoelum oblongum** *Keay* in Bull. Jard. Bot. Brux. 26: 200, fig. 62 (1956). *APD acc*

A forest tree, to 80 ft. high; slash dark red.

S. Nig.: along the rivers, Eket Dist. Talbot 3051! 3246! Aboabam-Arrimakpan path, Afi River F.R., Ikom Div. (fr. Dec.) Keay FHI 28219!

3. **Eriocoelum kerstingii** *Gilg ex Engl.* l.c. 282, fig. 136 (1921); Radlk. l.c. 1153, fig. 34; Aubrév. Fl. For. C. Iv. 2: 186; Aubrév. Fl. For. Soud.-Guin. 386; not of Kennedy l.c. *APD acc*

(?) **Eriocoelum paniculatum** of Chev. Bot. 154.

Eriocoelum racemosum of Chev. Bot. 154, partly (Chev. 24324).

A tree 10–50 ft. high; flowers white, in rusty panicles or racemes; mainly in streamside forests of the savannah regions.

Port. G.: Copa to Sintcham Mabel, Gabu (Nov.) Esp. Santo 3165! **Fr. G.:** Farana (fr. Mar.) Sc. Elliot 5234! Kakrima Valley Pobéguin 2061. Labé Chev. 12317. Kindia Chev. 13387. Dalaba to Diaguissa Chev. 20335. **Lib.:** Tappita (fr. Aug.) Baldwin 9036! Mecca, Boporo (fr. Nov.) Baldwin 10395! Ganta (Mar.) Harley 1123! **Iv. C.:** Niangbo Aubrév 1713. Ferkéssédougou Aubrév. 2733. **G. C.:** Bonsa Su (May) Vigne FH 1988! **Togo:** Okou Aubrév. 101d. Sokode (fr. Dec.) Kersting A. 257! Sokode-Basari (fl. Nov., Dec., fr. Feb., Mar.) Kersting A. 518! Kadjakpe, Hohoe Dist. (Nov.) St. C. Thompson FH 3673! And other localities fide Radlk. l.c. **Dah.:** Konkobiri (fr. July) Chev. 24324! **N. Nig.:** Naraguta (fl. & fr. Dec.) Lely 734! Kafanchan (fl. Jan., fr. Feb.) Onyeagocha FHI 7626! Thornewill! **Br. Cam.:** Bamenda Prov.: Esu (fr. Feb.) Johnstone 39/31! Nfome (fr. May) FHI 313! 9284!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Belgian Congo** and **Uganda**

4. **Eriocoelum racemosum** *Bak.* in F.T.A. 1: 427 (1868); (?) Chev. Bot. 154, partly; F.W.T.A., ed. 1, 1: 502, partly; Radlk. l.c. 1152. *APD acc*

Eriocoelum pendulum *Stapf* (1905) — Radlk. l.c.

A lax tree 15–30 ft. high, in forest; flowers white in long pendulous racemes; ripe fruits yellow.

S. L.: Afzelius! Bagroo R. (Apr.) Mann 807! Hill Station (fl. & fr. May) Deighton 2982! Panguma (Apr.) Lane-Poole 99! Falaba (Apr.) Aylmer 50! **Lib.:** Monrovia Whyte! Kakatown Whyte! Gbanga (Sept.) Linder 599! Brewerville (fl. & fr. Mar.) Barker 1232! Mecca, Grand Cape Mount (fr. Dec.) Baldwin 10840! **G. C.:** Bonsa Su (fl. & fr. May) Vigne FH 1988!

5. **Eriocoelum pungens** *Radlk. ex Engl.* var. **pungens** — l.c. 282 (1921); Radlk. l.c. 1152. *APD acc APD acc*

Eriocoelum macrocarpum of Chev. Bot. 154.

Eriocoelum racemosum of F.W.T.A., ed. 1, 1: 502, partly; of Aubrév. Fl. For. C. Iv. 2: 186, t. 198.

A spreading shrub or small tree, to 35 ft. high; flowers white; ripe fruits orange; in forest, often in moist places.

Lib.: Beiden, Boporo (fr. Nov.) Baldwin 10266a! Zuie, Boporo (fr. Dec.) Baldwin 10690! Dukwia R. (fr. Nov.) Cooper 145! **Iv. C.:** Bingerville, Abidjan & Dabou Chev. 15236! Banco Aubrév. 1483! **G. C.:** Amameakrom, Tano R. (fl. & fr. Sept.) Chipp 373! Axim (fr. Feb.) Irvine 2372! Bonsa R. (Aug.) Vigne FH 133!

5a. *Eriocoelum pungens* var. *inermis* Keay l.c. 202 (1956). *APD acc*

S. Nig.: Degema Dist. Talbot 3644! Eket Dist. Talbot 3199! 3296b! 3369!

***Eriocoelum* sp.** See Mildbr. Wiss. Ergebn. 1910–11: 186 (1922); specimen not traced.

F. Po: 3,500–4,500 ft. Mildbr. 6409.

Imperfectly known species.

16. DODONAEA

Mill. — F.T.A. 1: 433; Radlk. in Engl. Pflanzenr. Sapindac. 1350 (1933).

- 1** A viscid shrub or small tree; branchlets angular, not hairy; leaves simple, subsessile, oblanceolate, narrowed to the base, obtusely apiculate, 7–12 cm. long, 2–3.5 cm. broad, thin, glabrous, with numerous spreading lateral nerves; flowers unisexual or polygamous in small terminal panicles or subracemose; pedicels slender, up to 1.5 cm. long in fruit; petals absent; stamens 5–8; fruit suborbicular, deeply emarginate, 2- or more-winged, up to 3 cm. diam; wings membranous, reticulate [viscosa](#)

***Dodonaea viscosa* Jacq.** Enum. Syst. Pl. Ins. Carib. 19 (1760); F.T.A. 1: 433; Chev. Bot. 154; Radlk. l.c. 1363 (q.v. for infraspecific variants); Aubrév. Fl. For. C. Iv. 2: 180, t. 195, 7–10. *APD acc*

***Ptelea viscosa* Linn.** (1753).

***Dodonaea repanda* Schum. & Thonn.** (1827).

A plant of **sandy coastal areas**; at least one other form is commonly grown as a hedge plant inland.

Sen.: Heudelot! Sieber 54! Cape Verde Brunner! Dakar (fl. & fr. Apr.) Hagerup 8! **Gam.:** Dawe 39! Don! **Fr. Sud.:** Niayes (Dec.) Chev. 3030! **Fr. G.:** Conakry Debeaux! **S. L.:** Yele, Turtle Isl. (fl. & fr. Nov.) Deighton 2329! Bawbaw (fr. May) Deighton 2693! **Lib.:** Monrovia (fr. Nov.) Whyte! Baldwin 1421! Grand Cess (fr. Mar.) Baldwin 11620! **Iv. C.:** Sassandra Port Chev. 17931. Bliéron Chev. 19911. Tabou Chev. 19928. **G. C.:** Tarkwa (fr. June) Andoh FH 5529! **Togo:** Lome Warnecke 206! **N. Nig.:** Ilorin J. E. Taylor! **S. Nig.:** Lagos (July, Aug.) Dalz. 1011! 1272! Eket Talbot!

Widespread in tropical and subtropical regions.

17. ZANHA

Hiern in Cat. Welw. 1: 128 (1896); Radlk. in Engl. Pflanzenr. Sapindac. 1420 (1933).

***Talsiopsis* Radlk.** (1907)

- 1** Branchlets glabrous; leaflets about 3–4 pairs, subalternate, ovate or oblong, slightly cuneate at base, obtusely acuminate, 4–9 cm long, 2.5–3.5 cm. broad, glabrous; rhachis glabrous; flowers numerous in dense head-like cymes clustered at the apex of the branchlets; peduncle puberulous; sepals ovate; ovary 2-celled, glabrous; fruit 1-celled, indehiscent, ellipsoid, apiculate, 2 cm. long, wrinkled when dry [golungensis](#)

***Zanha golungensis* Hiern** l.c. (1896); Radlk. l.c. 1421; Aubrév. Fl. For. Soud.-Guin. 390, t. 82, 1–2
***Talsiopsis oliviformis* Radlk.** (1907). *APD acc*

***Zanha vuilletii* A. Chev.** in Bull. Mus. Hist. Nat. sér. 2, 5: 157 (1933); Radlk. l.c. 1421.

A tree 20–70 ft. high, with a dense crown of dark shining deciduous foliage; bark sometimes orange; flowers dioecious, greenish white, produced when trees are in young leaf or leafless; ripe fruits orange; **usually in streamside forest in the savannah regions.**

Fr. Sud.: Koulouba Plateau, Bamako (young fr. June) Chev. 25988; Vuillet 2909. Kita Jaeger 3! **Iv. C.:** Ferkéssédougou Aubrév. 2286. Niangbo Aubrév. 1712. Oumé Aubrév. 1262. **G. C.:** Gambaga (fr. June) Akpabla 709! **Togo:** Aledjo Kadara Kersting A. 548a! Woagbun Mts. Kersting A. 548! And other localities fide Radlk. l.c. **Dah.:** Birni Aubrév. 98d. Bassila Chev. 23797. **N. Nig.:** Anara F.R., Zaria Prov. (fr. May) Keay FHI 22892! 22911! Fatika, Zaria Prov. (fr. May) Daggash FHI 31428! **S. Nig.:** 10 miles E. of Shepeteri, Oyo Prov. (Feb.) Keay FHI 22518!

Extends to A.-E. **Sudan**, East and Central Africa and **Angola**

18. MAJIDEA

J. Kirk ex Oliv. in Hook. Ic. Pl. t. 1097 (1871); Radlk. in Engl. Pflanzenr. Sapindac. 1462 (1934).

- 1 Branchlets puberulous; leaflets alternate, 5–11 pairs, sessile, oblong, obtusely acuminate, 6–9 cm. long 2–3.5 cm. broad, glabrous; flowers in dense terminal panicles; sepals tomentellous; stamens glabrous within the large fleshy disk; fruits very broadly turbinate, about 4.5 cm. wide, puberulous, thin, opening into the cells; seeds bluish, ellipsoid, softly tomentellous, 1.5 cm. long[fosteri](#)

Majidea fosteri (*Sprague*) Radlk. in Engl. Bot. Jahrb. 56: 255 (1920); Pflanzenr. Sapindac. 1463; Aubrév. Fl. For. C. Iv. 2: 198, t. 203. *APD acc*

Harpullia fosteri *Sprague* in Kew Bull. 1908: 433; F.W.T.A., ed. 1, 1: 502.

H. multijuga Radlk. (1912).

Majidea multijuga (Radlk.) Radlk. (1920).

Anoumabia cyanosperma A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 148 (1912); Chev. Bot. 155.

Majidea cyanosperma (A. Chev.) Radlk. (1920).

A forest tree, up to 100 ft. or more high, with angled branchlets; calyx yellowish, disk red, anthers pink; fruits brownish outside, pink within; seeds blue.

IV. C.: Anoumaba (Nov.) Chev. 22413. Bouroukrou Chev. 16950. Sahoua to Bangouanou (fl. & fr. Nov.) Chev. 22443! **G. C.:** Koforidua (fl. & fr. Mar.) Brown FH 2210! Berekm, Ashanti (Sept.) Vigne FH 2519! Kumasi (fl. & young fr. Mar.) Vigne FH 1636! Akwapim Ridge, Mampong (fl. & fr. Feb.) Irvine 1506! **S. Nig.:** Ilaro (fr. June) Onochie FHI 8190! Olokemeji (fl. & young fr. Mar.) Foster 49! Okomu F.R. Brenan 8821! **Br. Cam.:** Victoria (Feb.) Maitland 386! Tombel (Feb.) Forteh FHI 9288!

Also in **French Cameroons**, **Belgian Congo**, **A.-E. Sudan** and **Uganda**.

MELIANTHACEAE

Shrubs or small trees. Leaves alternate, pinnate, stipulate; stipules intrapetiolar, often large. Flowers hermaphrodite, rarely unisexual, racemose, zygomorphic. Calyx of 5 unequal segments, imbricate. Petals 5, free, subperigynous, clawed, unequal. Disk unilateral or annular, lining the inside of the calyx. Stamens 4–6, inserted within the disk, free or variously connate, often declinate; anthers 2-celled, opening lengthwise. Ovary 4–5-celled, superior; style central, dentate or truncate; ovules 1–4 in each cell, axile. Fruit a papery or woody capsule, loculicidally 4–5-valved or opening only at the apex. Seeds with copious endosperm and straight embryo.

Confined to Africa

Recognized by the pinnate leaves and intrapetiolar stipules, subperigynous petals, unilateral or annular disk, and seeds with copious endosperm.

BERSAMA

Fres. — F.T.A. 1: 433; Verdcourt in Kew Bull. 1950: 233. *APD acc*

- 1 Leaflets glabrous beneath or pubescent only on the midrib, 0.8–7.5 cm. broad, with 6–13 main lateral nerves on each side of midrib; pedicels 5–7 mm. long; sepals oblong, rounded at apex, 4–5 mm. long; fruits subglobose, 2–3 cm. diam.:2
- Leaflets densely pubescent or pilose beneath, 5.2–10 cm. broad, with 12–20 main lateral nerves on each side of midrib; pedicels 1 cm. long or more; leaflets oblong to oblong-lanceolate or elliptic, margins subentire:4
- 2 Leaflets (3–) 6–9 pairs, ovate to elliptic-lanceolate, thin or coriaceous, glabrous or pubescent, margins usually dentate, 0.8–5 (–7) cm. broad:3
- Leaflets 3–5 (–7) pairs, more or less obovate-oblong, thin and shining, quite glabrous, margins sometimes dentate, 6.5–23.5 cm. long, 3.2–7.5 cm. broad[2. acutidens](#)
- 3 Sepals sparingly appressed-pubescent; inflorescence 12–25 cm. long, axis and pedicels sparingly pubescent; leaflets thin, drying dark green or brownish, (3–) 6–9 pairs, 2.5–13 (–23) cm. long, 0.8–5 (–7) cm. broad[1. abyssinca subsp. paullinioides var. paullinioides](#)

Sepals densely pubescent; inflorescence 30–40 cm. long, axis and pedicels densely shaggy-pubescent; leaflets coriaceous, drying pale green or greyish, (3–) 6–7 pairs, 1.5–9.5 cm. long, 0.8–3 cm. broad [1a. abyssinica subsp. paullinioides var. engleriana](#)

- 4 Leaflets about 8 pairs, densely and softly pubescent beneath, 8–18 cm. long, 5.2–8.3 cm. broad; flowers not known; infructescence erect, about 40 cm. long, axis and pedicels tomentellous; pedicels 2.5 cm. long in fruit; fruits 4–5-gonous [3a. maxima var. a](#)

Leaflets about 5 pairs, densely pilose beneath, 15–27 cm. long, 7.5–10 cm. broad; inflorescence about 70 cm. long, axis and pedicels densely villous; pedicels about 1 cm. long; bracts about 2 cm. long; sepals acute, about 8 mm. long, villous; fruits not known [3b. maxima var. b](#)

1. **Bersama abyssinica subsp. paullinioides (Planch.) Verdcourt var. paullinioides** — in Kew Bull. 1950: 237, partly, excl. syn. *B. maxima* Bak.; Exell & Mendonca in Consp. Fl. Ang. 2: 93. *APD acc*

Natalia paullinioides Planch. (1849).

Bersama paullinioides (Planch.) Bak. in F.T.A. 1: 435 (1868); Chev. Bot. 155; F.W.T.A., ed. 1, 1: 505; Aubrév. Fl. For. C. Iv. 2: 204, t. 207, 1–6.

Bersama leiostegia Stapf (1905).

Bersama preussii Bak. f. (1907).

Bersama lubulata Sprague & Hutch. (1913).

Bersama pachythyrsa v. Brehm. (1917).

Bersama bolamensis v. Brehm. (1917).

Bersama subulata Hutch. & Dalz. F.W.T.A., ed. 1, 1: 506 (q.v. for the aforementioned synonyms also); Kew Bull. 1929: 27.

Bersama chippii Sprague & Hutch. (1913), name only.

A tree, up to 50 ft. high, with white flowers and red capsular fruits, velvety outside, containing red arillate seeds; leaf-rhachides winged or not; [in lowland and montane forest](#).

Port. G.: Cubisseque (fr. Feb.) Esp. Santo 2378! Fulacunda (May) Esp. Santo 2036! Bolama Rodrigues 116. **Fr. G.:** Ditinn Chev. 12704. Kouria Chev. 18261. Koundian Chev. 20741. **S. L.:** T. Vogel 99! Leicester Peak Barter! Mt. Aureol (June) Lane-Poole 258! Njala (fl. June, July, fr. Jan.) Dalz. 8073! Deighton 1751! Lowoma, Nomo (fr. Mar.) Deighton 4113! Rowala (July) Thomas 1177! **Lib.:** Sinoe Basin Whyte!. Dukwia R. (May) Cooper 451! Sanokwele (fr. Sept., Oct.) Baldwin 9494! 9634! **Iv. C.:** various localities fide Aubrév. l.c. **G. C.:** Esuasú (May) Chipp 217! Asientiem (fr. July) Chipp 288! Nyankumasi, Cape Coast (Apr.) Andoh FH 5486! Simpa (fr. May) Vigne FH 1961! Aboisso (Aug.) Vigne 224! **Togo:** Akgosso Forest, Atakpame (May) Doering 280. **S. Nig.:** Oban Talbot 147! 1376! **Br. Cam.:** Preuss 408! Bamenda Prov.: Lakom, 6,000 ft. (May) Maitland 1377! 1490! L. Oku, 6,500 ft. (fl. & fr. Jan.) Keay FHI 28516! 28518! Bali-Ngamba F.R., 5,200 ft. (June) Tiku FHI 30413! **F. Po:** 1,000 ft. (Dec.) Mann 641!

Widespread in tropical Africa.

1a. **Bersama abyssinica subsp. paullinioides var. engleriana (Gürke) Verdcourt** in Kew Bull. 1955: 600 (1956).

Bersama engleriana Gürke in Engl. Bot. Jahrb. 14: 307 (1891).

A tree with spikes of pink and white flowers and brown capsule containing 4 red seeds with yellow arils; leaf-rhachides slightly winged.

N. Nig.: near Jos (fl. Feb., Mar., fr. Feb.) Batten-Poole 271! Kennedy FHI 1194! Lely P. 156!

Also widespread in eastern Africa.

2. **Bersama acutidens Welw. ex Hiern** Cat. Welw. 1: 173 (1896); Verdcourt l.c. 243; Exell & Mendonça l.c. 94. *APD acc*

A small tree, to 20 ft. high; leaf-rhachides winged or not; fruits pink; [in rain forest](#).

S. Nig.: Aboabam to Arrimakpan, Ikom Div. (fr. Dec.) Keay FHI 28215! **Br. Cam.:** Kembong F.R., Mamfe Div. Onochie FHI 31186!

Also in [Angola](#) and (?) [Rhodesia](#).

3. **Bersama maxima Bak.** in F.T.A. 1: 434 (1868); Exell & Mendonça l.c. 94. *APD acc*

Our specimens do not agree exactly with the type from Gabon and are provisionally left as varieties:

3a. **Bersama maxima var. a**

A tree 12 ft. high, with erect infructescences held above the large whorled leaves; fruits dull brownish red; seeds bright red; leaf-rhachides slightly winged.

Br. Cam.: Sabga Pass, Bamenda (fr. Jan.) Keay FHI 28426!

This plant is placed by Verdcourt between his varieties D and E of *B. abyssinica* subsp. *paullinioides*; see Kew Bull. 1950: 241–2.

3b. *Bersama maxima* var. *β* *APD acc*

A small tree 4 ft. high, with white flowers and large leaves; leaf-rhachides winged.

Br. Cam.: Abonando, Mamfe Rudatis 68! Mbatu stream, Nkambe, Bamenda Prov. (Sept.) Ujor FHI 30230!

Although the five taxa distinguished above seem to be quite distinct from one another, they are parts of a very difficult and variable complex which occurs throughout tropical Africa. Much careful field study is needed before any real progress can be made in elucidating the genus.

ANACARDIACEAE

Trees or shrubs, often with resinous bark. Leaves alternate, very rarely opposite, simple or compound; stipules absent, very rarely present but obscure. Flowers hermaphrodite or unisexual, mostly actinomorphic. Calyx variously divided, sometimes semi-superior in fruit. Petals 3–7 or absent, free or rarely connate and adnate to the torus. Disk present. Stamens often double the number of the petals, rarely equal or numerous or only one fertile; filaments free among themselves; anthers 2-celled, opening lengthwise. Ovary superior, 1-celled, rarely 2–5-celled, or very rarely carpels free; styles 1–5, often widely separated; ovules solitary, pendulous from the apex or adnate to the ovary wall, or pendulous from a basal funicle. Fruit mostly drupaceous. Seeds without or with very thin endosperm; cotyledons fleshy.

Mainly a tropical family, and fairly abundant in tropical and South Africa.

Bark usually resinous.

- | | | |
|----|--|----------------------------------|
| 1 | Leaves simple; petals imbricate; ovary 1-celled:..... | 2 |
| | Leaves compound, rarely 1-foliolate: | 5 |
| 2 | Leaves glabrous; styles 1; only 1 or 2 stamens fertile | 3 |
| | Leaves hairy; styles 3; flowers 5-merous; stamens 5 or 10, all fertile | 13. Heeria |
| 3 | Receptacle and pedicel not markedly swollen in fruit; drupe ellipsoid; flowers (4–) 5-merous; sepals free to the base; fertile stamens 1–2, staminodes 4–3 | 1. Mangifera |
| | Receptacle and pedicel markedly swollen in fruit; drupe obliquely reniform; fertile stamens 1: | 4 |
| 4 | Flowers 5-merous; sepals united only near the base; staminodes several, well-developed | 2. Anacardium |
| | Flowers 4-merous; sepals united for half their length; staminodes 1–2, very small | 3. Fegimanra |
| 5 | Leaves pinnate, usually 5- or more-foliolate: | 6 |
| | Leaves 3-foliolate; flowers 5-merous; petals 5, imbricate; styles 3 | 14. Rhus |
| 6 | Petals valvate:..... | 7 |
| | Petals imbricate: | 10 |
| 7 | Styles 3–5, free or connate just at base, or sessile stigmas 3: | 8 |
| | Styles 1, shortly lobed at apex; ovary 1-celled; flowers usually 5-merous; stamens 10–20, rarely 5 in hermaphrodite flowers; leaflets with a distinct marginal nerve; see also below | 12. Sorindeia |
| 8 | Ovary and fruit normally 5-celled; styles (4–) 5; flowers (4–) 5-merous; stamens (8–) 10:..... | 9 |
| | Ovary 1-celled; styles 3, or sessile stigmas 3; flowers 4–(5)-merous; stamens 4 (–5); leaflets without a marginal nerve | 11. Trichoscypha |
| 9 | Drupe ovoid, not lobulate; leaflets with a distinct intramarginal nerve | 4. Spondias |
| | Drupe depressed, 5-lobulate; leaflets without an intramarginal nerve | 5. Antrocaryon |
| 10 | Styles (2–) 3–4: | 11 |
| | Styles 1:..... | 13 |
| 11 | Sepals free; indumentum simple; fruits 1–3-seeded: | 12 |

- Sepals united; indumentum stellate, at least in part; fruits 1-seeded; flowers 4-merous; stamens 8 [9. *Lannea*](#)
- 12** Flowers polygamous, 4-merous; drupes 2–3-seeded; stamens 12–16 (–26); anthers long [7. *Sclerocarya*](#)
- Flowers dioecious, 3–4 (–5)-merous; drupes 1 (–2)-seeded; stamens 6–8 (–10); anthers rounded [8. *Pseudospondias*](#)
- 13** Flowers 3-merous; ovary 1-celled; calyx distinctly lobed; stamens 6 [10. *Haematostaphis*](#)
- Flowers 4–5-merous; calyx campanulate, subtruncate to distinctly lobed:..... **14**
- 14** Ovary 4-celled, all cells fertile; flowers 4-merous; stamens 4 long and 4 short; leaflets 19–43 . [6. *Nothospondias*](#)
- Ovary 1-celled; flowers usually 5–merous; stamens 10–20, rarely 5 in hermaphrodite flowers; leaflets 1–9; see also above [12. *Sorindeia*](#)

Schinus molle *Linn.*

A native of tropical America, it has been introduced into our area.

S. terebinthifolius *Raddi*

A native of tropical America, it has been introduced into our area.

1. MANGIFERA

Linn. — F.T.A. 1: 442.

- 1** Branchlets glabrous; leaves oblong-lanceolate, cuneate at base, acutely acuminate, 10–25 cm. long, 3–4.5 cm. broad, glabrous, closely reticulate on both surfaces, with numerous spreading looped lateral nerves; petiole 2–4 cm. long; flowers small, polygamous or dioecious, in terminal pyramidal panicles nearly as long as the leaves; pedicels and sepals pubescent; petals glabrous; fruit obliquely ovoid, up to 15 cm. long, with a leathery rind and fibrous stone [indica](#)

Mangifera indica *Linn.* — F.T.A. 1: 442; Chev. Bot. 155. *APD acc*

The Common Mango, [widely cultivated but here and there well established in secondary bush.](#)

Native of India, now grown throughout the tropics.

2. ANACARDIUM

Linn. Sp. Pl. 1: 383 (1753); F.T.A. 1: 443. *APD acc*

- 1** Branchlets angular, glabrous; leaves simple, obovate or oblong-obovate, cuneate at base, rounded or truncate at apex, 8–15 cm. long, 5–10 cm. broad, papery, glabrous, closely reticulate, with 10–15 pairs of spreading lateral nerves prominent beneath; petiole up to 2 cm. long, flat above; flowers polygamous in lax terminal panicles; bracts large, enfolding the flowers, ovate, acuminate, softly puberulous; petals 5, linear; stamens 10, usually only some bearing anthers; fruit a kidney-shaped nut supported by a large pear-shaped enlarged receptacle and stalk [occidentale](#)

Anacardium occidentale *Linn.* — F.T.A. 1: 443; Chev. Bot. 156. *APD acc*

The Cashew [tree widely cultivated and commonly naturalized in the bush, chiefly in coastal districts.](#)

Native of tropical America, now grown throughout the tropics.

3. FEGIMANRA

Pierre Fl. For. Cochinch. sub t. 263 (1892); Engl. Bot. Jahrb. 36: 213 (1905).

- 1** Leaves obovate-elliptic, rounded at apex, shortly narrowed into the petiole at base, 10–15 cm. long, 5–8 cm. broad, the midrib and 8–10 pairs of lateral nerves nearly equally prominent on both surfaces, shining above, glabrous, rigid; petiole subterete, 1.5–2.5 cm. long; panicle terminal, very lax and wide, 30–70 cm. long, with rather long lateral branches each with puberulous cymules of puberulous flowers at the ends; fruits drupaceous, obliquely reniform, subtended by a cupular growth of the floral axis [1. *afzelii*](#)

Leaves elongate-oblongate, gradually acutely acuminate, very gradually narrowed into the petiole at base, 5–16 cm. long, 1·8–3·5 cm. broad, the midrib and 15–24 pairs of lateral nerves nearly equally prominent on both surfaces, paler beneath, glabrous, rigid; also with a few much smaller leaves; petiole angular, 0·3–3 cm. long; panicle puberulous, terminal, rather dense, up to 8·5 cm. long, with lateral branches up to 5 cm. long[2. acuminatissima](#)

1. **Fegimanra afzelii** *Engl.* Bot. Jahrb. 36: 214 (1905); Chev. Bot. 156; Aubrév Fl. For. Soud.-Guin. 415, t. 89, 5–6. *APD acc*

A glabrous shrub or tree; flowers white or reddish; ripe fruits red; [in rocky places](#).

Fr. G.: Farmar 314! Pita Pobéguin 2303. Lanfomé Pobéguin 908. Kindia Cochet 63. Bakaro Maclaud 405. Labé Chev. 12230. **S. L.:** Afzelius.

2. **Fegimanra acuminatissima** *Keay* in Bull. Jard. Bot. Brux 26: 202 (1956). *APD acc*

A shrub or tree, to 20 ft. high; flowers white.

S. L.: on sand by lake shore, Mano Bonjema (Jan.) Deighton 5309! **Lib.:** Brewersville (Dec.) Baldwin 10978! In swamp, Monrovia (Jan.) Barker 1199!

4. SPONDIAS

Linn. — F.T.A. 1: 447.

- 1 Branchlets glabrous or puberulous; leaves pinnate with an odd terminal leaflet; leaflets 5–8 pairs, opposite, oblong or oblong-lanceolate, very unequal-sided at base, obtusely and broadly acuminate, 5–10 cm. long, 2–5 cm. broad, glabrous or puberulous, with a strong intramarginal nerve; flowers small, polygamous, in lax terminal panicles; pedicels 3 mm. long, glabrous; sepals very small; petals valvate, oblong-elliptic, 2·5 mm. long; stamens 8–10, filaments slender; fruit ovoid, 3–3·5 cm. long, wrinkled when dry[mombin](#)

Spondias mombin *Linn.* Sp. Pl. 1: 371 (1753); Aubrév. Fl. For. C. Iv. 2: 174, t. 193, 1–8; Fl. For. Soud.-Guin. 403. *APD acc*

Spondias lutea *Linn.* (1762) — F.T.A. 1: 448; Chev. Bot. 156.

Spondias dubia *A. Rich.* (1831).

Spondias oghigee *G. Don* (1832).

A deciduous tree, to 60 ft. high, with large panicles of small white flowers and yellow plum-like fruits; bark thick, with longitudinal fissures. [Widespread and common in farmland, regrowth and villages, especially in the forest regions, but also in the savannah regions](#), usually thought to be an ancient introduction from America, but possibly native in W. Africa.

Sen.: Sieber 50! Baol, Thiès Chev. 3514 **Gam.:** D. H. Saunders 46! Pakala F. R., Ningkom (June) Pitt 654! **Fr. Sud.:** Bongouri (Apr.) Chev. 691! Djenné (July) Chev. 1144! Bamako (May) Hagerup 54! **Port. G.:** Boi (July) Esp. Santo 2! Pussubé (Apr.) Esp. Santo 1175! **Fr. G.:** Labé, Timbo & Diaguissa fide Chev. l. c. **S. L.:** Don! Bunce Isl. (Mar.) Kirk! Regent (Apr.) Sc. Elliot 5750! Falaba (Mar.) Sc. Elliot 5214! Mano (Apr.) Deighton 1133! Musaia (Apr.) Deighton 5412! **Lib.:** Sinoe Basin Whyte! Nyaake, Webo (June) Baldwin 6204! Tappita (fr. Aug.) Baldwin 9067! Harbel (Dec.) Bequaert 15! **Iv. C.:** Bouaké (fr. July) Fleury in Hb. Chev. 22082! And other localities fide Chev l.c. **G. C.:** Esubompang (Jan.) Chipp 78! Axim Chipp 24! Nsawam (Feb., Mar.) Dalz 8298! Irvine 1805! E. Akim Johnson 916! Kumasi (Apr.) Kitson 648! **Togo:** Lome Warnecke 321! Basari (fl. Mar., fr. Apr.) Kersting 93! A. 329! **Dah.:** Cabolé to Bassilia Chev. 23775. **N. Nig.:** Lokoja (Mar.) Elliott 43! Katagum Dalz. 338! Abinsi (Jan.) Dalz. 912! **S. Nig.:** Lagos Foster 44! Ogbomosho Barter 3410! Onitsha Dist. (Feb.) Rosevear 13/29! Cross R. (Mar.) McLeod! Oban Talbot 1728! **Br. Cam.:** Ambas Bay (Jan.) Mann 706!

Also in French Cameroons, Gabon, [Belgian Congo](#), A. -E. [Sudan](#), [Angola](#), Annobon and S Tomé, all possibly by introduction; and in West Indies and tropical America. (See Appendix, p 341)

Spondias purpurea *Linn.*

Creole name, “Gambia Plum”

A native of tropical America, it has been introduced to Sierra Leone and other parts of our area.

Spondias cytherea *Sonner*

Creole name, “English Plum”

A native of tropical Asia, it has been introduced to Sierra Leone and other parts of our area.

5. ANTROCARYON

Pierre in Bull. Soc. Linn. Paris, nouv. sér. 2: 23 (1898). *APD acc*

- 1 Leaves glabrous, leaflets with 10–12 rather faint lateral nerves on each side of midrib; central “stone” of fruit 2–2.5 cm diam., 1.2–1.4 cm. high; leaflets 5–8 opposite pairs, plus the terminal one, lateral leaflets oblong, rounded and unequal-sided at base, gradually acuminate, 6–15 cm. long, 2.5–4.5 cm. broad; flowers polygamous, small, in puberulous panicles *1. klaineum*

Leaves pubescent, usually densely so when young, leaflets with 20–24 conspicuous lateral nerves on each side of midrib; central “stone” of fruit 3.3–4.4 cm. diam., about 3 cm high; leaflets (5–) 8–10 opposite or subopposite pairs, plus the terminal one; lateral leaflets oblong or ovate oblong, rounded or subcordate and unequal-sided at base, gradually acuminate, 6–10 (–15) cm. long, 2–4.5 (–6) cm. broad, flowers similar to above .. *2. micraster*

1. *Antrocaryon klaineum* *Pierre* in Bull. Soc. Linn. Paris, nouv. sér 2: 24 (1898); Engl. Pflanzenw. Afr. 3, 2 178, fig. 87, A–K *APD acc*

Spondias soyauxii Engl. Bot. Jahrb. 36: 215 (1905).

Antrocaryon soyauxii (Engl.) Engl. Pflanzenw. Afr. 3, 2: 178, fig. 87, N–Q (1921); Exell & Mendonça Consp. Fl. Ang 2: 127.

A large forest tree.

S. Nig.: Aboabam to Arrimakpan, Afi River F.R., Ikom Div. Keay! **F. Po:** Bokoko Mildbr 6925. Also in Gabon and Cabinda.

- 2 *Antrocaryon micraster* *A. Chev. & Guillaum.* in Bull. Soc. Bot. Fr. 57, Mém. 8: 152 (1910); Aubrév Fl. For. C. Iv. 2: 174, t. 194; A. W. Hill in Ann. Bot. n.s. 1: 249, fig. 11, 1–6. *APD acc*

A polyneurum Mildbr. ex Kennedy For. Fl. S. Nig. 187 (1936),

English descr. only. A forest tree, to 150 ft. high, with cylindrical bole and only slight buttresses, slash red and white streaked, resinous, leaves crowded at ends of branches, deciduous; flowers greenish-white

S. L.: Njala Deighton 3089! Kambul Hills, Koya Small 859! Tonkoli F.R. (fr. June) Small 929! **Iv. C.:** Agboville Chev. 22336! Yahou to Ahiamé (Mar.) Chev. 17810 Abidjan Aubrév 14! Banco Aubrév. 398! **G. C.:** Owabi (fl. Mar., fr. Apr.) Andoh FH 4183! 4313! Ejian (Apr.) Vigne FH 1102! **S. Nig.:** Okomu F. R., Benin (Mar.) A. F. Ross 196! Sapoba, Benin (fl May, fr. May, June) Kennedy 1131! 1663! 1988! 2074! 2170!

Also in French Cameroons, Belgian Congo and Uganda

6. NOTHOSPONDIAS

Engl. Bot. Jahrb. 36: 216 (1905)

- 1 Branchlets puberulous; leaves imparipinnate; leaflets 19–43, opposite or alternate, obliquely oblong-elliptic, obtusely acuminate, very unequal-sided at the base, 10–16 cm. long, 4–6.5 cm. broad, glabrous, with about 6 pairs of prominently looped lateral nerves; petiolules about 5 mm. long; flowers polygamous in lax terminal panicles, clustered; pedicels up to 5 mm. long, shortly pubescent; calyx campanulate, shortly dentate, 1.5 mm. long; petals 6 mm. long, glabrous, slightly imbricate; stamens 8; ovary sparingly pilose, 4-celled; style short. *staudtii*

Nothospondias staudtii Engl. l.c. 217 (1905). *APD acc*

Nothospondias talbotii S. Moore (1913).

An understorey forest tree, to 80 ft. high with spreading crown whose branches become more or less erect and bear at their tops whorls of large leaves; fruits yellow when ripe, plum-like, ovoid-ellipsoid, 4.5 cm. long and 3 cm. broad in Cameroons, but only 2 cm. long and 1.5 cm. broad in Gambari Group F.R., western Nigeria

S. Nig.: Gambari Group F. R., (fr. Feb. Apr.) Keay FHI 22811! Jones & Keay FHI 4898! Oban Talbot 230! **Br. Cam.:** Amba Bay (Dec.) Mann 2148! Victoria (fr. Apr.) Maitland 073! Elephant Lake, Kumba (Nov.) Staudt 746!

7. SCLEROCARYA

Hochst. — F.T.A. 1: 449.

- 1 Branchlets stout, scarred; leaves mostly in a bunch at the end, pinnate; leaflets opposite or subopposite, 7–10 pairs, elliptic or obovate, shortly cuneate at base, very acute at apex, about 3·5 cm. long and 2 cm. broad, glabrous, sometimes glaucous, with very obscure nerves; flowers dioecious, precocious, the males in short spikes; bracts broadly ovate, with a membranous margin; stamens 12 or more; fruits obovoid, about 3–3·5 cm. long, glaucous. [birrea](#)

Sclerocarya birrea (A. Rich.) Hochst. in Flora 27, Bes. Beil. 1 (1844); F.T.A. 1: 449; Chev. Bot. 157.

APD acc

Spondias birrea A. Rich. in Fl. Seneg. 1: 152, t. 41 (1831)

Poupartia birrea (A. Rich.) Aubrév Fl. For. Soud.-Guin. 405, t. 89, 1–4 (1950).

A **savannah** tree, to 40 ft. high, with grey fissured bark, stout branchlets and pale foliage; flowers greenish-white or reddish fruits yellow, thick-skinned, resembling a small mango; sterile regrowth shoots often with coarsely serrate leaflets; **in the drier savannah regions**.

Sen.: St. Louis Perrottet 156! Walo Heudelot! Thiés De Wailly 4529. Sine-Saloum Serv. For. 21. **Port. G.:** Coiada, Gabu Esp. Santo 2504! **Fr. Sud.:** Timbuktu Chev. 1207! Kayes (fr. May) Irvine 3218! And other localities fide Chev. l.c. **Gam.:** Kundu Rosevear 69! Kerewan Rosevear! **Iv. C.:** Ouangolo Aubrév 1419 Bobo-Dioulasso Aubrév 1888. **G. C.:** Kulpawn R., Bantala Kitson 839! Kullum to Grumbele Kitson 653! Walembou to Wahabu Kitson 649! **Togo:** Yendi (Dec., Jan., fr. May, June) Dalz! **Dah.:** Atacora Mts. Chev. 24088. **Fr. Nig.:** Gargalenti, Gourma Chev. 24427. **N. Nig.:** Sokoto (Mar.) Gilman 3! Ijomah.FHI 26467! Zurmi (Apr.) Keay FHI 16158! Bauchi (Feb.) Lely P. 139! Karasuwa, Nguru (fr. June) Onochie FHI 23352!

Extends to A.-E. **Sudan** Abyssinia and **Uganda**.

Perrier de la Bâthie in Mém. Mus. Nat. Paris, nouv. sér. 18: 244 (1944) includes *Sclerocarya* in *Poupartia* Comm. ex Juss. (1789), a genus of the Mascarenes, Madagascar and the Comores. He also suggests that the genus *Lannea* A. Rich. (1831) should be included. *Pseudospondias* Engl. (1883) and *Haematostaphis* Hook. f. (1860) are also close. Aubréville sinks *Sclerocarya* but maintains *Lannea*. Pending thorough revision of the whole group, however, I have followed tradition in maintaining all these genera. *Sclerocarya* differs from *Poupartia* as follows: — *Poupartia*, stamens 8 (–10), stigmas 5; *Sclerocarya*, stamens 12–16 (–26), stigmas (2–) 3.

8. PSEUDOSPONDIAS

Engl. in DC. Monogr. 4: 258 (1883).

- 1 Leaflets 4–12; flowers (3–) 4 (–5)-merous; stamens (6–) 8 (–10); leaflets alternate or subopposite, oblong or elliptic, rounded and unequal-sided at base or slightly cuneate, broadly and obtusely acuminate, up to 20 cm. long and 10 cm. broad; petiolules 0·5–1 cm. long; flowers very small, polygamous, in lax panicles; fruits 1 (–2) seeded, broadly ellipsoid, about 2 cm. long, mucronate with the persistent style: **2**

Leaflets 15–17; flowers 3-merous; stamens 6; branchlets and leaves glabrous; otherwise much as above: **1c.**
[microcarpa var. longifolia](#)

- 2 Branchlets and leaves glabrous or sparingly puberulous: **1a. microcarpa var. microcarpa**
Branchlets, rachides, petiolules and undersurface of leaflets densely hirsute: **1b. microcarpa var. hirsuta.**

1a. Pseudospondias microcarpa (A. Rich.) Engl. var. **microcarpa** — in DC. Monogr. 4: 259 (1883), Chev. Bot. 157; Aubrév Fl. For. C. Iv. 2: 172, t. 192, 7–11 *APD acc* *APD acc*

Spondias microcarpa A. Rich. in Fl. Seneg. 1: 151, t. 40 (1831); F.T.A. 1: 448

S. zanzee G. Don (1832)

Haematostaphis pierreana Engl. (1905).

A tree to 60 ft. high, rarely more, with short, fluted, twisted bole and dense crown; male flowers white, female greenish; ripe fruits dark purple; **in forest margins, and especially in fringing forest in the savannah regions**.

Sen.: Rufisque(Mar) Döllinger 46! Casamance (Mar., Apr.) Perrottet 158! Sinédone Chev. 2972 Floup-Fedyan Chev. 3167
Gam.: (Mar.) Brown-Lester 16! Albreda (fr. Mar.) Perrottet! Abuko Waterworks (Jan.) Dalz. 8127! **Port. G.:** Abu, Formosa (Apr.) Esp. Santo 1954! **Fr. G.:** Mamou (fr. Mar) Dalz 8397! Kouria (Oct., Dec.) Chev. 14807! 14843! Conakry Chev. 12063. L.: Musaia (fl. Sept., fr. Apr.) Deighton 5487! Small 269! Port Loko (young fr. Feb.) Deighton 3587! Fintonia (fl. Sept., young fr. Jan.) Deighton 5174! 5314! R. Scarcies, Kambia (fl. & fr. Dec.) Sc. Elliot 4353! 4363! Falaba (fr. Apr.) Sc. Elliot 5900! **Lib.:** Grand Bassa T. Vogel 102! **iv. C.:** Mankono (June) Chev. 21925! Agboville (Nov.) Chev. 22377! Abidjan Aubrév 73! Toumodi Chev. 22415! **G. C.:** Abetifi (fl. & fr. June) Thompson 79! Kumasi (Apr., Sept.) Chipp 771! 791! Agogo (fr. Jan.) Chipp 592! E. Akim (June) Johnson 735! Pepeasi (May) Beveridge 90! **Togo:** Basari (fl. & young fr. Mar.) Kersting A. 510! Ntumada, Hohoe Dist. (Dec.) St. C. Thompson FH 3684! **N. Nig.:** Agaie (Nov.) Yates 27! 27a! 28! 28a! Jamata (June) Thornevill 66! **S. Nig.:** Lagos Millen 58! Ilesha Foster 173! Mgbaka, Ikom (Apr.) Latilo FHI 30902! Oban Talbot 1366! 1505! **Br. Cam.:** Victoria (Jan.) Maitland 364! Buea (Mar.) Maitland 490! 551! Johann Albrechtshöhe Staudt 893! Metschum Falls, Bamenda (Jan.) Keay & Russell FHI 28528! **F. Po.:** (Jan.) Mann 181!

Extends to E Africa, Nyasaland and **Angola**; also in Principe, S. Tomé and Annobon

1b. *Pseudospondias microcarpa* var. *hirsuta* Brenan in Kew Bull. 1947: 68. *APD acc*

As above, but vegetative parts quite densely hirsute

S. Nig.: Ibadan (Nov.) A.P.D. Jones & Keay FHI 13895! E.W. Jones, Keay & Richards FHI 22458! Etemi, Omo F. R., Ijebu Ode Prov. (Mar.) A.P.D. Jones & Onochie FH 117003!

1c. *Pseudospondias microcarpa* var. *longifolia* (Engl.) Keay in Bull. Jard. Bot. Brux. 26: 203 (1956).
APD acc

Pseudospondias longifolia Engl. Bot. Jahrb. 36: 218 (1905); Brenan l.c.

A tree, in forest.

S. Nig.: Ogba F.R., Benin Kennedy 2454!

Also in **French Cameroons**.

9. LANNEA

A. Rich. in Guill. & Perr. Fl. Seneg. 1: 153 (1831); Engl. in E. & P. Pflanzenfam. Nachtr. 1: 213 (1897).

Odina Roxb. (1832) — F.T.A. 1: 445.

- 1 Flowers in lax panicles, below the leaves; young parts, including the panicles, pinkish stellate-tomentose, later more or less glabrescent; tree to 30 m. high in forest; petioles 9–14 cm. long; leaflets (1–) 2–4 pairs, plus the long-petiolulate obovate terminal one; lateral leaflets oblong-elliptic, unequally cuneate or obtuse at base, long-acuminate, 10–20 cm. long, 6–12 cm. broad, with 5–10 main lateral nerves; leaflets drying brown, dark above, paler with impressed venation beneath; male panicles to 20 cm. long; female panicles to 14 cm. long; fruits flattened-ellipsoid, 6–8 mm. long, 5–6 mm. broad, 4–5 mm. thick, glabrous. [1. welwitschii](#)

Flowers in racemes or narrow panicles with short lateral branches, often clustered at the ends of leafless shoots (but see Nos. 2 & 6); trees up to 16 m. high, mostly in savannah (but see Nos. 8 & 8a):..... **2**

- 2 Lateral leaflets (4–) 8–10 (–12) pairs, oblong or ovate-oblong, rounded or subcordate at base, sessile, rounded at apex, 0.5–3.5 (–5) cm. long, 0.3–1.8 (–2) cm. broad, densely white-tomentose beneath, sparingly pubescent and drying blackish above; petioles 1.5–3 cm. long; young parts white-tomentose; racemes up to 3.5 cm. long, white-tomentose, borne with the leaves on short lateral shoots; fruits oblong, ellipsoid, flattened, about 1 cm. long, 7 mm. broad and 4 mm. thick, white-tomentose [2. humilis](#)

Lateral leaflets (0–) 1–7 pairs, more than 3 cm. long and 1 cm. broad; fruits mostly glabrous, rarely (No. 5) velutinous:..... **3**

- 3 Leaflets remaining tomentose or softly pubescent beneath; fruits glabrous or velutinous: **4**

Leaflets soon becoming glabrous or nearly so beneath; fruit glabrous:..... **6**

- 4 Indumentum of leaflets, shoots and inflorescences floccose, pinkish or reddish, composed of long-armed, weak, crispate-stellate hairs only, early caducous on upper surface of leaflets but mainly dense beneath and often concealing the prominent, reticulate venation; fruit irregularly ovoid or suborbicular, rugose when dry, 7–9 mm. diam.; lateral leaflets (1–) 2–4 pairs, ovate to elliptic, rounded to obtuse at base, subacuminate, 4–13 cm. long, 2.5–6.5 cm. broad [3. schimperi](#)

Indumentum of leaflets, shoots and inflorescences velutinous, greenish brown or grey to whitish-yellow or tawny, composed of simple hairs and stiff, non-crispate, short-armed, stellate hairs, persistent on both surfaces of the leaflets; fruit ovoid-oblong, laterally flattened especially toward the apex, 8–13 mm. long, 6–8 mm.

- broad:5
- 5 Fruit glabrous; margin of leaflets ciliate with rather long simple hairs and a very few stellate hairs; lower surface openly and not prominently reticulate, the surface easily visible between the erect and spreading simple hairs; tawny stellate hairs few and inconspicuous on both surfaces and on the margin; lateral leaflets (1–) 2–6 pairs, ovate-oblong, rounded to subcordate at base, acuminate, 7–13 cm. long, 4.5–8 cm. broad.4. [kerstingii](#)
- Fruit more or less densely velutinous with simple hairs, with or without a few scattered stellate hairs; margin of leaflets stellate-tomentose, with fewer simple hairs intermingled but inconspicuous; lower surface closely and prominently areolate, densely velutinous, with long, whitish, simple hairs spreading from the veins filling the areoles and concealing the surface; tawny stellate hairs conspicuous among the short simple hairs on the upper surface, on the veins on the lower surface and especially on the margin; lateral leaflets (1–) 3–5 pairs, oblong-ovate or ovate-oblong, rounded at base, rounded or subacuminate at apex, 3.5–9 cm. long, 2.5–5 cm. broad. [5. velutina](#)
- 6 Indumentum of leaflets, shoots and inflorescences floccose, pinkish or reddish, composed of weak, crispate-stellate hairs only, early caducous:7
- Indumentum of leaflets, shoots and inflorescences not floccose, not or rarely (Nos. 8 & 8a) pinkish, composed mainly of simple hairs, sometimes with small stellate hairs as well:8
- 7 Lateral leaflets sessile or subsessile, falcate-lanceolate, rounded or subcordate at base, obtuse at apex, 3–9.5 cm. long, 1–2.8 cm. broad, 5–7 pairs; inflorescence sometimes branched; fruit oblong-ellipsoid, about 8 mm. long and 6 mm. broad6. [fruticosa](#)
- Lateral leaflets long-petiolulate, lanceolate, cuneate at base, obtusely acuminate, 4–11.5 cm. long, 1.5–4.5 cm. broad, 3–6 pairs; inflorescence simple; fruit ellipsoid, 8–10 mm. long, 7–8 mm. broad7. [acida](#)
- 8 Male flowers with pedicels 2–5 mm. long; fruits 7–9 mm. long, more or less reniform or suborbicular, 5–7 mm. broad, 3–4 mm. thick; fruiting pedicels 2–3 mm. long; young parts not glutinous; bark not spirally twisted; leaflets ovate-lanceolate, unequal at base, long-acuminate, 5–11 cm. long, 2–2.4 cm. broad; inflorescences sparsely puberulous.9
- Male flowers sessile or with pedicels up to 1 mm. long; fruits 10–14 mm. long, oblong-ellipsoid, 6–7 mm. broad, 4–5 mm. thick; fruiting pedicels 4–6 mm. long, young parts glutinous; bark of bole and larger branches spirally twisted:10
- 9 Leaves and young shoots almost glabrous except for the leaflets which when extremely young are closely and minutely tomentellous; leaflets 3–6 pairs, plus the terminal one8. [nigritana](#) var. [nigritana](#)
- Leaves and young shoots densely pubescent, later glabrescent; leaflets 1–3 pairs, plus the terminal one8a. [nigritana](#) var. [pubescens](#)
- 10 Leaves, inflorescences and young shoots with long simple hairs; fruits 12–14 mm. long; leaflets 3–5 pairs, plus the terminal one, oblong or ovate, obtuse to slightly cordate at base, shortly and obtusely acuminate, 8–13 cm. long, 4.5–6.5 cm. broad9. [egregia](#)
- Leaves, inflorescences and young shoots without long simple hairs, almost glabrous; fruits 10–11 mm long, leaflets (0–) 1–3 pairs, plus the terminal one, ovate-lanceolate, obtuse and unequal at base, obtusely acuminate, subacute or obtuse at apex, 5.5–13 cm. long, 2.7–4.5 cm. broad.10. [microcarpa](#)

1. **Lannea welwitschii** (Hiern) Engl. Bot. Jahrb. 24: 498(1898), Aubrév Fl. For. C. Iv. 2: 170, t. 191.
APD acc

Calesiam welwitschii Hiern Cat. Welw 1: 179(1896).

Lannea acidissima A. Chev. Vég Util. 5: 114(1909); Bull. Soc. Bot. Fr. 58, Mém. 8: 150 (1912). F.W.T.A., ed. 1, 1: 511., Kennedy For. Fl. S. Nig. 186.

A forest tree, to 100 ft. high, with cylindrical bole, up to 8 ft. in girth, and small buttresses; bark grey, pitted slash thick, deep crimson-pink with whitish streaks; flowers yellowish-green; ripe fruits black.

IV. C.: Mbasso (Mar.) Chev. 16264! Assinie Chev. 16319! Sassandra Chev. 17950 Bouroukrou Chev. 16133. **G. C.:** Adeambra (fr. May) Vigne FH 862! Owabi (fl. & fr. Mar.) Andoh FH 4312! Ofin Head-waters F.R., Vigne FH 1913! Aburi Deighton 3414! **S. Nig.:** Oshun River F.R. (Apr.) Gilman 520! Sapoba (fl. & fr. Apr.) Kennedy 769; 1344 Amawbia, Akwa Dist. (fr. June) Jones FHI 6630! **Br. Cam.:** Victoria (Mar.) Maitland 532! Johann-Albrechtshöhe (Mar.) Staudt 678.

Also in **French Cameroons**, **Gabon**, **Uganda**, **Belgian Congo** and **Angola**

2. **Lannea humilis** (Oliv.) Engl. in E. & P. Pflanzenfam Nachtr. 1: 213 (1897); Aubrév Fl. For. Soud.-Guin. 393, 400, 404, t. 83, 3 *APD acc*

Odina humilis Oliv. F.T.A. 1: 447; (1868).

A shrub or much branched tree, seldom more than 10 ft. high; in dry savannah regions.

Fr. Nig.: 20 km. N. of Tessaoua Aubrév **N. Nig.:** Bornu Road, Yola Prov. (fl. & fr. Aug.) Dalz. 170! Lantewa, Bornu Prov. Onochie FHI 23371! N. Bornu (Apr.) E. Vogel 78!

Extends to **A.-E. Sudan**, **Abyssinia**, **E. Africa** and **N. Rhodesia**.

3. **Lannea schimperi** (*Hochst. ex A. Rich.*) *Engl.* l.c. (1897); Hoyle & Jones in Kew Bull. 1947: 75–86, tt. 1–4; Aubrév. l.c 399, 402, 404. *APD acc*

Odina schimpen *Hochst. ex A. Rich.* (1847) — F.T.A. 1: 445

(?) **O. barteri** *Oliv.* F.T.A. 1: 446 (1868), partly, flowers only.

Lannea barteri (*Oliv.*) *Engl.* (1897) — F.W.T.A., ed. 1, 1: 511, partly.

A **savannah** tree, 6–25 ft. high, with dark grey or black rough bark; young parts with pinkish or reddish indumentum; flowers yellowish, usually produced before the leaves

N. Nig.: Dutsen Bagai, Zurmi (fr. Apr.) Keay FHI 16184! Zaria Prov. (fr. Mar., Apr.) Bawa Lafia FHI 7763! Keay FHI 16108! Dangoro F. R., Kano (fr. Apr.) Latilo FHI 27423! Agaie Yates 61 (partly)! Bauchi Plateau (Feb.) Lely P. 158 (partly)! P. 159 (partly)! **S. Nig.:** Enugu (fl. Feb., young fr. Nov.) Cons. of For 49! Smith 12! Abakaliki (May) Cons. of For: 123!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan**, **Abyssinia**, **Uganda**, **Kenya** and **Tanganyika**; also perhaps in **Belgian Congo**, Nyasaland and N. Rhodesia

[The specimen (Boivin s.n.) from Senegal cited as *L. schimperi* by Hoyle and Jones is leafless and could be either this species or *L. acida*, but, as the latter species is common in Senegal and as *L. schimperi* is not otherwise recorded west of Nigeria, I suspect that the specimen is *L. acida*. The flowering shoots of Barter 1109 may also be *L. acida* and perhaps came from the specimen Barter 1107.]

4. **Lannea kerstingii** *Engl. & K. Krause* in *Engl. Bot. Jahrb.* 46: 325(1911); Hoyle & Jones l.c.

APD: Synonym of Lannea barteri (Oliv.) Engl.

Odina barteri *Oliv.* F.T.A. 1: 446 (1868), partly, leaves only

Lannea barteri (*Oliv.*) *Engl.* (1897) — F.W.T.A., ed. 1, 1: 511, partly; Aubrév. Fl. For. Soud.-Guin. 397, 402, 404, t. 85, 1 & 2

Lannea velutina of F.W.T.A., ed. 1, 1: 511, partly.

A **savannah** tree, 12–40 ft. high; bark smooth, silvery-grey, with a pronounced spiral twist; flowers yellowish, usually produced before the leaves; fruits dull purplish when ripe.

Fr. Sud.: Ouassaia (Mar.) Chev. 521! **Fr. G.:** Timbo Pobéguin 114; Chev. 12498 bis. Kissidougou Aubrév. 47g. **S.L.:** Musaia (Feb.) Deighton 5355! **Iv. C.:** Mt. Bobo, Zoanié (fr. May) Chev. 21492! Yabarasso, Comoé Valley (fr. Dec.) Chev. 22546! **G. C.:** Yagbung to Nabiungo Kitson 745! Wiasi (fr. Mar.) Vigne FH 4484! Lawra Vigne FH 3915! N. of Abofuo (Feb.) Vigne FH 1811! Fiapere (Feb.) Chipp 80! **Togo:** Sokode Kersting 68a. And other localities fide Aubrév l.c. **Dah.:** Savalou Aubrév. 40d. Kouandé to Konkobiri Chev. 21760. **N. Nig.:** Nupe Barter 1109 (partly)! Ejidogari F. R., Ilorin (fr. Feb.) Ejiofor FHI 19830! Bauchi Plateau (fl. & fr. Feb.) Lely P. 158 (partly)! P. 159 (partly)! Katagum Dalz. 225 (partly)! Yola (Apr.) Dalz. 178! **S. Nig.:** W. of R. Tessi, Old Oyo F. R., (fl. & fr. Feb.) Keay FHI 16262! 16264! Onitsha Onochie FHI 21635!

Also in **French Cameroons**, **Ubangi-Shari**, **A.-E. Sudan** and **Uganda**.

5. **Lannea velutina** *A. Rich.* in Fl. Seneg. 1: 154, t. 42 (1831); Chev. Bot. 159; Hoyle & Jones l.c.; Aubrév l.c. 397, 402, 404, t. 84, 3–5 *APD acc*

Odina velutina (*A. Rich.*) *Oliv.* F.T.A. 1: 447 (1868).

A **savannah** shrub or tree, to 20 ft. high; flowers yellow.

Sen.: Casamance, abundant fide Aubrév. l.c. **Gam.:** Albreda (fl. Mar; Apr., fr. May) Perrottet 155! Bulak Rosevear 37! Genieri (June) Fox 112! **Fr. Sud.:** Bamako (Apr.) Hagerup 36! **Port. G.:** Esp. Santo 499! Antula, Bissau (Apr.) Esp. Santo 1522! **Fr. G.:** Karkandy Heudelot 992! Kouroussa Pobéguin 696. Kollangui Chev. 12225 **Iv. C.:** Bobo Dioulasso Serv. For. 1950. Dem Aubrév 2385. **G. C.:** Dubba to Jerriwama (Mar.) Kitson 945! Pan to Bujan (fr. Apr.) Kitson 646! Tumu (fr. Apr.) Vigne FH 3788.

6. **Lannea fruticosa** (*Hochst. ex A. Rich.*) *Engl.* Pflanzenfam. Nachtr. 1: 213 (1897); Aubrév l.c. 394, 400, 404, t. 83, 1. *APD acc*

Odina fruticosa *Hochst. ex A. Rich.* (1847) — F.T.A. 1: 446.

A **savannah** tree, to 25 ft. high, young parts with reddish floccose indumentum; flowers yellow; **in arid regions**.

Fr. Nig.: Gouré Aubrév Zinder (Nov.) Hagerup 609! **N. Nig.:** Daura, Gumel & Nguru fide Aubrév. l.c. Damaturu Kabaru, Bornu (young fr. Oct.) Daggash FHI 22001! Bornu Road, Yola Prov. (July) Dalz. 173!

Also in **French Camerouns**, **Ubangi-Shari**, **A.-E. Sudan**, **Uganda** and **Abyssinia**

7. **Lannea acida** A. Rich. in Fl. Seneg. 1: 154 (1831); Chev. Bot. 158; F.W.T.A., ed. 1, 1: 511, partly. (excl. syn. *L. djalonica* A. Chev., *L. oleosa* A. Chev., *L. grossularia* A. Chev., *L. microcarpa* Engl. and *L. egregia* Engl. & K. Krause) Aubrév. l.c. 394, 400, 404, t. 83, 4–5. **APD acc**

Odina acida (A. Rich.) Oliv. F.T.A. 1: 446 (1868).

Lannea velutina of F.W.T.A., ed. 1, 1: 511, partly (Boivin s.n.).

A **savannah** tree, to 18 ft. high, with blackish, fissured bark; young parts with pinkish floccose indumentum; **often on rocky hills**.

Sen.: Boivin! Rufisque Perrottet. Baol Chev. 3506. Thiès De Wailly 4638. Casamance Aubrév. 152. **Gam.:** Albreda Perrottet! Foloto Rosevear 102! **Fr. Sud.:** Sikasso to Koutala (Jan.) Roberty 13343! Ouahigouya to Koro, Yatenga Chev. 24794! And other localities fide Aubrév. l.c. **Port. G.:** Bissau Dist. (fl. Apr.) Esp. Santo 1532! 1912! **Fr. G.:** Kouroussa Pobéguin 901. Mamou Aubrév. 49g. Dalaba Aubrév. 46g. **Iv. C.:** Touba Aubrév. 1252! Niangbo Serv. For. 1715! **G. C.:** N. Terr. Saunders 1! Palbe Kitson 645! Pong (fr. Mar.) Kitson 696! Sabu (fr. May) Vigne FH 4701! **Togo:** Kete Krachi (Jan.) Vigne FH 1528! Sokode Aubrév. 123d. **Dah.:** Kouandé Chev. 24239! **N. Nig.:** Nupe Barter 1107! Yola (fr. Apr.) Dalz. 166! **S. Nig.:** Igboho, Oyo Prov. (fr. Feb.) Keay FHI 22499! Igbetti, Oyo Prov. (Feb.) Keay FHI 14631!

Similar to *L. schimperi* but leaflets glabrescent and not prominently reticulate beneath. [The flowering shoots of Barter 1109 and the leafless specimen (Boivin s.n.) from Senegal, cited by Hoyle and Jones as *L. schimperi*, may well be *L. acida*; see note above.]

8. **Lannea nigritana** (Sc. Elliot) Keay var. **nigritana** — in Bull. Jard. Bot. Brux. 26: 204 (1956). **APD acc**

Odina nigritana Sc. Elliot in J. Linn. Soc. 30: 75 (1894).

Lannea afzelii Engl. Bot. Jahrb. 24: 494 (1898); F.W.T.A., ed. 1, 1: 511, partly (excl. syn. *L. buettneri* Engl.); Aubrév. Fl. For. C. Iv. 2 168–170, t. 192, 1–6 Fl. For. Soud.-Guin. 399, 403, 405, t. 85, 3.

Lannea glaberrima Engl. & K. Krause (1911).

Lannea grossularia A. Chev. (1912).

Lannea dahomensis A. Chev. Bot. 159, name only, partly.

Lannea acida of F.W.T.A., ed. 1, 1: 511, partly.

A tree to 45 ft. high, with wide rather sparse branching; flowers yellow, produced when tree is leafless; ripe fruits black; **mainly in regrowth in the drier parts of the forest regions**.

Sen.: Bignona Aubrév. 153. **Fr. Sud.:** Satadougou (fr. May) Irvine 3215! **Port. G.:** Antula, Bissau (fr. Apr.) Esp. Santo 1519! **Fr. G.:** Paroisse 103. **S. L.:** Afzelius. Don! Buyabuya (Feb.) Sc. Elliot 4576! 4769! Ninia (Feb.) Sc. Elliot 4910! Berria, Falaba (fr. Mar.) Sc. Elliot 5408. Njala (Apr.) Deighton 2787! 2894! Musaia (fr. Feb.) Deighton 4272! **Iv. C.:** Sassandra Port (fr. May) Chev. 17936! And other localities fide Aubrév. l.c. **G. C.:** Achimota (Jan., Feb.) Irvine 189! 2001! **Togo:** Lome (May) Warnecke 144! **Dah.:** Kétou to L. Azri, Zagnanado (Feb.) Chev. 23039 (partly)!

- 8a. **Lannea nigritana** var. **pubescens** Keay l.c. (1956). **APD acc**

Lannea afzelii var. **pubescens** Aubrév. Fl. For. Soud.-Guin. 403, 405 (1950), French descr. only.

Similar to above, but leaflets densely pubescent beneath when young.

Iv. C.: Agboville Aubrév. 1380! Attobro Serv. For. 1773! Agnéby (fr. Mar.) Aubrév. 2239! **Togo:** Palimé Aubrév. 136d! **S. Nig.:** Ibadan (fl. & fr. Mar., Apr.) Keay FHI 25680! 25682! Meikle 1137! Gambari Group F.R., Ibadan W. D. MacGregor 595! Etemi, Ijebu Ode Prov. Jones & Onochie FHI 16759!

9. **Lannea egregia** Engl. & K. Krause in Engl. Bot. Jahrb. 46: 331 (1911), as “eegria” by error; Aubrév. l.c. 397, 405, incl. var. *dahomensis* Aubrév.

APD: *Synonym of Lannea barteri* (Oliv.) Engl.

Lannea acida of F.W.T.A., ed. 1, 1: 511, partly.

A **savannah** tree, to 40 ft. high, with pale grey, spirally twisted bark.

Fr. G.: Mamou (Mar.) Aubrév. 53g! **iv. C.:** Touba Aubrév. 1254! Ferkéssédougou (fr. Apr.) Aubrév. 2290! **Togo:** Atakpame (Aug.) Doering 101; Mildbr. 7431! Lama (July) Kersting A. 456. **Dah.:** Pobé (Jan.) Aubrév. 16d! 18d! **S. Nig.:** Olokemeji (Mar.) Keay FHI 28691! A. F. Ross 101! Ijaiye F.R., Oyo Prov. (fr. Mar.) Keay FHI 21188!

[The type specimens have presumably been destroyed, so the species has been interpreted only from the description.]

10. *Lannea microcarpa* Engl. & K. Krause l.c. 324 (1911); Aubrév. l.c. 394, 402, 404, t. 84, 1 & 2. **APD acc**

Lannea oleosa A. Chev. (1912).

Lannea djalonica A. Chev. Bot. 159, name only.

Lannea acida of F.W.T.A., ed. 1, 1: 511, partly.

A **savannah** tree, to 50 ft. high and 4 ft. girth; bark grey, more or less smooth, with a spiral twist; flowers greenish yellow; ripe fruits purplish black.

Gam.: Heudelot 353. **Fr. Sud.:** Ouahigouya Chev. 24771! And other localities fide Aubrév. l.c. **Fr. G.:** Kollangui (fr. Mar.) Chev. 12875! Konkouré to Timbo Chev. 12498. **iv. C.:** Bobo Dioulasso Aubrév. 1849; 1859. Ouagadougou Aubrév. 2335. **G. C.:** Salaga (fr. Apr.) Dalz. 50! Sa (fl. & fr. Mar.) Kitson 844! Pong Tamale (fr. Apr.) Kitson 895! Nakong (Feb.) Vigne FH 4721! Tumu, N.T. (fl. & fr. Apr.) Vigne FH 3787! 3789! **Togo:** (fr. May) Kersting A. 349! Kudupoll Kersting A. 532! Kabure (fl. & fr. Feb.) Kersting A. 520! **Dah.:** Toukountouna, Atacora Mts. Chev. 24076. Sansanne Mango Aubrév. 132d. **Fr. Nig.:** Zinder Aubrév. **N. Nig.:** Sokoto Prov. (fl. Feb. fr. May) Dalz. 351! Lely 812! Zamfara F.R., Zurmi (fl. & fr. Apr.) Keay FHI 15676! 15689! 16130! Dangora F.R., Kano (fr. Apr.) Latilo FHI 27428! Bogayi, Katsina (Mar.) Meikle 1354!

***Lannea buettneri* Engl.** Bot. Jahrb. 24: 494 (1897); Aubrév. Fl. For. Soud.-Guin. 397, 402, 404.

APD: *Synonym of *Lannea acida* A. Rich.*

Lannea afzelii of F.W.T.A., ed. 1, 1: 511, partly.

Togo: Misahöhe (Jan.) Büttner 376.

The description suggests *L. acida*, but material distributed from the Berlin Herbarium under the name *L. buettneri* appears to be *L. microcarpa*; the type specimen has presumably been destroyed. See notes by Aubréville (l.c.), who suggests this may be a distinct species endemic to Togo and Dahomey. Imperfectly known species.

10. HAEMATOSTAPHIS

Hook. f. — F.T.A. 1: 443.

- 1** Branchlets purplish-glaucous; leaves pinnate; leaflets alternate, about 9–12 on each side, oblong or oblong-elliptic, rounded at base or slightly cuneate, slightly emarginate at apex, thin, 5–8 cm. long, 1.5–3 cm. broad, the end one broader, glabrous; petiolules 4–5 mm. long; flowers dioecious, the males very small, in slender lax panicles clustered at the ends of the shoots; male calyx 3-lobed; petals 3, imbricate, about 2 mm. long; stamens 6; female: ovary glabrous, surrounded by small staminodes; fruit drupaceous, broadly ellipsoid, about 2 cm. long[barteri](#)

***Haematostaphis barteri* Hook. f.** in Trans. Linn. Soc. 23: 169, t. 25 (1860); F.T.A. 1: 443; Chev. Bot. 159; Aubrév. Fl. For. Soud.-Guin. 403, t. 86, 1–3. **APD acc**

A **savannah** tree, to 25 ft. high with rather glaucous foliage; leaves and pendulous panicles of creamy flowers crowded at ends of branchlets; young parts red; fruits plum-like, smooth, deep red; **mostly on rocky hills.**

G. C.: Taningnah, Wa (fr. Mar.) McLeod 840! Gambaga (Mar.) Hughes FH 4992! Williams 487! Nakong (Apr.) Vigne FH 4502! Yijia to Pong (Mar.) Kitson 706! Pong to Kako (Mar.) Kitson 700! **Togo:** Sokode-Basari Kersting A. 560! Tamberma (fl. & fr. May) Kersting A. 340! **Dah.:** Atacora Mts. (fr. June) Chev. 24216! **N. Nig.:** Nupe Barter 1114! 1341! Jebba (Jan.) Meikle 1106! Randa (fl. & fr. June) Hepburn 63! Yola (fl. & fr. Jan.) Dalz. 187! **S. Nig.:** Igboho, Oyo Prov. (Feb.) Keay FHI 22500! Igbetti, Oyo Prov. (Feb.) Keay FHI 14635!

Also in **French Cameroons** and **A.-E. Sudan**.

11. TRICHOSCYPHA

Hook. f. — *F.T.A.* 1: 444.

Emiliomarcelia *Th. & H. Dur.* (1909).

- 1 Inflorescences borne on main stem of tree; disk glabrous or sparingly pubescent:2
 Inflorescences terminal or axillary:3
- 2 Bracts large, ovate-lanceolate, up to 3 cm. long and 1.5 cm. broad, tomentose; inflorescence up to 25 cm. long, pyramidal, rather congested, rusty-tomentose; leaflets nearly glabrous, 7–8 (–14) pairs, oblong-lanceolate, cuneate to rounded at base, acuminate, up to 32 cm. long and 8 cm. broad, with 10–12 (–20) main lateral nerves on each side of midrib, prominent beneath, impressed above; ovary hirsute, stigmas sessile; fruits ovoid, up to 5 cm. long and 3 cm. diam., rusty-puberulous [1. *acuminata*](#)
 Bracts small, up to 3 mm. long; inflorescence up to 30 cm. long, with rather few somewhat densely flowered lateral branches, rusty-hirsute; leaflets pilose on the midrib above and at first on midrib and nerves beneath, 6–8 pairs, narrowly lanceolate, up to 30 cm. long and 6 cm. broad, with 12–20 main lateral nerves on each side of midrib, prominent beneath [2. *smythii*](#)
- 3 Disk glabrous:4
 Disk hirsute:12
- 4 Flowers minute, in much-branched panicles; petals 1–2 mm. long; pedicels slender, 2–5 mm. long:5
 Flowers larger, petals 3 mm. long or more:7
- 5 Leaflets 1–4 pairs, plus the terminal one; midrib pubescent above:6
 Leaflets 6–8 pairs, plus the terminal one, oblong or narrowly oblong, cuneate at base, caudate-acuminate, 6–19 cm. long, 2.8–5 cm. broad, midrib glabrous above, with 7–9 main lateral nerves on each side of midrib; axes of inflorescence pubescent or glabrescent [5. *cavalliensis*](#)
- 6 Axes of inflorescence glabrous or slightly pubescent; leaflets 2–4 pairs, elliptic, ovate or oblong-ovate, broadly cuneate at base, acuminate, 8–25 cm. long, 3–14 cm. broad, with 10–13 main lateral nerves on each side of midrib [3. *talbotii*](#)
 Axes of inflorescence densely covered with short and reflexed longer hairs; leaflets 1–2 pairs, oblong-elliptic, long-acuminate, 8–18 cm. long, 2.5–8 cm. broad, with 6–8 main lateral nerves on each side of midrib [4. *camerunensis*](#)
- 7 Midrib of leaflets pilose above and with scattered hairs beneath; leaflets 3–7 pairs, oblong, cuneate or obtuse at base, acuminate, up to 36 cm. long and 10 cm. broad, with 8–24 main lateral nerves on each side of midrib, prominent beneath; inflorescence up to 25 cm. long, densely flowered, rusty-pilose; flowers sessile or shortly pedicellate, petals nearly glabrous outside [6. *preussii*](#)
 Midrib of leaflets glabrous above:8
- 8 Inflorescence with long, loose, rusty indumentum; flowers congested on the short lateral branches:9
 Inflorescence pubescent with short hairs, or nearly glabrous, lax, with long lateral branches; ovary and fruits glabrous:10
- 9 Leaflets (1–) 2–4 pairs, elliptic, cuneate at base, caudate-acuminate, 9–20 cm. long, 3.5–7.8 cm. broad, nearly glabrous, with 6–10 main lateral nerves on each side of midrib; inflorescence up to 14 cm. long [7. *bijuga*](#)
 Leaflets (4–) 5–7 pairs, oblong or narrowly oblong, obtuse or rounded at base, acuminate, (5.5–) 8–19 cm. long, 2.5–6 cm. broad, pubescent on midrib and nerves beneath, with 8 — 18 main lateral nerves on each side of midrib; inflorescence up to 60 cm. long, with lateral branches up to 4.5 cm. long [8. *beguei*](#)
- 10 Leaflets membranous, appearing “pustulate” when dry, (2–) 5–7 (–9) pairs, narrowly oblong-elliptic or oblong-lanceolate, cuneate at base, caudate-acuminate, up to 14 cm. long and 4.3 (–6) cm. broad, with 5–12 main lateral nerves on each side of the sparsely pubescent midrib; petiolules 2–8 mm. long; inflorescence up to 60 cm. long, densely rusty-pubescent [9. *baldwinii*](#)
 Leaflets coriaceous, not appearing “pustulate”:11
- 11 Flowers creamy; leaflets 3–5 pairs, oblong, long-cuneate at base, acuminate, up to 16.5 cm. long and 7 cm. broad, nearly glabrous, with 6–11 main lateral nerves on each side of midrib; inflorescence nearly glabrous, up to 50 cm. long [10. *patens*](#)
 Flowers red; leaflets 6–8 pairs, oblong-elliptic, oblong-oblong-lanceolate or oblong-lanceolate, cuneate to rounded and sometimes subfalcate at base, acuminate, up to 25 cm. long and 8 cm. broad, quite glabrous, with 10–18 main lateral nerves on each side of midrib; inflorescence reddish-pubescent, up to 80 cm. long, lax; fruits ellipsoid, about 2.5 cm. long, glabrous [11. *arborea*](#)
- 12 Leaves subsessile, with lowest pair of leaflets less than 1.5 cm. from the stem; ovary hirsute; petals and sepals glabrous outside:13

- Leaves distinctly petiolate; lowest pair of leaflets several cm. from the stem: **14**
- 13** Leaflets hirsute beneath, especially on midrib, 6–9 pairs, oblong, rounded at base, acuminate, up to 25 cm. long and 9.5 cm. broad, with 10–18 main lateral nerves on each side of midrib; inflorescence up to 15 cm. long, congested, the axes hirsute; fruits ovoid, beaked, hirsute [12. mannii](#)
- Leaflets glabrous, 5–7 pairs, elongate-oblong or lanceolate, rounded to cuneate at base, gradually acuminate, up to 30 cm. long and 8 cm. broad, with 7–14 main lateral nerves on each side of midrib; inflorescence up to 30 cm. long, densely many-flowered, the axes pubescent; fruits ovoid, pubescent [13. chevalieri](#)
- 14** Leaflets long-pilose beneath, at least on the midrib and nerves; stems and inflorescence-axes hirsute; calyx usually pubescent outside; ovary densely hirsute; inflorescence congested: **15**
- Leaflets beneath glabrous, or pubescent and glabrescent, or appressed-pubescent; calyx glabrous or pubescent outside, ovary glabrous or hairy; inflorescence congested or lax; flowers white or cream (but colour not recorded in Nos. 17 and 20): **17**
- 15** Midrib beneath rather densely covered with short hairs as well as long ones; calyx densely pubescent outside; leaflets oblong, rounded or obtuse at base, very acutely long-acuminate, up to 24 cm. long and 8 cm. broad: **16**
- Midrib long-pilose, without a dense covering of short hairs; calyx pubescent or glabrescent; petals 3–4 mm. long, blood-red; inflorescence 5–15 cm. long, very densely many-flowered; leaflets 5–8, elongate-oblong, obtuse to rounded at base, acutely acuminate, up to 28 cm. long and 7.5 cm. broad, with 12–20 main lateral nerves on each side of midrib [16. atropurpurea](#)
- 16** Petals 4–4.5 mm. long; leaflets 4 pairs, with about 12 main lateral nerves on each side of midrib; inflorescence about 7 cm. long and broad [14. sp. A](#)
- Petals 2–3 mm. long; leaflets 10 pairs, with about 18 main lateral nerves on each side of midrib; inflorescence about 30 cm. long and 10 cm. broad [15. sp. B](#)
- 17** Leaflets 7–9 pairs, very coriaceous, glabrous and often glaucous, narrowly oblong or lanceolate, obtuse at base, shortly and narrowly acuminate, up to 28 cm. long and 8 cm. broad, with 13–25 main lateral nerves on each side of midrib, venation obscure; inflorescence lax, to 33 cm. long, rusty-tomentellous; ovary glabrous; fruits flattened-ellipsoid, oblique, 2.5–3 cm. long, glabrous [17. longifolia](#)
- Leaflets 3–6 pairs; main lateral nerves 5–13 on each side of midrib: **18**
- 18** Midrib of leaflets hirsute above, undersurface appressed-pubescent at least when young; calyx often pubescent outside; ovary and fruit hairy: **19**
- Midrib of leaflets glabrous above, undersurface glabrous or pubescent and soon glabrescent; calyx glabrous outside: **20**
- 19** Petals about 3 mm. long, drying blackish; inflorescence densely blackish-hirsute, to 45 cm. long; leaflets (3–) 5–6 pairs, oblong to oblong-elliptic, rounded or obtuse at base, acuminate, up to 24 cm. long and 8.5 cm. broad, with 7–13 main lateral nerves on each side of the midrib; petiolules up to 5 mm. long; fruits ovoid, about 1.2 cm. long, densely blackish-velutinous [18. oba](#)
- Petals about 1.5 mm. long, drying pale brown; inflorescence shortly pubescent, to 24 cm. long; leaflets 3–4 pairs, oblong-ovate to oblong, cuneate to rounded at base, obtusely and shortly acuminate, up to 14 cm. long and 5.5 (–8) cm. broad, with 5–8 main lateral nerves on each side of midrib; petiolules 5–10 mm. long; fruits ovoid, about 1.2 cm. long, sparingly appressed-setosepubescent [19. yapoensis](#)
- 20** Petals 4–5 mm. long; inflorescence about 12 cm. long, densely-flowered, densely dark red-brown hirsute; ovary sparingly hirsute; leaflets 4 pairs, oblong or oblong-elliptic, obtuse at base, long-acuminate, 14–23 cm. long, 6.5–7 cm. broad, with 9–12 main lateral nerves on each side of midrib [20. longipetala](#)
- Petals 1–2 mm. long: **21**
- 21** Inflorescence puberulous, up to 30 cm. long, many-flowered, wide; petals 1–1.5 cm. long; ovary and fruit glabrous; leaflets 4–8 pairs, elongate-elliptic or lanceolate, cuneate to rounded at base, gradually acuminate, up to 22 cm. long and 6 cm. broad, with 6–16 main lateral nerves on each side of midrib [21. smeathmannii](#)
- Inflorescence densely blackish-hirsute, up to 40 cm. long and 30 cm. wide, many-flowered; petals 2 mm. long; leaflets 5–6 pairs, narrowly oblong, cuneate at base, acuminate, up to 30 cm. long and 10 cm. broad, coriaceous, with 9–12 main lateral nerves on each side of midrib [22. albiflora](#)

1. *Trichoscypha acuminata* Engl. Bot. Jahrb. 1: 425 (1881). *APD acc*

Sorindeia mannii Oliv. F.T.A. 1: 442 (1868); not *Trichoscypha mannii* Hook. f. (1862).

Trichoscypha ferruginea Engl. Bot. Jahrb. 15: 112, fig. B–D, t. 4 (1892); F.W.T.A., ed. 1, 1: 510, partly (Preuss 283, by error 2836, from Barombi, and syn. *T. braunii* Engl. only).

Trichoscypha braunii Engl. l.c. 111, fig. A (1893).

Schubea heterophylla Pax (1899), flowers only; the leaves are *Cola ficifolia* Mast.

Trichoscypha buettneri Engl. (1893), name only.

Trichoscypha congoensis Engl. ex De Wild. (1906), name only.

A forest tree, to 60 ft. high, with straight bole, cauliflorous; sepals white, petals pinkish-red, stamens red; fruits red when ripe.

S. Nig.: Kataban (fr. May) Latilo FH1 31801! Oban Talbot 117! 161! **Br. Cam.:** Abonando, Mamfe (Apr.) Rudatis 41! Barombi Preuss 283! Etam, Kumba Div. (May) Dundas FHI 15218! S. Bakundu F.R. (June) Ejiofor FHI 14036! Victoria to Bimbina (Aug.) Preuss 1330 (partly)!

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Belgian Congo** and **Cabinda**.

2. **Trichoscypha smythei** Hutch. & Dalz. F.W.T.A., ed. 1, 1: 508 (1928); Kew Bull. 1929: 28. *APD acc*

Trichoscypha atropurpurea of F.W.T.A., ed. 1, 1: 508, partly (Bunting 135, partly).

A slender tree, to 25 ft. high with main stem 2–3 In. diam. and leaves clustered at the top; flowers orange; **in forest**.

S. L.: Picket Hill (Dec.) Unwin & Smythe 33! **Lib.:** Bumbum.-Moala (Nov.) Linder 1329! Begwal (Sept.) Bunting 5 (partly)! 135 (partly)!

3. **Trichoscypha talbotii** Bak. f. in Cat. Talb. 22 (1913).

APD: Synonym of Trichoscypha laxiflora Engl.

S. Nig.: Oban Talbot 579!

4. **Trichoscypha camerunensis** Engl. Bot. Jahrb. 15 109 (1892).

APD: Synonym of Trichoscypha laxiflora Engl.

A small shrub, 2 ft. high, with rusty-pilose branchlets and inflorescence.

Br. Cam.: Kumba-Ninga to Mokonje (Apr.) Preuss 99.

5. **Trichoscypha cavalliensis** Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 647 (1934); Aubrév. Fl. For. C. Iv. 2: 166. *APD acc*

A **forest** tree, up to 60 ft. high, with smooth greyish bark.

Lib.: Dukwia R. (fl. July, young fr. Oct.) Cooper 107! Linder 81! Zeahtown (Aug.) Baldwin, 6977! **Iv. C.:** Taté to Tabou, Cavally Basin (Aug.) Chev. 19834! **G. C.:** Antkasa, W. Apollonia (young fr. Aug.) Chipp 331!

6. **Trichoscypha preussii** Engl. Bot. Jahrb. 15: 110 (1892). T. ferruginea of F.W.T.A., ed. 1, 1: 510, partly (Talbot 87, 1301, Preuss 463 and syn. T. preussii Engl.).

APD: Synonym of Trichoscypha bijuga Engl.

A tree, to 30 ft. high; ripe fruits bright red; **in forest**.

S. Nig.: Oban Tuttot 81! 87! 1301! Aningeje F.R., Calabar (Aug.) Olorunfemi FHI 34207! Boshi-Okwangwo F.R., Obudu Div. (fr. May). Latilo FH 30925! **Br. Cam.:** Victoria Winkler 638! Barombi-ba-Mbu (Sept.) Preuss 463! S. Bakundu F.R. Onochie FHI 32062!

Also in **French Cameroons**.

7. **Trichoscypha bijuga** Engl. Bot. Jahrb. 1: 425 (1881). *APD acc*

A shrub or small tree, 12–15 ft. high; flowers pinkish red.

Br. Cam.: Likomba (Nov.) Mildbr. 10700! **F. Po:** (Mar.) Mann 2343!

8. **Trichoscypha beguei** Aubrév. & Pellgr. in Bull. Soc. Bot. Fr. 81: 648 (1934); Aubrév. Fl. For. C. Iv. 2: 166, t. 189, 7–8.

APD: Synonym of Trichoscypha bijuga Engl.

Trichoscypha atropurpurea of F.W.T.A., ed. 1, 1: 508, partly (Bunting 135, partly).

A small tree, with long, narrow, pendulous panicles; **in forest**.

Lib.: Zeahtown, Tchien (Aug.) Baldwin 6974! Begwai (Sept.) Bunting 5 (partly)! 135 (partly)! **Iv. C.:** Be Yakasse (Aug.) Aubrev. 1789!

9. *Trichoscypha baldwinii* Keay in Bull. Jard. Bot. Brux. 26: 206 (1956). *APD acc*

A tree, to 20 ft. high; **in forest**.

Lib.: Jabroke, Webo (July) Baldwin 6485! Zeahtown, Tchien (Aug.) Baldwin 6938! Ganta (Sept.) Baldwin 12519! **G. C.:** Bonsa Su (May) Vigne FH 1983!

10. *Trichoscypha patens* (Oliv.) Engl. Bot. Jahrb. 1: 425 (1881); op. cit. 54: 321. *APD acc*

Sorindeia patens Oliv. F.T.A. 1: 441 (1868).

Trichoscypha victoriae Engl. Bot. Jahrb. 36: 224 (1905); F.W.T.A., ed. 1, 1: 508.

Trichoscypha paniculata Engl. op. cit. 43: 413 (1909).

A **forest** tree, to 30 ft. or more high, with rather drooping branches; flowers creamy-yellow.

S. Nig.: Oban Talbot 1725! 1737! 1738! 1752! Stubbs' Creek F.R., Eket (May) Onochie FHI 32911! **Br. Cam.:** Bimbia (Mar.–May) Preuss 1206; 1293. Victoria (Jan.) Maitland 182!

Also in **French Camerouns** and **Spanish Guinea**.

11. *Trichoscypha arborea* (A. Chev.) A. Chev. Bot. 161 (1920); F.W.T.A., ed. 1, 1: 508, partly (Chev. B. 22322 only); Aubrév. Fl. For. C. Iv. 2: 164, t. 188. *APD acc*

Emiliomarcelia arborea A. Chev. in Bull. Soc. Bot. Fr. 58, Mém. 8: 151 (1912).

Trichoscypha ferruginea of F.W.T.A., ed. 1, 1: 510, partly.

A **forest** tree, to 70 ft. or more high, with straight bole; bark smooth, slash reddish, resinous; flowers red; fruits red, sweet.

S. L.: Mange (young fr. Feb.) Deighton 3616! Kambui Hills South F.R., (fr. Dec.) Small 861! **Lib.:** Dukwia R. (young fr. Oct.) Cooper 65! 230! Karmadhun, Kolahun (fr. Nov.) Baldwin 10202! **Iv. C.:** Yapó (fr. Oct.) Chev. B. 22322! Abidjan Aubrév. 57! Banco Martineau 299! **G. C.:** Subri F.R., Tarkwa Dist. (Aug.) C. J. Taylor GC 5357! Achimkrom (July) Vigne FH 1261, **S. Nig.:** Oban Talbot 209! 228! **Br. Cam.:** Mawne River F.B., Mamfe (Nov.) Tamajong FHI 22114!

12. *Trichoscypha mannii* Hook. f. in Benth. & Hook. f. Gen. Pl. 1: 423 (1862); F.T.A. 1: 444. *APD acc*

A **forest** tree, to 40 ft. high; fruits dull red, seeds black.

S. Nig.: Calabar R. (ff. & fr. Feb.) Mann 2238! Ikom Div. (fr. May) Jones & Onochie FHI 17450! Oban Talbot 208! 1278! 1368! **Br. Cam.:** Banga to Mungo R., Kumba Div. (Apr.) Olorunfemi FHI 30528!

Also in **Gabon**.

13. *Trichoscypha chevalieri* Aubrév. & Pellgr. in Bull. Soc. Bot. Fr. 81; 647 (1934); Aubrév. Fl. For. C. Iv. 2: 162, t. 189, 4–6.

APD: *Synonym of Trichoscypha lucens* Oliv.

Trichoscypha arborea of F.W.T.A., ed. 1, 1: 508, partly (Chipp 318).

A tree, to 20 ft. high, with spreading habit; **in forest**.

Iv. C.: Cavally Basin: Taté to Tabou (Aug.) Chev. 19835! Noé (Aug.) Chev. 19837! Prolo to Bliéron (Aug.) Chev. 19892! **G. C.:** Prestea (ff. & fr. Sept.) Vigne FH 3070! Amokokrom, W. Apollonia (Aug.) Chipp 318! Kumasi (Feb.) Vigne FH 1039!

14. *Trichoscypha* sp. **A.** *APD acc*

Possibly new, but more material required. Liane with heavy woody stem; calyx greenish-white with brownish indumentum, petals buff, ovary and disk chestnut brown; **in forest**.

Lib.: Gbanga (Sept.) Linder 721!

15. *Trichoscypha* sp. **B.** *APD acc*

Shrub or tree, to 15 ft. high, with densely brown-hirsute terminal congested inflorescence.

Lib.: Yila, St. John B., Gbanga (Aug.) Baldwin 9133!

Possibly new, but more material required.

16. **Trichoscypha atropurpurea** *Engl.* Bot. Jahrb. 36: 222 (1905); F.W.T.A., ed. 1, 1: 508, partly (excl. Bunting 135).

APD: Synonym of Trichoscypha mannii Hook. f.

An unbranched tree, to 15 ft. high; flowers blood-red, drying black, disk reddish-brown; **in forest**.

Lib.: Grand Bassa (Oct.) Dinklage 2082. Kolubanu (Oct.) Liner 1122! Javajal, Boporo (Nov.) Baldwin 10283a! **G. C.:** Aiyase, Axim Dist. (Nov.) Vigne FH 1439!

17. **Trichoscypha longifolia** (*Hook. f.*) *Engl.* Bot. Jahrb. 1: 425 (1881); In DC. Monogr. 4: 305. *APD acc*

Dupuisia? **longifolia** *Hook. f.* in Fl. Nigrit. 287 (1849).

Sorindeia longifolia (*Hook. f.*) *Oliv.* F.T.A. 1: 442 (1868); F.W.T.A., ed. 1, 1: 507.

S. afzelii *Engl.* Bot. Jahrb. 15: 107 (1892), not of *Engl.* (1917).

A **forest** tree, to 50 ft. high; with clean bole and no buttresses; sap oxidizing to a strong black stain on exposure.

S. L.: Afzelius! T. Vogel 160! Makump (July) Thomas 885! Dodo Hills F.R. (fr. Jan.) Sawyerr FHK 13572! **Lib.:** Dukwia R. (fl. Sept., fr. May) Cooper 366] 435! Zule, Boporo (fr. Nov.) Baldwin 10236;

18. **Trichoscypha oba** *Aubrev. & Pellegr.* in Bull. Soc. Bot. Fr. 81: 648 (1934); *Aubrev. Fl. For. C. Iv.* 2: 166, t. 190.

APD: Synonym of Trichoscypha lucens Oliv.

Pseudospondias luxurians *A. Chev.* Bot. 157, name only. Note In F.T.A. 1: 442, after *Sorindeia mannii* *Oliv.*

Trichoscypha ferruginea of F.W.T.A., ed. 1, 1: 510, partly (Barter 2151, Dalz. 1229, MacGregor 317, Millen 93).

A small tree or shrub; petals white; **in forest**.

Iv. C.: Bingerville region Chev. 15248! Dabou (fr. Nov.) Jolly 154! Banco Martineau 297! 317! **S. Nig.:** Lagos (fl. Apr., May, Oct.). Barter 2151! Dalz. 1229! MacGregor 317! N. of Eba Isl. (Jan.) Thornevill 264! Aguku Thomas 832!

19. **Trichoscypha yapoensis** *Aubrév. & Pellegr.* l.c. 81: 649 (1934); *Aubrev. l.c.* 2: 164, t. 189, 1–3.

APD: Synonym of Trichoscypha lucens Oliv.

A **forest** tree, to 75 ft. high, sometimes with buttresses; flowers white or cream; cotyledons purple.

Lib.: Dukwia R. (fl. Oct., fr. Nov.) Cooper 66! 141! **Iv. C.:** Yapo (fr. Dec.) Aubrév. 593!

20. **Trichoscypha longipetala** *Bak. f.* in Cat. Talb. 22 (1913).

APD: Synonym of Trichoscypha mannii Hook. f.

A small tree.

S. Nig.: Oban Talbot 1681!

21. **Trichoscypha smeathmannii** *Keay* l.c. 205, fig. 63 (1956).

APD: Synonym of Trichoscypha smythei Hutch. & Dalziel

Brucea paniculata *Lam.* Encycl. Méth. Bot. 1: 472 (1785); F.T.A. 1: 310 (excl. syn. guineensis G. Don); not *Trichoscypha paniculata* *Engl.* (1909).

Trichoscypha arborea of F.W.T.A., ed. 1, 1: 508, partly (Lane-Poole 467).

A small tree, or straggling bush, to 20 ft. high; flowers white, fragrant.

Fr. G.: Kouria (Nov.) Chev. 14753! **S. L.:** Don! Smeathmann! Belbu, Bonthe Isl. (Nov.) Deighton 2328! Port Loko (young fr. Dec.) Thomas 6613! 6700! Bo Lane-Poole 467! Njala (Oct.) Deighton 1412! 1779! 2802! Bumbuna (Oct.) Thomas 3420! 3726! **Lib.:** Fisherman's Lake (fr. Dec.) Baldwin 10899!

22. *Trichoscypha albiflora* Engl. Bot. Jahrb. 36: 223 (1905).

APD: *Synonym of Trichoscypha lucens Oliv.*

Trichoscypha ferruginea of F.W.T.A., ed. 1, 1: 510, partly.

A shrub, scarcely branched, to 15 ft. high; in forest near coast.

Lib.: Fishtown (Aug.) Dinklage 2024! [**G. C.:** Gyamera, W.P., just above beach In closed forest (Feb.) Irvine 2280! — sterile specimen, identification very tentative.]

1. *Trichoscypha liberica* Engl. Bot. Jahrb. 15: 108 (1892).

Lib.: Monrovia (Aug.) Naumann.

Possibly the same as *T. yapoensis* Aubréy. & Pellegr. (1934), but type-specimen presumably destroyed. Imperfectly known species.

2. *Trichoscypha* sp. C.

“Small tree, to 15 ft. high, in savannah woodland; fruits red.”

S. Nig.: Akparabon to Adijinkpon, Ikom Div. (fr. June) Latilo FHI 31823!

Possibly the same as *Sorindeia albiflora* Engl. & K. Krause (q.v.). Imperfectly known species.

12. SORINDEIA

Thouars — F.T.A. 1: 439.

Dupuisia A. Rich. (1831).

- 1 Petals valvate:.....2
 Petals imbricate; inflorescences axillary on older branchlets or from main stem, glabrous or nearly so; calyx 2 mm. long, shortly lobed, glabrous:5
- 2 Panicles terminal and in the upper leaf-axils, pubescent, puberulous or nearly glabrous, to 50 cm. long; leaflets coriaceous:3
 Panicles borne on the trunk of a 3–10 m. high tree, glabrous or very nearly so, to 30 cm. long, pedicels about 2 mm. long; calyx 2 mm. long, subtruncate or with very short broad teeth, not ciliate; petals 4 mm. long, 2 mm. broad; leaflets membranous alternate or subopposite, about 9, lanceolate or ovate-oblong, obtuse or cuneate at base, gradually long-acuminate, 7–21 cm. long, 4–7 cm. broad, with 9–14 main lateral nerves on each side of midrib; fruits ellipsoid, about 2 cm. long4. *collina*
- 3 Petals 3.5–4 mm. long, 1.5–1.75 mm. broad; calyx 2 mm. long; ovary glabrous; inflorescences and flowers puberulous or nearly glabrous; leaflets opposite or subopposite:4
 Petals 2.75 mm. long, 1 mm. broad; calyx 1.25 mm. long, broadly toothed; ovary tomentellous; inflorescences and flowers rusty-puberulous, usually rather densely so; pedicels about 3 mm. long; leaflets 3–8, oblong to obovate, obtuse and sometimes unequal at base, rather abruptly acuminate, 6–15 cm. long, 2.5–8 cm. broad, with 6–9 main lateral nerves on each side of midrib; fruits ellipsoid, about 3.5 cm. long; tree, to 14 m. high 3. *nitidula*
- 4 Calyx subtruncate or with very short broad teeth, not ciliate; inflorescence puberulous to nearly glabrous, pedicels to 5 mm. long; leaflets 1–9, oblong or oblong-elliptic, obtuse at base, shortly acuminate, 3.3–22 cm. long, 2–8.4 cm. broad, with 6–10 main lateral nerves on each side of midrib; fruits ellipsoid, about 1 cm. long; shrub or small tree1. *juglandifolia*
 Calyx rather deeply lobed, ciliate; inflorescence densely rusty-puberulous, pedicels to 1.5 mm. long; leaflets about 9, oblong, obtuse at base, often abruptly acuminate, 6–12 (–17) cm. long, 2.5–5.2 (–8) cm. broad, with 10–12 main lateral nerves on each side of midrib; fruits ellipsoid, about 2.5 cm. long; tree, to 15 m. high2. *mildbraedii*
- 5 Inflorescences racemose, rarely subpaniculate, 2–9 (–2) cm. long; fruits ellipsoid, about 1.2 cm. long; main lateral nerves 5–8 on each side of midrib; shrub, to 4 m. high; leaflets 1–6, opposite or subopposite, often oblong-elliptic or elliptic, the terminal one often obovate-oblong, rounded at base, broadly and obtusely

acuminate, 1.5–14 cm. long, 0.8–7.5 (–10) cm. broad[5. warneckeii](#)

Inflorescences paniculate, 16–30 cm. long; fruits ellipsoid, about 2 cm. long; main lateral nerves 9–14 on each side of midrib; shrub or tree, to 15 m. high; leaflets 3–7, alternate or subopposite, ovate-oblong to lanceolate, cuneate, obtuse or more rarely rounded at base, acuminate, 12–30 cm. long, 3.7–13 cm. broad ..[6. grandifolia](#)

1. **Sorindeia juglandifolia** (A. Rich.) Planch. ex Oliv. F.T.A. 1: 440 (1868), incl. var. *divaricata* Oliv.; Chev. Bot. 160, partly; Aubrév. Fl. For. C. Iv. 2: 174; Fl. For. Soud.-Guin. 407–409, t. 86, 4–5.
APD acc

APD: Synonym of Sorindeia rhodesica R. Fern. & A. Fern.

Dupuisia juglandifolia A. Rich. in Fl. Seneg. 1: 148, t. 38 (Sept. 1831).

Sapindus simplicifolius G. Don (Aug. 1831).

Sorindeia simplicifolia (G. Don) Exell in Cat. S. Tomé 145 (1944); Consp. Fl. Ang. 2: 97; not of (H.B. & K.) March. (1869).

Sorindeia heterophylla Hook. f. (1849).

(?) **S. afzelii** Engl. Bot. Jahrb. 54: 313 (1917); not of Engl. (1892).

A shrub or small tree; flowers whitish, tinged pink.

Sen.: Perrottet 151! Ziguinchor, Casamance (Mar., Apr.) Leprieur. Bignona Aubrév. 3061. Floup Fedyan Chev. 3167. **Fr. Sud.:** Diendénia (Feb.) Chev. 436. **Port. G.:** Bor, Bissau (Feb.) Esp. Santo 1742! **Fr. G.:** Rio Nunez Heudelot! Conakry (Mar.) Debeaux 311! Kouroussa (Feb.) Chev. 377! And other localities fide Chev. l.c. **S. L.:** Afzelius Don! Freetown Sc. Elliot! Bagroo. R. (Mar.) Mann 796! Erimakuna (fr. Mar.) Sc. Elliot 5404! Musaia (Dec.) Deighton 4545! Lusenya, Samu (Dec.) Sc. Elliot 4311! Sendugu (June) Thomas 671! **Iv. C.:** various localities fide Chev. & Aubré. ll.c. **G. C.:** Kintampo (Mar.) Dalz 18! **Dah.:** Kouandé to Konkobiri Chev. 24241.

Also in **Ubangi-Shari**, **Angola** and **N. Rhodesia**.

2. **Sorindeia mildbraedii** Engl. & v. Brehm. in Engl. Bot. Jahrb. 54: 311 (1917).

APD: Synonym of Sorindeia winkleri Engl.

An understory tree, to 50 ft. high; panicles drooping, axes deep reddish-purple, flower-buds pale green; fruits orange and red; **in forest**.

S. Nig.: Stubbs' Creek F.R., Eket (fr. May) Onochie FHI 32906! **Br. Cam.:** Banga, Kumba Div. (fl. Mar., fr. Aug.) Brenan 9432! Olorunfemi FHI 30726!

[These specimens have been determined from the description only; the type, presumably now destroyed, was from the French Cameroons.]

3. **Sorindeia nitidula** Engl. Bot. Jahrb. 36: 221 (1905).

APD: Synonym of Sorindeia africana (Engl.) Van der Veken

An understory tree, to 45 ft. high; flowers pale yellowish or whitish-green; ripe fruits bright red; **in forest**.

S. Nig.: Oban Talbot 1714! Abo Eme, Ikom Div. (May) Latilo FHI 30983! Kanyang, Ikom Div. (fr. May) Latilo FHI 30989! **Br. Cam.:** Victoria (May) Maitland 671!

Also in **French Cameroons**.

4. **Sorindeia collina** Keay in Bull. Jard. Bot. Brux. 26: 208 (1956).

APD: Synonym of Sorindeia juglandifolia (A. Rich.) Planch. ex Oliv.

A tree, to 30 ft. high; leaves clustered at the ends of the branches; cauliflorous, with the inflorescences from ground level up to about 10 ft. high; flowers reddish; **in forest on hills**.

S. L.: Tingi Mts., 2,000 ft. (fr. Feb.) Deighton 3511! Kambil Hills, Koya (Dec.) Small 867! Bintumane Peak, 3,200 ft. (Jan.) T. S. Jones 130!

5. **Sorindeia warneckeii** Engl. Bot. Jahrb. 36: 221 (1905); Chev. Bot. 161; Aubrév. Fl. For. C. Iv. 2: 174; Fl. For. Soud.-Guin. 407–409, t. 86, 6.

APD: Synonym of Sorindeia grandifolia Engl.

Sorindeia schroederi Engl. & K. Krause (1911).

Sorindeia juglandifolia of Chev. Bot. 160, partly, and of F.W.T.A., ed. 1, 1: 507, partly (Chev. 23360; 23455).

Lannea dahomensis A. Chev. Bot. 159, name only, partly.

A shrub, usually straggling; calyx green, petals pink, or white tinged pink; ripe fruits bright orange; **in understorey of forest and in regrowth.**

S. L.: Afzelius. **iv. C.:** Fétékro Aubrév. 811. **G. C.:** Aburi (Nov.) Brown 785! Juaso, Ashanti (fr. Aug.) Irvine 275! Pokoase (fr. Jan.) Irvine 1956! Achimota (fl. Dec., fr. Feb.) Irvine 2003! Milne-Redhead 5175! **Togo:** Lome (fl. & fr. Feb.) Warnecke 52! Okrabi, Hohoe Dist. (Nov.) St. C. Thompson FHI 3691! Ho(Feb.) Schröder 211. **Dah.:** Ouidah Chev. 23455! Cotonou Chev. 23360! Ketou to L. Azri, Zagnanado Chev. 23039 (partly)! **S. Nig.:** Lagos (fr. Feb.) Dalz. 1066! 1230! Millson! Ibadan (fl. Nov.–Feb., fr. Feb.) Keay FHI 14167! 22482! Meikle 977! 1127! Iguabazowa F.R., Benin (fr. Feb.) Onochie FHI 27141! Umueze, Onitsha (fl. & young fr. Feb.) Jones FHI 5033! 5034! Oban Talbot 1277! 1364!

6. *Sorindeia grandifolia* Engl. Bot. Jahrb. 11, Beibl. 26: 7 (1890). *APD acc*

Sorindeia acutifolia Engl. (1890).

Sorindeia juglandifolia of F.W.T.A., ed. 1, 1: 507, partly.

A shrub or tree, to 50 ft. high; calyx pale green, petals pink.

S. Nig.: Oban Talbot 1307a! 1382! 1429! 1434! **Br. Cam.:** L. Barombi, Kumba (Mar.) Brenan & Onochie 9464! 9465! N.Korup F.R., Kumba Div. (fr. July) Olorunfemi FHI 30668! Bakebe to Eyang, Mamfe Div. (Jan.) Umana FHI 28553! Metschum Falls, Bamenda Prov. (Jan.) Keay & Russell FHI 28527!

Also on **S. Tomé.**

1. *Sorindeia albiflora* Engl. & K. Krause in Engl. Bot. Jahrb. 46: 341 (1911). *APD acc*

A tree, to 40 ft. high; leaflets 13–15, appressed-pilose beneath; ovary densely pilose, stigmas 5; type specimen presumably destroyed.

Br. Cam.: Bamenda to Babongi (Dec.) Ledermann 1938.

[The description suggests a plant very different from other *Sorindeia* species in our area, and it possibly belongs to another genus. A fruiting specimen, Latilo FHI 31823, from **savannah** woodland in Ikom Div., S. Nig., may be the same, but I think it is a *Trichoscypha* (q.v.)] Imperfectly known species.

2. *Sorindeia protioides* Engl. & K. Krause l.c. 337 (1911).

APD: Synonym of Sorindeia grandifolia Engl.

A shrub or tree, to 45 ft. high; leaflets 5–7, glabrous; panicle lax, glabrous; aestivation of petals not described; type specimen presumably destroyed.

Br. Cam.: Babessi (Dec.) Ledermann 1986.

Also in **French Camerouns.**

Imperfectly known species.

1. *Sorindeia deliciosa* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 507 (1928)

Is *Santiria trimera* (Oliv.) Aubrév. (Burseraceae). Excluded species.

2. *Sorindeia doerngii* Engl. & K. Krause l.c. 338 (1911)

Is *Ekebergia senegalensis* A. Juss. (Mellaceae). Excluded species.

3. *Sorindeia longifolia* (Hook. f.) Oliv. — F.W.T.A., ed. 1, 1: 507

Is transferred to *Trichoscypha*. Excluded species.

Meisn. Pl. Vasc. Gen., diagn. 75, comm. 55 (1837).

- 1 Leaves 5–2 cm. broad, 6–22 cm. long, oblong or obovate, obtuse or emarginate; inflorescence a narrow cylindrical panicle; a suffrutex about 1 m. high [1. pulcherrima](#)
- Leaves 1–4 cm. broad, 4–14 cm. long, acute or acuminate, rarely obtuse or emarginate; shrubs and small trees: **2**
- 2 Leaves oblong, elliptical or broadly lanceolate, distinctly petiolate, scattered or irregularly whorled; inflorescence and infructescence lax, paniculate, overlapping the leaves [2. insignis](#)
- Leaves linear-lanceolate, shortly petiolate or sessile, regularly 3–4-whorled; infructescence condensed, axillary, much shorter than the leaves [3. sp. A](#)

1. *Heeria pulcherrima* (Schweinf.) O. Ktze. Rev. Gen. 152 (1891); Aubrév. Fl. For. Soud.-Guin. 412 (1950).

*APD: Synonym of *Ozoroa pulcherrima* (Schweinf.) R. Fern. & A. Fern.*

Anaphrenium pulcherrimum Schweinf. Beitr. Fl. Aeth. 1: 32 (1867).

Rhus pulcherrima (Schweinf.) Oliv. F.T.A. 1: 438 (1868).

R. djalensis A. Chev. Bot. 161 (1920), name only.

R. herbacea A. Chev. Bot. 161 (1920), name only.

An erect suffrutex with softly pubescent stems and leaves; flowers small, greenish or tinged red; fruits black, glossy; [in savannah](#).

Fr. G.: Timbo Pobéguin 139; 1498. Kollangui (Mar.) Chev. 13518! 13519! Along R. Niger (Mar.) Sc. Elliot 5167! **IV. C.:** Banfara Chev. 531. Kari Serv. For. 2862. **G. C.:** Kwomma to Nangrum (fl. May) Kitson 654! Sambisi to Hamboi (fl. May) Kitson 656! **Dah.:** Kouandé to Konkobiri (June) Chev. 24243! **N. Nig.:** Katagum Dist. Dalz. 358! Abinsi (fl. Mar.) Dalz. 775! Naraguta Lely 25! 71! Pankshin (fl. Dec.) W. D. MacGregor 420! Anara F.R., Zaria (fl. Mar., May) Keay FHI 22955! Olorunfemi FHI 24410! Birnin Gwari (fl. Feb.) Meikle 1228!

Also In [French Cameroons](#), [Ubangi-Shari](#), [Abyssinia](#) and [A.-E. Sudan](#).

2. *Heeria insignis* (Del.) O. Ktze. Rev. Gen. 152 (1891); Aubrév. Fl. For. Soud.-Guin. 412, incl. var. angustifolia Engl. and var. latifolia (Engl.) Engl.

*APD: Synonym of *Ozoroa paniculosa* var. *salicina* (Sond.) R. Fern. & A. Fern.*

*APD: Synonym of *Ozoroa insignis* Delile*

Ozoroa insignis Del. in Ann. Sci. Nat. sér. 2, 20: 91, t. 1, fig. 3 (1843).

Rhus insignis (Del.) Oliv. F.T.A. 1: 437 (1808); Chev. Bot. 161.

A branched shrub or small tree about 15–20 ft. high; undersurface of leaves silvery-white; flowers small, creamy; fruits glossy black; [in savannah](#).

Sen.: Leprieur; Heudelot 67! Sieber 33! M'bidjem, Thierry 228! **Gam.:** Dawe 38! Birram Rosevear 79! **Fr. G.:** Labé Pobéguin 2280. **Fr. Sud.:** Segou (Sept.) Chev. 3037! Bandiagara, Arbala, Koulouba & Sikasso to Bobo fide Aubrév. l.c. 415. **S. L.:** Musaia (fl. Oct.) Miszewski 50! **IV. C.:** Bobo Dioulasso Aubrév. 1843; 1890. Sakoini Aubrév. 2161. **G. C.:** Wa to Durimo (Mar.) Kitson 934! Belong (Mar.) Kitson 786! Tangkoasi Hill (May) Kitson! Prang to Attabulu (May) Kitson 657! Han (fr. Apr.) Vigne FH 3802! Lawra (Nov.) Vigne FH 4662! Wa (fr. Feb.) Adams GC 4465! **Dah.:** Atacora Mts. (June) Chev. 24027! **Fr. Nig.:** Niamey De Wailly 4925. **N. Nig.:** Nupe Barter 904! Kontagora (Oct.) Dalz. 101! Bauchi Plateau (fr. Feb.) Lely P. 141! Costello P. 5/28! Basawa, Zaria (Apr.) Keay FHI 16109! E. of Zurmi (Apr.) Keay FHI 16144! Gwari Hill, Minna (fr. Dec.) Meikle 697! Funtua (fr. Dec.) Meikle 826! 827! Ilorin (fl. Feb.) Ejiofor FHI 19836! **S. Nig.:** Old Oyo F.R. (fr. Feb.) Keay FHI 16263! 16293!

Also in [Ubangi-Shari](#), [Abyssinia](#) and [A.-E. Sudan](#).

3. *Heeria* sp. A.

A slender, virgate shrub with whorled Osier-like leaves, glossy above, and silvery-white beneath; fruits glossy black.

G. C.: Kintampo, N. Ashanti (fr. Nov.) Andoh FH 5422!

Perhaps an aberrant form of *H. insignis*, but material insufficient for certain determination.

14. RHUS

Linn. — F.T.A. 1: 436, partly.

- 1 Leaves deeply dentate-lobed; twigs armed with strong spines [1. tripartita](#)
 Leaves entire or obscurely crenate-dentate; twigs unarmed or very sparsely spinose: [2](#)
- 2 Inflorescence conspicuous, forming a lax panicle usually much longer than the subtending leaves; leaflets obovate or elliptical, 3–6 cm. long, 2–3 cm. broad, usually entire; twigs brown or fuscous, without spines; fruit 3–4 mm. diam., slightly compressed [2. longipes](#)
 Inflorescence inconspicuous, usually equalling or shorter than the subtending leaves; leaflets obovate or elliptical, 1.5–5 cm. long, 1–3 cm. broad, obscurely crenate or serrate towards the apex; twigs pale grey or grey-brown, sometimes a little spinose; fruits 5–6 mm. diam., strongly compressed [3. natalensis](#)

1. **Rhus tripartita** (*Ucria*) *Grande* in Bull. Ort. Bot. Nap. 4: 242, 243 (1918), as *R. tripartita* (*Ucria*) DC.
APD acc

Rhamnus tripartita *Ucria* in Roem. Arch. Bot. 1: 68 (1796).

Rhus dioica *Brouss. ex Willd.* Enum. Pl. Hort. Berol. 325 (1809).

Rhus oxyacantha of Aubrév. Fl. For. Soud.-Guin. 409, not of Schousb. ex Cav. in Anal. Ciénc. Nat. 3: 36 (1801).

A low spiny bush with small, deeply toothed or lobed, glabrous leaves, and strongly compressed, reddish fruits.

Fr.Nig.: Aïr Aubrév.

Also **Hoggar Mts., N. Africa, Egypt, Palestine** and **Sicily**.

2. **Rhus longipes** *Engl.* in DC. Monogr. 4: 431 (1883). *APD acc*

Rhus villosa of F.T.A. 1: 439, partly, not of Linn. f.

Rhus incana of F.W.T.A., ed. 1, 1: 512 (excl. var. *dahomensis* Hutch. & Dalz.); of Aubrév. Fl. For. Soud.-Guin. 410; not of Mill.

Schmidelia affinis of Chev. Bot. 149, at least in part, not of Guill. & Perr.

Rhus glaucescens of F.W.T.A., ed. 1, 1: 512, not of A. Rich.

A bush or small tree with pale green leaves; whitish or greenish flowers and dull red fruits.

Sen.: Cape Verde (Feb.) Döllinger 37! **Fr. G.:** Labé, Fouta Djallon (Mar.) Chev. 12404! **S. L.:** Loma Mts. (Jan.) Jaeger 4183! **N. Nig.:** Bauchi Plateau (Dec., Jan.) Lely P. 7! Kennedy 2859! Bauchi (fr. June) Cons. of For.! Naraguta (Nov., Dec.) Lely 718! W. D. MacGregor 384!

Widespread throughout tropical Africa.

3. **Rhus natalensis** *Bernh. ex Krauss* in Flora 27: 349 (1844); Aubrév. Fl. For. Soud.-Guin. 410. *APD acc*

APD: *Synonym of Searsia glaucescens* (A. Rich.) Moffett

Searsia natalensis (*Bernh. ex Krauss*) *Barkl.* in Lilloa 23: 253 (1950).

Rhus glaucescens A. Rich. Fl. Abyss. 1: 143 (1847); F.T.A. 1: 437.

Rhus incana var. *dahomensis* Hutch. & Dalz. F.W.T.A., ed. 1, 1: 512 (1928); Aubrev. l.c. 410.

A small shrub 4–10 ft. high; flowers greenish; fruits shining brown.

Fr. G.: Dalaba Adam 66. Saraya Maclaud 456. **iv. C.:** Batié Serv. For. 2502. **G. C.:** Wa, N.T. (Dec.) Adam GC 4470! **Dah.:** Kouandé to Konkobiri (June) Chev. 24263! **N. Nig.:** by Zaria Road, Jos (Aug.) Keay FHI 12711! Neill's Valley, Jos (fr. Nov.) Onochie & Adelodun FHI 21742!

Widespread throughout tropical Africa.

CONNARACEAE

Erect trees or shrubs, or scandent. Leaves alternate, compound, imparipinnate or 1–3-foliolate; stipules absent. Flowers hermaphrodite, actinomorphic or slightly zygomorphic. Calyx imbricate or valvate. Petals 5, free or sometimes slightly connate, imbricate or rarely valvate. Stamens hypogynous to perigynous, often declinate, 5 or 10; filaments often united at the base; anthers 2-celled, opening

lengthwise. Disk absent or thin. Carpels 1–5, free, 1–celled. Ovules 2, collateral, erect, attached near the base or the middle of the ventral suture, all or only 1 ripening into fruit. Fruit often splitting down one side exposing the seed. Seeds usually 1, with or without endosperm, often arillate.

A small tropical family.

Easily recognized by the pinnate or unifoliate exstipulate leaves, apocarpous ovary and arillate seeds.

- 1 Carpels 5: **2**
- Carpels solitary: **13**
- 2 Sepals free to base: **3**
- Sepals connate up to nearly half their length, enlarging in fruit; petals much longer than the sepals, linear and twisted; inflorescences axillary [10. *Spiropetalum*](#)
- 3 Androgynophore absent from the flower: **4**
- Androgynophore present; sepals not enlarged in fruit; leaflets striolate between the veins; several carpels fruitful, small and stipitate [9. *Manotes*](#)
- 4 Flowers appearing before or with the very young leaves; only 1 carpel fruitful; seed with a fleshy outer covering [3. *Byrsocarpus*](#)
- Flowers appearing after the leaves: **5**
- 5 Inflorescences terminal or nearly terminal, never on the older wood: **6**
- Inflorescences axillary or clustered on the older wood: **9**
- 6 Petals about half as long as the sepals; sepals not enlarged in fruit; seed with endosperm and a basal aril; several carpels fruitful [5. *Cnestis*](#)
- Petals as long as or longer than the sepals: **7**
- 7 Leaves 3-foliate; stellate hairs present; sepals with glandular hairs on the margins, not enlarged in fruit; seed without endosperm; several carpels fruitful [6. *Agelaea*](#)
- Leaves pinnate; stellate hairs absent; sepals without glandular hairs, enlarged in fruit; only 1 carpel fruitful, glabrous; aril adnate to seed, no endosperm: **8**
- 8 Leaflets 3–4 pairs; sepals fleshy in fruit; fruit oblong [4. *Jaundea*](#)
- Leaflets numerous, oblique, the lowermost stipule-like; sepals thin; fruit with a curved beak [1. *Roureopsis*](#)
- 9 Leaves pitted on the upper surface (sunken mucilage cells), 3-foliate; seed without endosperm; sepals not enlarged in fruit [7. *Castanola*](#)
- Leaves not pitted above; pinnate, rarely 3- or 1-foliate in No. 3: **10**
- 10 Sepals imbricate, glabrous except for ciliate margins, enlarging somewhat in fruit but thin; only 1 carpel fruitful; petals 3–4 times as long as sepals; inflorescences axillary: **11**
- Sepals almost valvate, tomentose: **12**
- 11 Fruiting carpel oblong, rounded at apex; leaflets (1–) 3–5 [3. *Byrsocarpus*](#)
- Fruiting carpel ovoid, acute at apex; leaflets 5–7 [8. *Santaloides*](#)
- 12 Petals equalling, or up to twice as long as, the sepals; inflorescences often clustered on the older branches; several carpels fruitful, pubescent; sepals not enlarging in fruit [5. *Cnestis*](#)
- Petals at least 4 times as long as the sepals, linear; inflorescences axillary; only 1 carpel fruitful, glabrous; sepals enlarging and leathery in fruit [2. *Paxia*](#)
- 13 Flowers borne on young growth: **14**
- Flowers in clusters of short racemes on the older wood; fruits 2-seeded; leaves large, imparipinnate, with 9–11 subopposite to alternate leaflets [13. *Jollydora*](#)
- 14 Leaflets several to each leaf; fertile stamens 10 or 5; seed without endosperm; inflorescences terminal or subterminal, paniculate [11. *Connarus*](#)
- Leaflet solitary; fertile stamens 5; seed with hard bony endosperm; inflorescences terminal or subterminal panicles or short axillary racemes [12. *Hemadradenia*](#)

1. ROUREOPSIS

Planch. in *Linnaea* 23: 423 (1850); *Schellenb.* in *Engl. Pflanzenr. Connarac.* 107 (1938).

- 1 Leaflets numerous, obliquely oblong, mucronate, 2.5–6 cm. long, 1–2 cm. broad, pubescent on the midrib beneath, with 1–2 basal nerves on one side, the basal leaflets smaller and stipule-like; flowers in sessile clusters

on very long inflorescences; fruits 1.5 cm. long, with a curved beak [obliquifoliolata](#)

Roureopsis obliquifoliolata (Gilg) Schellenb. Beitr. Vergl. Anat. Syst. Connarac. 28 (1910); Pflanzenr. 108, fig. 18 (1938); Troupin in Fl. Congo Belge 3: 77.

APD: *Synonym of Rourea obliquifoliolata* Gilg

Rourea obliquifoliolata Gilg (1891).

Roureopsis fasciculata Gilg (1891).

Roureopsis adiantoides Gilg (1896).

A climbing shrub with brown-pubescent branchlets; flowers dull yellow; fruits red, splitting to expose a black seed with a fleshy yellowish aril; [in rain forest](#).

S. Nig.: Oban Talbot 504! 578! Eket Talbot!

Also in [French Camerouns](#), [Spanish Guinea](#), [Belgian Congo](#) and [Angola](#).

2. PAXIA

Gilg in Engl. Bot. Jahrb. 14: 320 (1891); Schellenb. in Engl. Pflanzenr. Connarac. 114 (1938)

- 1** Midrib of leaflets glabrous beneath; leaflets elliptic-obovate, gradually acuminate, 8–12 cm. long, 3–6 cm. broad, with 4–5 pairs of lateral nerves; cymes axillary, very short and fasciculate, puberulous; petals about 1.5 cm. long [1. liberosepala](#)

Midrib of leaflets puberulous beneath; leaflets ovate or ovate-lanceolate, obtusely acuminate, 5–10 cm. long, 2.5–4 cm. broad, leathery, with 6–7 pairs of lateral nerves; cymes few-flowered, fasciculate; fruits 2.5–3 cm. long [2. cinnabarina](#)

- 1. Paxia liberosepala** (Bak. f.) Schellenb. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 514 (1928); Schellenb. in Engl. Pflanzenr. Connarac. 115.

APD: *Synonym of Rourea myriantha* Baill.

Spiropetalum liberosepalum Bak. f. (1913).

A glabrous climbing shrub with dull yellow flowers.

S. Nig.: Oban Talbot 575! 1404a!

- 2. Paxia cinnabarina** Schellenb. in Engl. Bot. Jahrb. 55: 449 (1919); Pflanzenr. 118.

APD: *Synonym of Rourea myriantha* Baill.

Paxia liberosepala of Schellenb. (1938), partly (Talbot 3352).

A climbing shrub; branchlets rusty-yellow when young; flowers white; fruits cinnabar-red.

S. Nig.: Eket Talbot 3352! **Br. Cam.:** Victoria Winkler 526.

Also in [French Camerouns](#).

3. BYRSOCARPUS

APD: *Synonym of Rourea Aubl.*

Schum. & Thonn. Beskr. Guin. Pl. 226 (1827); Schellenb. in Engl. Pflanzenr. Connarac. 146 (1938).

- 1** Leaflets obtuse at apex, not acuminate, sometimes refuse, 7–11 or more, oblong, the lateral ones oblique, very flaccid when young, 5–45 mm. long, 3–20 mm. broad, glabrous or pilose on the midrib beneath; inflorescences 2–3 cm. long, bracts inconspicuous, 1–2 mm. long; fruits oblong, 1.5 cm. long, glabrous [1. coccineus](#)

Leaflets acuminate, 2–17 cm. long: [2](#)

- 2 Leaflets lanceolate to ovate-lanceolate, rounded at base, acute to acuminate at apex, 2.5–7 cm. long, 1–3 cm. broad; inflorescences 1.5–3 cm. long, appearing with the young leaves; bracts ovate, 4 mm. long; fruits oblong, 1.5–2 cm. long, glabrous [2. poggeanus](#)
- Leaflets ovate to obovate or broadly elliptic: **3**
- 3 Inflorescences up to 2 cm. long, appearing amongst the mature leaves; bracts ovate-lanceolate, 2–3 mm. long; leaflets (1–) 3–5, broadly elliptic to obovate, rounded at base, long-caudate-acuminate, 2.5–17 cm. long, 1.5–8 cm. broad; fruits oblong, 2 cm. long, glabrous [3. viridis](#)
- Inflorescences 5–7 cm. long, appearing with the young leaves; bracts subulate, 1 mm. long; leaflets 5–9, rhomboid-elliptic to ovate, cuneate to rounded at base, shortly and gradually acuminate at apex, 2–8 cm. long, 1–4.5 cm. broad; fruits 1.5 cm. long, contracted about the middle, glabrous [4. dinklagei](#)

1. **Byrsocarpus coccineus** *Schum. & Thonn.* — F.T.A. 1: 452, incl. var. *parvifolius* (Planch.) Bak.; Schellenb. in Engl. Pflanzenr. Connarac. 148; Chev. Bot. 163; Troupin in Fl. Congo Belge 3: 91.

APD: *Synonym of Rourea coccinea* (Schumach. & Thonn.) Benth. var. *coccinea*

A shrub or climber about 6 ft. high; flowers white; fruits red, aril yellow and seed black; **in** secondary forest or thickets in savannah.

Fr. G.: Rio Nunez Heudelot 811! Dyeke (fr. Oct.) Baldwin 9659! Kaba Chev. 13131. Kaoulendougou Chev. 18142. **S. L.:** Kambia, R. Scarcies (Dec.) Sc. Elliot 4347! Falaba (Apr.) Aylmer 47! Taïama Dawe 496! Kowama (fr. Nov.) Deighton 5250! **Lib.:** Cape Palmas (fr. July) T. Vogel 37! Zigida (Mar.) Bequaert 136! Tubman Bridge (fr. Sept.) Barker 1409! Monrovia (fr. June) Baldwin 5939! **iv. C.:** several localities fide Chev. l.c. **G. C.:** Accra T. Vogel 33! Aburi Hills (fr. June) Williams 294! Kumasi (Feb.) Darko 527! Mampong (fr. May) Kitson 928! **Togo:** Lome Warnecke 55! Misahöhe Baumann 554! Kpandu (fr. June) Andoh FH 5290! Sokode Kersting A. 431! **Dah.:** Cotonou Chev. 4446. Porto Novo Chev. 22781. Kouandé to Konkobiri Chev. 24289. **N. Nig.:** Nupe Barter 1191! 1688! Lokoja (Apr.) Elliott 46! Sokoto (May) Lely 840! Vom, 3,000–4,500 ft. Dent Young 32! **S. Nig.:** Lagos Barter 2179! Ibadan to Abeokuta (Mar.) Schlechter 13020! Warrake, Benin (fr. June) Dundas FHI 21477! **Br. Cam.:** Bamenda, 3,000–3,500 ft. (fr. Apr., May) Maitland 1449! 1595!

Widespread in tropical Africa.

2. **Byrsocarpus poggeanus** (Gilg) Schellenb. Beitr. Vergl. Anat. Syst. Connarac. 45 (1910); Pflanzenr. 154; Troupin l.c. 93.

APD: *Synonym of Rourea coccinea* var. *viridis* (Gilg) Jongkind

Rourea poggeana Gilg (1891).

A lax climbing shrub, up to 6 ft. high; flowers pale yellow; fruits red; **in** moist thickets.

S. Nig.: Ibadan (Mar.) Meikle 1254!

Also in **French Cameroons**, **Gabon**, **Spanish Guinea**, **Belgian Congo** and **Angola**.

3. **Byrsocarpus viridis** (Gilg) Schellenb. Beitr. Vergl. Anat. Syst. Connarac. 46 (1910); Pflanzenr. 158, fig. 28; Troupin l.c. 96.

APD: *Synonym of Rourea coccinea* var. *viridis* (Gilg) Jongkind

Rourea viridis Gilg (1891).

R. unifoliolata Gilg (1891).

R. mannii Gilg (1891).

R. pallens Hiern (1896).

A shrub or climber; flowers white; fruits pinkish; **in** forest.

S. Nig.: Onitsha Barter 1634! Aguku Thomas 780! Oban Talbot 1622! 1629! Degema Talbot 3794! Old Calabar Thomson 52!

Also in **French Cameroons**, **Gabon**, **French Congo** and **Belgian Congo** and **Angola**.

4. **Byrsocarpus dinklagei** (Gilg) Schellenb. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 514 (1928); Schellenb. l.c. 157; Troupin l.c. 94.

APD: *Synonym of Rourea coccinea* var. *viridis* (Gilg) Jongkind

Rourea dinklagei Gilg (1895).

Climbing shrub about 12 ft. high; calyx pinkish; corolla white; fruits red with a shining black seed; [in forest](#).

S. Nig.: Calabar (fl. Mar., Apr., fr. Aug.) Holland, 25! 67! Brenan 9222! Oban Talbot 1621! **Br. Cam.:** Cameroons R. (Jan.) Mann 756! Victoria Preuss 1375. Johann-Albrechtshöhe Staudt 901. **F. Po:** Mann 279!

Also in [French Cameroons](#), [Ubangi-Shari](#) and [Belgian Congo](#).

4. JAUNDEA

Gilg in Pflanzenfam. 3, 3: 388 (1894); Schellenb. in Engl. Pflanzenr. Connarac. 161 (1938).

- 1 Leaflets more or less pilose on the nerves beneath, about 3 pairs, obovate or obovate-elliptic, acutely acuminate, rounded or obtuse at the base, up to 12 cm. long and 7 cm. broad, strongly veined beneath; panicles shorter than the leaves; calyx puberulous; fruits 2·5 cm. long. [1. pubescens](#)

Leaflets glabrous beneath but sometimes hairy on the midrib; **2**

- 2 Leaflets lanceolate, gradually long-acuminate, rounded at the base, 5–10 cm. long, 2–2·5 cm. broad, laxly reticulate; fruit obliquely oblong, about 2 cm. long [2. baumannii](#)

Leaflets ovate or oblong-obovate, 3–4 pairs, obtusely pointed and mucronate, up to 12 cm. long and 5 cm. broad, laxly veined beneath; panicles clustered and short; calyx pubescent outside; fruits 2–3 cm. long [3. pinnata](#)

1. *Jaundea pubescens* (Bak.) Schellenb. in Engl. Bot. Jahrb. 55: 462 (1919); Engl. Pflanzenr. Connarac. 162; Troupin in Fl. Congo Belge 3: 84.

APD: Synonym of Rourea thomsonii (Baker) Jongkind

Connarus pubescens Bak. in F.T.A. 1: 458 (1868).

C. thomsoni Bak. (1868).

Rourea buchholzii Gilg (1895).

R. nivea Gilg (1900).

A shrub or climber 15 ft. high with white flowers.

S. Nig.: Lagos (Dec.) Hagerup 750! Millen 109! Cross River North F.R., Ikom (fr. June) Latilo FHI 31832! Old Calabar (Feb.) Mann 2254! Thomson 26! Eket Talbot 3144!

Also in [French Cameroons](#), [Spanish Guinea](#), [Belgian Congo](#) and [Cabinda](#).

2. *Jaundea baumannii* (Gilg) Schellenb. in Engl. Bot. Jahrb. 55: 460 (1919); Pflanzenr. 164.

APD: Synonym of Rourea thomsonii (Baker) Jongkind

Rourea baumannii Gilg (1896).

A lofty climbing shrub.

Togo: Misahöhe (fr. Mar.) Baumann 31.

3. *Jaundea pinnata* (P. Beauv.) Schellenb. in Candollea 2: 92 (1925); Pflanzenr. 164, fig. 29; Troupin l.c. 87, t. 6.

APD: Synonym of Rourea thomsonii (Baker) Jongkind

Cnestis pinnata P. Beauv. (1806).

Manotes palisotii Planch. (1850).

Rourea palisotii (Planch.) Baill. (1866).

R. pseudobaccata Gilg (1891).

R. ivorensis A. Chev. Bot. 165, name only.

Jaundea zenkeri Gilg (1895).

A strong woody climber, 15–20 ft. high, or sometimes an erect shrub; flowers white or pink-tinged, fragrant; fruits red; [in forest](#).

Fr. G.: Kouria Dumas in Hb. Chev. 18172; Chev. 14810! Oussoudou to Diédédou, Beyla (fr. Feb.) Chev. 20847! **S. L.:** Kanguma Smythe 118! Kenema (fr. Jan.) Thomas 7510! **Lib.:** Monrovia Whyte! Kolubanu (fr. Oct.) Linder 1117! Genna Tanyehun (fr. Dec.) Baldwin 10752! Duport (fr. Oct.) Barker 1437! **Iv. C.:** Daoukrou to Akabilékrou (Dec.) Chev. 22503! **G. C.:** Akwapim Hills (Nov.) Johnson 777! Kumasi (Jan.) Irvine 39! Aburi (fr. Apr.) Irvine 218! Odumasi (Dec.) Vigne FH 3497! **Togo:** Atakpame (Nov.) Mildbr. 7423! Doering 273. Misahöhe Baumann 31a. **Dah.:** Abomey to Boguila (fr. Feb.) Chev. 23178! **S. Nig.:** Ala (Nov.) Thomas 1980! Ebute Metta (Oct.) Millen 6! Ibadan (Oct.) Newberry 116! Warrake, Benin Prov. (fr. June) Dundas FHI 21483!

Extends southwards to **Angola** and in eastern Africa from A.-E. **Sudan** to N. Rhodesia.

5. CNESTIS

Juss. — F.T.A. 1: 460; Schellenb. in Engl. Pflanzenr. Connarac. 28 (1938).

- 1 Fruit covered with short uniform velvety hairs without long bristles, pear-shaped, not horned at the apex; petals half as long as, or equalling, the sepals; leaves glabrous above, except on the nerves; inflorescences terminal or in the axils of the upper leaves, up to about 20 cm. long:2
 Fruit covered both with short uniform velvety hairs and with long bristles, tapering into a long horn at apex; petals longer than, or about equalling, the sepals; inflorescences cauliflorous or axillary, 1.5–6 (–10) cm. long:6
- 2 Petals half as long as the sepals; leaflets tomentose or pubescent beneath:3
 Petals as long as or slightly longer than the sepals, 2.5 mm. long; leaflets 2–3 pairs, ovate-elliptic, rounded at base, long-acuminate, 6–12 cm. long, 2.5–5 cm. broad, nearly glabrous beneath; racemes much shorter than the leaves; fruits about 2 cm. long, rounded or subacute at apex [5. racemosa](#)
- 3 Leaflets (4–) 6 or more pairs; petals glabrous; flowers in panicles or racemes:4
 Leaflets 2–4 pairs; petals pubescent outside, 2 mm. long; sepals 5–6 mm. long; panicles terminal, laxly branched:5
- 4 Sepals 2–3 mm. long; petals suborbicular; panicles shorter than the leaves, terminal or upper axillary; leaflets oblong-elliptic, rounded at base, obtusely pointed, about 5–7 cm. long and 2 cm. broad, softly tomentose beneath; fruit 3–4 cm. long with an upturned blunt beak [1. ferruginea](#)
 Sepals 5–7 mm. long; petals oblong, emarginate; racemes as long as the leaves, subterminal and axillary; leaflets oblong, rounded at both ends, 2–4.5 cm. long, about 1.5 cm. broad, thinly pilose beneath fruit 5–6 cm. long, tapering into a straight beak [2. macrantha](#)
- 5 Leaflets very shortly pubescent beneath, broadly ovate-elliptic, rounded at base, abruptly acuminate at apex, 11–20 cm. long, 6–12 cm. broad [3. mannii](#)
 Leaflets softly tomentose beneath, oblong-elliptic to oblong-ovate, rounded at base, acute but hardly acuminate, 8–15 cm. long, 3–7 cm. broad [4. tomentosa](#)
- 6 Leaflets with scattered bristles above; leaf-rhachis long-pilose:7
 Leaflets glabrous above:8
- 7 Leaflets 5–6 pairs, broadly oblong, upper ones 10–18 cm. long, 4.5–6 cm. broad, usually abruptly acuminate, bristly beneath; fruits about 3 cm. long, 1 cm. broad in the middle, very sharply curved; young branchlets pilose; petals 7 mm. long; sepals 4 mm. long [6. grisea](#)
 Leaflets 8–12 pairs, oblong, upper ones 4–8 cm. long, 2–3 cm. broad, softly pubescent beneath; fruits 4 cm. long, 2 cm. broad in the middle, shortly beaked; young branchlets very densely and closely pilose [7. sp. A](#)
- 8 Midrib beneath pilose with laterally spreading hairs, other parts of leaflets with scattered bristles; leaflets 10–12 pairs, oblong, very shortly acuminate, 3–6 cm. long, 1–2 cm. broad, the basal pair suborbicular; fruits about 4 cm. long, densely covered with long yellow bristles; petals 4.5 mm. long; sepals 3 mm. long [8. corniculata](#)
 Midrib beneath tomentose or appressed-pubescent:9
- 9 Apex of leaflets distinctly, acutely and abruptly acuminate; sepals and petals equal in length:10
 Apex of leaflets slightly and obtusely acuminate; leaflets ovate to ovate-oblong:12
- 10 Petals and sepals 7–8 mm. long; racemes 10–15 cm. long; fruits 4 cm. long, about 9 mm. broad in the middle; leaf-rhachis glabrous or minutely puberulous; leaflets (2–) 3–6 pairs, broadly oblong, the terminal ovate-oblong, subcordate at base, abruptly, acutely and long-acuminate at apex, 10–21 cm. long, 5–10 cm. broad, glabrous beneath [9. congolana](#)
 Petals and sepals 4–5 mm. long; racemes 3–4 cm. long; leaflets unequal-sided and subcordate at base, shortly acuminate at apex:11
- 11 Leaf-rhachis glabrous; leaflets 4–5 pairs, oblong-elliptic, 5.5–9 cm. long, 2.5–4 cm. broad, glabrous beneath and midrib sparsely pilose; fruits slender, 3 cm. long, 1 cm. broad [10. cinnabarina](#)

Leaf-rhachis tomentose, bristly towards the base; leaflets 7–10 pairs, oblong, 3–10 cm. long, 1.5–3.5 cm. broad, pubescent beneath, midrib puberulous; fruits 3.5 cm. long, about 1.2 cm. broad [11. aurantiaca](#)

- 12** Leaflets glabrous beneath, except for appressed hairs on midrib and margins, 4–5 pairs, 6–15 cm. long, 3–5 cm. broad; racemes 1.5–3 cm. long; petals 4 mm. long, equalling sepals; fruits slender 2.5 cm. long . [12. dinklagei](#)

Leaflets softly tomentose beneath, 5–6 (–7) pairs, 6–18 cm. long, 3–5.5 cm. broad; racemes 5–8 cm. long; petals 6 mm. long; sepals 2 mm. long; fruits 2.5–3 cm. long [13. longiflora](#)

- 1. Cnestis ferruginea DC.** — F.T.A. 1: 461; Schellenb. in Engl. Pflanzenr. Connarac. 30, fig. 3; Troupin in Fl. Congo Belge 3: 118; Chev. Bot. 166. *APD acc*

Cnestis oblongifolia Bak. in F.T.A. 1: 462 (1868).

A shrub or sometimes a climber 6–15 ft. high, densely brown-pubescent; flowers small and white, fragrant; fruits conspicuous, red; [sometimes abundant in forest regrowth](#).

Sen.: Mampalago, Casamance (Feb.) Chev. 2973; 3026! **Gam.:** Brown-Lester S. 2! Koto (fr. May) Fox 101! **Port. G.:** Esp. Santo 506! **Fr. G.:** Rio Nunez Heudelot!. Kouria to Ymbo (Nov.) Chev. 14809! Kaoulendougou Chev. 21063. Dyeke (Oct.) Baldwin 9674! **S. L.:** Leicester (Dec.) Sc. Elliot 3876! Njala (Oct.) Deighton 1348! Sumbuya (Nov.) Deighton 2333! Kasewe F.R. (Dec.) King 44b! **Lib.:** Monrovia (Nov.) Linder 1543! Gondolahun (fr. Nov.) Baldwin 10111! Belleyella (fr. Dec.) Baldwin 10648! Zwedru (Aug.) Baldwin 7038! **Iv. C.:** Abidjan Aubrév. 466. **G. C.:** Cape Coast (Oct.–Dec.) Vigne FH 941! Essiama (Apr.) Williams 439! Akwapim Hills (Oct.) Johnson 797! Kumasi F.R. (Aug.) Akwa FH 1771! **Togo:** Lome Warnecke 480! Sokode-Basari Kersting A. 279. **Dah.:** Burton! Sakété to Pédjilé Chev. 22907! Abomey Chev. 23129. **N. Nig.:** Patti Lokoja (fr. Mar.) Elliott 35! **S. Nig.:** Idanre (Jan.) Brenan & Keay 8688! Onitsha Barter 1758! Oban Talbot 508! 1401! Old Calabar (fr. Jan.) Holland 16! **Br. Cam.:** Victoria Kalbreyer 8! Cameroon R. (fl. & fr. Jan.) Mann 753! Johann-Albrechtshöhe Staudt 651.

Also in **French Cameroons**, **Spanish Guinea**, **Gabon**, **Ubangi-Shari**, **French Congo** and **Belgian Congo**, **A.-E. Sudan**, **Cabinda**, **Angola** and **Principe** and **S. Tomé**.

- 2. Cnestis macrantha Baill.** — F.T.A. 1: 462; Schellenb. l.c. 34, *APD acc*

A shrub 8–12 ft. high, densely yellowish-hairy.

S. Nig.: Old Calabar (Feb.) Mann 2235! Duparquet 53. Oban Talbot 1279! 1378! 1706! Degema Talbot! **Br. Cam.:** Mamfe (fl. & fr. Apr.) Maitland 1149!

- 3. Cnestis mannii (Bak.) Schellend.** in Engl. Bot. Jahrb. 55: 436 (1919); Pflanzenr. 34. *APD acc*

Connarus mannii Bak. in F.T.A. 1: 459 (1868).

A climbing shrub 15 ft. high, shortly yellowish-pubescent on branchlets and inflorescence.

S. Nig.: Shasha F.R. (Apr.) Ross 198! Old Calabar (Feb.) Mann 2264! Oban Talbot 1707!

- 4. Cnestis tomentosa Hepper** in Kew Bull. 1956: 112.

APD: Synonym of Cnestis mannii (Baker) G. Schellenb.

Cnestis mannii of Schellenb. in Engl. Pflanzenr. Connarac. 34, partly (Staudt 916).

A climber up to 100 ft. high; flowers greenish-brown; [in high forest](#).

Br. Cam.: S. Bakundu F.R., Kumba (Mar.) Brenan 9328! Johann-Albrechtshöhe Staudt 916!

- 5. Cnestis racemosa G. Don** — F.T.A. 1: 463; Schellenb. l.c. 41. *APD acc*

Manotes racemosa (G. Don) Gilg (1896).

Cnestis liberica Schellenb. (1919).

A climbing shrub, 6–10 ft. high, with shortly brown-pubescent branchlets and inflorescence; flowers white, fruits pale pink; [in forest](#).

S. L.: Freetown (fr. Feb.) Dalz. 974! Hill Station (fr. Jan.) Dalz. 8119! Njala (fr. Jan.) Dalz. 8105! Matru (Nov.) Deighton 2335! Faiama (fr. Jan.) Deighton 3875! **Lib.:** Kakatown Whyte! Gbanga (Sept.) Linder 650! Harbel, Du R. (fr. Dec.) Bequaert 16! Brewersville (fr. Dec.) Baldwin 10969!

- 6. Cnestis grisea Bak.** in F.T.A. 1: 461 (1868); Schellenb. l.c. 48, fig. 5; Chev. Bot. 167.

APD: Synonym of Cnestis corniculata Lam.

A woody climber, bristly on most parts; inflorescences clustered on the main branches; fruits scarlet, pungent-bristly.

Iv. C.: Fort Binger Chev. 19531. **S. Nig.:** Old Calabar Thomson 90! Oban (fr. May) Ujor FHI 31789! Talbot 506! **Br. Cam.:** Victoria (Apr.) Maitland 602! Johann-Albrechtshöhe Staudt 844.

Also in **French Camerouns** and **Gabon**.

[The leaflets of Maitland 602 are subacute and not acuminate at the apex.]

7. *Cnestis* sp. **A. APD acc**

Close to *C. iomalla* Gilg in Notizbl. Bot. Gart. Berl. 1: 69 (1895), but the leaflets are thicker and more reticulate and pubescent; the fruits are broader and do not possess the long curved beak of *C. iomalla*. Further material, in flower, is required.

S. Nig.: Afi F.R., Ikom (fr. May) Latilo FHI 30975!

[Another specimen from S. Nig., Cross R., nr. Issabang (Jones FHI 1541!) is similar but has the sparsely pilose leaflets beneath and narrower fruits of *C. grisea*.]

8. *Cnestis corniculata* Lam. — F.T.A. 1: 461; Schellenb. l.c. 48; Chev. Bot. 166. **APD acc**

A woody climber with roughly pilose branchlets; flowers cream-white in short clustered racemes sometimes on the older branches; fruits red, covered with pungent bristles; **in forest**.

Fr. G.: Fouta Djallon Heudelot 650. Dyeke (Oct.) Baldwin 9668! Ditinn to Timbo Chev. 12632. **S. L.:** Smeathmann! Leicester Peak (fr. Dec.) Sc. Elliot 3831! Taiama (fr. Nov.) Cole 48! Magbile (fr. Dec.) Thomas 5952! Mamaka (Nov.) Thomas 4340! Mamansu (fr. Feb.) Deighton 4065! **Lib.:** Grand Bassa T. Vogel. Peahtah (Oct.) Linder 957! Ganta (Sept.) Baldwin 9235! Jabrocca (fr. Dec.) Baldwin 10857!

9. *Cnestis congolana* De Wild. Étud. Fl. Bas- et Moyen-Congo 3, 1: 96 (1909); Schellenb. l.c. 52, fig. 6; Troupin l.c. 116.

APD: Synonym of Cnestis corniculata Lam.

Woody climber up to 50 ft. high; **in forest**.

Br. Cam.: Banga, S. Bakundu F.R. (Mar.) Brenan 9419! 9474! Dundas FHI 8361!

10. *Cnestis cinnabarina* Schellenb. in Engl. Bot. Jahrb. 55: 438 (1919); Pflanzenr. 46.

APD: Synonym of Cnestis corniculata Lam.

Climbing shrub, young branches puberulous, older ones brown and glabrous; fruits cinnabar coloured.

S. Nig.: Degema Talbot!

Also in **French Camerouns**.

11. *Cnestis aurantiaca* Gilg in Engl. Bot. Jahrb. 23: 216 (1896); Schellenb. l.c. 50.

APD: Synonym of Cnestis corniculata Lam.

Cnestis longiflora Schellenb. l.c. 46, partly (Talbot 507).

A climbing shrub with subglabrous branches; flowers orange.

S. Nig.: Oban Talbot s.n.! 507! **Br. Cam.:** Mamfe (fr. Jan.) Maitland 1153!

Also in **French Camerouns**.

12. *Cnestis dinklagei* Schellenb. in Engl. Bot. Jahrb. 55: 438 (1919); Pflanzenr. 45.

APD: Synonym of Cnestis corniculata Lam.

A climbing shrub with coiled branchlets; flowers greenish, in short racemes on the stems; fruits red; **in forest**.

Lib.: Monrovia Dinklage 2412; 2695! 2712. Baldwin 5851! Brewersville (June) Barker 1325! Mecca (fr. Dec.) Baldwin 10796! Gbanga (fr. Sept.) Linder 652!

13. *Cnestis longiflora* Schellenb. in Engl. Bot. Jahrb. 55: 438 (1919); Pflanzenr. 46.

APD: *Synonym of Cnestis corniculata Lam.*

***Cnestis prehensilis* A. Chev.** Bot. 167, name only.

A woody climber 6–12 ft. high; inflorescences creamy white, on the stems; fruits scarlet with stinging bristles; **in secondary forest and thickets**.

Iv. C.: Bouroukrou (fr. Dec.) Chev. 16887! **Dah.:** Sakété Chev. 22828. **S. Nig.:** Lagos (fl. & fr. Nov.) Dawodu 194! Dalz. 1155! 1401! Abeokuta (fr. Jan.) Burt 23! Ibadan (fl. & fr. Feb.) Brenan 8974! Ujor FHI 24436! Oban Talbot 1404b!

6. AGELAEA

Soland. ex Planch. — F.T.A. 1: 453; Schellenb. in Engl. Pflanzenr. Connarac. 65 (1938). **APD acc**

- 1** Indumentum on petioles and rhachis of inflorescence bristly, hairs 1–3 mm. long: **2**
 Indumentum on petioles and rhachis of inflorescence minutely stellate, not bristly, hairs less than 0.5 mm. long: **3**
- 2** Hairs on inflorescence 3 mm. long, very dense; leaflets ovate or broadly elliptic, rounded at base, abruptly acuminate at apex, 6–14 cm. long, 4–7.5 cm. broad, glabrous on both sides except for tomentose midrib above [1. *hirsuta*](#)
 Hairs on inflorescence 1 mm. long, rather dense on young branches and sparser on petioles; leaflets broadly ovate, broadly cuneate at base, acuminate at apex, 8–12 cm. long, 4–9 cm. broad, glabrous above, the midrib with a few long hairs, sparsely pilose beneath [2. *pilosa*](#)
- 3** Leaflets glabrous beneath (or the younger leaves slightly tomentellous in No. 4); secondary bracts (i.e. those on the branches of the inflorescence) small: **4**
 Leaflets pubescent beneath, often with minute stellate hairs: **6**
- 4** Leaflets prominently 3-nerved at base, the next main lateral nerves appearing halfway up the leaflet, 6–14 cm. long, 4–10 cm. broad, closely and prominently reticulate beneath; sepals 4 mm. long; petals 5–6 mm. long: ... **5**
 Leaflets pinnately nerved, lateral nerves almost equally spaced, broadly elliptic, rounded at base, acuminate at apex, about 17 cm. long and 10 cm. broad, reticulate beneath and tertiary nerves prominent; sepals 2–3 mm. long, petals 2.5–4 mm. long [4. *floccosa*](#)
- 5** Leaflets cuneate to rounded at base [3. *obliqua* var. *obliqua*](#)
 Leaflets distinctly cordate at base [3a. *obliqua* var. *cordata*](#)
- 6** Secondary bracts (i.e. those on the branches of the inflorescence) and primary bracts 8–10 mm. long, subsistent; leaflets ovate to ovate-elliptic, cuneate and 3-nerved at base, shortly acuminate at apex, 6–11 (–14) cm. long, 4–7 cm. broad, midrib and lateral nerves densely tomentose, laxly tomentose beneath, densely so on the nerves [5. *trifolia*](#)
 Secondary bracts 2–3 mm. long; indumentum of leaflets beneath minute (x 20 lens essential): **7**
- 7** Leaflets beneath with stellate hairs, 4–5-armed, the arms spreading: **8**
 Leaflets beneath with scattered stellate hairs with erect branches in a cluster, seen with difficulty with x 20 lens; leaflets 3-nerved from base, ovate, rounded at base, acutely acuminate at apex, terminal one 4–7.5 cm. long, 2.5–4 cm. broad [10. *oligantha*](#)
- 8** Stellate hairs beneath leaflets with usually 5 slender wavy arms spreading and overlapping the next, easily seen with ' 20 lens; leaflets elliptic, cuneate at base, acuminate at apex, 7 cm. long, 4 cm. broad, midrib tomentose above; inflorescence densely tomentose with stiffer hairs [6. *grisea*](#)
 Stellate hairs beneath leaflets with 4 (–5) arms, arms short not overlapping the next hair, minute and just visible with ' 20 lens: **9**
- 9** Midrib above rather densely pubescent with 4-armed hairs which are also scattered over the upper leaflet surface at least near the base; leaflets broadly ovate to suborbicular, cuneate at base, acuminate at apex, 5–9 cm. long, 4–7 cm. broad; sepals 2 mm. long; petals 3 mm. long; indumentum on inflorescence rhachis very short and dense [7. *nitida*](#)
 Midrib above glabrous or with a few stellate hairs towards the base: **10**

- 10** Sepals and petals 2 mm. long; indumentum on rhachis of inflorescence not very dense (i.e. individual stellate hairs distinguishable); leaflets broadly ovate, cuneate to rounded at base, abruptly and long-acuminate at apex, 7–14 cm. long, 5–10 cm. broad, tertiary nerves not parallel [8. *pseudobliqua*](#)

Sepals 4 mm. long; petals 5 mm. long; indumentum on inflorescence rhachis dense (i.e. individual stellate hairs overlapping one another and indistinguishable); leaflets ovate to broadly elliptic, rounded or broadly cuneate at base, abruptly acuminate at apex, 8–19 cm. long, 5–10 cm. broad, tertiary nerves prominent and parallel [9. *dewevrei*](#)

- 1. *Agelaea hirsuta* De Wild.** Étud. Fl. Bas- et Moyen-Congo 3, 1: 100, t. 25 (1909); Schellenb. in Engl. Pflanzenr. Connarac. 67; Troupin in Fl. Congo Belge 3: 100.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Climbing shrub.

S. Nig.: Uria Kitson 109!

Also in **French Camerouns** and **Belgian Congo**.

- 2. *Agelaea pilosa* Schellenb.** l.c. 83 (1938).

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Agelaea elegans of F.W.T.A., ed. 1, 1: 516, partly (Talbot 3670).

Agelaea trifolia of F.W.T.A., ed. 1, 1: 516 partly, and of Schellenb. l.c. 83, partly (Thomas 2168; 2175).

Climbing shrub with white flowers.

S. Nig.: Usonigbe F.R., Benin (Mar.) Jones FHI 7447! Sapoba (fr. May) Kennedy 1133! 1377! Degema Talbot 3670! Idumuje (Jan.) Thomas 2168! 2175! Abontakon, Ikom (Dec.) Keay FHI 28173!

- 3. *Agelaea obliqua* (P. Beauv.) Baill. var. *obliqua*** — F.T.A. 1: 454; Schellenb. l.c. 90; Chev. Bot. 164.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

***Cnestis obliqua* P. Beauv.** (1804).

Scrambling shrub with shining leaves; flowers pure white or tinged yellow, green or pink, fragrant; fruits scarlet; **in forest and secondary growth**.

Port. G.: Biombo, Bissau (Feb.) Esp. Santo 1792! **S. L.:** Regent (Dec.) Sc. Elliot 4045! Port Loko (Dec.) Thomas 6719! Njala (Nov.) Deighton 4961! Makunde (fr. Jan.) Jordan 1002! **Lib.:** Vahun, Kolahun (fr. Nov.) Baldwin 10244! **Iv. C.:** Jolly 84. Grand Bassam Thollon 168. Bingerville Chev. 20155. Bouroukrou Chev. 16828. **G. C.:** Cape Coast Brass! Akwapim Mar.) Irvine 1544! Kpong (fl. & fr. Jan.) Irvine 1921! Larte Hills (Nov.) Johnson 807! **Togo:** North Adakulu (Mar.) Williams 55! Sokode-Basari Kersting A. 278! Atakpame Doering 373. **Dah.:** Cotonou (fr. Mar.) Debeaux 170! Abomey (Feb.) Chev. 23139! **N. Nig.:** Nupe Barter 1340! Lokoja (fl. & fr. Mar.) Shaw 25! Abinsi (Apr.) Dalz. 780! **S. Nig.:** Lagos Barter 2154! Dalz. 1092! Abeokuta Irving 118! Iyereku, Benin (Feb.) Umana FHI 29148! Onitsha Unwin 67! Eket Talbot! **Br. Cam.:** Victoria to Kumba (Apr.) Ejiofor FHI 29365!

- 3a. *Agelaea obliqua* var. *cordata* (Schellenb.) Exell** in Cat. S. Tomé 148 (1944).

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Agelaea cordata Schellenb. (1923) — Engl. Pflanzenr. Connarac. 92.

G. C.: Kumasi (fl. & fr. Sept.) Vigne FH 3370! **S. Nig.:** Degema Talbot 3690!

Also in **S. Tomé**.

- 4. *Agelaea floccosa* Schellenb.** in Engl. Bot. Jahrb. 58: 210 (1923); Pflanzenr. 79.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Tall **forest** climber.

S. Nig.: Shasha F.R., Ijebu (May) Richards 3485! **Br. Cam.:** Abonando Rudatis 64! Victoria (Apr.) Maitland 634!

5. **Agelaea trifolia** (Lam.) Gilg in Notizbl. Bot. Gart. Berl. 1: 65 (1895); Schellenb. in Engl. Pflanzenr. Connarac. 83.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Cnestis trifolia Lam. (1789).

Agelaea villosa (DC.) Soland. ex Planch. (1850) — F.T.A. 1: 454; Chev. Bot. 164.

A shrub or climber, 6–25 ft. or rarely up to 100 ft. high; flowers creamy white or green in ample panicles; fruits scarlet; in forest.

Port. G.: Fulacunda (May) Esp. Santo 2038! **Fr. G.:** Rio Nunez Heudelot 730! Derenka Heudelot. **S. L.:** Smeathmann! Bagroo R. (Mar.) Mann 794! Njala (fr. Nov.) Deighton 3101! Tawia (Feb.) Deighton 3493! Kambui Hills (fr. Mar.) Small 514! **Lib.:** Monrovia (Oct., Nov.) Cooper 20! Belleyella, Boporo (fr. Dec.) Baldwin 10647! Ganta, Sanokwele (Dec.) Baldwin 9215! Jabroke, Webo (July) Baldwin 6447! **Iv. C.:** Taté to Tabou Chev. 19823. **S. Nig.:** Shasha F.R., Ijebu (Feb.) Ross 38! Richards 3127!

6. **Agelaea grisea** Schellenb. in Engl. Bot. Jahrb. 58: 208(1923); Pflanzenr. 73.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Agelaea trifolia of F.W.T.A., ed. 1, 1: 516, partly; of Schellenb. l.c. 83, partly.

Climbing shrub with yellowish flowers.

S. Nig.: Oban Talbot 1734!

Also in **French Camerouns**.

7. **Agelaea nitida** Soland. ex Planch. in Linnaea 23: 437 (1850); Schellenb. in Pflanzenr. 88.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Agelaea obliqua of F.T.A. 1: 454, partly, (Heudelot 894, Afzelius).

Straggling bush up to 10 ft. high; flowers white, fragrant.

Sen.: Conakry Debeaux 321. **Fr. G.:** Rio Pongo Heudelot 894. **S. L.:** Afzelius! Kambia (fr. Dec.) Sc. Elliot 4224! Kumrabai (Dec.) Thomas 6968! Njala (May) Deighton 1947! **Lib.:** Zigida (Mar.) Bequaert 132!

8. **Agelaea pseudobliqua** Schellenb. in Engl. Bot. Jahrb. 58: 216 (1923); Pflanzenr. 86; Troupin l.c. 108.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Agelaea phaseolifolia Gilg ex Schellenb. (1923) — Schellenb. l.c. 90; F.W.T.A., ed. 1, 1: 516.

A shrub 8 ft. high, with scarlet velvety fruits.

S. Nig.: Itu, Cross R. (Apr.) Holland 28! Old Calabar (Aug.) Holland 68! Robb! Oban Talbot 1762! Eket Talbot! **F. Po:** Mann 433!

Also in **French Camerouns** and **Gabon**.

9. **Agelaea dewevrei** De Wild. & Th. Dur. in Bull. Soc. Bot. Belge 38: 190 (1899); Schellenb. l.c. 73; Troupin l.c. 104, t. 8.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

A scrambling shrub with white flowers.

Br. Cam.: Lakom, Bamenda, 6,000 ft. (May) Maitland 1460! Barombi Preuss 518. Also in Belgian Congo and Principe.

10. **Agelaea oligantha** Gilg ex Schellenb. in Engl. Bot. Jahrb. 58: 214 (1923); Pflanzenr. 85.

APD: Synonym of Agelaea pentagyna (Lam.) Baill.

Shrub or climber; flowers white.

Lib.: Fishtown, Grand Bassa (Sept.) Dinklage 1711; 2039! Kings Farm, Monrovia Dinklage 3280.

1. *Agelaea preussii* Gilg in Engl. Bot. Jahrb. 23: 10 (1896); Schellenb. in Engl. Pflanzenr. Connarac. 86.

Climber with yellow-brown-tomentose inflorescences and branchlets.

Br. Cam.: Victoria to Bimbria (May) Preuss 1116; 1277. Also in (?) Belgian Congo.

As the species of this genus are so critical, and as the above was not seen, it has not been possible to include it in the key. Imperfectly known species.

2. *Agelaea macrocarpa* Schellenb. in Engl. Bot. Jahrb. 58: 214 (1923); Pflanzenr. 85.

Shrub with purplish-velvety obovoid fruits 1 in. long.

Lib.: Fishtown, Grand Bassa (fr. Oct.) Dinklage 1866.

As the species of this genus are so critical, and as the above was not seen, it has not been possible to include it in the key. Imperfectly known species.

7. CASTANOLA

Llanos in Mem. Acad. Cienc. Madrid 3, 2: 302 (1859); Schellenb. in Engl. Pflanzenr. Connarac. 169 (1938).

- 1 Leaflets broadly obovate-elliptic, broadly cuneate at base, long and abruptly acuminate, 8–16 cm. long, 4–10 cm. broad, glabrous and obscurely reticulate; inflorescence a short panicle; fruit narrowly obovoid, beaked, up to 2 cm. long, tomentellous [paradoxa](#)

Castanola paradoxa (Gilg) Schellenb. ex Hutch. & Dalz. F.W.T.A., ed. 1, 1: 516 (1928); Pflanzenr. 174, fig. 31.

APD: *Synonym of Agelaea paradoxa Gilg var. paradoxa*

Agelaea paradoxa Gilg (1891).

A. fragrans Gilg (1896).

A. brevipaniculata Cummins (1898).

A scrambling shrub or small tree of **forest**, with fragrant white flowers.

S. L.: Pujehun (fr. Feb.) Thomas 8182! **Lib.:** Browntown (Aug.) Baldwin 7084! Tappita (Aug.) Baldwin 9115! **G. C.:** Akim (June) Johnson 764! Kumasi (Mar., Nov.) Cummins 30a! Irvine 127! Asamankese (Aug.) Howes 936! Ekosu (July) Darko 916! **S. Nig.:** Olokemeji (Mar.) A. F. Ross 112! Sapoba Kennedy 1592! 1744! Ute Ogbeji, Benin (Aug.) Onochie FHI 33427! Eket Talbot! Oban Talbot 1294! 1300!

Also in **French Cameroons**, **Gabon** and **Belgian Congo**.

8. SANTALOÏDES

Schellenb. Beitr. Verg. Anat. Syst. Connarac. 76 (1910); Engl. Pflanzenr. Connarac. 119 (1938).

- 1 Leaflets ovate or oblong to obovate, rounded at base, long-acuminate at apex, 5–10 cm. long, 2–5 cm. broad, glabrous, reticulate; racemes clustered, slender, axillary, 3–6 cm. long; pedicels 6 mm. long, jointed near base with 2 small linear bracteoles; sepals ovate, imbricate, 2 mm. long, enlarging and becoming woody in fruit, glabrous, margin of apex ciliate or tomentose; petals about 6 mm. long; fruits ovoid, often slightly curved, acute at apex, about 2 cm. long, glabrous, finely longitudinally striate [afzelii](#)

Santaloides afzelii (R.Br. ex Planch.) Schellenb. Beitr. Verg. Anat. Syst. Connarac. 53 (1910); Pflanzenr. 138.

APD: *Synonym of Rourea minor (Gaertn.) Alston*

Rourea afzelii R.Br. ex Planch. (1850).

R. splendida Gilg (1891).

Santaloïdes splendidum (Gilg) Schellenb. ex Engl. Pflanzenw. Afr. 3: 327 (1915); Schellenb. in Engl. Bot. Jahrb. 55: 455 (1919); Pflanzenr. 140; Troupin in Fl. Congo Belge 3: 82, t. 5; Hemsley in F.T.E.A. Connarac. 13.

Rourea gudjuana Gilg (1891).

Santaloïdes gudjuanum (Gilg) Schellenb. ex Engl. l.c. 326 (1915); Pflanzenr. 138, fig. 24; F.W.T.A., ed. 1, 1: 517; Aubrév. Fl. For. Soud.-Guin. 416, t. 24, 1–2.

A straggling shrub about 10 ft. high or a climber up to 60 ft. high; flowers white or pinkish; fruits red; **by streams and in forest.**

Port. G.: Madina do Boé, Bafatá (Jan.) Esp. Santo 2860! Geba, Bafatá (fr. Feb.) Esp. Santo 2674! **Fr. G.:** Kouroussa (Dec.) Pobéguin 820! Timbo Pobéguin 105. Chev. 14637. **S. L.:** Afzelius! Sulimania Sc. Elliot 5352! Musaia (fr. Feb., Mar., July) Deighton 4230! 4802! Sc. Elliot 5128! **Lib.:** Karmadhun Kolahun Dist. (fr. Nov.) Baldwin 10154! **Iv. C.:** Ferkéssédougou Aubrév. 1615. **G. C.:** Atuna, Ashanti (Dec.) Vigne FH 3530! **Togo:** Sokodé Kersting A. 94; A. 116. **N. Nig.:** Katagum Dalz. 409! Naraguta Lely 73! 714! Mada Hills (fr. June) Hepburn 73! Anara F.R., Zaria (Nov.) Keay FHI 21124! Ogbeni & Obiora FHI 21692!

Extends southwards to **Angola** and in eastern Africa from A.-E. **Sudan** to N. Rhodesia.

9. MANOTES

Soland. ex Planch. — F.T.A. 1: 459; Schellenb. in Engl. Pflanzenr. Connarac. 54.

- 1 Inflorescences terminal and subterminal panicles, about 20 cm. long; sepals 2–4 mm. long, 1 mm. broad; fruits recurved; midrib tomentose above; branches without recurved spines:2
 Inflorescences in axillary fascicles about 8 cm. long; sepals about 6 mm. long and 3 mm. broad; petals 10 mm. long; fruits erect, stipitate, rounded, 1–5 cm. long, finely velvety; leaflets 2–4 pairs, elliptic, subcordate at base, acuminate at apex, (6–) 10–21 cm. long, 3–6 cm. broad, prominently reticulate and glabrous on both sides; branches with recurved spines nearly 1 cm. long4. *macrantha*
- 2 Rhachis of inflorescence densely tomentose or pubescent with hairs about 0.5 mm. long, obscuring the minute hairs beneath; leaflets usually laxly pilose beneath:3
 Rhachis of inflorescence minutely puberulous, also with a few hairs about 0.5 mm. long; sepals lanceolate, 3 mm. long, puberulous outside; petals about 9 mm. long; fruits 1.5 cm. long, stipitate, finely velvety; leaflets 2–5 pairs, oblong-elliptic, 3–8 cm. long, pubescent only on midrib and sometimes the lateral nerves beneath ...3. *expansa*
- 3 Sepals (of open flower) ovate, 2 mm. long, pubescent outside; petals 7–9 mm. long, pubescent outside, minutely puberulous inside; fruits 1–1.5 cm. long, stipitate, pubescent; leaflets 4–6 pairs, elliptic, (2–) 4.5–13 cm. long1. *zenkeri*
 Sepals (of open flower) linear-lanceolate, 4 mm. long, puberulous outside; petals about 9 mm. long, minutely puberulous on both sides; fruits 1–1.5 cm. long, stipitate, finely velvety; leaflets 3–5 pairs, lanceolate-elliptic, (2–) 3–6.5 cm. long2. *longiflora*

1. **Manotes zenkeri** Gilg ex Schellenb. in Engl. Bot. Jahrb. 55: 444 (1919); Engl. Pflanzenr. Connarac. 57.

APD: Synonym of Manotes griffoniana Baill.

Scrambling shrub, 10–15 ft. high; flowers with pink petals and sepals, white filaments and yellow anthers; fruits brown; **in forest thickets.**

S. Nig.: Bonny R. (fl. & fr. Oct.) Mann 508! Eket (fl. & fr. May) Onochie FHI 33155! Talbot 3125! Old Calabar Holland! Robb! Afi F.R., Ogoja Smith Cam./30/36! **Br. Cam.:** Rio del Rey Johnston.

Also in **French Cameroons**, **Spanish Guinea** and **Gabon**.

2. **Manotes longiflora** Bak. in F.T.A. 1: 460 (1868); Schellenb. l.c. 56.

APD: Synonym of Manotes expansa Sol. ex Planch.

Manotes expansa of Chev. Bot. 166, partly (Chev. 16698).

A climbing or scrambling shrub, 6–20 ft. high; flowers with pink sepals and white or yellow petals; fruits scarlet; **in old farmland and forest regrowth.**

Iv. C.: San Pedro (fr. Aug.) Thoiré! Abidjan Aubrév. Bouroukrou Chev. 16698. Adiopodoumé (Sept.) Roberty 12161! **G. C.:** Axim (Apr.) Chipp 423! Anaji, Sekondi (fr. Oct.) Howes 973! Kumasi (Dec.) Vigne FH 1777! **S. Nig.:** Lagos Rowland 37! Millen 166! 185! Dalz. 1023! Epe Barter 3283! Warri Prov. (Sept.) Cole 21! Old Calabar (Feb.) Mann 2256! Eket Talbot 3112!

3. **Manotes expansa** Soland. ex Planch. — F.T.A. 1: 459; Schellenb. l.c. 59; Chev. Bot. 166. *APD acc*

Climbing shrub up to 20 ft. high; flowers red or yellowish-pink; fruits reddish-brown; **in forest.**

Fr. G.: Dyeke (Oct.) Baldwin 9655! 9661! **S. L.:** Bagroo R. (Apr.) Mann 859! Freetown (Jan., Dec.) Dalz. 955! 1009! Rokupr (fl. & fr. Feb.) Deighton 4991! Njala (Oct., Nov.) Deighton 1787! 4910! **Lib.:** Grand Bassa (July) T. Vogel 95! Kakatown Whyte! Brewerville (Sept.) Barker 1076! Vonjama (Oct.) Baldwin 9944! Gletown, Tchien Dist. (July) Baldwin 6798! **Iv. C.:** Cavally R. basin Chev. 19549; 19816.

4. **Manotes macrantha** (Gilg) Schellenb. Beitr. Verg. Anat. Syst. Connarac. 21 (1910); Pflanzenr. 62, fig. 8. *APD acc*

Dinklagea macrantha Gilg (1897).

Woody climber with hooks on the branches; flowers yellow; fruits brown.

Lib.: Fishtown Dinklage 1633! Grand Bassa (July) Dinklage 1965! Monrovia (fr. Apr.) Cooper 73! Duo, Sinoe (Mar.) Baldwin 11360!

10. SPIROPETALUM

APD: Synonym of Rourea Aubl.

Gilg in Engl. Bot. Jahrb. 14: 335 (1891); Schellenb. in Engl. Pflanzenr. Connarac. 103.

- 1 Midrib of leaflets markedly pubescent (but not minutely puberulous) beneath; leaflets 3–4 pairs, often subopposite, acuminate:2
Midrib of leaflets glabrous or minutely puberulous beneath; leaflets 1–4 pairs or solitary, broadly elliptic, obtuse at base, acute but hardly acuminate at apex, 7–12 cm. long, 3–5–7 cm. broad, firm, loosely reticulate beneath; calyx tomentellous4. [heterophyllum](#)
- 2 Leaflets not distinctly reticulate on the upper surface, about 3 pairs, oblong to obovate-elliptic, obtusely acuminate, with about 5 pairs of lateral nerves; flowers in dense axillary clusters; calyx campanulate, tomentose1. [solanderi](#)
Leaflets distinctly reticulate on the upper surface:3
- 3 Leaflets subtrinnerved and dull beneath, lateral nerves more or less ascending and stout, about 3 pairs; lamina more or less elliptic, 5–10 cm. long, 2–4 cm. broad, the midrib densely pubescent beneath; calyx-lobes narrow, tomentellous outside; petals very narrow2. [triplinerve](#)
Leaflets with more or less spreading weak lateral nerves, shining beneath (when dry); lamina oblong-elliptic or obovate-elliptic, cuneate or rounded at base, shortly acuminate at apex, 5–7 cm. long, 2–4 cm. broad; petals 1.5–2 cm. long; fruits oblong up to 4 cm. long, beaked3. [reynoldsii](#)

1. **Spiropetalum solanderi** (Bak.) Gilg in Engl. Bot. Jahrb. 23: 214 (1896); Schellenb. in Engl. Pflanzenr. Connarac. 104.

APD: Synonym of Rourea solanderi Baker

Rourea solanderi Bak. in F.T.A. 1: 456 (1868).

Forest climber, sometimes a shrub; flowers white; fruits straight, about 1 in. long, red-velvety, drying brown.

S. L.: Pujehun (Apr.) Aylmer 69! Njala (May) Deighton 3000! 6062! Gbesebu (fr. July) Deighton 6083! Bumbuna (fr. Oct.) Thomas 3470! **Lib.:** White Plains, St. Paul R. Dinklage 2198. Nana Kru (Mar.) Baldwin 11591! Brewersville (fr. Aug.) Baldwin 13083!

2. *Spiropetalum triplinerve* Stapf in J. Linn. Soc. 37: 93 (1906); Schellenb. l.c.

APD: Synonym of Rourea solanderi Baker

Climbing shrub up to 20 ft. high.

Lib.: Monrovia (fr. Sept.) Whyte! Baldwin 9199! Nana Kru (Mar.) Baldwin 11574! Cess R. (Mar.) Baldwin 11249! Mnanulu, Webo (young fr. June) Baldwin 6041!

3. *Spiropetalum reynoldsii* (Stapf) Schellenb. in Engl. Bot. Jahrb. 55: 451 (1919).

APD: Synonym of Rourea solanderi Baker

Connarus reynoldsii Stapf (1906).

Spiropetalum triplinerve of Schellenb. in Pflanzenr. 104, partly (Reynolds; Chev. 19824).

Rourea afzelii of Chev. Bot. 165.

Straggling shrub or climber; flowers white or pale pink, turning yellow.

Lib.: St. Paul R. Reynolds! White Plains (fr. Apr.) Barker 1281! Brewersville (Mar.) Baldwin 1234! Gonatown (Dec.) Baldwin 10784! Lakrata (Apr.) Bequaert 158! **iv. C.:** Taté to Tabou, Cavally R. Chev. 19824.

4. *Spiropetalum heterophyllum* (Bak.) Gilg in Engl. Bot. Jahrb. 23: 214 (1896); Schellenb. in Engl. Pflanzenr. Connarac. 106.

APD: Synonym of Rourea thomsonii (Baker) Jongkind

APD: Synonym of Rourea solanderi Baker

Rourea heterophylla Bak. in F.T.A. 1: 456 (1868); Chev. Bot. 165.

Spiropetalum odoratum Gilg (1891) — Schellenb. l.c. 105, fig. 17; Troupin in Fl. Congo Belge 3: 127.

Spiropetalum polyanthum Gilg (1895) — F.W.T.A., ed. 1, 1: 518.

Shrub or large climber in forest; flowers white, turning yellow, fragrant.

S. L.: Mabum (Aug.) Thomas 1626! Roruks (July) Deighton 2503! Fwendu (Apr.) Deighton 1610! Njala (July, Sept.) Deighton 1738! 1840! **Lib.:** Fishtown (Aug.) Dinklage 1971! Monrovia Dinklage 2701. Du R. (Aug.) Linder 318! **iv. C.:** Grand Bassam Middleton! **G. C.:** Bonsa R., Tarkwa Dist. (Aug.) Vigne FH 139! **N. Nig.:** Otobi Kurmi, Benue Prov. (Feb.) Jones FHI 553! 981! **S. Nig.:** Jamieson R., Sapoba (Nov.) Meikle 609! Isobendiga to Afi, Ikom (May) Latilo FHI 31818! Degema Talbot 3705! Eket Talbot 3075a! 3349! Calabar Williams 13! 17! **Br. Cam.:** Victoria Preuss 1321!

Also in **Gabon**, **Belgian Congo** and **Cabinda**.

[Schellenberg, in Engl. Pflanzenr. Connarac. 105–106, considered specimens (from Nigeria southwards) with puberulous midribs as a distinct species, *S. odoratum* Gilg. These plants also tend to have more leaflets and to be unifoliate less frequently than those from Sierra Leone which he regarded as *S. heterophyllum*, but the two species are hardly worth maintaining. — F.N.H.]

11. CONNARUS

Linn. — F.T.A. 1: 456; Schellenb. in Engl. Pflanzenr. Connarac. 216.

- 1 Leaflets more than 3:2
 Leaflets 3, elliptic to obovate, more or less gradually acuminate, up to 18 cm. long and 10 cm. broad, with about 5 pairs of lateral nerves; inflorescence short; sepals and petals much broader than in preceding species; fruits obliquely oblanceolate, about 6 cm. long, glabrous4. [africanus](#)
- 2 Leaflets narrowly oblong to oblong-elliptic or oblanceolate, rather abruptly acuminate:3
 Leaflets ovate, 4–5 pairs, gradually long-acuminate, 8–14 cm. long, 5–6.5 cm. broad, glabrous, with 4–5 pairs of lateral nerves, scarcely reticulate; panicles rather long; sepals and petals slightly pubescent; fruits narrowly ovoid, shortly stipitate, 6 cm. long, glabrous3. [staudtii](#)

- 3 Leaflets subopposite, 3–5 pairs, rather long-acuminate, rounded at base, very variable in size, up to 16 cm. long and 6 cm. broad, at first thinly pubescent beneath, with about 10–12 pairs of slender prominently looped lateral nerves; petiolule transversely wrinkled; flowers in very long and lax rusty-pubescent panicles; sepals imbricate, narrowly oblong, 1.5 mm. long; petals oblanceolate, 6 mm. long, pubescent; fruits stipitate, obliquely obovate, closely striate, about 2–2.5 cm. long, tomentose on the back [1. *griffonianus*](#)

Leaflets 3 pairs, elliptic, slightly pointed, 6–9 cm. long, 3–4 cm. broad, glabrous, with about 6 pairs of lateral nerves; flowers in short panicles; sepals 3 mm. long; petals slightly pubescent; fruits as above but smaller and quite glabrous [2. *thonningii*](#)

1. ***Connarus griffonianus* Baill.** *Adansonia* 7: 235 (1866); Schellenb. in Engl. Pflanzenr. Connarac. 269; Troupin in Fl. Congo Belge 3: 132, t. 9. *APD acc*

Connarus smeathmanni of F.T.A. 1: 458, partly, (excl. ref. & spec. Smeathmann), not of (DC.) Planch. (1850).

A woody climber with rusty-pubescent branches and inflorescence; flowers white; fruits reddish; [in wet forest](#).

S. Nig.: Sapoba Kennedy 1946! Idumuje (Jan.) Thomas 2178! Balinge to Ikwette, Obudu (Dec.) Savory & Keay FHI 25160! Oban Talbot 503! 1295! **Br. Cam.:** Victoria (Oct.) Mildbr. 10584! Nkom-Wum F.R., Bamenda (fr. Apr.) Ujor FHI 30069! Mamfe (Jan.) Maitland 1164! Fonfuka, 3,000 ft., Bamenda (fr. Apr.) Maitland 1419! **F. Po:** (fl. Dec., fr. Feb.) Mann 7! 427!

Also in [French Cameroons](#), [Gabon](#), [French Congo](#) and [Belgian Congo](#) and [Principe](#).

2. ***Connarus thonningii* (DC.) Schellenb.** in Engl. Bot. Jahrb. 58: 224 (1923); Pflanzenr. Connarac. 280. *APD acc*

***Omphalobium thonningii* DC.** (1825).

***Connarus floribundus* Schum. & Thonn.** (1827).

A woody climber.

G. C.: Thonning. Cape Coast Brass! **Togo:** Lome Warnecke 446! Sokode-Basari Kersting A. 293. Gbele Busse 3626.

3. ***Connarus staudtii* Gilg** in Engl. Bot. Jahrb. 23: 208; Schellenb. l.c. 286; Troupin l.c. 136, fig. 2, D. *APD acc*

A shrub or small tree, 15–20 ft. high; flowers white, turning yellowish.

S. Nig.: Oban Talbot 1297! 1427! Eket Talbot!

Also in [French Cameroons](#), [Gabon](#) and [Belgian Congo](#).

4. ***Connarus africanus* Lam.** — F.T.A. 1: 457; Schellenb. l.c. 283; Chev. Bot. 165. *APD acc*

***Connarus nigrensis* Gilg** (1891) — Chev. Bot. 165.

***Connarus djalonsensis* A. Chev.** Bot. 165, name only.

A shrub 15–20 ft. or more high, usually climbing, with shining foliage and cream-white flowers turning brownish; fruits bright red; [in moist forest](#).

Sen.: Perrottet 147! Casamance Heudelot 594. Floup-Fedyan Chev. 2974. M'bidjem Thierry 225! **Port. G.:** Prabis, Bissau Esp.Santo 1848! **Fr. G.:** Konhouré to Timbo (fr. Mar.) Chev. 12457! Bilima-Kante Chev. 18056. Kouria to Irébéléya (Sept.) Chev. 18263! Conakry Lecerf! **S. L.:** Smeathmann! York (fr. May) Deighton 2753! Njala (Mar.) Deighton 1940! Musaia (fr. Mar.) Deighton 5453! Falaba (Mar.) Aylmer 25! **Lib.:** Gbanga (fr. Sept.) Baldwin 13228! **Iv. C.:** Abidjan Chev. 15163! Assinié Chev. 17864. **N. Nig.:** Gurara R. (June) Elliott 179! **S. Nig.:** Lagos (Sept.) Barter 2143! Millen 153! Dalz. 1022!

- Connarus smeathmanni* (DC.) Planch.** in Linnaea 23: 436 (1850). *APD acc*

***Omphalobium smeathmanni* DC.** (1825) — Schellenb. in Engl. Pflanzenr. Connarac. 271, note.

This species is based on a supposed Smeathmann specimen from Sierra Leone which has not yet been traced. Imperfectly known species.

Stapf in Kew Bull. 1908: 288; Schellenb. in Engl. Pflanzenr. Connarac. 64.

- 1 Panicles terminal, many-flowered, flowers shortly pedicellate; sepals 2 mm. long; young fruits oblong, velvety; leaflet oblong-elliptic, rounded at base, gradually acuminate at apex, 9–12 cm. long, 3–4.5 cm. broad, thinly appressed-pubescent when young [1. *chevalieri*](#)
- Flowers few in axillary clusters, subsessile; sepals 4 mm. long; fruits ellipsoid, 3–4 cm. long, orange-tomentose; leaflets oblong-elliptic, cuneate to rounded at base, rather abruptly acuminate at apex, (8–) 10–17 cm. long, 5–7 cm. broad, appressed-pubescent when young [2. *mannii*](#)

1. **Hemandradenia *chevalieri*** *Stapf* in Kew Bull. 1908: 288; Schellenb. in Engl. Pflanzenr. Connarac. 65; Chev. Bot. 167; Aubrév. Fl. For C. Iv. 1: 158, t. 56. *APD acc*

A small tree, branchlets yellow-tomentose, axis of inflorescence flexuous; on the sea-shore.

Iv. C.: Tabou to Bériby (Aug.) Chev. 19943! 19968. Port Bouët Aubrév. 1495; 1636.

2. **Hemandradenia *mannii*** *Stapf* l.c. (1908); Schellenb. l.c. 64. *APD acc*

Small tree about 20 ft. high with an irregular bushy crown, bark dark with red slash; **in forest undergrowth.**

S. Nig.: Omo F.R., Benin (fr. Feb., Dec.) Brenan 8561! 9026! Shasha F.R., Ijebu (Apr.) Ross 193!

Also in **Spanish Guinea.**

13. JOLLYDORA

Pierre in Bull. Soc. Linn. Paris 2: 1233 (1896); Gilg in Engl. Bot. Jahrb. 23: 217 (1896).

- 1 Sepals 4–6 mm. long, linear, shortly pilose with erect glandular hairs; leaflets elliptic-lanceolate to oblong-oblancoate, narrowly cuneate at base, abruptly acuminate, 14–30 cm. long, 4.5–10 cm. broad, glabrous, lateral nerves straight and looping at margin; young leaf-rhachis clothed with long woolly hairs, becoming glabrous; petals 8 mm. long; fruits ovoid, 4 cm. long, not stipitate, laxly tomentose soon becoming glabrous. [1. *glandulosa*](#)
- Sepals 2–4 mm. long, oblong, densely pubescent, not glandular; leaflets obovate-elliptic, cuneate at base, abruptly acuminate, 15–30 cm. long, 8–12 cm. broad, glabrous, lateral nerves curved and looping at margin; petals 6 mm. long; fruits ovoid to obovoid, 4 cm. long, shortly stipitate, brown-tomentose soon becoming glabrous [2. *duparquetiana*](#)

1. **Jollydora *glandulosa*** *Schellenb.* in Engl. Bot. Jahrb. 55: 455 (1919); Engl. Pflanzenr. Connarac. 25. *APD acc*

A small, weak-stemmed tree, about 15 ft. high; flowers pale yellow, in few-flowered clustered rusty-villous racemes on the stems; **in rain forest.**

S. Nig.: Boshi-Okwangwo F.R., Obudu (fr. May) Latilo FHI 30923! **Br. Cam.:** Victoria area (Nov.) Mildbr. 10607! 10613. Johann-Albrechtshöhe (Dec.) Winkler 1092.

[J. peduncula Mildbr. in Notizbl. Bot. Gart. Berl. 10: 971 (1930) appears to be synonymous with the above and the Mildbraed specimens have been cited there, but Winkler 1092, the type of *J. glandulosa*, has not been seen and is presumably destroyed — F.N.H.]

2. **Jollydora *duparquetiana*** (*Baill.*) *Pierre* in Bull. Soc. Linn. Paris 2: 1233 (1896); Schellenb. l.c. 26. *APD acc*

Connarus *duparquetianus* *Baill.* (1867) — F.T.A. 1: 457.

Anthagathis *monadelpha* *Harms* (1897).

Small tree up to 25 ft. high; flowers yellow in clusters on the stems.

S. Nig.: Old Calabar R. (fl. & fr. Feb.) Mann 2307! **Br. Cam.:** Victoria Winkler 406. S. Bakosi, Kumba (fr. May) Olorunfemi FHI 30576! S. Bakundu F.R., Banga (fl. & fr. Mar.) Brenan 9407! 9411!

Also in **French Cameroons** and **Gabon.**

ALANGIACEAE

Trees or shrubs, sometimes spiny. Leaves alternate, simple; stipules absent. Flowers hermaphrodite, actinomorphic, in axillary cymes; pedicels articulated. Calyx truncate or with 4–10 teeth. Petals 4–10, mostly linear, valvate, at length recurved, sometimes coherent at the base. Stamens the same number as and alternate with the petals or 2–4 times as many, free or slightly connate at the base, more or less villous inside; anthers 2-celled, linear, opening lengthwise. Disk cushion-like. Ovary inferior, 1–2-celled; style simple, clavate or lobed; ovule solitary, pendulous. Fruit a drupe crowned by the sepals and disk, 1-seeded. Seeds with the embryo about equal to the endosperm.

A small family formerly included in the Cornaceae and found only in the tropics and subtropics of the Old World.

Leaves alternate, exstipulate, ovary inferior.

ALANGIUM

Lam. Encycl. Méth. Bot. 1: 174 (1783); Wangerin in *Engl. Pflanzenr. Alangiaceae* 6 (1910). *APD acc*

- 1 Branchlets glabrous; leaves ovate-elliptic, very oblique at the base, acuminate, 15–17 cm. long, 9–10 cm. broad, 5-nerved from the base, with slender parallel tertiary nerves, glabrous; petiole 2.5–3 cm. long, puberulous; cymes axillary; peduncle 2–4 cm. long; flowers about 10 or more; pedicels jointed at the top, about 4 mm. long; calyx a mere toothed rim; petals 1 cm. long, linear from a broader base; ovary puberulous [chinense](#)

Alangium chinense (*Lour.*) *Harms* in *Ber. Deutsch. Bot. Ges.* 15: 24 (1897); Rehder in *Sarg. Pl. Wilson.* 2: 552 (1916), q.v. for synonymy; F.W.T.A., ed. 1, 2: 607. *APD acc*

Stylidium chinense *Lour.* (1790).

Marlea begoniifolia *Roxb.* (1819).

Alangium begoniifolium (*Roxb.*) *Baill.* (1877); Wangerin l.c. 20, fig. 1, A–G, fig. 5; F.W.T.A., ed. 1, 1: 519.

A deciduous tree, to 70 ft. high, fast growing and soft-wooded; flowers creamy white to pale yellow, fragrant; [forest margins, especially in montane areas](#).

Br. Cam.: Cam. Mt., 1,400–4,800 ft. (Mar.) Kalbreyer 148! Maitland 484! 1172! Bamenda (Apr.) Johnstone 1168! Bali-Santa Pass, Bamenda (fl. & fr. May) Ujor FHI 30389a! 30389b! **F. Po:** Mildbr. 7140.

Also in [French Camerouns](#) and extending to the tropics and subtropics of eastern Asia.

ARALIACEAE

Mostly woody. Leaves alternate or rarely opposite, simple or compound; stipules often adnate to the petiole. Flowers hermaphrodite or unisexual, spicate, racemose, umbellate or capitate. Calyx adnate to the ovary, small. Petals valvate or slightly imbricate, usually free. Stamens free, alternate with the petals; anthers 2-celled, opening lengthwise. Disk epigynous. Ovary inferior, 1–or more-celled; styles free or connate; ovules solitary in each cell, pendulous from the inner angle. Fruit a berry or drupe. Seeds with copious endosperm and small embryo.

Mainly in tropical regions but rare in Africa.

Superficially resembling the Umbelliferae, but woody with an indehiscent baccate or drupaceous fruit.

- 1 Leaves pinnate; leaflets softly tomentose with stellate hairs [1. Polyscias](#)
 Leaves digitate or digitately lobed; pedicels not jointed: [2](#)
 2 Flowers spicate or racemose; ovary 2-celled [2. Cussonia](#)
 Flowers umbellate or capitate; ovary 5– or more-celled [3. Schefflera](#)

1. POLYSCIAS

J. R. & G. Forst., *Char. Gen.* 63 (1776); *Harms* in *E. & P. Pflanzenfam.* 3, 8: 43 (1894).

- 1 Leaves imparipinnate, up to 80 cm. or more long, clustered at the ends of the branches; leaflets 4–7 (–10) pairs, opposite, the rachis usually contracted at the nodes when dry; lateral leaflets ovate, ovate-elliptic or ovate-oblong, rounded to cordate at base, usually shortly acuminate at apex, 7–20 cm. long, 3.5–10 cm. broad, puberulous only on midrib above, densely stellate-tomentose beneath, with 10–15 pairs of faint lateral nerves; panicles up to 60 cm. long, lateral branches up to 12 cm. long; flowers shortly pedicellate or subsessile or sessile; ovary glabrous; fruits ellipsoid, ribbed, about 5 mm. long [fulva](#)

Polyscias fulva (*Hiern*) *Harms* l.c. 45 (1894); *Hutch. & Dalz. F.W.T.A.*, ed. 1, 1: 520 (1928); *Lebrun in Publ. I.N.E.A.C. Sér. Sci.* 1: 179, t. 15 (1935). *APD acc*

Panax fulvum *Hiern* in *F.T.A.* 3: 28 (1877).

Polyscias ferrugineum *Hiern* l.c. (1877).

Polyscias ferruginea (*Hiern*) *Harms* l.c. (1894); *F.W.T.A.*, ed. 1, 1: 520.

Polyscias preussii *Harms* (1899).

Panax nigericum *A. Chev.* in *Bull. Soc. Bot. Fr.* 57, *Mém.* 8: 178 (1912); *Bot.* 305.

A tree, 20–50 ft. high, rarely to 100 ft., with the large leaves bunched at the top of the rather few branches; leaflets white-tomentose beneath, dark green above; flowers cream; [usually in montane forest](#).

Fr. G.: Timbikounda, Farana (Jan.) *Chev.* 20590! Also between Sampouyara and Beyla fide *Chev.* l.c. **G. C.:** Abetifi, Kwahu (Jan.) *Irvine* 1658! **S. Nig.:** Mt. Koloishe, 5,000–6,000 ft., Obudu Div. (Dec.) *Keay & Savory FHI* 25100! 25103! **Br. Cam.:** Buea to Musake Hut, 3,500–6,000 ft., Cam. Mt. Maitland 680! *Preuss* 887; *Steele* 1! Bamenda Nkwe (Sept.) *Ujor FHI* 30220! **F. Po:** 1,300 ft. *Mann* 301!

Also in [French Cameroons](#), [A.-E. Sudan](#), [Abyssinia](#), [E. Africa](#) and [Belgian Congo](#).

2. CUSSONIA

APD: Synonym of Schefflera J.R. Forst. & G. Forst.

Thunb. — *F.T.A.* 3: 31; *Harms in E. & P. Pflanzenfam.* 3, 8: 53 (1894).

- 1 A savannah tree, to 10 m. high and 1 m. girth, with very deeply furrowed bark; young shoots, stipules and petiolules curly-pubescent; leaflets 7–10, usually more or less crenate-dentate, rarely subentire, obovate to obovate-oblongate, subsessile and cuneate at base, gradually or abruptly acuminate, 9–25 cm. long, 2.5–8.5 cm. broad, soon glabrous and finely reticulate beneath, with 8–18 main lateral nerves on each side of midrib; petioles up to 85 cm. long; flower spikes up to 50 cm. long, pubescent; flowers sessile; fruits subglobose, 6–8 mm. long [l. barteri](#)

A forest tree, to 40 m. high and 3 m. girth, with smooth or furrowed bark; leaflets 7–10, entire, narrowly elliptic subsessile and cuneate at base, gradually acutely acuminate, 8–29 cm. long, 2.5–6 cm. broad, glabrous, shining, dark above and pale beneath when dry; with 12–22 main lateral nerves on each side of midrib; petioles up to 110 cm. long; flower-spikes up to 40 cm. long, rather densely pubescent; flowers sessile .. [2. bancoensis](#)

1. **Cussonia barteri** *Seemann* in *J. Bot.* 4: 299 (1866); *F.T.A.* 3: 32; *Aubrév. Fl. For. Soud.-Guin.* 418, t. 90, 3.

APD: Synonym of Cussonia arborea Hochst. ex A. Rich.

Cussonia djalonensis *A. Chev.* in *Bull. Soc. Bot. Fr.* 55, *Mém.* 8: 38 (1908); *Chev. Bot.* 305; *F.W.T.A.*, ed. 1, 1: 520; *Aubrév. l.c.* t. 90, 1–2.

Cussonia nigerica *Hutch.* in *Kew Bull.* 1910: 136; *F.W.T.A.*, ed. 1, 1: 520.

Cussonia longissima *Hutch. & Dalz.* *F.W.T.A.*, ed. 1, 1: 520 (1928), excl. distrib. *S.L.* and *Smythe* 267; *Kew Bull.* 1929: 28.

A deciduous [savannah](#) tree; leaves and flower-spikes clustered at the ends of the thick branches; flowers greenish-white; ripe fruits whitish.

Fr. G.: Mamou Pobéguin 1581! *Diaguissa* (Apr.) *Chev.* 12931; 13548; 13617. Timbo to Farana (Apr.) *Chev.* 13309. **S. L.:** Yisea (Apr.) *Lane-Poole* 38! *Falaba* (Mar.) *Sc. Elliot* 5735! *Musaia Bafodea Road* (Apr.) *Deighton* 5493! *Musaia* (fr. July) *Deighton* 4826! *Kambaia Small* 489! **Iv. C.:** Fétékro to Tiébissou (fr. July) *Chev.* 22185! *Soucourala to Sanrou, Toura Chev.* 21597. **G. C.:** Kratchi, Ashanti (June) *Brent* 554! *Kumawo, Ashanti* (June) *Chipp* 458! *Ashanti* (Apr.) *Thompson* 61! *Salaga* (young fr. June) *Saunders* 805! *Yipala to Kulmasa, N.T. Kitson* 854! **Dah.:** *Atacora Mts.* *Chev.* 24021. *Agouagon Chev.* 23531. *Savalou Chev.* 23705. **N. Nig.:** *Borgu Barter* 815! *Anara F.R., Zaria Prov.* (fl. buds May) *Keay FHI* 22984!

Bauchi Plateau (Apr.) Lely P. 223! Kilba, Yola Prov. fr. Aug.) Dalz. 172! **S. Nig.**: Thompson 507! Olokemeji (Apr.) A. F. Ross 161! Awba Hills, Oyo Prov. Jones FHI 6336!

Also in **French Cameroons** and **Ubangi-Shari**.

2. **Cussonia bancoensis** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 84: 393 (1938); Aubrév. Fl. For. C. Iv. 3: 84 t. 273 (1936), French descr. only. *APD acc*

A forest tree; leaves and flower-spikes clustered at the ends of the branches; flowers greenish-white, with an unpleasant smell which attracts flies.

Iv. C.: Banco (Nov.) Aubrév. 500. **G. C.:** Apedwa-Suhum Road (young fr. Jan.) Scholes 454! Bobiri F.R., Juaso (Dec.) C. J. Taylor FH 5449! **S. Nig.:** Akure F.R. Keay & Onochie FHI 19658!

[A sterile specimen, Smythe 267, from Sierra Leone, cited in the first edition as *C. longissima*, may in fact be *C. bancoensis*. The collector's note — "fruiting on main stem" — probably refers to a different plant.]

3. SCHEFFLERA

J. R. & G. Forst., Char. Gen. 45 (1776); Harms in E. & P Pflanzenfam. 3, 8: 35 (1894).

- 1 Flowers distinctly pedicellate; petals coming off in a calyptra at anthesis; panicles crowded near the apex of the shoot; leaflets 6–7, glabrous; petioles up to 30 cm. long; petiolules 1.5–7.5 cm. long: **2**
Flowers sessile; petals spreading at anthesis; panicles crowded near the apex of the shoot, up to 42 cm. long, with lateral branches 8–20 mm. long; panicles and flowers glabrous; leaflets (6–) 8–10, oblong-elliptic, rounded to shortly cuneate at base, gradually acute or shortly acuminate at apex, 12–20 cm. long, 4.5–8.5 cm. broad, glabrous, with 12–18 main lateral nerves on each side of midrib; petioles up to 22 cm. long; petiolules 2.5–5.5 cm. long *4. mannii*
- 2 Leaflets crenate all round, cordate, subcordate or rounded at base, ovate, gradually acutely acuminate, 11–25 cm. long, 6–12 cm. broad, with 10–15 main lateral nerves on each side of midrib; panicles up to 25 cm. long, with lateral branches 10–20 mm. long; pedicels 2–5 mm. long; panicles and flowers glabrous except for the densely pubescent or tomentose bracts *1. abyssinica*
Leaflets entire or nearly so, rounded to cuneate at base, shortly acuminate: **3**
- 3 Pedicels (3–) 5–10 mm. long; flowers 8–11 per umbel; lateral branches of panicle (4–) 8–22 mm. long; panicle sparingly pubescent, up to 26 cm. long; leaflets elongate-oblong-elliptic, 11–25 cm. long, 4–8.5 cm. broad, with 4–10 main lateral nerves on each side of midrib *2. barteri*
Pedicels 2–4 (–5) mm. long; flowers 12–15 per umbel; lateral branches of panicle 3–15 mm. long; panicle rather densely but loosely rusty-pubescent, up to 40 cm. long, leaflets obovate-oblong or oblong-elliptic, 8.5–20 cm. long, 3.5–8.5 cm. broad, with 8–11 main lateral nerves on each side of midrib *3. hierniana*

1. **Schefflera abyssinica** (*Hochst. ex A. Rich.*) Harms in E. & P. Pflanzenfam. 3, 8: 38 (1894). *APD acc*

Aralia abyssinica Hochst. ex A. Rich. (1848).

Heptapleurum abyssinicum (*Hochst. ex A. Rich.*) Vatke (1876) — F.T.A. 3: 29.

Paratropia elata Hook. f. (1864).

Heptapleurum elatum (*Hook. f.*) Hiern in F.T.A. 3: 30 (1877).

Schefflera hookeriana Harms l.c. 38 (1894); F.W.T.A., ed. 1, 1: 521; not *S. elata* (D. Don) Harms (1894).

A tree, to 60 ft. high, in montane forest; flowers yellowish, sweetly scented.

Br. Cam.: Cam. Mt., 4,500–8,000 ft. (Feb., Mar.) Maitland 529! 994! Mann 1181! Bum, Bamenda, 4,000 ft. (May) Maitland 1586! Bayango, Bamenda (Apr.) Ujor FHI 30063!

Also in **Uganda**, **A.-E. Sudan** and **Abyssinica**.

2. **Schefflera barteri** (*Seem.*) Harms l.c. 38 (1894); Aubrév. Fl. For. C. Iv. 3: 83. *APD acc*

APD: Synonym of *Schefflera goetzenii* Harms

Astropanax barteri Seem. in J. Bot. 3: 177 (1865).

Heptapleurum barteri (*Seem.*) Hiern in F.T.A. 3: 30 (1877).

Astropanax baikiei Seem. l.c. (1865).

Heptapleurum baikiei (*Seem.*) Hiern l.c. (1877).

Schefflera baikiei (*Seem.*) Harms l.c. (1894); F.W.T.A., ed. 1, 1: 521.

Heptapleurum dananense A. Chev. in Bull. Soc. Bot. Fr. 57, Mém. 8: 178 (1912); Bot. 305.

Schefflera dananensis (A. Chev.) Harms ex Engl. Pflanzenw. Afr. 3, 2: 778 (1921).

A tree or climbing shrub; in forest by water and on rocky hills.

Fr. G.: R. Koubi, Pita (Apr.) Pobéguin 2293! **S. L.:** Sugar Loaf Mt. (fl. Apr., fr. May) Barter! Sc. Elliot 5828! Daru, Tunkia (fr. Mar.) Deighton 4115! **Lib.:** Ganta (fr. Mar.) Harley 1117! **iv. C.:** R. Boan, Danané (fr. Apr.) Chev. 21275! Mt. Nimba Aubrév. 1135. **S. Nig.:** Brass Barter 1851! Eket (May) Onochie FHI 32921! Oban Talbot 462! 1735! **Br. Cam.:** Johann-Albrechtshöhe Staudt 882! Lakom, 6,000 ft., Bamenda (fr. Apr.) Maitland 1623!

Also in **French Cameroons**, **Gabon**, **Belgian Congo** and (?) **Principe**.

3. *Schefflera hierniana* Harms l.c. 38 (1894). *APD acc*

Heptapleurum scandens Hiern in F.T.A. 3: 30 (1877), not of Seem. (1865).

(?) *Schefflera ledermannii* Harms in Engl. Bot. Jahrb. 53: 359 (1915); F.W.T.A., ed. 1, 1: 521.

A climbing shrub or tree, to 30 ft. high; flowers green, tinged pink.

Br. Cam.: Cam. Mt., 3,000–4,500 ft. (Feb.) Maitland 381! Mann 1180! Belo to L. Oku, 7,500 ft., Bamenda (Jan.) Keay & Lightbody FHI 28519! **F. Po:** Moka, 3,800–5,600 ft. (Nov.) Mildbr. 7107.

Also in **French Cameroons**.

[Very close to *S. barteri*.]

4. *Schefflera mannii* (Hook. f.) Harms l.c. 36 (1894); in Engl. Bot. Jahrb. 53; 358 (1915), incl. var. *lancifolia*. *APD acc*

Paratropia mannii Hook. f. (1861).

Heptapleurum mannii (Hook. f.) Hiern in F.T.A. 3: 31 (1877).

A tree, 40–50 ft. high; panicles erect, crowded at the ends of the branches; flowers green, with yellow anthers; in montane forest.

S. Nig.: Ikwette Plateau, 5,300 ft., Obudu Div. (Dec.) Keay & Savory FHI 25240! **Br. Cam.:** Cam. Mt., 4,000–7,600 ft. (Dec.–Apr.) Dundas FHI 15337! Maitland 1199! Mann 1182! 2168! Preuss 884! Oku, Bamenda (Nov.) Johnstone 227! **F. Po:** 5,000 ft. Mann 289! Mildbr. 6410.

Also in **Annobon** and **S. Tomé**.

UMBELLIFERAE

Herbs with furrowed stems and broad soft pith, rarely shrubs or small trees. Leaves alternate, usually compound and much divided, sometimes simple, rarely peltate. Flowers usually hermaphrodite, rarely unisexual, in simple or compound umbels, rarely capitate. Calyx adnate to the ovary, normally with 5 minute teeth. Petals 5, free, valvate or slightly imbricate, epigynous. Stamens 5, free, alternate with the petals; filaments inflexed in bud, anthers 2-celled, opening lengthwise. Styles 2, ovary inferior, 2-celled, ovules solitary in each cell, pendulous. Fruit dry, dividing when ripe into 2 mericarps, supported by a central carpophore; carpels usually ribbed and often with resin canals (vittae) in their walls; mericarps sometimes hairy and sometimes provided with hooks or spines. Seeds with copious endosperm and minute embryo.

Very abundant in the warm temperate regions of the northern hemisphere, and fairly well represented in the tropics, especially on the mountains.

A very homogeneous family, readily recognizable by the habit, broad pith, umbellate flowers, free petals and inferior 2-celled ovary.

- 1 Small soft-wooded trees, up to 10 m. high; fruits broadly winged [15. Steganotaenia](#)
Herbs; fruits winged or not: [2](#)
- 2 Flowers umbellate or in loose more or less globose heads: [3](#)
Flowers in a dense cylindrical spike surrounded by leafy spiny-toothed bracts; radical leaves simple [4. Eryngium](#)
- 3 Creeping herbs, rooting at the nodes; usually in damp places: [4](#)
Erect herbs, not rooting at the nodes; in various situations: [5](#)
- 4 Leaves orbicular or reniform; flowers hermaphrodite; mericarps 5-ribbed, without connecting veins between the

-
- ribs [1. *Hydrocotyle*](#)
 - Leaves reniform; flowers usually unisexual; mericarps 7–9-ribbed, with connecting veins between the ribs [2. *Centella*](#)
 - 5 Fruit (and ovary) hairy or with spinose bristles: [6](#)
 - Fruit glabrous: [12](#)
 - 6 Ovary with hooked or barbed bristles; [7](#)
 - Ovary more or less covered with hairs: [9](#)
 - 7 Leaves digitately divided into 3–5 obovate segments [3. *Sanicula*](#)
 - Leaves pinnately to bipinnately divided into numerous small leaflets: [8](#)
 - 8 Plants with appressed strigose hairs only [6. *Torilis*](#)
 - Plants with spreading hairs on the stem, petiole and inflorescence [7. *Caucalis*](#)
 - 9 Ultimate leaf-segments very narrowly linear, about 1 mm. wide: [10](#)
 - Ultimate leaf-segments broad, subrotund [9. *Pimpinella*](#)
 - 10 Fruit densely covered with very long setose hairs [16. *Ammodaucus*](#)
 - Fruit hairy, but hairs not long-setose: [11](#)
 - 11 Bracteoles of the secondary umbels narrowly linear, with a long setose point [5. *Pycnocycla*](#)
 - Bracteoles of the secondary umbels broad, membranaceous, acute, often with a mucronate tip [12. *Diplolophium*](#)
 - 12 Fruit with broad wings, strongly compressed dorsally: [13](#)
 - Fruit not broadly winged, slightly compressed laterally: [14](#)
 - 13 Fruit without a deep notch at the apex [13. *Peucedanum*](#)
 - Fruit with a deep notch (in which the stylopodium is situated) separating the wings at the apex [14. *Lefebvreia*](#)
 - 14 Low lax annual herbs (weeds in cultivation) with linear leaf-segments and very prominently ribbed fruit [8. *Apium*](#)
 - Plants not as above: [15](#)
 - 15 Leaflets 8–12 pairs, with appressed cartilaginous teeth on the margins; flowers yellow [10. *Sium*](#)
 - Leaflets about 3 pairs, with projecting herbaceous teeth on the margins; flowers white: [16](#)
 - 16 Pedicels short and rather thick; fruit broadly ellipsoid, nearly as broad as long [9. *Pimpinella*](#)
 - Pedicels long and very slender; fruit narrowly ovoid, much longer than broad [11. *Cryptotaenia*](#)

***Cuminum cyminum* Linn.**

Is cultivated in our area, and may be found established in areas associated with human occupation.

***Erythroselinum lefeburioides* Engl.**

In Pflanzenw. Afr. 3, 2: 821, Engler mentions as occurring at Buea on Mt. Cameroon. In the absence of both specimens and description, I am unable to account for this name.

***Berula erecta* (Huds.) Coville**

Occurs in the Bambuto Mts., French Cameroons and may well be found in the area of this Flora.

1. HYDROCOTYLE

Linn. — F.T.A. 3: 3.

- 1 Leaves attached at the base (not peltate): [2](#)
- Leaves peltate, orbicular up to 12 cm. diam; doubly crenulate; petiole very variable in length; umbels compound, bracts lanceolate. [3. *bonariensis*](#)
- 2 Plants very small and slender; leaves suborbicular, 5–10 mm. diam., usually shallowly lobed, subglabrous; flowers about 2–4 in each head, peduncle up to 1 cm. long [1. *sibthorpioides*](#)
- Plants more robust; leaves suborbicular-reniform, 5–10 mm. diam., usually rather deeply lobed and distinctly pilose-setulose; flowers about 10–30 in each head, peduncle (0.5–) 1–3 (–4) cm. long [2. *mannii*](#)

1. *Hydrocotyle sibthorpioides* Lam. Encycl. Méth. Bot. 3: 153(1789). APD acc

Hydrocotyle monticola Hook. f. in J. Linn. Soc. 7: 194 (1864), F.W.T.A., ed. 1, 1: 522.

H. americana var. **monticola** (Hook. f.) Hiern in F.T.A. 3: 4 (1877)

Hydrocotyle americana of Chev. Bot. 303.

A small creeping herb, nearly glabrous; **in moist upland grassland**

Fr. G.: Dalaba (Aug.) Jac Fél 7068! Ditinn to Diaguissa, Fouta Djallon (fr. Apr.) Chev. 12840! **Br. Cam.:** Lakom, Bamenda, 6,000 ft. (fl. & fr. June) Maitland 1772! **F. Po.:** 8,500 ft. Mann 1458!

In suitable habitats throughout tropical Africa and Asia.

[The differences between this and the next species are very difficult to define and collectors should attempt to make gatherings illustrating the range of variation within populations.]

2. **Hydrocotyle mannii** Hook. f. l.c. (1864). *APD acc*

Hydrocotyle moschata of Hiern in F.T.A. 3: 5, not of Forst.

A more or less pilose creeping herb; **in damp montane habitats**

Br. Cam.: Preuss 1028! Cam Mt., 3,000–6,000 ft. (fl. & fr. Dec.–Apr.) Maitland 215! 820! 1321! Banso, Bamenda (fl. & fr. Oct.) Tamajong FHI 23460! Bali-Ngamba F.R., Bamenda (fl. & fr. May) Ujor FHI 30331! **F. Po.:** 7,000 ft. Mann 1457! Mioka 5,000 ft. (fl. & fr. Dec.) Boughey 148!

In suitable habitats throughout tropical Africa.

3. **Hydrocotyle bonariensis** Lam l.c. 153 (1789); F.T.A. 3: 4; Chev. Bot. 303; Berhaut Fl. Sen. 179. *APD acc*

A glabrous creeping plant; flowers whitish, numerous; peduncles sometimes a foot long; **in sandy ground, usually near the sea.**

Sen.: Berhaut 1093 **Lib.:** Cape Palmas (fl. & fr. July) T. Vogel 50! Grand Bassa (fl. & fr. July–Oct.) T. Vogel 74! Dinklage! Baasa Cove Ansell! Timbo, Grand Bassa (fl. & fr. Mar.) Baldwin 11217! **Iv. C.:** Bliéron Chev. **G. C.:** Axim (fl. & fr. Jan., Dec.) Chipp 58! Johnson 979! Princes (fl. & fr. Jan.) Akpabla 785! Ancobra R. (Feb.) Irvine 2143! **S. Nig.:** Lagos Moloney! Dalz! Alorosogo, N. side of Lekki lagoon (fl. & fr. Apr.) Jones & Onochie FHI 17422! Nun R. (fl. & fr. Aug.) T. Vogel 6! Mann! Brass Barter 1873! Stubbs Creek F.R., Eket Dist. (fl. & fr. May) Onochie & Abey FHI 32949! **Br. Cam.:** Preuss 1106! Cameroon R (fl. & fr. June) Mann 423!

Widely distributed in tropical Africa and America

2. CENTELLA

Linn. Sp. Pl., ed. 2, 2: 1393 (1763).

- 1 Leaves remform, 3–5 cm diam., crenate or dentate but not lobulate, glabrous or sub-glabrous; fruit widely orbicular; peduncle 5–8 mm. long, pubescent [asiatica](#)

Centella asiatica (Linn.) Urb. in Mart. Fl. Bras. 11, 1: 287, t. 78, fig 1: (1878) *Hydrocotyle asiatica* Linn. (1753) — F.T.A. 3: 6; F.W.T.A., ed. 1, 1: 522; Chev. Bot. 303., Berhaut Fl. Sen. 179. *APD acc*

A perennial creeping plant, rooting at the nodes; flowers purplish; **in damp grassy places.**

Sen.: Berhaut 729. Carabane, Casamance Chev. 2976. **Fr. Sud.:** Negala Chev. 165. **Port. G.:** Pussube, Bissau (fr. Mar.) Esp. Santo. 1497! **S. L.:** Bonthe (fr. Mar.) Deighton 2486! Mano (fr. Feb.) Deighton 3113! Musaia (fl. & fr. Apr.) Deighton 5378! Magbema, Rokupr (fl. & fr. Apr.) Jordan 434! **Lib.:** Monrovia (fl. & fr. June, July) Linder 26! Baldwin 5886! Nyaake, Webo (fl. & fr. June) Baldwin 6148! Vahun, Kolahun (fl. & fr. Nov.) Baldwin 10220! **Iv. C.:** Tabou Chev. 20053. **G. C.:** Achimota (fl. & fr. Jan., June) Irvine 1452! 1965! **Togo:** Baumann 589! Kpandu Robertson 133! **N. Nig.:** Bauchi Plateau (fl. & fr. June) Lely P. 327! Naraguta (fl. & fr. June) Lely 281! Vom Dent Young 104! Jos (fl. & fr. Mar.) Hill 9! **S. Nig.:** Idanre (fl. & fr. Jan.) Brenan 8715! **Br. Cam.:** Buea, 3,000 ft. (Jan.) Maitland 218! Mamfe (fr. Mar.) Coombe 200! **F. Po.:** Moka Plateau, 3,500 ft. (fl. & fr. Dec.) Roughy 128! Finca Puente (Jan.) Guinea 1730!

Widely distributed in tropical Africa, Asia and Australia.

3. SANICULA

Linn. — F.T.A. 3: 7.

- 1 Radical leaves long-petiolate, palmately divided nearly to the base into 5 obovate lobes about 4 cm long, sharply crenate, glabrous; cauline leaves gradually becoming smaller and bract like; heads small, few-flowered; bracts lanceolate; fruit densely covered with hooked bristles. [elata](#)

***Sanicula elata* Buch.-Ham. ex. D. Don** Prod. Fl. Nepal. 183 (1825); Shan & Constance in Univ. California Pub. Bot. 25, No. 1: 47 (1951): *APD acc*

Sanicula europea of F.T.A. 3: 8; of F.W.T.A; ed. 1, 1: 523; not of Linn.

A glabrous herb with spine-covered fruit, **in montane forest**.

Br. Cam.: Cam. Mt., 4,000–7,600 ft. (fr. Dec.–Feb.) Mann 1233! 2019! Maitland 1018! Brenan 9343! Bamenda, 7,200–7,500 ft. (fr. Jan., Feb., Aug.) Migeod 370! Tiku FHI 22155! Tamajong FHI 23454! Keay & Lightbody FHI 28507! **F. Po.:** Clarence Peak, 4,000–7,000 ft. (fl. Dec., fr. Nov., Dec.) Mann 587! Boughey 122!

Distributed on mountains in tropical Africa from French Cameroons to Abyssinia and southwards to S. Africa, also in Himalayas, Malaysia, China and Japan.

4. ERYNGIUM

Linn. — F.T.A. 3: 6.

- 1 Herb with large, oblanceolate, sharply toothed radical leaves up to 30 cm. long; cauline leaves much smaller and very sharply toothed, glabrous; involucre bracts leafy, linear-lanceolate, about 3 cm. long; flower spikes cylindric, 1–1.5 cm. long [foetidum](#)

***Eryngium foetidum* Linn.** — F.T.A. 3: 6; Chev. Bot. 303. *APD acc*

A spiny leaved perennial herb, with an unpleasant smell and a fleshy rootstock exuding latex; flowers green.

S. L.: Thomas 8434! 10432! Zimmi (Nov.) Deighton 377! Marusia (Feb.) Dawe 478! **Lib.:** Bakratown (Oct.) Linder 878! Peter's Town, Bassa (fl. & fr. Oct.) Bunting 105! Nyaake, Webo (June) Baldwin 6136! **iv. C.:** Grabo de Taté Chev. 19749. **G. C.:** Tarkwa (fl. & fr. Sept.) Dalz. 108! **Br. Cam.:** Victoria (fl. Jan., Mar., fr Apr.) Brenan 9264! Ejiofor FHI 29329! Keay FHI 28573!

A native of tropical America, naturalized in our area and in **Uganda, S. Tomé and Príncipe**

5. PYCNOCYCLA

Lindl. — F.T.A. 3: 8.

- 1 A wiry herb with finely divided leaves, the ultimate segments narrowly linear; umbels compound, condensed into rather tight heads; outer florets more strongly developed than the inner, producing a radiate effect; bracts and bracteoles narrow linear-filiform; fruit and inflorescence pubescent. [ledermannii](#)

***Pycnocycla ledermannii* Wolff** in Engl. Bot. Jahrb. 57: 220 (May 1921) *APD acc*

***Pycnocycla occidentalis* Hutch.** in Kew Bull. 1921: 374 (Dec. 1921).

A herb with narrowly linear leaf-segments; bracts of the partial umbels long-filiform.

Fr. G.: Ditinn Jac.-Fél 594! Mali-Loura Jac. -Fél. 628! **N. Nig.:** Kennedy 2911! Bauchi Plateau (Aug.) Lely P. 662! Ropp, 4,600 ft. (July) Lely 450! Vom. Dent Young 106! Sho, Jos(Nov.) Keay FHI 21445! Kurra Fall, Jos Savory UCI 107!

Also in **Ubangi-Shari** and **French Cameroons**.

6. TORILIS

Adans. Fam. 2: 99 (1763).

- 1 An erect herb up to 1 m. high; leaves pinnate to bipinnate, the ultimate segments lanceolate, umbels usually compound; fruit with prominent hooked spines, one mericarp frequently does not develop fully; leaves and inflorescence clothed with appressed strigose bristles[arvensis](#)

Torilis arvensis (*Huds.*) *Link* Enum. Pl. Berol. 1: 265 (1821). *APD acc*

Caucalis arvensis *Huds.* Fl. Angl. 98 (1762).

Torilis africana (*Thunb.*) *Spreng.* Pl. Min. Cogn. Pugill. 2: 55 (1815).

Caucalis infesta *Curt.* — F.T.A. 3: 26.

A wiry herb; [in montane vegetation](#).

Br. Cam.: above L. Oku, 7,800 ft., Bamenda (fl. & fr. Jan.) Keay & Lightbody FHI 28471!

Distributed on mountains in tropical Africa from French Cameroons to Abyssinia and S. Africa, and in Europe and western Asia.

7. CAUCALIS

APD: *Synonym of Agrocharis Hochst.*

Linn. — F.T.A. 3: 25.

- 1 Leaves bipinnately divided into small coarsely serrate leaflets; petioles sheathing and membranous at the base; umbels congested like capitula on long slender tomentose peduncles; bracts lanceolate, 3–4 mm. long, densely ciliate; fruits about 5 mm. long, densely clothed with bristles armed at the apex with reflexed barbs [melanantha](#)

Caucalis melanantha (*Hochst.*) *Hiern* in F.T.A. 3: 26 (1877).

APD: *Synonym of Agrocharis melanantha Hochst.*

Agrocharis melanantha *Hochst.* in Flora 27: 19 (1844).

Torilis melanantha (*Hochst.*) *Vatke* in Linnea 40: 190 (1876).

A herb with finely divided leaves and fruit with numerous hooked spines; [in montane grasslands](#).

Br. Cam.: Cam. Mt., 3,000–9,000 ft. (fl. Dec., Jan., fr. Dec., Jan., June) Mann 1243! 2008! Maitland 837! 956! 1300! Bamenda, 6,000 ft. (fl. & fr. Jan.) Migeod 351! Kishong, Bamenda 6,500 ft. (fl. & fr. Jan.) Keay & Russell FHI 28444! Bafut-Ngemba F.R. (fl. & fr. Aug.) Ujor FHI 29957! **F. Po.:** 7,000 ft. Mann 317! Moka, 4,000 ft. (fr. Dec., Jan.) Exell 762! Boughey 30!

Also in [French Cameroons](#), [Abyssinia](#), [Uganda](#), [Kenya](#) and [Belgian Congo](#).

8. APIUM

Linn. — F.T.A. 3: 11. *APD acc*

- 1 An erect or subprostrate herb, with finely divided leaf-segments, the ultimate divisions narrow linear, leaf-bases sheathing and membranous; the stem leaves similar but smaller; umbels terminal and lateral; fruit ovoid, slightly compressed laterally and with very prominent ridges when mature[leptophyllum](#)

Apium leptophyllum (*Pers.*) *F. Müll. ex Benth.* Fl. Austr. 3: 372 (1866).

APD: *Synonym of Cyclospermum leptophyllum (Pers.) Sprague ex Britton & P. Wilson*

Pimpinella leptophylla *Pers.* Syn. Pl. 1: 324 (1805).

A low lax herb, up to 1 ft. high, with linear leaf-segments.

Fr. Nig.: Niamey to Gao Ryff!

A weed, widespread throughout the tropics.

9. PIMPINELLA

Linn. — F.T.A. 3: 13; Norman in J. Linn. Soc. 47: 583 (1927).

- 1 Leaflets ovate-orbicular, rounded at apex, the terminal one about 1.5 cm. diam., crenate-dentate, the lateral ones smaller and sessile, slightly pubescent on the radiating principal veins, petiole broadly sheathing at the base; umbels about 6-rayed; rays (i.e. pedicels) very short and rather stout; fruit ovoid-oblong, 2.5 mm. long, glabrous [1. oreophila](#)

Leaflets ovate-lanceolate, acute, the lowest pair the largest, stalked about 3 cm. long and 1.5 cm. broad, sharply serrulate, slightly pubescent on both surfaces; petiole with a very narrow sheathing base; umbels about 6-rayed, rays (i.e. pedicels) very slender, about 2 cm. long; ovary and fruit whitish-pubescent [2. praeventa](#)

1. **Pimpinella oreophila** *Hook. f.* — F.T.A 3: 14; Wolff in Engl. Pflanzenr. Umbellif. 4, 228: 311 (1927); Norman in J. Linn. Soc. 47: 588. *APD acc*

A small herb 2–12 in. high, leaves pinnate; [in upper montane grasslands](#).

Br. Cam.: Cam. Mt., 9,500–12,000 ft. (fl. Apr., fl. & fr. Nov.-Jan.) Mann 1291! 2028! Hutch. & Metcalfe 81! Maitland 1252! Keay FHI 28610! **F. Po:** Clarence Peak Mann!

Also in [Abyssinia](#) and [N.E. tropical Africa](#).

2. **Pimpinella praeventa** *Norman* l.c. 47: 591 (1927).

APD: *Synonym of Pimpinella hirtella* A. Rich.

An erect slender herb, 1–4 ft. high, with pinnate leaves; [in open savannah among rocks](#).

Fr. G.: Mali, Fouta Djallon, 4,800 ft. (Sept.) Schnell 7045! **N. Nig.:** Bauchi Plateau (July) Lely P. 514! P. 861! Vom, 3,000–4,500 ft. Dent Young 107! Naraguta 4,000 ft. (June) Lely 335! Jos (fl. & fr. Nov.) Keay FHI 21439! Riyom, Jos Div. (fr. Dec.) Corby FHI 14665! Bangwele, Bauchi Prov. (fl. & fr. Sept) Summerhayes 37! Fobur, Bauchi Prov. (fl. & fr. July) Summerhayes 13!

Pimpinella anisum *Linn.*

Is occasionally cultivated in our area and may be found established in areas associated with human occupation.

Pimpinella ledermannii *Wolff* *APD acc*

Occurs in the Bambuto Mts. and other localities in the French Cameroons; it may well be found in the area of this Flora.

10. SIUM

Linn. — F.T.A. 3: 13.

- 1 Leaves simply pinnate, with about 12 narrowly lanceolate leaflets; umbels with well-developed bracts and bracteoles; fruit slightly compressed laterally, with prominent ribs [repandum](#)

Sium repandum *Welw. ex Hiern* Cat. Welw. 1: 425 (1898).

APD: *Synonym of Berula repanda* (Welw. ex Hiern) Spalik & S.R. Downie

A robust herb, about 3 ft. high, with yellow flowers; [in marshy places](#).

Br. Cam.: Maisanmari, Gashaka Dist. (fl. & fr. Jan.) Latilo & Daramola FHI 34394!

Spasmodically distributed in tropical and S. Africa.

11. CRYPTOTAENIA

DC. Coll. Mém. 5: 42 (1829).

- 1 Radical leaves ternate or biternate; lower part of stem and petioles rusty-pilose; leaflets broadly ovate, sometimes lobed or cordate, irregularly dentate, setulose; cauline leaflets becoming linear-lanceolate; umbels with 3–6 primary and 3–5 secondary rays; bracts and bracteoles absent, pedicels very slender, flowers very small, narrowly ovoid, 5 mm. long [africana](#)

Cryptotaenia africana (*Hook. f.*) *Drude* in *E. & P. Pflanzenfam.* 3, 8: 189 (1898). *APD acc*

Anthriscus africana *Hook. f.* (1864) — *F.T.A.* 3: 16.

Herb 2–4 ft. high, pedicels very slender and thread like.

Br. Cam.: Cam. Mt., 4,000–7,000 ft. (fl. & fr. Dec., Feb., May) Brenan 9351! Maitland 655! 822! Mann 1234! 2023! Mba-Kokeka, 7,000 ft., Bamenda (fr. Mar.) Richards 5299! **F. Po:** Tessmann 2821

Also on the mountains of French Cameroons, E. Africa and the **Belgian Congo**.

12. DIPLOLOPHIUM

Turcz. — *F.T.A.* 3: 17.

- 1 Cauline leaves few, scattered; petiole flat, dilated into a rigid amplexicaul sheath at the base; lamina 3–5 pinnatisect, segments all very narrow, linear, elongated, fleshy, acute 3–5 cm. long; involucre bracts numerous, narrowly linear with white margins, acute, up to 3 cm. long, 3–4 mm. broad at the base; rays about 20, unequal; umbellules 10–20 flowered; fruit subterete, compressed on the back, densely papillose, densely and shortly villous [africanum](#)

Diplolophium africanum *Turcz.* in *Bull. Soc. Imp. Nat. Mosc.* 201: 173 (1847). *APD acc*

APD: *Synonym of Diplolophium diplolophioides (H. Wolff) Jacq.-Fél.*

Cachrys abyssinica *Hochst. ex. A. Rich.*, *Fl. Abyss.* 1: 333 (1848).

Diplolophium abyssinicum (*Hochst. ex. A. Rich.*) *Benth.* (1867) — *F.T.A.* 3: 17.

Physotrichia diplolophioides *Wolff* in *Engl. Bot. Jahrb.* 57: 230 (1922); *F.W.T.A.*, ed. 1, 1: 522.

A robust herb up to 6 ft. high, with linear leaf segments and hairy fruit.

Fr. G.: Labé, Fouta Djallon Jac.-Fél. 655! Kankan (fr. Aug.) Schnell 6692! **Togo:** Sokode-Basari (fr. Nov.) Kersting 515. **N. Nig.:** Birnin Gwari (ft. & fr. Nov.) Thornehill 151! Koboji to Kontagora (fr. Jan.) Meikle 1030! Naraguta (fl. & fr. Aug.) Lely 499! Ropp (Dec.) W. D. MacGregor 398! Jos. (fl. & fr. Dec.) Corby FHI 14662!

Also in **French Cameroons**, **Ubangi-Shari**, **Abyssinia**, **A.-E. Sudan**, **E. Africa** and **Belgian Congo**

13. PEUCEDANUM

Linn. — *F.T.A.* 3: 18.

- 1 Mericarps without prominent dorsal ridges between the lateral wings:.....2
 Mericarps with prominent dorsal ridges between the lateral wings:.....3
- 2 Leaves bipinnate; leaflets deeply 3-lobed, triangular in total outline, up to 4 cm. long, margins remotely toothed; fruit obovate, 10 mm. long and 7.5 mm. broad, broadly winged; lamina of the upper stem-leaves much reduced [1. madense](#)
- Leaves biternate to bipinnate; leaflets usually linear-lanceolate, rarely narrowly lanceolate, margins remotely serrate; fruit elliptic 7 mm. long and 5 mm. broad, broadly winged; lamina of the stem leaves much reduced. [2. angustisectum](#)
- 3 Leaves bipinnatisect; leaflets ovate or narrowly-ovate, acute, crenate-serrate, up to 3 cm. long and 1 cm. broad; fruit elliptic, 10 mm. long and 7.5 mm. broad; broadly winged; lamina of the upper stem-leaves quite prominent. [3. winkleri](#)

1. **Peucedanum madense** *Norman* in *J. Linn. Soc.* 49: 513 (1934).

APD: Synonym of Lefebvrea grantii (Hiern) S. Droop

A tall herb up to about 5 ft. high.

N. Nig.: Wana, Mada Hills. 2,000 ft. (fl. & fr. Oct.) Hepburn 93!

Also in **French Cameroons**.

[This is a very poorly known species; opportunities for its collection and study in the field should not be missed.]

2. *Peucedanum angustisectum* (Engl.) Norman l.c. 509 (1934).

APD: Synonym of Lefebvrea angustisecta Engl.

Lefeburia angustisecta Engl. Pflanzenw. Afr. 3, 2: 829 (1921); F.W.T.A., ed. 1, 1: 523.

A robust herb, up to 4 ft. high, with linear-lanceolate leaf-segments.

Br. Cam.: Cam. Mt., 6,000–10,000 ft. (fl. July–Sept., fr. Dec., Jan.) Maitland 819! Mildbr. 10925! Preuss 969! Savory 523!
L. Bambili, Bamenda (Aug.) Ujor FHI 29968!

Also in **French Cameroons**.

3. *Peucedanum winkleri* Wolff in Engl. Bot. Jahrb. 48: 278 (1912): Norman l.c. 511.

APD: Synonym of Afroligusticum linderi (C. Norman) P. Winter

Peucedanum petitianum of F.T.A. 3: 20 and of F.W.T.A., ed. 1, 1: 522.

A tall herb with broadly winged fruit, in **montane habitats**.

Br. Cam.: Cam. Mt., 6,000–10,000 ft. (fl. & fr. Feb.) Maitland 1315! Preuss 966! **F. Po:** Clarence Peak, 9,000–9,500 ft. (fl. & fr. Dec.) Mann 608!

Also on the mountains, in French Cameroons and E. Africa.

14. LEFEBVREA

A. Rich. — F.T.A. 3: 23.

Tall robust herb; leaflets lanceolate to narrowly ovate, acute, 5–10 cm. long, 1.5–6 cm. broad, serrulate, sometimes long-toothed; umbels terminal and lateral, the lateral umbels on long straight peduncles; flowers often tinged red-purple; fruit not seen[nigeriae](#)

Lefebvrea nigeriae Wolff in Engl. Bot. Jahrb. 57: 233 (1921). Erect herb up to 6 ft. high.

APD: Synonym of Lefebvrea grantii (Hiern) S. Droop

N. Nig.: Kilba country (July) Dalz. 90! Vom, 3,000–4,500 ft. Dent Young 108! Naraguta (Aug.) Lely 486! Bauchi Plateau (Aug.) Lely P. 620! Batten-Poole 352!

Also in the **French Cameroons**.

It is most desirable that this species be collected in fruit. All the specimens I have seen are flowering; without fruit it is impossible to be certain of the generic affinities of this species.

15. STEGANOTAENIA

Hochst. in Flora 27, Bes. Beil. 4 (1844).

A small tree, up to 12 m. high; leaves simply pinnate; leaflets subentire to toothed, 5–15 cm. long, 2–7 cm. broad, glabrous; primary umbels about 12-rayed, secondary about 6–9-rayed; ultimate peduncles about 3 cm. long; pedicels 5 mm. long; fruit obovate 1 cm. long, 7 mm. broad, 3-ribbed[araliacea](#)

Steganotaenia araliacea Hochst. l.c. (1844); Norman in J. Linn. Soc. 49: 514 (1934). *APD acc*

Peucedanum araliaceum (Hochst.) Benth. (1876) — F.T.A.3: 21; F.W.T.A., ed. 1, 1: 523.

P. fraxinifolium Hiern ex Oliv. (1873) — F.T.A.3: 22; F.W.T.A., ed. 1, 1: 523.

P. atacorensis A. Chev. Bot. 304, name only.

A small, soft-wooded tree, with compound umbels of small, white flowers; **in savannah**.

Fr. Sud.: Kita Chev. 106; Jaeger 4! **Fr. G.:** Labé Chev. 12319; Roberty 16396! Timbo Chev. 14638. Beyla Chev. 20896. **S. L.:** Freetown Welw. 2516! Bathurst Deighton 2764! Koinadugu Dist. Dawe 499! **Iv. C.:** Grabo to Taté Chev. 19791 **G. C.:** Vigne FH 3871! Tiasi (fr. Oct.) Vigne FH 1383! **Togo:** Lando Kersting A. 390! Sokode to Basari Kersting A. 706! Yendl (fr. Apr.) Vigne FH 1698! **Dah.:** Somba, Atacora Mts. Chev. 24095! **N. Nig.:** Nupe Barter! Katagum Dalz. 343! Kontagora (fr. Jan.) Meikle 1057! Bauchi Plateau (fl. & fr. Jan.). Lely P. 10! Bornu Prov. Talbot 1218! **Br. Cam.:** Gwoza, Dikwa Div. (Jan.) McClintock 151!

Widespread in tropical Africa.

16. AMMODAUCUS

Coss. & Dur., in Bull. Soc. Bot. Fr. 6: 393 (1859). *APD acc*

A small herb with a slender tap-root; leaves bipinnate, segments linear, rather thick, glabrous; umbels about as long as the leaves; pedicels 0.5–1 cm. long; fruit about 1 cm. long, densely covered with long slender whitish bristles *leucotrichus*

Ammodaucus leucotrichus *Coss. & Dur.* l.c. (1859); Chev. Bot. 305. *APD acc*

Fr. Sud.: Timbuktu region (young fr. Feb., Mar.) Vuillet in Hb. Chev. 25974; 25978; 28834!

Also throughout N. Africa.

ERICACEAE

Shrubs or undershrubs, less frequently trees; leaves alternate or whorled, rarely opposite, simple, usually evergreen; stipules absent. Flowers hermaphrodite, actinomorphic or slightly zygomorphic. Calyx persistent; sepals free or united. Corolla hypogynous, gamopetalous, inserted below a fleshy disk; lobes contorted or imbricate. Stamens usually double the number of the corolla lobes or, if the same number, alternate with them, hypogynous; filaments and anthers usually free; anthers 2-celled, opening by pores or pore-like slits. Ovary superior, several-celled, with numerous ovules on axile or rarely basal placentas, rarely 1-ovulate; style simple. Fruit a capsule, berry, or drupe. Seeds with fleshy endosperm and straight embryo, sometimes winged.

Generally distributed, but less frequent and mostly on the mountains in the tropics; very numerous in the south-western region of South Africa.

Amongst African families recognized by the small flowers, hypogynous stamens within a shortly lobed gamopetalous corolla, and the anthers opening by pores or pore-like slits.

- 1 Leaves lanceolate, acuminate, fairly large; corolla not persistent; flowers in racemes [1. Agauria](#)
 Leaves very small and heath-like; corolla persistent; flowers not in racemes: [2](#)
- 2 Small tree or shrub; no bracteoles on pedicel; calyx zygomorphic; corolla shortly campanulate, less than 2 mm. long; anthers without appendages [2. Philippia](#)
 Small wiry undershrub; 1-3 bracteoles on pedicel; calyx actinomorphic; corolla tubular, expanded above, more than 4 mm. long; anthers with appendages [3. Blaeria](#)

1. AGAURIA

(DC.) Hook. f.-F.T.A. 3: 483.

APD: *Synonym of Agarista D. Don ex G. Don*

Shrub or small tree; branchlets purplish; leaves oblong-lanceolate, acute at both ends, more or less acuminate at the apex, 3-9 cm. long, 1-3 cm. broad, glabrous, glaucous beneath; petiole about 1 cm. long; flowers in short axillary racemes; pedicels 3-4 mm. long; bracts caducous; sepals triangular, 5, pubescent outside; corolla deciduous, greenish-yellow tinged with pink, cylindric, contracted at the mouth, with 5 short rounded lobes; stamens 10, filaments pubescent; fruit a capsule, 5-angled, 4-6 mm. diam.; seeds curved [salicifolia](#)

Agauria salicifolia (Comm.) Hook. f. ex Oliv. F.T.A. 3: 483 (1877); Sleumer in Engl. Bot. Jahrb. 69: 381 (1938). APD acc

Andromeda salicifolia Comm. in Lam. Encycl. Méth., Bot. 1: 159 (1783); Bot. Mag. 60: t. 3286 (1833).

A shrub or small tree, attaining about 40 ft. in height, on the margins of the montane forest and in grassland above it.

[Br.] Cam.: Cam. Mt., 4,000-10,000 ft. (Dec.-May) Mann 1209! 2182! Johnston 12! Deistel 74! Thresh 3! Hamblar 210! Lakom, 8,000 ft., Bamenda (fr. Apr.) Maitland 1631! Lake Oku, 7,700 ft., Bamenda (Jan.) Keay & Lightbody FHI 28510! Bafut-Ngemba F.R., 6,000-7,000 ft., Bamenda (Jan.) Keay & Lightbody FHI 28375! Nkambe, 6,000 ft. (Feb.) Hepper 1903! F. Po: Clarence Peak, 8,500-9,000 ft. (Dec.-Mar.) Mann 621! Guinea 2934!

This species is represented in West Africa by only var. *salicifolia* (var. *pyrifolia* (Pers.) Oliv.; Sleumer, l.c.)

2. PHILIPPIA

APD: *Synonym of Erica L.*

Klotzsch in Linnaea 9: 354 (1835).

Ericinella of F.T.A. 3: 484, not of Klotzsch.

Small tree or shrub; branchlets pubescent with simple and barbellate hairs; leaves ascending to erect, in whorls of three, oblong-lanceolate, acute, 1.5-4 mm. long, with a dorsal groove, minutely scabrid at the margin; flowers few at the apex of each branchlet; pedicels glabrous, 1.5-2 mm. long; calyx-lobes 4, one free, linear, leaf-like, two-thirds of the corolla to almost equalling it in length, three connate to about half their length, triangular, about half the length, of the corolla; corolla campanulate, shallowly cleft, 4-lobed, about 1.5 mm. long; stamens 6, included; anthers without appendages, opening by pore-like slits; stigma broadly peltate; ovary 3-4-celled; capsule densely pubescent with very short hairsmannii

Philippia mannii (Hook. f.) Alm & Fries in Kungl. Svenska Vet. Handl., ser. 3, 4, No. 4: 37, t. 4a, fig. 10m.

APD: *Synonym of Erica mannii* (Hook. f.) Beentje subsp. mannii

Ericinella mannii Hook. f. in J. Linn. Soc. 6: 16 (1861); Bot. Mag. 92: t. 5569 (1866); F.T.A. 3: 484 (1877).

A heath-like shrub up to 12 ft. with purplish flowers.

[Br.] Cam.: Cam. Mt., 4,500-11,000 ft. (fl. May, fr. Nov.-Mar.) Mann 1289! 2181! Johnston 104! Deistel 81! Gray FHI 7454! Brenan 9393! Lake Bambuluwe, Bamenda (Sept.) Ujor FHI 30201! Oku, 6,500 ft. Bamenda (fr. Feb.) Hepper 2059! F. Po: Clarence Peak, 9,000 ft. to summit (fl. Dec., fr. Mar.) Mann 287! Guinea 2796!

3. BLAERIA

Linn.-F.T.A. 3: 484.

Small wiry undershrub, stems covered with short simple and long bristly hairs often branched below, some, usually most or all, glandular at the tip; leaves in whorls of 3, occasionally spiral or in whorls of 4, 2-5 mm. long, with a dorsal groove, sometimes with short simple hairs, always with long hairs at the margins, some glandular, some branched at the tip; flowers axillary in whorls of 3, inflorescence usually a spike-like panicle; pedicels short, bracteolate; calyx-lobes 4, linear, about one third the length of the corolla, with long marginal hairs some or all glandular at the tip; corolla, 4-6 mm. long, shortly 4-lobed, somewhat expanded above, slightly curved, persistent and tearing at capsule dehiscence; stamens 4, scarcely exserted; anthers with appendages, opening by pores; ovary 4-celled; capsule pubescentmannii

Blaeria mannii (Engl.) Engl. Bot. Jahrb. 43: 366 (1909); Alm & Fries in Act. Hort. Berg. 8: 245, t. 5-6 fig. f-g (1924).

APD: *Synonym of Blaeria spicata* var. *nimbana* (A. Chev.) Letouzey

APD: *Synonym of Blaeria spicata* var. *bambuttensis* Alm & T.C.E. Fr.

APD: *Synonym of Erica silvatica* (Engl.) Beentje

Blaeria spicata of F.T.A. 3: 484, partly, not, of Hochst.

Blaeria spicata var. **mannii** Engl. Hochgebirgsflora trop. Afr.: 325 (1892).

Blaeria tenuipilosa Alm & Fries, l.c. 247, partly (Ledermann 1625); Pichi-Sermolli & Heiniger in Webbia 9: 40 (1953).

Blaeria nimbana A. Chev. in Rev. Bot. Appl. 18: 113 (1938).

A heath-like undershrub with purplish flowers

Iv. C.: Nimba Mts., 5,300-5,800 ft. (July-Oct.) Jac.-Fél. 1938! Schnell 1575! 1877! [Br.] Cam.: Cam. Mt., 6,000 ft. to summit (Nov.-Apr.) Mann 1280! 2177! Johnston 7! 91! Preuss 712! 778! Dalziel 8311! Mildbr. 10837! 10877! 10904! Dundas FHI 20634! Brenan 9394! 9394A! Keay FHI 28593! FHI 28624! Thresh 2! Lakom, 5,500 ft., Bamenda (Apr.) Maitland 1421! Lake Oku, 7,900 ft., Bamenda (Jan.) Keay & Lightbody FHI 28497! Bambili, Bamenda (Aug.) Ujor FHI 29981! Bafut-Ngemba F.R., 7,000-7,300 ft., Bamenda (Feb., Sept.) Savory UCI 486! Hepper 2126! F. Po: Clarence Peak, summit (fl. Dec., fr. Mar.) Mann 592! Guinea 2744!

EBENACEAE

Trees or shrubs without milky latex, heartwood sometimes black (Ebony of commerce). Leaves nearly always alternate, exstipulate, entire. Flowers actino-morphic, hypogynous, usually unisexual, but frequently with rudiments of other sex, solitary, fasciculate or cymose, rarely in false racemes, sometimes cauliflorous. Calyx gamosepalous, entire to deeply lobed, always persistent in fruit and

usually accrescent. Corolla gamopetalous, shortly to deeply lobed; tube often fleshy and constricted at throat; lobes contorted in bud. Stamens from 2 to more than 100, epipetalous or borne on receptacle, exserted or included, filaments often very short, anthers usually apiculate, often 2 or more arising from a single filament. Ovary syncarpous, each locule either with 2 ovules or divided by a false septum into 2 uni-ovulate compartments; styles distinct or basally connate, very rarely completely united; stigmas usually large and conspicuous; ovules pendulous from apex of locule. Fruit a berry. Seeds large; endosperm abundant, hard, sometimes ruminant; embryo half as long as the endosperm, with foliaceous cotyledons

Mainly in the tropics and subtropics; many of local economic importance, a few of considerable commercial importance.

The number of floral parts is very variable and inconstant both between and within species. The only other genus now recognized in the family is *Euclea* Murr. which is widespread in [Africa](#) but does not occur in our area.

DIOSPYROS

Linn.-F.T.A. 3: 517; White in Bull. Jard. Bot. Brux. 26: 237-246 (1956).

Maba Forst.-F.T.A. 3: 514; F.W.T.A., ed. 1, 2; 6.

KEY TO SPECIMENS WITH MALE FLOWERS.

- 1 Corolla lobed to the middle or beyond; anthers often exserted beyond the throat (to p. 5):2
Corolla lobed only in upper half; anthers usually completely concealed: 15
- 2 Flowers small, corolla less than 8 mm. long; anthers usually exserted far beyond the throat:3
Flowers large, corolla more than 11 mm. long; anthers included or only slightly exserted:9
- 3 Filaments attached to corolla-tube; anthers exserted beyond throat for whole or greater part of length:4
Filaments attached to receptacle; anthers not, or only slightly exserted beyond the throat:8
- 4 Calyx 3·5-4·5 mm. long, lobes 5-6, suborbicular, imbricate; stamens 45-120; leaves more or less oblong-elliptic, acuminate, up to 17 cm. long and 7 cm. broad, lateral nerves in 8-10 pairs, tertiary nervation laxly reticulate- (see fig. 202A 1) [1. polystemon](#)
Calyx up to 2·5 mm. long; lobes with open aestivation, usually deltoid; stamens 10-25:5
- 5 Peduncles more than 4 mm. long; cymes lax, 12-20-flowered; corolla 7·5 mm. long, 4-lobed; leaves more or less elliptic, apex usually cuspidate, up to 17 cm. long and 11 cm. broad, drying reddish, upper surface glossy, with conspicuously reticulate, raised venation [2. viridicans](#)
Peduncles up to 2 mm. long; cymes mostly congested; corolla up to 6 mm. long, 3-5-lobed:6
- 6 Calyx densely fulvous-setulose outside; leaves mostly elliptic, shortly acuminate, up to 18·5 cm. long and 7 cm. broad, usually drying reddish, tertiary nerves subparallel; corolla (4-)5-lobed [3. dendo](#)
Calyx completely glabrous outside except for a few minute marginal cilia; leaves drying black; corolla 3(-4)-lobed:7
- 7 Leaves elliptic-oblong with almost parallel sides, apex caudate-acuminate, up to 13 cm. long and 5 cm. broad, secondary nerves in 12-20 pairs; flowers distinctly pedicellate in lax cymes; anthers minutely setulose on the margin [4. piscatoria](#)
Leaves more or less elliptic, shortly subacuminate, up to 12 cm. long and 4 cm. broad, secondary nerves in 5-12 pairs; flowers subsessile in contracted cymes; anthers glabrous [5. abyssinica](#)
- 8 Flowers in 1-4-flowered fascicles; pedicels slender, 3-4 mm, long; corolla-lobes spreading, glabrous; calyx with open aestivation, regularly lobed; leaves elliptic, acuminate, up to 11 cm. long and 4·5 cm. broad, drying black, with 6-9 pairs of prominent lateral nerves, tertiary nerves and veins scarcely visible [6. cooperi](#)
Flowers subsessile in 1-3(-4)-flowered pedunculate cymes; corolla-lobes ascending, densely strigulose; calyx closed in the bud, irregularly lobed at anthesis; leaves very variable, up to 10 cm. long and 4·5 cm. broad, drying brown, venation closely reticulate on both surfaces [7. ferrea](#)
- 9 Inflorescence a lax, 3-5-flowered axillary pseudo-raceme; pedicels up to 2 cm. long; calyx-lobes 4, free almost to base, papery, with marginal cilia and conspicuous venation; stamens entirely included; branchlets with setose hairs up to 5 mm. long; some leaves modified to form boat-shaped shelters for ants [8. conocarpa](#)
Inflorescence a congested fascicle or cyme, or a lax, many-flowered cyme borne on the older wood; calyx-lobes variously united; hairs on branchlets never more than 2 mm. long; leaves not modified to form shelters for ants: 10
- 10 Corolla hairy: 11

- Corolla glabrous: 12
- 11 Corolla hypocrateriform, fulvous-tomentellous, tube 9 mm. long, slender, contracted at the throat; stamens attached to receptacle, entirely included, strigose at base; leaves elliptic, acuminate, up to 18 cm. long and 8 cm. broad, lower surface fulvous-sericeous and with laxly reticulate, prominent venation [9. kamerunensis](#)
- Corolla infundibuliform, glabrous except for densely strigose mid-petaline lines; tube about 5 mm. long, widely open at the throat; stamens attached to corolla-tube, exerted, densely strigose for entire length; leaves elliptic or lanceolate-elliptic, acuminate, up to 18 cm. long and 8.5 cm. broad, lower surface pinkish-or greyish-white, strigose-pubescent on nerves, tertiary nervation subparallel-(see fig. 202A 2) [10. mannii](#)
- 12 Leaves pubescent beneath; flowers always borne on bole and branches, never in axils of leaves; pedicels more than 3 mm. long; corolla-lobes 5: 13
- Leaves glabrous beneath; some flowers borne in leaf-axils, others on older branchlets, but never (apparently) on bole and main branches; pedicels 1 mm. long; corolla-lobes 4: 14
- 13 Flowers in fascicles; pedicels 3-4 mm. long; calyx sparsely puberulous, lobes as long as tube, narrowly deltoid; corolla-tube as long as lobes, constricted at throat; leaves oblong-elliptic or lanceolate-elliptic, acutely acuminate, up to 11.5 cm. long and 4 cm. broad, drying grey-green, lateral nerves in 4-5 pairs, not impressed above-(see fig. 202A 3) [11. fragrans](#)
- Flowers in lax, many-flowered cymes; pedicels 8-13 mm. long; calyx tomentellous, lobes much shorter than the tube, hemi-orbicular; corolla-tube much shorter than the lobes, not constricted; leaves oblong-elliptic, or lanceolate-elliptic, acuminate, up to 14 cm. long and 4.5 cm. broad, lateral nerves in about 7 pairs, leaving midrib at very acute angle, impressed on upper surface [12. suaveolens](#)
- 14 Calyx 8 mm. long, lobes 4 mm. long, narrowly deltoid; leaves chartaceous, oblong-elliptic or oblanceolate-oblong, caudate-acuminate, up to 26 cm. long and 9 cm. broad, drying olive-brown, venation laxly reticulate [13. bipindensis](#)
- Calyx 2.5 mm. long, cup-shaped, margin entire except for 4 minute teeth; leaves coriaceous, elliptic or oblong-elliptic, caudate-acuminate, up to 19 cm. long and 7 cm. broad, drying grey-green, venation very closely reticulate [14. physocalycina](#)
- 15 Corolla tomentose or tomentellous or with large hairs easily visible to naked eye (to p. 6): 16
- Corolla glabrous or with minute hairs invisible to naked eye: 27
- 16 Branchlets densely clothed with long, rusty, spreading hairs about 1.5 mm. long; leaves cordate at base, usually ovate or lanceolate, up to 16 cm. long and 7 cm. broad, acutely acuminate, glaucous beneath, tertiary nerves subparallel, deeply impressed above; calyx lobed almost to the base, lobes subulate; corolla 1 cm. long, tube 7.5 mm. long, gradually narrowed to throat-(see fig. 202A 4) [15. barteri](#)
- Branchlets without long hairs; leaves cuneate or rounded at base: 17
- 17 Corolla more than 12 mm. long: 18
- Corolla 7-8 mm. long: 21
- 18 Calyx deeply lobed almost to the base, lobes narrowly deltoid; corolla glabrous except for a vertical strip of hairs along central axis of each corolla-lobe which is continued down the tube, and a few marginal cilia; leaves oblanceolate or oblanceolate-elliptic, shortly acuminate, up to 26 cm. long and 11 cm. broad, drying reddish-brown, lower surface sparsely puberulous [16. undabunda](#)
- Calyx only lobed in upper half or not at all; corolla tomentellous: 19
- 19 Calyx 4 mm. long, cup-shaped, unlobed but sometimes developing irregular splits; pedicels 3-5 mm. long; corolla 1.3-1.6 cm. long, tube 1-1.2 cm. long, constricted at the throat; leaves lanceolate or lanceolate-elliptic, shortly acuminate, up to 23 cm. long and 8 cm. broad, glaucous or grey-green beneath, lower surface sparsely and minutely puberulous [17. sanza-minika](#)
- Calyx 7-8 mm. long, distinctly lobed; pedicels less than 2 mm. long: 20
- 20 Calyx sparsely and minutely puberulous, lobes rounded; corolla 2.5-3 cm. long, tube 2.2-2.8 cm. long, flask-shaped, tapering rapidly from the middle to both ends; stamens about 90; leaves oblong-elliptic or lanceolate-elliptic, acuminate, up to 19 cm. long and 7.5 cm. broad, lower surface sparsely and minutely puberulous-(see fig. 202A 5) [18. crassiflora](#)
- Calyx densely covered with chocolate-brown or black tomentum, lobes deltoid; corolla 1.8-2.2 cm. long, hypocrateriform, tube about 1.2 cm. long; stamens about 20; leaves usually oblanceolate-elliptic, very shortly acuminate, up to 38 cm. long and 14 cm. broad, usually drying greenish-brown, lower surface densely setulose-puberulous on nerves and veins, more sparsely so on lamina, venation prominently reticulate .. [19. gabunensis](#)
- 21 Leaves opposite or subopposite, up to 32 cm. long and 10 cm. broad, oblanceolate, apex acute or shortly acuminate, lower surface sparsely and minutely puberulous and glaucous; first-year branchlets rusty-tomentellous; stamens exerted-(see fig. 202A 6) [20. chevalieri](#)
- Leaves alternate, usually smaller; branchlets not rusty-tomentellous; stamens included: 22
- 22 Inflorescence a distinctly pedunculate 3-9-flowered cyme; leaves more or less elliptic or oblanceolate-elliptic, apex subacuminate, up to 15 cm. long and 5.5 cm. broad, usually drying yellowish- or reddish-brown, lower surface almost glabrous, but with a few appressed hairs [21. mespiliformis](#)

- Inflorescence a sessile fascicle or congested cyme: **23**
- 23** Corolla narrowly conical, gradually tapering from near base; leaves rounded or acute at apex, never acuminate, ovate or elliptic, drying reddish above, densely pubescent or tomentose beneath [22. *tricolor*](#)
- Corolla botuliform or urceolate, tapering more or less equally from about the middle; leaves acuminate: **24**
- 24** Leaves small, up to 14 cm. long and 4-6 cm. broad, minutely and sparsely puberulous beneath, tertiary nerves scarcely visible: **25**
- Leaves large, up to 20 cm. long and 10 cm. broad, densely puberulous or pubescent beneath except in extreme old age, tertiary nerves very conspicuous, subparallel: **26**
- 25** Calyx-lobes rounded, broader than long; leaves usually drying greenish-brown above and grey beneath, lower surface with minute, black, strigulose hairs [23. *nigerica*](#)
- Calyx-lobes narrowly deltoid, much longer than broad; leaves usually drying reddish, lower surface with minute hyaline hairs [24. *heudelotii*](#)
- 26** Calyx 2 mm. long, lobes deltoid with flat margins; tertiary nerves not or only slightly impressed . [25. *liberiensis*](#)
- Calyx 4-5 mm. long, lobes ovate-apiculate with reduplicate margins; tertiary nerves impressed above [26. *thomasi*](#)
- 27** Branches with papery peeling bark and sharp-pointed spines; flowers subsessile in 3(-5)-flowered cymules at ends of (3-)6-14 mm. long, distally expanded and flattened peduncles; calyx closed in bud, botuliform, (7-)9-12(-21) mm. long; corolla rotate, tube 12 mm. long, lobes 7-9 mm. long; leaves oblanceolate, subacuminate, up to 20 cm. long and 7.5 cm. broad, drying brown [27. *monbuttensis*](#)
- Branches without papery peeling bark and spines; flowers in fascicles; calyx with open aestivation, not botuliform: **28**
- 28** Calyx truncate or with only slight indications of lobes: **29**
- Calyx distinctly lobed:..... **31**
- 29** Stamens with long strigose hairs (visible to naked eye) clothing filament and proximal half of connective, anthers with apiculus 1 mm. long; leaves broadly ovate-elliptic to lanceolate-elliptic, acuminate, up to 12 cm. long, and 5.5 cm. broad, drying brownish, secondary nerves not impressed, tertiary nerves and veins invisible [28. *melocarpa*](#)
- Stamens glabrous or with minute setulose hairs, apiculus less than 0.25 mm. long; secondary nerves deeply impressed above, prominent beneath, tertiary nerves clearly visible:..... **30**
- 30** Leaves drying reddish, elliptic or lanceolate-elliptic, up to 21 cm. long and 9 cm. broad, lateral nerves in (6-)7-9 pairs, acumen gradually tapering [29. *alboflavescens*](#)
- Leaves drying blackish, elliptic or lanceolate-elliptic, up to 14 cm. long and 6.5 cm. broad, lateral nerves in 4-5 pairs, acumen parallel-sided except for the slightly expanded tip [30. *zenkeri*](#)
- 31** Corolla-lobes 4-5 mm. long; leaves large, venation prominent and very closely reticulate on both surfaces: ... **32**
- Corolla-lobes up to 2.5 mm. long; leaves usually small and without closely reticulate venation: **33**
- 32** Calyx glabrous, 2.5 mm. long, tightly clasping base of corolla-tube, regularly lobed to middle; corolla-tube not constricted; anthers far-exserted; leaves oblanceolate or oblanceolate-elliptic, shortly acuminate, up to 35 cm. long and 13 cm. broad [31. *preussii*](#)
- Calyx sparsely and minutely strigulose, 4 mm. long, separated from base of corolla-tube by an appreciable space, irregularly lobed in upper third; corolla-tube constricted at throat; anthers included; leaves usually elliptic or oblong-elliptic, acuminate, up to 25 cm. long and 10 cm. broad [32. *canaliculata*](#)
- 33** Calyx-lobes rounded, or glabrous inside: **34**
- Calyx-lobes acute, puberulous inside: **36**
- 34** Calyx-lobes acute; leaves elliptic, oblong-elliptic or oblanceolate-oblong, up to 14 cm. long and 6 cm. broad, apex gradually tapering to a narrowly deltoid acumen, lower surface glabrous, drying dark brown or black [33. *soubreana*](#)
- Calyx-lobes rounded; leaves not or scarcely acuminate: **35**
- 35** Leaves lanceolate, up to 12 cm. long and 5 cm. broad, apex not emarginate, lateral nerves conspicuous; calyx 3 mm. long, puberulous, lobed almost to the base; corolla-lobes 2 mm. long, much longer than broad [34. *elliottii*](#)
- Leaves obliquely rhombic, up to 6 cm. long and 2 cm. broad, apex emarginate, lateral nerves invisible; calyx 1.5 mm. long, minutely puberulous, lobed only in upper third; corolla-lobes 1 mm. long, scarcely longer than broad-(see fig. 202A 7) [35. *hoyleana*](#)
- 36** Leaves small, up to 3.5 cm. long, drying greenish or blackish, very asymmetric, apex with a filiform tip [36. *obliquifolia*](#)
- Leaves larger, more than 7 cm. long, drying reddish, more or less symmetric, without a filiform tip: **37**
- 37** Leaves large, up to 19 cm. long and 9 cm. broad, lanceolate or lanceolate-elliptic, acuminate, tertiary nerves and veins clearly visible on lower surface, darker than lamina; corolla glabrous [37. *simulans*](#)

Leaves medium-sized, up to 17 cm. long and 6.5 cm. broad, but usually much smaller, tertiary nerves and veins scarcely visible; corolla with a few strigulose hairs: **38**

- 38** Flowers subsessile; corolla 7 mm. long; leaves tapering gradually to the rather blunt acumen, drying greyish-green beneath [38. *vignei*](#)

Flowers distinctly pedicellate; corolla 11 mm. long; leaves tapering rather suddenly to the acute acumen, drying pinkish beneath [39. *cinnabarina*](#)

KEY TO FRUITING SPECIMENS.

- 1** Calyx-lobes undulate; calyx more than 1 cm. long: **2**
 Calyx-lobes not undulate (or if undulate as in No. 26, then calyx less than 7 mm. long): **6**
- 2** Calyx less than half as long as fruit, 1-1.2 cm. long, fulvous-puberulous outside, lobes (4-)5, ovate-deltoid, 5-6 mm. long, margin undulate with at least one large fold about one third of the way from the base; fruit subglobose, 2.8 cm. long, 2.6 cm. broad, verruculose, almost glabrous at maturity [21. *mespiliformis*](#)
 Calyx almost as long as or longer than the fruit: **3**
- 3** Calyx glabrous, lobed only in upper half, lobes 4: **4**
 Calyx puberulous or pubescent, lobed almost to the base, lobes usually 5: **5**
- 4** Calyx leathery, without distinct venation, about 3.8 cm. long, lobes (at least in young fruit) reduplicate-valvate; tertiary nerves and veins of leaves very closely reticulate and prominent on both surfaces [31. *preussii*](#)
 Calyx papery with distinct longitudinal venation, 3-3.8 cm. long, lobes not reduplicate-valvate; tertiary nerves and veins laxly reticulate and slightly prominent on both surfaces-(see fig. 202B 3) [13. *bipindensis*](#)
- 5** Young branchlets, leaves and calyces pubescent, hairs visible to naked eye; calyx about 4 cm. long, venation not parallel; fruit depressed-globose, about 3.8 cm. long and 4 cm. broad [16. *undabunda*](#)
 Young branchlets, etc., puberulous, hairs visible with a $\times 20$ lens; calyx 2.5-3 cm. long, venation parallel; fruit ovoid-conic, about 1.5 cm. long and 1.2 cm. broad-(see fig. 202B 1) [3. *dendo*](#)
- 6** Indumentum of fruit consisting at least in part of long setose hairs clearly visible to naked eye: **7**
 Indumentum of fruit consisting of minute hairs visible with a $\times 20$ lens, or fruit glabrous: **12**
- 7** Calyx cup-shaped, the tube surrounding the whole of the lower half of the fruit, tomentose with chocolate-brown or black hairs, lobes 5, scarcely developed or well-developed and up to 1.5 cm. long; fruit up to 2.2 cm. long and 2.6 cm. broad, chocolate-brown tomentose-(see fig. 202B 6) [19. *gabunensis*](#)
 Calyx not cup-shaped, the tube not surrounding the lower half of fruit: **8**
- 8** Leaves opposite; fruit subsessile, about 4.2 cm. long and 2.5 cm. broad; calyx 4-5 mm. long [20. *chevalieri*](#)
 Leaves alternate; pedicels up to 3 cm. long; calyx 1.2-1.5 cm. long (but note that the fruiting calyx of No. 11 is unknown): **9**
- 9** Fruit sparsely setose: **10**
 Fruit tomentose: **11**
- 10** Fruit ovoid-conic, up to 4 cm. long and 1.7 cm. broad; calyx papery, sparsely setose, with conspicuous venation; some leaves modified to form boat-shaped shelters for ants [8. *conocarpa*](#)
 Fruit depressed-globose, 3 cm. long and 3.5 cm. broad; leaves not modified to form shelters for ants [11. *fragrans*](#)
- 11** Fruit up to 4 cm. long and 2.8 cm. broad, tomentose with an understorey of short chocolate-brown hairs and with longer setose hairs-(see fig. 202B 2) [12. *suaveolens*](#)
 Fruit about 4.8 cm. long and 4.4 cm. broad, ferrugineous-setose-tomentose [10. *mammii*](#)
- 12** Calyx longer than the fruit, 3-4 cm. long: **13**
 Calyx much shorter than the fruit: **14**
- 13** Calyx cordiform, broadest just above the base and gradually tapering to apex, lobes much shorter than the tube, deltoid [14. *physocalycina*](#)
 Calyx broadest near the middle at the junction of lobes and tube, lobes rounded with reduplicate margins forming 4 acute ridges which are continued in the upper part of the tube-(see fig. 202B 8) [32. *canaliculata*](#)
- 14** Fruit ovoid-conic or conic, tapering to a pointed apex; calyx lobed almost to the base, lobes deltoid: **15**
 Fruit of various shapes, never tapering to a pointed apex (but sometimes with an umbo at base of style): **20**
- 15** Branchlets densely clothed with long rusty spreading hairs about 1.5 mm. long; leaves cordate at base, up to 16 cm. long and 7 cm. broad; calyx 9 mm. long, rusty pilose; fruit up to 4.2 cm. long and 1.8 cm. broad-(see fig. 202B 4) [15. *barteri*](#)
 Branchlets without long hairs; leaves not cordate at base: **16**
- 16** Leaves very small, up to 3.5 cm. long and 1.6 cm. broad, markedly asymmetric, apex with a filiform tip; fruit more or less 1.8 cm. long and 0.7 cm. broad [36. *obliquifolia*](#)

- Leaves larger, more than 6 cm. long, not or scarcely asymmetric, apex not filiform: 17
- 17 Leaves rounded or acute at apex, densely strigose-pubescent beneath; fruit 2·2-2·8 cm. long, 1·3-1·6 cm. broad; shrub of coastal scrub [22. *tricolor*](#)
- Leaves acuminate, sparsely strigulose beneath; shrubs or small trees of rain forest: 18
- 18 Fruit conic, tapering from the base, sometimes asymmetric, up to 4 cm. long and 2·5 cm. broad; seeds 4 or fewer by abortion [38. *vignei*](#)
- Fruit ovoid-conic, tapering from some distance above the base; seeds 6: 19
- 19 Tertiary nerves and veins clearly visible on lower surface, darker than lamina; fruit about 4·2 cm. long and 3·2 cm. broad [37. *simulans*](#)
- Tertiary nerves and veins scarcely visible; fruit about 3·5 cm. long and 3 cm. broad [39. *cinnabarina*](#)
- 20 Fruit tomentellous (except in extreme old age): 21
- Fruit glabrous or almost so: 24
- 21 Fruit subglobose, up to 2·8 cm. long and 2·4 cm. broad [24. *heudelotii*](#)
- Fruit ellipsoid, cylindric, ovoid- or obovoid-cylindric, 3·5-4·5 cm. long, 2·8-3·8 cm. broad: 22
- 22 Seeds 6-8; tertiary nerves and veins forming an indistinct, lax reticulum [9. *kamerunensis*](#)
- Seeds 3-4; tertiary nerves subparallel: 23
- 23 Pedicels 9-18 mm. long; calyx 6-7 mm. long, lobes suborbicular-apiculate, the margins folded back and undulate-(see fig. 202B 7) [26. *thomasi*](#)
- Pedicels 2-3 mm. long; calyx 1 cm. long, lobes narrowly deltoid, the margins flat [25. *liberiensis*](#)
- 24 Fruit very large, about 10 cm. long and 6·5 cm. broad, obovoid, sparsely strigulose-puberulous, especially near apex, otherwise glabrous; calyx 1·5 cm. long, with 5-6 wrinkled and minutely puberulous rounded lobes ... [18. *crassiflora*](#)
- Fruit smaller, never more than 5 cm. long and 4·5 cm. broad: 25
- 25 Fruit cylindric, up to 5 cm. long and 4·5 cm. broad-(see fig. 202B 5) [17. *sanza-minika*](#)
- Fruit globose, ellipsoid or ovoid, smaller than last: 26
- 26 Leaves up to 6 cm. long and 2 cm. broad, obliquely rhombic, apex subacuminate and emarginate, nerves and veins invisible; fruit up to 2·5 cm. long and 2 cm. broad, ovoid or ovoid-cylindric, verruculose .. [35. *hoyleana*](#)
- Leaves nearly always larger, never emarginate, at least the secondary nerves always visible: 27
- 27 Fruit ellipsoid, small, up to 1·4 cm. long and 0·9 cm. broad; seeds 1-2: 28
- Fruit globose, larger, never less than 1·5 cm. long and 1·5 cm. broad; seeds 6-8, or sometimes fewer by abortion: 29
- 28 Calyx glabrous outside except for a few minute marginal cilia, deeply lobed almost to base, lobes suborbicular; fruit drying black, glabrous [5. *abyssinica*](#)
- Calyx tomentellous, shallowly and irregularly lobed, lobes broadly deltoid; fruit drying pale brown, with a few hairs near apex [7. *ferrea*](#)
- 29 Calyx cup-shaped, surrounding the lower half of fruit, margin subtruncate, but usually irregularly broken away; fruit up to 3 cm. long and 3·4 cm. broad [27. *monbuttensis*](#)
- Calyx not cup-shaped: 30
- 30 Endosperm ruminant: 31
- Endosperm uniform: 33
- 31 Calyx-lobes 4, about 4 mm. long and 2·5 mm. broad, reflexed; fruit globose, about 3 cm. long and 3 cm. broad; tertiary nerves and veins conspicuously raised and reticulate on upper surface [2. *viridicans*](#)
- Calyx-lobes 3(-4), 3 mm. long, or calyx irregularly lobed, lobes not reflexed, tertiary nerves and veins inconspicuous or invisible: 32
- 32 Leaves caudate-acuminate; fruit about 3·2 cm. long and 3·5 cm. broad; seeds dark brown, surface transversely wrinkled [28. *melocarpa*](#)
- Leaves subacute to subacuminate; fruit up to 2 cm. long and 2·4 cm. broad; seeds black, surface smooth [34. *elliottii*](#)
- 33 Calyx-lobes 5-8 mm. long, distinctly longer than broad: 34
- Calyx-lobes up to 3 mm. long, not longer than broad, or calyx unlobed: 35
- 34 Leaves abruptly tapering at apex to parallel-sided acumen, lateral nerves in 12-20 pairs; pedicels more than 3 mm. long; fruiting calyx about 8 mm. long [4. *piscatoria*](#)
- Leaves gradually tapering to the deltoid acumen; lateral nerves in 7-10 pairs; fruits subsessile, fruiting calyx 1-1·2 cm. long [33. *soubreana*](#)

- 35 Leaves minutely strigulose beneath:..... **36**
 Leaves glabrous:..... **37**
- 36 Fruiting calyx unlobed, dish-shaped; fruit about 2-6 cm. long and 3 cm. broad; leaves with tertiary nerves and veins scarcely visible [23. nigerica](#)
 Fruiting calyx with 4-5 well-defined hemi-orbicular lobes; fruit about 2 cm. long and 2 cm. broad; leaves with a prominent, lax reticulum [1. polystemon](#)
- 37 Leaves drying reddish; acumen gradually tapering; lateral nerves in (6-)7-9 pairs, tertiary nerves prominent; calyx 4-5 mm. long, irregularly 3(-4) lobed; fruit about 2-8 cm. long and 2-8 cm. broad [29. alboflavescens](#)
 Leaves drying blackish or greenish-black; tertiary nervation scarcely visible: **38**
- 38 Leaves suddenly tapering to the parallel-sided acumen; lateral nerves in 4-5 pairs [30. zenkeri](#)
 Leaves gradually tapering to the deltoid acumen; lateral nerves in 6-9 pairs [6. cooperi](#)

1. **Diospyros polystemon** *Gürke* in Engl. Bot. Jahrb. 43: 210 (1909). *APD acc*

Forest shrub or tree up to 90 ft. high; bole slightly fluted at base; flowers white, fragrant.

[Br.] Cam.: Likomba Plantation Mildbr. 10754.

Also in [Cameroun](#), [the Congos](#) and [Angola](#).

[I have not seen this specimen which is cited in the first edition; it is probably now destroyed.-F.W.]

2. **Diospyros viridicans** *Hiern* in J. Bot. 59: 129 (1921). *APD acc*

Diospyros kekemi *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 621, t. 1, 1 (1937); *Aubrév. Fl. For. C. Iv.*, ed. 2, 3: 164, t. 309, 1-5.

Small or medium-sized forest tree 25-60 ft. high; bole tall, straight; bark black, smooth at first, becoming scaly; fruit yellow at first, turning red, then black.

S. L.: Njala, Moyamba (fr. Nov.) Deighton 6014! **Iv. C.:** Abidjan (fr. Jan.) *Aubrév.* 188! Rasso (fr. Dec.) *Aubrév.* 545! Agboville (fr. June) *Aubrév.* 1385! Guiglo (fr. Jan.) Serv. for. 4042! **Ghana:** Pra Anum F.R., Bekwai (fr. Oct.) Annan 122! Kwahu Praso (fr. Feb.) Vigne FH 1613! S. Fomang Su F.R. male fl. Jan.) Vigne FH 2692! **S. Nig.:** Omo & Shasha F.R. Jones & Onochie FHI 16712! 16753! Shasha F.R. (fr. Feb.) Lamb 185! Njujua R., Obudu (male fl. May) Latilo FHI 30930! [Br.] Cam.: Victoria (fr. Nov.) Maitland 768! Bambuko F.R., Kumba Keay FHI 37422!

Also in [the Congos](#), [Gabon](#) and [Cabinda](#).

3. **Diospyros dendo** *Welw. ex Hiern* in Trans. Camb. Phil. Soc. 12: 195, t. 10 (1873); F.T.A. 3: 523. *APD acc*

Diospyros atropurpurea *Gürke* in Engl. Bot. Jahrb. 26: 67 (1899); op. cit. 43: 211, t. 4 (1909); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1051 (1926); F.W.T.A., ed. 1, 2: 5; Kennedy For. Fl. S. Nig. 191.

Small or medium-sized forest tree 25-50 ft. high; bole slightly fluted with a blackish Guava-like scaly bark; slash black outside, bright yellow inside; sapwood white; heartwood sometimes black in the centre; corolla cream; fruit and fruiting sepals dark red.

S. Nig.: Benin (fr. Nov.) Baldwin 13730a! Ojogba-Ugun F.R., Benin (fr. June) Olorunfemi FHI 38080! Osun F.R., Ijebu (female fr. Apr.) Ejiofor FHI 26115! Akure F.R., Ondo (fr. July) Symington FHI 4149! Sapoba F.R., (fr. Aug.) Okeke FHI 30133! [Br.] Cam.: Bambuko F.R., Kumba Keay FHI 37474!

Also in [Cameroun](#), [Gabon](#), [Congo](#) and [Angola](#).

4. **Diospyros piscatoria** *Gürke* in Engl. Bot. Jahrb. 46: 155 (1911); White in Bull. Soc. Bot. Brux. 26: 280, tt. 76 A-E, 77 A-B; F.W.T.A., ed. 1, 2: 6 (excl. syn. *Maba soubreana*); Kennedy For. Fl. S. Nig. 191. *APD acc*

M. chrysantha *Kennedy* l.c. 193 (1936), English descr. only.

Shrub or medium-sized forest tree up to 90 ft. high; bole long, straight, slender, often fluted and sometimes with very small buttresses at base; bark black, rough, exfoliating in large scales; slash black outside, yellow or orange inside; sapwood white or pinkish white, heartwood often black, sometimes with greenish-brown streaks; fruits dull crimson.

Guin.: Frecariah (female fl. June) Jac.-Fél. 1789! **S. L.:** Kofiu Mt. (fr. Jan.) Sc. Elliot 4600! Kurusu (male fl. Apr.) Sc. Elliot 5538! Matuta (male fl. June) Thomas 455! Bumbuna, Koinadugu (fr. Oct.) Thomas 3697! **Ghana:** Dunkwa (male fl. Nov.) Vigne FH 238! Jimira F.R., Kumasi (fr. June) Vigne FH 2962! **S. Nig.:** Sapoba Kennedy 773! 774 bis! Shasha F.R., Ijebu (male fl., fr. Mar.) Richards 3212! 3331! Ekosogo, Ogoja (male fl. Apr.) Jones FHI 1539! **[Br.] Cam.:** Bambuko F.R., Kumba (fr. Jan.) Keay FHI 37472!

Also in **Cameroun**, **Rio Muni**, **the Congos** and **Cabinda**.

5. *Diospyros abyssinica* (Hiern) F. White in Bull. Jard. Bot. Brux. 26: 294, tt. 76 F-K, 77 C-D (1956).

APD acc

Maba abyssinica Hiern in Trans. Camb. Phil. Soc. 12: 132 (1873); F.T.A. 3: 516.

M. warneckei Gürke (1911)-F.W.T.A., ed. 1, 2: 7.

Medium-sized evergreen **forest** tree, to 90(-120) ft. high, with long straight slender bole and small dense crown; bark thin, dark, rough, reticulate and scaling on old trees; slash black outside, bright yellow inside; flowers cream; fruit black.

Guin.: Kouroussa Pobéguin! Gangan (male fl. Mar.) Roberty 17722! **Mali:** Kita (fr. Dec.) Jaeger 3778! (male fl. Aug.) Jaeger 5776! **iv. C.:** Anoumaba, Dimbokro Chev. 22394! **Ghana:** Odumasi, Volta R. (fr. Nov.) Irvine 1700! 2109! Achimota (male fl. June) Irvine 2779! Aburi Scarp (fr. Oct.) Scholes 303! **Togo Rep.:** Kodjelo (male fl. Feb., fr. July) Kersting 500! 689! Lomé Mildbr. 7506! Warnecke 220! **S. Nig.:** Idanre Hills (male fl. Apr.) Symington FHI 3359! Aku Rock (fr. Nov.) Hamblen 5176!

Widespread in Africa to Eritrea, **Angola** and S. Rhodesia.

6. *Diospyros cooperi* (Hutch. & Dalz.) F. White in Bull. Jard. Bot. Brux. 26: 243 (1956). *APD acc*

Maba cooperi Hutch. & Dalz. F.W.T.A., ed. 1, 2: 7 (1931); Kew Bull. 1937: 55.

M. gavi Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 83: 622, t. 1, 2 (1937); Aubrév. Fl. For. C. Iv., ed. 2, 3: 174, t. 315, 1-3.

Diospyros gavi (Aubrév. & Pellegr.) F. White l.c. (1956).

Small **forest** tree 18-40 ft. high; bark greenish-brown, smooth; flowers borne in clusters on stem, mustard-yellow; fruit yellow.

S. L.: Kambui F.R. (male fl. Oct.) Edwardson 169! Kafago (fr. Apr.) Sc. Elliot 5613! Mamaha (female fl. Nov.) Thomas 4585! 4653! Yonibana, Tonkolili (male fl. Nov.) Thomas 4666! **Lib.:** Ba, Mano R., Boporo (fr. Dec.) Baldwin 10697! Monrovia (male fl. Oct.) Cooper 92! 316! Peatah Linder 1029! 1066! **iv. C.:** Agboville to Abenguru Aubrév. 186! Dakpadu (fr. Jan.) Aubrév. 874! Man to Danané (fr. Mar.) Aubrév. 1095! 60 km. N. of Sassandra (fr. Feb.) Leeuwenberg 2812! 2845!

[Pobéguin 910 from Langofome River, Guinée, may be a variant of this species; its fruit, however, is ovoid-conic.]

7. *Diospyros ferrea* (Willd.) Bakh. in Gard. Bull. Str. S. 7: 162 (1933); in Bull. Jard. Bot. Buitenz., sér. 3, 15: 50 (1936), 431 (1941). *APD acc*

Ehretia ferrea Willd. Phytogr. 1: 4, t. 2, 2 (1794).

Maba buxifolia (Rottb.) A. L. Juss. (1804)-Pers. Syn. Pl. 2: 606 (1807); Hiern in Trans. Camb. Phil. Soc. 12: 116 (1873); F.T.A. 3: 515; Thonner Blütenfl. Afr. t. 126; F.W.T.A., ed. 1, 2: 7; not *D. buxifolia* (Bl.) Hiern.

Pisonia buxifolia Rottb. (1783).

Ferreola guineensis Schum. & Thonn. Beskr. Guin. Pl. 448 (1827).

M. guineensis (Schum. & Thonn.) A. DC. (1844).

M. smeathmannii A. DC. (1844).

M. secundiflora Hutch. in Kew Bull. 1921: 384, t. 8.

M. lancea of Chev. Bot. 395; F.W.T.A., ed. 1, 2: 7 (excl. syn. *M. sudanensis*); Aubrév. Fl. For. Soud.-Guin. 422, t. 92, 4, not of Hiern.

M. ferrea (Willd.) Aubrév. Fl. For. C. Iv., ed. 2, 3: 174, t. 310, 6-7 (1959), nom. illegit.

Forest shrub or small under-storey tree 5-45 ft. high with spreading and arching branches; bark dark grey, slash black outside, red inside, sapwood white or pale straw-coloured; young shoots densely rusty pilose; flowers white.

Sen.: Casamance (fl.) Leprieur! **Mali:** Kita (fr. Apr.) Dubois 185! Timbo (fr. Apr.) Chev. 13278! Fouta Djallon (fl. Apr.) Chev. 13607! Kouroussa (fr.) Pobéguin 851! **Port. G.:** Bissau (fr. Jan.) Esp. Santo 1633! Farim, Begene (male fl. Apr.) Esp. Santo 2461! **S. L.:** (female fl.) Smeathmann! **iv. C.:** Abidjan (fr.) Aubrév. 903! Sassandra (fl. May) Chev. 17946! Cavally (fl.) Chec. 19932! **Ghana:** Pamu-Berekum F.R. (fr. Sept.) Vigne FH 2518! **Dah.:** Cotonou (fr. Mar.) Debeaux 345! **N. Nig.:** Dogon Dawa, Zaria (fr. Feb.) Daggash FHI 31412! Katagum (fr.) Dalz. 413! Jos Plateau (male fl. May) Lely P266! **S. Nig.:** Akure F.R., Ondo (male fl. Oct.) Keay FHI 21556! Ibadan Keay FHI 22548! Iyamayong F.R., Ogoja (fr. Apr.) Binuyo FHI

41231! **[Br.] Cam.:** Johann-Albrechtshöhe (= Kumba) (male fl.) Staudt 617! Gangume, Gashaka Dist. (male fl. Dec.) Latilo & Daramola FHI 28911!

Scattered through the palaeotropics as far as Hawaii.

[D. ferrea is a very variable species. Some of the variation in our area can be correlated with ecology and distribution, but insufficiently precisely to warrant taxonomic recognition.]

8. **Diospyros conocarpa** *Gürke & K. Schum.* in Engl. Bot. Jahrb. 14: 311 (1892); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1048 (1926). *APD acc*

Diospyros staudtii *Gürke* (1899)-F.W.T.A., ed. 1, 2: 4, nom. illegit.

Forest shrub or small slender tree up to 30 ft. high; branches in pseudo-whorls; bole black with thin papery scales falling to expose powdery purple surface; slash black outside, pale yellow and fibrous inside; sapwood pale cream-yellow, hard and tough with blackish markings at centre; inflorescence drooping; corolla white or pinkish.

S. Nig.: Afi River F.R., Ogoja (male fl. May) Jones & Onochie FHI 17398! Ojogba-Ugun F.R., Benin (male fl. June) Olorunfemi FHI 38068! Eket Talbot 3290! 3320! **[Br.] Cam.:** Kumba (male fl. Mar.) Binuyo & Daramola FHI 35630! S. Bakundu F.R. Brenan 9424!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Cabinda**.

9. **Diospyros kamerunensis** *Gürke* in Engl. Bot. Jahrb. 26: 69 (1899); op. cit. 43: 208, t. 3 M-0 (1909); Aubrév. Fl. For. C. Iv., ed. 2, 3: 162, t. 308, 1-3. *APD acc*

Diospyros pallescens *A. Chev.* Bot. 397, name only.

Small or medium-sized **forest** tree 25-50 ft. high; bark rough; wood pink; flowers white or pale yellow; fruit yellow or orange.

Lib.: Monrovia (male fl. Apr., female fl. Nov.) Cooper 69! 116! 304! **iv. C.:** Abidjan (male fl. Oct., Nov.) Aubrév. 129! 171! Yapo Aubrév. 588! Songan Chev. 17686! 17728! Teké (male fl. Sept.) de Wilde 572! **Ghana:** Wasaw-Aowin, Benso (fr. Apr.) Andoh FH 5477! Kumasi Cummins 201! Pra Anum F.R. (male fl. July) Darko 196! Ankasa River F.R., Ahanta-Nzima (fr. Feb.) Enti FH 6921! Banka, Bekwai (male fl. Sept.) Vigne FH 1363!

Also in **Cameroun** and **Gabon**.

10. **Diospyros mannii** *Hiern* in Trans. Camb. Phil. Soc. 12: 255 (1873); F.T.A. 3: 524; Chev. Bot. 396; Aubrév. Fl. For. C. Iv., ed. 2, 3: 160, t. 308, 4-6. *APD acc*

Diospyros talbotii *Wernham* in Cat. Talb. 57 (1913); F.W.T.A., ed. 1, 2: 6.

Diospyros aggregata *Gürke* (1909).

Diospyros pseudaggregata *Mildbr.* (1926).

Diospyros ivorensis *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 621 (1937); Aubrév. Fl. For. C. Iv., ed. 2, 3: 160, t. 308, 7-8.

Medium-sized **forest** tree 40-60 ft. high; bark black, smooth, hard; slash black outside, yellow inside; sapwood citron-yellow, heartwood sometimes with a black centre; branchlets densely brown-villous; leaves pale and glaucous beneath; fruits orange, borne on old branches.

S. L.: Dodo Hills F.R., Kono (fr. Jan.) Sawyerr FHI 13569! Gola F.R., Kenema Small 670! **Lib.:** Mano R., Boporo (fr. Dec.) Baldwin 10701! **iv. C.:** Taï, Man Aubrév. 1214! Guiglo, Man Aubrév. 2069! Byanouan (fr. Mar.) Chev. 17695! Yapo Chev. 22319! Divo to Lakota (fr. Aug.) de Wilde 311. **Ghana:** Krokosua Hills, Sefwe (female fl. Apr.) Enti FH 6700! **S. Nig.:** Okomu F.R., Benin Brenan 8993! 9048! Oban Gray 2/11!

Also in **Ubangi-Shari**, **Cameroun**, **Gabon**, **the Congos** and **Cabinda**.

11. **Diospyros fragrans** *Gürke* in Engl. Bot. Jahrb. 46: 154 (1912); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1050 (1926). *APD acc*

Shrub or small **forest** tree up to 50 ft. high, sometimes multiple-stemmed; bole shallowly and irregularly fluted at base; bark dark brown, peeling in thin papery flakes up to 2 by 1 in.; slash blackish outside, deep ochre inside; sapwood creamy-buff; leaves glaucous-green beneath; flowers fragrant, borne in fascicles all up the trunk; corolla white; fruit orange.

[Br.] Cam.: S. Bakundu F.R., Kumba (male fl. Mar.) Binuyo & Daramola FHI 35629! Brenan 9405!

Also in **Cameroun** and **Gabon**.

[Onochie FHI 33426 from Ute Ogboji Forest, Benin may be this species, but as the specimen is sterile and was collected from a stool shoot, there is some doubt.]

12. *Diospyros suaveolens* Gürke in Engl. Bot. Jahrb. 26: 68 (1899). *APD acc*

Diospyros confertiflora Gürke ex Kennedy, For. Fl. S. Nig. 192 (1936), English descr. only; not of (Hiern) Bakh. (1933).

Diospyros barteri of F.W.T.A., ed. 1, 2: 4, partly (Mildbr. 10522), not of Hiern.

Small or medium-sized **forest** tree 30-90 ft. high; bole fluted at the base; bark black, rough, scaling; slash black outside, deep yellow, turning orange inside; sapwood white, turning pale yellow; heartwood pinkish; leaves ashy-grey beneath; calyx pink; corolla ivory white; fruits with irritant hairs, borne on upper part of bole and main branches.

S. Nig.: Owo F.R. (male fl. Apr.) Jones FHI 3481! Idanre F.R. (fr. June) Keay FHI 37042! Sapoba Kennedy 771! 778! Omo Sawmill, Ijebu (fr. Aug.) Okeke & Binuyo FHI 36891! [**Br.**] **Cam.:** Bambuko F.R., Kumba Keay FHI 37438! Likomba Plantation Mildbr. 10522!

Also in **Cameroun** and **Gabon**.

13. *Diospyros bipindensis* Gürke in Engl. Bot. Jahrb. 26: 70 (1899); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1051 (1926). *APD acc*

Diospyros busgenii Gürke (1911).

Diospyros flavovirens Gürke (1914).

Forest shrub 8-20 ft. high or tree up to 60 ft. high; bole shallowly fluted with rounded ridges; bark dark brown, with very close anastomosing fissures; slash: outer bark jet black, inner bark cream outside, ochre-yellow inside; sapwood white darkening to pale yellow; heartwood sometimes black; flowers strongly scented; corolla yellowish-cream; ripe fruit whitish-pruinose, borne on branches.

[**Br.**] **Cam.:** Banga, Kumba (male fl. May) Binuyo & Daramola FHI 35595! S. Bakundu F.R., Kumba (male fl. Mar., fr. Aug.) Brenan 9418! Olorunfemi FHI 30703!

Also in **Cameroun**, **Gabon**, **Congo** and **Uganda**.

14. *Diospyros physocalycina* Gürke in Engl. Bot. Jahrb. 26: 68 (1899); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1052 (1926). *APD acc*

Diospyros xanthochlamys Gürke op. cit. 43: 210(1909), not of F.W.T.A., ed. 1.

Heisteria winkleri Engl. (1909).

Small **forest** tree up to 30 ft. high; bark blackish; slash jet black outside, pinkish-cream inside and immediately turning dark brown, buttercup yellow at inner edge; calyx pale purplish-green; corolla white or yellow; fruit red, surrounded by green calyx.

S. Nig.: Okomu F.R., Benin (male fl. Feb., female fl. Mar.) Brenan 9158! Ross 137! Idanre F.R. (fr. Aug.) Okafor & Daramola FHI 35283!

Also in **Cameroun** and **Gabon**.

15. *Diospyros barteri* Hiern in Trans. Camb. Phil. Soc. 12: 187 (1873); F.T.A. 3: 521; Oliv. in Hook. Ic. Pl. 23: t. 2300 (1894); F.W.T.A., ed. 1, 2: 4; (excl. Mildbr. 10522). *APD acc*

Diospyros rubicunda Gürke in Engl. Bot. Jahrb. 43: 206, t. 3A-J (1909).

Forest shrub or small tree 3-22 ft. high, sometimes scrambling, young parts covered with ferruginous hairs; leaves glaucous beneath; fruit pale yellow or orange.

Ghana: Akwapim (fr. Apr.) Irvine 1153! Aburi (male fl. July) Johnson 1086! **S. Nig.:** Lagos (fr.) Barter 2194! (female fl.) Dalz. 1099! (male fl. May) Dalz. 1180! Ibadan (fr. Apr.) Meikle 1393! Eket Talbot 3331!

Also in **Cameroun**.

16. *Diospyros undabunda* Hiern ex Greves in J. Bot. 67, Suppl. Gamopet.: 80 (1929).

APD: Synonym of Diospyros pseudomespilus subsp. undabunda (Hiern ex Greves) F. White

APD: Synonym of Diospyros pseudomespilus Mildbr. subsp. pseudomespilus

Forest shrub or tree up to 40 (-120) ft. high; bole dark grey or black, smooth, with long shallow fissures; slash deep chocolate-brown outside, pale yellow-brown inside; leaves deep green and very glossy above; flowers pale yellow, fragrant; fruit bright red.

S. Nig.: Omo and Shasha F.R. Jones & Onochie FHI 17589! Okomu F.R., Benin (fr. June) Onochie FHI 34605!

Also in **Ubangi-Shari**, **Congo**, **Cabinda**, **Angola** and **N. Rhodesia**.

[The Nigerian plant probably belongs to a distinct sub-species].

17. Diospyros sanza-minika A. Chev. Vég. Ut. 5: 155(1909); Bot. 397; Aubrév. Fl. For. C. Iv., ed. 2, 3: 168, t. 314. *APD acc*

Diospyros nsambensis Gürke (1909).

Medium-sized **forest** tree 40-80 ft. high; bole long, slender without buttresses; bark black, with deep longitudinal ridges and fissures, very hard and more resistant to decay than the wood; heartwood sometimes with a black centre; leaves greyish beneath; flowers white; fruit yellow with a mucilaginous white pulp.

S. L.: Kambui, Kenema (fr. May) Lane-Poole 224! Gola F.R., Kenema (female fl. Apr., fr. Jan.) Small 612! 659! Unwin & Smythe 40! Kenema (fr. Jan.) Thomas 7654! **Lib.:** Monrovia (fr. Apr., female fl. Mar., male fl. May) Cooper 71! 271! 422! **Iv. C.:** Fort Binger, Cavally R. (female fl., fr. July) Chev. 19431! 19436! 56km. N. of Sassandra (fr. Jan.) Leeuwenberg 2620! Abidjan (male fl.) Aubrév. 39! Zaranou, Abengourou (fr. Mar.) Chev. 16284! **Ghana:** Benso, Wasaw-Aowin (fr. Oct.) Osei FH 5245! Dunkwa (female fl., fr. Apr.) Vigne FH 106! 1109! Ateiku (male fl. May) Vigne FH 2004!

Also in **Cameroun** and **Gabon**. (See Appendix, p. 349.)

18. Diospyros crassiflora Hiern in Trans. Camb. Phil. Soc. 12: 260(1873); F.T.A. 3: 525; Kennedy For. Fl. S. Nig. 191. *APD acc*

Diospyros incarnata Gürke (1909).

Forest tree up to 60 ft. high and 12 ft. girth, but often hollow; bole slightly fluted at the base; bark black, flaking to expose a black surface; slash black and brittle outside, pale salmon pink with cream streaks inside, somewhat granular; sapwood cream with black streaks; heartwood black, a source of commercial ebony; flowers white.

S. Nig.: Sapoba F.R. (fr. Aug.) Keay FHI 37945! Okomu F.R., Benin (male fl. Oct., Mar.) Akpabla 1133! Oyebade FHI 33655! Afi River F.R., Jones & Onochie FHI 18727! Calabar Thomson 47! **[Br.] Cam.:** Victoria (male fl. Feb.) Maitland 407! Mamfe (male fl. Apr.) Rosevear 1/34!

Also in **Ubangi-Shari**, **Cameroun**, **Gabon** and **the Congos**.

19. Diospyros gabunensis Gürke in Engl. Bot. Jahrb. 26: 72 (1899); Aubrév. Fl. For. C. Iv., ed. 2, 3: 166, t. 311. *APD acc*

Diospyros castaneifolia A. Chev. in Journ. de Bot. sér. 2, 2: 116 (1909); Aubrév. tom. cit.: 168, t. 312, 4-5.

Diospyros gilgiana Gürke op. cit. 43: 207, t. 3, K-L (1909).

Diospyros mamiacensis Gürke l.c. 205 (1909).

Small or medium-sized **forest** tree 20-65 ft. high; bole long, straight, slender, without buttresses; bark black, smooth, hard and brittle like glass; slash black outside, pale biscuit-brown inside, yellow towards inner edge, not darkening; sapwood pale yellow; heartwood sometimes with black veins; flowers fragrant; calyx blackish-brown; corolla white; fruits sometimes borne on stem.

S. L.: Kambui (male fl. Sept.) Aylmer 600! Kambui Hills F.R. (fr. Dec.) Edwardson 43! **Lib.:** St. John R., Tappita (fr. Aug.) Baldwin 9137! Monrovia (male fl. Mar., Apr., fr. Oct.) Cooper 78! 87! 275! Gbanga (female fl., fr. Sept.) Linder 641! **Iv. C.:** Abidjan (male fl. Nov.) Aubrév. 169! Yapou (fr. Dec.) Aubrév. 609! Grabo (male fl. July) Chev. 19665! 61 km. N. of Sassandra (fr. Jan.) Leeuwenberg 2508! **Ghana:** Benso (female fl., fr. Nov.) Andoh FH 5387! 5812! Tarkwa Chipp 247! **S. Nig.:** Uquo, Eket (female fl. May) Onochie FHI 33186! **[Br.] Cam.:** S. Bakundu F.R., Kumba (male fl. Mar.) Brenan 9408! Bambuko F.R., Kumba (fr. Sept.) Olorunfemi FHI 30752! Johann-Albrechtshöhe (=Kumba) (male fl. Apr.) Staudt 958!

Also in **Cameroon**, **Gabon** and **Congo**.

20. **Diospyros chevalieri** *De Wild.* Pl. Bequaert. 3: 538 (1926); Aubrév. Fl. For. C. Iv., ed. 2, 3: 170, t. 312, 1-3, not of Lecomte (1928). *APD acc*

Diospyros macrophylla *A. Chev.* in Journ. de Bot. sér. 2, 2: 116-117(1909); F.W.T.A., ed. 1, 2: 4, not of Blume (1826).

Diospyros linderi *Hutch. & Dalz. ex Cooper & Record* in Yale Univ. For. Bull. 31: 99 (1931).

Forest shrub up to 10 ft. high; wood bright yellow; flowers white, becoming hessian-brown; fruit chocolate-brown and tomentose at first with bristly hairs in tufts, red and glabrous when ripe.

S. L.: Bunumbu (fr. Apr.) Deighton 3938! Kambui F.R. (fr. Mar.) Jordan 2012! **Lib.:** Tawata, Boporo (fr. Nov.) Baldwin 10302! Duo, Sinoe (fr. Mar.) Baldwin 11362! Monrovia (fr. Feb., Nov.) Cooper 130! 200! Gbanga (fl. Sept.) Linder 562! 567! **Iv. C.:** Sassandra R. to Mid. Cavally (male fl. July) Chev. 19289! Grabo, Tabou Chev. 19659! Keéta, Man (male fl. Sept.) Chev. 19318! **Ghana:** Benso, Tarkwa (fr. Nov.) Andoh FH 5411! Ankasa F.R., Axim (fr. Feb.) Enti FH 6922! Wasaw, Prestea Vigne FH 3087!

21. **Diospyros mespiliformis** *Hochst. ex A. DC.* Prod. 8: 672 (1844); Hiern in Trans. Camb. Phil. Soc. 12: 165 (1873); F.T.A. 3: 518; Chev. Bot. 397; Kennedy For. Fl. S. Nig. 190; Aubrév. Fl. For. Soud.-Guin. 422-424, t. 92, 1-3; Fl. For. C. Iv., ed. 2, 3: 164, t. 313, 3-4. *APD acc*

Diospyros senegalensis *Perr. ex A. DC.* tom. cit.: 234(1844); Benth. Fl. Nigrit.: 442, partly.

Forest and **savanna** tree up to 90 ft. high; bark rough, dark brown or black, muricate; slash black outside, pink inside; flowers white, sweet-scented fruit yellowish.

Sen.: Dakar (male fl. Mar.) Adam 938! Baol, Bambey (fr. May) Dubois 279! Dagana (fr. Apr.) Leprieur 15! Bellevue, Thiès (fr. Aug.) Trochain 4180! **Gam.:** on the R. Gambia Whitfield! **Mali:** Fangala, Kita (male fl. Apr.) Dubois! Bamako (female fl. Apr.) Hagerup 18! Dogo (female fl. Apr.) Davey 578! Fafa, Gao (fr. Mar.) de Wailly 5358! Ouagadougou (male fl. May) Aubrév. 2426! **Guin.:** Kouroussa Pobéguin 680! 694! Sankatan to Kankan (male fl. Mar.) Pobéguin 842! **Iv. C.:** Touba Aubrév. 1240! **Ghana:** Achimota (male fl. Jan.) Irvine 1748! Bamboi, Sunyani (fr. May) Vigne FH 3841! Tamale to Yendi (male fl. Mar.) Adams GC 3883! Tamale (male fl. July) Dalz. 10! Lisse to Lambusie (male fl. Mar.) Kitson 780! **Togo Rep.:** Basari to Sokodé Kersting A552! Lomé Warnecke 325! 330! **Dah.:** Abbo, Zagnanado (fr. Feb.) Chev. 22961! Dassa-Zoumé (fr. May) Chev. 23640! Atacora Mts. (fr. June) Chev. 24067! **Niger:** Maradi to Madoua (male fl. Feb.) Chev. 43710! **N. Nig.:** Zamfara F.R., Sokoto (male fl. Apr.) Keay FHI 15673! Katagum Dalz. 219! Assob Falls (fr. Oct.) Hepper 1043! Emiwo, Share F.R., Ilorin (fr. Jan.) Ujor FHI 31611! **S. Nig.:** Lagos Foster 28! 35! Owo F.R., Ondo Jones FHI 3616! Olokemeji F.R. (fr. Sept.) Prov. For. Off. Oyo FHI 14590! Bebi, Ogoja (male fl. June) Catterall! Mamu Biver F.R., Onitsha Kennedy 2536!

Widespread in Africa to the Red Sea, Transvaal and S.W. Africa. Also in **Arabia**.

22. **Diospyros tricolor** (*Schum. & Thonn.*) *Hiern* in Trans. Camb. Phil. Soc. 12: 183, t. 5 (1) (1873); F.T.A. 3: 521; Gürke in Engl. Bot. Jahrb. 43: 203, t. 2 (1909). *APD acc*

Noltia tricolor *Schum. & Thonn.* Beskr. Guin. Pl. 189 (1827).

Much branched shrub of coastal thicket about 5 ft. high; fruit yellow or orange.

Iv. C.: Abouabou, Abidjan (fr. Feb.) Leeuwenberg 2705! **Ghana:** Axim (fr. Feb., female fl. Nov.) Irvine 2157! Vigne FH 4817! **Togo Rep.:** Lomé (fr. Jan., male fl. May) Warnecke 26! 310! **Dah.:** Cotonou (fr. Mar.) Chev. 23361! Debeaux 338. Poisson 144! **S. Nig.:** Lagos Barter 2199! 2234! Dalz. 1181!

Also in **Gabon**.

23. **Diospyros nigerica** *F. White* in Bull. Jard. Bot. Brux. 33: ined. (1963).

APD: *Synonym of Diospyros gracilescens Gürke*

Diospyros heudelotii of F.W.T.A., ed. 1, 2: 6, partly (Mildbr. 10531), not of Hiern.

Small or medium-sized **forest** tree 20-80 ft. high; bole slightly fluted; bark dark brown, rough, scaling in large slabs; slash black outside, pale pink or dull red inside with yellow inner edge; sapwood cream; leaves glaucous beneath; flowers yellow.

S. Nig.: Shasha F.R. (male Mar., fr. Feb.) Jones & Onochie FHI 16963! Ross 74! Sapoba Kennedy 2551! 2611! Owena, Ondo (male fl. May) Darko 113! Aponmu, Ondo (fr. Sept.) Symington FHI 5065! **[Br.] Cam.:** Likomba Mildbr. 10595! S. Bakundu, Kumba Onochie FHI 32057!

Also in **Cameroun** and **Gabon**.

24. **Diospyros heudelotii** *Hiern* in Trans. Camb. Phil. Soc. 12: 215 (1873); F.T.A. 3: 524; Chev. Bot. 396; F.W.T.A., ed. 1, 2: 6, partly (excl. *D. gracilescens*, *D. apiculata* & *Maba cinnabarina*); Aubrév. Fl. For. C. Iv., ed. 2, 3: 168, t. 313, 1-2. **APD acc**

Maba lancea *Hiern* op. cit. 118 (1873); F.T.A. 3: 516, not of F.W.T.A., ed. 1, 2: 7 (excl. *Smeathmann*).

Diospyros guineensis *A. Chev.* Bot. 396, name only.

Shrub or small or medium-sized **forest** tree up to 60 ft. high, sometimes cauliflorous; slash black outside, wood pink; flowers white or pale yellow; fruit yellow or orange.

Sen.: Sinédou, Casamance (male fl. Jan.) Chev. 2818! **Port. G.:** Cantanhez (fr. Feb.) d' Orey 289! Bissalanca, Bissau (female fl. Jan.) Esp. Santo 1660! Bafata (male fl. Jan.) Esp. Santo 2871! Catio (fr. June) Esp. Santo 2998! **Guin.:** Iles de Los, Conakry (fr. Feb.) Chev. 12115! Kissidougou Chev. 20706! Fouta Djallon Heudelot 638! Ditinn Jac.-Fél. 607! **S. L.:** *Smeathmann*! Newton, Colony (male fl. Nov.) Deighton 1475! Kambui F.R., Kenema Edwardson 233! Njala (fr. Apr.) Deighton 1911! Kambia (fr. Dec.) Sc. Elliot 5367! **Iv. C.:** Rasso (fr. Dec.) Aubrév. 159! 583! Taï (fr. Apr.) Aubrév. 1220! Dimbokro (fr. Nov.) Chev. 22400! **Ghana:** Benso, Tarkwa Andoh FH 5891! Pamu-Berekum F.R. Vigne FH 2509! Akumadan (male fl. Oct.) Vigne FH 2568! Atuna (fr. Dec.) Vigne FH 3512!

25. **Diospyros liberiensis** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 4; Kew Bull. 1937: 64; Aubrév. Fl. For. C. Iv., ed. 2, 3: 170, t. 313, 5; Chev. Bot. 396, name only. **APD acc**

Forest shrub up to 10 ft. high.

Lib.: Jabroke, Webo (male fl. July) Baldwin 6474! **Iv. C.:** Lower Cavally R. (male fl. Aug.) Chev. 19857! Tabou (fr. Dec.) Aubrév. 1669! Yapou (fr. Oct.) de Wilde 711!

26. **Diospyros thomasii** *Hutch & Dalz.* F.W.T.A., ed. 1, 2: 6; Kew Bull. 1937: 54. **APD acc**

Small **forest** tree 10-30 ft. high; bark smooth, dark green, finely fissured; leaves bluish-grey beneath; flowers white; fruit yellow.

Guin.: Badabon Schnell 7570! **S. L.:** Njala (female fl. Oct., fr. Jan.) Deighton 2245! 2830! Kenema (male fl. Nov.) Edwardson 137! Bumbuna (male fl. Oct.) Thomas 3293! Pujehun, Bo Thomas 8437! **Lib.:** Yila, Gbanga (fr. Aug.) Baldwin 9122! Beiden, Boporo (fr. Nov.) Baldwin 10268! Monrovia (fr. Nov.) Cooper 129! Gbanga (male fl. Sept.) Linder 481!

27. **Diospyros monbuttensis** *Gürke* in Engl. Bot. Jahrb. 26: 66 (1899); op. cit. 43: 208 (1909); Chev. Bot. 397; Kennedy For. Fl. S. Nig. 190; F. White in Bull. Jard. Bot. Brux. 27: 518, t. 54 (1957); Aubrév. Fl. For. C. Iv., ed. 2, 3: 162, t. 310, 1-5. **APD acc**

Diospyros senensis of F.T.A. 3: 520, partly (W. Afr. specs. only) not of Klotzsch.

Forest shrub or small tree up to 30 ft. high; bole fluted; branches of young trees with large, spreading, sharp-pointed spines; bark papery, peeling, usually purple-brown, sometimes yellow-brown or green; slash pale yellow; sapwood white; flowers fragrant, corolla creamy-white; ripe fruit yellow or orange.

Iv. C.: Agboville (fr. June, male fl.) Aubrév. 1389! 1808 bis! Nzi Valley, Baouké (fr. July) Chev. 22214! Toumodi, Dimbokro (fr. Oct.) Pobéguin 239! **Ghana:** Sefwi Bekwai (fr. Oct.) Akpabla 896! New Tafo Lovi, WACRI 3958! Banka, Obuasi (male fl. Mar.) Vigne FH 1897! Pamu-Berekum F.R. (fr. Sept.) Vigne FH 2481! **Togo Rep.:** Kue stream Kersting A637! **Dah.:** Lahama, Allada Chev. 23258! **S. Nig.:** Lagos Rowland! Ibadan (male fl. Apr.) Meikle 1394! Aboh Barter 290! Abeokuta Barter 3390! Mamu R., Onitsha Kennedy 2531! **[Br.] Cam.:** Wum (female fl. Mar.) Johnstone 87/31! Bambui, Bamenda Maitland 1634!

Also in **Cameroun**, **Ubangi-Shari** and **Congo**.

28. **Diospyros melocarpa** *F. White* in Bull. Jard. Bot. Brux. 33: ined. (1963). **APD acc**

Forest tree 20-30 (-90) ft. high; slash green then black outside, brown and dry inside; sapwood white, hard; flowers yellowish; fruit yellow.

S. Nig.: Afi River F.R. Jones & Onochie FHI 8302! **[Br.] Cam.:** Kembong F.R., Mamfe (fr. Dec.) Tiku FHI 41895! **F. Po:** T. Vogel!

Also in **Cameroun**, **Gabon** and **Congo**.

29. *Diospyros alboflavescens* (Gürke) F. White in Bull. Jard. Bot. Brux. 26: 241 (1956). *APD acc*

APD: *Synonym of Diospyros iturensis* (Gürke) Letouzey & F. White

Maba alboflavescens Gürke in Engl. Bot. Jahrb. 43: 199 (1909).

Diospyros insculpta Hutch. & Dalz. F.W.T.A., ed. 1, 2: 4; Kew Bull. 1937: 54, not of Buch.-Ham. (1827).

Small or medium-sized **forest** tree up to 60 ft. high, sometimes multiple-stemmed; bole fluted; bark black, smooth; slash black outside, reddish-brown inside, crumbling; flowers fragrant, corolla cream; fruit orange, borne on branches and main stem.

S. Nig.: Okomu F.R., Benin (male fl. Jan.) Brenan & E. W. Jones 8750! Cross River F.R., Ogoja (fr. June) Latilo FHI 31838! Omo, Ijebu (fr. Aug.) Okeke & Binuyo FHI 36892! Obom Itiet to Atan Eki, Calabar (fr. May) Onochie FHI 33227! Oban Talbot 1609! **[Br.] Cam.:** Badshu Abagbe, Mamfe Smith 3!

Also in **Cameroun**, **Ubangi-Shari**, **the Congos** and **Angola**.

30. *Diospyros zenkeri* (Gürke) F. White in Bull. Jard. Bot. Brux. 26: 244 (1956). *APD acc*

Maba zenkeri Gürke in Engl. Bot. Jahrb. 26: 63 (1899); Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1047 (1926); F.W.T.A., ed. 1, 2: 7.

Diospyros longicaudata Gürke ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 4 (1931); Kew Bull. 1937: 54.

Shrub or **forest** tree up to 60 ft. high; bark black; slash black outside, pale pink or reddish-brown inside with yellow inner edge, granular; sapwood white, heartwood sometimes black; leaves slightly glaucous beneath; corolla cream, fleshy; fruit yellow, turning black, borne on older stems.

S. Nig.: Afi River F.R. Jones & Onochie FHI 16549! 18750! Cross River North F.R., Ogoja (fl. May), Latilo & Olorunfemi FHI 43938! **[Br.] Cam.:** Bambuko F.R. Keay FHI 37443! Olorunfemi FHI 30767! Victoria Maitland 619! Johann-Albrechtshöhe (= Kumba) (male fl.) Staudt 943!

Also in **Cameroun**, **Gabon** and **Congo**.

31. *Diospyros preussii* Gürke in Engl. Bot. Jahrb. 14: 313 (1892); op. cit. 26: 71 (1899). *APD acc*

Diospyros le-testui Pellegr. in Bull. Mus. Hist. Nat. 4: 328 (1924).

Shrub or small **forest** tree up to 30 ft. high; bark black; flowers borne on older branchlets and main stem in clusters of up to 30 or more, corolla white; fruiting calyx deep purple.

S. Nig.: Buden Dunlop Estate, Calabar (fr. July) Binuyo FHI 41396! Akampka Rubber Estate, Calabar (male, female fl. Mar.) Latilo FHI 41335! Afi River F.R., Ogoja Jones & Onochie FHI 18623! Oban (male fl. Mar.) Richards 5149! Talbot 1329! **[Br.] Cam.:** S. Bakundu F.R. (male fl. Feb., fr. Mar.) Binuyo & Daramola FHI 35548! Brenan 9415! Buenga, Victoria (fr. May) Motuba FHI 15068! Badshu Abagbe, Mamfe Smith IV!

Also in **Cameroun** and **Gabon**.

32. *Diospyros canaliculata* De Wild. Pl. Bequaert. 3: 537 (1926). *APD acc*

Maba coriacea Cummins in Kew Bull. 1898: 76; Chev. Bot. 395, not *D. coriacea* Hiern (1873).

Diospyros cauliflora De Wild. in Bull. Jard. Bot. Brux. 5: 63 (1915), not of Blume (1825), nor of Martius ex Miq. (1856).

Diospyros chlamydocarpa Mildbr. in Notizbl. Bot. Gart. Berl. 9: 1052 (1926).

Diospyros xanthochlamys of F.W.T.A., ed. 1, 2: 4; of Aubrév. Fl. For. C. Iv., ed. 2, 3: 159, t. 309, 6-8, not of Gürke.

Cyclostemon gabonensis of Chev. Bot. 561, not of Pierre.

Small or medium-sized **forest** tree 15-60 ft. high; bark black, thin, smooth, breaking like flint when struck; slash black outside, pale pink turning ochrous-yellow inside; sapwood white, rapidly becoming bright yellow; flowers fragrant; corolla white; fruits borne in fascicles on the branches and trunk; fruiting calyx red.

Lib.: Gbanga (fr. Jan.) Harley 1108! **Iv. C.:** Abidjan Aubrév. 216! Agboville (female fl., fr. Aug.) Aubrév. 1498! Bériby, Cavally basin (fr. Aug.) Chev. 19993! Banco (cult., fr. Sept.) de Wilde 534! **Ghana:** Anonum (male fl. Aug.) Chipp 539! Amentia, Ashanti (fr. Mar.) Vigne FH 1858! Irvine 451! Pra Anum F.R., Bekwai (female, male fl. June) Mooney FHI 7180! 7199! Banka (fr. Sept.) Vigne FHI 1362! **N. Nig.:** Dogon Kurmi, Jemaa Div. Keay & Onochie FHI 21534! **S. Nig.:** Akilla, Ijebu Thornehill 234! Idanre F.R. (male fl. Oct.) Iheuwa FHI 32372! Omo F.R., Ijebu (female, male fl. Aug.) Okeke FHI 36896! Okeke & Binuyo FHI 36897! 36898! **[Br.] Cam.:** Gangume, Gashaka Dist. (fr. Dec.) Lomax FHI 32318!

Also in **Gabon**, **Ubangi-Shari**, **Congo**, **Cabinda** and **Angola**.

33. *Diospyros soubreana* F. White in Bull. Jard. Bot. Brux. 26: 288, tt. 76 M-R, 77 E-F (1956). *APD acc*

Maba soubreana A. Chev. Bot. 395, name only; Aubrév. Fl. For. C. Iv., ed. 1, 3: 146 (1936); ed. 2, 3: 176, t. 315, 4-8, French descr. only.

Diospyros piscatoria of F.W.T.A., ed. 1, 2: 6, partly (syn. *M. soubreana* only), not of Gürke.

Forest shrub or treelet up to 15 ft. high; bark black; slash black outside, pale orange-brown inside; flowers cream; fruit dark red, turning black, calyx green.

Iv. C.: Davo to Boutobré, Sassandra (male, female fl. May) Chev. 16331! 16332! Man (male fl. July) Chev. 19326! Bouroukrou, Agboville (fr. Dec.) Chev. 16898! 16912! **Ghana:** Abofaw, Kumasi (male fl. May) Andoh FH 5491! Suhuma F.R., Sefwi (female fl. Oct.) Cansdale 9! Mampong (female fl. Apr.) Vigne FH 1925! Jimira F.R., Kumasi (male fl. May) Vigne FH 2908! 2909! **Dah.:** Pedjile to Pobé, Zagnanado (fr. Feb.) Chev. 22931! **S. Nig.:** Aponmu, Ondo (female fl. June) Ejiofor FHI 32003! Owo F.R. (fr. Apr.) Jones FHI 3486! Awba Hills F.R., Ibadan (fr. Oct.) Jones FHI 5975! Ibadan South F.R. (female fl. & fr. Apr.) Keay FHI 22546! 22547! Ilaro F.R. (male fl. June) Onochie PHI 3427!

34. *Diospyros elliotii* (Hiern) F. White in Bull. Jard. Bot. Brux. 26: 243 (1956). *APD acc*

Maba elliotii Hiern in Sc. Elliot in J. Linn. Soc. 30: 85 (1894).

M. mannii Hiern in Trans. Camb. Phil. Soc. 12: 129 (1873); F.W.T.A. ed. 1, 2: 7, not *Diospyros mannii* Hiern (1873).

Diospyros senegalensis of Benth. in Fl. Nigrit. 442, partly (Stirling loc.) not of A. DC.

Small **forest** tree 12-35 ft. high; bark smooth, dark brown; slash orange-yellow; flowers white; fruit borne on older parts of stem below the leaves, bright orange.

Sen.: (male fl. Apr.) Perrottet 453! **Port. G.:** Bissau (male fl. Mar.) Esp. Santo 1894! **Guin.:** Kogou Maclaud! **S. L.:** Bendu, Bonthe Adames 11! Taiama, Moyamba (fr. July) Deighton 1948! Longo (female fl. Apr.) Deighton 3722! Bagroo B. Mann 839! Falaba Sc. Elliot 5101! **Ghana:** Pong Tamale (fr. June) Vigne FH 3863! **N. Nig.:** Nupe Barter 1220! Irendu swamp, Kabba (fr. Sept.) Daramola & Adebusuyi FHI 38402! Gurara R., near Gornapara Elliot 172! Stirling T. Vogel 205! **S. Nig.:** Anamba F.R., Onitsha Jones FHI 4810!

35. *Diospyros hoyleana* F. White in Bull. Jard. Bot. Brux. 26: 245 (1956). *APD acc*

Maba kamerunensis Gürke in Engl. Bot. Jahrb. 46: 150 (1912); F.W.T.A., ed. 1, 2: 6, not *Diospyros kamerunensis* Gürke (1899).

Forest shrub or small tree up to 45 ft. high; bark dark brown or black, smooth; slash black and brittle outside, reddish inside like that of *D. alboflavescens*, crumbling; sapwood pinkish-white with black longitudinal lines; leaves dark green and glossy above, margins coarsely undulate; flowers pale yellow or white, borne down the leafless twigs but not on the trunk; fruit red, turning black.

S. Nig.: Cross R. Jones FHI 6882! Oban Richards 5163! **[Br.] Cam.:** S. Bakundu F.R., Kumba (male, female fl. Mar.) Brenan 9288! 9309! 9471! Onochie FHI 30853!

Also in **Cameroun**, **Gabon**, **Cabinda**, **Congo**, **N. Rhodesia** and **Angola**.

36. *Diospyros obliquifolia* (Hiern ex Gürke) F. White in Bull. Jard. Bot. Brux. 33: ined. (1963). *APD acc*

Rhaphidanthe obliquifolia Hiern ex Gürke in E. & P. Pflanzenfam. 4, 1: 165 (1891); Stapf in Hook. Ic. Pl. 31: t. 3030 (1915).

Forest shrub or small tree up to 18 ft. high; bark blackish, almost smooth; slash black outside, red as in *D. alboflavescens* inside; sapwood creamy white; leaves deep green and glossy above, glaucous beneath; flower buds yellowish.

[Br.] Cam.: S. Bakundu F.R., Kumba (male & female fl. Mar.) Brenan 9448! 9449!

37. *Diospyros simulans* F. White l.c. (1963).

APD: *Synonym of Diospyros cinnabarina* (Gürke) F. White

Forest shrub or small tree up to 30 ft. high; flowers pinkish-white, mostly borne on older branchlets and main stem.

[Br.] Cam.: Banga F.R., Kumba (male fl. May) Binuyo & Daramola FHI 35602!

Also in **Gabon**.

38. *Diospyros vignei* F. White l.c. (1963). *APD acc*

Diospyros apiculata A. Chev. Bot. 395, name only, not of Hiern (1873).

Diospyros heudelotii of F.W.T.A., ed. 1, 2: 6, partly (syn. *D. apiculata* and Chev. 17560 & 19202 only).

Maba graboensis Aubrév. Fl. For. C. Iv., ed. 2, 3: 176 (1959), French descr. only.

Forest shrub 6-10 ft. high; fruit orange or red, borne on the older branchlets.

Lib.: Webo Baldwin 6073! **Iv. C.:** Abiati, Lower Comoe (fr. Mar.) Chev. 17540! Mid. Sassandra to Mid. Cavally (male fl. June) Chev. 19202! 60 km. N. of Sassandra (fr. Feb.) Leeuwenberg 2797! Amitioro (fr. Sept.) de Wilde 259! **Ghana:** Opon Mansi F.R., Akpabla 925! Mamiri F.R., Dunkwa (male, female fl., fr. May-June) Enti FH 6718! 6718a! 6718b! 6718c! 7177! 7178! Wasaw-Aowin, Opon (fr. Jan.) Irvine 1096! Ankasa F.R. (fr. Dec.) Vigne FH 3169!

39 **Diospyros cinnabarina** (Gürke) F. White in Bull. Jard. Bot. Brux. 26: 242 (1956). *APD acc*

APD: Synonym of Diospyros cinnabarina (Gürke) F. White

Maba cinnabarina Gürke in Engl. Bot. Jahrb. 43: 199 (1909).

Diospyros heudelotii of F.W.T.A., ed. 1, 2: 6, partly (Zenker 3466) not of Hiern.

Small forest tree up to 30 ft. high; bark black, smooth with shallow vertical anastomosing fissures; slash jet black outside, red and fibrous inside, sapwood white; leaves dull above, pale glaucous-green beneath.

[Br.] **Cam.:** S. Bakundu F.R. (male fl. Mar.) Brenan 9320! Likomba Plantation Mildbr. 10531!

Also in **Cameroun**.

Besides the above, *D. discolor* Willd., a native of the Philippines, widely planted in the tropics for its edible fruits, is grown in our area. *D. heterotricha* (B. L. Burtt) F. White, a native of Central Africa, is also in cultivation.

1. **Diospyros sp.**

Small forest tree 15 ft. high; differs from *D. obliquifolia* (Hiern ex Gürke) F. White (No. 36 above) in having more acute leaves with more distinctly filiform apices and more densely pubescent lower leaf-surfaces with secondary and tertiary nerves clearly visible.

S. Nig.: Afi River F.R., Ogoja Jones & Onochie FHI 17387! Keay FHI 28186!

2. **Diospyros sp.**

Medium-sized tree about 50 ft. high; possibly *D. cinnabarina*, but flowers and fruits are required for confirmation.

S. Nig.: Ohumbe F.R., Abeokuta Oladoyinbo FHI 15006! Ogun River F.R., Lagos Onochie FHI 18653!

HOPLESTIGMATACEAE

Trees. Leaves alternate, entire; stipules absent. Flowers hermaphrodite, in terminal cymes. Calyx closed in bud, bursting irregularly. Corolla shortly tubular, with about 3 series of overlapping corolla lobes. Stamens numerous (about 21), in several rows inserted at the base of the corolla; anthers 4-celled, opening by longitudinal slits. Ovary superior, 1-celled with 2 intrusive parietal placentas; style bilobed nearly to the base, branches sharply bent; stigmas capitate. Ovules pendulous, one on each side of the bilobed placentas. Fruit with a deep groove up each side, the calyx forming a plate at the base, endocarp hard. Seeds with scanty endosperm and long thick straight embryo.

HOPLESTIGMA

Pierre in Bull. Soc. Linn. Paris, n. sér., 116 (1899); emend. Gilg in Engl. Bot. Jahrb. 40, Beibl. 93: 76; Hallier f. in Meded. Rijks Herb. Leiden 1: 35 (1910).

- 1 Leaves densely pubescent beneath at least on midrib and nerves with rather long, crisped hairs; lamina broadly obovate-elliptic, rounded and slightly apiculate, narrowed to base, 15-30 cm. long, 5-15 cm. broad, venulose-reticulate above; lateral nerves about 10 on each side of midrib; petiole about 2 cm. long; cymes terminal, softly tomentose all over; calyx about 1 cm. long; corolla 1.5 cm. long; fruits broadly ellipsoid, 3 cm. long,

- 2·6-2·9 cm. broad, glabrous [1. *pierreanum*](#)
 Leaves beneath with small, stiff and straight appressed hairs, sometimes sparse, lateral nerves about 8 on each side of midrib; petioles 1-1·5 cm. long; cymes covered with dense stiff hairs; fruits 2 cm. long, 2·2-2·4 cm. broad [2. *kleineanum*](#)

1. *Hoplostigma pierreanum* Gilg l.c., with fig. (1908). *APD acc*

A tree with long slender stem and small crown; inflorescences like *Cordia*.

[Br.] Cam.: Likomba Plantation, Cam. Mt. (Dec.) Mildbr. 10774!

Also in **Cameroun**.

2. *Hoplostigma kleineanum* Pierre l.c. (1899); Aubrév. Fl. For. C. Iv., ed. 2, 3: 155, t. 307. *APD acc*

A tree, 65-80 ft. high.

Iv. C.: Tabou Aubrév. 1683! 2809! San Pedro Aubrév. 1270!

Also in **Gabon**.

SAPOTACEAE

Trees, shrubs, or rarely climbers, often with milky juice. Leaves alternate, entire, leathery; stipules usually absent. Flowers hermaphrodite, actinomorphic, usually small. Calyx 4-8-lobed. Corolla 4-8-lobed, lobes 1-2-seriate, imbricate, sometimes with petaloid external appendages. Stamens inserted on the corolla, the fertile ones equalling the corolla-lobes and opposite to them, or more numerous and 2- or more-seriate; staminodes sometimes present; anthers opening lengthwise. Ovary several-celled, superior; style simple. Ovules solitary in each cell, ascending from the inner axil. Fruit 1- many-celled, often a rather hard berry, rarely a capsule. Seeds with a bony, often shining testa, and a large broad hilum; endosperm mostly scanty; embryo large, with small radicle and broad foliaceous cotyledons.

Distinguished by the woody habit, alternate leaves without or with caducous stipules, and regular flowers, mostly with petaloid staminodes.

Mainly in the tropics and subtropics; some of considerable economic value.

To assist future workers on this complicated family, fuller references and synonymies are given than is usual in this Flora. Since this account was completed, two important additions to the taxonomic literature on the family have been published: Aubréville in *Notulae Syst.* 16: 223-279 (1961), and *Fl. Gabon* No. 1: Sapotac. (1961).

- 1 Stamens several (3-5) opposite each lobe of the corolla (sterile in the female flowers); fruits 6-26 cm. diam., globose to depressed-globose: [2](#)
 Stamens solitary opposite to each lobe of the corolla; fruits globose or ellipsoid, up to 5 cm. diam.: [4](#)
- 2 Strictly cauliflorous trees, i.e. flowers borne in fascicles on the main trunk, pedicellate; styles thickened or slightly inflated beyond the stigma; fruits depressed-globose, up to 26 cm. diam., with a very thick and hard exocarp and about 20 elliptic, flattened seeds up to 4 cm. long and 2·5 cm. broad [1. *Omphalocarpum*](#)
 Flowers borne mainly on the younger branches, sometimes (in No. 2) also on the main trunk; fruits globose, up to 8 cm. diam.: [3](#)
- 3 Flowers in fascicles on slender branches below the leaves on scars of older fallen leaves, few in each cluster, pedicels up to 8 mm. long, pedicels and calyx rusty-tomentose; fruits with about 20 flattened seeds, up to 1·5 cm. long [2. *Ituridendron*](#)
 Flowers single, but sometimes densely together, sessile, borne on the younger branches on scars of older fallen leaves; calyx nearly glabrous, ciliate; fruits with 10 seeds, up to 3·5 cm. long [3. *Tridesmostemon*](#)
- 4 Corolla-lobes with petaloid external appendages (these often appearing to be 3 series of petals); staminodes also petaloid: [5](#)
 Corolla-lobes without external appendages: [11](#)
- 5 Staminodes opposite to the stamens; flowers 5-merous; fruits dehiscent [4. *Gluema*](#)
 Staminodes alternate to the stamens; fruits indehiscent: [6](#)
- 6 Flowers 5-merous; lobes of the corolla-trilobate; leaves and flowers in whorl-like fascicles at the nodes [5. *Neolemonniera*](#)
 Flowers 6-8-merous, lobes of the corolla entire; leaves and flowers never in whorl-like fascicles at the nodes: .. [7](#)

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- 7 Sepals 3 + 3; corolla with 6 lobes [6. *Manilkara*](#)
 Sepals 4 + 4; corolla with 8 lobes: **8**
- 8 Seeds with a small navel-like scar at the base [7. *Mimusops*](#)
 Seeds with a scar covering more than a third of the base: **9**
- 9 Scars on the seeds basiventral and subrectangular, rather less than half the length of the seed; petals pubescent inside [8. *Autranella*](#)
 Scars on the seeds nearly as long as the length of the seed, broadly elliptic: **10**
- 10 Testa of the seeds woody, very thick; plants without stipules; leaf-nerves not prominent beneath [9. *Tieghemella*](#)
 Testa of the seeds thin; plants with stipules; leaf-nerves very prominent beneath [10. *Baillonella*](#)
- 11 Leaves and flowers relatively densely clustered at the top of the shoots; ovary 8-10-celled; seeds usually 8; staminodes petaloid, apiculate [11. *Butyrospermum*](#)
 Leaves usually not clustered at the top of the shoots; ovary rarely more than 5-celled; petals 4-6: **12**
- 12 Staminodes well-developed, petaloid: **13**
 Staminodes very small and subulate, or absent: **14**
- 13 Sepals united beyond the middle [12. *Synsepalum*](#)
 Sepals not united beyond the middle; stamens with filaments about 2 mm. long [13. *Vincentella*](#)
- 14 Disk present, glabrous: **15**
 Disk absent; ovary mostly 5-celled: **17**
- 15 Ovary 5-celled; leaves oblong-lanceolate, cuneate at base, with 9-15 pairs of nerves, glabrous [14. *Kantou*](#)
 Ovary 8-celled: **16**
- 16 Leaves cordate at the base; corolla long-tubular; style contorted; leaves golden silky-velutinous beneath, nerves very numerous and close [15. *Breviea*](#)
 Leaves oblong, cuneate at the base; corolla short; style not contorted; leaves glabrous beneath, nerves 7-9 pairs [16. *Aubreggrinia*](#)
- 17 Stamens inserted on the corolla between and at the base of the lobes: **18**
 Stamens inserted in the corolla-tube and alternate with the lobes: **22**
- 18 Fruits ellipsoid, olive- or prune-like, mostly with 1-2 seeds: **19**
 Fruits globose, egg-shaped or apple-like, mostly with 3-5 seeds: **21**
- 19 Leaves with pellucid dots, with about 12-20 pairs of very prominent lateral nerves, leaf-colour in drying mostly dark brown or greenish-brown, not very different on both sides: **20**
 Leaves without pellucid dots, with very numerous and dense, not prominent, lateral nerves, leaf-colour in drying cream-greyish, light olive-green or light rusty-brown, with the lower surface mostly much lighter than the upper [19. *Bequaertiodendron*](#)
- 20 Flowers without staminodes [17. *Malacantha*](#)
 Flowers with subulate staminodes [18. *Aningeria*](#)
- 21 Shrub or small tree; flowers single or in pairs in the axils of the leaves, all parts covered with 3 mm. long rusty-brown hairs, nerves of the leaves 15-20 pairs, very conspicuous [20. *Delpyodora*](#)
 Mostly very big and tall forest trees, sometimes lianes; flowers fascicled; plants generally not covered with rusty-brown long hairs (if so, leaves irregular-rotundate at the base) [21. *Chrysophyllum*](#)
- 22 Stipules persistent; flowers without staminodes; leaves with about 16 pairs of conspicuous lateral nerves [22. *Pachystela*](#)
 Stipules caducous; flowers with small staminodes; leaves with rather numerous very obscure lateral nerves .. [23. *Afrosersalisia*](#)
-

1. OMPHALOCARPUM

P. Beauv.-F.T.A. 1: 171. *APD acc*

- 1 Flowers pedicellate, pedicels not bracteate except at the base: **2**
 Flowers subsessile, with several imbricate bracts below the calyx; leaves oblanceolate, much narrowed to the base, not acuminate at apex, 8-13 cm. long, 3-5 cm. broad, glabrous, with 6-7 pairs of lateral nerves; bracts very broadly ovate, tomentose outside, about 8 mm. long; young fruits depressed-globose, glabrous, with a persistent style; mature fruit depressed-globose, about 15 cm. diam.; seeds as in *O. ahia* [3. *procerum*](#)

- 2 Leaves elongate-obovate, long-attenuated to the base, rounded at the apex, about 40 cm. long and up to 18 cm. broad, with numerous (over 20) pairs of prominent lateral nerves, glabrous; flowers several in each cluster; pedicels up to 1 cm. long, tomentose; sepals ovate, 1-1.5 cm. long, tomentose; corolla 3 cm. long, the lobes slightly pubescent on the margin; fruits depressed-globose, about 14 cm. diam., the outer shell about 1.5 cm. thick, openly reticulate in section; seeds nearly flat, 4 cm. long, 2.5 cm. broad, with a narrow scar on one side [1. ahia](#)

Leaves obovate or oblanceolate, attenuated to the base, rounded or obtusely acuminate at the apex, 12-25 cm. long, 4-8 cm. broad, glabrous, with about 10 pairs of lateral nerves; flowers more or less as above but calyx and pedicels soon glabrescent; fruits (according to a sketch) depressed-globose [2. elatum](#)

1. **Omphalocarpum ahia** *A. Chev.* in Vég. ut. Afr. trop. fr. 5: 244 (1909); Chev. Bot. 389; Aubrév. Fl. For. C. Iv. ed. 2, 3: 110, t. 288 fig. 1-3. *APD acc*

A tall tree with clear bole and large leaves; conspicuous by the clustered fruits on the main stem.

S. L.: Jomu, Nongowa (Oct.) Deighton 4368! Bagbe (fr. Mar.) Small 737! **Lib.:** Harley 920! Ganta (Mar.) Harley 1120! **Iv. C.:** Yapo Chev. 22357! Songan Chev. 16287! **Ghana:** Nokeira (Sept.) Smythe 242! Tarkwa (July) Chipp 242! Agogo (Apr.) Vigne FH 1121! Irvine 936! Bonsa Su (fr. May) Vigne FH 1993!

2. **Omphalocarpum elatum** *Miers* in Trans. Linn. Soc., ser. 2, 1: 16, t. 4 (1875). *APD acc*

Omphalocarpum radlkoferi *Pierre* in Bull. Soc. Linn. Paris 1: 577, 580 (1886); Engl. Monogr. Afr. 8: 16, fig. 4 and t. 4, 5 (1904), incl. var. pluriloculare Engl., l.c.

Omphalocarpum anocentrum *Pierre ex Engl.* Monogr. Afr. 8: 15, t. 6 (1904); Chev. Bot. 390; Aubrév. Fl. For. C. Iv., ed. 2, 3: 110, t. 289.

Omphalocarpum procerum of F.T.A. 1: 171 (1868), partly (Mann 712, 815, Thomson 128), not of P. Beauv.

Omphalocarpum talbotii *Wernham ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 13 (1931), name only in syn.

A large tree with white waxy flowers and fruits clustered on the lower part of the stem.

S. L.: Tunkia (fl. & fr. May) Jordan 2067! Guma King-Church 2! Bagroo R. (fl. & fr. Apr.) Mann 815! **Lib.:** Dukwai Cooper 81! 383! **Iv. C.:** Dabou Jolly 162. Accrédou Chev. 16194! Yapo Chev. 22311! (Oct.) de. Wilde 694! Abidjan Aubrév. 93! **Ghana:** Fomang Su F.R. Vigne FH 2687! Prestea (July) Vigne FH 1265! Akwantambra (Nov.) McAinsh 390! **S. Nig.:** Degema Rosevear O.C. 116! Eket Talbot 3142! Calabar Thomson 128! [**Br.**] **Cam.:** Mann 712! **F. Po:** Musola (Jan.) Guinea 1484 bis!

3. **Omphalocarpum procerum** *P. Beauv.* Fl. Oware 1: 7, t. 5, 6 (1805); Pierre in Bull. Soc. Linn. Paris 1: 579 (1886); F.T.A. 1: 171, partly; Engl. Monogr. Afr. 8: 14, t. 3B. *APD acc*

A tall tree resembling the last; flowers white.

Ghana: Agogo (Apr.) Vigne FH 1120! Pra River Station (Feb.) Vigne FH 1035! Fomang Su F.R. (Feb.) Vigne FH 1822! **S. Nig.:** Oware, Benin P. Beauvois. Sapoba Kennedy 787!

Omphalocarpum pierreanum *Engl.* Monogr. Afr. 8: 14 (1904).

Omphalocarpum laurentii *De Wild.* (1907).

[**Br.**] **Cam.:** Johann-Albrechtshöhe Preuss 282b.

Also in **Cameroun** and **Gabon**.

Not seen, also no other material from our area. The only difference between this species and *O. procerum* P. Beauv. which the present writer could observe (on Gabon specimens) are the two teeth at the base of the staminodes; it is therefore highly probable that this is only an occasional form without taxonomic value.

2. ITURIDENDRON

De Wild. Pl. Bequaert. 4: 100 (1926).

- 1 A big tree up to 25 m. high, with light brown bark and oblong-oblanceolate leaves, obtusely acuminate, 10-24 cm. long and 4-10 cm. broad, with about 9-12 pairs of lateral nerves, rather stiff and thick coriaceous, glabrous; petioles up to 4 cm. long; calyx rusty-tomentose, sepals elliptic, up to 9 mm. long and 7 mm. broad; corolla up to 5.5 mm. long, staminodes ciliate, with two acumens up to 4 mm. long; style glabrous, about 2 mm. long [bequaertii](#)

Ituridendron bequaertii *De Wild.* l.c. (1926).*APD: Synonym of Omphalocarpum pachysteloides Mildbr. ex Hutch. & Dalziel***Omphalocarpum pachysteloides** *Mildbr. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 13 (1931); *Kew Bull.* 1937: 59; *Aubrév. Fl. For. C. Iv.* ed. 2, 3: 112, t. 288, fig. 4-10.

A tree with white flowers few, in clusters below the leaves.

S. L.: Kabusa (Apr.) Sc. Elliot 5471! Samuel Town (fl. Feb., fr. May) Deighton 2755! 3112! Loma Mts. Jaeger 4014! **Lib.:** Bilipia Harley 2082! **Ghana:** Akumadan (Oct.) Vigne FH 2559! **S. Nig.:** Okhuesan F.R., Ishan Dist. (fr. Aug.) Onochie FHI 33264! Ojogba F.R., Ishan Dist. Olorunfemi FHI 38069!Also in **Cameroun**, **Gabon**, and the **Congo**.**3. TRIDESMOSTEMON***Engl. Bot. Jahrb.* 38: 99, with fig. (1905); *Pellegr. in Bull. Soc. Bot. Fr.* 85: 179 (1958).

- 1** Leaves narrowly oblong-lanceolate, abruptly acuminate, narrowed from well above the upper third down to the base and there long-acuminate, decurrent along the petiole which, therefore, seems to be slightly winged in its upper part, coriaceous, glabrous and shining on both sides, up to 17 cm. long and 5 cm. broad, with slightly revolute and undulate margin; real petiole (without the very narrow basal part of the leaf) up to 1.5 cm. long; flowers sessile, mostly solitary in the axils of fallen leaves; calyx glabrous, the 5 sepals imbricate, ciliate, pink; corolla, about 8 mm. long, 5-parted, petals oblong-spathulate, imbricate, very finely pilose; stamens 15, ternate (3 united stamens opposite to each petal), staminodes tridenticulate, the central tooth well-developed, subulate, the 2 lateral minute; ovary globose, 10-celled, pilose; fruit subglobose, up to 8 cm. diam., subsessile; 10-seeded; seeds flat, obovate-ellipsoid, 5 cm. long, 2.5 cm. broad, 11 mm. thick, with shining testa and a 4 mm. broad scar along the whole median side [omphalocarpoides](#)

Tridesmostemon omphalocarpoides *Engl.* l.c. (1905); *Pellegrin* l.c. 180. *APD acc***Tridesmostemon claessensii** *De Wild.* in *Rev. Zool. Afr.* 7, Suppl. Bot. 23 (1919).**Tridesmostemon mortehanii** *De Wild.* l.c. 24 (1919).**Sideroxylon gosseweileri** *Greves* in *J. Bot.* 64, Suppl. 2: 71 (1927).A tree up to 110 ft. high, with rather clustered leaves at the end of the branches, in habit much resembling *Omphalocarpum* trees; flowers white; fruits very similar to a small or medium-sized orange.**[Br.] Cam.:** Victoria to Kumba Ejiofor FHI 15254! (fr. Apr.) Olorunfemi FHI 30541! Bonakoko, Kumba Div. (fr. Mar.) Jeme FHI 12011! Kumba, mile 47 of the road (fl. & fr. Apr.) Daramola FHI 29845! Banga, S. Bakundu F.R. (Mar.) Brenan & Onochie 9434!Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.**4. GLUEMA***Aubrév. & Pellegr.* in *Bull. Soc. Bot. Fr.* 81: 797 (1935); *Aubrév* in *Notulae Syst.* 16: 274, fig. 12 (1961).

- 1** Leaves glabrous, clustered at the end of the branches, narrowly oblong-lanceolate, long-acuminate, 12-32 cm. long, 3-8 cm. broad, with 12-18 pairs of lateral nerves; petiole 2-5 cm. long; flowers 2-3 together, 1 cm. long; pedicels up to 1.5 cm. long, finely red-tomentose; ovary covered with rather long hairs; young fruits apiculate, squamulose-hairy, with persistent calyx [ivorensis](#)

Gluema ivorensis *Aubrév. & Pellegr.* l.c. 798, fig. 2 (1935); *Aubrév. Fl. For. C. Iv.*, ed. 2, 3: 112, t. 290. *APD acc*A large forest tree, in habit resembling *Omphalocarpum*, with small axillary flowers and almond-shaped dehiscent fruits; along streams in rain forest.**Iv. C.:** Mé Yakassé *Aubrév.* 1790! 1791! Byanouan Chev. 16289! Bassam Aké Assi IA 1760! **Ghana:** Dompim (fl. Mar., fr. Nov.) Vigne FH 1499! 1978! Neung F.R. (fr. Jan.) Bassaw FH 4842!

Also in **Gabon**.

[This genus is certainly closely allied with *Lecomteodoxa* Pierre (syn. *Walkeria* A. Chev. not of Miller ex Ehret); see Aubrév. in Bull. Soc. Bot. Fr. 103: 8 (1956)].

5. NEOLEMONNIERA

Heine in Kew Bull. 14: 301 (1960).

Le Monniera *H. Lecomte* in Notulae Syst. 3: 337 (1918), not *Lemonniera* De Wild. (1894).

- 1 Leaves lanceolate-elliptic, acuminate, acute at the base, 7-15 cm. long, 2-2.5 cm. broad on fertile branches, but sometimes on sterile shoots up to 35 cm. long and 10 cm. broad, glabrous, with about 10 pairs of very indistinct lateral nerves; petiole 1.5-3 cm. long; flowers in dense fascicles at the distant nodes, numerous; pedicels 1.5-3 cm. long; calyx-segments ovate, obtuse, 4-5 mm. long; corolla-lobes membranous, trilobate, central lobe ovate-acuminate, lateral lobes lanceolate-acuminate; fruit 7-8 cm. diam.; seeds narrowly and obliquely ellipsoid, brown, shining, 3.5 cm. long, 1.5 cm. broad, with the scar reaching nearly the full length [clitandrifolia](#)

Neolemonniera clitandrifolia (*A. Chev.*) *Heine* l.c. (1960). *APD acc*

Mimusops clitandrifolia *A. Chev.* in Vég. ut. Afr. trop. fr. 5: 242 (1909); Chev. Bot. 392 (as "clitandrifolium"); Chev. in Rev. Bot. Appliq. 23:134 (1943).

Le Monniera clitandrifolia (*A. Chev.*) *H. Lecomte* l.c. 342 (1918); Aubrév. Fl. For. C. Iv. 3: 96, t. 278; ed. 2, 3: 116, t. 292.

Sideroxylon aylmeri *Scott* in Kew Bull. 1915: 45; F.W.T.A., ed. 1, 2: 12.

Pouteria aylmeri (*Scott*) *Baehni* in Candollea 9: 322 (1942).

A large forest tree, up to 90 ft. high, with buttressed stem up to 3 ft. diam., glabrous, with white latex; flowers clustered, white, scarcely 1/4 in. long; in rain forest.

S. L.: Gumati (May) Lane-Poole 235! Colony F.R. Vigne 17! Sokei Edwards 51! Falaba (Apr.) Aylmer 571 **Lib.:** Dukwia R. (Mar.) Cooper 311! **Iv. C.:** Nzo Aubrév. 1160. Mt. Momi Aubrév. 1170! Malamalasso (Mar.) Chev. 16247! Mt. Capé Chev. 19699.

[Note: *N. batesii* (Engl.) Heine l.c. (1960) is cited by Aubréville for Ivory Coast (Fl. For. C. Iv., ed. 2, 3: 116, t. 293, 1-5: Tabou Aubrév. 2180), but I have not seen any specimen from our area. The species was described from Cameroun.-H.H.]

6. MANILKARA

Adans. Fam. pl. 2: 166 (1763); Dubard in Ann. Mus. col. Marseille, sér. 3, 3: 6 (1915); Aubrév. in Notulae Syst. 16: 223 (1961). Nom. cons.

- 1 Leaves oblong or narrowly oblong-obovate, rounded or shortly acuminate, usually shortly narrowed at base, 7-14 cm. long, 4-6 cm. broad, greyish, finely silky beneath when young, with numerous pairs of faint lateral nerves; petiole up to 3 cm. long; flowers densely clustered amongst the leaves; pedicels about 1 cm. long, puberulous; calyx lobed to the base, lobes oblong-elliptic, 3-4 mm. long, shortly tomentellous outside; corolla-lobes glabrous; fruits subglobose, about 2.5 cm. diam., several-seeded; seeds 1 cm. long, shining [l. multinervis](#)

Leaves broadly obovate or obovate-elliptic, rounded or slightly acuminate, 6-16 cm. long, 4-8 cm. broad, silky beneath when young, often glaucous-grey when older, with numerous pairs of obscure lateral nerves; petiole up to 3 cm. long; flowers clustered with the leaves; pedicels 1-1.5 cm. long, nearly glabrous; calyx-lobes ovate-triangular, 5 mm. long, finely puberulous; fruits obovoid, 3 cm. long, finely puberulous [2.obovata](#)

1. **Manilkara multinervis** (*Bak.*) *Dubard* l.c. 24 (1915), incl. var. *poissonii* Dubard; Aubrév. Fl. For. C. Iv., ed. 2, 3: 120, t. 294, fig. 8.

APD: *Synonym of Manilkara obovata* (*Sabine & G. Don*) *J. H. Hemsl.*

Mimusops multinervis *Bak.* in F.T.A. 3: 506 (1877); Engl. Monogr. Afr. 8: 57.

Manilkara densiflora *Bak.* in Kew Bull. 1893: 148.

Manilkara chevalieri *Pierre* in Bull. Mus. Hist. Nat. 7: 139 (1901).

Manilkara atacorensis *A. Chev.* Bot. 392 name only

Manilkara djalonsensis *A. Chev.* Bot. 393, name only.

Manilkara poissonii *Pierre ex Dubard* l.c. (1915); Aubrév. Fl. For. Soud.-Guin. 425.

Manilkara maclaudii *Pierre ex Lecomte* in Bull. Mus. Hist. Nat. 26: 647 (1920), incl. var. *membranacea* Pierre ex Lecomte l.c. 648; Aubrév. Fl. For. Soud.-Guin. 425.

A fairly large tree, often branched from the base and stem, shrub-like, up to 40 ft. high, in habit much resembling *Mimusops kummel* Bruce ex A. DC. and the following species; the leaves without stipules, more or less crowded towards the end of branchlets, with clustered white or brown flowers amongst them; [in gallery forest](#).

Guin.: Donbato N. (July) Roberty 17152! Sangorola (Feb.) Chev. 344! Kollangui (Mar.) Chev. 12191! **Iv. C.:** Aubrév.! Bondoukou Aubrév. 749! **Ghana:** Pong (Mar.) Kitson 662! Prang (Jan.) Vigne FH 1552! Datoka (Jan.) Vigne FH 4656! Anyima (Jan.) Vigne FH 3547! R. Tafo to Nchenenchene (fr. Apr.) Kitson 1048! Saku (May) Vigne FH 4700! **Togo Rep.:** Sokodé (Dec.) Kersting A229! **Dah.:** Natitingou to Bocorona Chev. 24192! **N. Nig.:** Nupe Barter 1123! Jos Plateau (Jan.) Lely P46! Jagindi Keay FHI 21546! **S. Nig.:** Olokemeji F.R. (Dec.) McGregor 438! Ross R42! Keay FHI 14612! Idanre (Jan.) Brenan & E. W. Jones 8638! Bebi, Ogoja Prov. (Dec.) Savory & Keay FHI 25007!

2. *Manilkara obovata* (Sabine & G. Don) J. H. Hemsley in Kew Bull. 17: 171 (1963), *APD acc*

Chrysophyllum obovatum Sabine & G. Don in Trans. Hort. Soc. Lond. 5: 458 (1824); F.T.A. 3: 501; Engl. Monogr. Afr. 8: 43 (1904); F.W.T.A., ed. 1, 2: 9.

Mimusops lacera Bak. in F.T.A. 3: 507 (1877); Engl. l.c. 59, incl. var. *longipetiolata* Engl. and var. *newtonii* Engl. (1904).

Manilkara lacera (Bak.) Dubard in Ann. Mus. col. Marseille, sér. 3, 3: 24 (1915); Aubrév. Fl. For. C. Iv., ed. 2, 3: 120.

Manilkara welwitschii (Engl.) Dubard l.c., 27 (1915).

Mimusops welwitschii Engl. Bot. Jahrb. 12: 524 (1890).

Manilkara sublacera A. Chev. Bot. 393, name only.

Manilkara sylvestris Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 104: 279 (1957); Aubrév. l.c. 122, t. 294, fig. 1-7.

Manilkara angolensis (Engl.) Lecomte ex Pellegr. (1928).

A tree up to 80 ft. high, stem up to 4 ft. diam., frequently only as a shrub, old trees often resembling poplars; [along lagoons and streams in small groups](#).

S. L.: T. Vogel 71! Kent Deighton 5532! Kumrabai (Dec.) Thomas 6942! 6949! Dunabaye King 66! Kambui F.R. (May) Jordan 2082! Makali Deighton 4058! Gola Dawe 501; 569! **Lib.:** Linder 53! 796! Gbanga (fr. Sept.) Linder 7196! Dukwia R. Cooper 113! **Iv. C.:** Azaguié Chev. 22298! **Ghana:** Kommendah (fr. Jan.) Andoh 5548! 5599! Mampong (May) Vigne FH 1184! Ejura Chipp 759! E. Nyima (Aug.) Mensah FH 4901. **Togo Rep.:** Lomé Warnecke 106! 385! **Dah.:** Poisson 151 (!) Porto-Novo (Mar.) Chev. 23363! **N. Nig.:** Nupe Barter 1270! Bako R., Bida Lamb 16! Abinsi Dalz! **S. Nig.:** Lagos Barter! Millen 65! Nun R. (Sept.) Mann 489! Miniata, Onitsha (Feb.) Jones FHI 515! Onitsha F.R. (June) Jones FHI 1028! Karipi Ainslie 404! [**Br.**] **Cam.:** Dieka, Kumba Div. Akuo FHI 15198! Bamenda (fl. & fr. May) Ujor FHI 30408!

Also in [Cameroun](#), [Gabon](#), and [Angola](#).

7. MIMUSOPS

Linn.-F.T.A. 3: 305.

- 1 Pedicels 5-6 mm. long, shortly tomentose; leaves tomentose at first, glabrescent; petiole about 1.5 cm. long, 3.5 cm. broad, with numerous fine lateral nerves; flowers axillary, few; calyx tomentose, 5-6 mm. long[1. andongensis](#)

Pedicels 2-4 cm. long, tomentose; leaves tomentose beneath, especially on or near the midrib, elliptic or slightly obovate, obtusely acuminate, 8-15 cm. long, 4-7 cm. broad, with numerous fine lateral nerves; petiole thinly tomentose, 2 cm. long; flowers few in the leaf-axils; calyx-lobes narrowly lanceolate, 7-15 cm. long; ovary 8-celled; fruit ellipsoid, mucronate, up to 2.5 cm. long and 1.5 cm. diam.; seeds with a small basal scar, 1.5-1.8 cm. long and 1 cm. broad[2. kummel](#)

1. *Mimusops andongensis* Hiern in Cat. Welw. 1: 649 (1898). *APD acc*

Mimusops warneckeii Engl. (1904)-F.W.T.A., ed. 1, 2: 14; Aubrév. Fl. For. C. Iv., ed. 2, 3: 124.

A tree about 60 ft. high with straight bole and light crown, bark dark brown with shallow longitudinal fissures, slash red with white marks; fruits orange-red.

Port. G.: Canchungo (fr. Apr.) Esp. Santo 1943! Bissau (fr. Jan.) Esp. Santo 1704! Farim-Corjambarim (fr. Nov.) Esp. Santo 2421! Umpacaca (Jan.) d' Orey 153! **Togo Rep.:** Lomé Warnecke 311! 326! **S. Nig.:** Miniata, Onitsha (Feb.) Jones FHI 5018! 5035! Mamu River F. R., Akwa Dist. (fl. & fr. Sept.) Onochie FHI 34069!

Extending to [Angola](#).

2. *Mimusops kummel* Bruce ex A. DC. in DC. Prod. 8: 203 (1844); F.T.A. 3: 508; Engl. Monogr. Afr. 8:

75; Eggeling & Dale, Indig. Trees of Uganda ed. 2, 400 (1952). *APD acc*

Mimusops fragrans (Bak.) Engl. in E. & P. Pflanzenfam. 4, 1: 151, fig. 82 N-S (1891); Monogr. Afr. 8: 77; F.W.T.A., ed. 1, 2: 14; Aubrév. Fl. For C. Iv., ed. 2, 3: 124, t. 295; Chev. in Rev. Bot. Appliq. 23: 125 (1943); Aubrév. Fl. For. Soud.-Guin. 427.

Imbricaria fragrans Bak. in F.T.A. 3: 509 (1877).

Mimusops longipes Bak. in Kew Bull. 1895: 149; Engl. Monogr. Afr. 8: 74, t. 28, fig. A.

Mimusops kerstingii Engl. Monogr. Afr. 8: 78 (1904).

A rather small tree with rusty-tomentose, long-stalked white flowers 2-4 together in the axils of the upper leaves.

Ghana: Ejura (May) Vigne FH 1165! 2023! Akuse to Kpong, Volta R. (fr. Oct.) Morton! Gambaga Scarp (Apr.) Morton GC 9000! **Togo Rep.:** Sokodé-Basari (Apr.) Kersting A46! **N. Nig.:** Little Koriga R. Dalz. 415! Jebba Barter! Heipang (Apr.) Keay, E. W. Jones & Wimbush FHI 37601! Kwarra, Plateau Prov. (fr. Jan.) Wimbush FHI 41822! Anara F.R., Zaria Keay FHI 21113! 22961! Alagbede F.R., Ilorin (Feb.) Ejiofor FHI 19821! **S. Nig.:** Lagos Rowland! Yoruba country Barter 1217! Oyo to Iseyin (Mar.) Keay & Stanfield FHI 37805! Bikote, Obudu Div. Catterall FHI 9542! [**Br.] Cam.:** Mayo Wombo, Adamawa (Feb.) Latilo & Daramola FHI 34489!

Also in **Ethiopia** and **eastern Africa**. (See Appendix p. 358.)

Mimusops elengi Linn.

A native of India, is cultivated as a shade-tree in gardens and public parks throughout the area.

8. AUTRANELLA

A. Chev. in Vég. ut. Afr. trop. fr. 9: 271 (1917). *APD acc*

- 1 Leaves glabrous beneath, slightly clustered at the end of the branches, obovate-oblong, shortly acuminate, 10-15 cm. long, 3-4.5 cm. broad, with numerous fine lateral nerves; petiole about 4-5 cm. long; flowers axillary; pedicels up to 2 cm. long, shortly tomentose; calyx tomentose, 2.5 mm. long; fruit 7.5 cm. long and 5.5 cm. diam.; seeds triangular-ovate, relatively flat, 5 cm. long, 3.5 cm. broad, 2.6 cm. thick, with a basal scar up to 3 cm. long and 1 cm. broad. *congolensis*

Autranella congolensis (De Wild.) A. Chev. l.c. t. 29, fig. 2 (1917); Rev. Bot. Appliq. 23: 132 (1943). *APD acc*

Mimusops congolensis De Wild. Miss. E. Laurent 1: 434, figs. 82, 83 (1907).

M. ebolowensis Engl. & Krause in Engl. Bot. Jahrb. 49: 396 (1913).

M. letestui Lecomte in Bull. Mus. Hist. Nat. 26: 534, figs. 1, 2 (1920); Pellegr. in Mém. Soc. Linn. Normandie, n. sér., Sect. Bot. 1, 3: 8, fig. 1 (1928).

Autranella letestui (Lecomte) A. Chev. in Rev. Bot. Appliq. 23: 133 (1943).

Mimusops boonei De Wild. in Rev. Zool. Afr. 7, Suppl. Bot. 27 (1919); Pl. Bequaert. 4: 148, incl. var. *acuminata* De Wild. l.c. 150, and var. *abrupte-acuminata* De Wild. l.c. 151 (1926).

Tree about 40 ft. high; flowers white.

S. Nig.: Onitsha Kennedy 2423! 2424! Afi River F.R. (ft. May) Jones & Onochie FHI 18636! Adazi-Ani, Awka (fl. & ft. July) Onyeagocha FHI 16565! [**Br.] Cam.:** Victoria Bot. Gard. (Dec.) Ogu FHI 50311!

Also in **Cameroun**, **Gabon** and **Congo**.

9. TIEGHEMELLA

Pierre Not. bot. Sapot. 18 (1890).

Dumoria A. Chev. in Compt. Rend. Acad. Sci. Paris 145: 267 (1907).

- 1 Leaves 7-15 cm. long, 3-6 cm. broad, with lateral nerves fewer and less prominent than *Autranella*; outer calyx-lobes glabrous, broadly triangular, 5 mm. long, the inner ones softly tomentellous; leaves obovate or narrowly obovate-elliptic, with numerous faint lateral nerves, glabrous; petiole slender, up to 4 cm. long; pedicels 2 cm. long, glabrous; calyx-lobes ovate, 3 mm. long; staminodes ovate-lanceolate; fruits ovoid, 8-10 cm. diam., yellow when ripe, with 2 or 3 seeds; seeds 5 cm. long and 3 cm. broad, two-thirds (testa) hard and shining, other third (scar) rough *heckelii*

Tieghemella heckelii Pierre ex A. Chev. in Vég. ut. Afr. trop. fr. 2: 172 (1907); l.c. 5: 237 (1909). *APD*

acc

Dumoria heckelii A. Chev. in Compt. Rend. Acad. Sci. Paris 145: 267 (1907); Vég. ut. Afr. trop. ft. 5: 237 (1909); Aubrév. Fl. For. C. Iv., ed. 2, 3: 126, t. 296; Rev. Bot. Appliq. 23: 129, t. 3 (1943).

Tieghemella heckeliana [in error] *Pierre ex Dubard* in Ann. Mus. col. Marseille, sér. 3, 3: 33 (1915).

Mimusops heckelii (A. Chev.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 14 (1931); Aubrév. Fl. For. C. Iv., ed. 1, 3: 102, t. 280; Hutch. & Dalz. in Kew Bull. 1937: 60.

A large forest tree up to 150 ft. high with horizontal branches near the top.

S. L.: Thomas 36! Kenema (May) Jordan 2095! Kambui Hills (fr. Mar.) Small 528! Waanje valley Deen SLFD 20033!

Lib.: Wanau Harley 2107! **Iv. C.:** Bettié Chev. 16253! Azaguié Chev. 22304! Sassandra (Feb.) Leeuwenberg 2525! 2752!

Ghana: Kwahu Prasu (Feb.) Vigne FH 1596! Aburi Irvine 1881! Prestea Green 897! Ashanti Imp. Inst. 38765! S. Fomang Su F.R. (Apr.) Vigne FH 1213! Ateiku Krukoff 42K! **S. Nig.:** Ishan (Mar.) Kennedy 2165! 2426! Ainslie 16!

10. BAILLONELLA

Pierre Not. bot. Sapot. 13 (1890). *APD acc*

- 1 Leaves 20-40 cm. long, 7-12 cm. broad, elongate-obovate, abruptly acuminate, with very numerous prominent lateral nerves, rust-pilose beneath, at length nearly glabrous; petiole 3-5 cm. long, at first densely villous; flowers clustered among the leaves; pedicels up to 4 cm. long; calyx-lobes very small; staminodes spoon-shaped; ovary 8-celled; fruit subglobose, 6 cm. diam. or more; seeds obliquely ellipsoid, about 6-7 cm. long, two-thirds (testa) hard and shining, other third (scar) rough [toxisperma](#)

Baillonella toxisperma *Pierre* l.c. 14 (1890); Chev. in Vég. ut. Afr. trop. fr. 9: 242 (1917); Rev. Bot. Appliq. 23: 126 (1943); Bois & For. Trop. 45: 27, with fig. *APD acc*

Mimusops toxisperma (*Pierre*) A. Chev. in Rev. Bot. Appliq. 23: 128 (1943), in syn.

Mimusops djave Engl. in E. & P. Pflanzenfam. Nachtr. 1: 279 (1897); Monogr. Afr. 8: 81, t. 32, 33 (1904); Chev. Vég. ut. Afr. trop. fr. 2: 160, figs. 26, 26, 27 (1907); F.W.T.A., ed. 1, 2: 14.

Baillonella djave *Pierre ex Dubard* in Ann. Mus. col. Marseille, sér. 3, 3: 37 (1915); H. Lecomte in Bull. Mus. Hist. Nat. 24: 143, 145 (1918).

Baillonella obovata *Pierre*, mimeograph MS. (1895); Pellegrin in Mém. Soc. Linn. Normandie, n. sér. 1: 10 (1928).

Mimusops obovata *Pierre ex Engl.* in E. & P. Pflanzenfam. Nachtr. 1: 279 (1897), not of Sonder (1850).

M. pierreana Engl. Monogr. Afr. 8: 82, t. 33B.

Baillonella pierreana (Engl.) A. Chev. in Rev. Bot. Appliq. 23: 127 (1943).

A very large forest tree with large prominently nerved leaves and rather long-stalked flowers crowded at the ends of stout branchlets.

S. Nig.: Degema Talbot! Boje, Afi River F.R., Ikom (ft. May) Jones & Onochie FHI 18627! Boshi-Okwangwo F.R., Obudu (fr. May) Latilo FHI 30935! [**Br.**] **Cam.:** Johann-Albrechtshöhe Staudt 899. S. Bakundu F.R., Kumba Ejiofor FHI 15115!

Also in **Cameroun**, **Gabon** and **Congo**.

11. BUTYROSPERMUM

Kotschy in Sitzungsber. Acad. Wien, Math. Naturw. Cl. 1, Abth. 1: 357 (1865); F.T.A. 3: 504; Hepper in Taxon 11: 226 (1962).

Vitellaria Gaertn. f. Fruct. 3: 131, t. 205 (1805); *Pierre* in Bull. Soc. Linn. Paris 1: 578 (1888); Baill. Hist. Pl. 11: 288 (1811).

- 1 Small deciduous tree; leaves clustered at the ends of the shoots, oblong or obovate-oblong, 10-25 cm. long, 5-8 cm. broad, with numerous slender parallel lateral nerves spreading almost at right angles, glabrous, except when young; petiole up to 10 cm. long; flowers white, clustered at the end of the shoots; pedicels about 1.5-2 cm. long, pubescent; sepals 8 or 10, in two rows, oblong-lanceolate, nearly 1 cm. long, softly tomentose outside; corolla as long as the calyx, glabrous, lobes 8 or 10, ovate-oblong, glabrous; staminodes petaloid, elliptic, apiculate, toothed; stamens 8 or 10; ovary 8-10-celled, tomentose; fruit ellipsoid, 4-5 cm. long, 1-seeded, style persistent [paradoxum subsp. parkii](#)

Butyrospermum paradoxum (*Gaertn. f.*) Hepper in Taxon 11: 227 (1962).

APD: *Synonym of Vitellaria paradoxa C. F. Gaertn. subsp. paradoxa*

Vitellaria paradoxa Gaertn. f. l.c. (1805); Baill. l.c. 289 (1891).

Lucuma paradoxa Gaertn. f. A.D.C. in DC. Prod. 8; 173 (1844); Baehni in Candollea 9: 427 (1942).

***Butyrospermum paradoxum* subsp. *parkii* (G. Don) Hepper l.c. 227 (1962).**

APD: *Synonym of Vitellaria paradoxa* C. F. Gaertn. subsp. *paradoxa*

Bassia parkii G. Don Gard. Dict. 4: 36 (1838); A. DC. in DC. Prod. 8: 199.

Butyrospermum parkii (G. Don) Kotschy l.c. 359 (1865); Pl. Tinn. 20, t. 8B (1867); F.T.A. 3: 504, partly; Engl. Monogr. Aft. 8: 22 (1904); Chev. in Vég. ut. Aft. trop. fr. 2: 27, figs. 1, 2, incl. vars. mangifolium A. Chev. and poissonii A. Chev. l.c. 32 (1907); F.W.T.A., ed. 1, 2: 8: Aubrév. Fl. For. Soud.-Guin. 425; Chev. in Rev. Bot. Appliq. 23:100 (1943) and 28: 241 (1948), both with several varieties of no taxonomic importance, excl. var. nilotica (Kotschy) Pierre ex Engl. (1904); Ruysen, Agron. Trop. 12: 143-172 (1957).

A small tree about 30 ft. high with tufted leaves; bark cracking in squares; flowers white; **abundant in savanna.**

Port. G.: Pirada d'Orey 308! **Ghana:** Dagonkaddi (Apr.) Kitson 899! Krepi Plains (Jan.) Johnson 545! Bukabuka Thompson LXX! Wa (Jan.) Mehamer 5-8! Yendi (Jan.) Coull 1-9! Poisson 901 **Dah.:** Masse to Kétou (Feb.) Chev. 23008! Koulomba Vuillet 570! **N. Nig.:** Ilorin to Jebba (Feb.) Richards 5028! Jebba Barter 987! Nupe Barter 721! 1178! Jos Plateau (Feb.) Lely P143! Baro Yates! **S. Nig.:** Rost 73! Lagos Rowland! Phillips 2! Abbeokuta Irving! **[Br.] Cam.:** Tapare, Adamawa (Jan.) Latilo & Daramola FHI 34413! Gurum, Adamawa teste Hepper.

extending to Ubangi-Shari.

The Shea butter tree.

The conservation of the generic name *Butyrospermum* has been proposed (Hepper l.c.), but Dr. H. Heine would have preferred to abandon the name for his revision of this family in favour of *Vitellaria* had not this proposal been made. -ed.

12. SYNSEPALUM

(A. DC.) *Daniell* (1852)-Baill. Hist. Pl. 11: 286 (1892); Chev. in Rev. Bot. Appliq. 23: 291 (1943).

Sideroxylon Sect. *Synsepalum* A. DC. (1844).

- 1 Leaves closely silky beneath, elliptic-oblongate, acuminate, up to 15 cm. long and 5 cm. broad, with 10-12 pairs of lateral nerves; petiole 1.5 cm. long; flowers axillary, clustered; buds finely appressed-pubescent; fruits subsessile, broadly ellipsoid, beaked, about 2.5 cm. long, puberulous [1. *glycydorum*](#)

Leaves glabrescent beneath: **2**

- 2 Leaves with 8-12 pairs of lateral nerves, rounded or shortly acuminate at apex, markedly attenuated from the upper third to the base, 5-10 cm. long, 2-4 cm. broad; petiole short, up to 5 mm. long; flowers axillary, subsessile, pedicels up to 2 mm. long; calyx ribbed, 5 mm. long, tomentellous outside, lobes short, triangular; corolla with a narrow tube as long as calyx, lobes exserted, glabrous; style exserted; fruit ellipsoid, 1-seeded, 2 cm. long, nearly glabrous; seeds nearly as large as the fruit [2. *dulcificum*](#)

Leaves with about 18 pairs of lateral nerves, oblong-lanceolate, long-acuminate, and obtusely pointed at apex, cuneate from the middle to the very narrow petiole-like base, 10-19 cm. long, 4.5-6 cm. broad; real petiole only up to 3 mm. long, but with the petiole-like base of the leaf apparently 1-1.5 cm. long and winged; flowers axillary, very numerous; pedicels up to 3 mm. long; calyx pilosulous outside, lobes lanceolate-ovate, acute, 2.5 mm. long; corolla with a narrow tube up to 3 mm. long, lobes exserted, up to 3 mm. long, glabrous; style exserted; fruit ellipsoid, 2 cm. long, smooth, 1-seeded [3. *stipulatum*](#)

1. *Synsepalum glycydorum* Wernham in J. Bot. 55: 82 (1917) (as glycydora). *APD acc*

A shrub or small tree, about 25 ft. high, in leaf characters much resembling a *Chrysophyllum*, especially *C. subnudum*.

S. Nig.: Owasin, Bende Dist. (Jan.) Mallam FHI 5801! Degema Dist. Talbot 3720! Akamkpa Rubber Estate, Calabar (Mar.) Latilo FHI 41350!

2. *Synsepalum dulcificum* (Schum. & Thonn.) Daniell in Bell Pharm. Journ. Trans. 11: 445 (1852); Baillon l.c. 287; Engl. Monogr. Afr. 8: 32, t. 7; Aubrév. Fl. For. C. Iv., ed. 1, 3: 106; Chev. l.c. 23. *APD acc*

Bumelia dulcifica Schum. & Thonn. in Beskr. Guin. Pl. 130 (1827).

Sideroxylon dulcificum (Schum. & Thonn.) A. DC. l.c. (1844).

Bakeriella dulcifica (Schum. & Thonn.) Dubard in Ann. Mus. col. Marseille, ser. 2, 10: 28 (1912).

Pouteria dulcifica (Schum. & Thonn.) Baehni in Candollea 9: 276 (1942) (excl. syn. *S. glycydora* Wernham)

A shrub or small tree, young leaves and fruits purplish. Often cultivated; the "Miraculous Berry".

Ghana: Kibbi (fr. Jan.) Brent 404! Essuasus (Mar.) Vigne FH 168! Puro R. Darko 374! Aburi (fl. & fr. Jan.) Johnson 147! Komenda (Aug.) Andoh 5550! Afram Mankrong F.R., Mpraeso Dist. (Nov.) Enti FH 6509! **Dah.:** Zagnanado to Za (Feb.) Chev. 23104! **S. Nig.:** Agege Foster 221! Lagos (Apr.) Moloney! Abeokuta (fl. & fr. Oct.) Onochie FHI 13517! [**Br.**] **Cam.:** Victoria Botanic Garden (fl. & fr. Feb.) Dalz. 8174!

Also in **Cameroun** and **Congo**.

3. *Synsepalum stipulatum* (Radlk.) Engl. Monogr. Afr. 8: 33 (1904). *APD acc*

Stironeurum stipulatum Radlk. in Ann. Mus. Congo, Bot., sér. 2, 1: 31 (1899).

Synsepalum longecuneatum De Wild. in Fedde Rep. 13: 377 (1914).

Synsepalum attenuatum Hutch. & Dalz. in Aubrév. Fl. For. C. Iv., ed. 1, 3: 106 (1936), name only; Dalz. Appendix 361 (1937), English descr. only; Baehni in Candollea 9: 429 (1942); Chev. in Rev. Bot. Appliq. 23: 292 (1943).

A small tree, up to 50 ft. high.

S. Nig.: Sapoba (Jan.-Mar.) Kennedy 198! 528! 1734! Ross 222! Okomu F.R. Benin (Dec.) Brenan 8550! Richards 9021! Omo F.R. (Feb.) Onochie FHI 17501! 17522! Jones & Onochie FHI 17212! 17377! Eme River F.R., Bende Dist. (Aug.) Olorunfemi FHI 34206!

Also in **Cameroun** and **Congo**.

Synsepalum tsounkpe Aubrév. & Pellegr. in Notulae Syst. 16: 265 (1961). *S. sp.* near *congolense* H. Lecomte in Aubrév. Fl. For. C. Iv., ed. 2, 3: 128, t. 128 (1959).

Iv. C.: Port Bouët Aubrév. 1577. (No material seen.)

13. VINCENTELLA

Pierre Not. bot. Sapot. 37 (1891); Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 800 (1935).

- 1 Young branches and petioles minutely puberulous and becoming very early glabrescent; leaves oblong-lanceolate, 7-20 cm. long and 3-7 cm. broad, with about 10-13 pairs of lateral nerves; stipules up to 1-8 cm. long; flowers numerous, fasciculate on the second season's wood; pedicels slender, 1 cm. long; sepals narrowly lanceolate, 1-5 mm. long, puberulous, petals a little longer than the sepals; ovary densely pilose; style glabrous or pilose up to 2/3 of its length, 2-4 mm. long [1. *revoluta*](#)

Young branches and petioles densely rusty-brown lanate or velvety-puberulous, tomentum becoming purplish-brown or blackish in the second year and then slowly becoming glabrescent: **2**

- 2 Leaves spatulate-lanceolate, very variable in size, shape and colour, but nearly always becoming greenish, olive or olive-brown on drying, cuneate from the upper third to the base and there never rotundate, 5-10(-13) cm. long and up to 5 cm. broad, with about 7-9 pairs of lateral nerves; leaf-margin sometimes slightly undulate; stipules up to 2 mm. long; staminodes as long as the petals, not very conspicuous; ovary densely pilose; style glabrous, up to 3 mm. long [2. *passargei*](#)

Leaves obovate-lanceolate, 10-25 cm. long, 4-5-10 cm. broad, becoming rusty or dark brown on drying, cuneate from the upper third to the base and there mostly slightly and abruptly rotundate, with about 10-13 pairs of lateral nerves; stipules 3-5 mm. long; flowers fasciculate, 3-6 together in the axils of the fallen leaves; pedicels rusty-velvety-tomentose, 2-4 mm. long; sepals oblong-lanceolate, 2 mm. long; petals 3-5 mm. long; staminodes 5-5 mm. long, very conspicuous; ovary densely pilose; style glabrous, about 1 mm. long [3. *brenanii*](#)

1. *Vincentella revoluta* (Bak.) *Pierre* Not. bot. Sapot. 37 (1891); Aubrév. Fl. For. Soud.-Guin. 427; Chev. in Rev. Bot. Appliq. 23: 284 (1943); Heine in Kew Bull. 14: 302 (1960), for full synonymy.

APD: *Synsepalum revolutum* (Baker) T. D. Penn.

Sideroxylon revolutum Bak. in F.T.A. 3: 503 (1877).

Bakerisideroxylon revolutum (Bak.) Engl. Monogr. Afr. 8: 34, t. 11 (1904), incl. var. *brevipetiolulatum* Engl. l.c.; Chev. Bot. 390; F.W.T.A., ed. 1, 2: 12.

Bakeriella revoluta Dubard in Ann. Mus. col. Marseille, sér. 2, 10: 28 (1912).

Pouteria revoluta (Bak.) Baehni in Candollea 9: 385 (1942).

Bakerisideroxylon bruneelii De Wild. in Fedde Rep. 13: 375 (1914).

Vincentella camerounensis *Pierre ex Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 81: 800 (1935); Aubrév. & Pellegr. in Fl. For. C. Iv., ed. 2, 3: 130, t. 306, fig. 5-9; Chev. in Rev. Bot. Appliq. 23: 284 (1943); Aubrév. Fl. For. Soud.-Guin. 427.
Pouteria camerounensis (*Pierre ex Aubrév. & Pellegr.*) *Baehni* l.c. 383 (1942).
Vincentella impressa *Sprague* in Chipp Gold Coast Trees and Shrubs, 26 (1913), name only.

A tree 30-60 ft. high, with fascicles of small whitish flowers.

Iv. C.: Buanouan (Mar.) Chev. 17809. Fort-Binger to Mount Nienokoué (July) Chev. 19515! **Ghana:** Boundary Post, Tano R. (Sept.) Chipp 340! Benso (Sept.) Andoh 5881! Dunkwa (July) Mensah. FH 6742! **S. Nig.:** Cross R. (fl. & fr. Nov.) Catterall 53! **[Br.] Cam.:** Buea (fl. Jan., fr. Apr.) Maitland 44! 250! **F. Po:** 2,000 ft. (Dec.) Mann 635!

Also in **Cameroun** and **Congo**.

2. **Vincentella passargei** (*Engl.*) *Aubrév.* in Fl. For. Soud.-Guin. 427 (1950); Bull. Soc. Bot. Fr. 104: 281 (1957), as *passargei*.

APD: Synonym of Synsepalum passargei (Engl.) T. D. Penn.

Bakerisideroxylon passargei *Engl.* Monogr. Afr. 8: 35, t. 11 (1904).
Pouteria passargei (*Engl.*) *Baehni* in Candollea 9: 382 (1942).
Sersalisia microphylla *A. Chev.* Bot. 388, name only.
Bakerisideroxylon sapini *De Wild.* in Rev. Zool. Afr. 7, Suppl. Bot. 16 (1919).
Vincentella sapinii (*De Wild.*) *Brenan* in Mem. N.Y. Bot. Gard. 8: 498 (1954); Meeuse in Bothalia 7: 342 (1960).
Pouteria ligulata *Baehni* l.c. 386 (1942).
P. afzelii (*Engl.*) *Baehni* l.c. 320 (1942), partly (Chev. 12682).
Sersalisia afzelii of F.W.T.A., ed. 1, 2: 11, not of Engl.

A tree 15-20 ft. high, with white flowers.

Guin.: Kollangui (Mar.) Chev. 12218! Diaguissa Plateau Chev. 12682! Timbicounda, Upper Niger (Oct.) Jaeger 104! Bambaya to Kéréssa-dju (Jan.) Jaeger 3886! **S. L.:** Loma Mts. (Jan.) Jaeger 4015! 4121! **Ghana:** below Shiare, Krachi Dist. (Nov.) Morton A4110! **N. Nig.:** Jos Plateau (fr. Jan.) Lely P24! Jos F.R. (Nov.) Keay FHI 21433! FHI 20196! Assob waterfall (Oct.) Hepper 1040! **[Br.] Cam.:** Serti, Adamawa (fr. Dec.) Latilo & Daramola FHI 28960!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **Congo** and **tropical E. Africa**.

[The plants from Guinea, Sierra Leone, and Ghana are slightly different in some vegetative characters (thickish-woolly young shoots, flowers usually, but not always, subsessile, leaves larger), but it is impossible to separate them as a different taxon as was done by Baehni (l.c. 1942)-H.H.]

3. **Vincentella brenanii** *Heine* in Hook Ic. Pl. t. 3630 (1964).

APD: Synonym of Synsepalum brenanii (Heine) T. D. Penn.

A shrub or small tree, up to 15 ft. high, with small and densely fascicled greenish-cream flowers in the axils of fallen leaves.

[Br.] Cam.: Banga, S. Bakundu F.R., Kumba Div. (Mar.) Brenan 9273! Binuyo & Daramola FHI 35589!

14. KANTOU

Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 104: 276 (1957).

- 1 Leaves crowded at the top of the branches, oblong-lanceolate, 15-25 cm. long, 6-7 cm. broad, with about 10-15 lateral nerves, glabrescent; stipules minute; petiole 4-5 cm. long; flowers fasciculate, pedicels about 1 cm. long, pubescent; bracts ovate, 5-6 mm. long; sepals about 6 mm. long, pubescent; corolla glabrous, 7-8 mm. long, 5-lobate, lobes ovate, obtusely tripartite, corolla-tube about 1-5 mm. long; ovary 5-loculate, conic, hirsute, about 4 mm. long; fruit globose, reddish, only one well-developed seed; seed oblong, about 5 cm. long, compressed, with brown and shining testa and a large ovate hilum [guereensis](#)

Kantou guereensis *Aubrév. & Pellegr.* l.c. (1957); Aubrév. Fl. For. C. Iv., ed. 2, 3: 114, t. 291.

APD: Synonym of Inhambanella guereënsis (Aubrév. & Pellegr.) T. D. Penn.

A tall tree up to 160 ft. high, with small fascicled flowers; **in dense evergreen forest**.

Lib.: Wanau (fr. Oct.) Harley 2049! **Iv. C.:** Oumé Aubrév. 4147! Guiglo Aubrév. 4049! Taï Aubrév. 4103!

15. BREVIEA

Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 792 (1935).

- 1** Branches and leaves underneath golden-yellow-brown silky-villous; leaves elongate-oblong, abruptly caudate-acuminate, cordate at base, 11-22 cm. long and 5-8 cm. broad, with 12-18 pairs of prominent lateral nerves; petioles very short, up to 5 mm. long; flowers axillary in small fascicles, 3-5 together; pedicels 3-4 mm. long; calyx with 5 ovate imbricate sepals, silky-tomentose outside; corolla greenish-white, tubular, up to 2 cm. long and 5 mm. diam.; staminodes subulate, up to 2 mm. long, style up to 7 cm. long; fruits depressed-globose, 6-7 cm. diam., 6 cm. high, with 8 flat, elliptic seeds 2 cm. long and 1-4 cm. broad [leptosperma](#)

Breviea leptosperma (Baehni) Heine in Kew Bull. 14: 302 (1960).

APD: Synonym of Breviea sericea Aubrév. & Pellegr.

Pouteria leptosperma Baehni in Candollea 9: 388 (1942).

Breviea sericea (A. Chev.) Aubrév. & Pellegr. l.c. 793, fig. 1 (1935); Aubrév. Fl. For. C. Iv., ed. 1, 3: 108, t. 282; ed. 2, 3: 130, t. 297; Chev. in Rev. Bot. Appliq. 23: 284 (1943).

Chrysophyllum sericeum A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 296 (1917); Chev. Bot. 386; F.W.T.A., ed. 1, 2: 9; Hutch. & Dalz. in Kew Bull. 1937: 55; not of Salisb. (1796) and A. DC. (1844).

Chrysophyllum leptospermum (Baehni) Roberty in Bull. I.F.A.N. 15: 1417 (1953).

A tree up to 100 ft. high; stem up to 5 ft. girth; in transition forest between rain and deciduous forest.

Iv. C.: Zaranou to Bébou Chev. 22627! Acuabo Aubrév. 642! **Ghana:** Mprisu, Ashanti Vigne FH 2059! Ofin Headwaters F.R. (fr. Aug.) Andoh FH 4231! 4290!

16. AUBREGRINIA

Heine in Kew Bull. 14: 301 (1960). *APD acc*

Endotricha Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 794 (1935), not Endotrichia Suringar (1870).

- 1** Leaves oblong, obtuse, 13-25 cm. long, 5-10 cm. broad, membranous, with about 7-9 pairs of lateral nerves; petioles 2-3 cm. long; flowers axillary, pedicels glabrous, about 12 mm. long; flowers 5-merous, unisexual (only female flowers known); calyx with 5 imbricate, ciliate lobes, glabrous outside, densely covered with long, silky hairs inside; corolla 6-7 mm. long, with 5 suborbiculate lobes, lobes 1.5 mm. long and 2 mm. broad; 5 staminodes opposite the lobes, fixed at base of the corolla, about 3.5 mm. long, 5 staminodes more or less abortive, alternate with the corolla-lobes and affixed in the axils of the lobes; disk glabrous at base, stiff-strigose at top; ovary 8-loculate; style about 5 mm. long, glabrous; fruit baccate, subglobose, depressed, 8-seeded, 8 cm. diam., 6.5 cm. long; seeds 5.5 cm. long, 3 cm. broad and 1.8 cm. thick, glabrous, dark-brown, with a long, deep-impressed hilum and woody testa [taiensis](#)

Aubregrinia taiensis (Aubrév. & Pellegr.) Heine l.c. (1960). *APD acc*

Endotricha taiensis Aubrév. & Pellegr. l.c. (1935); Aubrév. Fl. For. C. Iv., ed. 1, 3: 110 (as Entotricha), t. 283, fig. 1-3; ed. 2, 3: 132, t. 298; Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 104: 277 (1957).

A very large tree, up to 150 ft. high and 8-9 ft. girth with greenish flowers; fruits greenish-yellow.

Iv. C.: Taï Aubrév. 1212. Soubre Aubrév. 4776. **Ghana:** Kade Univ. College Farm, Oda Dist. (Jan.) Enti FH 6871!

[The genera 14-16 are closely allied with Chrysophyllum Linn. in a broad sense and further taxonomic studies might perhaps make it necessary to unite them with it.]

17. MALACANTHA

Pierre Not. bot. Sapot. 60 (1891); Engl. Monogr. Afr. 8: 47 (1904).

- 1** Leaves tomentose, becoming more or less glabrescent, slightly cuneate to rounded at base, obovate-elliptic, up to 23 cm. long, 6-12 cm. broad, with 15-20 pairs of very prominent lateral nerves; flowers sessile, clustered; calyx

light brown-rusty tomentose outside, lobes elliptic; corolla-tube 4 mm. long, lobes 3 mm. long, glabrous; ovary tomentose; fruits ellipsoid, apiculate, up to 2.5 cm. long, pubescent [alnifolia](#)

Malacantha alnifolia (Bak.) Pierre l.c. 61 (1891); Engl. l.c. 49; Chev. Bot. 387; F.W.T.A., ed. 1, 2: 12, partly; Aubrév. Fl. For. C. Iv., ed. 1, 3: 110; ed. 2, 3: 133; Fl. For. Soud.-Guin. 427.

APD: Synonym of Pouteria alnifolia (Baker) Roberty var. alnifolia

Chrysophyllum? alnifolium Bak. in F.T.A. 3: 499 (1877).

Pouteria alnifolia (Bak.) Roberty in Bull. I.F.A.N. 15: 1417 (1953).

Malacantha heudelotiana Pierre l.c. 60 (1891); Aubrév. Fl. For. C. Iv., ed. 2, 3: 134, t. 299.

Malacantha warneckeana Engl. l.c. 48 (1904).

Malacantha obtusa C. H. Wright in Kew Bull. 1908: 58.

Malacantha acutifolia A. Chev. Bot. 387, name only.

A shrub or small tree with scaly bark; flower-clusters dense in the axils of fallen leaves; in deciduous and gallery forests.

Sen.: Perrottet 452! 454! Kombo country Heudelot 52! **Iv. C.:** Anoumaba Chev. 22397! **Ghana:** Cape Coast Dalz. 8277! Shai Plains (Jan.) Johnson 529! Kpedsu (Dec.) Howes 1070! Aburi (fr. Feb.) Dalz. 8269! Komenda Vigne FH 5598! Lawra Adams 4028! **Togo Rep.:** Lomé Warnecke 413! Mildbr. 7514! Törrimaberg Kersting A236! **Dah.:** Pobé to Adjaouéri (Feb.) Chev. 22941! **N. Nig.:** Thornewill 105! Lokoja (Apr.) Elliott 51! Yola (fl. & fr. Mar.) Dalz. 192! **S. Nig.:** Lagos (fl. & fr. Mar.) Foster 37! Rowland! Olokemeji F.R. (fr. Apr.) Keay FHI 37598! Oyo (Feb.) Keay FHI 21076! Owo F.R. Jones FHI 3622! Onitsha Barter 1788!

Widespread in tropical Africa.

18. ANINGERIA

Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 795 (1935). APD acc

- 1 Young shoots and leaves covered with fine greyish tomentum, glabrescent, leaves elliptic, rounded at base, 5-16 cm. long, 3-7 cm. broad, with 12-15 prominent pairs of lateral nerves covered with fine greyish tomentum in young state; petiole 1-2 cm. long, glabrescent; flowers fasciculate, 4-5 together in the axils of the terminal leaves; pedicels tomentellous, up to 5 cm. long; calyx softly pubescent outside; corolla white, with 5 ciliate lobes; staminodes subulate, 2/3 of the length of the corolla-lobes; anthers not exceeding the corolla; fruits obovoid-globose olive-shaped, finely pubescent; seeds ovoid, 1.3 cm. long, with a broad elliptic scar nearly as long [1. altissima](#)

Young shoots and leaves underneath densely pubescent, leaves elliptic to oblong-obovate, sometimes emarginate at apex, rounded at base, 8-15 cm. long, 4-6 cm. broad, with 15-20 pairs of lateral orange-coloured nerves, covered with a dense tomentum; flowers fasciculate, in the axils of fallen leaves; pedicels tomentellous, up to 3 cm. long; calyx and corolla like the last but staminodes only 1/3 of the length of the corolla-lobes and anthers exceeding the corolla; fruit and seeds like the last [2. robusta](#)

1. **Aningeria altissima** (A. Chev.) Aubrév. & Pellegr. l.c. 796; Aubrév. Fl. For. C. Iv., ed. 1, 3: 111; ed. 2, 3: 136, t. 300, fig. 1-4, under "Aningueria"; Fl. For. Soud.-Guin. 429.

APD: Synonym of Pouteria altissima (A. Chev.) Baehni

Hormogyne altissima A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 265 (1917).

Sideroxylon altissimum (A. Chev.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 12 (1931); Kew Bull. 1937: 59.

Hormogyne gabonensis A. Chev. l.c. 267 (1917).

Sideroxylon gabonense (A. Chev.) Lecomte ex Pellegr. in Mém. Soc. Linn. Normandie, n. sér. 1: 16 (1928).

Pouteria altissima (A. Chev.) Baehni in Candollea 9: 292 (1942)

Tall forest tree up to 120 ft. high with straight bole; flowers creamy-white.

Guin.: Kaba Chev. 13129! 13141! **S. L.:** Loma Mts. Jaeger 1845! **Iv. C.:** Abidjan (Feb.) Aubrév. 86! 842! **Ghana:** Abetifi, Kwahu (Mar.) Johnson 624! Brent 543! L. Bosumtwi (Dec.) Vigne FH. 1498! Ahiayom (Dec.) Andoh 582! Opro River F.R., Ashanti (fr. Apr.) Keay & Aubrév. FHI 37594! **N. Nig.:** Zaria Lamb FHI 3215! Esie, Ilorin Dist. (Jan.) Latilo FHI 18225! **[Br.] Cam.:** Mildbr. 10! Bamenda, 5,000 ft. Johnstone 265/32! Kennedy 2161!

Extends to Congo, E. Africa, [Ethiopia](#) and [Sudan](#).

2. **Aningeria robusta** (A. Chev.) Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 797 (1935).

APD: Synonym of Pouteria aningeri Baehni

Malacantha robusta A. Chev. in Vég. ut. Afr. trop. fr. 5: 241 (1909); Chev. Bot. 387; Fl. For. C. Iv., ed. 1, 3: 111, 112; ed. 2, 3: 137, t. 300, fig. 5-9, under "Aningeria." M. heudelotiana of F.W.T.A., ed. 1, 2: 12, partly, not of Pierre (1891).

Pouteria aningeri Baehni l.c. 289 (1942).

Aningeria pierreii (A. Chev.) Aubrév. & Pellegr. l.c. 796 (1935); Aubrév. Fl. For. Soud.-Guin. 429; Fl. For. C. Iv., ed. 1, 3: 111; ed. 2, 3: 134; Chev. in Rev. Bot. Appliq. 23: 136 (1943).

Hormogyne pierreii A. Chev. Etud. Fl. Afr. centr. 1: 183 (1913), name only; Mem. Soc. Bot. Fr. 2, 8: 265 (1917); Vég. ut. Afr. trop. fr. 9: 262 (1916).

Pouteria pierreii (A. Chev.) Baehni l.c. 292 (1942)

Tall forest tree up to 150 ft. high with clear straight bole, buttressed, at base; flowers whitish, fruits red.

Port. G.: Catio to Cumbé (fr. June) Esp. Santo 2095! **S. L.:** Heddle's Farm, Freetown Lane-Poole 374! Peri Ganra King 333! Kasewe F.R. King 113! **Iv. C.:** Bouroukrou Chev. 16134! Taï Aubrév. 1206. Sassandra (fl. & fr. Feb., Mar.)

Leeuwenberg 2809! 2922! **Ghana:** Adeambra (Mar.) Vigne FH 863! Juaso (Feb.) Vigne FH 1828! Bobiri F.R. Taylor 5182!

Kwahu Prasu (Feb.) Vigne FH 1614! **S. Nig.:** Lagos Punch 120! Benin (May) Cousens FHI 3838! Gambari F.R. (Jan.)

Idahosa FHI 23860! Omo F.R. Jones & Onochie FHI 16821! 17587! Owena R. Pilot Mill, Ondo Jones FHI 19533! **[Br.]**

Cam.: Kumba Div. Ejiofor FHI 14037! Bambui, Bamenda Bilderbeck FHI 22207!

Also in **Ubangi-Shari**.

19. BEQUAERTIODENDRON

De Wild. in Rev. Zool. Afr. 7, Suppl. Bot. 22 (1919); Pl. Bequaert. 4: 143 (1926); emend Heine & Hemsley in Kew Bull. 14: 306 (1960). *APD acc*

- 1** Flowers with pedicels 1.5-2 cm. long; leaves oblong or obovate-oblong, slightly cuneate from above the broadest upper third, cuneate-rotundate at base, 11-24 cm. long, 8 cm. broad, on drying always becoming brownish or rusty-brown beneath [1. magalismontanum](#)

Flowers sessile; leaves obovate, broadly acuminate, long-cuneate at base, 10-17 cm. long, 4-6 cm. broad, on drying always light greyish olive-green [2. oblanceolatum](#)

- 1. Bequaertiodendron magalismontanum (Sond.) Heine & J. H. Hemsley** in Kew Bull. 14: 307 (1960), (q.v. for full synonymy)

APD: Synonym of Englerophytum magalismontanum (Sond.) T. D. Penn.

Chrysophyllum magalismontanum Sond. in Linnaea 23: 72 (1850).

Zeyherella magalismontana (Sond.) Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 105: 37 (1958).

Pouteria magalismontana (Sond.) A. Meeuse in Bothalia 7: 335 (1960).

Tisserantiodoxa oubanguiensis Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 104: 277 (1957); Fl. For. C. Iv., ed. 2, 3: 109, t. 304, fig. 8-15 (1959).

Chrysophyllum laurentii De Wild. Miss. E. Laurent 1: 429, t. 133 (1907); F.W.T.A., ed. 1, 2: 10.

C. farannense A. Chev. Bot. 286 (1920), name only.

An extremely variable tree or shrub, 16-20 ft. high, with long subcoriaceous leaves, crowded towards the end of the branches, the leaves shiny above, minutely rusty-greyish, pubescent beneath, with numerous flowers in dense fascicles; in our region typical of wet places, always near water, along streams, etc.

Guin.: Faranna Chev. 13395. Socourala Chev. 20498. **Lib.:** Duport (Nov.) Linder 1479! **Iv. C.:** Cavally R. Chandler!

Ghana: Amoma (Jan.) Vigne FH 3548! **S. Nig.:** Sapoba Symington FHI 5693! Kennedy 1962! 2048! 2313! Onochie FHI 23425! 34267! Stubbs Creek F.R., Calabar Onochie FHI 32913! Akpan, Calabar Dist. (July) Ujor FHI 31621! Bonny Kalbreyer 59!

Also in **Cameroun, Gabon, Ubangi-Shari, Congo, E. and S. Africa.**

- 2. Bequaertiodendron oblanceolatum (S. Moore) Heine & J. H. Hemsley** l.c. 309 (1960).

APD: Synonym of Englerophytum oblanceolatum (S. Moore) T. D. Penn.

Sideroxylon oblanceolatum S. Moore in J. Bot. 14: 47 (1907).

Chrysophyllum obovatum of Engl. Monogr. Afr. 8: 43 (1904), not of Sabine & G. Don (1824).

Pseudoboivinella oblanceolata (S. Moore) Aubrév. & Pellegr. in Notulae Syst. 16: 260 (1961).

Manilkara (as Manilhora) **dahomeyensis** of Chev. Bot. 394, not of Pierre ex Dubard (1915).

Chrysophyllum glomeruliferum Hutch. & Dalz. F.W.T.A., ed. 1, 2: 9 (1931); Aubrév. Fl. For. C. Iv., ed. 1, 3: 122, t. 288, fig. 5;

Hutch & Dalz. in Kew Bull. 1937: 58.

Boivinella glomerulifera (Hutch. & Dalz.) Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 105: 37 (1958); Aubrév. Fl. For. C. Iv., ed. 2, 3: 148, t. 304, fig. 1-7.

Neoboivinella glomerulifera (Hutch. & Dalz.) Aubrév. & Pellegr. l.c. 106: 23 (1959).

A tree up to 60 ft high, with pale leaves and small flowers clustered mostly below the leaves; [in deciduous forest](#).

S. L.: Mt. Gonkwi (Feb.) Sc. Elliot 4867! **Iv. C.:** Chev. 23789! Aubrév. 1256! Hiré Aubrév. 4133! **Ghana:** Atewa Range (Feb.) Vigne FH 4327! Ateiso F.R., E. Reg. (fr. Mar.) Irvine 2414! Akumadan (Oct.) Vigne FH 2566! Afram Headwaters F.R. (Apr.) Andoh 4736!

Also in [E. Africa](#).

20. DELPYDORA

Pierre in Bull. Soc. Linn. Paris 2: 1275 (1896); Engl. Monogr. Afr. 8: 49 (1904).

- 1 Branchlets hispid-pilose; leaves narrowly obovate, long and acutely acuminate, slightly unequal-sided at base, up to 30 cm. long and 9 cm. broad, pilose on the midrib beneath, lateral nerves 18-20 pairs; flowers in axillary fascicles; pedicels 3 mm. long, pilose; sepals about 6 mm. long, thinly strigose-pilose; petals about as long as sepals [gracilis](#)

Delpydora gracilis A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 263 (1917); Chev. Bot. 394; Hutch. & Dalz. in Kew Bull. 1937: 58. *APD acc*

A shrub or small tree.

Lib.: Dukwia R. (fr. Feb.) Cooper 175! 29-46! Suen (fr. Nov.) Baldwin 10481! Yratoke (fr. July) Baldwin 6275! Boporo Baldwin 10383! Gbawia (July) Baldwin 6715! **Iv. C.:** Toula to Nékaougnié Chev. 19583! Tou Chev. 19672! **Ghana:** Prestea Vigne FH 3083! Simpa (fr. May) Vigne FH 1973! Awiabo (fl. & fr. Nov.) Vigne FH 1474!

21. CHRYSOPHYLLUM

Linn.-F.T.A. 3: 498.

- 1 Leaves glabrous beneath, with very numerous, non-prominent, parallel lateral nerves; leaf-colour on drying becoming on both sides dark blackish-green or dark brownish-green (Sect. Donella (Pierre) Engl.): **2**
Leaves always with an indumentum beneath, but sometimes glabrescent; lateral nerves not very dense and numerous, always clearly prominent; leaves on drying seldom becoming dark-greenish colour on both sides (Sect. Gambeya (Pierre) Engl.): **4**
- 2 Trees: **3**
Climbing shrub; leaves like the preceding species, but broadly rounded at the base, shortly acuminate, 5-8 cm. long, 2.5-3.5 cm. broad; petiole up to 3 mm. long; flowers axillary; pedicels 2-3 mm. long; fruit about 4.5 cm. long and 3 cm. in diam., more or less beaked; seeds 2.5 cm. long, 1 cm. broad and 5-6 mm. diam. **3**.
[welwitschii](#)
- 3 Fruits up to 11 cm. long and 8.5 cm. diam.; leaves oblong, shortly cuneate or obtuse at base, abruptly and obtusely acuminate, 10-16 cm. long, 4-7 cm. broad; petioles 8-12 mm. long; flowers axillary, numerous; pedicels up to 4 mm. long, puberulous at first; calyx pubescent; fruits with a fleshy exocarp, well-marked 5-angled; seeds up to 5.5 cm. long, 3 cm. broad and up to 1.6 cm. diam. **1. pentagonocarpum**
Fruits up to 4.5 cm. long and 3 cm. diam.; leaves very similar to the preceding species, very shortly cuneate at base, abruptly and obtusely acuminate, 5-10 cm. long, 3-5 cm. broad; petiole up to 5 mm. long; flowers axillary, numerous; pedicels up to 5 mm. long, pubescent; fruit depressed-globose, 5-angled, with a fleshy exocarp; seeds up to 2.2 cm. long and 1.2 cm. broad **2. pruniiforme**
- 4 Leaves asymmetrical, irregularly rounded at base, rusty-tomentose or pilose beneath with rather long and conspicuous hairs **4. beguei**
Leaves symmetrical regular-cuneate at base: **5**
- 5 Fruits clearly beaked, 5-6 cm. long, 3-4 cm. diam.; leaves very sparsely and shortly rusty-pilose beneath, mainly along the nerves; oblong-elliptic, 14-18 cm. long, 4-6 cm. broad, with about 7-10 pairs of lateral nerves; petioles 6-8 mm. long, tomentose; flowers fascicled, axillary, sessile, 3-4 mm. long; calyx about 3 mm. long; sepals hirsute outside, inside glabrous; petals up to 3 mm. long, oblong-lanceolate; seeds 25-28 mm. long, 10-

- 13 mm. broad, black [5. azagueianum](#)
- Fruits not clearly beaked; leaves silky-tomentose beneath, but sometimes glabrescent: **6**
- 6** Leaves usually silvery-silky beneath, indumentum persistent or becoming glabrescent: **7**
- Leaves fulvous or golden beneath: **9**
- 7** Indumentum persistent, i.e. leaves still silvery beneath in adult state, elongate-obovate-elliptic, shortly acuminate, cuneate at base, 12-30 cm. long, 5-9 cm. broad, with 12-15 pairs of distant lateral nerves, finely appressed beneath; petiole 1-3 cm. long, hoary; flowers shortly pedicellate; calyx 3 mm. long, silky; fruit mostly depressed-globose, about 3 cm. diam [6. albidum](#)
- Indumentum not persistent, i.e. leaves at first silvery-silky beneath, becoming glabrescent in adult state: **8**
- 8** Leaves oblanceolate, apex rather elongated, obtusely acuminate, 8-16 cm. long, 2.5-5.5 cm. broad, shortly pubescent beneath, with 10-15 pairs of prominent lateral nerves; petiole 1-2 cm. long, pubescent; flowers subsessile; calyx-lobes broadly ovate, pubescent, 3-4 mm. long; corolla-lobes densely white-ciliate; fruit about 3 cm. diam., slightly 5-lobed [7. subnudum](#)
- Leaves elliptic-lanceolate, apex not elongated, sharply acuminate, 10-15 cm. long, 3-5.5 cm. broad, shortly silvery-pubescent beneath, with about 15 pairs of lateral nerves, petiole 1-1.5 cm. long, pubescent; flowers unknown; fruit 2-2.5 cm. diam., globose, not lobed [8. taiense](#)
- 9** Flowers in short racemes [9. giganteum](#)
- Flowers in fascicles: **10**
- 10** Leaves small, usually below 10 cm. long, and 4-5 cm. broad, broadly elliptic-obovate, mucronate-acuminate, with 12-14 pairs of lateral nerves, rusty-silky beneath; petiole 1 cm. long; flowers sessile, very small; calyx appressed-tomentose [10. prunifolium](#)
- Leaves large, usually well over 10 cm. long, lateral nerves about 15 pairs or more: **11**
- 11** Lateral nerves 15-20 pairs; leaves oblong-elliptic, obtuse or shortly pointed, 15-22 cm. long, 6-8 cm. broad, dark brown-reddish, rusty-tomentose beneath but hairs not appressed; petiole 2-3 cm. long, tomentellous; flowers clustered, sessile; calyx rusty-tomentose; fruits sessile, globose, 2-5 cm. diam., rusty-tomentose [11. perpulchrum](#)
- Lateral nerves 20-30 pairs; leaves elongate-obovate-elliptic, acuminate, 15-30 cm. long; indumentum always clearly appressed, tawny to rusty-brown: **12**
- 12** Mature crown leaves 7-15 cm. long, averaging about 12 cm., up to 3 cm. broad, primary lateral nerves 10-17 with loose reticulum of veins; fruits up to 3 cm. diam., usually with persistent ferruginous indumentum ... [12. gorungosanum](#)
- Mature crown leaves 13-25 cm. long, averaging about 20 cm., primary lateral nerves 15-30, with rather close reticulum of veins; fruits large, up to 6 cm. diam. [13. delevoyi](#)

1. *Chrysophyllum pentagonocarpum* Engl. & K. Krause in Engl. Bot. Jahrb. 49: 387, fig. 2 (1913).

APD: Synonym of Chrysophyllum ubangiense (De Wild.) D. J. Harris

Chrysophyllum letestuanum A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 269 (1917); Aubrév. Fl. For. C. Iv., ed. 1, 3: 122, t. 288, fig. 6-9; ed. 2, 3: 146, t. 303, fig. 6-11; Chev. in Rev. Bot. Appliq. 23: 137 (1943).

Donella letestuana (A. Chev.) A. Chev. ex Pellegr. in Mém. Soc. Linn. Normandie, n. sér. 1: 15 (1928).

Chrysophyllum belemba De Wild. Pl. Bequaert. 4: 122 (1926).

Chrysophyllum claessensii De Wild. l.c. 125 (1926).

A large tree, with small fascicled flowers and globose lemon- or orange-like, yellow fruits with 5 seeds; **in dense rain forest.**

Iv. C.: Man Aubrév. 1165. Oumé Aubrév. 4170. **Ghana:** Kwahu Prasu (Feb.) Vigne FH 1595! **S. Nig.:** Ukon F.R., Ogoja (fr. May) Jones & Onochie FHI 18886!

Also in **Cameroun**, **Gabon** and **Congo**.

2. *Chrysophyllum pruniforme* Pierre ex Engl. Monogr. Afr. 8: 42 (1904); Aubrév. Fl. For. C. Iv., ed. 1, 3: 122; ed. 2, 3: 146, t. 303, fig. 2-4; Chev. in Rev. Bot. Appliq. 23: 138 (1943). *APD acc*

Chrysophyllum dubardii Pierre in Agr. prat. pays chauds, Bull. Jard. col. 5e année, n. 28: 88 (1905).

Chrysophyllum gracile A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 268 (1917); Chev. Bot. 386.

Chrysophyllum mortehanii De Wild. Pl. Bequaert. 4: 137 (1926).

A tree up to about 100 ft. high, with small flowers in axillary clusters, like the preceding species, but with much smaller fruits.

S. L.: Deighton 3919! Unwin & Smythe 30! Mt. Aureol, Freetown (June, Dec.) Deighton 2718! Dalz. 958! Moselelo (fr. Nov.) Deighton 2388! Falaba Aylmer 34! Gola Forest (May, fr. June) Small 654! 734! Deighton 5213! Kambui F.R. (fr. June) Jordan 2121! **iv. C.:** Dabou Jolly! **Ghana:** Axim (Feb.) Vigne FH 2830! Irvine 2152! **Dah.:** Bokoutou F.R. Chev. 22863! **S. Nig.:** Eba (Jan.) Thornehill 248! Forcados (July) Unwin 59! Benin Kennedy 1703! Omo F.R. Jones & Onochie FHI 17355! Stubbs Creek F.R., Eket Amachi FHI 24308!

Also in **Gabon** and **Congo**.

3. **Chrysophyllum welwitschii** *Engl. Bot. Jahrb.* 12: 521 (1890); *Sc. Elliot in J. Linn. Soc.* 30: 84; *Engl. Monogr. Afr.* 8: 41, t. 13, fig. A. **APD acc**

Micropholis angolensis *Pierre* Not. bot. Sapot. 41 (1891).

Donella welwitschii *Pierre ex Engl. Monogr. Afr.* 8: 41 (1904), in syn.

Chrysophyllum klainei *Pierre ex Engl. l.c.* 42 (1904).

Chrysophyllum ellipticum *A. Chev. Bot.* 386 (1920), name only.

Chrysophyllum ealaense *De Wild. Pl. Bequaert.* 4: 128 (1926).

A climbing shrub, with small greenish flowers in axillary clusters.

S. L.: Njala (fl. June, fr. Nov.) Deighton 1956! 3102! Bwedu to Kangama (Apr.) Deighton 3192! Bendu (Apr.) Deighton 1598! Kumrabai Smythe 202! Bumban to Loko (Apr.) *Sc. Elliot* 5673! Rokupr (May) Jordan 254! **Lib.:** Ganta (May) Harley 1158! Jabroke (fr. July) Baldwin 6627! Robertsfield (fr. July) Baldwin 6650a! Mano, Grand Cape Mount Co. (fr. Dec.) Baldwin 10812! Brewerville (fr. Dec.) Baldwin 10970! **iv. C.:** Tingouéla to Assikasso Chev. 22576! Sassandra (Dec.) Leeuwenberg 2252! Adiopodoumé (Dec.) Leeuwenberg 2267! **Ghana:** Akropong, Akwapim (fr. Jan.) Adams 4726! Elmina (Apr.) Hall 1340! **S. Nig.:** Ibadan Keay, Richards & Jones FHI 22460! Abeokuta to Ibadan (Jan.) Keay FHI 22465! Mamu River F.R., Onitsha (Aug.) Olorunfemi FHI 34183! Cross River North F.R. (June) Latilo FHI 31839!

Also in **Gabon**, **Congo** and in **Angola**.

4. **Chrysophyllum beguei** *Aubrév. & Pellegr. in Bull. Soc. Bot. Fr.* 81: 795 (1935); *Fl. For. C. Iv., ed. 1,* 3: 118, t. 288, fig. 1; *ed. 2, 3: 142, t. 303, fig. 1-2. APD acc*

A shrub or tree, with rusty tomentose branches and glabrous globose fruits, up to 1 1/2 ins. across.

iv. C.: Yapo Aubrév. 1808. 2270. **Ghana:** Adeambra Vigne FH 857! Bobiri F.R. Keay & Aubrév. FHI 37586! Tabeso to Antobea (Apr.) Enti FH 6714!

Also in **Congo** and **N. Rhodesia**.

5. **Chrysophyllum azaguieanum** *Miège in Bull. Soc. Bot. Fr.* 103:145 (1956); *Aubrév. Fl. For. C. Iv., ed. 2, 3: 145. APD acc*

A small tree, 40-50 ft. high, with sessile, fascicled small white flowers; **in rain forest**.

iv. C.: Azaguié (fl. & fr. July, Aug.) Hb. I.D.E.R.T. 1896! **Ghana:** Axim to Sekondi (Mar.) Morton A391! Simpa (Feb.) Vigne FH 2805! Bomassu (May) Vigne FH 2012! Ankassa (Aug.) Chipp 329!

6. **Chrysophyllum albidum** *G. Don Gen. Syst.* 4: 32 (1837); *F.T.A.* 3: 500 (1877); *Engl. Monogr. Afr.* 8: 45 (1904); *Chev. Bot.* 386; *Aubrév. Fl. For. C. Iv., ed. 2, 3: 144. APD acc*

Sapota mammosa *Gaertn. De Fruct.* 2: 104, t. 104, figs. h, i (1791), nom. ambig.

Gambeya mammosa (*Gaertn.*) *Pierre* Not. bot. Sapot. 63 (1891).

Achras sericea *Schumacher. Beskr. Guin. Pl.* 179 (1827).

Chrysophyllum millenianum *Engl. Monogr. Afr.* 8: 44 (1904).

Chrysophyllum kayi *S. Moore in J. Bot.* 47: 412 (1909).

Chrysophyllum obovatum of Chev. in *Vég. ut. Afr. trop. fr.* 5: 237 (1909), not of Sabine.

A tall tree, with the branchlets and leaves beneath whitish fine-tomentose, and small flowers amongst or below the upper leaves.

S. L.: Dambaye King 71! Dodo Hills F.R. Sawyerr FHK 13588! **Ghana:** Thonning (photo)! Abofaw Vigne FH 1180! Aburi Gardens Dalz. 8264! Akwapim Irvine 1529! Sewerako-Dede F.R. Osafo FH 6586! **N. Nig.:** Ita, Benue Prov. Thomas 1939! **S. Nig.:** Lagos Foster 107! Moloney! Sapoba Kennedy 2173! Olokemeji F.R. Ross 85! Nawfia, Awka Jones FHI 6632! Degema Dist. Talbot 3676! Etomi, Ikom (June) Latilo FHI 31857! **[Br.] Cam.:** Gangumi, Adamawa Latilo & Daramola FHI 28851!

Widespread in tropical Africa

Described under many names, of which only those described from or used for plants within our area are mentioned above.

7. **Chrysophyllum subnudum** *Bak.* in F.T.A. 3: 499 (1877); Engl. Monogr. Afr. 8: 45, t. 15, fig. E (1904); Aubrév. Fl. For. C. Iv., ed. 1, 3: 120, t. 287, fig. 4-8; ed. 2, 3: 144, t. 302, fig. 4-8. *APD acc*

Gambeya subnuda (*Bak.*) *Pierre* Not. bot. Sapot. 63 (1891).

Chrysophyllum renieri *De Wild.* in Fedde Rep. 13: 376 (1914).

Chrysophyllum brieyi *De Wild.* in Rev. Zool. Afr. 7, Suppl. Bot. 28 (1919).

Chrysophyllum metallicum *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 9 (1931); Kew Bull. 1937: 56.

A tree up to 30 ft. high, the leaves at first silvery-silky beneath, becoming glabrous; flowers whitish, in small axillary clusters.

S. L.: Kambui via Hangha (June) King 106! Solanyé Valley, Kambui (Mar.) King 167! **Lib.:** Dukwia R. Cooper 282! Ganta (Aug.) Harley 633! **Iv. C.:** Abidjan (Oct.) Aubrév. 126! Brafouédi (fr. Dec.) de Wit 504! **Ghana:** Banka (Sept.) Vigne FH 1364! Simpa (May) Vigne FH 1956! Sefwi Bekwai (fr. Oct.) Akpabla 894! Axim Irvine 2377! **S. Nig.:** Calabar (Mar.) Brenan & Jones 9255! Dukwe Latilo FHI 40348! Ogoja Jones & Onochie FHI 17397! 18792! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba Div. Ejiofor FHI 29324!

Also in **Cameroun**, **Gabon**, **Rio Muni** and **Congo**.

8. **Chrysophyllum taiense** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 104: 279 (1957); Aubrév. Fl. For. C. Iv., ed. 2, 3: 144, t. 303, fig. 10, 11. *APD acc*

A medium sized tree, very similar to No. 7 and perhaps only a local race of it.

Iv. C.: Taï Aubrév. 4090bis.

(According to Aubréville widespread in the forests of Taï, Upper Niouniourou, Soubré, etc.)

9. **Chrysophyllum giganteum** *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 267 (1917); Bot. 386; Aubrév. Fl. For. C. Iv., ed. 1, 3: 120, t. 287, fig. 103; ed. 2, 3: 142, t. 302, fig. 1-3; Hutch. & Dalz. in Kew Bull. 1937: 57. *APD acc*

Tree up to 70 ft. high, sharply buttressed, bark with long narrow fissures, slash pink; fruit dull orange.

S. L.: Crichton 128! **Iv. C.:** Akabélé, Krou (fr. Dec.) Chev. 22512! **Ghana:** Nfaense (Feb.) Chipp 115! Benchema (Apr.) Foggie FH 4457! Juaso to Ogbogu Road (Feb.) Akpabla 277! Antubia, W.P. (Apr.) Cansdale 3977! **S. Nig.:** Shasha F.R., Ife Dist. (Mar.) Cooper FHI 43823!

10. **Chrysophyllum prunifolium** *Bak.* in F.T.A. 3: 499 (1877). *APD acc*

A tree 30-60 ft. high, rusty-silky on the branchlets and under the surface of the leaves.

S. Nig.: Kennedy (fide Dalz. Appendix, no specimen seen). **F. Po:** (Mar.) Mann 2344!

11. **Chrysophyllum perpulchrum** *Mildbr. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 10 (1931), and in Kew Bull. 1937: 57; Aubrév. Fl. For. C. Iv., ed. 1, 3: 118, t. 286, fig. 6-8; ed. 2, 3: 140, t. 301, fig. 6-8. *APD acc*

Chrysophyllum africanum var. **orientale** *Engl.* Bot. Jahrb. 48: 390 (1913).

Chrysophyllum africanum var. **multinervatum** *De Wild.* Pl. Bequaert. 4: 121 (1926).

A tree up to 100 ft. high, with subcoriaceous leaves red-brown velvety beneath.

Lib.: Ganta (fr. Feb., Mar.) Baldwin 10996! Harley 326! 807! 1391! **Iv. C.:** Oroumba-Boca de Wilde 612! Sassandra (fl. & fr. Mar.) Leeuwenberg 3115! **Ghana:** S. Scarp F.R. Beveridge FH 3280! Ntakem, Sepuri (Mar.) Vigne FH 1185! Kumasi (Mar.) Andoh FH 5632! Awoso, near Dunkwai (fr. Oct.) Akpabla 884! L. Bosumtwe (fr. Dec.) Vigne FH 1503! Agogo (fr. May) Chipp 444! **S. Nig.:** Osanko Sankey! Ekpuro (fr. Mar.) Thompson 8! Benin Hitchens! Oria, Benin Umana FHI 29125! Aponmu, Ondo Prov. (fr. July) Olorunfemi FHI 34157!

Also in **Congo** and **E. Africa**.

12. **Chrysophyllum gorungosanum** *Engl.* Monogr. Afr. 8: 44 (1904); Brenan in Mem. N.Y. Bot. Gard. 8: 498 (1954); Meeuse in Bothalia 7: 329 (1960). *APD acc*

Chrysophyllum fulvum *S. Moore* in J. Linn. Soc. 40: 131 (1911).

A tree, sometimes reaching 120 ft. high, but usually much smaller.

[Br.] Cam.: Buea, 3,000 ft. (Mar.) Maitland 462! Mimbria to Lyonga, 4,500 ft. (Apr.) Brenan!

Also in [Angola](#), [Mozambique](#) and [E. Africa](#); a typical highland species.

13. *Chrysophyllum delevoiyi* De Wild. Pl. Bequaert. 4: 126 (1926).

APD: *Synonym of Chrysophyllum gorungosanum Engl.*

APD: *Synonym of Chrysophyllum africanum A. DC.*

Chrysophyllum macrophyllum Sabine & G. Don in Trans. Hort. Soc. Lond. 5: 458 (1824); not of Lam. (1797) nor Gaertn. f. (1805).

Chrysophyllum africanum A. DC. in DC. Prod. 8: 163 (1844), invalid name; F.T.A. 3: 500; Engl. Monogr. Afr. 8: 43, t. 15A; Chev. in Vég. ut. Afr. trop. fr. 5: 236 (1909); l.c. 9: 246 (1917); Bot. 385; Rev. Bot. Appliq. 23: 137; F.W.T.A., ed. 1, 2: 10; Aubrév. Fl. For. C. Iv. 3: 116, incl. var. aubrevillei (Pellegr.) Aubrév. (1936); l.c., ed. 2, 3: 140, t. 301, fig. 1-5.

Gambeya africana (A. DC. [as "G. Don"]) Pierre Not. bot. Sapot. 63 (1891).

G. africana var. *aubrevillei* Pellegr. in Bull. Soc. Bot. Fr. 78: 682 (1932).

Chrysophyllum edule Hoyle in Kew Bull. 1932: 269.

Chrysophyllum omumu Kennedy For. Fl. S. Nig. 194 (1936), name only.

A medium-sized or large tree, the rather large leaves covered beneath with a very close light brown or chestnut-coloured tomentum.

S. L.: Kambui F.R. King 145! 255! Kambui Hills Small 855! Kenema (May) Small 77! King 16! Kasewe F.R. King 116! Dambaye to Gengelu (May) King 90! Belebu King 132! **Lib.:** Bili (fr. Mar.) Harley 1783! **Iv. C.:** Agboville (fr. Nov.) Chev. 22344! **Ghana:** Boundary Post, Tano R. Chipp 339! Essuasu, Bonsa R. (fr. Aug.) Vigne FH 165! 917! Bonsasu Vigne FH 1991! **S. Nig.:** Sapoba Kennedy 1613! Sunmoga, Ijebu Jones & Onochie FHI 17420! **[Br.] Cam.:** Victoria Maitland 416! 1146! Mimbria, 4,500 ft. (Apr.) Brenan! **F. Po:** Mann 1154! T. Vogel 116!

Widespread in tropical Africa.

Chrysophyllum cainito Linn.

Star Apple

A native of C. America, is often cultivated in our area as an ornamental tree.

Chrysophyllum akuase A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 267 (1917), and Chev. Bot. 385 as "akuasi," excl. Chev. 22669; Aubrév. Fl. For. C. Iv., ed. 1, 3: 124; ed. 2, 3: 146 (as "C.sp."); Chev. in Rev. Bot. Appliq. 23: 139, fig. 1 (1943) (as "akuasi"). Perhaps conspecific with No. 1.

Iv. C.: Yakassé to Adzopé Chev. 22663. Aubrév. 647. No material seen.

[Note: F.W.T.A., ed. 1, 2: 10 states that this is *Uvaria anonoides* Bak. f.; but this is only true in respect of Chev. 22669, vide Chev. l.c. 141 (1943).]

22. PACHYSTELA

Baill. ex Engl. Monogr. Afr. 8: 35 (1904); Baill. in Bull. Soc. Linn. Paris 2: 946 (1891), provisional name.

- 1 Leaves 15-35 cm. long, 6-16 cm. broad, very thick-coriaceous, on drying upperside mostly light olive-green, rusty-brown beneath, narrowed to a broadish slightly cordate base, abruptly acuminate, elongate-obovate, covered at first with a thin felt of hairs beneath, becoming glabrous, with about 16 pairs of prominent lateral nerves; stipules subulate-filiform, up to 2 cm. long; flowers pedicellate [1. msolo](#)
Leaves up to 22 cm. long and 7 cm. broad, thick-coriaceous, on drying becoming greyish, glabrous beneath, narrowly cuneate below the middle and acute or slightly cordate at base, with about 10 pairs of lateral nerves; stipules subulate, up to 1.5 cm. long; flowers subsessile: **2**
- 2 Leaves acute at base, narrowly acuminate at apex, lanceolate; petiole 5-7 mm. long [2. brevipes](#)
Leaves slightly cordate or rounded at base, shortly acuminate at apex, obovate; petiole 3-4 mm. long [3. pobeguiniiana](#)

1. *Pachystela msolo* (Engl.) Engl. Monogr. Afr. 8: 38 (1904); Baehni in Candollea 9: 428 (1942).

APD: Synonym of Synsepalum msolo (Engl.) T. D. Penn.

Chrysophyllum msolo Engl. Pflanzenw. Ost-Afr. C: 306, t. 37 (1895).

Pachystela robusta Engl. Bot. Jahrb. 49: 386 (1913); Baehni l.c. 428.

Pachystela argentea A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 264 (1917); Bot. 391; Rev. Bot. Appliq. 23: 289 (1943); F.W.T.A., ed. 1, 2: 10; Hutch. & Dalz. in Kew Bull. 1937: 58; Baehni l.c. 427.

Pachystela bequaertii De Wild. Pl. Bequaert. 4: 106 (1926); Baehni l.c. 427.

Pouteria msolo (Engl.) Meeuse in Bothalia 7: 341 (1960).

Pachystela zenkeri Meeuse l.c. (1960).

A tall tree, up to 150 ft. high; flowers in the axils of fallen leaves, but sometimes also occurring on the stem.

Ghana: Kibi (Feb.) Vigne FH 4323! Jumpapu (Sept.) Vigne FH 4251! **Dah.:** Bokoutou F.R. Chev. 22865! **[Br.] Cam.:** Bamuko F.R., Kumba Dist. Keay FHI 37452! Mamfe Lobe Babute Cam. 7/37! Bali-Ngemba F.R. (fr. May) Ujor FHI 30348!

Also in **Cameroun**, **Congo** and in **tropical E. Africa**.

2. *Pachystela brevipes* (Bak.) Baill. ex Engl. Monogr. Afr. 8: 37 (1904); Baill. l.c. 947 (1891), provvis. name; F.W.T.A., ed. 1, 2: 10, partly; Aubrév. Fl. For. C. Iv. 3: 124; Fl. For. Soud.-Guin. 425, 427; Chev. in Rev. Bot. Appliq. 23: 286 (1943).

APD: Synonym of Synsepalum brevipes (Baker) T. D. Penn.

Sideroxylon brevipes Bak. in F.T.A. 3: 502 (1877).

Sersalisia brevipes (Bak.) Baill. l.c. (1891).

Bakeriella brevipes (Bak.) Dubard in Ann. Mus. col. Marseille 20: 27 (1912).

Pouteria brevipes (Bak.) Baehni in Candollea 9: 290 (1942) (excl. syn. *Pachystela pobeguianiana* Pierre); Meeuse in Bothalia 7: 333 (1960).

Sideroxylon longistylum Bak. in F.T.A. 3: 502 (1877).

Vincentella longistyla Pierre Not. bot. Sapot. 37 (1891).

Pachystela longistyla Radlk. in Ann. Mus. Congo, Bot., sér. 2, 1: 33 (1899); Engl. Monogr. Afr. 8: 38.

Bakeriella longistyla Dubard in Ann. Mus. col. Marseille 20: 27 (1912).

Chrysophyllum cinereum Engl. Bot. Jahrb. 12: 522 (1890).

Pachystela cinerea (Engl.) Pierre ex Engl. Monogr. Afr. 8: 36 (1904), incl. var. *undulata* Engl., var. *cuneata* Engl., var. *ogowensis* Engl., var. *batangensis* Engl. (1904).

Bakeriella cinerea Dubard l.c. (1912).

Sideroxylon saclexii Baill. l.c. 911, 946 (1891).

Pachystela saclexii Pierre ex Baill. l.c. (1891).

Pachystela conferta Radlk. l.c. (1899).

Pachystela lenticellosa Radlk. l.c. (1899).

Pachystela cuneata Radlk. l.c. (1899).

Pachystela liberica Engl. Bot. Jahrb. 49: 385 (1913).

Pachystela macrocarpa A. Chev. in Rev. Bot. Appliq. 23: 288 (1943).

A fair-sized tree, up to 45 ft. high, with small whitish flowers in dense clusters along the older branches in the axils of fallen leaves.

Port. G.: Empada (Oct.) Esp. Santo 2194! **Guin.:** Heudelot 731! Kouria (Sept.) Chev. 14904! Tagania to Mangeta (fr. Jan.) Chev. 20418! Dubreka (Apr.) Bonery! Nzérékoré (Sept.) Jac.-Fél. 1122! **S. L.:** Kambia (fr. Dec.) Sc. Elliot 4365! Bumbuna (Oct.) Thomas 3840! Wallia (Jan.) Sc. Elliot 4459b! Musaia (Mar.) Sc. Elliot 5132! Gola (fr. Mar.) Unwin & Smythe 65! Njala (fr. Nov.) Deighton 2559! 2601! **Lib.:** Peahtah (fl. & fr. Oct.) Linder 908! 935! Gbanga (Sept.) Linder 644! Baldwin 10522! Nekabozu (Oct.) Baldwin 9966! **Iv. C.:** Dabou Chev. 16200! Oumé (fr. Mar.) Aubrév. 4171! Divo de Wilde 462! Adiopodoumé de Wilde 193! Tiassalé (fr. Dec.) Leeuwenberg 2149! **Ghana:** Agua (Aug.) Vigne FH 1302! Sa (Aug.) Vigne FH 979! Mpraeso, Afram R. Enti FH 6524! Ancobra R. (fl. & fr. Mar.) Irvine 2382! Nkroful (fl. & fr. Nov.) Vigne FH 1406! **N. Nig.:** Birnin Gwari (Nov.) Thornevill 153! **S. Nig.:** Lagos Millen 215! Ikoyi Plains (July) Dalz. 1273! Mamu F.R., Ibadan Jones FHI 4953! Awba Hills F.R., Ibadan Jones FHI 7323! Olokemeji Symington FHI 5084! Foster 108! Ohumbe F.R., Abeokuta Onochie FHI 26658! **[Br.] Cam.:** Mamfe Roche FHI 24739! Gangumi, Adamawa Latilo & Daramola FHI 28813! Mai Idoanu (fr. Feb.) Latilo & Daramola FHI 34464! Vogel Peak, Adamawa (Nov., Dec.) Hepper 1471! 2777!

Widespread in tropical Africa.

3. *Pachystela pobeguianiana* Pierre ex Lecomte in Bull. Mus. Hist. Nat. 25: 191 (1919)4; Chev. Bot. 301; Chev. in Rev. Bot. Appliq. 23: 288 (1943); Aubrév. Fl. For. Soud.-Guin. 427; Fl. For. C. Iv., ed. 2, 3: 150.

APD: Synonym of Synsepalum pobeguianum (Pierre ex Lecomte) Aké Assi & L. Gaut.

APD: Synonym of Synsepalum pobeguianum (Pierre ex Lecomte) Aké Assi & L. Gaut.

Bakeriella pobeguiana Dubard in Notulae Syst. 2: 91 (1911).

Pachystela albida A. Chev. Bot. 391 (1920), name only.

A tree up to 45 ft. high, leaves with whitish tomentum when young, but never silvery-silky and shining, nerves very prominent and distinct beneath, ascending at an angle of about 45°; flowers like those of *P. brevipes*.

Sen.: Niokolo-Koba Berhaut 1490. **Mali:** Bamako (May) Hagerup 53! Bougmoumi to Sasso Aubrév. 30581. Kolouba Vuillet 648! Koulikoro Vuillet 159! Birgo Dubois 17. **Guin.:** Kouroussa Pobéguin 193; 890. Ditinn Chev. 13531. Kouroussa to Kankan Aubrév. 3059! Farannah (fr. May) Chev. 13176! Kadé (Apr.) Pobéguin 2070! **Iv. C.:** Dinderesso Serv. For. 1952!

23. AFROSERSALISIA

A. Chev. in Rev. Bot. Appliq. 23: 292 (1943). APD acc

- 1 Branchlets brownish-tomentose; leaves oblanceolate to narrowly oblong-oblanceolate, shortly and obtusely pointed, narrowed from well above the middle of the base and there obtuse, 10-16 cm. long, 3-6 cm. broad, villous only on the midrib beneath; lateral nerves 12-15 pairs, slightly prominent on both sides; petiole 1 cm. long, stout, tomentose; flowers clustered, axillary, subsessile; pedicels up to 2 mm. long; sepals villous, united only at base; fruits glabrescent, ellipsoid olive-like, about 1.8 cm. long and 1 cm. thick, tipped by the short persistent slender style [1. afzelii](#)

Branchlets glabrescent, with few appressed hairs; leaves small, oblanceolate, laurel-like in shape, narrowly and obtusely acuminate, not pointed, narrowed from the middle to the base and there cuneate-acuminate, 8-16 cm. long, 2.5-5 cm. broad, glabrous; lateral nerves 8-12 pairs, canaliculate above, prominent beneath; petiole 5-8 mm. long, stout, glabrous; flowers densely clustered, axillary, pedicellate; pedicels 2-4 mm. long; sepals pubescent, united beyond the middle; fruit puberulous, ellipsoid to long cylindric-ellipsoid, 2-3(-4) cm. long, up to 2 cm. thick, tipped by the short persistent slender style [2. cerasifera](#)

1. **Afrosersalisia afzelii** (Engl.) A. Chev. l.c. 293 (1943), partly (excl. Chev. 12218 [as "16218"], 12605bis, 12829bis, 20587, 23932, 24189); Aubrév. Fl. For. C. Iv., ed. 2, 3: 150, t. 304, fig. 1-6; Fl. For. Soud.-Guin. 427; Bull. Soc. Bot. Fr. 104: 280 (1957).

APD: Synonym of Synsepalum afzelii (Engl.) T. D. Penn.

Sersalisia afzelii Engl. Monogr. Afr. 8: 30, t. 10, fig. B (1904); F.W.T.A., ed. 1, 2: 11, partly.

Mimusops micrantha A. Chev. in Vég. ut. Afr. trop. fr. 5: 244 (1909), nom. subnudum; Bot. 393.

Pachystela micrantha (A. Chev.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 11; Kew Bull. 1937: 58.

Sersalisia micrantha (A. Chev.) Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81: 798 (1935); Aubrév. Fl. For. C. Iv., ed. 1, 3: 126.

Pouteria afzelii (Engl.) Baehni in Candollea 9: 320 (1942), partly (excl. syn. *Sersalisia microphylla* A. Chev., Chev. 12682).

Pouteria akuedo Baehni l.c. 384 (1942).

Vincentella micrantha A. Chev. in Rev. Bot. Appliq. 23: 284 (1943).

Afrosersalisia micrantha A. Chev. l.c. 293 (1943).

A shrub or tree, up to 20 ft. high, with white flowers and red fruits.

S. L.: Njala Deighton 696! 2617! Lane-Poole 458! Taiama Deighton 3098! Kenema (June) Jordan 2130! **Lib.:** Totokwelli, Medina Linder 1294! Karmadhun, Kolahun Dist. Baldwin 10190! Butaw (Mar.) Baldwin 11488! Zine (fr. Nov.) Baldwin 10258! **Iv. C.:** Abidjan Aubrév. 55! Aboisso Chev. 16307! Abouabou (fr. Apr.) Leeuwenberg 2661! 3325! **Ghana:** Abofaw Vigne FH 1179! **S. Nig.:** Owerri Olorunfemi FHI 34204! Sapoba (May) Kennedy 334! 1671! Calabar (Mar.) Brennan 9225! **[Br.] Cam.:** Kembong F.R., Mamfe Dist. Onochie FHI 31180!

Also in **Cameroun** and **Gabon**.

2. **Afrosersalisia cerasifera** (Welw.) Aubrév. in Bull. Soc. Bot. Fr. 104: 281 (1957) .5

APD: Synonym of Synsepalum cerasiferum (Welw.) T. D. Penn.

Sapota cerasifera Welw. Apont. 585, No. 17(1859).

Chrysophyllum cerasiferum (Welw.) Hiern Cat. Welw. 3: 643 (1898).

Sersalisia cerasifera (Welw.) Engl. Monogr. Afr. 8: 30 (1904).

- Chrysophyllum disaco* Hiern l.c. 3: 642 (1898).
Sersalisia disaco (Hiern) Engl. l.c. 30 (1904).
Afrosersalisia disaco (Hiern) Aubrév. l.c. (1957).
Sersalisia edulis S. Moore in J. Bot. 44: 86 (1906).
S. chevalieri Engl. Bot. Jahrb. 49: 385 (1913).
Pouteria chevalieri (Engl.) Baehni in Candollea 9: 320 (1942).
Rogeonella chevalieri (Engl.) Chesnais in Rev. Bot. Appliq. 23: 294 (1943).
Afrosersalisia chevalieri (Engl.) Aubrév. l.c. (1957); Fl. For. C. Iv., ed. 2, 3: 152, t. 306.
Bakerisideroxylon djalonsense Chev. Bot. 390, name only.
Sersalisia djalonsensis Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 81 798 (1935); Aubrév. Fl. For. C. Iv., ed. 1, 3: 127; Fl. For. Soud.-Guin. 427.
Pachystela brevipes of Hutch. & Dalz. F.W.T.A., ed. 1, 2: 10, partly, not of Baill.
Pouteria cerasifera (Welw.) Meeuse in Bothalia 7: 341 (1960).
P. disaco (Hiern) Meeuse l.c. (1960).

A large tree, up to 90 ft. high, with very hard wood; white flowers and red fruits, like the last, but larger.

Guin.: Dalaba to Souguéta Chev. 20168. Téliko Plateau Maclaud! Labé, Fouta Djalon Chev. 12309! 12321; 12356! **S. L.:** Loma Mts. (Jan.) Jaeger 4128! **Iv. C.:** Chev. 34194. [**Br.**] **Cam.:** Binkas, Wum Dist. (fr. June) Ujor FHI 29266!

Also in **Ubangi-Shari** and in **Angola**.

MYRSINACEAE

Trees, shrubs or rarely subherbaceous. Leaves alternate, rarely subopposite, simple, punctate or with schizogenous lines. Flowers small, usually hermaphrodite, in clusters, racemes or panicles. Sepals free or connate, often gland-dotted, valvate, imbricate or contorted, persistent. Corolla gamopetalous or rarely petals free; lobes contorted, imbricate or valvate. Stamens the same number as and opposite the petals, the filaments more or less adnate to the corolla; anthers introrse, opening by slits or apical pores. Ovary superior to half-inferior, 1-celled; style simple; ovules numerous, on a free central placenta. Fruit a berry or drupe, rarely irregularly dehiscent. Seeds with smooth or rarely ruminate endosperm, with the embryo sometimes placed transversely.

Mainly in the tropics.

The woody habit and the stamens the same number as and opposite to the petals are characteristic; leaves usually gland-dotted.

- | | | |
|---|---|----------------------|
| 1 | Calyx free from the ovary: | 2 |
| | Calyx-tube adnate to the ovary; petals united into a short tube | 4. <i>Maesa</i> |
| 2 | Flowers in axillary fascicles or below the leaves; petals united at the base into a short tube: | 3 |
| | Flowers racemose; petals free | 3. <i>Embelia</i> |
| 3 | Trees | 1. <i>Rapanea</i> |
| | Herbs or small shrubs | 2. <i>Afrardisia</i> |

Ardisia humilis Vahl

Afrosersalisia solanacea Roxb.

A native species of India, is reported from Victoria, [Br.] Cameroons.

1. RAPANEA

Aubl. Hist. Pl. Guian. Fr. 1: 121, t. 46 (1775); Mez in Engl. Pflanzenr. 4, 236, Myrsinac.: 342 (1902).

Myrsine of F.T.A. 3: 493, not of Linn.

- 1 Leaves obovate-oblongate, obtuse at apex, gradually cuneate at the base, 8-12 cm. long, 3-4.5 cm. broad, glabrous, with numerous conspicuous lateral nerves; flowers in axillary clusters or below the leaves; calyx 2 mm. long, lobes small and rounded, minutely ciliate; corolla-tube very short, lobes oblong, 3 mm. long, with black longitudinal markings; fruits globose, up to 5 mm. diam., tipped by the short persistent style, longitudinally striate; veins conspicuous when dry *neurophylla*

Rapanea neurophylla (Gilg) Mez l.c. 374 (1902)

APD: Synonym of Rapanea melanophloeos (L.) Mez

Myrsine neurophylla Gilg in Engl. Bot. Jahrb. 19, Beibl. 47: 45 (1894).

M. melanophlaeos of F.T.A. 3: 494 (excl. distrib.), not of R. Br.

A tree or tall shrub 15-50 ft. high with pinkish petioles and leaf-veins inconspicuous when fresh; flowers white; fruits bright bluish-purple; **in moist upland forest.**

[Br.] Cam.: Cam. Mt., 4,000-7,600 ft. (fl. Dec., fr. Jan.-Mar.) Mann 1200! 2175! Maitland 995! 1352! Brenan 9368! Bafut-Ngemba F.R., 7,000 ft. (fl. Apr., fr. Feb.) Ejiofor FHI 29384! Hepper 2854! Bamenda (young fr. June) Lightbody FHI 26346! **F. Po:** summit of S. Isabel Peak (fr. Mar.) Guinea 2702!

Also in **Uganda**.

2. AFRARDISIA

Mez in Engl. Pflanzenr. 4, 236, Myrsinac.: 183 (1902); de Wit in Blumea, Suppl. 4: 243 (1958).

APD: Synonym of Ardisia Sw.

- 1 Leaf-margin distinctly and irregularly serrate, entire towards base, 10-15(-18) cm. long, 4-5(-8) cm. broad; petioles up to 1 cm. long; pedicels 6-14 mm. long [3. cymosa](#)
 Leaf-margin entire or shallowly denticulate or crenulate; **2**
- 2 Lamina at least 3 times as long as broad: **3**
 Lamina 11/2-21/2 times as long as broad: **5**
- 3 Leaves elliptic or oblong-elliptic, 15-20(-26) cm. long, 5-8(-12) cm. broad; petioles 10-17 mm. long: **4**
 Leaves lanceolate, long-cuneate at each end, (8-)10-14(-23) cm. long, 2-3(-5) cm. broad; petioles slender, 8-13 mm. long; inflorescences axillary; pedicels 2-3 mm. long [7. zenkeri](#)
- 4 Leaves with 12-16 lateral nerves, reticulations (when dry) lax and delicate; margins more or less entire; petioles 10-17 mm. long; pedicels 6-9 mm. long; style punctate [1. buesgenii](#)
 Leaves with at least 20 lateral nerves, densely and conspicuously reticulate (when dry), margin usually shallowly wavy; pedicels 11-12 mm. long; style not punctate [2. conraui](#)
- 5 Petals and sepals mucronate; leaves elliptic, 8-14 cm. long, 3-5-5-5 cm. broad; petioles 1-1-5 cm. long; inflorescences nodding, with 10-12 flowers, equalling petioles [4. oligantha](#)
 Petals and sepals not mucronate, acute or obtuse: **6**
- 6 Peduncle absent or nearly so; pedicels 3-5 mm. long; leaves oblong, obovate-elliptic or broadly elliptic, 8-12 cm. long, 4-5-5 cm. broad; petioles 10-13 mm. long; undershrub [5. schlechteri](#)
 Peduncle up to 1 cm. long; pedicels 5-8 mm. long; leaves ovate-elliptic or oblong, 13-18 cm. long, 4-5-7(-8) cm. broad; petioles 4-6(-15) mm. long; shrub or tree [6. staudtii](#)

1. *Afrardisia buesgenii* Gilg & Schellenb. in Engl. Bot. Jahrb. 48: 516 (1912); de Wit in Blumea, Suppl. 4: 247, fig. 3 (1958).

APD: Synonym of Ardisia buesgenii (Gilg & G. Schellenb.) Taton

A shrub or small tree, 6 ft. or more high, with horizontal more or less whorled branches; flowers pale pinkish brown.

S. Nig.: R. Ata, below Mt. Koloishe, 4,000 ft., Obudu Div. (Dec.) Keay & Savory FHI 25057! Sonkwala, 4,000 ft., Obudu Div. (Jan.) Carpenter 731!

Also in **Cameroun**.

2. *Afrardisia conraui* (Gilg) Mez in Engl. Pflanzenr. 4, 236, Myrsinac.: 184 (1902); de Wit l.c. 249, fig. 5.

APD: Synonym of Ardisia staudtii Gilg

APD: Synonym of Ardisia conraui Gilg

Ardisia conraui Gilg in Engl. Bot. Jahrb. 30: 98 (1901).
Afrardisia ledermannii Gilg & Schellenb. (1912).
Afrardisia rosacea Gilg & Schellenb. (1912).

A shrub or small tree; flowers and fruits red.

[Br.] Cam.: Mayo Ndaga, Bello, Gashaka Dist. (fr. Jan.) Latilo & Daramola FHI 28988!

Also in Cameroun.

3. *Afrardisia cymosa* Mez l.c. 186 (1902); Exell Cat. S. Tomé 233; de Wit l.c. 252, fig. 6-7.

APD: *Synonym of Ardisia kivuensis Taton*

APD: *Synonym of Ardisia staudtii Gilg*

Ardisia cymosa Bak. in F.T.A. 3: 495 (1877), not of Blume (1826).
Tinus cymosa (Bak.) O. Ktze. (1891).
Afrardisia dentata Gilg & Schellenb. (1912).

Erect shrub or small tree, flowers and fruits red; in upland forest.

[Br.] Cam.: Bamenda Dist.: Bamenda (Apr.) Ujor FHI 30029! Bafut-Ngemba F.R. (Mar.) Onochie FHI 34869! Hepper 2118! Bali (fr. May) Ujor FHI 30372! Kishong (Jan.) Keay & Russell FHI 28442! Lakom (Apr.) Maitland 1408!

Also in S. Tomé, Congo and Uganda.

4. *Afrardisia oligantha* Gilg & Schellenb. in Engl. Bot. Jahrb. 48: 517 (1912); de Wit l.c. 256.

APD: *Synonym of Ardisia oligantha* (Gilg & G. Schellenb.) Taton

Probably a shrub.

[Br.] Cam.: Cam. Mt. Weberbauer 48.

Type specimen destroyed.

5. *Afrardisia schlechteri* (Gilg) Mez l.c. 185 (1902); de Wit l.c. 259.

APD: *Synonym of Ardisia schlechteri Gilg*

Ardisia schlechteri Gilg in Engl. Bot. Jahrb. 30: 97 (1901).

A subherbaceous shrublet about 1 ft. high, with fibrous rhizomatous stems; inflorescences very short, 3-6-flowered.

[Br.] Cam.: Bibundi (Apr.) Schlechter 12417. Type specimen destroyed.

[Olorunfemi FHI 30692 (N. Korup F.R., Kumba) may also belong to this species.]

6. *Afrardisia staudtii* (Gilg) Mez l.c. 187 (1902); de Wit l.c. fig. 13.

APD: *Synonym of Ardisia staudtii Gilg*

Ardisia staudtii Gilg l.c. 98 (1901).
Afrardisia brunneo-purpurea Gilg l.c. (1901).
Afrardisia haemantha Gilg l.c. 99 (1901).
Afrardisia brunneo-purpurea (Gilg) Mez l.c. 186 (1902).
Afrardisia haemantha (Gilg) Mez l.c. (1902).

A shrub 1-6 ft. tall, with pink petioles; flowers in small clusters along the branches, purple or reddish; fruits bright red; in forest.

N. Nig.: Dogon Kurmi, Sanga F.R., Jemaa Div. (Aug.) Killick 6! S. Nig.: Okomu F.R., Benin (fl. & fr. Jan.) Brenan 8894! Boshi-Okwangwo F.R., Obudu Dist. (May) Latilo FHI 30954!

Also in Cameroun and Congo.

7. *Afrardisia zenkeri* (Gilg) Mez l.c. 186 (1902); de Wit l.c. 262, fig. 14.

APD: Synonym of Ardisia zenkeri Gilg

APD: Synonym of Ardisia staudtii Gilg

APD: Synonym of Ardisia pierreana Taton

Ardisia zenkeri Gilg in Engl. Bot. Jahrb. 30: 100 (1901).

Afrardisia hylophila Gilg & Schellenb. (1912).

A simple shrub 1-3 ft. high; fruits reddish.

S. Nig.: Sapoba F.R., Benin (fr. Feb., Aug.) Olorunfemi FHI 34174! Ujor FHI 32990!

Also in **Cameroun** and **Gabon**.

3. EMBELIA

Burm.-F.T.A. 3: 496; Mez in Engl. Pflanzenr. 4, 236, Myrsinac.: 295 (1902). Nom. cons.

- 1 Inflorescences on leafless part of previous year's branchlets; leaves glabrous:2
 Inflorescences arising from leaf-axils of current year's growth:4
- 2 Leaves (when dry) with numerous prominent very slender lateral nerves; coriaceous when fresh:3
 Leaves (when dry) with few impressed lateral nerves, veins very obscure, lamina obovate, broadly rounded at apex, cuneate at base, 5-8 cm. long, 2.5-4 cm. broad, with numerous black gland-dots; racemes 2-3 cm. long, few, flowers about 4 mm. diam. [3. guineensis](#)
- 3 Upland shrub; veins not markedly reticulate; leaves elliptic to obovate-elliptic, obtuse at each end, 5-9 cm. long, 2-4 cm. broad, black gland-dots often obscure except towards apex; racemes 2.5-5 cm. long, sometimes numerous, flowers about 5 mm. diam. [1. schimperi](#)
 Lowland shrub; veins prominently reticulate; leaves obovate, rounded at apex, cuneate at base, about 5 cm. long and 3 cm. broad, with gland-dots beneath; racemes 2-3 cm. long, few [2. sp. A.](#)
- 4 Racemes 1-1.5 cm. long, subumbellate with flowers about 3 mm. diam. clustered towards apex, slender; leaves elliptic 5-6 cm. long, 2.5-3 cm. broad, margin distinctly dentate, glabrous [4. sp. nr. welwitschii](#)
 Racemes 2-3 cm. long, not subumbellate; leaves entire, more or less pubescent beneath:5
- 5 Leaves without visible black dots, obovate-oblong to obovate-elliptic, obtuse or very shortly apiculate at apex, cuneate at base, 6-13 cm. long, 3.5-7 cm. broad, midrib irregularly pubescent or minutely so; flowers 4 mm. diam. in loose axillary racemes; pedicels 4-6 mm. long in fruit [5. rowlandii](#)
 Leaves with conspicuous black gland-dots:6
- 6 Midrib rather densely puberulous beneath, lateral nerves about 15 pairs, glabrous and raised on both surfaces, lamina obovate-elliptic, 8-9 cm. long, 4-5 cm. broad [6. djalonensis](#)
 Midrib, the 6-8 pairs of lateral nerves and young branchlets densely ferruginous-puberulous; leaves obovate to obovate-elliptic, 6-9 cm. long, 3.5-6 cm. broad [7. nilotica](#)

1. **Embelia schimperi** *Vatke* in Linnaea 40: 206 (1876); Mez in Engl. Pflanzenr. 4, 236: 329; Brenan in Mem. N.Y. Bot. Gard. 8: 498 (1954). *APD acc*

Embelia abyssinica *Bak.* in F.T.A. 3: 497 (1877).

Straggling shrub or climber with smooth leathery leaves tufted towards ends of the branches; flowers whitish; fruits red; **in upland thickets**.

[Br.] Cam.: Bafut-Ngemba F.R., 6,200-7,200 ft., Bamenda (fl. Feb., Apr., fr. Jan.) Ujor FHI 30049! Keay & Lightbody FHI 28368! Hepper 2133! Bum, 4,000 ft., Bamenda Dist. (fr. June) Maitland 1609!

Widespread in the mountains of tropical Africa.

2. *Embelia* sp. A. *APD acc*

Embelia guineensis of F.W.T.A., ed. 1, 2: 16, partly (Thomas 9111), not of Bak.

Climbing shrub; " white berries with black flecks " (Harley 1201).

S. L.: Gbanbama (fr. Mar.) Thomas 9111! **Lib.:** Ganta (fr. May) Harley s.n.! 1201! **S. Nig.:** Onitsha (Feb.) Jones FHI 4506!

[E. tessmannii of Aké Assi, Contrib. 1: 115 (Ivory Coast; Yapo Aké Assi IA 4911, Mt. Tonkouï Aké Assi IA 5474) may also belong here.]

3. *Embelia guineensis* *Bak.* in F.T.A. 3: 496 (1877); Chev. Bot. 385.

APD: *Synonym of Embelia schimperi Vatke*

Embelia gilgii *Mez* l.c. 330 (1902).

A climbing shrub with short rather crowded racemes on the older parts of the branchlets; flowers white.

Guin.: R. Mafin, Dalaba (Apr.) Caille in Hb. Chev. 18132. **S. L.:** Bagroo R. (Apr.) Mann 861! Dodo (Apr.) Deighton 3922! near Berria, Palaba (Mar.) Sc. Elliot 5229! **iv. C.:** Gankoué to Bampleu, Upper Nuon (Apr.) Chev. 21165 bis! (leaves not seen). **Togo Rep.:** Misahöhe Baumann 107. **Dah.:** Tohoué, near Porto-Novo Chev. 22798.

[It is possible that the specimens I have not seen may belong to sp. A. above-F. N. H.].

4. *Embelia* sp. nr. *welwitschii* (*Hiern*) *K. Schum.* in Just Bot. Jahresb. 26: 390 (1900); Gilg in Engl. Bot. Jahrb. 30: 96 (1901); Mez l.c. 317. *APD acc*

Pattara welwitschii *Hiern* (1898).

A climbing shrub, in upland forest undergrowth.

[**Br.**] **Cam.:** Cam. Mt., Buea to Musaka Camp (May) Maitland 692!

5. *Embelia rowlandii* *Gilg* in Engl. Bot. Jahrb. 30: 96 (1901); Mez l.c. 317. *APD acc*

Embelia dahomensis *A. Chev.* Bot. 385, name only.

Climbing shrub, the older branches with grey bark, the younger ones with fine brown indumentum and pale lenticels; flowers creamy-yellow; besides streams in savanna.

Port. G.: Catio (fl. July, fr. Aug.) Esp. Santo 2143! 2170! **Dah.:** Bassila to Péssésoulou (May) Chev. 23825. **N. Nig.:** Anara F.R., Zaria Prov. (May) Keay FHI 22868! FHI 25954! **S. Nig.:** Lagos interior Rowland! Enyinawsa, Epe Dist. (fr. Jan.) Onochie FHI 35259!

6. *Embelia djalonensis* *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 16 (1931); Kew Bull. 1937: 60; Chev. Bot. 384, name only. *APD acc*

Embelia guineensis of Mez l.c. 331, not of Bak.

A climber in woods, the leaves with pubescent midrib and numerous lateral nerves.

Guin.: Kollangui (Mar.) Chev. 13637! Dantilia (fr. Mar.) Sc. Elliot 5266! **iv. C.:** Boundiali Aké Assi IA 5510.

7. *Embelia nilotica* *Oliv.* in Trans. Linn. Soc. 29: 105, t. 71 (1875); F.T.A. 3: 496 (1877); Mez l.c. 318. *APD acc*

Climbing shrub about 20 ft. high; flowers cream, fragrant; beside streams in savanna.

N. Nig.: Anara F.R., Zaria Prov. (May) Keay FHI 22894!

Also in **Uganda**.

4. MAESA

Forsk.-F.T.A. 3: 491; Mez in Engl. Pflanzenr. 4, 236, Myrsinac.: 15 (1902).

- 1 Leaves more or less entire, subcordate to rounded at base, acuminate at apex, broadly ovate, 11-17 cm. long, 7-12 cm. broad (much smaller near the inflorescences), glabrous; inflorescences lax and spreading panicles up to 25 cm. long [1. kamerunensis](#)
- Leaves serrate to crenate, cuneate to rounded at base, ovate-elliptic to lanceolate, 8-14 cm. long, 3-7 cm. broad, glabrous or softly pubescent beneath: **2**
- 2 Calyx glabrous, 2 mm. long; corolla little longer than calyx; inflorescences about 11 cm. long, with few branches about 2 cm. long, glabrous; flowers laxly arranged on pedicels 2 mm. long [2. nuda](#)

Calyx ciliate, 1 mm. long; corolla longer than calyx; inflorescences profusely branched, 5-19 cm. long; flowers usually very numerous and subsessile [3. lanceolata](#)

1. **Maesa kamerunensis** Mez in Engl. Pflanzenr. 4, 236: 27 (1902).

APD: Synonym of Maesa lanceolata var. rufescens (A. DC.) Taton

Maesa cordifolia Bak. in F.T.A. 3: 492 (1877), not of Miq. (1859).

Maesa lanceolata of Exell Suppl. Cat. S. Tomé, 31 (1956), not of Forsk.

A shrub 15-20 ft. high, with large leathery leaves; flowers white; [in upland forest](#).

[Br.] Cam.: Cam. Mt., 2,500-3,100 ft. (fl. & fr. Dec., Mar., Apr.) Mann 1198! Maitland 1077! Hutch. & Metcalfe 91! Brenan 9502! above L. Oku, 7,800 ft. (Jan.) Keay & Lightbody FHI 28474! **F. Po:** Musola (Jan.) Guinea 1236! 1250! Moka, 4,000-5,000 ft. Exell 791!

Also in [Cameroun](#) and **S. Tomé**.

2. **Maesa nuda** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 16 (1931); Kew Bull. 1937: 60. *APD acc*

Apparently a shrub, quite glabrous and with slender inflorescences.

Guin.: Farmar 327!

3. **Maesa lanceolata** Forsk. Fl. Aegypt.-Arab. CVI & 66 (1775); F.T.A. 3: 492; Mez l.c. 26; Chev. Bot. 384. *APD acc*

APD: Synonym of Maesa vestita Jacq.-Fél.

APD: Synonym of Maesa lanceolata var. rufescens (A. DC.) Taton

Maesa djalonis A. Chev. Bot. 384, name only.

A shrub or small tree up to 20 ft. high; flowers greenish white; [beside upland streams and in grassland](#).

Guin.: Longuey Caille in Hb. Chev. 14831! Diaguissa to Boulivel Chev. 18611; 18678. Labé Chev. 12238. Ditinn Chev. 13439. **iv. C.:** Mt. Do, Upper Cavally (May) Chev. 21432! Mt. Gbon Chev. 21410. Mt. Tonkoui (fr. Aug.) Schnell 6370! Boughey GC 18333! **N. Nig.:** Rafin Bauna North F.R., 4,300 ft., Jos (fl. & fr. Oct.) Hepper 1178! **S. Nig.:** Mt. Koloishe, 5,000 ft., Obudu Div. (Dec.) Keay & Savory FHI 25072! [Br.] Cam.: Cam. Mt., 3,000-9,000 ft. (fl. & fr. Dec., Jan., Mar., May) Mann 1208! 2176! Dunlap 149! Brenan 9392! Bamenda (fl. Apr., fr. Sept.) Ujor FHI 30058! 30219! Mambila Plateau, 6,000 ft. (fl. & fr. Jan.) Latilo & Daramola FHI 289911! 34361! **F. Po:** Clarence Peak, 5,000 ft. (Nov.) Mann 578! Pico Geramo (Jan.) Guinea 1954!

Widespread in tropical Africa, [Arabia](#) and Madagascar, and in S. Africa.

[Although Mann 578 and Guinea 1954 have serrated leaves, cuneate at the base, the inflorescences are more like those of *M. kamerunensis*].

STYRACACEAE

Trees and shrubs, often with stellate or lepidote indumentum. Leaves alternate, stipules absent. Flowers actinomorphic, hermaphrodite, racemose, axillary or terminal. Calyx tubular, more or less adnate to the ovary; lobes or teeth valvate or open. Corolla gamopetalous or rarely of free petals, lobes 4-7, valvate or imbricate. Stamens equal and alternate with or double the number of the corolla-lobes, adnate to the corolla-tube or rarely free; anthers 2-celled, opening lengthwise. Ovary superior to inferior, 1-5-celled; style slender, 3-5-lobed; ovules 1 to many in each cell, axile, anatropous. Fruit drupaceous or capsular, calyx persistent. Seed with copious endosperm and straight or slightly curved embryo.

A. Chevalier (in Rev. Bot. Appliq. 27: 26-29, 402 (1947)) transferred Afrostyrax to the family Huaceae, but the genus differs widely from Hua and it should be retained in Styracaceae as originally placed by its authors-(Hutchinson, Fam. Fl. Pl., ed. 2, 1: 263 (1959)).

Perkins & Gilg in Engl. Bot. Jahrb. 43: 216 (1909). *APD acc*

Small trees; leaves alternate, usually long-acuminate. Flowers axillary, small; calyx closed in bud; petals 5, free; stamens 10; anthers 4-celled; ovary 1-celled, superior. Fruit dry, indehiscent.

- 1 Leaves beneath glabrous or at most sparsely hairy on the midrib, lamina elliptic to ovate, rounded at base, long-caudate-acuminate at apex, 10-16 cm. long, 4.5-7 cm. broad; petiole 6-10 mm. long, densely brown-tomentellous; flowers axillary usually paired, pedicels 5-8 mm. long [1. *kamerunensis*](#)
- Leaves beneath densely pale-brown-lepidote, lamina oblong-elliptic to ovate-elliptic, rounded at base, acuminate and often long-acuminate at apex, 9-18 cm. long, 3-6 cm. broad; petiole 6-10 mm. long, brown-lepidote; flowers in axillary clusters, pedicels 8-12 mm. long [2. *lepidophyllus*](#)

1. *Afrostryrax kamerunensis* *Perkins & Gilg* in Engl. Bot. Jahrb. 43: 217, with fig. (1909). *APD acc*

Medium-sized tree; flowers pale yellow; in forest.

[Br.] Cam.: Likomba, Cam. Mt. Mildbr. 10888!

Also in [Cameroun](#).

2. *Afrostryrax lepidophyllus* *Mildbr.* in Engl. Bot. Jahrb. 49: 556 (1913). *APD acc*

Tree 50-70 ft. high, straight bole, slash cream coloured, smelling of onions.

[Ghana](#): Benso, Tarkwa Dist. (fl. Sept., fr. Nov.) Quao FH. 5611! 5673! Andoh FH 5818!

Also in [Cameroun](#).

LOGANIACEAE

Mostly trees and shrubs; stem usually woody. Leaves opposite, simple; stipules present or absent. Flowers hermaphrodite, usually actinomorphic, paniculate, corymbose or in globose heads. Calyx-lobes valvate or imbricate. Corolla tubular, lobes 4-16, contorted, imbricate or valvate. Stamens epipetalous, as many as the corolla-lobes and alternate with them, or rarely reduced to 1; anthers 2-celled, opening lengthwise. Ovary superior, 2-4-celled; style single; ovules several to numerous, rarely solitary, axile or ascending from the base of each cell. Fruit a capsule, berry or drupe. Seeds sometimes winged; embryo straight, in the middle of fleshy or cartilaginous endosperm.

Tropics and subtropics generally.

Resembling Rubiaceae, but usually exstipulate and ovary always superior.

- 1 Sepals almost completely connate; calyx-tube about as long as the corolla-tube or longer; capsule small, about as long as the calyx [6. *Nuxia*](#)
- Sepals free or connate up to two-thirds of their length; calyx-tube if present shorter than the corolla-tube; fruit conspicuously larger than the calyx: [2](#)
- 2 Annual herbs with one-sided (cincinnous) apical spikes [4. *Spigelia*](#)
- Trees, shrubs or climbers: [3](#)
- 3 Inflorescence with 2 large approximately orbicular bracts covering the sepals (*M. hirsuta*) [3. *Mostuea*](#)
- Inflorescence with small bracts never covering the sepals: [4](#)
- 4 One sepal much larger than the others; fruit an oblong capsule, about 3-4 times as long as wide [5. *Usteria*](#)
- Sepals equal or unequal, the largest up to twice as long as the others; fruit up to twice as long as wide: [5](#)
- 5 Sepals 4, decussate, orbicular, rounded; corolla-lobes 8-16, contorted; fruit a berry [1. *Anthocleista*](#)
- Sepals 5 or 4, mostly imbricate; corolla-lobes 5 or 4, valvate or imbricate: [6](#)
- 6 Fruit a berry, globose or nearly so; corolla-lobes valvate; shrubs, trees, or lianes with tendrils; leaves mostly coriaceous and distinctly 3- or 5-nerved [2. *Strychnos*](#)
- Fruit an obcordate or bilobed capsule; corolla-lobes imbricate; shrubs; leaves mostly thin and never 3- or 5-nerved [3. *Mostuea*](#)

Cynoctonum mitreola (*Linn.*) *Britt.*

This weed has been recorded from [Ghana](#) (Gambaga Scarp (fr. Nov. 1957) Morton A2728).

It is native in America and has been widely introduced into Asia (see Heine in Kew Bull. 17: 171 (1963)).

1. ANTHOCLEISTA

Afzel. ex R. Br. -F.T.A. 4, 1: 537; E. A. Bruce in Kew Bull. 10: 45 (1955); Leeuwenberg in Acta Bot. Neerl. 10: 1-53 (1961). *APD acc*

- 1 Secondary veins conspicuous; leaves crowded at the apices of the branchlets; candelabrum-shaped trees or few-stemmed shrubs:2
 Secondary veins inconspicuous; leaves not crowded at the apices of the branchlets; climbers, shrubs, or sometimes (?) trees (see also No. 4):8
- 2 Branches armed with short usually paired spines; flower buds uniformly rounded or subtruncate at the apex;3
 Branches unarmed or if with incipient or occasional spines, then flower buds not rounded but tapering at the apex:5
- 3 Branches conspicuously spiny; spines divergent, confluent at the base, paired or sometimes 3-4 together; leaves conspicuously discolorous, dark green above, more or less glaucous beneath, usually sessile, (6-)15-45(-150) cm. long, (4-)6-20(-45) cm. broad, margin usually revolute and undulate; mature corolla in bud usually less than 5 times as long as the calyx:4
 Branches not conspicuously spiny; spines parallel or slightly divergent, confluent for at least half their length, paired; leaves not conspicuously discolorous, petiolate, margin not revolute nor undulate; mature corolla in bud 5.5-6 times as long as the calyx (see also below)[3. djalensis](#)
- 4 Corolla-tube 2-3 times as long as the lobes and 2.5-3.5 times as long as the calyx; fruit when dry with 4 more or less irregular dents or irregularly shrivelled; leaves often drying black[1. nobilis](#)
 Corolla-tube 0.9-1.5 times as long as the lobes and 1.25-2 times as long as the calyx; fruits drying smooth, neither shrivelled nor dented; leaves never drying black, mostly obovate and often comparatively wider than in No. 1[2. vogelii](#)
- 5 Leaves petiolate and buds usually uniformly rounded at the apex:6
 Leaves sessile or subsessile, if petiolate then buds not rounded, but tapering to apex, oblong-obovate to oblanceolate:7
- 6 Leaves obovate, usually rounded at base, 9-35(-115) cm. long, 4.5-17(-50) cm. broad; calyx narrowed, not definitely constricted at the mouth; branches with incipient or occasional spines; berry drying smooth, 35-50 mm. long, 25-35 mm. broad when mature, with a thick wall (about 3 mm.)[3. djalensis](#)
 Leaves elongate-oblanceolate, always cuneate at base, 11-75 cm. long, 3-15 cm. broad; calyx definitely constricted at the mouth; branches never spiny; berry irregularly shrivelled when dry, 15-27 mm. long, 10-18 mm. broad when mature, with a thin wall (about 1 mm.)[4. liebrechtsiana](#)
- 7 Sepals drying smooth, clasping the corolla-tube at anthesis, only spreading under the mature fruit; leaves, at least the upper ones, usually petiolate, lower ones often sessile or subsessile, 7-45(-100) cm. long, 3.5-18(-30) cm. broad, usually sub-coriaceous, and with inconspicuous tertiary veins; corolla-tube about 1-1.5 times as long as the lobes which are large and reflexed[5. schweinfurthii](#)
 Sepals drying rugulose, outer pair at least more or less spreading, not closely clasping the corolla-tube at anthesis, widely spreading under the fruit; leaves sessile, 40-45(-145) cm. long, 20(-45) cm. broad, usually membranaceous, and with conspicuous tertiary veins; corolla-tube 1.5-2.5 times as long as the lobes, which are smaller and spreading[6. procera](#)
- 8 Outer sepals about as long as broad or broader; leaves oblong-elliptic to oblong-obovate, 6-20 cm. long, 2.5-11 cm. broad;9
 Outer sepals 1.5-2 times as long as broad, 12-17 mm. long, 8-11 mm. broad, often apically torn; leaves oblong-obovate to oblong-lanceolate, 4-5-19 cm. long, 1-7 cm. broad[9. obanensis](#)
- 9 Sepals 4-8 mm. long[7. microphylla](#)
 Sepals 20-30 mm. long[8. scandens](#)

1. *Anthocleista nobilis* G. Don Gen. Syst. 4: 68 (1838); F.T.A. 4, 1: 538, partly; Chev. Bot. 441; E. A. Bruce in Kew Bull. 10: 47 (1955); Aubrév. Fl. For. C. iv. ed. 2, 3: 186, t. 318; Leeuwenberg in Acta Bot. Neerl. 10: 14, figs. 4-8 (1961). *APD acc*

Anthocleista parviflora Bak. (1895)-F.T.A. 4: 539.

Anthocleista procera var. *umbellata* of Chev. Bot. 441, not of Bak.

Anthocleista procera var. *parviflora* of Chev. Bot. 441, not of Bak.

A tree about 25-60 ft. high with spiny stem; flowers white; in secondary forest.

Sen.: Bignona to Sindialone, Casamance (Feb.) Chev.! **Guin.:** Conakry Chev. 12250! Maclaud 28! Ymbo Caille in Hb. Chev. 14759! Santa R. to Timbo Chev. 12613! Macenta Roberty 7150! **S. L.:** Freetown (Feb.) Dalz. 984! Bagroo R. Mann! Talla Hills, 3,500 ft. (Mar.) Sc. Elliot 5053! Njala (Feb.) Deighton 512! Loma Mts. (Sept.) Jaeger 1577! **Lib.:** Dukwia R. (Feb.) Cooper 190! 380! 428! Buchanan (Mar.) Baldwin 11197! Gbanga. (fl. & fr. Sept.) Linder 542! Peahtah Linder 1021! **Iv. C.:** Abidjan Chev. 17327! Adiopodoumé Leeuwenberg 1921! Banco Aubrév. 407! Makougné Chev. 16156 bis! **Ghana:** Axim (fl. bud Feb.) Irvine 2198! Morton A2221! Jemma (Sept.) Chipp 354! near Prestea (July) Vigne FH 1270!

2. **Anthocleista vogelii** *Planch.* in Hook. Ic. Pl. 8: t. 793-4 (1848); E. A. Bruce l.c. 48; Bruce & Lewis in F.T.E.A. Loganiac. 8 (1960); Leeuwenberg l.c. 16, fig. 7. *APD acc*

Anthocleista talbotii *Wernham* Cat. Talb. 68 (1913).

Anthocleista kalbreyeri *Bak.* (1895)-F.T.A. 4: 540.

Anthocleista nobilis of F.T.A. 4, 1: 538, partly (T. Vogel 51), not of G. Don.

A tree up to 60 ft. high, bark pale grey, inner bark yellowish; flowers creamy or yellowish-brown in erect inflorescences; infructescences drooping; **in wet forest.**

S. L.: near Kolia Deighton 3204! Kangahun (Aug.) Jordan 2131! Manjehun (fr. Nov.) Deighton 6148! Baoma Deighton 3203! **Lib.:** Gbanga (fr. Sept.) Linder 533! Mecca (fr. Nov.) Baldwin 10435! **Iv. C.:** Cosrou (fr. May) Leeuwenberg 4257! 40 km. S. of Taï (fl. & young fr. Mar.) de Wilde & Leeuwenberg 3537! **Ghana:** Kwaben Vigne FH 1295! **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 22895! **S. Nig.:** Ibu T. Vogel 51! Nun R. (fr. Sept.) Mann 471! Ibadan Onochie FHI 40448! Oyo to Ibadan Meikle 1311! Oban Talbot 177! 2027! [**Br.**] **Cam.:** Ambas Bay (Feb.) Mann XVI! Victoria Maitland 362!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **the Congos**, **Sudan**, **Kenya**, **Tanganyika**, **N. Rhodesia** and **Angola**.

3. **Anthocleista djalensis** *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 47 (1908); E. A. Bruce l.c. 49; Aubrév. Fl. For. C. Iv., ed. 2, 3: 184; Leeuwenberg l.c. 20, figs. 8-10. *APD acc*

Anthocleista kerstingii *Gilg ex Volken* in Notizbl. Bot. Gart. Berl., App. 22: 33 (1909); F.W.T.A., ed. 1, 2: 18; Aubrév. Fl. For. Soud.-Guin. 436, t. 95, 3.

Anthocleista nobilis of F.W.T.A., ed. 1, 2: 18, partly (syn.).

Anthocleista procera of Chev. Bot. 441, not of Lepr. ex Bureau.

A tree, 30-45 ft. high with blunt spines on the unbranched pale grey trunk, and widespreading crown; flowers white or creamy; **in rather dry places, in savanna or thickets.**

Mali: Guiri (May) Chev. 886! **Port. G.:** Teixeira Pinto d'Orey 130! Gabu Esp. Santo 274! Pinche-Pansor Esp. Santo 3425! Fulacunta d'Orey 211! **Guin.:** Kollangui (fl. & fr. Mar.) Chev. 12221! 12222! 12873! Santa Valley Chev. 12773! **S. L.:** Musaia (fr. July) Deighton 4215! 4827! **Iv. C.:** Séguéla Leeuwenberg 3273! near Bouaké Leeuwenberg 3285! 3315! Tafiré Aubrév. 1393! Ferkéssédougou Aubrév. 1538! **Ghana:** Mpraeso Beveridge FH 3288! Ejura Vigne FH 2029! Agogo Vigne FH 1125! Kwahu Irvine 1669! **Togo Rep.:** Sokodé (Mar.) Kersting A18! **Dah.:** Adja, Oueré Le Testu 296! Godomey Poisson! **N. Nig.:** Tangale Waja, Bauchi Prov. (July) Kennedy FHI 7275! Abinsi Dalz. 638! **S. Nig.:** Rosevear 50/29! Olokemeji F.R. Ross 39! Ibadan (fl. & fr. Mar., Apr.) Meikle 1309! Ladipo FHI 3086! Keay FHI 26734! Hamblar 7! Onitsha to Uke (fl. & fr. May) Onochie FHI 35775! Akpaka F.R., Onitsha Onochie FHI 40433! [**Br.**] **Cam.:** Jamtari, Adamawa (fr. Dec.) Latilo & Daramola FHI 28928!

Also in **Cameroun**.

4. **Anthocleista liebrechtsiana** *De Wild. & Th. Dur.* in Compt. Rend. Soc. Bot. Belg. 38: 96 (1899); F.T.A. 4, 1: 540; E. A. Bruce l.c. 51; Leeuwenberg l.c. 22, fig. 11. *APD acc*

A slender tree without spines, 30-40 ft. high, with open spreading crown and leaves aggregated at branch ends, bole grey, slash cream; flowers pale creamy white; **in Raphia-Cynometra fringing forests.**

Dah.: Massi to Goutyssa, Abomey Chev. 23269! Lower Ouémé R., Dogba to Affamé Chev. 23472! **S. Nig.:** Omo (formerly part of Shasha) F.R. (Apr.) Jones & Onochie FHI 17264! Akilla, Oni R. Kennedy 2364! Siluko (Nov.) Onochie FHI 40423!

Also in **Cameroun**, **Gabon**, **Congo**, **N. Rhodesia** and **Angola**.

5. **Anthocleista schweinfurthii** *Gilg* in Engl. Bot. Jahrb. 17: 579 (1893); F.T.A. 4, 1: 541; E. A. Bruce l.c. 51; Bruce & Lewis in F.T.E.A. Loganiac. 11; Leeuwenberg l.c. 24, fig. 12 (for full synonymy). *APD acc*

Anthocleista oubanguiensis *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 100: 25 (1953); Aubrév. Fl. For. Soud.-Guin. 436, t. 95, 1-2.

Tree about 60 ft. high, with dense umbrella crown and grey bole; flowers white or creamy white.

S. Nig.: Jamieson R., Sapoba Kennedy 2136!

Also in **Cameroon**, **Ubangi-Shari**, **Gabon**, **the Congos**, **Sudan**, **Uganda**, **Tanganyika**, **N. Rhodesia** and **Angola**.

6. **Anthocleista procera** *Lepr. ex Bureau* These Loganiac. 74-77, figs. 60-62 (1856); F.T.A. 4, 1: 539 (under *A. parviflora*); Aubrév. Fl. For. Soud.-Guin. 436, t. 95, 4-6; E. A. Bruce l.c. 56; Aubrév. Fl. For. C. Iv., ed. 2, 3: 184; Leeuwenberg l.c. 31, fig. 13. **APD acc**

Anthocleista frezoulsii *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 47 (1908); F.W.T.A., ed. 1, 2: 18; Chev. Bot. 441.

Anthocleista nobilis of F.T.A. 4, 1: 538, partly (Leprieur), not of G. Don.

A tree about 60 ft. high, with spreading branches, without spines; flowers white; in orchard bush, usually in swampy places.

Sen.: Koular Berhaut 891! Tambacounda Hb.I.F.A.N. 8608! Casamance Trochain 1396! **Gam.:** Albreda Leprieur! Perrottet! Kombo (June) Heudelot 109! Lamin Rosevear 1! **Port. G.:** Bissau Esp. Santo 1700! Gabú Esp. Santo 284! Fulacunda to Bedanda d'Orey 254! Cabuchangue to Quebu Esp. Santo 2071! **Guin.:** Conakry Chev. 12162! Kouroussa Pobéguin 841! Fouta Djallon Pobéguin 1918! Konkauré to Timbo Chev. 12453! **S. L.:** Musaia (fr. Apr., fl. July) Deighton 5481! Miszewski 6! Njala (July) Deighton 5960! **Iv. C.:** Agnéby, Dabou Hb. I.D.E.R.T. 3140! 3672! Leeuwenberg 3178! **S. Nig.:** Lagos Imp. Inst. 10!

7. **Anthocleista microphylla** *Wernham* in Cat. Talb. 67 (1913); Leeuwenberg l.c. 32, fig. 14. **APD acc**

Anthocleista micrantha *Gilg & Mildbr. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 18 (1931).

A glabrous tree or climber; flowers white; in secondary forest.

S. Nig.: Oban Talbot 304! **F. Po.:** S. Isabel Peak, 3,000 ft. (Aug.) Mildbr. 6434!

Also in **Principe** and **S. Tomé**.

8. **Anthocleista scandens** *Hook. f.* in J. Linn. Soc. 6: 16 (1861); F.T.A. 4, 1: 542; Leeuwenberg l.c. 34, fig. 15, 1-3. **APD acc**

Anthocleista exelliana *Monod* in Bull. I.F.A.N. sér A, 19: 347, f. 1-30 (1957).

Climbing shrub or tree 20-50 ft. high with square branchlets; flowers white; in montane forest.

[**Br.**] **Cam.:** L. Bambuluwe, 6,000 ft., Bamenda (fl. & fr. Mar.) Onochie FHI 34852! Daramola FHI 40516! **F. Po.:** Clarence Peak, 5,000 ft. (fl. & fr. Dec.) Mann 623! Moka, 4,000-6,000 ft. (Jan.) Mildbr. 7111. Exell 814!

Also in **S. Tomé**.

9. **Anthocleista obanensis** *Wernham* in Cat. Talb. 67 (1913); Leeuwenberg l.c. 34, fig. 16. **APD acc**

Climbing shrub; flowers yellowish; in wet forest.

S. Nig.: Jamieson R., Sapoba (fl. bud Sept., Nov.) Onochie FHI 34272! Keay FHI 28079! Eket Dist. Talbot 3025! 3105! Oban Talbot 305!

Also in **Cameroon** and **Congo**.

2. STRYCHNOS

Linn.-F.T.A. 4, 1: 517; Duvigneaud in Bull. Soc. Bot. Belg. 85: 9 (1952); E. A. Bruce in Kew Bull. 10: 35, 127 (1955), 627 (1956); 11: 153, 267 (1956)

Scyphostrychnos *S. Moore* (1913)-F.W.T.A., ed. 1, 2: 24.

- 1 Inflorescence terminal, large, lax, paniculate, and many-flowered, or if not so then sepals lanceolate, acuminate, and not distinctly imbricate, axillary spines and/or linear stipules present, and large and thick-walled fruits: **2**
 Inflorescence axillary or both axillary and terminal, mostly on the same branchlet; sepals up to twice as long as wide, rounded to acute, usually distinctly imbricate; plants without spines, occasionally with internodal prickles (No. 15): **6**
- 2 Savanna trees with axillary spines, without tendrils; leaves rounded and slightly mucronate or emarginate to acuminate at apex, very variable in shape and size, sub-orbicular to elliptic, (1.5-)3-8 cm. long, (0.8-)1.3-7 cm. broad, glabrous or pubescent beneath; branches usually with curved, reflexed spines; inflorescence seemingly

- umbellate; sepals lanceolate; fruits large, thick-walled [1. spinosa](#)
- Climbers or shrubs, never trees, in the forest, with tendrils, sometimes with spines and then usually with linear stipules (No. 3): **3**
- 3** Plant brown-hirsute; leaves oblong-obovate, oblong-oblancoate, oblong-elliptic, or sometimes oblong-ovate, 2.5-16.5 cm. long, 1.4-8 cm. broad; inflorescence lax, paniculate; corolla-tube very short; filaments curved and provided with a bilobed pubescent gland; large colleters (glands) near the base of the petioles; fruit about 2-3 cm. diam., thin-walled, about 3-7-seeded [2. phaeotricha](#)
- Plant glabrous or pubescent; leaves ovate, or elliptic, or nearly so: **4**
- 4** Inflorescence seemingly umbellate, rather congested; sepals lanceolate, acuminate; plant often with 4 or 8 linear stipules on each node; fruit large, about 7 cm. diam., thick-walled, many-seeded; leaves rounded and abruptly acuminate at apex [3. congolana](#)
- Inflorescence lax, paniculate; sepals orbicular, ovate, or triangular, rounded to acute; plant without stipules; fruits small, about 1-1.5 cm. diam., thin-walled, one-seeded: **5**
- 5** Branchlets densely pubescent; leaves dull beneath; sepals connate for about half their length, acute, pubescent outside; pistil glabrous [4. dolichothyrsa](#)
- Branchlets glabrous or sparsely pubescent; leaves shining on both sides; sepals free, obtuse or rounded, minutely pubescent outside; pistil sparsely pubescent [5. dinklagei](#)
- 6** Leaf-apex rounded or obtuse; lamina elliptic to obovate-elliptic, 2-15 cm. long, 1-7 cm. broad; flowers subfasciculate; corolla in mature bud 6-9 mm. long; sepals ciliate; fruit globose, 5-12.5 cm. diam., thick-walled, many-seeded; small trees in savanna woodland: **7**
- Leaf-apex acuminate or acute; if obtuse or rounded, a shrub or climber in forest: **8**
- 7** Branchlets glabrous; leaves glabrous on both sides [6. innocua subsp. innocua var. innocua](#)
- Branchlets pubescent; leaves pubescent, at least at the base of the midrib beneath [6a. innocua subsp. innocua var. pubescens](#)
- 8** Branchlets, petioles, and usually also leaves beneath (at least at the base of the midrib) hairy; fruits small, 1-3 cm. diam., thin-walled, usually 1-seeded: **9**
- Branchlets, petioles and leaves glabrous; some hairs may occur on the stipular line: **17**
- 9** Pistil pilose or sparsely pubescent (in No. 5): **10**
- Pistil glabrous, sometimes some minute hairs on the style (in No. 13): **14**
- 10** Pistil sparsely pubescent; inflorescence distinctly longer than the leaves, lax, many-flowered, 4-7 times branched; corolla in mature bud 2-3 mm. long; leaves shining and coriaceous (other characters as above) [5. dinklagei](#)
- Pistil distinctly pilose; inflorescence up to half as long as the leaves, few-flowered, if lax up to 3 times branched: **11**
- 11** Branchlets and inflorescence-axis puberulous with very short appressed hairs; lamina entirely glabrous, coriaceous; inflorescence lax; corolla in mature bud 3-4 mm. long, lobes 6-7 times as long as the tube; anthers glabrous [7. splendens](#)
- Branchlets and inflorescence-axis sparsely pubescent as is the midrib beneath; hairs erect or nearly so: **12**
- 12** Leaves coriaceous, large, oblong-elliptic (7.5-)12-19.5 cm. long, 3.5-7 cm. broad, sparsely pubescent on the distinctly prominent midrib and main secondary veins beneath; inflorescence rather congested, much shorter than the leaves; corolla in mature bud 4 mm. long, the lobes 1.7 times as long as the tube; anthers bearded at the base; fruit 2-3 cm. diam., 1-3-seeded [8. memecyloides](#)
- Leaves papery to thinly coriaceous, smaller, 3-11 cm. long, 1-5 cm. broad: **13**
- 13** Inflorescence congested or rather so; corolla in mature bud 7.5-8.5 mm. long, outside more or less distinctly pubescent, lobes about as long as the tube; anthers bearded; leaves obtuse to acuminate at apex [9. ngouniensis](#)
- Inflorescence lax; corolla in mature bud 4.5-5 mm. long, outside glabrous or nearly so, the lobes 1.4-2 times as long as the tube; anthers glabrous; leaves acuminate at apex, acumen often long [10. boonei](#)
- 14** Tall tree without tendrils; leaves variously shaped, oblong-ovate, oblong-lanceolate, or oblong-elliptic, mostly acuminate, never rounded at apex; petioles smooth; inflorescence not really congested, often rather lax; corolla in mature bud 3.5-4 mm. long, glabrous outside, inside with a broad brush on each lobe; tube 0.6-1.2 times as long as the lobes; anthers bearded at the base; fruit 1-1.5 cm. diam., 1(-2)-seeded [11. mitis](#)
- Climber or scandent shrub with tendrils; inflorescence-axis appressed-pubescent (see also No. 26; if inflorescence-axis glabrous or with ranked hairs see No. 24): **15**
- 15** Sepals sparsely pubescent outside; leaves usually distinctly discolorous and above with conspicuous tertiary venation when dry: **16**
- Sepals glabrous outside; leaves usually not discolorous and with inconspicuous tertiary venation above, mostly obtuse and apiculate; petioles mostly transversely rugose when dry; corolla in mature bud 2-2.5 mm. long, subrotate, glabrous outside, inside densely pilose on the base of the lobes, lobes 3-4 times as long as the tube; anthers glabrous; fruit about 1-2 cm. diam. [14. angolensis](#)

- 16 Leaves extremely variable in shape and size, usually broadest above the middle, rounded, apiculate, or acuminate at apex; pubescence not regularly appressed, hairs rather long; corolla in mature bud 1·8-2 mm. long, sparsely pubescent outside, inside with a flat brush of white hairs on each lobe; tube 0·5-1 times as long as the lobes; anthers bearded; fruit about 1-1·3 cm. diam., 1-seeded [12. afzelii](#)
- Leaves very variable but less than in the preceding species, usually broadest below the middle, acuminate, sometimes obtuse or acute at apex, pubescence regularly appressed, with very short hairs; petioles often transversely rugose when dry; corolla in mature bud 2-2·5 mm. long, often very sparingly pubescent outside, inside pilose on the lobes; lobes 1·5-2 times as long as the tube; anthers glabrous [13. malacoclados](#)
- 17 Branches and branchlets with internodal prickles; large climber; tendrils in 2 or 3 pairs above each other at the apex of short lateral branchlets; inflorescence much shorter than the leaves, congested; corolla in mature bud 4-4·7 mm. long, tube 1-1·7 times as long as the lobes, lobes thick; fruit large, subglobose, about 8-12·5 cm. diam. [15. aculeata](#)
- Branches and branchlets unarmed: 18
- 18 Pistil hairy, immature fruit often topped by the hairy base of the style: 19
- Pistil glabrous: 24
- 19 Flowers small; corolla in mature bud 2-4 mm. long; fruit small, up to 3 cm. diam., thin-walled, usually 1(-6)-seeded: 20
- Flowers larger; corolla in mature bud 5-11 mm. long; fruit large, 5 cm. diam. or more, thick-walled, many-seeded (if not, see No. 17): 22
- 20 Inflorescence distinctly longer than the leaves, large, many-flowered, 4-7 times branched (other characters as above, in two places) [5. dinklagei](#)
- Inflorescence up to half as long as the leaves, 1-3 times branched: 21
- 21 Inflorescence lax, few-flowered; corolla glabrous outside or with some minute hairs; style 2·5-3·5 mm. long (other characters as above) [7. splendens](#)
- Inflorescence congested, many-flowered; corolla pubescent outside; style 1 mm. long [16. talbotiae](#)
- 22 Corolla in mature bud 5-6 mm. long and rounded at apex, lobes 1·2-2 times as long as the tube; anthers bearded; style 1·5 mm. long; sepals 1·5 mm. long; fruit 4-5 cm. diam., thin-walled, 3-6-seeded; leaves about 8-20 cm. long, 4-10 cm. broad, mostly pale greenish-brown when dry [17. chrysophylla](#)
- Corolla in mature bud 7·5-11 mm. long and tapering at apex; anthers glabrous; style 4-6 mm. long; sepals 2-5 mm. long; fruit 5 cm. diam. or more, thick-walled, many-seeded; leaves mostly smaller, drying medium or dark brown, sometimes slightly glaucous: 23
- 23 Branchlets usually distinctly lenticellate; old leaves often thinly coriaceous, usually drying with a flat margin and with rather conspicuously reticulate tertiary venation above; inflorescence mostly congested; inflorescence-axis and pedicels often sparsely pubescent; corolla in mature bud 7·5-8 mm. long, tube 1·5 times as long as the lobes, lobes about twice as long as wide, 3-3·2 mm. long [18. densiflora](#)
- Branchlets lenticellate or not; old leaves often thickly coriaceous, usually drying with a recurved margin and smooth above; inflorescence lax; inflorescence-axis and pedicels glabrous; corolla in mature bud 7·5-11 mm. long, tube 1-1·2 times as long as the lobes, lobes 2·5-3 times as long as wide, 4-5 mm. long [19. nigritana](#)
- 24 Inflorescence, sepals and corolla outside, or some of these organs often partially hairy, if not then inflorescence large, lax, and provided with tendrils, and leaves dull beneath (in No. 21): 25
- Inflorescence, sepals and corolla outside entirely glabrous: 32
- 25 Corolla minutely pubescent outside, inside with 2 rings of white brush-like hairs; anthers bearded; inflorescence-axis, pedicels, and sepals outside shortly pubescent all over; fruits small, up to 4 cm. diam.; forest tree, 7-20 m. high [20. staudtii](#)
- Corolla glabrous or sometimes hairy outside, inside with only one ring of hairs, sometimes composed of brushes of which one is on or below each lobe; fruits small, up to 3 cm. diam.; climbers or shrubs with tendrils: 26
- 26 Inflorescence lax, about 0·5-1·5 times as long as the leaves, many-flowered, provided with tendrils; leaves dull beneath; sepals obtuse, glabrous outside; corolla in mature bud 6·5-8 mm. long, lobes 1·2-1·3 times as long as the tube; anthers glabrous [21. melastomatoides](#)
- Inflorescence lax or congested, without tendrils, if more than half as long as the leaves corolla in mature bud up to 5 mm. long or leaves shining or matt beneath: 27
- 27 Tall tree without tendrils; inflorescence-axis pubescent (other characters as above) [11. mitis](#)
- Climbers, shrubs, or trees (?), with tendrils or not (?) (habit of No. 22 unknown; No. 26 may be a tree as far as known from E. African material): 28
- 28 Leaves dull beneath; midrib and secondary veins hardly or not prominent, tertiary venation inconspicuous; inflorescence congested; peduncle conspicuous, with 2 stripes of pubescence and a pair of bracteoles; sepals glabrous outside, rounded, distinctly ciliate; corolla in mature bud 3·5-4·5 mm. long, densely pilose inside; lobes 3·5 times as long as the tube [22. gnetifolia](#)
- Leaves shining or matt, never dull beneath; at least the midrib distinctly prominent beneath, peduncle without

- bracteoles; sepals acute or obtuse, if ciliate less distinctly so:..... **29**
- 29** Branches and branchlets green or pale greenish-brown when living, drying usually paler than in the next species, more or less distinctly quadrangular, not lenticellate; leaves mostly conspicuously 3-nerved, drying pale greenish-brown; inflorescence-axis shortly pubescent all over or with 2 stripes of pubescence; corolla in mature bud 3.5-5 mm. long, lobes 1-1.5 times as long as the tube; style 2-2.2 mm. long [23. *johnsonii*](#)
- Branches and branchlets often dark brown, terete, very often lenticellate, if not then corolla in mature bud 4-7.5 mm. long (in No. 25) or stamens included and leaves distinctly acuminate (in No. 24); leaves less conspicuously 3-nerved, drying pale or dark greenish-brown or brown: **30**
- 30** Stamens included; apex of anther reaching the hairy ring in throat; corolla in mature bud 4-5 mm. long, with a narrow brush-like ring of stiff hairs in the throat; anthers bearded; leaves papyraceous to subcoriaceous, distinctly acuminate; branches and branchlets not lenticellate; branchlets often with some ranked hairs as on the inflorescence-axis [24. *longicaudata*](#)
- Stamens exerted; anthers glabrous:..... **31**
- 31** Branches lenticellate or not; branchlets glabrous, not lenticellate; corolla in mature bud 4-7.5(-8.5) mm. long; tube 0.7-1.5(-3) times as long as the lobes, 2-4(-5) mm. long; style 2-6 mm. long; fruit 1-2 cm. diam., sometimes lenticellate; leaves usually more shining, thicker, and less distinctly acuminate than in No. 26 ..[25. *floribunda*](#)
- Branches usually dark brown, lenticellate; branchlets glabrous or shortly pubescent, lenticellate near the base, often covered by a pale skin which later splits and peels off; corolla in mature bud 2.5-3.5 mm. long, tube 1-1.4 mm. long, lobes 1.5 times as long as the tube; style 1-1.5(-2) mm. long; fruit 1-1.8 cm. diam., sometimes shortly stipitate [26. *usambarensis*](#)
- 32** Corolla with an entire or 5-lobed corona; whole plant drying dark brown or black; corolla in mature bud 8-11.5 mm. long; leaves large, 6-22 cm. long, 3-10 cm. broad; basal secondary veins mostly not more conspicuous than the others; fruits large, thick-walled [27. *camptoneura*](#)
- Corolla without corona; if plant drying dark brown or black then flowers smaller than in No. 27; corolla in mature bud up to 6 mm. long, and fruits small and thin-walled: **33**
- 33** Fruits large, thick-walled; inflorescence distinctly pedunculate, congested; corolla-lobes thick, inside with a flat brush of white hairs; anthers bearded; leaves large, 5-24 cm. long, 3-9 cm. broad, usually drying pale greenish-brown; stigma sessile (other characters as above) [15. *aculeata*](#)
- Fruits small, thin-walled, 1-3 cm. diam.; corolla-lobes not very thick; leaves if large drying darker (in No. 28):**34**
- 34** Leaves usually large, 5.5-21 cm. long, 2-10 cm. broad, mostly distinctly acuminate, strongly 3-nerved from above the base to the apex, papery to parchment-like, rarely coriaceous; inflorescence lax; flowers small, 4-merous; corolla in mature bud 2.5 mm. long, lobes 2-6 times as long as the tube; style 0.4-0.8 mm. long; sepals small, 0.4-1 mm. long, nearly halfway connate; branches often umbellately branched and shortly below the branching point provided with a tendril [28. *icaja*](#)
- Leaves smaller, main secondary veins not very distinct near the apex if reaching it; inflorescence mostly congested; sepals connate at the base; tendrils arranged otherwise: **35**
- 35** Leaves parchment-like, distinctly acuminate, acumen 7-12 mm. long, mostly dark brown or black when dry; branches hardly or not lenticellate; inflorescence congested; flowers small: **36**
- Leaves coriaceous or thinly coriaceous, if distinctly acuminate branches mostly distinctly lenticellate (in Nos. 25 and 26, below) or drying paler, mostly greenish-brown (in No. 31): **37**
- 36** Stamens included; anthers bearded; branchlets and inflorescence sometimes sparsely pubescent; tendrils pubescent (other characters as above) [24. *longicaudata*](#)
- Stamens exerted; anthers glabrous; branchlets, inflorescence and tendrils glabrous; leaves mostly dull and shrivelled when dry; corolla in mature bud about 3-4 mm. long, pilose on the base of the lobes inside and at the tube apex, lobes nearly twice as long as the tube; style about 1.7 mm. long [29. *odorata*](#)
- 37** Leaves rounded, apiculate, or shortly acuminate at apex, often oblong-obovate, coriaceous, shining on both sides, especially above; corolla in mature bud about 6 mm. long, pilose on the base of the lobes inside and at the tube apex, lobes about as long as the tube, narrow, strap-shaped, recurved; style 3-5 mm. long [30. *barteri*](#)
- Leaves acuminate, never rounded at the apex: **38**
- 38** Flowers small; corolla in mature bud 2.5-3.5 mm. long (other characters as above) [26. *usambarensis*](#)
- Flowers larger; corolla in mature bud 4-7.5(-8.5) mm. long:..... **39**
- 39** Flowers 4-merous; corolla very densely pilose inside, usually also on the apices of the lobes, in mature bud 6-5 mm. long and tapering at the apex; branches and branchlets not lenticellate, pale brownish-green when dry; fruit about 2.5-3 cm. diam.; leaves often distinctly acuminate [31. *ndengensis*](#)
- Flowers usually 5-, rarely 4-merous; sepals approximately triangular; corolla densely pilose inside, but glabrous on apices of the lobes, in mature bud mostly rounded at the apex (other characters as above) [25. *floribunda*](#)

1. *Strychnos spinosa* Lam. Illustr. 2: 38 (1794); Aubrév. Fl. For. Soud.-Guin. 438, t. 96, 1-4; E. A. Brace in Kew Bull. 10: 42 (1955); Bruce & Lewis in F.T.E.A. Loganiac. 20, fig. 3, 15-16 (1960);

Verdoorn in Fl. S. Afr. 147. *APD acc*

Strychnos lokua A. Rich. Tent. Fl. Abyss. 2: 53 (1851).

Strychnos laxa Solered. in Engl. Bot. Jahrb. 17: 573 (1893).

Strychnos buettneri Gilg (1893)-F.T.A. 4, 1: 535 (1903).

Strychnos spinosa var. *pubescens* Bak. in F.T.A. 4, 1: 537.

Strychnos djalonis A. Chev. Bot. 442, name only; Rev. Bot. Appliq. 27: 358 (1947).

A small tree up to 20 ft. high with light spreading crown and branches armed with spines; branchlets and leaves sometimes softly pubescent; flowers greenish-white, in short compound cymes; corolla not split; fruit with a hard yellow shell; **in savanna woodland**.

Sen.: Perrottet! **Gam.:** Georgetown to Kuntaur (fr. Jan.) Dalz. 8072! **Port. G.:** Canchungo, Empacaca (Apr.) Esp. Santo! 945! Falacunda (fr. May) Esp. Santo 2035! **Guin.:** Moria (Feb.) Sc. Elliot 4801! Parana, 3,200 ft. (Mar.) Sc. Elliot 5384! Rio Nunez (Mar.-Apr.) Heudelot 813! Kaba to Mamou (May) Chev. 12716! Ditinn (Apr.) Chev. 12179 bis! Konkouré to Timbo (Mar.) Chev. 12461! **S. L.:** Thomas 10261! Newton (Mar.-June) Garner in Hb. Deighton 2491! Deighton 2992! **Iv. C.:** Bounoukou Aubrév. 1609. Ferkéssédougou Aubrév. 1871. Bouaké (fl. & fr. Apr.) Leeuwenberg 3288! **Ghana:** Yendi (Apr.) Vigne FH 1693! Tamale to Yendi (Mar.) Adams 3869! Bonkwe Hill, Ashanti (fr. June) Chipp 489! Kulmasa to Jagalo (Feb.) Kitson 665! Pan to Bujan (Apr.) Kitson 908! **Togo Rep.:** Kersting 102! **N. Nig.:** Nupe Barter 1140! 1705! Zamfara F.R. (Apr.) Keay FHI 15608! Katagum Dalz. 373! Anara F.R., Zaria (fr. Sept.) Olorunfemi FHI 24385! Agaie (fl. & young fr. May) Yates 54! Abinsi (Mar.) Dalz. 924! **S. Nig.:** Ijaiye F.R., Oyo Prov. (Mar.) Keny & Ladipo FHI 21190! Ado Ischu Rowland 5!

Throughout tropical and S. Africa, Madagascar and Mauritius. West-Skinn 45! **S. Nig.:** Usonigbe F.R., Benin Onochie FHI 35670!

Also in **Cameroun**, **Gabon** and **Congo**.

3. *Strychnos congolana* Gilg in Engl. Bot. Jahrb. 28: 120 (1893); F.T.A. 4, 1: 521; E. A. Bruce in Kew Bull. 10: 38 (1955) (excl. syn. *S. djalonis* A. Chev.); Bruce & Lewis in F.T.E.A. Loganiac. 16; Leeuwenberg in Act. Bot. Neerl. 11: 48-49, fig. 2 (1962). *APD acc*

Strychnos lecomtei A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 22 (1931); and in Kew Bull. 1937: 333; Chev. in Rev. Bot. Appliq. 27: 368.

Strychnos viridiflora De Wild. in Pl. Bequaert. 2: 101 (1923).

Strychnos chloropetala A. W. Hill in Kew Bull. 1930: 175.

Large climber, up to 130 ft. high in trees with paired tendrils, when regrowing from stump shrub-like and often flowering, rarely spiny; corolla-tube split above the insertion of the stamens; **in forest**.

Iv. C.: Adiopodoumé (fl. & fr. Apr.) Leeuwenberg 3146! 3701! (June) Leeuwenberg 4467! Bingerville Chev. 15402! **S. Nig.:** Calabar Thomson 121!

Also in **Cameroun**, **Congo** and **E. Africa**.

4. *Strychnos dolichothyrsa* Gilg ex Onochie & Hepper Kew Bull. 16: 385 (1962). *APD acc*

Climber with tomentellous inflorescence-axis and terminal cymes; **in forest**.

S. Nig.: Afi River F.R., Ogoja Prov. (fl. & fr. May) Latilo FHI 31811!

Also in **Cameroun**.

5. *Strychnos dinklagei* Gilg in Engl. Bot. Jahrb. 28: 121 (1899); F.T.A. 4, 1: 520. *APD acc*

A climber with flowers in terminal and axillary cymes; **in forest**.

Lib.: Grand Bassa Dinklage 2100! **Iv. C.:** Abouabou (Apr.) Leeuwenberg 3332! Brafouédi (fl. Apr., fr. Mar.) Leeuwenberg 3326! 3706!

Strychnos innocua *APD acc*

6. *Strychnos innocua* subsp. *innocua* var. *innocua* -Cent. Pl. Afr. 53 (1826); F.T.A. 4, 1: 532; Bullock & Bruce in Kew Bull. 1938: 45; Bruce & Lewis in Kew Bull. 11: 270; and in F.T.E.A. Loganiac. 25; Aubrév. Fl. For. Soud.-Guin. 440; t. 96, 5-7. *APD acc*

Strychnos alnifolia Bak. in Kew Bull. 1895: 150; F.T.A. 4, 1: 532.

Small tree up to 30 ft. high with axillary clusters of creamy-white or greenish-yellow flowers and thick-walled spherical fruits; [in savanna woodland](#).

Mali: Ouassana to Dendéla (Mar.) Chev. 623! **Ghana:** various localities (May) Kitson 664! 775! 30 miles from Navrongo on Tumu road (fr. Dec.) Adams & Akpabla GC 4359! **N. Nig.:** Katagum Dalz. 421! Jog (Aug.) Keay FHI 12713! **S. Nig.:** Lagos Rowland! Ijaiye F.R., Oyo Prov. (Mar.) Keay FHI 21182!

Also in [Congo](#), [Sudan](#), [Ethiopia](#), [E. Africa](#) and [S. Rhodesia](#).

- 6a. *Strychnos innocua subsp. innocua var. pubescens* *Solered.* in Engl. Bot. Jahrb. 17; 556 (1893); Bruce & Lewis in F.T.E.A. Loganiac. 26.

APD: Synonym of Strychnos innocua Delile

Strychnos triclisioides *Bak.* in Kew Bull. 1895: 98; F.T.A. 4, 1: 533.

A small tree up to 30 ft. high (other characters as in No. 6); [in savanna woodland](#).

Guin.: Kankan (Mar.) Chev. 571. **Iv. C.:** Ferkéssédougou Hb. I.D.E.R.T. 1284! **Ghana:** Gurumbele to Bantala (fr. Apr.) Kitson 909! **N. Nig.:** Nupe Barter 1160! Sokoto (fl. & fr. May) Lely 836! Anara F.R., Zaria Prov. (May) Keay FHI 22965! Jos Plateau (Feb.) Lely P115! Yola (Apr.) Dalz. 197!

Also in [Cameroun](#), [Ubangi-Shari](#), [Ethiopia](#), [Sudan](#), [E. Africa](#), [N. Rhodesia](#), [Congo](#) and [Angola](#).

7. *Strychnos splendens* *Gilg* in Engl. Bot. Jahrb. 17: 571 (1893); F.T.A. 4, 1: 524. *APD acc*

Strychnos chrysocarpa *Bak.* in Kew Bull. 1895: 98; F.T.A. 4, 1: 529.

(?) *S. acutissima* *Gilg* in Engl. Bot. Jahrb. 23: 200 (1896); F.T.A. 4, 1: 524.

Strychnos odorata *A. Chev.* in Rev. Bot. Appliq. 27: 373 (1947), partly (Dinklage 2914; Chev. 19273).

A climber with paired tendrils and fragrant creamy-white flowers in axillary cymes; [in forest](#).

Sen.: Sanoukou (fr. Feb.) Roberty 16747! **Port. G.:** Ponte de Timbo, Catio (Oct.) Esp. Santo 2191! 2192! Prabís, Bissau (fr. Mar.) Esp. Santo 1856! Cumura, Bissau (fr. Nov.) Esp. Santo 2230! **S. L.:** Afzelius! Bayabaya, Scarcies R. (fr. Feb.) Sc. Elliot 4292! Baiima (Aug.) Deighton 6108! Wilberforce (fr. Mar.) Johnston 98! **Lib.:** Monrovia (fr. Oct.) Dinklage 2914! Peahtah (fr. Oct.) Linder 1084! Jenne, Loffa R. (fr. Jan.) Bequaert 31! Kondessu, Boporo Dist. (fr. Dec.) Baldwin 10662b! Mecca (fr. Dec.) Baldwin 10791! **Iv. C.:** Brafouédi (July) Aké Assi 3101! (fr. Apr.) Leeuwenberg 3331! **Ghana:** Burton & Cameron! Prang, N.T. (June) Vigne FH 3901! Abetifi (Aug.) Plumtre GC 205! **S. Nig.:** Ibadan South F.R. (July-Aug.) Ahmed & Chizea FHI 19782! Keay FHI 25366! Owo F.R. (fr. Apr.) Jones FHI 3133! Ukon F.R., Obubra Div. (July) Latilo FHI 31874!

8. *Strychnos memecyloides* *S. Moore* in Cat. Talb. 69 (1913); F.W.T.A., ed. 1, 2: 24 (1931), partly (excl. syn. *S. talbotiae* *S. Moore*). *APD acc*

Strychnos memecyloides var. effusior *S. Moore* l.c 70 (1913).

An erect or climbing shrub with comparatively large leaves and whitish flowers in short pubescent axillary cymes.

S. Nig.: Afi River F.R., Ogoja (fr. May) Latilo FHI 31806! Stubbs Creek F. R., Eket Dist. (fr. May) Onochie FHI 32910! Oban Talbot 2078! 2079! [**Br.**] **Cam.:** Mombo, S. Bakossi (fr. May) Olorunfemi FHI 30563!

9. *Strychnos ngouniensis* *Pellegr.* in Bull. Mus. Hist. Nat. 32: 394 (1926); in Mém. Soc. Linn. Norm., n. sér., 1: 37, fig. 8 (1928) (as ngounyensis). *APD acc*

Strychnos soubrensis *Hutch. & Dalz.*, F.W.T.A., ed. 1, 2: 22 (1931); Kew Bull. 1937: 333; Chev. in Rev. Bot. Appliq. 27: 368, t. 17A (1947).

Strychnos jollyana *Pierre ex A. Chev.* l.c 364, t. 14 (1947), partly, excl. fruits.

A climber with paired tendrils and white flowers in axillary and terminal cymes; [in forest](#).

S. L.: Afzelius! Kumrabai (fr. Oct.) Thomas 7080! **Lib.:** Mecca, Boporo Dist. (fr. Nov.) Baldwin 10412! Woeme, Vonjama Dist. (fr. Oct.) Baldwin 10097! Soplina, Vonjama Dist. (fr. Nov.) Baldwin 10062! **Iv. C.:** Dabou Jolly 203! Baléko, 76 km. N. of Sassandra (Apr.) Leeuwenberg 3216! Soubré, Sassandra Valley (May) Chev. 17994! **S. Nig.:** Sapoba, Benin (fr. Nov.) Meikle 636! (fr. Apr.) Onyeagocha FHI 7130! Onipanu, Ondo Prov. (fr. Dec.) Onochie FHI 5227! Ibadan South F.R. (Apr.) Keay FHI 22809!

Also in [Gabon](#) and [Congo](#).

10. *Strychnos boonei* *De Wild.* in Bull. Jard. Bot. Brux. 5: 46 (1916); Bruce & Lewis in F.T.E.A. Loganlac. 30. *APD acc*

A liane with solitary tendrils and fragrant white flowers in rather few-flowered axillary cyme; leaves brown-pubescent at base beneath; *in forest*.

S. Nig.: Ojogba-Ugun F.R., Ishan (June) Olorunfemi FHI 38067! Ugo to Jesse, Sapoba F.R. (May) Keay FHI 37032! Ugo, Usonigbe F.R. (fl. A fr. July) Charter FHI 38704!

Also in *Cameroun*, *Congo* and *Uganda*.

11. *Strychnos mitis* *S. Moore* in J. Linn. Soc. 40: 146 (1911); Duvigneaud in Bull. Soc. Bot. Belg. 86: 24 (1952); Bruce & Lewis in F.T.E.A. Loganiac. 21. *APD acc*

A tall tree without spines or tendrils; branchlets pubescent; flowers in short axillary cymes; fruits yellow or orange.

S. L.: Falaba, near Berria (fr. Mar.) Sc. Elliot 5418!

Also in *Angola*, *Uganda*, *Kenya*, *Tanganyika*, *Sudan*, *S. Rhodesia* and *Mozambique*.

[Note: In E. Africa this species is a tree of upland and lowland rain-forest and fringing forest, 30 to more than 100 ft. high, with branchlets glabrous or more rarely pubescent. The specimen cited here has densely pubescent branchlets with the V-shaped hairs which are also found in the pubescent form of the species in E. Africa.]

12. *Strychnos afzelii* *Gilg* in Engl. Bot. Jahrb. 17: 572 (1893); F.T.A. 4, 1: 522; Chev. in Rev. Bot. Appliq. 27: 367, t. 17C (1947). *APD acc*

Strychnos zizyphoides *Bak.* in F.T.A. 4, 1: 522 (1903).

Strychnos erythrocarpa *Gilg* in Engl. Bot. Jahrb. 23: 199 (1896).

Strychnos caryophyllus *A. Chev.* Bot. 442, name only.

Strychnos odorata *A. Chev.* in Rev. Bot. Appliq. 27: 373 (1947), partly (Chev. 17404; 17765; 17895).

A liane with solitary tendrils and very small white flowers in many-flowered axillary cymes; *in forest*.

Sen.: Leprieur! Perrottet 489! *Port. G.*: Brene, Bissau (fl. & fr. Jan.) Esp. Santo 1720! Prabis, Bissau (Feb.) Esp. Santo 1811! *S. L.*: Sugarloaf Mt. (fr. Dec.) Sc. Elliot 4015! Moria, Scarcies (fr. Feb.) Sc. Elliot 4480! Mayoso (Aug.) Thomas 1442! Jigaya, 1,100 ft. (Sept.) Thomas 2583! Bumpe (fl. & fr. July-Nov.) Deighton 4839! 4928! *Lib.*: Du R. (July) Linder 176! Peahatah (fl. & fr. Oct.) Linder 909! Dukwia R. (Feb.) Cooper 180! *Iv. C.*: Alépé Chev. 17404! 17895! Aboisso Chev. 17765! Guidéko to Soubré, Mid. Sassandra R. (June) Chev. 19100! Mt. Kouen (Apr.) Chev. 21272! *Ghana*: Burton & Cameron! Wurubong to Okraji (May) Kitson 1138! Alabadi (Apr.) Scholes 289! *Togo Rep.*: Baumann 558. *S. Nig.*: Ilaro F.R. (fl. & fr. Dec.) Onochie FHI 31878! Gambari F.R. (fr. Oct.) Onochie FHI 32235! Ogbesse R., Owo Dist. (Apr.) Jones FHI 3529!

13. *Strychnos malacoclados* *C. H. Wright* in F.T.A. 4, 1: 523 (1903). *APD acc*

Strychnos pansa *S. Moore* in Cat. Talb. 68 (1913).

A liane with solitary tendrils and bright orange flowers in lax axillary cymes; fruit small.

Iv. C.: Bianouan, Bia R. Leeuwenberg 3938! about 30 km S.W. of Guéyo Leeuwenberg 4114! 56 km N. of Sassandra Leeuwenberg 3994! Hana R., Tai to Tabou (fr. Mar.) de Wilde & Leeuwenberg 3613! *Ghana*: Pamu, Berekum F.R. (Sept.) Vigne FH 2515! *S. Nig.*: Oban Talbot 1661!

Also in *Cameroun* and *Gabon*.

14. *Strychnos angolensis* *Gilg* in Engl. Bot. Jahrb. 17: 571 (1893); F.T.A. 4, 1: 522; E. A. Bruce in Kew Bull. 11: 167. *APD acc*

Strychnos cinnabarina *Gilg ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 24 (1931); Kew Bull. 1937: 336.

A liane with solitary tendrils and flowers in short puberulous axillary cymes; *in forest*.

S. Nig.: Eket Dist. Talbot!

Also in *Cameroun*, *Gabon*, *Congo*, *Angola* and *E. & S. tropical Africa*.

15. *Strychnos aculeata* *Solered.* in Engl. Bot. Jahrb. 17: 544 (1893); F.T.A. 4,1: 520; Chev. Bot. 442.

APD acc

Strychnos mortehani De Wild. in Bull. Jard. Bot. Brux. 5: 50 (1915).

Strychnos pseudo-jollyana A. Chev. in Rev. Bot. Appliq. 2: 366 (1947), partly (Chev. 16351; 16395).

A lofty liane with large fruits and prominent internodal prickles; **in forest**.

S. L.: Bagroo R. (Apr.) Mann 853! Njala (fl. & fr. May) Deighton 5052! **Iv. C.:** Guidéko, Sassandra Valley (May) Chev. 16351! 16368! 16395! Alépé (Mar.) Chev. 17894! **S. Nig.:** Abe, Sapoba F.R., Benin (Nov.) Onochie FHI 35969! Oban Talbot 1381! 2013! **F. Po.:** (Jan.) Mann 175!

Also in **Cameroun, Gabon, the Congos, Angola** and tropical E. Africa.

[Note: The ultimate branchlets sometimes lack the characteristic internodal prickles.]

16. *Strychnos talbotiae* S. Moore in Cat. Talb. 69 (1913). *APD acc*

An erect shrub with flowers in short dense axillary cymes.

S. Nig.: Oban Talbot 2077!

Also in **Congo**.

17. *Strychnos chrysophylla* Gilg in Engl. Bot. Jahrb. 28: 119 (1899); F.T.A. 4, 1: 525. *APD acc*

Strychnos eketensis S. Moore in J. Bot. 52: 29 (1914).

A liane with ribbed branches, shining, rather leathery leaves with very prominent midribs; **in forest**.

S. Nig.: Kwa Ibo R., Eket Talbot 3237!

Also in **Cameroun** and **Gabon**.

18. *Strychnos densiflora* Baill. Adansonia 12: 369 (1879); F.T.A. 4, 1: 528 (1903); Chev. in Rev. Bot. Appliq. 27: 372, t. 16A (1947). *APD acc*

Strychnos suaveolens Gilg in Engl. Bot. Jahrb. 17: 566 (1893).

Strychnos chlorocarpa Gilg l.c 28: 120 (1899).

Strychnos martreti A. Chev. Etudes Fl. Afr. cent. fr. 204 (1913), name only.

Strychnos hirsutostylosa De Wild. (1915).

A liane with paired tendrils and with yellowish flowers in dense axillary cymes; **in forest**.

Guin.: Rio Nunez Heudelot 861! Erimakuna (= Hérémakon) (Mar.) Sc. Elliot 5406! **S. Nig.:** Oban Talbot!

Also in **Cameroun, Gabon, Ubangi-Shari** and **Congo**.

19. *Strychnos nigritana* Bak. in Kew Bull. 1895: 97; F.T.A. 4, 1: 523. *APD acc*

Strychnos vogelii Bak. in Kew Bull. 1895: 96.

Strychnos ciliicalyx Gilg in Schlecht. Westafr. Kautschuk.-Exped. 304 (1900), name only; Gilg & Busse in Engl. Bot. Jahrb. 36: 95 (1905).

Strychnos imbricata A. W. Hill, name only.

Strychnos fleuryana A. Chev. Bot. 443, name only.

A liane with few-flowered axillary cymes; **in fringing forests**.

Iv. C.: Ahinta, Sanvi (Mar.) Chev. 17754! Prolo to Blérion, Lower Cavally (Aug.) Chev. 19888! **Ghana:** Kintampo (Mar.) Dalz. 19! **Togo Rep.:** Quamikrum (Mar.) Schlechter 12957! **Dah.:** Little Popo (July) Cole! **N. Nig.:** Idda (Sept.) T. Vogel 49! Nupe Barter! R. Bahago. Anara F.R., Zaria Prov. (fr. Oct.) Keay FHI 20121! Katabua, Anara F.R. (May) Keay FHI 22909! **S. Nig.:** Lagos (Apr.) Barter 2232! Dalz. 1154! Epe Barter 3249! Warri (Mar.) Freeman 319! Owenna R., Shasha F.R. (Feb.) Jones & Onochie FHI 16969! Ijaiye F.R., Oyo Prov. (Apr.) Onochie FHI 21957!

Also in **Cameroun** and **Ubangi-Shari**.

20. *Strychnos staudtii* Gilg in Notizbl. Bot. Gart. Berl. 1: 182 (1896); F.T.A. 4,1: 528. *APD acc*

A tree up to 65 ft. high and 6 ft. girth with whitish flowers in short axillary cymes; slash light brown; **in forest**.

[**Br. Cam.:** Koto Barombi (Feb.) Lobe Babute Cam./37/36! Baimayan to Barombi (Feb.) Binuyo & Daramola FHI 35511! Ebonji, Kumba Dist. (fr. May) Olorunfemi FHI 30598! Johann-Albrechtshöhe (= Kumba) Staudt 616! 966!

21. *Strychnos melastomatoides* Gilg in Engl. Bot. Jahrb. 23: 201 (1896); F.T.A. 4, 1: 527. *APD acc**Strychnos syringiflora* A. Chev. in Mem. Soc. Bot. Fr. 2, 8: 48 (1908); Chev. Bot. 444.

Shrub or straggly tree with white fragrant flowers; tendrils mostly on inflorescences.

Guin.: Kaba Valley, Farana (May) Chev. 13181! **S. L.:** Afzelius! Kahreni (Apr.) Sc. Elliot 5592! "Konnoh Country" Burbridge 485! Taïama (Mar.) Deighton 3375!**22. *Strychnos gnetifolia* Gilg ex Onochie & Hepper** in Kew Bull. 16: 385 (1962). *APD acc*Erect shrub or liane with leathery leaves and flowers in compact few-flowered axillary cymes; **in forest**.**S. Nig.:** Oban Talbot 574!Also in **Cameroun**.**23. *Strychnos johnsonii* Hutch. & M. B. Moss** F.W.T.A., ed. 1, 2: 24 (1931); Kew Bull. 1937: 335, partly (excl. Sc. Elliot 4292). *APD acc**Strychnos goniodes* Duvign. in Bull. Séanc. Inst. Roy. Col. Belg. 19: 221 (1948), name only.Liane with flowers in loose axillary cymes; tendrils paired; **in forest**.**S. L.:** Madina (Sept.) Adames 74! Rowalla (fr. July) Thomas 1188! **Iv. C.:** Abidjan (Sept.) de Wilde 298! **Ghana:** Akropong (Oct.) Johnson 802! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7336! **S. Nig.:** Etemi Odo, Omo F.R. (fl. & fr. Nov.) Tamajong FHI 20739! Benin Kennedy 2195!Also in **Cameroun**, **Congo** and **Angola**.**24. *Strychnos longicaudata* Gilg** in Engl. Bot. Jahrb. 17: 570 (1893); F.T.A. 4, 3: 527 (both as *longicaudata*). *APD acc**Strychnos brevicymosa* De Wild. in Rev. Zool. Afr. 10, Suppl. Bot. 5: 6 (1922).*Strychnos nigrovillosa* De Wild. Pl. Bequaert. 2: 95 (1923).Liane with solitary pubescent tendrils; branchlets and inflorescence-axis often with ranked hairs; **in forest**.**Iv. C.:** Davo R., 34 km N. of Sassandra (Apr.) Leeuwenberg 4018! Oumé (May) Leeuwenberg 4144! Sassandra R., 38 km E. of Duékoué (Apr.) Leeuwenberg 3901! **S. Nig.:** Omo F.R., Ijebu Prov. (fl. & fr. May) Tamajong & Latilo FHI 16782!Also in **Cameroun** and **Congo**.**25. *Strychnos floribunda* Gilg** in Engl. Bot. Jahrb. 17: 566 (1893); F.T.A. 4, 1: 527. *APD acc**Strychnos welwitschii* Gilg l.c. 573; F.T.A. 4, 1: 524; E. A. Bruce in Kew Bull. 10: 627, fig. 1A.*Strychnos moloneyi* Bak. in Kew Bull. 1895: 97; F.T.A. 4, 1: 527; F.W.T.A., ed. 1, 2: 24, partly (excl. syn. *S. chrysocarpa* Bak.).*Strychnos togoensis* Gilg & Busse in Engl. Bot. Jahrb. 36: 96 (1905).*Strychnos littoralis* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 22 (1931); Kew Bull. 1937: 334; Chev. Bot. 443, name only; Chev. in Rev. Bot. Appliq. 27: 370, t. 19A (1947).*Strychnos warneckeii* Gilg, name onlyClimbing shrub or liane; tendrils solitary; flowers in axillary cymes; fruits orange-yellow, globose; **in forest**.**S. L.:** Yonibana (fr. Nov.) Thomas 5032! Berria (fr. Mar.) Sc. Elliot 5431! **Lib.:** Duport (fr. July) Dinklaga 3067! **Iv. C.:** Tabou to Bériby (Aug.) Chev. 19953! Abouabou (fr. Feb.) de Wilde & Leeuwenberg 3441! **Ghana:** Kwase, Cape Coast Dist. (fr. Nov.) Chipp 574! Adeiso, E. Prov. (fr. Mar.) Irvine 2412! **Togo Rep.:** Lomé Warnecke 369! Tohoué (fl. & fr. Jan.) Chev. 22776! Sokodé (fr. Nov.) Kersting 691. **S. Nig.:** Lagos Dalz. 1415! Rowland! Etemi, Omo F.R. (fr. Mar.) Jones & Onochie FHI 16632! Idanre (fr. Jan.) Brenan & Keay 8652! Onitsha Barter 1813! Akpaka F.R., Onitsha (fr. Sept.) Onochie FHI 34052! Abakaliki to Obubra (fr. Apr.) Kitson! **[Br.] Cam.:** Tiko (fr. Jan.) Dunlap 168! Likomba (fl. & fr. Oct.) Mildbr. 10521! 10527! Gangumi, Adamawa (fr. Dec.) Latilo & Daramola FHI 28849!Also in **Cameroun**, **Gabon**, **the Congos** and **Angola**.**26. *Strychnos usambarensis* Gilg** in Engl. Pflanzenw. Ost.-Afr. C: 311 (1895); F.T.A. 4, 1: 526; E. A. Bruce in Kew Bull. 10: 627, fig. 1B (1956); Bruce & Lewis in F.T.E.A. Loganiac. 34. *APD acc**Strychnos micans* S. Moore in J. Linn. Soc. 40: 146 (1911).

Strychnos cooperi Hutch. & M. B. Moss F.W.T.A., ed. 1, 2: 24 (1931); Kew Bull. 1937: 336.

Liane with solitary tendrils, shrub or small tree (known in E. Africa as a tree up to 80 ft. high); branchlets conspicuously lenticellate, ultimate ones often covered with a pale skin which later splits and peels off; flowers greenish-yellow, in few-flowered axillary cymes; **in forest thickets**.

S. L.: Thomas 10493! Bumbuna (fr. Oct.) Thomas 3898! **Lib.:** Dukwia R. (Mar.) Cooper 300! **Iv. C.:** Sassandra R., 14 km. N. of Sassandra (Apr.) Leeuwenberg 3241! **Ghana:** Cape Coast (Feb.-Mar.) Hall 1031! 1080! Achimota (Mar.-June; fl. & fr. July) Irvine 343! 1456! Milne-Redhead 5123! **N. Nig.:** Sanga River F.R. (fl. & fr. Apr., May) E. W. Jones 60! **S. Nig.:** Abeku, Omo F.R. (fr. Feb.) Jones & Onochie FHI 17152! Olokemeji F.R. (fr. Sept.-Nov.) Onochie FHI 14548!

Also in **Uganda, Kenya, Tanganyika, Mozambique, S. Rhodesia** and **S. Africa**.

27. *Strychnos camptoneura* Gilg & Busse in Engl. Bot. Jahrb. 36: 93 (1905); in Wiss. Erg. Zw. Zentr.-Afr. Exp. 62 (1922); Leeuwenberg in Act. Bot. Neerl. 11: 48, fig. 1 (1962). **APD acc**

Scyphosttrychnos talbotii S. Moore in Cat. Talb. 71, t. 10 (1913); F.W.T.A., ed. 1, 2: 24.

Scyphosttrychnos psittaconyx Duvign. in Bull. Class Sci. sér. 5, 34: 98, fig. 1 (1948).

Large liane, drying dark brown or black; tendrils in 2 pairs above each other; fruit very large, up to 61/2 in. long, 5 in. broad.

Iv. C.: Mé R. Leeuwenberg 4171! Bianouan, Bia R. (fr. Apr.) Leeuwenberg 3974! **S. Nig.:** Omo F.R., Ijebu Dist. Onochie FHI 15529! Sapoba, Benin (fr. Sept.) Kennedy 2220! Onochie FHI 34318! Oban Talbot 1664! **[Br.] Cam.:** Victoria (immature fr. July) Buchholz.

Also in **Cameroun, Gabon** and **Congo**.

28. *Strychnos icaja* Baill. Adansonia 12: 368 (1879); Bull. Soc. Bot. Fr. 58: 528, t. 18 (1911); Rev. Bot. Appliq. 27: 206, t. 11 (1947). **APD acc**

Strychnos dewevrei Gilg in Engl. Bot. Jahrb. 28: 119 (1899).

Strychnos kipapa Gilg in Notizbl. Bot. Gart. Berl. 2: 256 (1899), and in Engl. Bot. Jahrb. 28: 118 (1899).

Strychnos pusilliflora S. Moore in Cat. Talb. 70 (1913).

Strychnos venulosa Hutch. & M. B. Moss F.W.T.A., ed. 1, 2: 24 (1931); Kew Bull. 1937: 334.

A stout liane with branchlets bearing solitary tendrils; flowers minute, borne in slender rather open axillary panicles; fruit globose; **in forest**.

S. L.: Falaba (Apr.) Aylmer 58! **Lib.:** Peahtah (fr. Oct.) Bequaert 1073! **Iv. C.:** Sassandra Leeuwenberg 4026! about 30 km. S.W. of Guéyo Leeuwenberg 3732! Hana R., Taï to Tabou (Mar.) de Wilde & Leeuwenberg 3521! Nimba Mts., 1,200 ft. Schnell 1046! **S. Nig.:** Oban Talbot 157! 1256!

Also in **Cameroun, Ubangi-Shari, Gabon** and **Congo**.

29. *Strychnos odorata* A. Chev. in Rev. Bot. Appliq. 27: 372 (1947), partly (only the type). **APD acc**

An entirely glabrous liane with paired tendrils; leaves like parchment, often drying dark brown or black.

Lib.: Ganta (Aug.) Harley 989! Peahtah (Oct.) Linder 1065! **Iv. C.:** Abidjan Chev. 15435! Aboisso (Apr.) Chev. 17824! 20 km S.W. of Guéyo (May) Leeuwenberg 3737!

30. *Strychnos barteri* Solered. in Engl. Bot. Jahrb. 27: 556 (1839); F.T.A. 4, 1: 523. **APD acc**

A liane with tendrils in 1-3 pairs above each other and fragrant white flowers in dense-flowered axillary cymes; fruits globose, orange, one-seeded; **in forest**.

S. L.: Madina, Limba country (fl. & fr. Apr.) Sc. Elliot 5569! 5659! Rowalla (fr. July) Thomas 1055! **Iv. C.:** Bianouan, Bia R. Leeuwenberg 3952! 31 km. S. of Gagnoa, Davo R. Leeuwenberg 4116! 56 km. N. of Sassandra Leeuwenberg 3996! Mt. Tonkouï (fr. Apr.) Leeuwenberg 3855! **S. Nig.:** Sumoge, Oni R., Ijebu Prov. (Apr.) Keay FHI 16060! Shasha F.R. (Feb.) Richards 3094! Idanre (fl. A fr. Apr.) Symington FHI 3363! Onitsha Barter 1247! 1759! Ubulubu (fr. Jan.) Thomas 2265!

31. *Strychnos ndengensis* Pellegr. in Bull. Mus. Hist. Nat. 33: 267 (1927); Mém. Soc. Linn. Norm., n. sér., 1: 37 (1928). **APD acc**

Strychnos tricalysioides Hutch. & M. B. Moss F.W.T.A., ed. 1, 2: 24 (1931); Kew Bull. 1937: 334.

A liane with yellowish-white flowers in condensed axillary cymes; fruit globose, bright orange; midrib impressed above; **in forest**.

S. Nig.: Afi River F.R., Ikom Dist. (fr. May) Jones & Onochie FHI 18929! Omo F.R. (fr. Feb.) Tamajong FHI 16972! **[Br.] Cam.:** Likomba (Oct.) Mildbr. 10576!

Also in **Gabon**.

3. MOSTUEA

Didr.-F.T.A. 4, 1: 504; Leeuwenberg in Meded. Landb. Wageningen 61, 4: 1-31 (1961).

Coinochlamys *T. Anders. ex Benth.* (1876)-F.W.T.A., ed. 1, 2: 20.

- 1 Inflorescence with two large orbicular bracts covering the sepals; leaves more or less pilose, ovate, acuminate to subacute at apex, more or less rounded and unequal-sided at base, 1-4.5 cm. long, 6-20 mm. broad; fruits 2-lobed, pubescent to pilose [3. *hirsuta*](#)
- Inflorescence with small bracts never covering the sepals: **2**
- 2 Plant pubescent, pilose, or glabrous; hairs never erect: **3**
- Plant hirsute with stiff erect hairs, especially on the branchlets; leaves variable, elliptic to oblong-obovate, 6-65 mm. long, 4-27 mm. broad; sepals ovate-lanceolate to linear; inflorescences very short, 1-3-flowered [5. *batesii*](#)
- 3 Leaves shining when dry, entirely glabrous, equal-sided at base, elliptic to oblong-ovate, 2.5-7.5 cm. long, 1-3.5 cm. broad; sepals obtuse or acute, usually shorter than the ovary, connate for about half their length; capsule obcordate, pale brown, conspicuously veined; fruits reflex and apiculate at apex [1. *adamii*](#)
- Leaves dull when dry, usually with some hairs, variable in shape and size; sepals acute to subulate, usually longer than the ovary; capsule not conspicuously veined, mostly dark brown: **4**
- 4 Capsule dull, usually dark brown, mostly bilobed; branchlets densely appressed-pubescent to glabrous, if with hairs in two lines then lamina lanceolate; leaves extremely variable, orbicular to lanceolate [2. *brunonis*](#)
- Capsule shining, medium-brown, obcordate; branchlets apically with two lines of pubescence below the stipules; leaf often abruptly narrowed into the cuneate base, acuminate at apex, 1.5-5 cm. long, 8-24 mm. broad [4. *hymenocardioides*](#)

1. **Mostuea adamii** *Sillans* in Rev. Bot. Appliq. 33: 546, t. 5 (1953); Leeuwenberg in Meded. Landb. Wageningen 61, 4: 30, fig. 6, 1-5 (1961). *APD acc*

Shrub, 1-3 ft. high; leaves subcoriaceous; corolla white; fruit with longitudinal anastomosing veins; **in rain forest**.

Guin.: Bala, 3,600 ft., Macenta Dist. Adam 4190! **S. L.:** Namuyei R. Lane-Poole 331! **Lib.:** Peahtah Linder 978!

2. **Mostuea brunonis** *Didr.* in Vidensk. Meddel. Nat. Foren. Kjoeb. 1853: 87 (1854); F.T.A. 4, 1: 505; Leeuwenberg l.c. 14. *APD acc*

Mostuea thomsonii (*Oliv.*) *Benth.* in Hook. Ic. Pl. 12: 83 (1876); F.T.A. 4, 1: 505; F.W.T.A., ed. 1, 2: 20.

Mostuea angustifolia *Wernham* in Cat. Talb. 66 (1913); F.W.T.A., ed. 1, 2: 20.

Extremely variable shrub, 1-23 ft. high; sepals ovate to ovate-linear; corolla mostly white with a yellow base.

Ghana: Bonsasu (fl. & fr. May) Vigne FH 1972! **S. Nig.:** Afikpo (fl. & fr. Apr.) Jones FHI 1761! Cross R. North F.R., Ikom (fl. & fr. Dec.) Okafor FHI 41718! Oban (fr. May) Talbot 306! 1035! Calabar (fl. & fr. Dec.) Thomson 44! Robb! Ujor FHI 3084! Brenan 9247! **[Br.] Cam.:** Mokonyong (fr. Kov.) Tamajong FHI 22112!

Through much of tropical Africa, and in Madagascar.

Only var. *brunonis* occurs in our area (Leeuwenberg l.c. 19, figs. 3 & 4).

3. **Mostuea hirsuta** (*T. Anders. ex Benth.*) *Baill.* ex Bak. in F.T.A. 4, 1: 509 (1903); Chev. in Rev. Bot. Appliq. 27: 108, t. 6, 4 (1947); Leeuwenberg l.c. 7, fig. 1. *APD acc*

Coinochlamys hirsuta *T. Anders. ex Benth.* in Benth. & Hook. f. Gen. Pl. 2: 1091 (1876); F.W.T.A., ed. 1, 2: 20.

Shrub or undershrub, 1-6 ft. high, with hairy branchlets; corolla white, sometimes pale yellow or yellow-striped at the base; [in open places, in forest or savanna, sometimes in moist places; fire resistant.](#)

Port. G.: Catio (June) Esp. Santo 2067! **Guin.:** Karkandy Heudelot 880! Sementa Maclaud 280! Séguéa (Oct.) Adam 12634! Farmoreah (Apr.) Roberty 17336! Dollaga Roberty 17602! **S. L.:** Kamakuia (May) Thomas 265! Kamalu (May) Thomas 353! Binkolo (fr. Aug.) Thomas 1750! 1824! Bagroo R. (Apr.) Mann 811! Yamandu, near Baoma (fl. & fr. July) Deighton 5804! **iv. C.:** Aboisso Hb. I.D.E.R.T. 3816! Aboisso to Krinjabo Hb. I.D.E.R.T. 3838! **N. Nig.:** Dogon Kurmi, Sanga River F.R. (Apr.-May) E. W. Jones FHI 42232! Samban Kwoi, Zaria Wimbush FHI 39620! **S. Nig.:** Engenni, Brass Dist. (fl. & fr. May) Mallam FHI 18302! Oron to Eket Talbot! **[Br.] Cam.:** Su, Bamenda (May) Maitland 1692! S. Bakundu F.R., Kumba (fl. A fr. Mar.) Brenan 9453!

Also in [Cameroun](#), [Rio Muni](#), [Ubangi-Shari](#), [Sudan](#), [Gabon](#), [the Congos](#), [Cabinda](#) and [Angola](#).

4. *Mostuea hymenocardioides* *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 20 (1931); Kew Bull. 1937; 61; Chev. in Rev. Bot. Appliq. 27: 106; Leeuwenberg l.c 26, fig. 5, 1-5. *APD acc*

Rytigynia concolor of Robyns in Bull. Jard. Bot. Brux. 11: 190, partly (Chev. 15705); F.W.T.A., ed. 1, 2: 111, not of (Hiern) Robyns. *Vangueria concolor* of Chev. Bot. 330, not of Hiern.

Much-branched slender shrub up to 5 ft. high; flowers white, red inside.

Guin.: Kankan (Mar.) Chev. 596! Doubato (Mar.) Roberty 17167! Kouroussa Brossart in Hb. Chev. 15691! 15705! Farana Sc. Elliot 5308! Roberty 17231! Dantilia R. (fr. Mar.) Sc. Elliot 5268! **S. L.:** Tassin, Scarcies R. Sc. Elliot 4515! Njala (May) Deighton 3524! Ndilajula (Apr.) Deighton 3735! Laminaiya (Apr.) Thomas 123!

5. *Mostuea batesii* *Bak.* in F.T.A. 4, 1: 506 (1903); Leeuwenberg l.c 10, fig. 2, 10-20. *APD acc*

Shrub or undershrub 1-5 ft. high; corolla white, yellow at the base: [in secondary or rain forest.](#)

[Br.] Cam.: Nyasoso, N.E. of Kumba Schlechter 12936!

Also in [Cameroun](#), [Gabon](#) and [Congo](#).

4. SPIGELIA

Linn. Sp. Pl. 149 (1753); Leeuwenberg in Acta Bot. Neerl. 10: 460-465 (1961).

- 1 A herb up to 40 cm. high; stems glabrous; leaves 4 in a whorl at the end of the stem, broadly lanceolate, gradually acute, subsessile, 5-7 cm. long, 1.5-2.5 cm. broad, slightly scabrid on both surfaces; stipules connate; flowers in terminal secund spikes (cincirmi) up to 10 cm. long; calyx 2 mm. long, segments narrow, acute; corolla narrowly funnel-shaped, 1 cm. long, with 5 small lobes; fruits 5 mm. diam., 2-lobed, the upper part warted, base of fruit boat-shaped and persisting after the fall of the fruit[anthelmia](#)

Spigelia anthelmia *Linn. Sp. Pl.* 149 (1753); Leeuwenberg in Acta Bot. Neerl. 10: 461, fig. 1 (1961). *APD acc*

Herb up to 2 ft. high, with pink flowers; [common weed of waste places.](#)

Guin.: Conakry (May) Chillou 1453! **S. L.:** Binkolo (fl. & fr. Aug.) Deighton 1284! Makump (fl. & fr. May, Aug.) Deighton 1708! Dawe 505! Njala (fl. & fr. Sept.) Payne 5! Rokupr (fl. A fr. May) Jordan 258! **Lib.:** Monrovia (fl. & fr. Nov.) Linder 1540! Kakata (fl. & fr. Dec.-Apr.) Bequaert 189! Sinkor (fl. & fr. Jan.) Barker 1069! **iv. C.:** Abidjan (Nov.) Leeuwenberg 1925! **Ghana:** Benso (fl. & fr. July) Andoh FH 5516! Achimota (fl. & fr. June) Irvine 1446! Asokwa-Kumasi (fl. & fr. Aug.) Darko 708! **N. Nig.:** Jebba (fl. & fr. Dec.) Hagerup 718! **S. Nig.:** Lagos (fl. & fr. Oct.) Dalz. 1042! Olokemeji (fl. & fr. Apr.) W. D. MacGregor 289! Ibadan (fl. & fr. Mar.) Jones FHI 753! Port Harcourt (fr. June) Maitland A!

Native of tropical America and naturalised in W. Africa, Congo and [Ethiopia](#).

5. USTERIA

Willd. in Cothenius, Disp. 1 (Jan-May 1790); F.T.A. 4, 1: 517; F.W.T.A., ed. 1, 2: 24; Leeuwenberg & Stafleu in Taxon 10: 212 (1961), not of Medik. (Mar.-May 1790).

- 1 A climber with long internodes and smooth glabrous branchlets; leaves broadly elliptic, subacute to rounded at the apex, about 10 cm. long and 6 cm. broad, with 3-4 pairs of conspicuous lateral nerves; inflorescence a lax terminal panicle, minutely puberulous; enlarged calyx-lobe narrowly obovate, almost 1 cm. long; corolla 1-1.5 cm. long; stamen 1; fruit a capsule, oblong, 2-valved, about 3.5 cm. long, 1 cm. broad [guineensis](#)

Usteria guineensis Willd. in Schr. Berlin Ges. Naturf. Fr. 10: 51 (1790); F.T.A. 4, 1: 517; F.W.T.A., ed. 1, 2: 25; Chev. Bot. 442. *APD acc*

A low climber with whitish or lilac flowers with one large pale calyx-lobe; [in climber tangles in forests and roadsides.](#)

Sen.: Heudelot 5971 Ziguinchor (Jan.) Chev. 2841! **Gam.:** Brown-Lester 837! **Port. G.:** Calequisse, Teixeira Pinto (Jan.) d'Orey 107! **Guin.:** Farmar 169! Conakry (fl. & fr. Jan.) Dalz. 8088! Kouroussa (July) Pobéguin 280! **Mali:** Oualia (Dec.) Chev. 98! **S. L.:** Banana Is. (Dec.) Dawe 423! Hedde's Farm (Jan.) Lane-Poole 380! Kamalu (fl. & fr. May) Thomas 327! Widaro (Oct.) Fisher in Hb. Deighton 54! Samu (Dec.) Sc. Elliot 4243! **Lib.:** Du R. (Aug.) Linder 245! Ganta (fl. & fr. Dec.) Barker 1141! Jabroke, Webo Dist. (July) Baldwin 6454! Mano (fl. & fr. Dec.) Baldwin 10811! **Iv. C.:** Abidjan (Oct.) Leeuwenberg 1744! Danané Collenette 44! **Ghana:** Lante (Jan.) Johnson 828! Aburi (Sept., Nov.) Johnson 1079! Adams 1921! Axim (fl. & fr. Feb.) Irvine 2123! Anum, Trans-Yolta (fl. & fr. Nov.) Morton GC 7975! **Dah.:** (May) Le Testu 153! **N. Nig.:** Kaduna (Dec.) Meikle 780! Zurzufa stream, Nasarawa Div. (Nov.) Peal FHI 42783! **S. Nig.:** Ebute Metta (fl. & fr. Jan.) Millen 23! Agbede (Sept.) Farquhar 34! Sapoba (Mar.) Thompson! Aguku (Oct.) Thomas 952! 1172! Nun R. (Aug.) Mann 460! Degema Talbot! Oban Talbot 303!

Also in [Cameroun](#), [Rio Muni](#), [Gabon](#), [the Congos](#) and [Angola](#).

6. NUXIA

Lam.-F.T.A. 4, 1: 511.

Lachnopylis Hochst. in Flora 26: 77 (1843); F.W.T.A., ed. 1, 2: 20.

- 1 Leaves mostly ternate, elliptic or nearly so, 5-13 cm. long, 2-6 cm. broad, glabrous or hairy, may be tomentose beneath, entire to serrate, herbaceous to coriaceous, usually more hairy, more serrate and thinner on young shoots and in the shade, subacute to rounded at apex, cuneate at base; petiole 0.5-2 cm. long; peduncles glabrous to densely pubescent; calyx about 5 mm. long, nearly cylindric, minutely papillose to densely pubescent outside, pubescent inside, with erect lobes; stamens long-exserted; capsule bivalved, with apically torn valves; seeds small, fusiform [congesta](#)

1. **Nuxia congesta R. Br. ex Fresen.** in Flora 21: 606 (1838); F.T.A. 4, 1: 512 (1903); Bruce & Lewis in F.T.E.A Loganiac. 44, fig. 8, 7-8 (1960). *APD acc*

Lachnopylis mannii (Gilg) Hutch. & M. B. Moss in F.W.T.A., ed. 1, 2: 20 (1931).

Nuxia mannii Gilg in Engl. Bot. Jahrb. 32: 140 (1902); F.T.A. 4, 1: 512; Chev. Bot. 440

Lachnopylis guineensis Hutch. & M. B. Moss in F.W.T.A., ed. 1, 2: 20 (1931), and in Kew Bull. 1937 61.

Tree up to 80 ft. high, sometimes with a grey fluted stem; flowers creamy-white and scented; [in montane forest.](#)

Guin.: Diaguissa, Fouta Djallon (Dec.) Chev. 18011! **S. L.:** Mt. Gonkwi, 3,000 ft., Talla (Feb.) Sc. Elliot 4824! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 144! Jaeger 4101! **Iv. C.:** Mt. Boho, above 2,500 ft., Upper Sassandra (May) Chev. 21494. **Ghana:** Bana Hill, Krobo (Mar.) Irvine 893! Amedzofe, 2,000 ft. (Jan.) de Wit & Morton A2871! Gbadzeme to Amedzofe (fl.) Enti FH 6875! Senchi (Oct.) Vigne FH 4052! Odomi River F.R (Oct.) St. Cl.-Thompson FH 3644! **S. Nig.:** Koloishe Mt., 6,000 ft., Ogoja Prov. (Dec.) Savory & Keay FHI 25099! **[Br.] Cam.:** Cam. Mt., 5,000-9,000 ft. (Jan., Mar., Apr., Dec.) Mann 1206! Maitland 458! 1194! Keay FHI 28630! Brenan 9571! Mondani, Mamfe Dist. (Jan.) Lobe Babute Cam. 15/35! Bafut-Ngemba F.R., Bamenda (Jan.) Lightbody FHI 26281! **F. Po:** Moka (Jan., May) Guinea 2150! 2154!

Also in [Congo](#), [Sudan](#), [Ethiopia](#), [E. Africa](#), [Nyasaland](#), [Angola](#), [S. Rhodesia](#), [Mozambique](#) and [S. Africa](#).

[The range of variation is extreme in this genus.]

OLEACEAE

Trees, shrubs or climbers. Leaves opposite or very rarely alternate, simple or pinnate; stipules absent. Flowers hermaphrodite or rarely unisexual, actinomorphic. Calyx lobed or dentate. Petals present, free or connate, often 4, imbricate or induplicate-valvate. Stamens hypogynous or epipetalous, usually 2;

anthers apiculate, 2-celled, cells back to back, opening lengthwise. Disk absent. Ovary superior, 2-celled, style simple with a capitate or bifid stigma; ovules usually 2 in each cell, axile, pendulous or ascending. Fruit baccate or drupaceous; seeds usually with endosperm; embryo straight, the radicle sometimes hidden within the base of the cotyledons.

A small family easily recognised by the woody habit, opposite leaves without stipules and the two stamens.

- 1 Corolla not exceeding 7 mm. long, with a short tube or petals nearly free; fruit a drupe; shrubs or small trees: ...[2](#)
Corolla not less than 10 mm. long, hypocrateriform with a well developed tube; fruit a berry or hard and woody; trees, shrubs or climbers:[3](#)
- 2 Petals very narrow, paired and free almost to the base; inflorescences axillary; leaves with or without pits or tufts of hairs in the axils of the main lateral nerves beneath, lamina up to 25 cm. long [1. Linociera](#)
Petals more or less ovate, united, with a distinct tube; inflorescences terminal; leaves without pits or tufts of hairs in the axils of the main lateral nerves beneath, lamina up to 13 cm. long [2. Olea](#)
- 3 Fruit hard and woody, 2-valved, seeds winged; trees; leaves simple (in our species); petioles simple; calyx-lobes blunt-triangular or very small[3. Schrebera](#)
Fruit a berry, seeds not winged; climbers or shrubs; leaves simple or trifoliolate (in our species); petioles trifoliolate or articulate; calyx-lobes filiform, or often blunt-triangular[4. Jasminum](#)

1. LINOCIERA

APD: Synonym of Chionanthus L.

Sw.-F.T.A. 4, 1: 19; Gilg & Schellenberg in Engl. Bot. Jahrb. 51: 67 (1913). Nom cons.

- 1 Rhachis of inflorescence (1.3-)2.5-4(-7) cm. long; leaves with glabrous pits or tufts of hair beneath in the axils of the majority of the (6-)9-12(-13) main lateral nerves on each side of the midrib; lamina oblong, oblong-ob lanceolate or oblong-lanceolate, (6-)9-15(-25) cm. long, (2.5-)3-6(-9.5) cm. broad; petioles 6-20 mm. long:[2](#)
Rhachis of inflorescence 0.2-2 cm. long; leaves with or without pits in the axils of the (5-)6-7(-8) main lateral nerves on each side of the midrib; lamina oblanceolate, oblong or oblong-lanceolate (often narrowly so in *L. mannii*); petioles 5-10 mm. long, rugulose, sometimes flaky with age in dried specimens:[3](#)
- 2 Main lateral nerves with tufts of hair in their axils; inflorescence rhachis densely appressed-tomentose; calyx appressed-tomentose often densely so; petioles thickened, flaky rugulose in dried specimens, even when young [1. africana](#)
Main lateral nerves with glabrous pits in their axils; inflorescence rhachis glabrous or sparsely appressed-tomentose; calyx glabrous, ciliate or rarely with a few hairs outside; petioles slightly thickened, not flaky rugulose[2. nilotica](#)
- 3 Inflorescence rhachis 10-20 mm. long, appressed-tomentose; corolla 3-5 mm. long; leaves gradually acuminate, tip acute or blunt, lamina (6-)7-17(-19) cm. long, (1.5-)2-5(-7) cm. broad, without or with small pits glabrous (or hairy) beneath in a few of the axils of the 6-7 main lateral nerves on each side of midrib; main lateral nerves slightly raised, venation more or less obscure beneath[3. mannii](#)
Inflorescence rhachis 2-7 mm. long, glabrous or appressed-tomentose; corolla 4-5-7 mm. long; leaves abruptly caudate-acuminate, tip rounded; lamina 9.5-24 cm. long, 3.7-8.5 cm. broad, without pits beneath in the axils of the (5-)6-7(-8) main lateral nerves on each side of midrib; main lateral nerves and venation not prominent beneath[4. congesta](#)

1. *Linociera africana* (Welw. ex Knobl.) Knobl. in Bot. Centralbl. 61: 129 (1895).

APD: Synonym of Chionanthus africanus (Welw. ex Knobl.) Stearn

Mayapea africana Welw. ex Knobl. in Engl. Bot. Jahrb. 17: 529 (1893).

Linociera angolensis Bak. in F.T.A. 4, 1: 20 (1902).

Linociera johnsonii Bak. l.c (1902); Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 70; F.W.T.A., ed. 1, 2: 26; Turrill F.T.E.A. Oleac. 12.

Linociera fragrans Gilg & Schellenb. l.c 71 (1913).

Linociera oreophila Gilg & Schellenb. l.c (1913).

Shrub or small tree, to 30 ft. high; flowers white; fruits blue-black when ripe; [in rain forest](#).

S. L.: Kafoko (Sept.) Thomas 2134! **Ghana:** (Dec.) Johnson 148! Aburi Hills (Nov.) Johnson 234! 453! Ejura (Nov.) Vigne FH 3456! Okrabi, Hohoe Dist. (Nov.) St. C. Thompson FH 3698! **N. Nig.:** Esie F.R., Ilorin Latilo FHI 38015! **S.**

Nig.: Ibadan North F.R. (fl. Dec., fr. Mar.) Chizea FHI 23969! 23975! Oluwa F.R. Kennedy 2475! Oban Talbot! [**Br.**]
Cam.: Buea (Jan.) Deistel 85! Maitland 306! Bali-Ngamba F.R., Bamenda (fr. May) Ujor FHI 30335!

Also in **Angola**, **Uganda** and **Tanganyika**.

2. **Linociera nilotica** *Oliv.* in Trans. Linn. Soc. 29: 106, t. 117 (1875); F.T.A. 4, 1: 19; Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 71; Chev. Bot. 399; Aubrév. Fl. For. C. Iv., ed. 2, 3: 180, t. 317; Aubrév. Fl. For. Soud.-Guin. 442; Turrill F.T.E.A. Oleac. 14; Berhaut Fl. Sén. 117, 118.

APD: Synonym of Chionanthus niloticus (Oliv.) Stearn

Linociera sudanica *A. Chev.* Bot. 399, name only.

Shrub or small tree to 25 ft. high; flowers white or cream, fragrant; **in fringing forest in the savanna woodland regions.**

Sen.: Niokolo-Koba Berhaut 1520. **Mali:** Banfara (fl. & young fr. Mar.) Chev. 535! **Iv. C.:** Bobo-Dioulasso (May) Aubrév. 1848! Chev. 903! Bondoukou Aubrév. 737. Tiengara Aubrév. 1581. **Ghana:** Fuller Fallst Kintampo Dist. (Nov.) Andoh FH 5417! Saku, N.T. (May) Vigne FH 4704! Bahare, Gambaga Dis., (young fr. June) Akpabla 735! **Togo Rep.:** Sokodé Kersting A176! **Dah.:** Kouandé to Konkobiri (June) Chev. 24265! Tankiéta Aubrév. 92d. Natitingou Aubrév. 80d. **N. Nig.:** 51 miles S.E. of Ilorin Clarke 12! Jebba (Jan.) Meikle 1009! Anara F.R., Zaria Prov. (May) Keay FHI 25780! 25787! Jos Plateau (Jan., Nov.) Lely 724! P53! Katagum Dist. Dalz. 366! [**Br.**] **Cam.:** foot of Vogel Peak, Adamawa (Nov.) Hepper 1463!

Also in **Cameroun**, **Ubangi-Shari**, **Angola**, **Sudan**, **Uganda**, **Kenya** and **Tanganyika**.

3. **Linociera mannii** *Solereder* in Bot. Centralbl. 46: 17 (1891); F.T.A. 4, 1: 19; Chev. in Vég. Util. Afr. Trop. Fr. 5: 222 (1909); Chev. Bot. 399.

APD: Synonym of Chionanthus mannii (Soler.) Stearn subsp. mannii

Linociera congesta *Bak.* in F.T.A. 4, 1: 20 (1902), partly (Mann 2214).

Linociera lingelshheimiana *Gilg & Schellenb.* in Engl. Bot. Jahrb. 51: 72 (1913); F.W.T.A., ed. 1, 2: 26; Aubrév. Fl. For. C. Iv., ed. 2, 3: 180, t. 317.

Linociera macroua *Gilg & Schellenb.* l.c (1913).

Tree with spreading crown to 35 ft. high; flowers white, fragrant; **in rain forest.**

S. L.: Yonibana (Oct.) Thomas 4139! Kukuna, Scarcies R. (fr. Jan.) Sc. Elliot 4717! **Lib.:** Monrovia (fl. Oct., Nov.) Dinklage 2818! 2915! **Iv. C.:** coastal thickets Aubrév. 901. Zaranou, Indénié (fr. Mar.) Chev. 16285! **S. Nig.:** Akilla, Ijebu Ode Prov. (fl. Nov., fr. Apr.) Jones & Onochie FHI 17305! Kennedy 2024! Onochie FHI 8176! Kajola to Imope, Ijebu Prov. Tamajong FHI 16906! [**Br.**] **Cam. (?)**: Cameroons R. (fr. Jan.) Mann 2214!

Also in **Gabon**.

[This species appears to occur in three variants: the specimens from the Gabon having occasional minutely hairy pits in the axils of the main lateral nerves beneath, those from the Cameroons having occasional glabrous pits and those from Sierra Leone and the Ivory Coast without them.]

4. **Linociera congesta** *Bak.* in F.T.A. 4, 1: 20 (1902), (excl. Mann 2214).

APD: Synonym of Chionanthus mannii subsp. congesta (Baker) Stearn

Shrub or small tree to 12 ft. high; flowers white; **in rain forest.**

[**Br.**] **Cam.:** S. Bakundu F.R., Kumba Div. (Jan.) Binuyo & Daramola FHI 35187!

Also in **Gabon** and **Rio Muni**.

2. OLEA

Linn.-F.T.A. 4, 1: 17.

- 1 Leaves oblong-elliptic or elliptic, (4.5-)6-10(-13) cm. long, (2-)3-4.5(-5.5) cm. broad, glabrous but, under the hand lens, punctate with peltate appressed scales on both surfaces, coriaceous, base acute-cuneate, apex

subacuminate or acute, (5-)6-8(-9) main lateral nerves on each side of the midrib, venation obscure or occasionally slightly raised on both surfaces; petiole glabrous, 1-1.5(-2) cm. long, more or less rugulose in dried specimens; inflorescence terminal, 3.5-5(-8) cm. long, 4-5(-8) cm. broad, with the calyx glabrous except for small peltate appressed scales; calyx with 4 shallow acute lobes; corolla 3-3.5 mm. long, glabrous, valvate in bud; fruit rounded ellipsoid, 1.5 cm. long, 1.1 cm. diam. (? mature) [hochstetteri](#)

***Olea hochstetteri* Bak.** in F.T.A. 4, 1: 17 (1902); Chev. Bot. 399; Aubrév. Fl. For. Soud.-Guin. 442; Turrill F.T.E.A. Oleac. 10.

APD: *Synonym of Olea capensis subsp. hochstetteri (Baker) Friis & P. S. Green*

***Olea guineensis* Hutch. & C. A. Smith** in F.W.T.A., ed. 1, 2: 26 (1931); Kew Bull. 1837: 336; Aubrév. Fl. For. C. Iv. ed. 2, 3: 178, t. 317.

Small tree to 40 (-70) ft. **in montane forest**; flowers white; lenticels prominent.

Guin.: Ziam Massif, 3,800-4,000 ft. (May) Schnell 2626! Adam 50; 51. **S. L.:** Picket Hill, 2,300-2,800 ft. (bud & fr. Nov.) T. S. Jones 202! 213! Sugar Loaf Mt. 1,800 ft. Deighton 5649! **Iv. C.:** Mt. Momy, Upper Cavally, 2,700-2,900 ft. (young fr. Apr.) Chev. 21358! Aubrév. 1177. **[Br.] Cam.:** Cam. Mt., 5,000 ft. (bud & fr. Mar.) Maitland 498! Bamenda Johnstone FHI 356! Ball-Ngemba F.R., 5,600 ft., Bamenda (June) Ujor FHI 30428! Bafut-Ngemba F.R., Bamenda (fr. Jan.) Lightbody FHI 26283! 26315!

Also in **Congo, Ethiopia, Sudan, Uganda, Kenya, Tanganyika** and **N. Rhodesia**.

[*O. welwitschii* (Knobl.) Gilg & Schellenb. known from S. Tomé, Annobon, Angola and tropical E. Africa is very close and, as pointed out by Verdoorn (*Bothalia* 6: 581 (1956)) the two species may possibly be regarded as subspecies of the S. African *O. capensis* Linn. Maitland 498 and Lightbody FHI 26283 approach *O. welwitschii* in their longer slender petioles and slightly acuminate leaf-apices.]

***Olea europaea* Linn.**

Native of the Mediterranean region, is cultivated in Senegal. (Berhaut Fl. Sén. 113).

3. SCHREBERA

Roxb.-F.T.A. 4, 1: 13. Nom. cons.

- 1 Leaves broadly oblong, elliptic or ovate-elliptic, (6-)8-14(-18) cm. long, (3.5-)4.5-9(-11) cm. broad, more or less chartaceous, glabrous except at the base of the midrib, and occasionally of the main lateral nerves, beneath, which range from soft-tomentellous to glabrate or rarely glabrous, base obtuse to rounded slightly decurrent into the petiole, apex abruptly and shortly acuminate to acuminate, with (5-)6-8(-9) main lateral nerves on each side of the midrib; petiole 1-3 cm. long, glabrate to soft-tomentellous; inflorescence terminal, glabrate to soft and shortly tomentellous; calyx campanulate, 4-5 mm. long, glabrate to minutely tomentellous, with 4 shallow ciliate teeth up to 1 mm. long; corolla hypocrateriform, 12-20 mm. long, tube 2-3 mm. diam., lobes 5-6 mm. long, each with a patch of reddish-brown hairs at the base; fruit woody, club-shaped, blunt, lenticular, 5-6 cm. long when mature; seeds 4 cm. long, including the wing [arborea](#)

***Schrebera arborea* A. Chev.** in Mém. Soc. Bot. Fr. 2, 8: 180 (1912); Chev. Bot. 399; Aubrév. Fl. For. C. Iv., ed. 2, 3: 177, t. 316; Turrill F.T.E.A. Oleac. 2; Berhaut Fl. Sén. 117, 119. *APD acc*

***Schrebera chevalieri* Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 26 (1931); Kew Bull. 1937: 336.

Schrebera golungensis of Thompson Rep. For. Gold Coast 72, 190 (1910); Kennedy For. Fl. S. Nig. 202.

Forest tree to 100 ft. high, with clear bole; flowers white or greenish white with crimson or purplish-brown markings at the base of the petals; sweetly fragrant; **often planted**.

Sen.: Casamance Chev. 3532! Berhaut 1316. **Port. G.:** Fulacunda Esp. Santo 2027. Ilhas das Cobras Esp. Santo 1927.

Guin.: Mamou Aubrév. 31; 59. **Iv. C.:** Anoumaba (fr. nov.) chev. B22352! Aubrév. 72; 1340; 1812! 2008. **Ghana:** Odumase, Krobo (Apr.) Odonkor! Ajena, Volta Gap (fr. Nov.) Morton GC 9451! **Dah.:** Sakété fide Chev. l.c. **N. Nig.:** Wana Town (Apr.) Hepburn 163! Kafanchan (fr. Sept.) A. F. A. Lamb FHI 3168! **S. Nig.:** Forestry Hill, Ibadan (Mar.) Jones FHI 4900! Keay FHI 25704! Okeho, Oyo (Mar.) Keay FHI 37742!

Also from the **Congo, Sudan** and **Uganda**.

[The Sudan and Uganda specimens are completely glabrous in all parts.]

4. JASMINUM

Linn.-F.T.A. 4, 1: 1; Gilg & Schellenberg in Engl. Bot. Jahrb. 51: 77 (1913).

- 1 Leaves trifoliolate, glabrous (often including the nerves), ovate to ovate-lanceolate; inflorescence many-flowered, more or less densely corymbose-paniculate; pedicels 1-3(-4) mm. long:2
- Leaves simple, glabrous or hairy, nerves usually hairy, lamina ovate to narrowly lanceolate:3
- 2 Indumentum of stem and inflorescence contrasting, the stem and petioles glabrous, the inflorescence densely tomentose; corolla tube 1 cm. long, with 5 lobes 0.5 cm. long, more or less ovate; shallow pits with tufts of hairs in most of the axils of the main lateral nerves on the leaf beneath, lamina (5-)8-11 cm. long, (3.5-)4-7 cm. broad, apex acute to acuminate, base acute to almost rounded; petioles 20-35 mm. long; calyx tomentose, lobes acute, 1-2 mm. long, slightly accrescent in fruit [1. bakeri](#)
- Indumentum of stem and inflorescence similar, and, with the petioles, crisped pubescent, sometimes minutely so; corolla tube 2-2.5 cm. long, with 5-7 lobes 1 cm. long, rounded elliptic; tufts of hairs confined to the axils of the main lateral nerves at the base of the leaf beneath, lamina 3-5 cm. long, 2-3-7 cm. broad, apex acute, base rounded to subcordate; petioles 5-20 mm. long; calyx puberulous, lobes blunt, less than 1 mm. long [2. fluminense](#)
- 3 Stem and petioles more or less glabrous or if puberulous, minutely so; leaves without tufts of hairs in the axils of the main lateral nerves beneath:4
- Stem pubescent or puberulous with crisped or spreading hairs, often densely so; leaves with or without tufts of hairs in the axils of the main lateral nerves beneath; inflorescence 1-12-flowered from the axils of the uppermost leaves:5
- 4 Inflorescence with numerous flowers more or less densely corymbose, pedicels 1-3 mm. long, accrescent and thickened in fruit, especially towards the top, 7-15 mm. long; lamina ovate or occasionally broadly lanceolate, (4-)5-11 cm. long, (2.5-)3-6.5 cm. broad, apex acute, acuminate or rounded, the tip often mucronate occasionally slightly reflex, base acute or rounded; petioles 7-20 mm. long; leaves on some shoots often ternate; calyx glabrous or sparsely puberulous, lobes 0.5-2(-4) mm. long, ciliolate; corolla tube 1.8-2.5 cm. long, with 5-9 oblanceolate lobes 0.7-1.6 cm. long [3. dichotomum](#)
- Inflorescence 1-3(-4) flowered, pedicels 2-8(-17) mm. long; lamina narrow-lanceolate or rarely lanceolate, 3-5-7 cm. long, 1-2.5 cm. broad, apex acute, tip rounded, mucronate, occasionally retuse, base cuneate; petiole 2-7 mm. long; calyx puberulous or sparsely puberulous, sometimes minutely so, lobes 1-4 mm. long; corolla tube 2-2.5 cm. long with 7-8 oblong to narrowly oblong lobes 1.4-2 cm. long [4. kerstingii](#)
- 5 Tufts of hairs in the axils of the main lateral nerves of the leaf beneath and occasionally at the nerve-junctions, sometimes almost masked by hairs on the midrib; pedicels 10-20 mm. long, accrescent and thickened in fruit especially towards the top and up to 25 mm. long, petioles 3-18 mm. long; stem and petioles pubescent, often densely so; leaves glabrous or scattered pubescent, ovate, ovate-elliptic or rarely oblong, (2-)2.5-6(-11) cm. long, (1-)2-3(-6) cm. broad, base rounded or subcordate, rarely subacute, apex acute or subacuminate, tip mucronate; calyx pubescent or glabrate, lobes 3-8 mm. long, slightly accrescent in fruit; corolla tube 1.6-2 cm. long, with 7-9 linear lobes 1-2 cm. long [5. pauciflorum](#)
- Tufts of hairs in the axils of the main lateral nerves of the leaf absent beneath; pedicels 2-20 mm. long, petioles 2-7 cm. long:6
- 6 Apex of leaf rounded, usually more or less retuse; stem, pedicels and calyx pubescent, sometimes densely so; pedicels 2-6(-10) mm. long, slightly accrescent in fruit and thickened especially toward the top; calyx lobes 1.5-4 mm. long, slightly accrescent in fruit; leaf surface glabrous or puberulous along the nerves on both surfaces, lamina ovate to lanceolate or rarely elliptic, (1.5-)2-5 cm. long, (0.8-) 1.5-3(-4) cm. broad; petioles 2-4 mm. long; corolla tube 2-3 cm. long with 7-9 oblong-lanceolate lobes, 1-1.7 cm. long [6. obtusifolium](#)
- Apex of leaf subacuminate to cuspidate; stem and especially the calyx and pedicel with long spreading hairs, often densely so; pedicels 15-20 mm. long, slightly accrescent in fruit and thickened towards the top; calyx lobes (4-)6-7 mm. long, linear; leaf surface with scattered hairs on both surfaces especially on the nerves, densely so beneath, lamina obovate or oblanceolate, rarely ovate, (3-)4-8 cm. long, (1.7-)2-5 cm. broad; corolla tube and lobes 2-2.3 cm. long, lobes 6-8, linear [7. preussii](#)

1. *Jasminum bakeri* *Sc. Elliot* in *J. Linn. Soc.* 30: 86 (1894); *F.T.A. 4, 1: 12*; *Chev. Bot.* 398. *APD acc*

A climber; flowers white, fragrant.

Guin.: Bonhour (Feb.) Pobéguin 899! Bangadou to Dioromandou (Feb.) Chev. 20730! Labé (Apr.) Chev. 12318. **S. L.:** near Berria (Mar.) *Sc. Elliot* 5409! **Iv. C.:** Sogui to Koualé (May) Chev. 21697.

Also in **Congo** and **N. Rhodesia**.

2. *Jasminum fluminense* *Vell.* *Fl. Flumin.* 10 (1825); *op. cit. Atlas 1, t. 23* (1827); *Dandy in Kew Bull.*

1950: 368; Turrill F.T.E.A. Oleac. 19; Exell Cat. S. Tomé Suppl. 33. *APD acc*

Jasminum mauritianum Bojer ex DC. Prod. 8: 310 (1844); F.T.A. 4, 1: 10; F.W.T.A., ed. 1, 2: 27.

A scandent shrub; flowers cream-coloured or white tinged with pink, fragrant; fruits black.

S. L.: Njala (cult. fl. Jan.) Deighton 3962! **N. Nig.:** near Jos (Aug., Dec.) Batten-Poole 133! Keay FHI 20070! Lely 61! W. D. MacGregor 422! Gindiri, Plateau Prov. (Oct.) Hepper 1089!

Distributed throughout Africa and in Mauritius and the Seychelles; introduced to S. America and the W. Indies.

Several infraspecific groups have been recognised (see Turrill F.T.E.A. Oleac. 19); all the tropical West African specimens examined fall within var. *fluminense*.

3. *Jasminum dichotomum* Vahl Enum. Pl. 1: 26 (1804); F.T.A. 4, 1: 9; Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 89; Chev. Bot. 398; Esta de Sousa in Anais Junta Invest. Col. 4: 27; Turrill F.T.E.A. Oleac. 23; Berhaut Fl. Sén. 100, 117. *APD acc*

Jasminum noctiflorum Afzel. Rem. Guin. 25 (1815).

Jasminum guineense G. Don Gen. Syst. 4: 61 (1838).

Jasminum gardenioidorum Gilg ex Bak. F.T.A. 4, 1: 8 (1902).

Jasminum nigericum A. Chev. Bot. 398, name only.

Jasminum dinklagei of Hoyle Gold Coast Check-list 87.

A scrambling shrub or woody climber reaching to 25 ft. or more in trees; corolla with red tube and pure white lobes, very fragrant.

Sen.: Heudelot 578! Perrottet 450. **Mali:** R. Bani, San (June) Chev. 1082! Diafarabé to Sansanding (fl. & fr. Sept.) Chev. 2836! 2837! **Port. G.:** Cacine Esp. Santo 2116. Fulacunda to Bubatambom Esp. Santo 2224. **Guin.:** Paroisse 30! Conakry (Feb.) Chev. 12094. **S. L.:** Afzelius! Smeathmann! T. Vogel 182! Heddle's Farm (Oct.) Lane-Poole 83! Kafogo, Limba (Apr.) Sc. Elliot 5485! Kumrabai (fr. Dec.) Thomas 7067! **Lib.:** Monrovia Dinklage 3281! Congotown (Aug.) Barker 1405! **Ghana:** Sampa, Ashanti (fl. & fr. Dec.) Vigne FH 3486! Banda, Wenchi Disk. (fl. & fr. Dec.) Morton GC 25127! Aburi Scarp Morton! Shal Plains (Jan.) Johnson 528! Accra (Aug.) Dalz. 157! **Togo Rep.:** Lome (Nov.) Mildbr. 7483! Warnecke 15! 371! **Dah.:** Whydah Don! **N. Nig.:** Zaria (Feb.) Dalz. 365! Kennedy 2872! Jos Plateau (Jan.) Lely P50! Ropp (Dec.) W. D. MacGregor 393! **S. Nig.:** Ilaro Millen 160! Olokemeji (Feb.) Foster 135! Iggetti (fr. Feb.) Keay FHI 14633! **[Br.] Cam.:** Bamenda, 5,700 ft. (Jan.) Keay FHI 28382! Nguroje, 5,600 ft., Mambila Plateau (Jan.) Hepper 1753! Vogel Peak, Adamawa (Dec.) Hepper 1519!

Also in **Ubangi-Shari**, **Congo**, **Angola**, **Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **N. Rhodesia** and **Mozambique**.

[Sc. Elliot 5689 from near Makunde, Sierra Leone cited as this species in ed. 1, is *Didymosalpinx abbeokutae* (Hiern) Keay-see p. 130.]

4. *Jasminum kerstingii* Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 92 (1913). *APD acc*

A suffrutex, to 2 ft. high; flowers white; in savanna.

Ghana: Kulpawn R. flats, Bantala (Apr.) Kitson 667! Bimbila (Mar.) Hepper & Morton A3066! Tamale to Yendi (Mar.) Adams 3868! Kumbungu Farm, Tamale (May) Kitson! Yendi (Apr.) Vigne FH 1695! **Togo Rep.:** Sokoke-Basari (Feb.) Kersting 121; 557.

Endemic to W. Africa

closely allied to the S. African *J. glaucum* (L.f.) Ait.

5. *Jasminum pauciflorum* Benth. in Fl. Nigrit. 443 (1849); F.T.A. 4, 1: 6; Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 98; Chev. Bot. 398; Ester de Sousa l.c 28; Turrill F.T.E.A. Oleac. 28. *APD acc*

Jasminum talbotii Wernham in Cat. Talb. Nig. Pl. 58 (1913).

Jasminum angustilobum Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 95 (1913).

Jasminum callianthum Gilg & Schellenb. l.c 96 (1913).

Jasminum warneckeii Gilg & Schellenb. l.c 103 (1913).

A slender scandent shrub; flowers pure white, fragrant; fruits black.

Port. G.: Catió Esp. Santo 2130. **Guin.:** Macenta (May) Collenette 16! Between R. Kaba and Haut-Mamou (Apr.) Chev. 12760. **S. L.:** Afzelius! Bagroo R. (Apr.) Mann 849! Kamalu (May) Thomas 381! Njala (May) Deighton 689! Nerekoro, Simiria (Apr.) Glanville 201! Bafodeya, Limba (Apr.) Sc. Elliot 5639! **Lib.:** Gbanga Linder 1155! 1172! **Iv. C.:** Bampleu to Kouanhoulé (Apr.) Chev. 21182. Foot of Mt. Kouan, Danané (Apr.) Chev. 21258. **Ghana:** Cape Coast (fr. July) Brass 217! T. Vogel 10! Agogo (Apr. Adams 2554! Mile 16, Accra to Aburi (Nov.) Adams 1920! Accra (May) Dalz. 5! Pamu, Ashanti

(May) Irvine 2524! **Togo Rep.:** Lomé Warnecke 143! 390! **N. Nig.:** Nupe Barter! Anara F.R., Zaria Prov. (May) Keay FHI 22891! Jos Plateau (June) Dent Young 169! Lely 251! P364! **S. Nig.:** Lagos Rowland! Ibadan (Apr.) Brenan 9610! Meikle 1469! Owo F.R. (May) Jones FHI 3587! Eket Talbot 3262! Oban Talbot 336! **[Br.] Cam.:** Bali, Bamenda (May) Ujor FHI 30382! Lakom, 6,000 ft. Bamenda (Apr.) Maitland 1676!

Also from **Congo**, **Uganda** and **Kenya** and possibly from other parts of tropical Africa.

[The *S. African J. streptopus* E. Mey. (1837) is very close, differing in minor characters as pointed out by Verdoorn (*Bothalia* 6: 571 (1956)). However numerous forms described as species from different parts of Africa are involved and until the group can be revised as a whole the W. African representatives are best treated as a separate species.]

6. *Jasminum obtusifolium* Bak. in Kew Bull. 1895: 93; F.T.A. 4, 1: 4; Chev. Bot. 398. *APD acc*

A scandent shrub reaching to 25 ft. in trees; flowers white or cream, fragrant.

Mali: Fô (June) Chev. 967. **Ghana:** Kologu, Navrongo Dist. (Apr.) Vigne FH 3767! **Niger:** Fada, Gourma Dist. (July) Chev. 21182; 24537. **N. Nig.:** Kawgan, R. Niger Barter 3435! Sokoto Prov. (Apr., June) Dalz. 538! Ryan 38! 67! Lemme (May) Lely 157! Mokwa (Apr.) Keay FHI 25717! Yola (Mar.) Dalz. 207! **S. Nig.:** Yoruba country Barter 1338!

7. *Jasminum preussii* Engl. & Knobl. in Engl. Bot. Jahrb. 17: 536 (1893); F.T.A. 4, 1: 9. *APD acc*

Jasminum monticola Gilg & Schellenb. in Engl. Bot. Jahrb. 51: 99 (1913).

Jasminum zenkeri Gilg & Schellenb. l.c (1913), incl. var. *glabrata*.

A rambling climber or erect shrub, to 3 ft. high; flowers white.

Ghana: Abra, W. Prov. (Jan.) Akpabla 801! **S. Nig.:** Omo F.R., Ijebu Ode (June) Keay FHI 37054! Sapoba (May) Okafor FHI 36583! Oban Talbot 335! **[Br.] Cam.:** Cam. Mt., 5,000-6,000 ft. (Mar.-June, Aug.) Brenan 9354! Deistel 203; Maitland 39! 653! Barombi (Apr.) Preuss 122!

Also in **Cameroun**.

A small-flowered form, with corolla tube 4 mm., and lobes 6 mm. long, has been described from Kohoumbo, W. of Toumodi, Ivory Coast, by Roberty (in Bull. I.F.A.N. 15: 1423 (1953)) as *forma minutiflorum*.

***Jasminum dinklagei* Gilg & Schellenb.** in Engl. Bot. Jahrb. 51: 97 (1913); F.W.T.A., ed. 1, 2: 28.

Lib.: White Plains, Monrovia (May) Dinklage 2193.

No authentic material of this species has been seen, but it is suspected that it is closely allied to *J. dichotomum*.

***Jasminum multiflorum* (Burm.f.) Andr.**

Jasminum pubescens (Retz.) Willd.

Native of tropical Asia

***Jasminum sambac* (Linn.) Ait.**

Native of tropical Asia

***Jasminum volubile* Jacq.**

Jasminum simplicifolium Auct.

Native of Australia.

APOCYNACEAE

Trees, shrubs or climbers, rarely perennial herbs, with latex. Leaves opposite or verticillate, rarely alternate, simple, entire; stipules usually absent. Flowers hermaphrodite, actinomorphic. Calyx often glandular inside; lobes 5 or rarely 4, imbricate. Corolla tubular, variously shaped; lobes contorted-imbricate, very rarely valvate. Stamens 5 or rarely 4, inserted in the tube; filaments free or rarely united; anthers often sagittate, free or connivent around the stigma, rarely adherent to the latter, 2-celled, opening lengthwise, connective often produced at the apex; pollen granular; disk usually present, annular, cupular or of separate glands. Ovary superior, 1-celled with 2 parietal placentas or 2-celled with the placentas adnate to the septa, or carpels 2 and free or connate only at the base with ventral placentas in each carpel. Style 1, split at the base or entire, thickened and stigmatose below the apex; ovules 2 or more in each carpel. Fruit entire and indehiscent or of 2 separate carpels, baccate, drupaceous or follicular. Seeds mostly with endosperm and large straight embryo, often winged or appendaged with long silky hairs.

A well-marked family with usually opposite exstipulate entire leaves, latex, contorted gamopetalous corolla without a corona, and superior often apocarpous ovary.

- 1 Leaves or leaf-scales spirally arranged; stem succulent, erect; fruits dry follicles, the seeds with an apical tuft [34. *Adenium*](#)
 Leaves opposite or verticillate (very exceptionally also alternate, but then stems climbing and never fleshy); stems not succulent: [2](#)
- 2 Corolla-lobes overlapping to the left: [3](#)
 Corolla-lobes overlapping to the right: [25](#)
- 3 Carpels completely fused; fruits fleshy: [4](#)
 Carpels free, or connate only at the very base; fruits fleshy or dry: [14](#)
- 4 Calyx with numerous, or at least with 3, glandular scales on each sepal: [5](#)
 Calyx without glandular scales (or with 5 solitary scales alternating with the sepals in *Landolphia utilis*): [6](#)
- 5 Leaves with 4-6 pairs of distant lateral nerves; flowers conspicuous, the corolla-lobes 14-22 mm. long [8. *Vahadenia*](#)
 Leaves with more than 20 pairs of dense lateral nerves; flowers small, corolla-lobes 2-3 mm. long [12. *Cyclocotyla*](#)
- 6 Inflorescences of elongate, branched, terminal panicles: [7](#)
 Inflorescences contracted, short and often clustered, terminal or axillary: [8](#)
- 7 Anthers not keeled; ovary and fruit glabrous; stipules interpetiolar, early caducous [7. *Dictyophleba*](#)
 Anthers keeled along the back; ovary and fruit pubescent; stipules absent [9. *Ancylobotrys*](#)
- 8 Length of the anthers up to 1/3 of the length of the corolla-tube, frequently less: [9](#)
 Length of the anthers almost 1/2 or more of the length of the corolla-tube; clavuncula ring-shaped [6. *Aphanostylis*](#)
- 9 Walls of the corolla-tube thickened above the anthers; anthers not keeled, 0.5 mm. or more long: [10](#)
 Walls of the corolla-tube not thickened above the anthers: [11](#)
- 10 Seeds with albumen [2. *Landolphia*](#)
 Seeds without albumen (use key to *Landolphia* spp.) [11. *Cylindropsis*](#)
- 11 Only terminal inflorescences developed [10. *Saba*](#)
 Inflorescences axillary or axillary and terminal: [12](#)
- 12 Clavuncula (swelling beneath stigma) cylindric, ovate or globose: [13](#)
 Clavuncula (swelling beneath stigma) ring-shaped; anthers not keeled, 0.8-1 mm. long [5. *Anthoclitandra*](#)
- 13 Anthers not keeled, less than 0.5 mm. long inserted above the middle of the corolla-tube [3. *Clitandra*](#)
 Anthers keeled along the back, more than 0.5 mm. long, inserted beneath the middle of the corolla-tube [4. *Orthopichonia*](#)
- 14 Anthers not tailed, fertile to the base: [15](#)
 Anthers tailed or auriculate, sterile towards the base: [19](#)
- 15 Fruits fleshy, indehiscent; trees or shrubs: [16](#)
 Fruits a pair of dry follicles up to 4 cm. long, opening lengthwise; seeds glabrous; corolla-lobes when fully expanded 1-2 cm. broad; introduced herbs or under-shrubs [23. *Catharanthus*](#)
- 16 Disk absent; leaves opposite, rarely in whorls of 3; branches and leaves glabrous; inflorescences contracted, short and often clustered, terminal or axillary; corolla-lobes 2-25 mm. long: [17](#)
 Disk present; leaves in whorls of 3, 4 or more; branches and leaves glabrous or puberulous; flowers in ample, verticillately-branched cymes; corolla-lobes 1-2 mm. long [25. *Rauvolfia*](#)
- 17 Calyx with glandular scales within; stigma usually with well-developed apiculus: [18](#)
 Calyx without glandular scales; apiculus of stigma hardly developed [15. *Pleiocarpa*](#)
- 18 Corolla 2-4 cm. long; ovary with 70-130 ovules [13. *Picralima*](#)
 Corolla 5-16 mm. long; ovary with 1-30 ovules [14. *Hunteria*](#)
- 19 Corolla with 5-toothed corona-lobes in the throat of the tube; anthers entirely exerted; fruit a dry follicle; seeds with a basal tuft [32. *Pleioceras*](#)
 Corona absent; anthers not or only slightly exerted; seeds glabrous: [20](#)
- 20 Corolla-tube very short, up to 2 mm. long; disk absent; fruit a dry follicle; seeds exarillate [22. *Pycnobotrya*](#)
 Corolla-tube long; disk frequently present; fruit fleshy, usually dehiscent; seeds arillate: [21](#)

- 21 Sepals persistent, free or very shortly connate at base:..... 22
 Sepals caducous, more or less connate into a tube, circumscissile at the base [20. Voacanga](#)
- 22 Clavuncula (swelling beneath stigma) circular in cross-section; flowers rather small, corolla-tube 6-9 mm. long; fruit winged with 3 longitudinal ridges [16. Pterotaberna](#)
 Clavuncula (swelling beneath stigma) ribbed; fruit not ridged lengthwise: 23
- 23 Anthers basifixed, topped with a minute mucro [17. Callichilia](#)
 Anthers dorsifixed, with a well-developed acumen:..... 24
- 24 Disk free; anthers fixed with a big dorsal callus [18. Hedranthera](#)
 Disk indistinct, completely connate with the ovary; anthers without a dorsal callus [19. Tabernaemontana](#)
- 25 Anthers not tailed, fertile to the base: 26
 Anthers sterile towards the base, caudate or auriculate: 29
- 26 Ovary syncarpous; fruit fleshy; branches usually armed with axillary spines [1. Carissa](#)
 Ovary apocarpous; fruit dry follicles; branches never armed: 27
- 27 Leaves whorled, with more than 25 pairs of lateral nerves; seeds with a tuft of hairs at each end [21. Alstonia](#)
 Leaves opposite; seeds with one apical tuft of hairs:..... 28
- 28 Corolla-tube up to 9 mm. long; anthers up to 2 mm. long; branches and inflorescences mostly puberulous to tomentellous [24. Holarrhena](#)
 Corolla-tube more than 10 mm. long; anthers 5-6 mm. long; branches and inflorescences glabrous [30. Farquharia](#)
- 29 Corolla with paired corona-appendages between the (frequently long-tailed) corolla-lobes; fruits dry follicles; seeds produced into a long, plumose apical beak [27. Strophanthus](#)
 Corolla without corona-appendages; seeds with or without a basal beak: 30
- 30 Corolla-tube more than 2 cm. long; fruits fleshy; seeds arillate [17. Callichilia](#)
 Corolla-tube up to 1.5 cm. long, usually less; fruits dry-follicles; seeds not arillate:..... 31
- 31 Anther-cone exserted from the corolla-tube: 32
 Anther-cone included in the corolla-tube: 33
- 32 Flowers in narrow-terminal panicles; seeds with an apical tuft of hairs [26. Isonema](#)
 Flowers in axillary clusters; seeds without a tuft of hairs [33. Malouetia](#)
- 33 Corolla-lobes folded lengthwise (conduplicated) in bud; corolla-tube constricted markedly in the lower half or 1/3; seeds with an apical tuft; small tree, possibly introduced [28. Mascarenhasia](#)
 Corolla-lobes not induplicated in bud: 34
- 34 Trees; flowers in dense, axillary clusters; seeds produced into a plumose basal beak [31. Funtumia](#)
 Climbing shrubs; inflorescences terminal or axillary, but then elongated or branched; seeds with an apical tuft of hairs:..... 35
- 35 Disk absent; corolla-tube narrowed towards the mouth: 36
 Disk present; corolla-tube wide at the mouth: 37
- 36 Interpetiolar stipules present; no supra-axillary glands on the petiole; anther-tails free [29. Alafia](#)
 Interpetiolar stipules absent; supra-axillary glands on the petiole developed; corolla-tube quite glabrous on the inside; anther-tails connate with the connective [30. Farquharia](#)
- 37 Anther-tails straight, acute; stigma up to 0.5 mm. long; corolla-lobes 2.5-20 mm. long; follicles narrowly cylindric, 30-50 cm. long, up to 1 cm. diam. [35. Baissea](#)
 Anther-tails curved, obtuse; stigma 0.5-1 mm. long; corolla-lobes 2-5 mm. long: 38
- 38 Corolla-tube with 5 corona-scales alternating with the petals in the mouth; anther-tips glabrous; follicles 10-25 cm. long, from less than 1 cm. to 2 cm. in diam. narrowly cylindrical to spindle-shaped [37. Oncinotis](#)
 Corolla-tube without scales in the mouth; anthers tipped with a minute plumose mucro; follicles narrowly spindle-shaped, about 12 cm. long and 1.5-2 cm. in diam. [36. Motandra](#)

Allamanda cathartica Linn.

Has been recorded as cultivated plants in our area.

A. neriifolia Hook.

Has been recorded as cultivated plants in our area.

Chonemorpha macrophylla G. Don

Has been recorded as cultivated plants in our area.

Ervatamia coronaria (Jacq.) Stapf

Has been recorded as cultivated plants in our area.

Nerium oleander Linn.

Common oleander, has been recorded as cultivated plants in our area.

Plumeria rubra Linn.

The frangipani has been recorded as cultivated plants in our area.

Thevetia neriifolia Juss.

Has been recorded as cultivated plants in our area.

1. CARISSA

Linn.-F.T.A. 4, 1: 88. Nom. cons.

- 1 Spiny shrub up to 5 m. high; branches glabrous or pubescent with axillary spines 1-3 cm. long; leaves ovate, usually acute at apex, shortly cuneate or rounded at base, 2-6 cm. long, 2-5 cm. broad, with 3-5 pairs of lateral nerves, glabrous or pubescent; petiole short; inflorescences dense, shortly pedunculate, terminal or axillary cymes; calyx 3-5 mm. long, with subulate teeth; corolla tube 7-20 mm. long, lobes 3-10 mm. long, always shorter than the tube [edulis](#)

Carissa edulis Vahl Symb. Bot. 1: 22 (1790); F.T.A. 4, 1: 89; Aubrév. Fl. For Soud.-Guin. 445, t. 97, 5-6.

APD: *Synonym of Carissa spinarum* L.

Carissa pubescens A. DC. (1844).

Carissa edulis forma pubescens (A. DC.) Pichon (1949).

Carissa edulis subsp. continentalis Pichon in Mém. Inst. Sci. Madag., sér. B, 2: 129 (1949)

An erect shrub up to 16 ft. high; flowers fragrant, white or purplish; fruits syncarpous berries about 1/2 in. diam.

Mali: Ouassana Chev. 616. Kita Dubois 152. **Guin.:** Labé (Mar.) Chev. 12405! Fouta Djallon (Mar.) Schnell 4815! **Iv. C.:** Ouangolo Aubrév. 1404! **Ghana:** Accra T. Vogel 31! Nsawam (Feb.) Dalz. 8289! Wahaku to Fausi (Apr.) Kitson 824! Krobo Plains (Dec.) Johnson 510! **Togo Rep.:** Lomé Warnecke 266! **Dah.:** Cotonou Chev. 4497. **N. Nig.:** Kaduna to Zaria (Feb.) Meikle 1225! Kogin Kano F.R. (Mar.) Onwudinjo FHI 22354! Vom (Feb.) McClintock 215! Maiduguri (July) Ujor FHI 21947! **S. Nig.:** A. F. Ross R121! **[Br.] Cam.:** Mayo Wombo, Gashaka Dist. (fr. Dec.) Latilo & Daramola 28971!

Throughout the drier parts of tropical Africa and Madagascar, to **Arabia**, India and Indochina.

2. LANDOLPHIA

P. Beauv. (1804)-F.T.A. 4, 1: 30; Pichon in Mém. I.F.A.N. 35: 40 (1953). Nom. cons.

Carpodinus R. Br. ex G. Don (1837)-F.T.A. 4, 1: 72; F.W.T.A., ed. 1, 2: 35, mostly.

- 1 Ovary glabrous; cymes axillary and terminal:2
 Ovary pilose at least towards the apex:4
 2 Corolla-tube 2-3 mm. long:3
 Corolla-tube 13-16 mm. long, lobes 11-13 mm. long; branches glabrous; leaves elliptic to elliptic-oblong, broadly acuminate, 4-12 cm. long, 2-5-5 cm. broad, with 9-14 pairs of lateral nerves[3. macrantha](#)
 3 Young branches glabrous; leaves acuminate, elliptic to oblong, 5-17 cm. long, 2-6 cm. broad, with 5-11 pairs of lateral nerves; corolla-lobes 2-3 mm. long[1. micrantha](#)
 Young branches mostly pubescent; leaves not or hardly acuminate, elliptic to ovate, 4-13 cm. long, 2-6 cm. broad, with 7-12 pairs of lateral nerves; corolla-lobes 1-5-2 mm. long[2. togolana](#)
 4 Inflorescences only terminal; corolla-lobes pilose outside towards the apex:5
 Inflorescences axillary or axillary and terminal (but then corolla-lobes glabrous outside):9

- 5 Corolla-tube glabrous in the throat, 3-17 mm. long:6
Corolla-tube pilose in the throat, not exceeding 10 mm. in length:7
- 6 Corolla-tube 3-5 mm. long, lobes 2-8 mm. long, markedly pubescent on their auricles; young branches glabrous or laxly pubescent; leaves oblong to elliptic, 6-12 cm. long, 2.5-4 cm. broad, with 8-28 pairs of lateral nerves[4a. parvifolia var. johnstonii](#)
Corolla-tube 11-17 mm. long, lobes 7-22 mm. long; young branches pubescent; leaves elliptic or oblong, mostly subcordate at the base, 5-14 cm. long, 2.5-5 cm. broad, with 5-11 pairs of lateral nerves[5. calabarica](#)
- 7 Anthers 0.9-1.5 mm. long, inserted distinctly above the middle of the corolla-tube; young branches pubescent or rarely glabrous; leaves oblong, elliptic or lanceolate, 5-25 cm. long, 2.5-12 cm. broad, with 6-20 pairs of lateral nerves; corolla-tube 4-8 mm. long, lobes 1.7-9 mm. long:.....8
Anthers 1.5-1.9 mm. long, inserted at about the middle of the corolla-tube; young branches densely pubescent; leaves similar to the above, but often smaller; 3-11 cm. long, 1.5-5 cm. broad, with 5-12 pairs of lateral nerves; corolla-tube 5-9 mm. long, lobes 3.7-7 mm. long[7. heudelotii](#)
- 8 Pedicels and sepals mostly pubescent; sepals ciliate[6. owariensis var. owariensis](#)
Pedicels and sepals glabrous; sepals not ciliate[6a. owariensis var. leiocalyx](#)
- 9 Inflorescences terminal and axillary; corolla-lobes glabrous outside; leaves not gland-dotted beneath: 10
Inflorescences only axillary; leaves gland-dotted beneath (except in No. 17):..... 12
- 10 Calyx with 5 glandular scales within alternating with the sepals; young branches pubescent; leaves 3-17 cm. long, 1-9 cm. broad, with 7-11 pairs of lateral nerves; mature flowers unknown[8. utilis](#)
Calyx without glandular scales:..... 11
- 11 Corolla-tube 8-13 mm. long, equalling the lobes; branches glabrous or pubescent; leaves oblong to elliptic, 8-26 cm. long, 3-10 cm. broad, with 10-16 pairs of lateral nerves [9. landolphioides](#)
Corolla-tube 3-5 mm. long, lobes 1.8-2.5 mm. long; branches glabrous[9a. Cyindropsis parvifolia](#)
- 12 Leaves gland-dotted beneath; young branches glabrous or with short hairs (not more than 1.3 mm. long): 13
Leaves not gland-dotted beneath; young branches clothed with long hairs (1-3 mm.); leaves elliptic to oblong, 5-20 cm. long, 3.5-10 cm. broad, with 6-10 pairs of lateral nerves, usually hirsute beneath; corolla-tube 3-4 mm. long, lobes 2.8-4.5 mm. long[17. hirsuta](#)
- 13 Corolla-tube glabrous in the throat; anthers glabrous, less than 1/4 of the length of corolla-tube:..... 14
Corolla-tube pilose in the throat; anthers pilose on their back about 1/4 or 1/3 of the length of corolla-tube; branches pubescent; leaves oblong-elliptic, 4-32 cm. long, 1.5-12 cm. broad, with 8-17 pairs of lateral nerves; corolla-tube 5-8 mm. long, lobes 3-7 mm. long [16. subrepanda](#)
- 14 Inflated part of the corolla-tube either glabrous or laxly pubescent outside: 15
Inflated part of the corolla-tube densely pubescent outside:..... 19
- 15 Young branches staying smooth during lignification: 16
Young branches becoming rough with small scales during lignification: 18
- 16 Young branches and leaves quite glabrous; leaves oblong-elliptic to obovate, 7-25 cm. long, 2.5-9 cm. broad, with 10-20 pairs of lateral nerves; corolla-tube 12-22 mm. long, lobes 7-23 mm. [10. violacea](#)
Young branches more or less pubescent or pilose; leaves elliptic, oblong or ovate, 4-20 cm. long, 1.5-10 cm. broad, with 4-10 pairs of lateral nerves; corolla-tube 7-20 mm. long, lobes 5-22 mm. long:..... 17
- 17 Young branches densely pilose[11. dulcis var. dulcis](#)
Young branches laxly to moderately pilose [11a. dulcis var. barteri](#)
- 18 Branches and leaves glabrous; leaves usually cuneate at base, elliptic-oblong, 5-23 cm. long, 1.5-9 cm. broad, with 6-11 pairs of lateral nerves; net of veins prominent; sepals frequently only 4; corolla-tube 12-28 mm. long, lobes 8-21 mm. long [12. congolensis](#)
Branches glabrous or pubescent; leaves cordate at base, elliptic-oblong to broadly lanceolate, 5-24 cm. long, 2-12 cm. broad, with 5-11 pairs of lateral nerves; net of veins not prominent; corolla-tube 14-16 mm. long, lobes 16-20 mm. long [13. membranacea](#)
- 19 Branches laxly or irregularly densely pubescent; leaves opposite, oblong, 9-24 cm. long, 2.5-7.5 cm. broad, with 8-14 pairs of lateral nerves; cymes 1-2-flowered; sepals 2-6-5 mm. long; corolla-tube 13-16 mm. long, lobes 13-18 mm. long, attenuate towards the apex [14. uniflora](#)
Branches equally densely pubescent; leaves opposite or partly alternate or in whorls of 3, elliptic to obovate, 7.5-32 cm. long, 2.5-18 cm. broad, with 6-19 pairs of lateral nerves; cymes 3-30-flowered; sepals 1.2-2.2 mm. long; corolla-tube 6-12 mm. long, lobes 2.8-9 mm. long, rounded towards the apex [15. foretiana](#)

1. *Landolphia micrantha* (A. Chev.) Pichon in Mém. I.F.A.N. 35: 84, t. 2, 3-4 (1953). *APD acc*

Clitandra micrantha A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 44 (1908); Chev. Bot. 401.

C. elastica var. **micrantha** (A. Chev.) A. Chev. ex Dalz., Appendix 369 (1937).

C. leptantha of F.W.T.A., ed. 1, 2: 34, partly (Chev. 17691), not of Pierre.

Climber up to 60 ft. high; flowers small, yellow or yellowish-white, in very lax inflorescences.

Lib.: Sinoe Basin (Mar.) Whyte 8! 15! Dukwia R. (Feb.) Cooper 235! **Iv. C.:** Soubiré to Namouéflo (Mar.) Chev. 17091! Noé Chev. 19841. Guidéko Chev. 16391. Abidjan Chev. 15619.

2. *Landolphia togolana* (Hallier f.) Pichon l.c 87 (1953). *APD acc*

Cylindropsis togolana Hallier f. (1900).

Clitandra togolana (Hallier f.) Stapf in F.T.A. 4, 1: (1902); F.W.T.A., ed. 1, 2: 34 (1931).

C. alba, Stapf in F.T.A. 4, 1: 64 (1902).

C. "togoensis" of Chev. Bot. 402.

Climber 15 ft. or more high with tendrils and cream-coloured or yellow flowers in axillary and terminal inflorescences.

Iv. C.: Sassandra Chev. 17938. Abidjan Chev. Grand Bassam Thollon 167. Chev. 17909. Abouabou Mangenot. **Ghana:** Okroase (May) Johnson 753! **Togo Rep.:** Lomé Warnecke 46! 331! **Dah.:** Zounou Poisson 35. Adja-Ouéré Le Testu 114. Near Savé Poisson 51. **S. Nig.:** Mamu F.R., Lagos (May) Foster 2! Ogun R. (fr. Nov.) Jones FHI 4913! Olokemeji F.R. (Mar.) Keay FHI 21199!

3. *Landolphia macrantha* (K. Schum.) Pichon l.c 146, t. 4, 3-6 (1953). *APD acc*

Carpodinus macrantha K. Schum. (1896)-F.T.A. 4, 1: 85; F.W.T.A., ed. 1, 2: 36.

Glabrous climber with tendrils and white flowers in 1-5 flowered inflorescences.

Guin.: Kouria Pobéguin 1530. **S. L.:** Afzelius! Heddle's Farm, Freetown (May) Lane-Poole 250! Ninia, Talla Hills (fr. Feb.) Sc. Elliot 4924! Makali (fr. Feb.) Deighton 4087!

4. *Landolphia parvifolia* K. Schum. in Engl. Bot. Jahrb. 15: 409 (1893). *APD acc*

4a. *Landolphia parvifolia* var. *johnstonii* (A. Chev.) Pichon l.c 96 (1953).

APD: *Synonym of Landolphia dewevrei* Stapf

Landolphia subterranea var. **johnstonii** A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 46 (1908).

Landolphia talbotii Wernham in Cat. Talb. 60 (1913)

Lofty climber with tendrils; flowers white or yellow, in many-flowered terminal inflorescences.

S. Nig.: Oban Talbot 1038! **[Br.] Cam.:** Rio del Rey Johnston 1.

Also in **Cameroun**, **Gabon**, **Ubangi-Shari**, **the Congos**, **Cabinda**.

5. *Landolphia calabarica* (Stapf) E. A. Bruce in Kew Bull. 2: 28 (1947); Pichon l.c. 138, t. 4, 1-2. *APD acc*

Carpodinus calabaricus Stapf (1894).

Landolphia bracteata Dewèvre (1895)-F.T.A. 4, 1: 41; F.W.T.A., ed. 1, 2: 32; Chev. Bot. 403.

Climber with tendrils, up to 22 ft. high; flowers white in dense or lax terminal cymes.

S. L.: Matotoka (July) Thomas 1236! Bonjema (fr. Dec.) Deighton 6153! Wiima (Apr.) Deighton 3947! **Lib.:** Vahon, Kolahun (fr. Nov.) Baldwin 10252. **Iv. C.:** Abidjan Chev. 15615. N'Zida forest Mangenot. **Ghana:** Cape Coast Brass! Ateiku (May) Vigne FH 2001! Aburi Brown 391! Assuantsi (fr. Jan.) Baldwin 14026! Sefwi Bekwai (fr. Oct.) Akpabla 905! **Dah.:** Allada (Mar.) Chev. 23406! Koussi Chev. 23231. Bokoutou Chev. 22867. **S. Nig.:** Idanre Foster 200! Ibadan (fl. & ft. Apr.) Meikle 1396! Ogbesse F.R., Ondo (July) Onochie FHI 33359! Calabar (Feb.) Mann 2242!

Landolphia owariensis

6. *Landolphia owariensis* var. *owariensis* -Fl. Owari 1, 54: t. 62 (1804); F.T.A. 4, 1: 49 (1902); Chev. Bot. 406; Pichon l.c 109, t. 2, 12. *APD acc*

Landolphia heudelotii var. **djenge** Stapf (1894), partly (Sc. Elliot 4675).

Landolphia stapfiana Wernham (1913).

Climber up to 300 ft. long or small suberect shrub, with only terminal inflorescences; flowers white to yellow, orange or brownish-yellow.

Guin.: Konkou to Timbo Chev. 12478! Fouta Djallon (Sept.) Schnell 7215! Farana Chev. 20455. Camaradou Adam 3753. **S. L.:** Heddle's Farm, Freetown (Mar.) Lane-Poole 442! Jigaya (Sept.) Thomas 2782! Kukuna (fr. Jan.) Sc. Elliot 4675! Loma Mts. (Sept.) Jaeger 1448! **Lib.:** Gbanga (Sept.) Linder 761! Peahtah (Oct.) Linder 942! Ganta Baldwin 9233! Greenville Sim 3! **Iv. C.:** Bingerville (July) Jolly 3201 Prolo (Aug.) Chev. 19873! Nzi (Aug.) Chev. 22270! Aboisso Chev. 17732. **Ghana:** Bamba, S. Ashanti (Sept.) Vigne FH 1366! Akropong, Akwapim (Aug.) Irvine 765! Aburi Hills (Nov.) Johnson 282! Krepil Hills (Jan.) Johnson. 524! Larte Hills (Nov.) Johnson 811! **Togo Rep.:** Misahöhe Baumann 517. Bismarckburg Bütter 325. **Dah.:** Adja-Ouéré Le Testu 170! Zagnanado (Apr.) Rudier! Sakété to Pedjilé Chev. 22909! **N. Nig.:** Lokoja (Nov.) Dalz. 100! Omu, Ilorin Lamb 5! Bassa (fr. Aug.) Elliott 102! Agaie (Dec.) Yates 46! **S. Nig.:** Okomu F.R., Benin (Feb.) Brenan 9082! Ibadan South F.R. (Apr.) Keay FHI 22807! Onitsha Barter 1810! Milliken Hill, Enugu (Mar.) Hepper 2226! Calabar (Feb.) Mann 2311! Oban Talbat 1617! **[Br.] Cam.:** Rio del Rey Johnston 3. Johann-Albrechtshöhe Staudt 883. Vogel Peak, Adamawa (Dec.) Hepper 1517!

Extends through Cameroun and equatorial Africa to **Egypt**, **Sudan**, **Uganda** and Southern **Tanganyika**.

6a. ***Landolphia owariensis* var. *leiocalyx* (Pichon) H. Huber** in Kew Bull. 15: 437 (1962).

APD: Synonym of Landolphia owariensis P. Beauv.

Landolphia leiocalyx Pichon l.c 129, t. 3, 2-4 (1953).

Guin.: Fouta Djallon Pobéguin 1929!

7. ***Landolphia heudelotii* A. DC.** in DC. Prod. 8: 320 (1844); F.T.A. 4, 1: 53; Chev. Bot. 405; Pichon l.c 129. *APD acc*

Landolphia heudelotii var. **djenge** Stapf (1894)-F.T.A. 4, 1: 55 (partly, Sc. Elliot 4650, 5450).

Climber, sometimes very long, with mostly white flowers in terminal, dense or lax cymes.

Sen.: M'bidjem to Cayor Trochain 644. Sangalkam Berhaut 894. Bignona Trochain 1457. Itou Chev. 2073. **Gam.:** Dawe 8! Kombo Heudelot. **Mali:** Guéla (Feb.) Chev. 317! **Port. G.:** Prabis, Bissau (Feb.) Esp. Santo 1831! Naga, Bissora (Jan.) d'Orey 89! **Guin.:** Rio Nunez Heudelot 602! Conakry (Feb.) Chev. 12726! Farana (Jan.) Chev. 20459! Timbo (Jan.) Pobéguin 84! **S. L.:** Freetown (May) Deighton 3989! Wallia, R. Scarcies (fl. & fr. Jan.) Sc. Elliot 4650! Mano (Sept.) Deighton 3789! Falaba (fr. Apr.) Sc. Elliot 5450! **Iv. C.:** Tafiré Aubrév. 1455. **Ghana:** Lambussie to Belong (fr. Mar.) Kitson 785!

Also on the **Cape Verde Islands**.

8. ***Landolphia utilis* (A. Chev.) Pichon** l.c 200, t. 9, 5-6 (1953). *APD acc*

Carpodinus utilis A. Chev. in J. Agric. Trop. 6: 159 (1906)-Chev. Bot. 411.

Clitandra laurifolia A. Chev. (1908) and Chev. Bot. 401, name only-F.W.T.A., ed. 1, 2: 35.

Climber 6-10 ft, high with 1-4-flowered cymes.

Iv. C.: Prolo Chev. 19856. Grabo Chev. 19739; 19767. Davo Chev. 17966. Bingerville to Abidjan Chev. 15549; 15552. Dabou Chev. 15617.

[Note: I have not seen any material of this imperfectly known and aberrant species which is the only species with glandular scales in the calyx-Huber.]

9. ***Landolphia landolphioides* (Hallier f.) A. Chev.** in Rev. Bot. Appliq. 28: 401 (1948); Pichon l.c 53, t. 1, 10. *APD acc*

Clitandra landolphioides Hallier f. (1900).

Carpodinus landolphioides (Hallier f.) Stapf in F.T.A. 4, 1: 80 (1902); F.W.T.A., ed. 1, 2: 36.

Climber up to 80 ft. long with tendrils and dense or lax axillary and terminal inflorescences; corolla white, with the tube sometimes red at the base.

S. Nig.: Cross R. area Meyer. **[Br.] Cam.:** Buea, 1,900-4,000 ft. Dalz. 8242! Hutch. & Metcalfe 108! Deistel 144! 556! Barombi Preuss 217.

Extends to Cameroun, Gabon, Ubangi-Shari and **Uganda**.

10. *Landolphia violacea* (K. Schum. ex Hallier f.) Pichon l.c 157, t. 5, 7 (1953). *APD acc*

Carpodinus violacea K. Schum. ex Hallier f. (1900)-F.T.A. 4, 2: 80; F.W.T.A., ed. 1, 2: 36.

Glabrous climber with tendrils and white, pink or violet flowers in few-flowered, dense axillary cymes.

S. Nig.: Oban Talbot 1445!

Also in **Cameroun**, **Gabon**, and **the Congos**.

Landolphia dulcis* (R. Br. ex Sabine) Pichon** *APD acc11. *Landolphia dulcis* var. *dulcis*** -l.c. 169, t. 6, 6 (1953). *APD acc*

Carpodinus dulcis Sabine ex G. Don Gen. Syst. 4: 101 (1837); F.T.A. 4, 1: 76; F.W.T.A., ed. 1, 2: 36; Chev. Bot. 410.

Carpodinus acida Sabine ex G. Don (1837)-F.T.A. 4, 1: 86.

Climber up to 30 ft. with tendrils and white, yellowish or violet flowers in few-flowered axillary cymes.

Sen.: fide Pichon l.c **Mali:** Kangola Chev. 860! Sitakoto Paroisse 31. **Port. G.:** Prabis, Bissau (ft. Feb.) Esp. Santo 1827! Mansoa Esp. Santo 742. Cacim Esp. Santo 631. **Guin.:** N'gebela (May) Collenette 32! Kouroussa (June) Pobéguin 703! Diaguissa to Timbo Chev. 13433. Youkounkoun Berhaut 1472. **S. L.:** Roruks (fr. Nov.) Thomas 5712! Batkanu (fr. Jan.) Deighton 2842! Njala (fr. Apr.) Deighton 2899! Musaia (Apr.) Deighton 5483! **Iv. C.:** Korhogo to Badiakaha Mangenot.

Also in **Cape Verde**

11a. *Landolphia dulcis* var. *barteri* (Stapf) Pichon l.c. 166, t. 6, 4-5 (1953).

APD: Synonym of Landolphia dulcis (Sabine) Pichon

Carpodinus barteri Stapf (1894)-F.T.A. 4, 1: 77; F.W.T.A., ed. 1, 2: 36.

C. parviflora Stapf (1894)-F.T.A. 4, 1: 78.

C. oocarpa Stapf in F.T.A. 4, 1: 598 (1904); F.W.T.A., ed. 1, 2: 36; Chev. Bot. 411.

C. baumannii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 36 (1931), and in Kew Bull. 1937: 337.

Guin.: Fouta Djallon Heudelot 624! Kissidougou Chev. 20704. Ténémadou Adam 3391. Nzérékoré Adam 4887. Lola to Nzo Chev. 20982. **Lib.:** Ganta Harley! Sinoe Basin Whyte 3! 9! Kakatown Whyte! **Iv. C.:** Sassandra Chev. 16330. Guidéko Chev. 16386! Dabou Chev. 15621. Alépé Chev. 17374. **Ghana:** Kumasi (May) Jackson FH 1935! Axim Chev. 13817. Aburi Chev. 13873. **Togo Rep.:** Misahöhe (Mar.) Mildbr. 7392! Baumann 304! R. Djego Kling 51! **Dah.:** Pahou Poisson. Tohoué Chev. 22770. **S. Nig.:** Lagos Barter 2138! Idanre Hills (Oct.) Keay FHI 25505! Ibadan (fl. & fr. Mar.) Meikle 1252! Calabar (Feb.) Mann 2261! Oban Talbot 297!

Also in **Cameroun**, **Gabon** and **Middle Congo**.

12. *Landolphia congolensis* (Stapf) Pichon l.c. 171 (1953). *APD acc*

Carpodinus congolensis Stapf (1898)-F.T.A. 4, 1: 76.

C. turbinata Stapf (1898)-F.T.A. 4, 1: 83.

C. schlechteri K. Schum. ex Stapf in F.T.A. 4, 1: 75 (1902).

C. oxyanthoides Wernham in Cat. Talb. 61 (1913).

Glabrous climber 30 ft. or more high with tendrils; flowers variable in colour, in mostly 1-flowered axillary inflorescences.

S. Nig.: Oban Dist. Talbot 1443!

Also in **Cameroun**, **Gabon**, **Ubangi-Shari**, **the Congos**, and **Cabinda**.

13. *Landolphia membranacea* (Stapf) Pichon l.c 176, t. 7, 2-3 (1953). *APD acc*

Clitandra membranacea Stapf in F.T.A. 4, 1: 597 (1904); F.W.T.A., ed. 1, 2: 34.

Climber with tendrils and greenish-white flowers mostly solitary in leaf-axils; sometimes flowering from older, leafless branches.

Guin.: Moussadougou to Lola Chev. 20969. **S. L.:** Njala (fr. Dec.) Deighton 2932! Yonibana Thomas 4087! Mamaka Thomas 4576! **Lib.:** Jabroke (fr. July) Baldwin 1947! Sinoe Basin Johnston 19! Greenville Sim 20! **Iv. C.:** Grabo Chev. 19664! Kéeta Chev. 19329. Nimba to Danané Mangenot. Bingerville Chev. 16049.

14. *Landolphia uniflora* (Stapf) Pichon l.c. 178 (1953). *APD acc**Carpodinus uniflora* Stapf (1894)-F.T.A. 4, 1: 74; F.W.T.A., ed. 1, 2: 36.

Climber with tendrils and lemon-yellow flowers.

S. Nig.: Oban Dist. Talbot 298! 1480!Also in **Cameroun** and **Gabon**.**15. *Landolphia foretiana* (Pierre ex Jumelle) Pichon** l.c. 179, t. 7, 6 (1953). *APD acc**Carpodinus foretiana* Pierre ex Jumelle (1898).**C. klainei** Pierre ex Stapf in F.T.A. 4, 1: 79 (1902); Chev. Bot. 410.**C. rufinervis** Pierre ex Stapf in F.T.A. 4, 1: 79 (1902); F.W.T.A., ed. 1, 2: 36.

Climber with tendrils, up to 240 ft. long with white or yellow flowers.

Lib.: Greenville, Sinoe Sim 31! **Iv. C.:** Guidéko to Zozro Chev. 19019. **S. Nig.:** Sapoba Thompson 19! Akwebe Farquhar 75! Oban Talbot 299! 2030!

Extends through Cameroun and Equatorial Africa to Congo and Cabinda.

16. *Landolphia subrepanda* (K. Schum.) Pichon l.c. 184, t. 7, 7-8 (1953). *APD acc**Carpodinus subrepanda* K. Schum. (1895)-F.T.A. 4, 1: 81; F.W.T.A., ed. 1, 2: 36.

Climber up to 20 ft. high with tendrils and white flowers in dense, axillary inflorescences.

S. Nig.: Cross R. McLeod! [**Br.**] **Cam.:** Barombi Preuss 187! S. Bakosi, Kumca (fr. May) Olorunfemi FHI 30570!Also in **Cameroun**, **Gabon** and **the Congos**.**17. *Landolphia hirsuta* (Hua) Pichon** l.c. 193, t. 9, 1-4 (1953). *APD acc**Carpodinus hirsuta* Hua (1900)-F.W.T.A., ed. 1, 2: 36, partly (excl. syn. *C. nigerina* A. Chev. and Chev. specs.); Chev. Bot. 410.

Climber up to 60 ft. high with tendrils and small, yellowish or greenish-yellow flowers, in dense, often many-flowered cymes.

Sen.: Bignona Chev. Marsassoun Portères 3012. Sinedone Harcens. Adéane Chev. 2068. **Port. G.:** Fulacunda (fr. Apr.) Esp. Santo 2254! Cabuchanque to Guébu Esp. Santo 2072! **Guin.:** Conakry Lecerf! Kandiafara Paroisse 10 (partly). Bambaya Paroisse 8. Timbo Chev. 12432. **S. L.:** Newton (Feb.) T. S. Jones 309! Pelewahun (Jan.) Deighton 5736a! Mange (Feb.) Deighton 3608! Njala (fl. Feb., fr. May) Deighton 3111! 5046! **Lib.:** Kondessu, Boporo (Dec.) Baldwin 10666! **Iv. C.:** Alépé to Malamalasso Chev. 17515! **Ghana:** Akwapim Horton! Fiapere Chipp 83! Aburi Chev. 13876. **Togo Rep.:** Tonugbe Baumann 520. **Dah.:** Djougou Chev. 23884; 23922. **N. Nig.:** Ankpa, Kabba Prov. Lamb 18! **S. Nig.:** Asaba Div. Unwin 4! N. Ibadan F.R. Mackay! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba (Mar.) Brenan 9431!**3. CLITANDRA***Benth.*-F.T.A. 4, 1: 60; Pichon in Mém. I.F.A.N. 35: 205 (1953).

- 1 Robust climber with branches and leaves glabrous; leaves elliptic to oblong, 4.5-20 cm. long, 1.6-9 cm. broad, with 9-21 pairs of lateral nerves; cymes many-flowered, axillary, dense to lax; corolla-tube 2.5-7 mm. long, lobes 1.3-6 mm. long *cymulosa*

***Clitandra cymulosa* Benth.** in Fl. Nigrit. 445 (1849); F.T.A. 4, 1: 65; Pichon l.c., t. 9, 12. *APD acc**Clitandra orientalis* K. Schum. (1896)-Chev. Bot. 401.*Clitandra elastica* A. Chev. (1906).

Climber up to 300 ft. long, with tendrils and fairly small white, greyish or yellowish flowers, the tube mostly pink.

Guin.: Bouillé to Bangadou (fl. & fr. Feb.) Chev. 20728! Korodou (Feb.) Chev. 20726! Kaba Chev. 13241. Voroa Adam 3298. Moussadougou to Lola Chev. 20962. **S. L.:** Don! Jephun (fr. Dec.) Smythe 230! Kenema Thomas 7893! Panguma Imp. Inst. 5! **Lib.:** Peahtah (fr. Oct.) Linder 900! **Iv. C.:** Fort Binger Chev. 19524! **Ghana:**? locality! **Dah.:** Boukoutou

Chev. 22866! Sakété to Pédjilé Chev. 22892. **N. Nig.:** Bassa (fr. Aug.) Elliott 98! **S. Nig.:** Sapoba Thompson 15! Ondo (Nov.) Onochie FHI 34238! Degema Talbot 1657!

Also in **Gabon**, **Ubangi-Shari**, **the Congos**, **Cabinda**, **Uganda** and **Tanganyika**.

4. ORTHOPICHONIA

H. Huber in Kew Bull. 15: 437 (1962). *APD acc*

Orthandra Pichon in Mém. I.F.A.N. 35: 211 (1953), not of Burret (1940).

Clitandra of F.T.A., 4, 1: 60, and of F.W.T.A., ed. 1, 2: 33, partly.

- 1 Corolla-lobes attenuate towards the apex:2
Corolla-lobes rounded towards the apex:4
- 2 Branches and petioles quite glabrous; corolla-tube 11-16 mm. long, the anthers inserted in the lower 1/3 of the tube; sepals glabrous outside:3
Branches and petioles puberulous when young; corolla-tube 4-7 mm., lobes 4-5-8 mm. long; anthers inserted in the middle of the tube; leaves elliptic to oblong, 8-16 cm. long and 3-8 cm. broad, with 16-35 pairs of lateral nerves; sepals pubescent at least towards the base[4. staudtii](#)
- 3 Corolla-lobes 4-5 mm. long, always less than 1/2 length of the tube and frequently 1/3 length, pubescent outside towards base, tube 11-15 mm. long; leaves elliptic to oblong, 8-16 cm. long, 3-8 cm. broad, with 16-35 pairs of lateral nerves[1. indeniensis](#)
Corolla-lobes 6-9 mm. long, about half as long as the tube; leaves oblong to broadly lanceolate, cuneate or almost rounded at base, 5-13 cm. long, 2-6 cm. broad, with 14-35 pairs of lateral nerves[2. longituba](#)
Corolla-lobes 4-6 mm. long, at least 2/3 length and up to about twice as long as the tube; leaves broadly obovate, elliptic, oblong or almost orbicular, rounded or indistinctly cuneate at base, 4-16 cm. long, 2-7 cm. broad, with 16-32 pairs of lateral nerves[3. schweinfurthii](#)
- 4 Corolla-tube 3-5 mm. long, anthers inserted about 1 mm. above the base of the tube; corolla-lobes 1.5-2.7 mm. long; branches glabrous also when young; leaves elliptic, 6-16 cm. long, 3-7 cm. broad, with 28-44 pairs of lateral nerves[5. barteri](#)
Corolla-tube 7-15 mm. long, anthers inserted 2-3 mm. above the base of the tube; corolla-lobes 3-9 mm. long; ovary about 1 mm. high, attenuate at the apex; leaves elliptic, long-acuminate, 4-10 cm. long, 2-5 cm. broad, with 25-45 pairs of lateral nerves, glabrous[6. nigeriana](#)

1. *Orthopichonia indeniensis* (A. Chev.) *H. Huber* in Kew Bull. 15: 437 (1962). *APD acc*

Clitandra indeniensis A. Chev. in Mem. Soc. Bot. Fr. 2, 8: 43 (1908).

Clitandra ivorensis A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 34 (1931); Kew Bull. 1937: 336.

Orthandra indeniensis (A. Chev.) *Pichon* in Mém. I.F.A.N. 35: 218 (1953).

Climber with tendrils 15-50 ft. high; corolla white with tube yellow.

Lib.: Greenville, Sinoe Sim 14! Sinoe (fr. Mar.) Whyte 4! **Iv. C.:** Mid. Cavally to Mid. Sassandra Chev. 19276. Abidjan Chev. 15183! 15616. Yapo Manganot. Aboisso Chev. 17751.

2. *Orthopichonia longituba* (Wernham) *H. Huber* l.c.(1962).

APD: *Synonym of Orthopichonia indeniensis* (A. Chev.) *H. Huber*

Clitandra longituba Wernham in Cat. Talb. 60 (1913); F.W.T.A., ed. 1, 2: 34.

Orthandra longituba (Wernham) *Pichon* l.c. 216, t. 10, 1-4 (1953).

Glabrous climber with tendrils; flowers in axillary fascicles.

S. Nig.: Sapoba Kennedy 2156! Eket Talbot! Oban Talbot 1577! **[Br.] Cam.:** Victoria (Feb.) Maitland 405! S. Bakundu F.R., Kumba (Mar.) Brenan 9498!

3. *Orthopichonia schweinfurthii* (Stapf) *H. Huber* l.c. (1962). *APD acc*

Clitandra schweinfurthii Stapf in Kew Bull. 1894: 20; F.T.A. 4, 1: 68.

Clitandra visciflua K. Schum. ex Hallier f. (1900)-F.T.A. 4, 1: 66; F.W.T.A., ed. 1, 2: 34.

Orthandra schweinfurthii (Stapf) *Pichon* l.c. 213 (1953).

Climber with the flowers in axillary clusters; corolla white or with a yellowish tube.

S. Nig.: Benin Unwin 51! Sapoba F.R. (fr. June) Onochie FHI 36652!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **Congo** and **Sudan**.

4. *Orthopichonia staudtii* (Stapf) H. Huber l.c. (1962).

*APD: Synonym of *Orthopichonia visciflua* (K. Schum. ex Hallier f.) Vonk*

Clitandra staudtii Stapf in F.T.A. 4, 1: 67 (1902); F.W.T.A., ed. 1, 2: 34.

Orthandra staudtii (Stapf) Pichon l.c. 223, t. 10, 5-8 (1953).

Climber with tendrils and white flowers in axillary fascicles.

[Br.] Cam.: Johann-Albrechtshöhe (=Kumba) (Feb.) Staudt 860!

Also in **Cameroun**, **Gabon** and **Congo**.

5. *Orthopichonia barteri* (Stapf) H. Huber l.c. (1962). *APD acc*

Clitandra barteri Stapf in Kew Bull. 1894: 20; F.T.A. 4, 1: 66; F.W.T.A., ed. 1, 2: 34.

Orthandra barteri (Stapf) Pichon l.c. 223, t. 10, 12, t. 11, 1-3 (1963).

Climber, 12 ft. high, similar to the above.

Ghana: Dome (fr. May) Thompson 76! **S. Nig.:** Epe Barter 3310! Sapoba Kennedy 2322! Thompson 21! Asaba Unwin! Anwai R. Unwin 15!

6. *Orthopichonia nigeriana* (Pichon) H. Huber l.c. (1962).

*APD: Synonym of *Orthopichonia cirrhosa* (Radlk.) H. Huber*

Orthandra nigeriana Pichon l.c. 226, t. 11, 7-9 (1953).

Climber with tendrils and glabrous branches; flowers densely clustered, white.

S. Nig.: Oban Talbot 1351! 1353! 1537! **[Br.] Cam.:** Balange, Kumba (Jan.) Binuyo & Daramola FHI 35089!

5. ANTHOCLITANDRA

(Pierre) Pichon in Mém. I.F.A.N. 35: 230 (1953). *APD acc*

Clitandra of F.T.A. 4, 1: 60, and of F.W.T.A., ed. 1, 2: 33, partly.

- 1** Lateral nerves 11-15 pairs; leaves broadly elliptic to obovate, 5-10 cm. long, 2.5-6 cm. broad; pedicels up to 3 or 4 mm. long; corolla-tube about 3 mm. long, pubescent in the throat, lobes 4-6 mm. long; ovary glabrous [*l. nitida*](#)

Lateral nerves 4-10 pairs; leaves oblong, 7-21 cm. long, 2.5-8 cm. broad; pedicels very short, not exceeding 1.5 mm.; corolla-tube 4-6 mm. long, glabrous in the throat, lobes 3-10 mm. long; ovary pubescent on the apex .[*2. robustior*](#)

1. *Anthoclitandra nitida* (Stapf) Pichon in Mém. I.F.A.N. 35: 230, t. 12, 2 (1953).

*APD: Synonym of *Landolphia nitidula* J.G.M. Pers.*

Clitandra nitida Stapf in F.T.A. 4, 1: 595 (1904); F.W.T.A., ed. 1, 2: 34.

Glabrous climber with tendrils and very lax axillary cymes.

Lib.: Kakatown Whyte! Monrovia (fr. Oct., Nov.) Cooper 43! Sinoe Whyte 1! Greenville, Sinoe Sim 24! Mecca, Boporo Dist. (ft. Nov.) Baldwin 10411! **Iv. C.:** Kééta Chev. 19338.

2. *Anthoclitandra robustior* (K. Schum.) Pichon l.c. 231, t. 12, 3-5 (1953).

*APD: Synonym of *Landolphia robustior* (K. Schum.) J.G.M. Pers.*

Clitandra robustior K. Schum. in E. & P. Pflanzenfam. 4, 2: 130 (1895); F.T.A. 4, 1: 71; F.W.T.A., ed. 1, 2: 34.

Climber up to 60 ft. high with very dense, axillary inflorescences; corolla very variable in colour: white, yellow, ochre, purple or violet.

S. Nig.: Afi River F.R., Ikom (Dec.) Keay FHI 28218! 28266! [**Br.**] **Cam.:** Kumba to Ikiliwindi Preuss 390. S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35095!

Also in **Cameroun**, **Gabon**, **the Congos** and **Cabinda**.

6. APHANOSTYLIS

Pierre in Bull. Soc. Linn. Paris, n. sér., 89 (1898); Pichon in Mém. I.F.A.N. 35: 235 (1953). *APD acc*

Clitandra of F.T.A. 4, 1: 60, and of F.W.T.A., ed. 1, 2: 33, partly.

- 1 Lateral nerves 7-10 pairs; only axillary inflorescences developed:2
Lateral nerves in 11-20 pairs; axillary and terminal inflorescences developed; corolla-tube 0.8-2 mm. long, the anthers inserted above the middle; corolla-lobes 3-10mm. long; branches glabrous; leaves elliptic-oblong, 4-11 cm. long, 2-5 cm. broad3. *mannii*
- 2 Cymes very dense; pedicels 1-3 mm. long; corolla-tube 1.3-1.8 mm. long, the anthers inserted in the lower 1/3; corolla-lobes about 5 mm. long; branches glabrous or pubescent, leaves oblong, 5-18 cm. long, 2.5-6 cm. broad1. *leptantha*
Cymes lax; pedicels 4-7 mm. long; corolla-tube 2.5-2.7 mm. long, the anthers inserted at about the middle; corolla-lobes about 10 mm. long; leaves elliptic to oblong, 8-14 cm. long, 3-7 cm. broad2. *flavidiflora*

1. **Aphanostylis leptantha** (*K. Schum.*) *Pierre* in Bull. Soc. Linn. Paris, n. sér., 89 (1898); Pichon in Mém. I.F.A.N. 35: 237, t. 12, 6-7.

APD: *Synonym of Landolphia leptantha* (*K. Schum.*) *J.G.M. Pers.*

Carpodinus leptantha *K. Schum.* (1895).

Clitandra leptantha (*K. Schum.*) *Hallier f.* (1900)-F.T.A. 4, 1: 70; F.W.T.A., ed. 1, 2: 34 (excl. syn. *C. micrantha* A. Chev. and Chev. 17691).

Climbing shrub 12-25 ft. high with tendrils and small white flowers in dense axillary cymes.

S. Nig.: Oban Talbot 1526! 2047! Eket Talbot 3190!

Also in **Cameroun** and **Gabon**.

2. **Aphanostylis flavidiflora** (*K. Schum.*) *Pierre* l.c. 90 (1898); Pichon l.c. 239, t. 13, 1-2.

APD: *Synonym of Landolphia flavidiflora* (*K. Schum.*) *J.G.M. Pers.*

Carpodinus flavidiflora *K. Schum.* (1896).

Clitandra flavidiflora (*K. Schum.*) *Hallier f.* (1900)-F.T.A. 4, 1: 70; Brenan in Kew Bull. 7: 450 (1952).

A large climber very similar to *A. leptantha* but with laxer cymes.

[**Br.**] **Cam.:** near Banga, Kumba Dist. (Mar.) Brenan 9322!

Also in **Cameroun**.

3. **Aphanostylis mannii** (*Stapf*) *Pierre* l.c. 89 (1898); Pichon l.c. 241, t. 13, 3-5.

APD: *Synonym of Landolphia incerta* (*K. Schum.*) *J.G.M. Pers.*

Clitandra mannii *Stapf* (1894)-F.T.A. 4, 1: 69; F.W.T.A. ed. 1, 2: 34; Chev. Bot. 401.

Climbing shrub, up to 100 ft. long, with tendrils; flowers white or yellowish in lax inflorescences.

Port. G.: Guébu, Catio (fl. July, fr. June) Esp. Santo 2080! 2136! Cacine Esp. Santo 692. **Guin.:** Bayan-Bayan Sc. Elliot 4547. **S. L.:** Afzelius. Dudgeon. 1b! Bagroo R. Mann 848! Mano (Mar.) Deighton 5324! Hierakohun Smythe 79! **Lib.:** Du R. (fr July) Linder 89! **Iv. C.:** Bettie Chev. 17578! Mid. Cavally to Sassandra Chev. 19233. Guidéko to Zozro Chev. 19037. Nzi Chev. 22272. Ahinta to Aboisso Chev. 17761. **Togo Rep.:** Misahöhe Baumann 514. Katchenki Kling 7. **Dah.:** Bokoutou Chev. 22873. Sakété to Pédjilé Chev. 22910. **S. Nig.:** Ilaro (May) Onochie FHI 8233!

Also in [Cameroun](#), [Gabon](#), [Ubangi-Shari](#), [the Congos](#) and [Cabinda](#).

7. DICTYOPHLEBA

Pierre in Bull. Soc. Linn. Paris, n. sér.: 92 (1898); Pichon in Mém. I.F.A.N. 35: 250 (1953).

Landolphia of F.T.A. 4, 1: 30, and of F.W.T.A., ed 1, 2: 31, partly.

- 1 Anthers inserted about or below the middle of the corolla-tube; ovary abruptly distinct from the style; axis of the panicle robust, usually 2-7 mm. diam. near the base:[2](#)
Anthers inserted above the middle; corolla-tube 8-16 mm. long, lobes 5-15 mm. long, usually shorter than the tube; ovary long-attenuate, gradually passing into the style; branches glabrous or pilose; stipules small, deltoid, entire; leaves elliptic to oblong, 7-18 cm. long, 3-10 cm. broad, with 6-13 pairs of lateral nerves; axis of the panicle slender, usually less than 2 mm. diam. near the base[5. lucida](#)
- 2 Stipules small, markedly caducous, entire, deltoid; corolla-lobes shorter or longer than the tube:[3](#)
Stipules persistent, lacerate in setiform lobes 2-5 cm. long; corolla-tube 7-10 mm. long, anthers inserted in the lower 1/4 or 1/3 of the tube; corolla-lobes 14-22 mm. long, always distinctly longer than the tube; branches laxly pilose when young; leaves oblong-elliptic, long-acuminate 14-25 cm. long, 6-12 cm. broad, with 8-12 pairs of lateral nerves[4. stipulosa](#)
- 3 Corolla-tube 5-13 mm. long, anthers inserted at about the middle of the tube; corolla-lobes 4-18 mm. long, longer than 1/2 of the tube and sometimes longer than the tube; branches when young more or less puberulous; leaves broadly elliptic, cordate at base, 8-44 cm. long, 3-21 cm. broad with 7-24 pairs of lateral nerves ... [1. ochracea](#)
Corolla-tube 11-28 mm. long, anthers inserted in the lower 1/3 of the tube:[4](#)
- 4 Corolla-lobes 5-10 mm. long, less than 1/2 length of the tube; branches pilose when young; leaves broadly elliptic to obovate, 7-22 cm. long, 5-12 cm. broad, with 5-11 pairs of lateral nerves[2. leonensis](#)
Corolla-lobes 30-41 mm. long, longer than the tube; branches glabrous; leaves ovate, shortly and abruptly acuminate, 10-17 cm. long, 5-5-8-5 cm. broad, with 8-10 pairs of lateral nerves[3. rudens](#)

1. *Dictyophleba ochracea* (*K. Schum. ex Hallier f.*) *Pichon* in Mém. I.F.A.N. 35: 251 (1953). *APD acc*

Landolphia ochracea *K. Schum. ex Hallier f.* in Jahrb. Hamb. Wiss. Anst. 17, 3, Beih. 86 (1900); F.T.A. 4, 1: 40; F.W.T.A., ed. 1, 2: 33.

Climbing shrub up to 130 ft. high, with tendrils; cymes dense or lax, arranged in terminal panicles; corolla white, calyx violet.

S. Nig.: Oban Talbot 292!

Also in [Cameroun](#), [Gabon](#), [Ubangi-Shari](#), [Congo](#) and [Cabinda](#).

2. *Dictyophleba leonensis* (*Stapf*) *Pichon* l.c. 256, t. 14, 1-4 (1953). *APD acc*

Landolphia leonensis *Stapf* in F.T.A. 4, 1: 36 (1902); F.W.T.A., ed. 1, 2: 33.

Carpodinus macraphyllus *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 35 (1931); Kew Bull. 1937: 337.

Very similar to the last.

Guin.: Tembikounda Chev. 20588. **S. L.:** Smythe 42! Barter! Heddle's Farm, Freetown (May) Lane-Poole 268! **Lib.:** Dukwia R. (May) Cooper 423! Sinoe Whyte s.n.! 2! Greenville Sim 31; 35. **iv. C.:** Jolly. Guidéko Chev. 16369; 16405. **Ghana:** Dudgeon 108a

3. *Dictyophleba rudens* *Hepper* in Kew Bull. 16: 451 with fig. (1963). *APD acc*

A lofty climber [on trees in streamside forest in savanna](#); flowers white, fragrant.

[Br.] Cam.: foot of Vogel Peak, Adamawa (Nov.) Hepper 1470!

[This species has been inserted since Dr. Huber completed his MS.-Ed.]

4. *Dictyophleba stipulosa* (*S. Moore ex Wernham*) *Pichon* l.c. 259, t. 15, 1-3 (1953). *APD acc*

Landolphia stipulosa *S. Moore ex Wernham* in Cat. Talb. 69 (1913); F.W.T.A. ed. 1, 2: 33.

A hairy climber with long setiform stipules.

S. Nig.: Oban Talbot 346! 1296!

Also in **Cameroun** and **Gabon**.

5. *Dictyophleba lucida* (K. Schum.) Pierre in Bull. Soc. Linn. Paris, n. sér.: 93 (1898); Pichon l.c. 262, t. 15, 4-5. *APD acc*

***Landolphia lucida* K. Schum.** in Notizbl. Bot. Gart. Bert. 1: 24 (1895); F.T.A. 4, 1: 59.

Climber up to 100 ft. with tendrils; flowers white, yellow, greenish or orange-yellow, in terminal panicles.

S. Nig.: Benin Unwin 8.

Also in **Gabon**, **Ubangi-Shari**, **Congo**, **Cabinda**, **Tanganyika**, **Mozambique** and **S. Rhodesia**.

[This species is included here on the record of Unwin 8, a sterile specimen at Paris (vide Pichon l.c.); it was not seen for this revision. Unwin 8 at Kew is *Ancylobotrys amoena* Hua].

8. VAHADENIA

Stapf in F.T.A. 4, 1: 29 (1902); Pichon in Mém. I.F.A.N. 35: 266 (1953).

- 1** Anthers inserted about the middle of the corolla-tube (i.e. 6-11 mm. above the base of the tube); leaves elliptic to lanceolate, 6-20 cm. long, 4-10 cm. broad; orange-brown beneath when dry, with 5-12 pairs of lateral nerves; sepals large, 7-10 mm. long; corolla-tube 1.5-2.5 cm. long, lobes 1-3 cm. long ***L. laurentii***

Anthers inserted at the lower 1/3 of the corolla-tube (i.e. about 6 mm. above the base of the tube); leaves obovate, elliptic or oblong, 6-15 cm. long, 3-7.5 cm. broad, pale greyish-green or greyish-brown beneath when dry, with 5-9 pairs of lateral nerves; sepals 4-7 mm. long; corolla as above, although frequently slightly smaller ***L. caillei***

1. *Vahadenia laurentii* (De Wild.) Stapf in F.T.A. 4, 1: 29 (1902); Pichon in Mém. I.F.A.N. 35: 266, t. 16, 1-2. *APD acc*

***Landolphia laurentii* De Wild.** in Rev. Cult. Col. Paris 8: 229 (1901); F.T.A. 4, 1: 30.

***Vahadenia talbotii* Wernham** in Cat. Talb. 58 (1913).

Vahadenia caillei of F.W.T.A., ed. 1, 2: 31, partly (syn. *V. talbotii* Wernham and Talbot 1634).

Climber with tendrils, quite glabrous on branches and leaves also when young, up to 150 ft. long; flowers white or sometimes tinged with purple, in cymes arranged in mostly lax, terminal, elongated panicles.

S. Nig.: Sapoba F.R., Benin (ft. June) Onochie FHI 31242! Oban Talbot 1634! [**Br.**] **Cam.:** Banga F.R., S. Bakundu, Kumba (Mar.) Binuyo & Daramola FHI 35618!

Also in **Gabon**, **the Congos**, **Ubangi-Shari** and **Angola**.

2. *Vahadenia caillei* (A. Chev.) Stapf ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 31 (1931) (excl. syn. *V. talbotii* Wernham and Talbot 1634); Pichon l.c. 271, t. 16, 3. *APD acc*

***Landolphia caillei* A. Chev.** in Mém. Soc. Bot. Fr. 2, 8: 181 (1912).

Glabrous climber up to 100 ft. with tendrils; flowers yellowish-white and pink, fruits greenish-yellow.

Guin.: Kouria (Dec.) Caille in Hb. Chev. 14895! 14938. Bilima Caille in Hb. Chev. 14901. Sokourala Chev. 20499. **S. L.:** Lane-Poole 448! Yonibana (fl. & fr. Oct.) Thomas 4023! 4157! Kwaoma (Oct.) J.D.F. 84! Kasawe F.R. (Dec.) King 41b!

IV. C.: Azaguié (fl. & fr. Dec.) Fleury in Hb. Chev. 22287! Guidéko to Zozro Chev. 19060. Bingerville Vasson-Bandiougou in Hb. Chev. 15186. Chev. 17340. Cosrou to Lahou Mangelot. Yapo Mangelot.

9. ANCYLOBOTRYS

Pierre in Bull. Soc. Linn. Paris, n. sér.: 91 (1898), as *Ancylobotrys*; Pichon in Mém. I.F.A.N. 35: 272 (1953). *APD acc*

Landolphia of F.T.A. 4, 1: 30, and of F.W.T.A., ed. 1, 2: 31, partly.

- 1** Corolla-tube 5-17 mm. long: **2**

Corolla-tube 18-44 mm. long; young branches with short, persistent indumentum (up to 0.2 mm. long); leaves oblong to broadly lanceolate, 4-15 cm. long, 2-7 cm. broad, with 12-20 pairs of lateral nerves; corolla-lobes 6-20 mm. long [4. scandens](#)

- 2 Indumentum of young branches persistent and relatively long (usually 0.4-0.8 mm.); leaves elliptic to oblong, 4-20 cm. long, 2-9 cm. broad, with 7-17 pairs of lateral nerves; corolla-lobes 3-19 mm. long [1. amoena](#)

Indumentum of young branches very short (up to 0.2 mm. long): **3**

- 3 Petioles 1-3 cm. long; peduncles stout; leaves ovate to ovate-oblong, 8-28 cm. long, 3-12 cm. broad, with 8-20 pairs of lateral nerves; corolla-lobes 7-16 mm. long [2. pyriformis](#)

Petioles 4-6 mm. long; peduncles fairly thin; leaves elliptic-oblong, 6-10 cm. long, 2.5-4 cm. broad, with 12-22 pairs of lateral nerves; corolla-lobes 3-6 mm. long [3. brevityba](#)

1. **Ancylobotrys amoena** *Hua* in Bull. Mus. Hist. Nat. 5: 186 (1899); Pichon in Mém. I.F.A.N. 35: 274, t. 16, 4, t. 17, 1-2 (1953). *APD acc*

Landolphia amoena (*Hua*) *Hua* & *A. Chev.* in Journ. de Bot. 15: 8 (1900); F.T.A. 4, 1: 46; F.W.T.A., ed. 1, 2: 33.

L. scandens var. **ferruginea** *Hallier f.* (1900).

L. ferruginea (*Hallier f.*) *Stapf* in F.T.A. 4, 1: 46 (1902).

Climber up to 60 ft. long, with white or yellowish to purplish flowers in very dense cymes arranged in terminal panicles.

Mali: Mamahiza, Bamako Roberty 10389. **Guin.:** Pobéguin 170! Kouroussa (fr. Feb.) Pobéguin! Farfar 264! Chev. 384! Paroisse 24! **iv. C.:** Gafuoa (fr. Aug.) Schnell 5921! Issia rock (Nov.) Mangenot. Koualé to Kouroukoro (fr. May) Chev. 21753. Mankono (fr. June) Chev. 21899. Kangala to Kindali (fr. May) Chev. 861. **Ghana:** Evans 7! Prang (fl. & fr. Jan.) Vigne FH 1577! Northern Scarp F.R. (Nov.) Enti FH 5606! Akwapim Mts. (Nov.) Johnson 782! **Dah.:** Kouba to Farfa, Atacora Mts. Chev. 24039! Djougou (fr. June) Chev. 23921. Bocorona to Kouandé Chev. 24222. Farfa to Tounkountouna (fr. June) Chev. 24050; 24051. **N. Nig.:** Lokoja (Nov.) Dalz. 98! Wazeta to Karshe (Feb.) Dalz. 370! Jebba (fl. & fr. Jan.) Meikle 844! 1005! Anara F.R., Zaria Prov. (fl. & fr. May) Keay FHI 22960! Naraguta Lely 50! **S. Nig.:** Unwin 2! 8! 9! Rowland! R. Isahin (fr. Mar.) Rowland 20! **[Br.] Cam.:** Vogel Peak, 4,000 ft. (Dec.) Hepper 1555!

Also in **Cameroun**, **Ubangi-Shari**, **Congo**, **Uganda**, **Tanganyika** and **Mozambique**.

2. **Ancylobotrys pyriformis** *Pierre* in Bull. Soc. Linn. Paris, n. sér.: 127 (1899); Pichon l.c. 280, t. 17, 3-4. *APD acc*

Ancylobotrys robusta *Pierre* (1899).

Landolphia robusta (*Pierre*) *Stapf* in F.T.A. 4, 1: 43 (1902); F.W.T.A., ed. 1, 2: 33.

L. pyriformis (*Pierre*) *Stapf* in F.T.A. 4, 1: 60 (1902).

Climber up to 90 ft. long with tendrils.

S. Nig.: Eket Talbot s.n.! 3119!

Also in **Gabon**, **Ubangi-Shari**, and **the Congos**.

3. **Ancylobotrys brevityba** *Pichon* l.c. 283, t. 17, 5-6 (1953).

APD: *Synonym of Ancylobotrys scandens (Schumach. & Thonn.) Pichon*

Climber with tendrils; flowers white, few, in terminal panicles.

Dah.: Kétou (Jan.) Le Testu 110.

4. **Ancylobotrys scandens** (*Schum. & Thann.*) *Pichon* l.c. 286, t. 18, 4-7 (1953). *APD acc*

Strychnos scandens *Schum. & Thonn.* (1827).

Landolphia scandens (*Schum. & Thonn.*) *F. Didr.* (1855)-F.T.A. 4, 1: 46; F.W.T.A. ed. 1, 2: 33; Chev. Bot. 408.

Climber up to 60 ft. long with tendrils; flowers white, yellowish, purple or violet in dense cymes arranged in terminal panicles.

iv. C.: Danané to Mt. Goula (fr. Apr.) Chev. 21232. Danané (fr. Apr.) Chev. 21286. Guideko Chev. 16478. Boukourou (fr. Dec.) Chev. 16682; 16806. **Ghana:** Farfar 398! Krobo Plains (fl. & fr. Dec.) Johnson 494! Achimota (Apr.) Irvine 1424! Legon Hill (fr. Jan.) Adams 3656! Akwapim (Mar.) Irvine 1545! **Togo Rep.:** Lomé Warnecke 252! Cabolé (fl. & fr. June) Annet 66; 68. **Dah.:** (fr. Mar.) Poisson! Adja-Ouéré (Mar.) Le Testu 112! Adjara Chev. 22742. Ouidah (fr. Apr.) Chev. 23466. **S. Nig.:** Lagos (Oct.) Foster 68! Moloney! Dalz. 1104! Ilaro (Jan.) Millen 105! Asaba (fr. Apr.) Unwin 14!

Also in **Cameroun**, **Gabon**, **the Congos**, and **Angola**.

10. SABA

Pichon in Mém. I.F.A.N. 35: 302 (1953).

Landolphia of F.T.A. 4, 1: 30, and of F.W.T.A., ed. 1, 2: 31, partly.

- 1 Corolla-tube 15-28 mm. long; anthers 2·1-2·7 mm. long; corolla-lobes 1-3 cm. long; leaves elliptic or ovate, not or only shortly and indistinctly acuminate, 7-24 cm. long, 4-12 cm. broad, with 7-14 pairs of lateral nerves; ovary densely pubescent to villous [1. florida](#)
Corolla-tube 8-14 mm. long; anthers 1·5-2 mm. long: **2**
- 2 Ovary glabrous; leaves not or only shortly and indistinctly acuminate, oblong, 4-17 cm. long, 2-7 cm. broad, with 7-14 pairs of lateral nerves; corolla-lobes 8-22 mm. long: **3**
Ovary densely pubescent to villous; leaves mostly long-acuminate, oblong-elliptic, 6-19 cm. long, 2-8 cm. broad, with 8-13 pairs of lateral nerves; corolla-lobes 6-12 mm. long [3. thompsonii](#)
- 3 Pedicels equally pubescent; sepals and corolla-tube puberulous outside [2. senegalensis var. senegalensis](#)
Pedicels, sepals and corolla-tube glabrous outside [2a. senegalensis var. glabriflora](#)

1. *Saba florida* (Benth.) Bullock in Kew Bull. 13: 391 (1959).

APD: *Synonym of Saba comorensis* (Bojer ex A. DC.) Pichon

Landolphia florida Benth. (1849)-F.T.A. 4, 1: 38; F.W.T.A. ed. 1, 2: 32; Chev. Bot. 404.

L. florida var. leiantha Oliv. (1875)-F.T.A. 4, 1: 39.

L. comorensis K. Schum. (1893).

L. comorensis var. florida (Benth.) K. Schum. (1893).

Saba comorensis (K. Schum.) Pichon in Mem. I.F.A.N. 35: 303 (1953), incl. var. *florida* (Benth.) Pichon l.c. 309 (1953).

A strong woody climber with red-purplish stems and jasmine-like flowers yellow in the throat, and edible

Mali: Kati (Oct.) Chev. 2000! Sitakoto (fr. May) Dubois 188. Kangaba chev. 269. **Guin.**: Friguiagbé to Bambaya (Dec.) Pobéguin 39. Loungouri (Dec.) Caille in Hb. Chev. 14868. Labé (fr. Apr.) Chev. 12314 Tagania (Jan.) Fleury in Hb. Chev. 20409. Dalaba to Souguéta (Oct.) Chev. 20191. **S. L.**: Smythe 7! Musaia (fl. & fr. Feb., Mar.) Sc. Elliot 5109! Deighton 4177! Ninia, Talla Hills (fr. Feb.) Sc. Elliot 4896! Yalamba (Feb.) Jaeger 4340! **Lib.**: Murphy-Town Whyte 4! (drawings). Batomba-Town (fr. Dec) Whyte 8! (drawing). **Iv. C.**: Sindou (fr. May) Chev. 863. Sindou & Bobo-Dioulasso, Assakra (Oct.) Mangelot. Katiola Mangelot. **Ghana**: Dudgeon. Kitson! Okroase (May) Johnson 749! N. Territories (Feb.) Northcott 151! **Togo rep.**: Bismarckburg to Misahöhe Büttner 756: Bismarckburg Kling 172. Kirkri Kersting 4. **Dah.**: Poisson s.n.; 20! 54! (Oct.) Le Testu 124! **N. Nig.**: Niger T. Vogel 101! Jos Plateau (Oct.) Lely P832! Kontagora (fl. & fr. Dec.) Dalz. 8! Anara F.R., Zaria Prov. (Oct.) Keay FHI 21102! Agaie (Oct.) Yates 44! **S. Nig.**: Unwin 4. Orile Ilugu, Egba Dist. (Dec.) Olorunfemi FHI 19188! Ibadan Millen 118. Benin Chev. **[Br.] Cam.**: Victoria Deistel 130. Barombi Preuss 441. Johann-Albrechtshöhe (Mar., Dec.) Staudt 487; 889. R. Metschum, Bamenda (Jan.) Keay & Russell FHI 28529!

Throughout tropical Africa to the Comores and Madagascar.

2. *Saba senegalensis* var. *senegalensis* -in Mém. I.F.A.N. 35: 316 (1953). *APD acc*

Vahea senegalensis A. DC. (1844).

Landolphia senegalensis (A. DC.) Kotschy & Peyr. (1831)-F.T.A. 4, 1: 36; F.W.T.A., ed. 1, 2: 32; Chev. Bot. 408; Aubrév. Fl. For. C. Iv., ed. 1., 3: 159.

Climber, often more than 120 ft. long, with tendrils; flowers white, yellowish- or greenish-white, cymes in short terminal inflorescences

Sen.: Roger! Thiès (Mar.) Poisson. Sangalkam Adam 8361. Karang to Koumbeng (July) Trochain 3995. Kombo Heudelot 29! **Gam.**: Skues! Saunders 11! Genieri, Kaiaff (July) Fox 166! Albreda Leprieur. Kan to Kousann Perrottet 792. **Mali**: (Mar.) Davey 548! Sandsanding (Apr.) Chudeau. Soumpi to Sébi (July) Chev. 2069. Niafouké to Diré (Apr.) Rogeon 105. El-Oualadji (July) Chev. 1199. Bobo-Dioulasso (May) Chev. 918; 919. **Port. G.**: Acóco, Formosa (June) Esp. Santo 1995! Begene, Farim (May) Esp. Santo 2384! Pussubé, Bissau (Apr.) Esp. Santo 1173. Sama, Bajata (fl. fr, Jan.) Esp. Santo 434. Dandum Noury. **Guin.**: Kadé (Feb.) Maclaud 321. Sareya (Feb.) chev. 452. Kouroussa (Feb.) Chev. 386. Diaragouéla (Feb.) Chev. 470. Siguirri (fr. Fed.) Chev. 305. **Ghana**: Evans 2! Kulmasa to Iagalo (Feb.) Kitson 668! Izigi, Lorha (Mar.) McLeod 832! Burufo (Dec.) Adams 4438!

2a. *Saba senegalensis* var. *glabriflora* (Hua) Pichon l.c. 322 (1953).APD: *Synonym of Saba senegalensis* (A. DC.) Pichon*Landolphia senegalensis* var. *glabriflora* Hua (1899)-F.T.A. 4, 1: 37; F.W.T.A., ed. 1, 2: 32.

Sen.: Niafunké (May) Hagerup 85a! Kounghoul (Aug.) Trochain 173. Nicolo Koba (May) Trochain 3506. **Gam.:** Dawe 54! near R. Gambia Whitfield. **Mali:** Sébékoro (Apr.) Dubois 66. Bamako (Jan.) Chev. 235. Sébi (July) Chev. 1172. San to Douma (mar.) Chev. 43975. Bandiagara to Mopti (fl. & fr. Sept.) Chev. 24913. Bobo-Dioulasso Chev. Ouahigouya (Aug.) Chev. 24767. **Guin.:** Kadé (Mar.) Maclaud 377. Diala, near Ouassaya (Mar.) Chev. 517. Guiankorokora (Feb.) Chev. 352. Siguiri Pobéguin 659! Kankan (Mar.) Chev. 581. Farana (mar.) Sc. Elliot 5345! **Iv. C.:** Niangbo (June) Mangenot. Tafiré (fl. & fr. May) Aubrév. 1444.

3. *Saba thompsonii* (A. Chev.) Pichon l.c. 322, t. 21, 4-6 (19B3) APD acc*Landolphia thompsonii* A. Chev. in Linn. Soc. Bot. Tr. 2, 8; 182(1812); F.W.T.A., ed. 1, 2: 32; Chev. Bot. 409.*L. senegalensis* of F.W.T.A., ed. 1, 2: 32, partly (Warnecke 421), not of (A.DC.) Kotschy & Peyr.

Climber up to 90 ft. high, with tendrils; flowers white in short terminal inflorescences.

Iv. C.: near M'Bayiakro, Nzi (Aug.) Chev. 22266! Bouroukrou Chev. 16648; 16823. Yabouakrou to Tingouéla Chev. 22569. **Ghana:** Accra Traun 1892. **Togo Rep.:** Lomé Warnecke 421! **Dah.:** Pira, Savalou Chev. 23753! Ekpé Poisson. Adja-Ouéré (Aug.) Le Testu 28. koussi to Aévédji Chev. 23250. Djougou Chev. 23886. **S. Nig.:** Ilushi, Asaba Unwin 5! Benin Thompson 12! Ibadan (Dec.) Punch 45! Owo (July) Jones FHI 4392! Ibadan (Sept.) Onochie FHI 7664!

11. CYLINDROPSIS

Pierre in Bull. Soc. Linn. Paris, n. sér.: 38 (1898); Pichon in Mém. I.F.A.N. 35: 329 (1953).

- 1 Climbing shrub with branches and leaves glabrous; leaves oblong to elliptic, short- to sometimes long-acuminate, 4-13 cm. long and 2-5 cm. broad with 6-13 pairs of lateral nerves; cymes axillary and terminal; corolla-tube 3-5 mm. long, the lobes 1.8-2.5 mm. long [parvifolia](#)

Cylindropsis parvifolia Pierre l.c. (1898); Pichon l.c. APD acc*Clitandra parvifolia* (Pierre) Stapf in F.T.A. 4, 1: 63 (1902).*Cylindropsis talbotii* Wernham in Cat. Talb. 60 (1913).

Climber up to 120 ft. high with small white, yellowish or greenish flowers.

S. Nig.: Oban Talbot 1039! s.n.!Also in **Gabon**, **Ubangi-Shari**, **Congo** and **Cabinda**.

12. CYCLOCOTYLA

Stapf in Kew Bull. 1908; 259.

- 1 A climbing shrub; leaves opposite, elliptic or oblong, shortly acuminate, acute at the base, about 8-10 cm. long and 4 cm. broad, with numerous spreading lateral nerves; petiole 1-3 cm. long; cymes axillary, few-flowered; peduncle 2 cm. long; pedicels 5 mm. long; calyx: 3-5 mm. long, lobed to the middle; corolla-tube 8 mm. long, lobes 6 mm. long; anthers inserted about 2 mm. above the base of the corolla-tube; style very short [congolensis](#)

Cyclocotyla congolensis Stapf in Kew Bull. 1908: 260. APD acc*Cyclocotyla oligosperma* Wernham in J. Bot. 52; 28 (1914); F.W.T.A., ed. 1, 2: 35.

Glabrous climber with short-lobed white flowers in paniculate to corymbose inflorescences.

S. Nig.: Shasha F.R., Ijebu Prov. (Feb.) Ross 39! Orno F.R., Ijebu Prov. (fl. & fr. Apr.) Onochie FHI 15533! Eket Talbot 3052!Also in **Cameroun** and **Congo**.

13. PICRALIMA

Pierre-F.T.A. 4, 1; 96; Pichon in Bol. Soc. Brot. 27: 81 (1953).

- 1 Leaves and branches glabrous; leaves oblong or elliptic, 9-22 cm. long, 3-10 cm. broad, with 14-21 pairs of lateral nerves; sepals 3-9 mm. long; corolla-tube 13-20 mm. long, lobes 8-25 mm. long[nitida](#)

Picralima nitida (*Stapf*) *Th. & H. Dur.* in Bull. Jard. Bot. Brux. 2: 338 (1910); Aubrév, Fl. For. C. Iv., ed. 2, 3: 206, t. 326. *APD acc*

Tabernaemontana nitida. *Stapf* in Kew Bull. 1895: 22.

Picralima klaineana, *Pierre* l.c. 1279 (1897); F.T.A. 4, 1; 96 (1902).

Picralima macrocarpa *A. Chev.* Bot. 427, name only.

A glabrous tree or shrub, 9-75 ft. high with white to yellow flowers in terminal, mostly densely contracted, inflorescences.

Iv. C.: Bingerville-Abidjan-Dabou Chev, 15200; 15600. Agboville (fl. & fr. June) Aubrév. 1383. Anoumaba (fr Nov.) Chev. 22391; 22440. **Ghana:** Adeambra (young fr. May) Vigne FH 864! Abroase (June) Johnson 917! Aburi (fr. Sept.) Imp. Inst.! Kumasi (July) Vigne FH 3956! Andoh 4222! **S. Nig.:** Agege Foster 220! Idumuje (Dec.) Thomas 2101! Okomu F.R., Benin (fr. Jan.) Brenan & Richards 8910! Oban Talbot 219! 1690! **[Br.] Cam.:** Victoria (Nov.-Jan.) Maitland 284! 764! 787! Amba Bay (Jan.) Mann 710! Wum, Bamenda (fr. June) Ujor FHI 29271!

Also in **Cameroun**, **Gabon**, **Ubangi-Shari**, **the Congos** and **Uganda**.

14. HUNTERIA

Roxb.-Pichon in Bol. Soc. Brot. 27: 88 (1953).

Polyadoa *Stapf* in F.T.A. 4, 1: 103 (1902).

- 1 Corolla 5-7 mm. long; tube with 5 minute tufts of hairs inside beneath the anthers, otherwise glabrous; corolla-tube 3-4 mm. long, lobes 2-3 mm. long; leaves elliptic to oblong-elliptic, short- or long-acuminate, 8-25 cm. long, 3-9 cm. broad, with 10-18 pairs of lateral nerves; fruits with a short curved beak[1. camerunensis](#)
- Corolla 8-28 mm. long, the tube within with a continuous zone of pubescence beneath the anthers:**2**
- 2 The tops of the anthers ending 2-4 mm. beneath the mouth of the corolla-tube; corolla 15-28 mm. long, corolla-tube up to 17 mm. long, lobes 10-12 mm.; leaves elliptic to oblong-elliptic, 7-18 cm. long, 3-7 cm. broad, with 7-13 pairs of lateral nerves; fruits with a straight beak[2. simii](#)
- The tops of the anthers ending 0-1 mm. beneath the mouth of the corolla-tube; corolla 8-16 mm. long; fruits not beaked:**3**
- 3 Anthers inserted 2-2.5 mm. above the base of the corolla-tube; style 0.6-1.7 mm. long; corolla-tube 3-5 mm. long, lobes 5-9 mm. long; leaves elliptic to oblong, 9-16 cm. long, 3-9 cm. broad, with 12-24 pairs of lateral nerves[3. eburnea](#)
- Anthers inserted 4-5 mm. above the base of the corolla-tube; style 3-4 mm. long;**4**
- 4 Axis and branches of inflorescence not thickened towards their apex; leaves mostly oblong-elliptic, 5-16 cm. long and 2-6 cm. broad, with 11-25 pairs of lateral nerves; corolla-tube 5-7 mm. long, lobes 4-8 mm. long ..[4. elliotii](#)
- Axis and branches of inflorescence markedly thickened at their apex; leaves broadly elliptic to oblong, 11-23 cm. long, 5-9 cm. broad, with 11-18 pairs of lateral nerves; corolla-tube 5-7 mm. long; lobes 6-10 mm. long[5. umbellata](#)

1. **Hunteria camerunensis** *K. Schum. ex Hallier f.* in Jahrb. Hamb. Wiss. Aust. 17, 3, Beih. 187 (1900). *APD acc*

Pleiocarpa camerunensis (*K. Schum. ex Hallier f.*) *Stapf* in F.T.A. 4, 1: 102 (1902).

Polyadoa camerunensis (*K. Schum. ex Hallier f.*) *Brenan* in Kew Bull. 7: 451 (1953).

Comularia camerunensis (*K. Schum. ex Hallier f.*) *Pichon* in Bol. Soc. Brot. 27: 116 (1953).

Glabrous shrub or small tree, 3-9 ft. high, with minute white flowers in dense terminal clusters.

[Br.] Cam.: S. Bakundu F.R., Kumba (Jan., Mar.) Brenan 9401! 9401a! 9401b! Binuyo & Daramola FHI 36090!

Also in **Cameroun**.

2. *Hunteria simii* (Stapf) H. Huber in Kew Bull. 15: 437 (1962). *APD acc**Palyadoa* (?) *simii* Stapf in Johnston Lib. 2: 624 (1906).*Picralima laurifolia* A. Chev. (1914), name only.*Pleiocarpa simii* (Stapf) Stapf ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 37 (1931); Aubrév. Fl. For. C. Iv., ed. 1, 3: 174.*Tetradoa simii* (Stapf) Pichon l.c. 120 (1953).

Glabrous shrub with white flowers in mostly terminal, few-flowered clusters.

S. L.: Gola Forest (fl. & fr. Mar., may) Small 539! 649! Kambui F.R., (fr. Apr.) Jordan 2037! 2046! **Lib.:** Sim 16! Dukwia R. (fr. Feb.) Cooper 169! Mecca, Boporo Dist. (fr. Nov.) Baldwin 10443! Genna Tanyehun (fr. Dec.) Baldwin 10736! Ganta (fr. Sept.) Baldwin 12561! **Iv. C.:** Fort Binger (July) Chev. 19535. Kéeta (July) Chev. 19311; 19367; 19368. Guidéko to zonzro (June) Chev. 19036.

3. *Hunteria eburnea* Pichon l.c. 91 (1953); Aubrév. Fl. For. C. Iv., ed. 2, 3: 208, t. 327.*APD: Synonym of Hunteria umbellata (K. Schum.) Hallier f.**Picralima gracilis* A. Chev. (1914), name only.*Picralima elliotii* of F.W.T.A., ed. 1, 2: 40, partly (syn. *P. gracilis* A. Chev. and Chev. specimens), not of (Stapf) Stapf.

A glabrous tree 20-120 ft. high, with white flowers in dense, short, terminal inflorescences.

Guin.: Macenta Adam 6470. **S. L.:** Gola Forest (fr. Mar.) Small 502! Kenema Edwardson 41. **Iv. C.:** Abidjan (June) Aubrév 23! Aboisso Chev. 16310! Bériby (fr. Aug.) Chev. 20013. Guidéko (fr. May) Chev. 16373. Bouroukrou (Dec., Jan.) Chev. 16519. **Ghana:** Simpa (Apr.-May) Vigne FH 1957! Enti FH 6920! **S. Nig.:** Afi River F.R., Ikom Dist. (Dec.) Keay FHI 28250!

4. *Hunteria elliotii* (Stapf) Pichon l.c. 97 (1953).*APD: Synonym of Hunteria umbellata (K. Schum.) Hallier f.**Polyadoa elliotii* Stapf in F.T.A. 4, 1: 104 (1902).*Picralima elliotii* (Stapf) Stapf Kew Bull. 1908: 302; F.W.T.A., ed. 1, 2: 40 (excl. syn. *P. gracilis* A. Chev. and Chev. specimens).

Glabrous shrub or tree 10-30 ft. high with white to yellowish flowers in terminal, mostly sub-globose inflorescences.

Sen.: Goloumbo, Gambia Hills (fr. Sept.) Berhaut 2082. Ouassadou Trochain 3467. Berhaut 1669; 2081. **Port. G.:** Jamberém, Cantanhez (Apr., June) d'Orey 376! Esp. Santo 3001. Pobusa, Cubisseque (fl. & fr. June) Esp. Santo 3016. Empacaca, Canchungo (Apr.) Esp. Santo 1940! Jangada, Contubo (June) Esp. Santo 2257! **Guin.:** Boké (mar.) Pobéguin 2015. **S. L.:** Batkanu (Apr.) Thomas 19! Kasewe (Apr.) King 231! Njala (Mar.) Deighton 5010! Kambui F.R. (June) Jordan 2120! Makunde, Limba (apr.) Sc. Elliot 5690!

5. *Hunteria umbellata* (K. Schum.) Hallier f. in Jahrb. Hamb. Wiss. Aust. 17, 3, Beih. 190 (1900). *APD acc**Carpodinus umbellatus* K. Schum. (1898).*Polyadoa umbellata* (K. Schum.) Stapf in F.T.A. 4, 1: 103 (1902).*Picralima umbellata* (K. Schum.) Stapf (1908)-F.W.T.A., ed. 1, 2: 40.

Small glabrous, tree 25-40 ft. high; flowers as above, in dense, terminal heads.

Ghana: Axim (Mar.) Vigne FH 1660. Essuboni Jumah 1. **S. Nig.:** Lagos Foster 5! Okumu F.R., Benin (Mar.) Akpabla 110! Ibadan F.R. (fr. May, Nov.) Punch 138! Bakare, Obaseki & Idahosa FHI 22857!

Also in **Cameroun** and **Ubangi-Shari**.

15. PLEIOCARPA*Benth.*-F.T.A. 4, 1: 97; Pichon in Bol. Soc. Brot. 27: 123 (1953).

- 1** Anthers 0.4-1.7 mm. long, their tops 0-1.7 mm. beneath the mouth of the corolla-tube; tube 4-20 mm. long, lobes 0.7-9 mm. long; carpels with 1-2 ovules;.....**2**
- Anthers 2.3-3.5 mm. long, their tops ending 3 mm. beneath the mouth of the corolla-tube or deeper; tube 15-22 mm. long, lobes 7-13 mm. long; carpels 5, each with 4-8 ovules; leaves elliptic to oblong, 10-21 cm. long, 4-10

- cm. broad, with 6-12 pairs of lateral nerves [4. talbotii](#)
- 2 Carpels 2; corolla-tube 4-12 mm. long: [3](#)
- Carpels 3-5; corolla-tube 7-20 mm. long, lobes 3-8 mm. long; leaves oblong to lanceolate or elliptic, 8-20 cm. long, 2-5-8 cm. broad, with 8-23 pairs of lateral nerves [3. mutica](#)
- 3 Leaves all opposite, oblong-elliptic to broadly lanceolate, mostly long-acuminate, 8-16 cm. long, 2-5-5 cm. broad, with 13-30 pairs of lateral nerves; corolla-tube 6-12 mm. long, lobes 2-9 mm. long [1. bicarpellata](#)
- Leaves all or partly in whorls of 3 or 4, oblong to oblong-elliptic, mostly not or only short-acuminate, 6-16 cm. long, 2-6 cm. broad, with 11-23 pairs of lateral nerves; corolla-tube 4-9 mm. long, lobes 0-7-3 mm. long ... [2a. pycnantha var. tubicina](#)

1. **Pleiocarpa bicarpellata** Stapf in Kew Bull. 1894: 21; F.T.A. 4, 1: 99. *APD acc*

Hunteria ambiens K. Schum. in Engl. Bot. Jahrb. 23: 223 (1896).

A glabrous shrub or tree 3-46 ft. high, rarely climbing; flowers pure white, in sessile, axillary clusters.

[Br.] Cam.: Cam. Mt., 4,000 ft. (Feb.) Mann 1213! Kumba (Mar.) Brenan 9458! Johann-Albrechtshöhe Staudt 573! 683! 794. Barombi (Feb.) Preuss 44.

2. **Pleiocarpa pycnantha** (K. Schum.) Stapf in F.T.A. 4, 1: 99 (1902). *APD acc*

Hunteria pycnantha K. Schum. l.c. 222 (1896).

2a. **Pleiocarpa pycnantha var. tubicina** (Stapf) Pichon in Bol. Soc. Brot. 27: 132 (1953).

APD: Synonym of Pleiocarpa pycnantha (K. Schum.) Stapf

Pleiocarpa tubicina Stapf in Kew Bull. 1898: 304.

Hunteria breviloba Hallier f. (1900).

Pleiocarpa micrantha Stapf in F.T.A. 4, 1: 100 (1902); F.W.T.A., ed. 1, 2: 38.

Pleiocarpa flavescens Stapf in F.T.A. 4, 1: 101 (1902); F.W.T.A., ed. 1, 2: 38.

Pleiocarpa breviloba (Hallier f.) Stapf in F.T.A. 4, 1: 102 (1902).

Pleiocarpa microcarpa Stapf in F.T.A. 4, 1: 102 (1902).

A glabrous shrub or tree 4-100 ft. high; flowers white, yellowish or greenish in sessile, mostly axillary clusters.

Mali: Kerfomouria (Mar.) Chev. 597! **Port. G.:** Empacaca, Canchungo (Apr.) Esp. Santo 1941! Poncom, Fulacunda (fl. & fr. May) Esp. Santo 2042! Entachá, Bolama (Apr.) Esp. Santo 1919! **Ghana:** Aburi Hills (Feb., mar.) Johnson 616! 623! Akropong, Akwapim (Oct.) Johnson 903! Legon (fl. Mar., fr. May) Adams 3789! 4331! **Togo Rep.:** Lomé Warnecke 481! Mahaux in Hb. Alleizette 4582. **Dah.:** Bokoutou Chev. 22844. **S. Nig.:** Foster 182! Ikirum Igbajo, Ibadan (Jan.) Latilo 31754! Iressi, Ibadan (Jan.) Latilo FHI 31758!

Also in **Ubangi-Shari**, **Congo**, **Angola**, **Sudan**, **Uganda** and **Zanzibar**.

3. **Pleiocarpa mutica** Benth. in Hook. Ic. Pl. 12: 71, t. 1181 (1876); F.T.A. 4, 1: 98; Pichon l.c. 138; Aubrév. Fl. For. C. Iv., ed. 2, 3: 206, t. 325. *APD acc*

APD: Synonym of Tricalysia reflexa var. ivorensis Robbr.

Pleiocarpa salicifolia Stapf in F.T.A. 4, 1: 99 (1902); F.W.T.A., ed. 1, 2: 38.

Pleiocarpa bakueana A. Chev. (1914), name only.

Pleiocarpa ternata A. Chev. (1914), name only.

Pleiocarpa tricarpellata Stapf in Kew Bull. 1915: 47; F.W.T.A., ed. 1, 2: 38.

A glabrous shrub or small tree 2-25 ft. high; flowers white, inflorescences as above.

S. L.: Barter! Falaba (Apr.) Aylmer 35! Gbinti, N. Prov. (fr. July) Deighton 2501! Faiama (Jan.) Deighton 3869! 3871! Gola Forest (fr. May) Small 701! **Lib.:** Betandu (Mar.) Bequeart 148! Dukwia R. (Feb.) Cooper 248! Zwedru, Tchien Dist. (fr. Aug.) Baldwin 7013! Mecca (Dec.) Baldwin 10814a! Greenville, Sinoe R. (fr. Mar.) Baldwin 11552! **Iv. C.:** Fort Binger (fr. July) Chev. 19432. Béruby (fr. Aug.) Chev. 19994. Port Bouet (May) Bégué 3110. Bango (Oct.) Martineau 350. Aboisso (fr. Apr.) Chev. 17862. **Ghana:** Princes Akpabla, 792! Axim (Feb.) Irvine 2173! Asanwinso (Feb.) Vigne FH 986! Aseanyo River F.R. (Feb.) Andoh 4305! Akwa Range, 1,500 ft. (fl. & fr. Feb.) Vigne 4345! **S. Nig.:** Cross R. (Jan.-Mar.) Johnston! Calabar (fl. & fr. Feb., Mar.) Mann 2277! Holland 106! Oban Talbot 1565! 1654! Agbagbana to Ndiakoro, Itu Dist. (fr. June) Ujor FHI 30169! [Br.] Cam.: staudt 323! Rio del Rey Johnston!

Also in **Cameroun** and **Congo**.

4. *Pleiocarpa talbotii* Wernham in Cat. Talb. 62 (1913).APD: *Synonym of Pleiocarpa rostrata Benth.**Carpodinosia talbotii* (Wernham) Pichon l.c. 144, t. 5, 1-3 (1953).

A small glabrous tree or shrub, often with semi-scrambling habit; flowers pure white in sessile, few-flowered, axillary clusters.

S. Nig.: Oban Talbot 1037! s.n.! Oban F.R. (Feb.) Onichie FHI 36293x! British Obokum, Ikom (Dec.) Keay FHI 28277!
[Br.] Cam.: S. Bakundu F.R., Kumba (fr. Jan.) Keay FHI 28571!

16. PTEROTABERNA

APD: *Synonym of Tabernaemontana L.**Stapf* in F.T.A. 4, 1: 125 (1902).

- 1 Shrub; leaves elliptic-lanceolate or elliptic-acuminate, 7-18 cm. long, 2.5-7 cm. broad, with 5-10 pairs of lateral nerves; inflorescence a small, terminal, laxly branched cyme; corolla-tube 6-9 mm. long, lobes 3-5 mm. long, overlapping to the left; anthers 3 mm. long; mericarps paired, with 3 longitudinal wings [inconspicua](#)

Pterotaberna inconspicua (*Stapf*) *Stapf* in F.T.A. 4, 1: 126 (1902); Pichon in Bull. Soc. Bot. Fr. 100: 172 (1953).

APD: *Synonym of Tabernaemontana inconspicua Stapf**Tabernaemontana inconspicua* *Stapf* in Kew Bull. 1894: 120.

A glabrous shrub, 3-10 ft. high, with small yellowish-green flowers in lax cymes.

S. L.: Bumbuna (fr. Oct.) Thomas 3868!Also in **Cameroun**, **Gabon**, **rio Muni** and **Congo**.

[Note: our W. African specimen may be distinct, however the material (a single sheet with fruit only) is insufficient to be sure-Huber, fide Pichon l.c.]

17. CALLICHILIA

Stapf in F.T.A. 4, 1: 130 (1902).

- 1 Calyx 2.5-3.5 mm. long; leaves petiolate, oblong-obovate, 14-30 cm. long and up to 20 cm. broad, with 7-12 pairs of lateral nerves; corolla-tube 6-9 cm. long, the anthers inserted in about the lower 1/4 of the tube, corolla-lobes 4-6 cm. long, overlapping to the left [1. macrocalyx](#)
- Calyx 5-12 mm. long; corolla-tube 2-6 cm. long: [2](#)
- 2 Corolla-lobes overlapping to the left; anthers inserted above the middle of the tube: [3](#)
- Corolla-lobea overlapping to the right: [4](#)
- 3 Petiole 5-15 mm. long; leaves elongate-oblong or oblanceolate, blade 15-26 cm. long, 3.5-10 cm. broad, long-cuneate at base, with 6-12 pairs of lateral nerves; sepals narrowly lanceolate, acute; corolla-tube 2-6 cm. long, lobes about 2.5 cm. long [2. monopodialis](#)
- Leaves subsessile or with a very short petiole up to 5 mm, long, oblong-elliptic to lanceolate, 6-17 cm. long, 3-7 cm. broad, with 5-9 pairs of lateral nerves, rounded or cuneate at base; sepals oblong, subobtus; corolla-tube about 3 cm. long, lobes mostly 2.5-3 cm. long [3. mannii](#)
- 4 Sepals broadly lanceolate or elliptic, obtuse or mucronate at apex; corolla-tube 2-3 cm. long, the anthers inserted below the middle; corolla-lobes 2-3 cm. long; leaves elliptic to lanceolate, 7-20 cm. long, 2-8 cm. broad, with 7-12 pairs of lateral nerves [4. subsessilis](#)
- Sepals narrowly lanceolate, very acute; corolla-tube 2.5-3.5 cm. long, with the anthers inserted above the middle; corolla-lobes about 1.5 cm. long; leaves elliptic to lanceolate, 9-16 cm. long, 3-8 cm. broad with 7-12 pairs of lateral nerves [5. stenosepala](#)

1. **Callichilia macrocalyx** *Schellenb. ex Markg.* in Notizbl. Bot. Gart. Berl. 8: 310 (1923).

APD: Synonym of Callichilia bequaertii De Wild.

Callichilia magnifica *R. Good* in J. Bot. 67, Suppl. 2: 86 (1929).

A glabrous shrub about 10 ft. high with large white flowers in terminal pendulous inflorescences.

S. Nig.: Oban Talbot!

Also in **Cameroun** and **Rio Muni**.

2. **Callichilia monopodialis** (*K. Schum.*) *Stapf* in F.T.A. 4, 1: 131 (1902). *APD acc*

Tabernaemontana monopodialis *K. Schum.* in Engl. Bot. Jahrb. 23: 225 (1896).

A glabrous, erect or decumbent shrub up to 7 ft. high, with white flowers.

S. Nig.: Usonigbe F.R., Benin (May) Keay FHI 37016! [**Br.**] **Cam.:** Johann-Albrechtshöhe Staudt 832.

Also in **Cameroun**.

3. **Callichilia mannii** *Stapf* in F.T.A. 4, 1: 131 (1902).

APD: Synonym of Callichilia inaequalis Stapf

Glabrous climbing shrub with white flowers in few-flowered, terminal inflorescences.

S. Nig.: Oban (May) Ujor FHI 30819! [**Br.**] **Cam.:** Ambas Bay (Dec.) Mann 2152!

Also in **Cameroun**.

4. **Callichilia subsessilis** (*Benth.*) *Stapf* in F.T.A. 4, 1: 132 (1902). *APD acc*

Tabernaemontana subsessilis *Benth.* in Fl. Nigrit. 448 (1849).

Glabrous shrub 2-8 ft. high with white flowers in terminal inflorescences.

Guin.: Macenta (fl. May, fr. Oct.) Collenette 13! Baldwin 9805! Dyeke (fr. Oct.) Baldwin 9651! 9673! **S. L.:** Karheni, Limba (fr. Apr.) Sc. Elliot 5590! Falaba (May) Aylmer 81! Njala, (May) Deighton 703! Mayogbo (Jan.) Marmo 155! Gola Forest (Dec.) King 94b! Small 586! **Lib.:** T. Vogel 4! 5! Dinklage 6263! Nikabuzu to Zigida (Mar.) Bequart 126! Ganta (Dec.) Barker 1123! Peahtah (Dec.) Baldwin 10607! **Ghana:** Popokyere, near Tarquah (Apr.) Chipp 195! E. Akim (June) Johnson 762! 765! Assin-Yan-Kumasi Cummins 235! Pra R. (fr. Feb.) Vigne FH 1603! **S. Nig.:** Oban Talbot!

Also in **Cameroun**.

5. **Callichilia stenosepala** *Stapf* in F.T.A. 4, 1: 602 (1904).

APD: Synonym of Callichilia subsessilis (Benth.) Stapf

A glabrous shrub 3-5 ft. high, erect or half-straggling, with white flowers, in terminal inflorescences.

Lib.: Grant's Farm, Sinoe Whyte! **S. Nig.:** Ala (Nov.) Thomas 1973! Benin to Owam (fr. jan.) Onachie in Hb. Brenan 8944! Agbadi, Benin Div. Meikle 545! Degema Talbot 3752!

18. **HEDRANTHERA**

Pichon in Mém. Mus. Hist. Nat. Paris, n. sér., 27: 225 (1948).

Callichilia of F.T.A. 4, 1: 131, partly.

- 1 Leaves distinctly petiolate, elliptic to lanceolate, 6-20 cm. long, 3-9 cm. broad, with 5-12 pairs of lateral nerves; calyx-lobes broadly oblong, subobtuse to truncate or mucronate; corolla-tube 3-5 cm. long, lobes 2-5-4 cm. long, overlapping to the left *barteri*

Hedranthera barteri (*Hook. f.*) *Pichon* l.c. (1948).

APD: Synonym of Callichilia barteri (Hook. f.) Stapf

Tabernaemontana barteri Hook. f. (1870).

Callichilia barteri (Hook. f.) Stapf in F.T.A. 4, 1: 133 (1902); F.W.T.A., ed. 1, 2: 39.

A glabrous erect shrub 3 ft. high with conspicuous white flowers, mostly in terminal inflorescences.

Ghana: Buxton! **N. Nig.:** Lokoja (Mar.) Shaw 17! Lafia to Jemaa (Apr.) Hepburn 44! Samban Kwoi, Zaria (Apr.) Wimbush FHI 39619! **S. Nig.:** Epe (Feb.) Barter 3284! Milim 170! Ogwashi (Dec.) Thomas 2098! Okomu F.R., Benin (Jan.) Brenan 8771! Ibadan (Apr.) Meikle 1404! Enugu (fl. & fr. Mar.) Irvine 3618! Calabar (fl. & fr. Feb.) Mann 2271! **[Br.] Cam.:** Mamfe (Mar.) Richards 5216!

Also in **Congo**.

19. TABERNAEMONTANA

Linn. (1753)-Pichon in Notulae Syst. 13: 230 (1948).

Conopharyngia G. Don (1837)-F.T.A. 4, 1: 139; F.W.T.A., ed. 1, 2: 40.

Gabunia K. Schum. ex Stapf in F.T.A. 4, 1: 136 (1902); F.W.T.A., ed. 1, 2: 39.

- 1 Erect trees or shrubs; leaves with 6-16 pairs of distinct lateral nerves (only in No. 6 smaller leaves frequently with 5 pairs); calyx with glandular scales within (Subgen. Sarcopharyngia): **2**
Climbing shrubs; leaves with 4-9 pairs of lateral nerves or lateral nerves quite indistinct; calyx without glandular scales (except in No. 10) (Subgen. Gabunia): **10**
- 2 Corolla-tube 8-12 mm. long in the mature flowers: **3**
Corolla-tube 15-100 mm. long in the mature flower; cymes pedunculate: **5**
- 3 Cymes sessile, axillary, or rarely with a peduncle up to 1.5 cm. long; corolla-tube pilose within above the anthers; leaves elliptic to broadly lanceolate, 6-24 cm. long, 4-9 cm. broad, with 6-14 pairs of lateral nerves [1. penduliflora](#)
Cymes all long-pedunculate; leaves with 9-15 pairs of lateral nerves: **4**
- 4 Corolla-tube densely pilose within above the anthers; leaves broadly elliptic to elliptic-oblong, 18-50 cm. long, about 10-25 cm. broad [2. brachyantha](#)
Corolla-tube glabrous within above the anthers or with 5 faintly puberulous lines; leaves oblong, linear-oblong or lanceolate, 8-24 cm. long, 3-10 cm. broad [3. ventricosa](#)
- 5 Calyx (12-)14-20 mm. long; corolla-tube 6-9 cm. long, very stout; anthers 1.6-2.4 cm. long, inserted about 2.5-4 cm. above the base of the tube; leaves elliptic to oblong, 12-40 cm. long, 5-15 cm. broad, with 9-14 pairs of lateral nerves [4. chippii](#)
Calyx 2-10 mm. long: **6**
- 6 Corolla-tube markedly pilose within above the anthers: **7**
Corolla-tube glabrous or almost glabrous within above the anthers: **9**
- 7 Corolla-tube 1.5-3 cm. long when fully developed, very stout, the anthers inserted about 1 cm. above the base of the tube; leaves broadly elliptic to ovate or obovate, 12 to about 50 cm. long, 7-25 cm. broad, with 7-16 pairs of lateral nerves: **8**
Corolla-tube 6-12 cm. long, slender in the upper half, the anthers inserted 2-3.5 cm. above the base of the tube; leaves elliptic, oblong or broadly lanceolate, 7-20(-24) cm. long, 3-9 cm. broad, with 5-10 pairs of lateral nerves [6. longiflora](#)
- 8 Corolla-tube 2.5-3 cm. long in the mature flower [5. pachysiphon var. pachysiphon](#)
Corolla-tube 1.5-2 cm. long in the mature flower [5a. pachysiphon var. cumminsii](#)
- 9 Anthers 14-16 mm. long, inserted 1-2 cm. above the base of the long corolla-tube; calyx usually 8-10 mm. long; leaves elliptic, 15-35 cm. long, 10-20 cm. broad, with 9-16 pairs of lateral nerves [7. contorta](#)
Anthers 6-10 mm. long, inserted 5-12 mm. above the base of the corolla-tube; calyx 2-8(-10) mm. long; leaves elliptic, obovate or oblong, 13-40 cm. long, 6-20 cm. broad, with 6-12 pairs of lateral nerves [8. crassa](#)
- 10 Corolla-tube 8-18 mm. long, corolla-lobes about 1.5 cm. long; leaves elliptic to lanceolate, 7-12 cm. long, 1.5-4 cm. broad, the lateral nerves quite indistinct; peduncle usually 1-4 cm. long [9. psorocarpa](#)
Corolla-tube 3.5-10 cm. long, lobes 2-4 cm. long; leaves with the lateral nerves distinct: **11**
- 11 Calyx 2-4 mm. long, with glandular scales within; peduncle very short, 0.1-5(-2) cm. long; leaves oblong, lanceolate or elliptic, 5-16 cm. long, 2-6 cm. broad, with 6-9 pairs of lateral nerves [10. glandulosa](#)
Calyx 3-10 mm. long, without glandular scales; peduncle about 2-5 cm. long; leaves elliptic to lanceolate, 8-20

cm. long, 3-8 cm. broad, with 4-6 pairs of lateral nerves [11. eglandulosa](#)

1. **Tabernaemontana penduliflora** *K. Schum.* in Engl. Bot. Jahrb. 23: 225 (1896); Pichon in Notulae Syst. 13: 252 (1948). *APD acc*

Conopharyngia (?) *penduliflora* (*K. Schum.*) *Stapf* in F.T.A. 4, 1: 149 (1902); F.W.T.A., ed. 1, 2: 41.

Glabrous shrub or small tree 3-10 ft. high with white, greenish or pink flowers in sessile, subumbellate inflorescences; [in high forest](#).

S. Nig.: Okomu F.R., Benin (Feb., Mar.) Brenan 8575! 9051! Omo (formerly part Shasha) F.R. (Mar.) Jones & Onochie FHI 17207! Degema Talbot 3711! Oban Talbot 1056! Cross R. Div. (Feb.) McLeod! **[Br.] Cam.:** S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35079!

Also in [Cameroun](#), [Congo](#) and [Sudan](#).

2. **Tabernaemontana brachyantha** *Stapf* in Kew Bull. 1894: 22. *APD acc*

Conopharyngia brachyantha (*Stapf*) *Stapf* in F.T.A. 4, 1: 148 (1902); F.W.T.A., ed. 1, 2: 41.

Glabrous tree up to 50 ft. high with numerous small white flowers in long-peduncled cymes.

S. Nig.: Oban Talbot! **[Br.] Cam.:** Victoria (Feb.) Maitland 429! Cam. Mt., 4,800 ft. Keay FHI 37507! **F. Po:** (Jan.) Mann 221!

Also in [Cameroun](#).

3. **Tabernaemontana ventricosa** *Hochst. ex A. DC.* in DC. Prod. 8: 366 (1844). *APD acc*

Tabernaemontana usambarensis *Engl.* (1895).

Conopharyngia usambarensis (*Engl.*) *Stapf* in F.T.A. 4, 1: 148 (1902).

Small tree with a compact crown; flowers white with yellow centre, fragrant; [in montane forests](#).

Ghana: Aburi Gardens (? cult., Jan.) Irvine 1902! **S. Nig.:** Rosevear 9/30! Ikweite to Balegette, Obudu (Dec.) Savory FHI 25214! **[Br.] Cam.:** Cam. Mt. (Jan.-May) Dundas FHI 15335! Dalz. 8346! Maitland 273! 506! 676! Nkambe (Feb.) Hepper 1898!

Also in [Congo](#), [Uganda](#), [Kenya](#), [Tanganyika](#), [Nyasaland](#), [S. Rhodesia](#), [Mozambique](#) to [Natal](#).

4. **Tabernaemontana chippii** (*Stapf*) *Pichon* l.c. 251 (1948).

APD: *Synonym of Tabernaemontana africana* *Hook.*

Conopharyngia chippii *Stapf* in Kew Bull. 1913: 77; F.W.T.A. ed. 1, 2: 41; Aubrév. Fl. For. C. Iv., ed. 2, 3: 212, t. 328.

Glabrous tree 15-20 ft. high with large, white or cream, fragrant, fleshy flowers.

Lib.: Sim 18! 26! **Ghana:** Kumasi (Mar.) Andoh 3743! Anwhiaso F.R. (Oct.) Vigne FH 233! Fwirem, Ashanti (May) Chipp 454! Bunso (Aug.) Darko 952! Jemma (Sept.) Chipp 353!

Tabernaemontana pachysiphon *Stapf* *APD acc*

5. **Tabernaemontana pachysiphon var. pachysiphon** -in Kew Bull. 1894: 22. *APD acc*

Conopharyngia pachysiphon (*Stapf*) *Stapf* in F.T.A. 4, 1: 145 (1902); F.W.T.A., ed. 1, 2: 41.

Glabrous shrub or medium-sized tree, 9-32 ft. high with large smooth leaves and fleshy white flowers.

Togo Rep.: Klingfall Kersting A634! Okposso Doering 296! **Dah.:** Poisson! **S. Nig.:** Okomu F.R., Benin (Jan.) Brenan 8918! Onitsha Barter 1328! Sapoba Kennedy 2341! Ogwashi-liku, Asaba (Sept.) Sept. of Agric.! Oban Talbot 1397! **[Br.] Cam.:** Bamenda (Feb.) Lightbody FHI 26302!

5a. **Tabernaemontana pachysiphon var. cumminsii** (*Stapf*) *H. Huber* in Kew Bull. 15: 438 (1962). *APD acc*

Conopharyngia cumminsii *Stapf* in F.T.A. 4, 1: 145(1902); F.W.T.A., ed. 1, 2: 41.

Ghana: Begoro (Dec.) Plumptre 89! Aburi Akpabla 951! Assin-Yan-Kumasi (Apr.) Scholes 236! Cummins 114! Tafo (Sept.) Darko 997! **Togo Rep.:** Kutio (Apr.) Scholes 36! **S. Nig.:** Onitsha Chesters 194!

6. *Tabernaemontana longiflora* Benth. in Fl. Nigrit. 447 (1849), and in Bot. Mag. 75: t. 4484 (1849).

APD: *Synonym of Tabernaemontana africana* Hook.

Conopharyngia longiflora (Benth.) Stapf in F.T.A. 4, 1: 142 (1902); F.W.T.A., ed. 1, 2: 41; Aubrév. Fl. For. C. Iv., ed. 2, 3: 212, t. 328.

Glabrous shrub or small tree 5-25 ft. high with very long, white, fragrant flowers.

Port. G.: Empandja, Bissau (Mar.) Esp. Santo 1510! L. Cufada (Jan.) d' Orey 224! **Guin.:** Heudelot 726! Farmar 151! Conakry (Mar., June) Debeaux 140! 324! Kouria Chev. 15033! **S. L.:** T. Vogel 151! Sugar Loaf Mt. (fr. May) Barter! Waterloo (fl. & fr. Mar.) Kirk 23! Rokupr (May) Jordan 257! Loma Mts. (Jan.) Jaeger 4054! **Lib.:** Ganta (Sept.) Harley! Baldwin 9332! Totokwelli, Medina (Oct.) Linder 1301! Moala, Suen (Nov.) Linder 1383!

[Note: in Ed. 1 *Tabernaemontana grandiflora* Hook. (in Gray & Doehard Trav. West. Afr. App. 389, t. B (1825), not *T. grandiflora* Linn.) which was described from a drawing, was cited as a synonym of *T. chippii*; I cannot agree with this and prefer to follow Stapf who expected this to belong to *T. longiflora*.-Huber.]

7. *Tabernaemontana contorta* Stapf in Kew Bull. 1894: 23. APD acc

Conopharyngia contorta (Stapf) Stapf in F.T.A. 4, 1: 142 (1902) F.W.T.A., ed. 1, 2: 41.

Tree 30-40 ft. high with large leaves and fleshy, white, fragrant flowers.

S. Nig.: Oban Talbot! **[Br.] Cam.:** Amba Bay (Jan.) Mann 703! Victoria (Jan.) Maitland 283! Kalbreyer. Mayuko (Feb.) Dalz. 8223! Johann-Albrechtshöhe Staudt 796.

Extends to Cameroun.

8. *Tabernaemontana crassa* Benth. in Fl. Nigrit. 447 (1849). APD acc

Tabernaemontana durissima Stapf (1894).

Conopharyngia durissima (Stapf) Stapf in F.T.A. 4, 1: 143 (1902); F.W.T.A., ed. 1, 2: 41; Aubrév. Fl. For. C. Iv., ed. 2, 212, t. 329.

C. jollyana Stapf in F.T.A. 4, 1: 144 (1902); Chev. Bot. 415.

C. crassa (Benth.) Stapf in F.T.A. 4, 1: 144 (1902); F.W.T.A., ed. 1, 2: 41.

Gabunia dorotheae Wernham in J. Bot. 52: 25 (1914); F.W.T.A., ed. 1, 2: 40.

A small to medium-sized tree; flowers white, fragrant, opening in the evening; in wet forest.

S. L.: Sefalu, Bandajuma (fl. & fr. Nov.) Deighton 5271! Pujehun (Apr.) Aylmer 62! Thomas 8050! Zimi (May) Deighton 3727! Gola F.R. (May) Small 657! **Lib.:** T. Vogel 21! Dukwai R. (Nov.) Cooper 117! Brewerville (Jan.) Barker 1202! Genna Tanyehun Baldwin 10769! Totokwelli, Medina (fl. & fr. Oct.) Linder 1302! **Iv. C.:** Assinie (fl. & fr. Apr.) Chev. 16314! Little Bassam, Dabou, Jolly 168! Bingerville Chev. 15193! Abidjan (Feb.) Aubrév. 82! **Ghana:** Cameron! Tanoso (Dec.) Chipp 33! Axim (Dec., Feb.) Johnson 893! Irvine 2145! Simpa (May) Vigne FH 1958! **S. Nig.:** Calabar (Apr., fr. Sept.) Holland 4! 150! Thomson 73! Oban Talbot s.n.! 218! Eket Talbot 3387! **[Br.] Cam.** S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35172! FHI 35474!

Also in Cameroun, Ubangi-Shari, Gabon and Congo.

[Note: typical *T. crassa* seems to differ from *C. durissima* only in having the corolla-tube shorter than the fully developed specimens of the other species mentioned, which evidently is due to their immaturity.]

9. *Tabernaemontana psorocarpa* (Pierre ex Stapf) Pichon in Notulae Syst. 13: 253 (1948). APD acc

Gabunia psorocarpa Pierre ex Stapf in F.T.A. 4, 1: 137 (1902); F.W.T.A., ed. 1, 2: 9.

Glabrous climbing shrub with small flowers in few-flowered terminal cymes.

Lib.: Yeh R. (Oct.) Linder 999! Ganta (Sept.) Baldwin 9300! **Ghana:** Awiaho, Axim (Nov.) Vigne FH 1467! Axim (fr. Mar.) Irvine 2395! **S. Nig.:** Eket Talbot 3228a!

Also in Gabon.

10. *Tabernaemontana glandulosa* (Stapf) Pichon l.c. (1948). APD acc

Gabunia glandulosa Stapf in F.T.A. 4, 1: 138 (1902); F.W.T.A., ed. 1, 2: 40.

Glabrous climbing shrub in closed forest with white, fragrant flowers in sub-umbellate cymes.

S. L.: Regent (Apr.) Sc. Elliot 5821! York Pass (July) Lane-Poole 310! Roruks (July) Heighten 3248! Rokupr (July) Jordan 48! Fwendu to Potoru, Pelewahun (Apr.) Deighton 1617! **Lib.:** Ganta (May) Harley 1150! Sinoë Basin Whyte! Nyaake,

Webo Dist. (June) Baldwin 6191! Kulo (Mar.) Baldwin 11404! Fortsville (fr. Mar.) Baldwin 11149! **Iv. C.:** several localities. **Ghana:** Assuantsi (Mar.) Irvine 1158! Aburi (July) Johnson 1085! Kwahu (Apr.) Johnson 669! Kumasi (Apr.) Irvine 2821! near Kwabeng (Apr.) Adams 2696! **Dah.:** Lower Ouémé? Coll. **S. Nig.:** Oban Talbot 1481. Oban F.R. (Feb.) Latilo FHI 36415x!

Also in **Congo**.

11. *Tabernaemontana eglandulosa* Stapf in Kew Bull. 1894: 24. *APD acc*

Gabunia eglandulosa (Stapf) Stapf in F.T.A. 4, 1: 138(1902) incl. var. macrocalyx Stapf l.c. 139 (1902); F.W.T.A., ed. 1, 2: 39.
Gabunia longiflora Stapf in F.T.A. 4, 1: 138 (1902).

Woody climber in forest tangles; flowers white, fruits yellowish.

S. Nig.: Ikirum (Feb.) Millson 12! Osun F.R., Ijebu-Igbo (fr. May) Ejiofor FHI 26130! Omo (formerly part Shasha) F.R. (Apr.) Onochie FHI 17280! Calabar (Feb.) Mann 2253! Oban Talbot 1525! [**Br.**] **Cam.:** Kumba (Jan.) Binuyo & Daramola FHI 35160! **F. Po:** (Jan.) Mann 239!

Also in **Cameroun**, **Gabon** and **Congo**.

Tabernaemontana donnell-smithii Roxb.

An **American** species

Is cultivated at Victoria.

20. VOACANGA

Thouars -F.T.A. 4, 1: 151; Pichon in Bull. Mus. Hist. Nat. sér. 2, 19: 409 (1947).

- 1 Leaves rounded at apex, with 12-16 pairs of lateral nerves, obovate to oblong, 12-25 cm. long, 4-10 cm. broad; calyx 14-18 mm. long, early circumscissile; corolla-tube 1.5-2.5 cm. long, lobes 2-3 cm. long [1. thouarsii](#)
 Leaves acute and acuminate at apex; calyx not or tardily circumscissile: **2**
- 2 Bracts caducous; calyx-lobes mostly (but not necessarily) spreading or reflexed at anthesis; leaves with 8-16 pairs of lateral nerves: **3**
 Bracts persistent; calyx-lobes mostly erect; leaves usually long-acuminate, with 5-10 pairs of lateral nerves: **4**
- 3 Corolla-lobes 12-24 mm. long when fully expanded, oblong to obovate, forming in bud an elongate-conical structure 1.5-2.5 times as long as broad; corolla-tube 6-9 mm. long; calyx 5-10 mm. long; leaves broadly elliptic to broadly lanceolate or obovate, triangular at apex, not or shortly acuminate, 6-30 cm. long, 3-16 cm. broad; petiole glabrous or puberulous [2. africana](#)
 Corolla-lobes 4-7 mm. long, broadly oblong to obovate, in bud forming a shortly conical structure about as long as broad; corolla-tube about 1 cm. long; calyx 8-12 mm. long, leaves elliptic-lanceolate, 10-20 cm. long, 3-9 cm. broad; petiole puberulous [3. diplochlamys](#)
- 4 Petiole minutely puberulous [3. diplochlamys](#)
 Petiole glabrous: **5**
- 5 Calyx 6-12 mm. long; corolla-lobes broadly oblong to obovate, forming in bud a shortly conical head 1-1.5 times as long as broad; leaves elliptic-acuminate to lanceolate, 9-24 cm. long, 3-8 cm. broad: **6**
 Calyx 12-18 mm. long; corolla-lobes 10-20 mm. long: **7**
- 6 Corolla-lobes 3-6 mm. long, about half as long as the tube [4. bracteata var. bracteata](#)
 Corolla-lobes 8-12 mm. long, almost or about as long as the tube [4a. bracteata var. zenkeri](#)
- 7 Corolla-lobes oblong to ovate-oblong, 3-5 mm. broad, forming in bud an elongate-conical head 2-3 times longer than broad; leaves elliptic-lanceolate, 9-24 cm. long, 3-8 cm. broad [5. psilocalyx](#)
 Corolla-lobes narrowly linear, about 2 mm. long, forming in bud a cylindric structure 4-6 times longer than broad, which is not dilated towards the base; leaves lanceolate or oblanceolate, 12-30 cm. long, 2.5-7 cm. broad [6. caudiflora](#)

1. *Voacanga thouarsii* Roem. & Schult. Syst. Veg. 4: 439 (1819); F.T.A. 4, 1: 154 (1902). *APD acc*

Voacanga obtusa K. Schum. (1895)-F.T.A. 4, 1: 153; F.W.T.A., ed. 1, 2: 42.

Voacanga thouarsii var. *obtusa* (K. Schum.) Pichon in Bull. Mus. Hist. Nat., sér. 2, 19: 415 (1947); Aubrév. Fl. For. C. Iv., ed. 2, 3: 214, t. 330.

Glabrous tree 20-30 ft. high with the leaves crowded at the ends of the branches; flowers white waxy; forest areas.

Gam.: Hayes 531! Albreda Leprieur. **Mali:** Sirakoro Dubois 189. **Port. G.:** Coiada, Gabu (June) Esp. Santo 2521! **Guin.:** Kaba valley Chev. 13188. Kindia (Mar.) Chev. 13213; 13214. Sineya Pobéguin 804. Laya Sc. Elliot 4481! **S. L.:** Batkanu to Port Loko (fl. & fr. July) Deighton 1970! Sefadu (July) Deighton 3744! Kanya (fr. Oct.) Thomas 2929! Rokupr to Mange (fr. July) Jordan 59! Gberia Timbako (Oct.) Small 459! **Lib.:** Dukwia R. (May) Cooper 172! 431! Du R. (July) Linder 47! Monrovia (Aug.) Baldwin 9206! Paynesville (Apr.) Bequaert 182! Ganta (May) Harley! **Iv. C.:** Buandougou to Marabadiassa, Mankono (July) Chev. 21995. Man Aubrév. 955. Biaouné Aubrév. 1126. Guigla serv. For 2021; 2029. **Dah.:** Abomey (Feb.) Chev. 23201. **N. Nig.:** Kontagora to Ibeto (Jan.) Meikle 1088!. Kontagora (Nov.) Dalz. 9! Amo, Jos Plateau (Apr.) Wimbush FHI 39624! Ewan R., Niger Prov. (Aug.) Onochie FHI 35144!

Tropical Africa and Madagascar, extending to Natal.

2. **Voacanga africana Stapf** in J. Linn. Soc. 30: 87 (1893); F.T.A. 4, 1: 157 (1902); Aubrév. Fl. For. C. Iv., ed. 2, 3: 216, t. 331. *APD acc*

Voacanga glabra K. Schum. (1895).

Voacanga schweinfurthii var. **parviflora** K. Schum. (1897).

Voacanga magnifolia Wernham in Cat. Talb. 62 (1913).

Voacanga talbotii Wernham l.c. 63 (1913).

Voacanga eketensis Wernham in J. Bot. 52: 25 (1914).

Voacanga glaberrima Wernham l.c. (1914).

Voacanga africana var. **glabra** (K. Schum.) Pichon in Bull. Mus. Hist. Nat., sér. 2, 19: 412 (1947).

A shrub or tree, 5-30 ft. high; flowers white or greenish.

Sen.: Heudelot 89! Casamance Beudot 568. **Gam.:** Skues! **Guin.:** Conakry (Apr.) Debeaux 320! La Konkore (Sept.) Pobeguín K16! Timbo (Mar.) Chev. 12521! Kaloum Maclaud 361. Lola, Guerzés Chev. 20974. **S. L.:** Kambui F.R. (Apr.) Lane-Poole 251! Ninia, Talla Hills Sc. Elliot 4903! Bafodeya (Apr.) Sc. Elliot 5484! Mano (Apr.) Heighten 3382! Bandakarifaia to Yalumbu (May) Deighton 5084! **Lib.:** Karmadhun, Kolahun Dist. (fr. Nov.) Baldwin 10193! **Iv. C.:** Banco Serv. For. 379. Rasso Aubrév. 576. Mt. Tongui Aubrév. 1027. Bingerville Chev. 16033. Alépé Chev. 17422. **Ghana:** Axim (fl. & fr. Jan.) Chipp 60! Assin-Yan-Kumasi (Apr.) Scholes 235! Dunkwa (fr. Aug.) Chipp 716! Essiama (Apr.) Williams 436! Kumasi (Mar.) Vigne FH 3741! **Togo Rep.:** Misahöhe Baumann 464! **Dah.:** Ouidah Poisson. Adja Ouéré Poisson 9; Le Testu 279. Boguila, Abomey Chev. 23201. **N. Nig.:** Patti Lokoja (Apr.) Elliott 48! 222! Nupe Barter 1327! Abinsi (Apr.) Dalz. 704! Anara F.R., Zaria (May) Keay FHI 22940! Birnin Gwari (Apr.) Meikle 1376! **S. Nig.:** Onikan, Lagos (Dec.) Onochie FHI 34654! Ibadan (Mar., Apr.) Meikle 1478! Hamblar 24! Idanre, Ondo Prov. (Jan.) Brenan 8712! Oban Talbot 1053! 2071! Eket Talbot! **[Br.] Cam.:** Victoria (Feb., Apr.) Maitland 422! 759! Buea, 4,000 ft. (Jan., Apr.) Hutch. & Metcalfe 107! Dunlap 220! S. Bakundu F.R., Kumba (Mar.) Binuyo & Daramola FHI 35645! **F. Po.:** (Jan.) Mann 243!

Also in **Cameroun**, **Congo**, **Egypt**, **Sudan** and (?) **Tanganyika**.

3. **Voacanga diplochlamys** K. Schum. in E. & P. Pflanzenfam. 4, 2: 149 (1895); F.T.A. 4, 1: 160; Brenan in Kew Bull. 7: 452 (1953).

APD: Synonym of Voacanga bracteata Stapf

A shrub; flowers yellow.

S. Nig.: Calabar (Mar.) Thomson 39! Holland 108! Oban Talbot 1330! Eket Talbot! **[Br.] Cam.:** Rudatis 14! Barombi (Mar.) Preuss 14! S. Bakundu F.R., Kumba (Jan., Mar.) Brenan 9300! Binuyo & Daramola FHI 35051!

Also in **Cameroun** and **Rio Muni**.

Voacanga bracteata Stapf

4. **Voacanga bracteata** var. **bracteata** -in Kew Bull. 1894: 22; F.T.A. 4, 1: 160. *APD acc*

A glabrous shrub or small tree, 2-10 ft. or more high; flowers white or more frequently yellowish to brown, in drooping cymes.

S. L.: Bagroo R. (Apr.) Mann 858! Matotoka (July) Thomas 1368! Magburaka (fr. Nov.) Deighton 4948! Pujahun Thomas 8353! Mesima (fr. Dec.) Deighton 5295! **Lib.:** Sinoë Basin Whyte! Banga (Oct.) Linder 1188! Nekabozu, Vonjama Dist. (Oct.) Baldwin 10035! Kitoma, Sanokwele Dist. (fr. Jan.) Baldwin 14067! Yratoke, Webo Dist. (July) Baldwin 6276! **Ghana:** Axim (Feb.) Irvine 2358! Awiabo (Nov.) Vigne FH 1465! S. Scarp F.R., Kwahu (Dec.) Adams 5167! **S. Nig.:** Oban F.R. (Feb.) Onochie FHI 36425x!

Also in [Cameroun](#) and [Congo](#).

4a. **Voacanga bracteata** var. **zenkeri** (Stapf) H. Huber in Kew Bull. 15: 438 (1962).

APD: *Synonym of Voacanga psilocalyx Pierre ex Stapf*

Voacanga zenkeri Stapf in F.T.A. 4, 1: 159 (1902); F.W.T.A., ed. 1, 2: 42.

Voacanga obanensis Wernham in Cat. Talb. 62 (1913).

S. Nig.: Oban (Mar.) Talbot 290! 1290! Richards 5162! [**Br.**] **Cam.:** Hole, Mamfe Dist. (Nov.) Tamajong FHI 22133! Mamfe (fr. Mar.) Richards 5225!

Also in [Cameroun](#).

5. **Voacanga psilocalyx** Pierre ex Stapf in F.T.A. 4, 1: 159 (1902). *APD acc*

Similar to the last species; peduncle usually very long.

S. Nig.: Oban Talbot s.n.! 302!

Also in [Cameroun](#) and [Gabon](#).

6. **Voacanga caudiflora** Stapf in F.T.A. 4, 1: 603 (1906). *APD acc*

Shrub or small tree 5-20 ft. high; flowers cream or greenish.

S. L.: Blama (Dec.) Deighton 315! **Lib.:** Kakatown Whyte! Mecca, Boporo Dist. (Nov.) Baldwin 10403! Jabroke, Webo Dist. (July) Baldwin 6452!

21. ALSTONIA

R. Br.-F.T.A. 4, 1: 120; Monachino in Pacif. Sci. 3, 2: 139 (1949). Nom. cons. *APD acc*

- 1 Petiole 1(-2) cm. long; leaves in whorls of 4-8, obovate to elongate-oblongate, rounded to acuminate at apex, 7-25 cm. long, 3-11 cm. broad, with about 30-55 pairs of lateral nerves; calyx outside densely villous; corolla-tube usually 6-12 mm. long, lobes 3-6 mm. long, the lobes about as long as broad; fruits with 2 linear follicles up to 50 cm. long and 5 mm. broad, villous [L. boonei](#)

Petiole 0-5 mm. long; leaves as above; calyx slightly pubescent or glabrous outside; corolla-tube usually 4-6 mm., lobes 5-9 mm. long, the lobes much longer than broad; fruits glabrous [L. congensis](#)

1. **Alstonia boonei** De Wild. in Fedde Rep. 13: 382 (1814). *APD acc*

Alstonia congensis of F.W.T.A., ed. 1, 2: 42 (1931); Chev. Bot. 414; Aubrév. Fl. For. C. Iv., ed. 2, 194, t. 320, not of Engl.

Tree 30-120 ft. high with whorled leaves and branches; many-flowered terminal inflorescences and paired, narrowly-cylindric fruiting follicles 12-20 in. long.

Sen.: Sinédone, Casamance (Jan.) Huay! Chev. 2690! **Gam.:** Dawe 37! **Port. G.:** Fancati, Teikeira Pinto-Caió (Jan.) d'Orey 122! Bafata d'Orey 198! **Guin.:** Labé (Jan.) Roberty 16401! **S. L.:** Bumbuna (Oct.) Thomas 3934! Njala (fl. Oct., fr. Jan.) Deighton 2993! 5610! 5722! Loma Mts. Jaeger 1636! **Iv. C.:** Bouroukrou Chev. 16114! **Ghana:** Ankobra Junction Kitson 1019! Kumasi (Nov.) Irvine 1851! Sindura Armitage 2! Aburi Gady! Deighton 3416! Offinso (Oct.) Darko 736! **S. Nig.:** Ibadan (fl. Nov., fr. Dec., Jan.) Punch 145! Hamble 86! Ibuzo (Nov.) Thomas 1986! Sapoba Kennedy 2084! Aboh Barter 490! Oban Talbot 1488! [**Br.**] **Cam.:** Victoria (Nov.) Maitland 765! Likomba (Nov.) Mildbr. 10708!

Also in [Cameroun](#), [Congo](#), [Egypt](#), [Sudan](#), [Uganda](#) and [Cabinda](#).

2. **Alstonia congensis** Engl. Bot. Jahrb. 8: 64 (1887). *APD acc*

APD: *Synonym of Alstonia boonei De Wild.*

Alstonia congensis var. **glabrata** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 42 (1931); Kew Bull. 1937: 337; Aubrév. Fl. For. C. Iv., ed. 2, 3: 196.

S. L.: Gola Forest Small 712! **S. Nig.:** Lagos (Oct.) Dalz. 1256! Ikeja Onochie FHI 26678!

Also in [Congo](#) and [Cabinda](#).

22. PYCNOBOTRYA

Benth.-F.T.A. 4, 1: 202; Pichon in Mém. Mus. Hist. Nat. Paris, n. sér., B, 1: 155 (1951).

- 1 Leaves and branches glabrous; leaves verticillate or opposed, elliptic-oblong to oblong-lanceolate, 6-14 cm. long, 1.5-4.5 cm. broad, with very numerous lateral nerves; corolla-tube 1.5-2 mm. long, the lobes 3-5 mm. long; anthers about 1 mm. long [nitida](#)

Pycnobotrya nitida *Benth.* in Hook. Ic. Pl. 12: 72, t. 1183 (1876); F.T.A. 4, 1: 202. *APD acc*

Pycnobotrya multiflora *K. Schum. ex Stapf* in F.T.A. 4, 1: 203 (1902).

Woody climber up to 50 ft. high with numerous small flowers in ample, terminal cymes.

S. Nig.: Sapoba Kennedy 1951! 2085!

Extends to Cameroun, Gabon and Congo.

23. CATHARANTHUS

G. Don (1838)-Pichon in Mém. Mus. Hist. Nat. Paris 27: 237 (1948).

Lochnera Reichenb. f. (1828), name only-F.T.A. 4, 1: 118.

- 1 Stem erect, puberulous, herbaceous or more or less woody, especially towards the base; leaves opposite, obovate to oblanceolate, 3-8 cm. long, 1-4 cm. broad; flowers terminal or axillary, the corolla-tube 1.5-3 cm. long, the lobes broadly obovate, 1-3 cm. long; fruits paired narrow-fusiform follicles 2-4 cm. long [roseus](#)

Catharanthus roseus (*Linn.*) *G. Don* Gen. Syst. 4: 95 (1838).

Vinca rosea *Linn.* (1759).

Lochnera rosea *Reichenb. f.* (1828) name only-F.T.A. 4, 1: 118; F.W.T.A., ed. 1, 2: 37 (1931).

A perennial (or occasionally annual) erect herb to small shrub with pink or white flowers. "Madagascar Periwinkle", a native of tropical America, often planted for ornament and now more or less naturalised in the tropics.

24. HOLARRHENA

R. Br.-F.T.A. 4, 1: 161; Pichon in Mém. Mus. Hist. Nat. Paris, n. sér., B, 1: 157 (1951).

- 1 Leaves mostly ovate-acuminate, or ovate-lanceolate, 5-18 cm. long, 2-8 cm. broad, with 6-12 pairs of lateral nerves; inflorescence a many-flowered, globose or flattened cyme; corolla-tube 5-9 mm. long, lobes 3.5-8 mm. long: **2**
- 2 Leaves glabrous or almost glabrous even when young [1. floribunda var. floribunda](#)
Leaves densely pubescent beneath at least when young [1a. floribunda var. tomentella](#)

Holarrhena floribunda (*G. Don*) *Dur. & Schinz* *APD acc*

1. Holarrhena floribunda var. floribunda -Etud. Fl. Congo 1: 190 (1896). *APD acc*

Rondeletia floribunda *G. Don* (1834).

Holarrhena africana *A. DC.* (1844)-F.T.A. 4, 1: 164; Aubrév. Fl. For. C. Iv., ed. 2, 3: 204, t. 324; Chev. Bot. 417.

Holarrhena wulfsbergii *Stapf* in F.T.A. 4, 1: 164 (1902); Aubrév. Fl. For C. Iv., ed. 2, 3: 204; Chev. Bot. 418.

Shrub to medium-sized tree 5-50 ft. high; flowers white in almost umbel-like inflorescences and paired narrowly cylindrical fruiting follicles 1-2 ft. long; **in deciduous forest.**

Mali: Ouassana to Dendela (fl. & fr. Mar.) Chev. 620! **Port. G.:** Abu, Formosa (Apr.) Esp. Santo 1978! **Guin.:** Frigulagbé (fr. Aug.) Chillou 606! Conakry (fr. Jan.) Dalz. 8079! Kouroussa (Apr.) Pobéguin 140! Dalaba (Mar.) Dalz. 8402! Macenta (fr. Oct.) Baldwin 9793! **S. L.:** Don! Freetown (Jan.) Dalz. 971! Karina, N. Prov. (Feb.) Glanville 181! Kambui F.R. (Apr.) Jordan 2033! Rokupr (fr. Apr.) Jordan 226! Musaia (Feb.) Deighton 4218! **Lib.:** Ganta (Apr.) Harley 1136! **Iv. C.:** Abidjan (fr. Feb.) Aubrév. 64! Man Serv. For. 406! **Ghana:** Aburi (fr. Nov.) Gould! Mampong (Apr.) Vigne FH 1920! L. Bosumtwé

(Apr.) Adams 2470! Kumasi (Apr.) Andoh 4884! Ho (Mar.) Dalz. 156! **Togo Rep.:** Badja Schlechter 12909! Lome Warnecke 131! Waya Hornberger. Agatineo, near Todjie R. Merz. **Dah.:** Le Testu 122! Zagnanado (Feb.) Chev. 22978. Abomey (Feb.) Chev. 23192. **N. Nig.:** Jos Plateau (May, fr. July) Lely P311! P502! Keana (Apr., May) Hepburn 49! **S. Nig.:** Ibadan (Mar., Dec.) Meikle 869! Adekunle FHI 3007! Olokemeji F.R. (fr. Dec.) Ross R36! Abeokuta Barter 3334! Idanre, Ondo Prov. (fl. & fr. Jan.) Brenan 8655!

Also in **Cameroun**, **Ubangi-Shari** and **Congo**.

1a. **Holarrhena floribunda var. tomentella** *H. Huber* in Kew Bull. 15: 437 (1962). *APD acc*

Holarrhena ovata *A. DC.* (1844)-F.T.A. 4, 1: 163.

Gam.: Dawe 40! Hayes 509! Brown-Lester! R. Gambia Ozanne 9! **Mali:** Kangola to Kindolé (May) Chev. 857! **Port. G.:** Begene, Farim (June) Esp. Santo 2393! **Guin.:** Rio Nunez Heudelot 795! **S. L.:** Musaia (fl. & fr. Apr.) Miszewski 36! **N. Nig.:** Tureta to Damri, Sokoto Prov. (June) Dalz. 534! Sokoto to Kebbi (fr. Oct.) Dalz. 370! Kanbuja to Yashi, Katsina Prov. (June) Keay FHI 7571! Katsina (Mar.) Meikle 1355! Anara F.R., Zaria Piov. (May) Keay FHI 25788!

25. RAUVOLFIA

Linn. -F.T.A. 4, 1: 108, as *Rauwolfia*

- 1 Branches of inflorescences distinctly puberulous; leaves elliptic-acuminate to broadly lanceolate, 8-24 cm. long, 3-10 cm. broad, with 8-16 pairs of lateral nerves, with a narrowly triangular acute acumens; corolla 8-10 mm. long; carpels (if both developed) quite free in fruit *L. vomitoria*
- Branches of inflorescences glabrous: 2
- 2 Leaves with 5-12 pairs of lateral nerves; pedicels 1-4 mm. long; flowers usually 6-10 mm. long: 3
- Leaves with 16 to about 30 pairs of lateral nerves; flowers sessile or very shortly pedicellate; pedicels not exceeding 1 mm. in length; flowers 4-6 mm. long: 4
- 3 Petiole short, about 5(-10) mm. long; leaves elliptic-acuminate to lanceolate, pointed with a triangular acumens; blade 8-20 cm. long, 2-5-6 cm. broad; carpels (if both developed) quite free in fruit *2. cumminsii*
- Petiole about 10(-20) mm. long; leaves elliptic to broadly lanceolate, pointed with a narrowly linear acumens, 10-26 cm. long, 3-9 cm. broad; fruiting carpels (if both developed) connate to about half of their length *3. mannii*
- 4 Petiole about 2-4 cm. long; leaves oblanceolate-oblong, 7-22 cm. long, 3-6 cm. broad, short-cuneate or almost rounded at base, not or scarcely decurrent on the petiole, pointed with a triangular acumens; branches 4-angled; flowers about 6 mm. long *4. caffra*
- Leaves subsessile or with a petiole up to about 2 cm. long, obovate to obovate-oblong, 10-20 cm. long, 4-9 cm. broad, long-cuneate at base and gradually passing into the petiole, not or scarcely acuminate at apex; branches almost 4-winged; flowers about 4 mm. long *5. macrophylla*

1. **Rauvolfia vomitoria** *Afzel.* Stirp. Med. Sp. Nov. 1 (1818); F.T.A. 4, 1: 115; Chev. Bot. 412; Aubrév. Fl. For. C. Iv., ed. 2, 3: 196, t. 321. *APD acc*

Hylacium owariense, *P. Beauv.* (1819)-Hepper in Kew Bull. 16: 338 (1962).

Rauvolfia senegambiae *A. DC.* (1844).

Small shrub or tree up to 50 ft. high with whorled leaves and small white to greenish flowers in many-flowered, terminal, ample, verticillate cymes.

Sen.: Rio Nunez Heudelot 910. **Mali:** Folo (May) Chev. 832! **Port. G.:** Pussubé, Bissau (Oct.) Esp. Santo 984! Acóco, Formosa (Apr.) Esp. Santo 1960! Catió (Aug.) Esp. Santo 2175! **Guin.:** Farmar 162a! Sulimana Sc. Elliot 5318! Duyania (Feb.) Sc. Elliot 4823! **S. L.:** Bagroo B. Mann! Njala (May) Deighton 677! Kambia (Dec.) Sc. Elliot 4356! Kambui Hills (Mar.) Small 513! Loma Mts. (fr. Sept.) Jaeger 1541! **Lib.:** Monrovia (Nov.) Linder 1419! Karmadhun, Kolahun Dist. (fr. Nov.) Baldwin 10194! Ganta (fr. Sept.) Baldwin 9281! Gbanga (Mar.) Blickenstaff 30! Gletown, Tchien Dist. (fr. July) Baldwin 6960! **Ghana:** Asientien (July) Chipp 286! Aburi (fr. Oct.) Ankrah GC 20106! Kumasi (Jan.) Irvine 59! Axim (fl. & fr. Feb.) Irvine 2158! Mampong, Akwapim (fr. May) Adams 4341! **Dah.:** Cotonou Debeaux 173! **N. Nig.:** Nupe Barter 1704! **S. Nig.:** Abeokuta Irving 64! Okomu F.R., Benin (Jan.) Brenan 8831! Ibadan (Feb.) Meikle 1165! Sapoba (Nov.) Meikle 632! Onitsha (Feb.) Jones FHI 575! Calabar (fr. July) Holland 64! **[Br.] Cam.:** Preuss 903! Mimbia, Buea (Apr.) Hutch. & Metcalfe 93! S. Bakundu F.R., Kumba (Mar.) Binuyo & Daramola FHI 35594! Bafut-Ngamba F.R. (Feb.) Tiku FHI 22159!

Also in **Cameroun**, **Gabon**, **S. Tomé**, **Congo**, **Egypt**, **Sudan**, **Uganda** and **Tanganyika**.

2. *Rauvolfia cumminsii* Stapf in F.T.A. 4, 1: 114 (1902); Aubrév. Fl. For. C. Iv., ed. 2, 3: 196.

APD: Synonym of Rauvolfia mannii Stapf

Rauvolfia liberiensis Stapf in F.T.A. 4, 1: 601 (1906).

Rauvolfia ivorensis A. Chev. Bot. 412, name only.

Shrub or small tree, 2-7 ft. high with red fruits.

Lib.: Mecca, Boporo Dist. (Nov.) Baldwin 10428! Monrovia Whyte! Totokwelli, Medina (Oct.) Linder 1297! Greenville (Mar.) Baldwin 11564! Sinoe Whyte! **Ghana:** Assin-Yan-Kumasi Cummins 216! Awiabo (Nov.) Vigne FH 100! Benso, Tarkwa Dist. (Nov.) Andoh FH 5408! 5877! Abra, W. Prov. (fr. Jan.) Akpabla 812!

3. *Rauvolfia mannii* Stapf in Kew Bull. 1894: 21; F.T.A. 4, 1: 113; Brenan in Kew Bull. 7: 451. *APD acc*

Rauvolfia preussii K. Schum. (1895)-F.T.A. 4, 1: 114.

Small shrub or tree 2-30 ft. high with greenish-white and pink flowers and red berries.

S. Nig.: Ibadan (fr. Nov.) Newberry & Etim 163! Oban F.R. (May) Ujor FHI 31782! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba (fl. & fr. Mar.) Brenan 9422! Mamfe (Mar.) Richards 5220! Bamenda (fr. June) Lightbody FHI 26327!

Extends to Cameroun, Gabon and Congo.

4. *Rauvolfia caffra* Sond. in Linnaea 23: 77 (1850); F.T.A. 4, 1: 110. *APD acc*

Rauvolfia welwitschii Stapf in F.T.A. 4, 1: 110 (1902).

Small to large tree up to 70 ft. high with verticillate leaves and small tubular flowers in ample inflorescences.

N. Nig.: Auchang, Zaria Dalz. 358! Zaria (July) Lamb! Katsina Allah (June) Dalz. 796! **S. Nig.:** Foriku to Agbabu, Ondo (sterile) Onochie FHI 33376! Idodo R., Enugu to Abakaliki (ft. May) Onochie FHI 35838! lower Enyong F.R., Calabar (fr. May) Onochie FHI 33212! [**Br.**] **Cam.:** Mai Idoanu, Gashaka Dist. (fr. Feb.) Latilo & Daramola FHI 34472!

Widespread in tropical and S. Africa.

5. *Rauvolfia macrophylla* Stapf in Kew Bull. 1894: 20; F.T.A. 4, 1: 110.

APD: Synonym of Rauvolfia caffra Sond.

Tree 40-75 ft. high with a broad crown and the leaf-whorls mostly crowded at ends of the branches; flowers minute, whitish.

S. Nig.: Mamu River F.R., Onitsha Keay FHI 22300! (sterile, probably this sp.) [**Br.**] **Cam.:** Likomba (fr. Dec.) Mildbr. 10783! Tiko (Jan.) Dunlap 248! Amba Bay (Dec.) Mann 1328!

Also in **Cameroun** and **S. Tomé**.

26. ISONEMA

R. Br. -F.T.A. 4, 1: 187.

- 1 Leaves glabrous, broadly elliptic, 5-9 cm. long, 2.5-5 cm. broad, with 4 or 5 pairs of lateral nerves; corolla-tube 8-10 mm. long, lobes 5-9 mm. long; panicle lax, with long, spreading branches [1. buchholzii](#)

Leaves pilose beneath especially on the nerves; elliptic, obovate or oblong, 4-11 cm. long, 2-5 cm. broad, with 5-7 pairs of lateral nerves; corolla-tube 8-10 mm. long, lobes 5-6 mm. long; panicle narrow, with fairly to very short branches; fruit with 2 carpels up to 20 cm. long, and 7-9 mm. diam. [2. smeathmannii](#)

1. *Isonema buchholzii* Engl. Bot. Jahrb. 7: 340 (1886); F.T.A. 4, 1: 189. *APD acc*

Glabrous woody climber with white to brownish-cream, tubular flowers in ample panicles; **in swamp forest**.

S. Nig.: Orlu, Owerri Prov. (Apr.) Thompson 16! Eket Talbot 3027! Cross River North F.R., Ikom Dist. (June) Latilo FHI 31844! [**Br.**] **Cam.:** Johann-Albrechtshöhe (=Kumba) Staudt 481!

Also in [Cameroun](#).

2. *Isonema smeathmannii* Roem. & Schult. Syst. Veg. 4: 401 (1819); F.T.A. 4, 1: 188. *APD acc*

Climbing shrub with mostly rusty-tomentose indumentum, red-brown tubular flowers and horizontally diverging cylindrical follicles; in swamp forest.

Port. G.: Cumura to Bór, Bissau (Mar.) Esp. Santo 1879! Safim, Bissau (Mar.) Esp. Santo 1905! **Guin.:** Heudelot 912! Kindia (Sept.) Pobéguin 1285! **S. L.:** Kahreni to Port Loko (fl. & fr. Apr.) Sc. Elliot 5814! Bagroo R. (fl. & fr. Apr.) Mann 824! Bonthé, Sherbro (fl. & fr. Feb.) Dalz. 943! Njala Deighton 1747! Baiima (May) Deighton 5772! **Lib.:** Grand Bassa (July) T. Vogel 65! Dobli Is., St. Paul R. Bequaert 24! near Mt. Barclay (Jan.) Dalz. 8120! Sangwin (fr. Mar.) Baldwin, 11308! Dimeh (June) Barker 1338! **Iv. C.:** Farmar 370! **Ghana:** Burton!

27. STROPHANTHUS

A. DC. -F.T.A. 4, 1: 167; Gil in Engl. Monogr. Afr. Apocynac. 7 (1903).

- 1 Corolla-lobes not produced in tails, not more than 3 times as long as broad at base, not longer than the corolla-tube; bracts scarious; leaves glabrous, smooth; tertiary venation indistinct:2
Corolla-lobes produced into long, linear tails, markedly longer than the tube; bracts herbaceous:
- 2 Corolla-tube 3-4.5 cm. long, lobes broadly ovate or orbicular, obtuse at apex, 1.5-3 cm. long and about as broad at their base; inflorescence with several flowers; calyx 10-15 mm. long; leaves elliptic, elliptic-lanceolate or ovate, 7-19 cm. long, 3-9 cm. broad, with 5-9 pairs of lateral nerves 1. gratus.....3 **STROPHANTHUS_3**
...Corolla-tube 2.5-3 cm. long, lobes narrowly triangular, acute at apex, 2-3 cm. long, 1.5-3 times longer than broad at their base; inflorescence 1-few-flowered; calyx 13-15 mm. long; leaves elliptic to lanceolate, 8-14 cm. long, 2-5 cm. broad with (4-) 6 pairs of lateral nerves [2. thollonii](#)
Leaves smooth and glabrous on both surfaces; branches glabrous:
Corolla-tube 2-3.5 cm. long, lobes 4-16 cm. long, produced into linear tails 2-4 times longer than the oblong-deltoid base; calyx 10-15 mm. long, lobes lanceolate, very acute; leaves elliptic or ovate, acuminate, 4-11 cm. long, 2-7 cm. broad, with 4-7 pairs of lateral nerves and frequently with distinct tertiary venation beneath 3. sarmentosus **4STROPHANTHUS_4**
...Corolla-tube up to 2 cm. long; lobes produced into subfiliform tails many times longer than the deltoid base; calyx 8-17 mm. long; leaves usually with indistinct tertiary venation:5
Leaves scabrid or hairy, at least beneath:6
- 5 Sepals ovate-lanceolate, broadest below the middle, very acute; corolla-tube 1.5-2 cm. long, lobes 12-32 cm. long; leaves elliptic or elliptic-oblong, 3.5-13 cm. long and 2.5-8 cm. broad, with 5-8 pairs of lateral nerves [4. preussii](#)
Sepals oblanceolate, broadest towards the apex, subobtuse; corolla-tube 1.2-1.8 cm. long, lobes 3-8 cm. long; leaves elliptic to ovate, acuminate, 3-10 cm. long, 2-5 cm. broad, with 4-6 pairs of lateral nerves [5. barteri](#)
- 6 Leaves scabrid or minutely puberulous, especially beneath, elliptic or ovate, 4-12 cm. long and 1.5-4 cm. broad, with 4-6 pairs of lateral nerves; calyx 10-14 mm. long; corolla-tube 1-1.5 cm. long, lobes 8-18 cm. long [6. gracilis](#)
Leaves hairy beneath, with long patent hairs on midrib and branches:7
- 7 Corolla-lobes 8-18 cm. long, 5-12 times longer than the tube; tube 8-15 mm. long; calyx 14-24 mm. long; leaves elliptic or ovate, 5-15 cm. long, 2-9 cm. broad, with 5-9 pairs of lateral nerves; tertiary venation very distinct, deeply impressed above, prominent beneath [7. hispidus](#)
Corolla-lobes up to 2 cm. long, about 1.5-2 times longer than the tube; tube 10-14 mm. long; calyx 7-12 mm. long; leaves elliptic, acuminate, 7-12 cm. long, 2.5-5 cm. broad, with 6-12 pairs of lateral nerves; tertiary venation very indistinct [8. bullenianus](#)

1. *Strophanthus gratus* (Hook.) Franch. in Journ. de Bot. 7: 321 (1893); F.T.A. 4, 1: 170. *APD acc*

Roupellia grata Hook. in Bot. Mag. 75: t. 4466 (1849).

Glabrous, climbing or erect shrub or small tree with large, campanulate, white to purple flowers.

S. L.: Whitfield! Lane-Poole 147! Pujehun (Dec.) Deighton 275! Waterloo to York Smythe 245! Gowana (Dec.) Burbridge 425! **Lib.:** Monrovia (Nov.) Linder 1413! Kakatown Whyte! Belleyella, Boporo Dist. (Dec.) Baldwin 12554! Ganta (Dec.) Barker 1147! Suacoco, Gbanga (Apr.) Konneh 151! **Iv. C.:** Abouabou Leeuwenberg 2353! **Ghana:** Aburi Gardens (cult. Nov.) Irvine 1863! Baldwin 13403! Akwaseho, Kwahu (Dec., Jan.) Irvine 1681! Assin-Yan-Kumasi Cummins 44-55! Akwapim (Dec.) Dalz. 158! **N. Nig.:** Benue R. Flegel. **S. Nig.:** Olokemeji Foster 139! Ibadan (Feb.) Meikle 1159! Ubuluku

(Dec.) Thomas 2079! Awka to Onitsha (Nov.) Baldwin 13749! Bendiga Ayuk, Ikom (Dec.) Keay FHI 28166! Oban Talbot 2054! **[Br.] Cam.:** Victoria (cult. Mar.) Preuss 1301. Mamfe (Dec.) Baldwin 13814! 13815!

Also in **Cameroun**, **Gabon** and **Congo**.

2. **Strophanthus thollonii** *Franch.* l.c. 299 (1893); F.T.A. 4, 1: 171. *APD acc*

Glabrous, woody climber with white and purple flowers similar to the above.

S. Nig.: Oban Talbot! **[Br.] Cam.:** Rio del Rey Johnston 44!

Extends to Cameroun and Gabon.

3. **Strophanthus sarmentosus** *DC.* in Bull. Soc. Philom. Paris 3: 123 (1802); F.T.A. 4, 1: 180. *APD acc*

A stout, glabrous climber up to about 20 ft. high with long-tailed flowers, pale yellow to almost white; fruiting follicles horizontally spreading, thick and woody, about 8 in. long and 1-1 1/2 in. broad.

Sen.: Heudelot 337! Leprieur 457; 467. Boivin 1408! Richard-Toll Leprieur. Cayor Leprieur. **Gam.:** Hayes 510! 526! Brown-Lester 36! Skues! Ingram 66! Genieri (Feb.) Fox 96! **Mali:** Bamako (Apr.) Hagerup 30! Siguire (Feb.) Chev. 288! **Guin.:** Farmar 166! Boké (Apr.) Maclaud 386! Pela, Nzérékoré (fr. Sept.) Baldwin 13320! Dalaba, Fouta Djallon (Mar.) Schnell 4640! Nimba Mts. (Feb.) Schnell 4263! **S. L.:** Bunce Is. (Mar.) Kirk 39! Njala (Feb.) Deighton 1928! Port Loko (Jan.) Deighton 1048! Kasawe F.R. (Jan.) King 207B! Kukuna (Jan.) Sc. Elliot 4512! **Lib.:** Monrovia (Nov.) Linder 1517! Gbanga (fr. Sept.) Linder 596! Dobli Is., St. Paul R. Bequaert 29! Suacoco (Dec.) Barker 1185! St. John R., Sanokwele Dist. Baldwin 13209! **Iv. C.:** Dapola (young fr. July) Katz & Schmutz H72! Odienné to Touba Katz & Schmutz H73! Korogo to Odienné Katz & Schmutz H71! Bobo-Dioulasso Katz & Schmutz H74! Man Katz & Schmutz H68! **Ghana:** Dodowah Plains (Feb.) Irvine 1500! Saltpond (Jan.) Baldwin 14017! Dunkwa (Apr.) Vigne FH 147! Kumasi (fl. & young fr. May) Katz & Schmutz H10! Saboba (Mar.) Hepper & Morton A3119! Gambaga (June) Saunders 5! **Togo Rep.:** Baumann 93! Lomé Warnecke 476! Agome Mts. Schlechter 12962. Pewa Katz & Schmutz H70! **N. Nig.:** Nupe Barter 1325! Mokwa (Mar.) Meikle 1238! Jos (Mar.) Hill 15! Sokoto (May) Lely 825! Daddara, Katsina (Feb.) Meikle 1479! Kaduna to Zaria (Dec.) MeiUe 838! **S. Nig.:** Lagos (Feb.) Millson! Abeokuta Irving! Idanre (Jan.) Brenan & Keay 8692! Ogun River F.R. (Dec.) Ejiofor & Latilo FHI 32026! Okomu F.R., Benin (Feb.) Brenan & E. W. Jones 9133! Oban Talbot 1349! **[Br.] Cam.:** Gashaka to Mayo Wombo (fr. Feb.) Latilo & Daramola FHI 34457! foot of Vogel Peak, Adamawa (fr. Nov.) Hepper 1466!

Also **Cameroun**, **Ubangi-Shari**, **Gabon**, **Congo** and **Cabinda**.

4. **Strophanthus preussii** *Engl. & Pax* in Engl. Bot. Jahrb. 15: 369 (1892); F.T.A. 4, 1: 176. *APD acc*

Glabrous climber or small shrub with white and purple flowers turning yellow.

Guin.: Collenette 19! Nimba Mts. (Apr.) Schnell 4902! 5228! **S. L.:** Freetown (Aug.) Burbridge 520! Gorahun (Apr.) Deighton 3684! Jahama Smythe 77! Yumbuma (Apr.) Deighton 3943! Mayiera (July) Marmo 170! **Lib.:** Bobei (Feb.) Baldwin 14189! Ganta (Apr.) Harley! **Iv. C.:** Adiopodoumé (Nov.) Roberty 15511! **Ghana:** Oda, W. Akim (fl. & fr. Jan.) Darko 497! Essiam (Apr.) Williams 437! Aburi (May) Johnson 150! Kumasi to Agogo (Apr.) Bally 181! Assuantsi (fr. Jan.) Baldwin 14027! **Togo Rep.:** Baumann 591a! **S. Nig.:** Mamu F.R., Ibadan (Mar.) Keay FHI 22538! Okomu F.R., Benin (Dec.) Brenan 8447! Atta Barter 3322! Calabar (Apr.) Holland 100! Isobendige, Ikom Dist. (May) Latilo FBI 31820! Degema Talbot 3834! **[Br.] Cam.:** Preuss 116! Victoria (Mar.) Preuss 1114. Johann-Albrechtshöhe (Mar.) Staudt 664. Banyu, Kumba Dist. Olorunfemi FHI 30699! **F. Po.:** (Jan.) Mann 177!

Also in **Cameroun**, **Congo**, **Uganda**, **Angola** and **Tanganyika**.

5. **Strophanthus barteri** *Franch.* in Journ. de Bot. 7: 323 (1893); F.T.A. 4, 1: 177; Chev. Bot. 419. *APD acc*

Glabrous climbing shrub with white to yellow flowers turning yellow.

Guin.: Nimba Mts. (fl. & fr. Apr.) Schnell 5249! **Iv. C.:** Mt. Kouan to Danané Chev. 21252. Man to Zagoué Chev. 21556. **Ghana:** Kumasi (Apr.) Bally 115! Otrokpe (Apr.) Vigne FH 4380! Agogo, Ashanti Vigne FH 1083! Mensah Dawa (May) Darko 579! Kokofu to Kuntanase (Apr.) Adams 2488! **S. Nig.:** Lagos Dalz. 1106! Abeokuta Barter 3346! Ikire (fr. Jan.) Katz & Schmutz H83! Ibadan (fr. Feb.) Meikle 1129! Gambari F.R., Ibadan Dist. (Mar.) Onochie FHI 21700! **[Br.] Cam.:** Fang, Bamenda (May) Maitland 1691!

6. **Strophanthus gracilis** *K. Schum. & Pax* in Engl. Bot. Jahrb. 15: 370 (1892); F.T.A. 4, 1: 175. *APD acc*

Slender climbing shrub with minutely scabrid branches and fairly small pale lemon-yellow flowers spotted with crimson or brown.

S. Nig.: Nun R. (Sept.) Mann 499! Bonny Kalbreyer 70! Sapoba, Benin (Nov.) Meikle 540! Eket Talbot 3083! Calabar (Nov.) Baldwin 13756!

Also in **Cameroun** and **Gabon**.

7. **Strophanthus hispidus** DC. in Bull. Soc. Philom. Paris 3: 123 (1802); F.T.A. 4, 1: 174. *APD acc*

A coarsely hairy climbing shrub with long-caudate white flowers turning to yellow, spotted with red or brown inside; fruit woody, 12-18 in. long and about 1/2 in. thick. Sometimes cultivated.

Sen.: Louga Joret. Casamance R. Perrottet. **Mali:** Banan (Mar.) Chev. 522! Kangala (May) Chev. 859! **Port. G.:** Pussubé, Bissau (Mar.) Esp. Santo 1481! Bissoram to Mansoa (Sept.) Esp. Santo 853! **Guin.:** Labé (Mar.) Schnell 4757! Boké (Apr.) Maclaud 381! Nimba Mts. (Feb.) Schnell 4487! Nzérékoré (fr. Sept.) Baldwin 13321! Dantilia (Mar.) Sc. Elliot 5300! Rio Nunez Heudelot 829! **S. L.:** Sherboro R. (Mar.) Mann 793! Messima (Apr.) Adames 28! Njala (Mar.) Deighton 2865! Loma Mts. (Aug.) Jaeger 935! **Lib.:** Totata, Salala Dist. (Feb.) Baldwin 14175! **Ghana:** Afram Plains (fl. & fr. Mar.) Johnson 594b! Tuna (Feb.) Kitson 894! Pokoase, Accra Plains (Mar.) King-Church 950! Tamale (Apr.) Bally 143! Bossuso (Feb.) Andoh 5106! **N. Nig.:** Nupe Barter 749! Kontagora (Jan.) Dalz. 11! (cult.) Meikle 1054! Kufana, Kaduna Div. (cult. Dec.) Meikle 789! Lokoja (May) Elliott 233! Atakati (June) Elliott 236! **S. Nig.:** Abeokuta Irvin 188! Olokemeji F.R. (Feb.) Ejiofor FHI 26898! Omo F.R. (Mar.) Jones & Onochie FHI 16070! Isa W. D. MacGregor ISO! Oban Talbot 1482! **[Br.] Cam.:** S. Bakundu F. R., Kumba (Mar.) Binuyo & Daramolo FHI 35617! Mandesi, Kumba (Apr.) Olorunfemi FHI 30529! Mamfe to Bamenda Baldwin 13730!

Also in **Cameroun**, **Gabon**, **Cabinda**, **Congo** & **Uganda**.

8. **Strophanthus bullenianus** Mast. in Gard. Chron. 1870: 1471, excl. fruit; F.T.A. 4, 1: 175. *APD acc*

Strophanthus schlechteri K. Schum. & Gilg in Engl. Bot. Jahrb. 32: 158 (1902).

Climber with pilose branches and fairly small yellow and brown or pink flowers.

S. Nig.: Calabar (fl. & fr. Feb.) Mann 2247! Thomson 22! Oban Talbot 211! Oban to Calabar (May) Ujor FHI 31798! **[Br.] Cam.:** Victoria (June) Maitland 56! Kumba (fr. Nov.) Krukoff 064 (photo!) **F. Po:** Mann 1444!

Also in **Gabon**.

28. MASCARENHASIA

A. DC. (1844)-F.T.A. 4, 1: 193 (1902). *APD acc*

Lanugia N. E. Br. (1927).

- 1 Leaves elliptic, obovate or lanceolate, 6-15 cm. long and 3-6 cm. broad, with up to 12 pairs of lateral nerves; corolla-tube 8-12 mm. long, constricted at about the middle, wider above; lobes ovate-acuminate, 6-8 mm. long, in bud lengthwise folded together; disk with 5 distinct segments *arborescens*

Mascarenhasia arborescens A. DC. in DC. Prod. 8: 488 (1844): Pichon in Mém. Inst. Sci. Madag., sér. B, 2: 81 (1949).

Mascarenhasia variegata Britten & Rendle (1894)-F.T.A. 4, 1: 193; Brenan in N.Y. Bot. Jard. 8: 503 (1954).

Mascarenhasia elastica K. Schum. in Notizbl. Bot. Gart. Berl. 2: 270, with fig. (1899); F.T.A. 4, 1: 194.

Lanugia variegata (Britten & Rendle) N. E. Br. (1927).

A large shrub or small tree with creamy-white flowers in axillary and terminal, several to many-flowered fascicles.

Togo Rep.: Lomé Warnecke 481 bis. (vide Pichon l.e.).

Also in **Congo**, **Kenya**, **Tanganyika**, **Pemba**, **Zanzibar**, **Mozambique** and **Madagascar**.

Possibly cultivated or subspontaneous. Savory & Keay FHI 25205 from E. Nigeria belongs to a genus unrepresented in this Flora, but the key to the genera may lead to the above genus. It differs from *Mascarenhasia* by having oblong corolla-lobes, flat in bud, the absence of the disk and the inflorescence being 1-few-flowered. Fruits and further flowering material are required.-Huber.

29. ALAFIA

Thouars. (1806)-F.T.A. 4, 1: 195; Pichon in Mém. Inst. Sci. Madag., sér. B, 2: 45 (1949). *APD acc*

Holalafia *Stapf* in Kew Bull. 1894: 123; F.T.A. 4, 1: 201.

- 1 Carpels and mericarps connate; corolla-tube 12-15 mm. long, lobes broadly ovate, 10-12 mm. long; leaves glabrous, broadly elliptic to elliptic-oblong, 7-18 cm. long, 4-10 cm. broad, with 6-10 pairs of lateral nerves, rounded or truncate at base [1. multiflora](#)
Carpels and mericarps free; corolla-tube up to 12 mm. long: **2**
- 2 Leaves glabrous above, densely tomentellous beneath, broadly elliptic to elliptic-oblong, large, 18-26 cm. long and 9-14 cm. broad, with about 10-12 pairs of lateral nerves; corolla-tube 6-7 mm. long, pilose within immediately above the insertion of the anthers; corolla-lobes broadly ovate, 5-7 mm. long [2. grandis](#)
Leaves glabrous on both sides, usually small or medium-sized; corolla-tube glabrous within immediately above the insertion of the anthers: **3**
- 3 Corolla-lobes forming in bud a broadly ovoid-conical head not more than 1 1/2 times longer than broad; the lobes rarely exceeding 5 mm. in length and always distinctly shorter than the tube: **4**
Corolla-lobes forming in bud a conical or mostly oblong head 2-5 times as long as broad (if rather short the corolla-lobes as long or longer than the tube); lobes usually more than 5 mm. long when fully developed: **6**
- 4 Leaves obovate-elliptic, 12-20 cm. long and 6-8 cm. broad, with 4-6 pairs of lateral nerves, cuneate at base; corolla-tube 9-11 mm. long [3. whytei](#)
Leaves usually 4-13 cm. long and 2-6.5 cm. broad, lateral nerves usually 6-11 pairs; corolla-tube 3.5-7.5 mm. long: **5**
- 5 Corolla-tube 3.5-5.5 mm. long; leaves elliptic, elliptic-oblong or obovate, often rounded at base; corolla-tubes almost orbicular, ciliate [4. barteri](#)
Corolla-tube 6-7.5 mm. long; leaves oblong or obovate, acuminate, shortly cuneate at base; corolla-lobes 4.5-7 mm. long [4a. klaineana](#)
- 6 Inflorescences many-flowered and mostly dense; corolla-lobes ovate or elliptic, about 3 mm. broad, or broader: **7**
Inflorescences few-flowered (1-10, rarely up to 15 flowers); corolla-lobes oblong, less than 3 mm. broad: **9**
- 7 Corolla-tube 3.5-5.5 mm. long, the lobes usually longer than the tube: **8**
Corolla-tube 6-10 mm. long, the lobes shorter than the tube, forming an oblong structure in bud; flowers white or white with a greenish tube; leaves as above but with 4-8 pairs of lateral nerves only [7. schumannii](#)
- 8 Corolla-lobes forming in bud a conical head; flowers pale yellow with red centre; leaves elliptic to obovate, 4-12 cm. long, 2.5-6 cm. broad, with 4-6(-7) pairs of lateral nerves [5. lucida](#)
Corolla-lobes forming in bud an oblong or ovate-oblong structure; flowers white, with throat and tube purple; leaves elliptic or elliptic-oblong, 7-13 cm. long, 2.5-5.5 cm. broad, with 8-12 pairs of lateral nerves [6. scandens](#)
- 9 Leaves elliptic to obovate or obovate-lanceolate, 3.5-9 cm. long, 1-4 cm. broad; lateral nerves 6-10 pairs, very oblique, set at an angle of 30°-40°; pedicels 4-10 mm. long; corolla-tube 3-4 mm. long [8. benthamii](#)
Leaves elliptic-oblong, 5-10 cm. long, 1.7-4.5 cm. broad; lateral nerves 5-7 pairs, spreading, set at an angle of 60°-70°; pedicels 0.5-3 mm. long; corolla-tube 8-10 mm. long [9. parciflora](#)

1. **Alafia multiflora** (*Stapf*) *Stapf* in Kew Bull. 1908: 303; Pichon in Mém. Inst. Sci. Madag., sér. B, 2: 60, t. 3, fig. 12, 29; t. 4, fig. 7. *APD acc*

Holalafia multiflora *Stapf* (1894)-F.T.A. 4, 1: 201.

A stout woody glabrous climber with many-flowered, terminal, corymbose inflorescences; corolla white, follicles in fruit up to 2 1/2 ft. long.

Ghana: Kunumoasi, Kumasi Dist. Andoh FH 5583! Mampong to Koforidua (Oct.) Katz & Schmutz 48! **S. Nig.:** Osayolu (Nov.) Farquhar 9! Ibadan F.R. (Nov.) Punch 49! 51! [**Br.**] **Cam.:** Rio del Rey Johnston 44! Victoria (Nov.) Maitland 754! 791! Kumba Sale! **F. Po:** Mann 1184!

Also in **Gabon**, **Ubangi-Shari**, **Congo**, **Egypt** and **Sudan**.

2. **Alafia grandis** *Stapf* in F.T.A. 4, 1: 196 (1902); Pichon l.c. 60, t. 3, fig. 11, 28; t. 4, fig. 6.

APD: *Synonym of Alafia erythrophthalma* (*K. Schum.*) *Leeuwenb.*

Stout scrambling shrub over 20 ft. high with dense, many-flowered corymbose inflorescences; fruiting follicles over 18 in. long.

S. Nig.: Ilaro F.R., Egbado Dist. Onochie FHI 31890!

Also in **Cameroun**, **Congo** and **Uganda**.

3. **Alafia whytei** *Stapf* in F.T.A. 4,1: 610 (1904); Pichon l.c. 60. *APD acc*

Climbing glabrous shrub with rather large leaves and subsessile corymbose inflorescences.

Lib.: Sinoe Basin Whyte!

4. **Alafia barteri** *Oliv.* in Hook Ic. Pl. 20: t. 1992 (1890); F.T.A. 4, 1: 197; Pichon l.c. 55, t. 3, fig. 7; t. 4, fig. 5. *APD acc*

Alafia giraudii *Dubard* (1912).

High-climbing glabrous shrub with small, pure white or pink flowers in mostly fairly lax corymbose inflorescences; fruiting follicles over 1 ft. long, slender, paired.

S. L.: Mayoso (Aug.) Thomas 1423! Mayombo, near Roruks (July) Deighton 4675! **Lib.:** Jaurazon, Sinoe (Mar.) Baldwin 11460! Sanokwele (ft. Feb.) Baldwin 14184! Gletown, Tchien Dist. (July) Baldwin 6743! **iv. C.:** Bouroukrou Chev. 16742. Dinébo to Yabouakrou Chev. 22568. **Ghana:** Adiembra to Domiabra, Ashanti (June) Kitson 1227! Mampong (Apr.) Vigne FH 1919! Bunso (fr. Sept.) Darko 981! Kumasi (fr. Oct.) Baldwin 13455! Agogo (Apr.) Adams 2600! **Dah.:** Porto-Novo Chev. 22841. **S. Nig.:** Oshogbo (Apr.) Millson! Ibadan S.F.R. (fl. & fr. Feb.) Keay FHI 22543! Osun F.R., Ijebu Igbo (Apr.) Ejiofor FHI 26116! Onitsha Barter 1321! Ekoson, Ikom (Apr.) Jones FHI 6480! **[Br.] Cam.:** S. Bakundu F.R., Kumba (fl. & fr. Mar.) Brenan 9428! Binuyo & Daramola FHI 35091!

4a. **Alafia klaineana** *Pierre ex Pichon*

APD: *Synonym of Alafia verschuerenii De Wild.*

5. **Alafia lucida** *Stapf* in Kew Bull. 1894: 122; F.T.A. 4, 1: 198; Pichon l.c. 54, t. 3, fig. 6, 24, 25, t. 4, fig. 4, 9. *APD acc*

Alafia cuneata *Stapf* in Kew Bull. 1894: 122.

Alafia reticulata *K. Schum.* (1895).

A climbing glabrous shrub 15-20 ft. high with fairly small, cream to yellow flowers in corymbose inflorescences.

Lib.: Genna Tanyehun (Dec.) Baldwin 10764! **Ghana:** Mumeromemo Armitage 1! 2! Assuantsi Baldwin 14023! **Togo Rep.:** (July) Debeaux 389! **S. Nig.:** Nun R. Mann 491! Calabar (fl. & fr. Feb.) Mann 2245! Degema Talbot 3643!

Also in **Cameroun**, **the Congos**, **Gabon**, **Angola** and **Uganda**. *K. Schum.* (1895)-F.T.A. 4, 1: 197.

Climbing shrub of 50-65 ft. with many-flowered corymbose inflorescences; follicles in fruit 14-20 in. long; **in moist forest**.

Sen.: Casamance (Jan.) Chev. 2671! **Gam.:** Whitfield. **Port. G.:** Cantankez (Feb.) d'Orey 284! Bedanda, Fulacunda (Jan.) d'Orey 246! Safim, Bissau (fr. Mar.) Esp. Santo 1909! Gadamael, Cacine (July) Esp. Santo 2114! Catio to Saucunda, Catio (Dec.) Esp. Santo 2235! **Guin.:** Rio Nunez Heudelot 626! Bénary Is. Heudelot 776. Bayas country Heudelot 777. Lamiah Paroisse 29. Koukoré (Sept.) Pobéguin 1198! **S. L.:** Mano (May) Deighton 4624! Bunce Isl. (fr. Mar.) Kirk 5! Port Loko (fl. & fr. Jan.) Deighton 1047! Kambia, Magbema (Feb.) Jordan 391! Ninia, Talla Hills (Feb.) Sc. Elliot 4809! **Ghana:** Sekondi (Dec.) Johnson 895! Achimota (Apr.) Irvine 1422! Krepi, Volta R. (Jan.) Johnson 561! Puliano to Asare (Apr.) Thompson 59! Abokobi to Biabase (fl. & fr. Dec.) Adams 3637! **Togo Rep.:** Lomé Warnecke 110! 333! **Dah.:** (Jan.) Poisson 01-3-1! L. Abémé, Séborhoué Poisson 03-2-74. Adja Ouééré Le Testu 93; 264. Abomey Chev. 23127. **N. Nig.:** Patti Lokoja (fl. & fr. Mar.) Elliott 33! **S. Nig.:** Lagos Barter 2218! Abeokuta Irving 145! Asaba (fl. & fr. Apr.) Unwin 7! Owo (fr. Nov.) Meikle 503! Idanre, Ondo Prov. (fl. & fr. Jan.) Brenan 8648!

Also in **the Congos**.

7. **Alafia schumannii** *Stapf* F.T.A. 4, 1: 197 (1902); Pichon l.c. 52, t. 3, fig. 3, 17, 18, 36, 37. *APD acc*

A climbing glabrous white-flowered shrub with abruptly acuminate leaves and dense corymbose inflorescences.

S. L.: Toma Thomas 8774! **iv. C.:** Bouroukrou Chev. 17001. **S. Nig.:** Ukunzu (Jan.) Thomas 2213! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba (Feb.) Binuyo & Daramola FHI 35519!

Also in **Cameroun**, **Gabon**, **Congo**, **Cabinda**, **Uganda** and **Tanganyika**.

8. **Alafia benthamii** (*Baill. ex Stapf*) *Stapf* in F.T.A. 4, 1: 199 (1902); Pichon l.c. 53, fig. 19, 38. *APD acc*

Ectinocladus benthamii *Baill. ex Stapf* in J. Linn. Soc. 30: 88 (1894), and in Hook. Ic. Pl. 24: t. 2341 (1894).

A woody, glabrous climber with stiff leaves, greenish-yellow flowers with a red centre and narrow-cylindrical follicles 5-9 in. long.

Guin.: Farmar 324! Chev. 20316. Badi R. Pobéguin 897. **S. L.:** Mofari, Scarcies R. (Jan.) Sc. Elliot 4440! Batkanu (Feb.) Deighton 4186! Njala (Feb.) Deighton 517! Baiima (May) Deighton. 5774! Pujahun Thomas 8333! **Lib.:** Greenville, Sinoe Sim. **S. Nig.:** Ikeja, Lagos (Dec.) Onochie FHI 26672! Osse R., Benin Prov. (Mar.) Onochie FHI 38322! Calabar Thomson 117!

Also in **Gabon** and **the Congos**.

9. **Alafia parciflora** *Stapf* in F.T.A. 4, 1: 610 (1904); Pichon l.c. 60. *APD acc*

Glabrous climbing shrub with yellow flowers with a red centre, in about 2-3-flowered inflorescences.

Lib.: Greenville, Sinoe Sim 25!

Vilbouchevitchia atro-purpurea *A. Chev.* in Boissiera 7: 254, t. 20 (1943).

A monotypic genus recorded from Aboisso, Ivory Coast, but no type specimen cited. Pichon was unable to find the specimen and considered (in Mém. Inst. Sci. Madag., sér. B, 2: 46 (1949) that Vilbouchevitchia should be treated as part of Alafia.

30. FARQUHARIA

Stapf in Kew Bull. 1912: 279.

Aladenia *Pichon* in Mém. Inst. Sci. Madag., sér. B, 2: 61 (1949).

- 1 Leaves and branches glabrous; leaves elliptic, elliptic-oblong or ovate-acuminate, 6-12 cm. long, 2.5-6 cm. broad, with 5-9 pairs of lateral nerves; corolla-tube 10-18 mm. long, lobes ovate, 8-13 mm. long; follicles about 30 cm. long when ripe, paired, covered with a rusty felt *elliptica*

Farquharia elliptica *Stapf* in Kew Bull. 1912: 279; F.W.T.A., ed. 1, 2: 607; Brenan in Kew Bull. 7: 453. *APD acc*

Alafia jasminiflora *A. Chev.* Bot. 423, name only.

A. mirabilis *A. Chev.* Bot. 423, name only.

Holalafia jasminiflora *Hutch. & Dalz.* F.W.T.A. 2: 43 (1931), and in Kew Bull. 1937: 388.

Aladenia jasminiflora (*Hutch. & Dalz.*) *Pichon* in Mém. Inst. Sci. Madag., sér. B, 2: 61 (1949).

A stout woody climber with dense terminal corymbose inflorescences of white fleshy flowers.

iv. C.: Mbasso (Mar.) Chev. 17606! Morénou, near Akabilékrou (Dec.) Chev. 22507! Bingerville Chev. 16583. Bouroukrou (Dec., Jan) Chev. 16644. Assikasso Chev. 22582. **Ghana:** Kumasi (May) Vigne FH 2011! **S. Nig.:** Onitsha Chesters OBS156! Awka to Onitsha (fr. Nov.) Baldwin 13748! Central Prov. (June) Rosevear BR10! Okuni, Ikom Dist. (fl. & fr. July) Latilo FHI 31860! Mogumu, Benin (Mar.) Farquhar 8!

Also in **Cameroun**, **Gabon** and **Congo**.

31. FUNTUMIA

Stapf -F.T.A. 4, 1: 189. *APD acc*

- 1 Leaves without pits in the axils of the lateral nerves, elliptic or elliptic-oblong, acuminate, 12-28 cm. long, 3.5-12 cm. broad, with 6-12 pairs of lateral nerves; flowerbuds more or less cylindrical; corolla-lobes longer or only slightly shorter than the tube; tube 6-9 mm. long, lobes 8-13 mm. long [1. africana](#)
- Leaves with pits in the axils of the lateral nerves beneath, otherwise as above; flowerbuds conical, acute; corolla-tube 6-8 mm. long, lobes 3-4 mm. long; the lobes about 1/2 as long as the tube [2. elastica](#)

1. **Funtumia africana** (*Benth.*) *Stapf* in Hook. Ic. Pl. 27: tt. 2696-7 (1901); F.T.A. 4, 1: 190; Aubrév. Fl. For. C. Iv. ed. 2, 3: 200. *APD acc*

Kickxia africana *Benth.* in Hook. Ic. Pl. 13: 59, t. 1276 (1879).

K. latifolia *Stapf* in Kew Bull. 1898: 307.

Funtumia latifolia. (*Stapf*) *Schlechter* (1900)-F.T.A. 4, 1: 192; Aubrév. Fl. For. C. Iv., ed. 2, 3: 200, t. 323, 1.

Kickxia zenkeri *K. Schum.* in Notizbl. Bot. Gart. Berlin 3: 81 (1900).

A glabrous tree, frequently about 30 ft. high but sometimes up to 100 ft., with the flowers in axillary clusters; corolla fleshy, yellowish- to greenish-white or orange.

Port. G.: Empada, Cubisseco (fl. & fr. Aug.) Esp. Santo 2166! **Guin.:** Boubouni, Macenta (May) Collette 17! **S. L.:** Bagroo R. (fl. & fr. Apr.) Mann 817! Kambui F.R. (May) Lane-Poole 239! Njala (fr. Sept.) Small 391! Kukuna (fr. Jan.) Sc. Elliot 4506! Kabala (fr. July) Glanville 249! **Lib.:** Dukwia R. (May) Cooper 373! 468! Peahat (fr. Oct.) Linder 888a! Gbanga (fr. Sept.) Linda 743! Ganta (fr. Feb.) Baldwin 11034! Diebla, Webo Dist. (July) Baldwin 6279! **Iv. C.:** Banco Ser. For. 369! Zaranou, Indénié Chev. 17617! Dabou (fr. May) Jolly 169! 174! **Ghana:** E. Akim (Apr.) Johnson 692! Owabi, Ashanti (Apr.) Andoh FH 4180! Prah R. (fl. & fr. Dec.) Johnson 925! Koforidua (fr. Dec.) Johnson 434! Assuantsi (Mar.) Irvine 1551! **Togo Rep.:** Agome Mts. Schlechter. **Dah.:** Le Testu 103! Porto Novo (cult.) Poisson! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan 8532! Sapoba Kennedy 345! Ekure, Cross R. (fr. Jan.) Holland 160! Obazogbon (Apr.) Farquhar 24! Ogoja Rosevear 79/29! Oban Talbot 1466! **[Br.] Cam.:** Victoria (Dec.) Preuss 1382! Mungo R. Schlechter. **F. Po:** Mann!

Also in **Cameroun**, **S. Tomé**, **Gabon**, **Congo**, **Uganda**, **Kenya**, **Tanganyika**, **Mozambique** and **Angola**.

2. **Funtumia elastica** (*Preuss*) *Stapf* l.c. tt. 2694-5 (1901); F.T.A. 4, 1: 191; Aubrév. Fl. For. C. Iv., ed. 2, 3: 200, t. 323, 2. *APD acc*

Kickxia elastica *Preuss* (1899).

Up to 60ft. high and very similar to the above; flowers mostly white.

Guin.: Nzérékoré (fr. Sept.) Baldwin 13308! **S. L.:** (cult.) Smythe 24! Nyago Smythe 78! Njala (Apr.) Deighton 1159! Konero, Panguma Dist. Imp. Inst. 1! **Lib.:** Sinoe R. Sim! **Iv. C.:** Aubrév. 646! Zaranou, Indénié (Mar.) Chev. 16282! **Ghana:** Vigne FH 1513! Mampong Hills Johnson 255! Assin-Yan-Kumasi Cummins 217! Agogo Adams 2615! **S. Nig.:** Lagos Millen 178! Ijebu-Ode to Ibadan (May) Chukwuogo FHI 4652! Ife to Ibadan (Dec.) Meikle 867! Keay FHI 28291! Calabar (Mar.) Holland 162! Abarogba, Cross R. (fr. Jan.) Holland 158! 159! 161! **[Br.] Cam.:** Victoria (Jan.) Maitland 319! Malende to Nyoke, Victoria (Dec.) Preuss 1381!

Also in **the Congos**, **Rio Muni**, **Egypt**, **Sudan** & **Uganda**.

32. PLEIOCERAS

Baill. -F.T.A. 4, 1: 165.

- 1 Inflorescences puberulous, usually pyramidal panicles; pedicels 1-5 mm. long; corolla-tube 3-5 mm. long, lobes 2-4 mm. long; leaves elliptic-oblong, elliptic-lanceolate or ovate, 6-16 cm. long, 2.5-5 cm. broad, with 5-10 pairs of lateral nerves; folicles up to 50 cm. long:..... [2](#)
- Inflorescences glabrous, corymbose; pedicels 1-2 cm. long; corolla-tube 5-7 mm. long, lobes about as long as the tube; leaves quite glabrous, ovate- or elliptic-acuminate, 5-10 cm. long, 3.5 cm. broad, with 5-10 pairs of lateral nerves [2. afzelii](#)
- 2 Leaves minutely puberulous on and between the secondary nerves on the under-surface ... [1. barteri var. barteri](#)
- Leaves glabrous beneath or puberulous only on the midrib and sparsely so on the secondary nerves, glabrous between them [1a. barteri var. zenkeri](#)

Pleioceras barteri *Baill.* *APD acc*

1. **Pleioceras barteri var. barteri** -in Bull. Soc. Linn. Paris 1: 759 (1888); F.T.A. 4, 1: 166 (1902); Aubrév. Fl. For. C. Iv., ed. 2, 3: 198, t. 322. *APD acc*

Wrightia parviflora *Stapf* in Kew Bull. 1894: 121.

Usually an erect or climbing shrub; inflorescence a many-flowered, terminal panicle with small creamy-yellow flowers with a red tube.

Lib.: Mnalulu, Webo Dist. (fr. June) Baldwin 7027! **Iv. C.:** Bingerville, Abidjan to Dabou Chev. 15190! Adiopodoumé (Oct.) Roberty 15309! **Ghana:** Atwabo (fr. Feb.) Irvine 2347! Abakrampa (Mar.) Irvine 1604! Assuantsi (Mar.) Irvine 1543! Sekondi (Nov.) Vigne FH 1402! Tikwabo (fl. & fr. July) Chipp 267! **S. Nig.:** Iagos Barter 2170! Epe Barter 3278! Ikorodu, Ikeja Dist. (fl. & fr. Dec.) Onochie FHI 26700! Orosun Mt., Idanre (Jan.) Brenan 8696! Ibadan (fl. & fr. Mar.) Newberry 45! Meikle 899! Adiabo, Calabar (Mar.) Holland 86!

1a. *Pleioceras barteri* var. *zenkeri* (Stapf) H. Huber in Kew Bull. 15: 438 (1962). *APD acc*

Pleioceras zenkeri Stapf in F.T.A., 4, 1: 166 (1902).

Pleioceras glaberrima Wernham in J. Bot. 52: 26 (1914).

Pleioceras oblonga Wernham l.c. 27 (1914).

Pleioceras stapfiana Wernham l.c. 27 (1914).

Pleioceras talbotii Wernham l.c. 26 (1914).

A small tree.

[**Br.**] **Cam.:** S. Bakundu F.R., Kumba (Aug.) Olorunfemi FHI 30735!

Also in **Cameroun**.

2. *Pleioceras afzelii* (K. Schum.) Stapf in F.T.A. 4, 1: 166 (1902). *APD acc*

Wrightia afzelii K. Schum. (1896).

Pleioceras whytei Stapf in F.T.A. 4, 1: 604 (1904).

Erect, glabrous shrub or small tree 9-30 ft. high; inflorescence many-flowered, corymbose, with flowers red outside, yellow within, and a fringe of filiform appendages in the throat.

S. L.: Afzelius. Regent (Mar.) Lane-Poole 217! Newton (Feb., Apr.) Deighton 4745! 5000! Taiama (Apr.) Deighton 3127!

Lib.: Sinoe R. Whyte!

33. MALOUETIA

A. DC. -F.T.A. 4, 1: 194. *APD acc*

- 1** Leaves and branches glabrous; leaves elliptic-acuminate to oblong, 7-14 cm. long, 3-7 cm. broad, with 6-10 pairs of lateral nerves; flowers very few in subsessile axillary cymes; corolla-tube narrowly cylindrical, 12-15 mm. long, lobes obovate, 7-10 mm. long; anthers exserted [heudelotii](#)

Malouetia heudelotii A. DC. in DC. Prod. 8: 380 (1844); F.T.A. 4, 1: 195. *APD acc*

Erect, glabrous shrub 3-5 ft. high with the axillary tubular flowers white to pale mauve, and paired, narrowly cylindric follicles; seeds linear-lanceolate, not tufted; **in swamps or along streams**.

Guin.: Heudelot 714! 8901 Kindia (June) Jac.-Fél. 1670! Bayabaya Sc. Elliot 4782! Sasseni (fl. & fr. Jan.) Sc. Elliot 4524!

S. L.: Roruks (July) Deighton 2512! Roken (July) Jordan 58! Tendekom, Yoni Mabanta (May) Jordan 898! Magbile (Dec.) Thomas 6295! Jama to Magibisi (Sept.) Deighton 3063! Njala (June) Deighton 1762!

Also indicated from Congo, but identification doubtful.

34. ADENIUM

Roem. & Schult. -F.T.A. 4, 1: 226. *APD acc*

- 1** Branches succulent, leaves spirally arranged, glabrous (in our area), obovate-oblong to oblanceolate (in our area), cuneate at base, sessile, up to 10 cm. long (but oftensmaller) and 2-3 cm. broad with 6-12 pairs of lateral nerves; pedicels and calyx puberulous; corolla-tube 3.5-4 cm. long, constricted in the lower 1/4-1/3, campanulate above, puberulous outside; lobes ovate or orbiculate, 15-25 mm. long; anthers provided with long appendages, which are shortly exserted from the tube; follicles spindle-shaped, minutely puberulous; seed with an apical tuft [obesum](#)

Adenium obesum (*Forsk.*) *Roem. & Schult.* Syst. 4: 411 (1819); Aubrév. Fl. For. Soud-Guin. 445, t. 97, 7-10; M. Pichon in Mém. Mus. Hist. Nat. Paris, n. sér. B, 1: 78 (1950). *APD acc*

Nerium obesum *Forsk.* Fl. Aegypt. Arab. 205 (1775).

Adenium honghel *A. DC* (1844)-F.T.A. 4, 1: 229 (1902); F.W.T.A., ed. 1, 2: 29.

An erect shrub 4-6 ft, high, with a stout almost conical trunk and smooth, fleshy branches; flowers rather large, pink to purple, campanulate, 1 1/2-2 1/2 in. long in short, subsessile, terminal cymes, appearing before or with the leaves; **in drier parts of our area and often grown for ornament.**

Sen.: Dagana Leprieur! Roqer! Oualo Roger 133! Baké Vuillet 264. **Mali:** Birgo, Kaarta Dubois 133. **Port. G.:** Madina de Boé, Gabu (Feb.) d'Orey 310! Boé, Jangada to Madina (Jan.) Esp. Santo 2364! **Guin.:** Kouroussa Pobéguin 603; 809. **Iv. C.:** Banfora (Mar.) Chev. 530! **N. Nig.:** Onisaja, Ilorin (fl. & fr. Feb.) Ejiofor FHI 19828! Borgu Barter 711! Zaria (cult. May) Lamb 46! Jos Plateau (Mar.) Lely P188! Kano (Dec.) Hagerup 669! Katagum Dist. Dalz. 430! Yola (cult.) Datz. 97! **[Br.] Cam.:** R. Senchu, Alantika Mts., Adamawa (Dec.) Hepper 1609! Gwoza, Dikwa Div, (Jan.) McClintock 141!

Also in **Egypt, Sudan, Somaliland, Arabia, Ethiopia, Kenya, Uganda**, and (?) **Tanganyika**.

Adenium is doubtfully native in our area; the W. African plant usually known as *A. honghel* is possibly merely an introduced form of the widespread and variable E. African and Arabian species which can all be called *A. obesum*.

35. BAISSSEA

A. DC. (1844)-F.T.A. 4, 1: 203. *APD acc*

Zygodia Benth. (1876)-F.T.A. 4, 1: 217.

Codonura K. Schum. (1896).

- 1 Petioles 5-15 mm. long (when only about 5 mm. long, then with 7 or more pairs of lateral nerves); leaves cuneate at base, glabrous beneath or with a tuft of hairs in the nerve-axils; branches glabrous or minutely puberulous; lateral nerves 4-15 pairs: **2**
- Petioles 1-5 mm. long; leaves rounded, subcordate or shortly cuneate at base, frequently pilose on the midrib beneath; branches frequently puberulous to tomentellous; lateral nerves in 2-8 pairs:..... **7**
- 2 Corolla-lobes 7-16 mm. long, mostly linear: **3**
- Corolla-lobes 3-6 mm. long, mostly ovate or deltoid-oblong; pedicels not exceeding 5 mm. in length:..... **6**
- 3 Calyx 2.5-4 mm. long, glabrous as well as the pedicels; corolla-lobes 12-16 mm. long, tube about 6 mm. long; leaves obovate-oblong to ovate-acuminate, 8-20 cm. long, 4-7.5 cm. broad, with 9-15 pairs of lateral nerves [4. calophylla](#)
- Calyx 1-1.5 cm. long, minutely puberulous as well as the pedicels; leaves 4-12 cm. long, 2-5.5 cm. broad:..... **4**
- 4 Leaves elliptic- or ovate-acuminate, with 5-8 pairs of lateral nerves; pedicels 1-4 mm. long; corolla dark violet; corolla-lobes 7-14 mm. long, narrowed in their apical half into an almost threadlike beak; tube much shorter than the lobes [2. tenuiloba](#)
- Leaves with 7-15 pairs of lateral nerves; corolla white, corolla-lobes linear-oblong or linear-lanceolate, not threadlike:..... **5**
- 5 Pedicels 5-10 mm. long; corolla-lobes 8-16 mm. long, much longer than the tube; leaves ovate- or elliptic-acuminate [3. odorata](#)
- Pedicels 1-5 mm. long; corolla-lobes (exceptionally) up to 8 mm. long [4. leonensis](#)
- 6 Leaves elliptic, elliptic-acuminate or sometimes obovate, 4-10 cm. long, 2-5.5 cm. broad, with 8-10 pairs of lateral nerves; pedicels thin, about 0.2-0.3 mm. diam. [4. leonensis](#)
- Leaves elliptic-obovate, with 4-6 pairs of lateral nerves; pedicels mostly stout, 0.3-0.7 mm. diam. [5. lane-poolei](#)
- 7 Corolla-lobes 6-20 mm. long, deltoid-linear to broadly linear: **8**
- Corolla-lobes sharply triangular, 2-4 mm. long; leaves subcordate or truncate at base, up to 7 cm. long: **11**
- 8 Sepals about 1 mm. long; pedicels 5-20 mm. long, slender, 0.2-0.3 mm. in diam.; corolla-lobes 6-10 mm. long; leaves elliptic, elliptic-lanceolate or oblanceolate, 4-8 cm. long, 1.8-3 cm. broad, with 2-5 pairs of main lateral nerves, cuneate or rarely rounded at base, glabrous beneath except for tuft of hairs in nerve-axils ... [6. laxiflora](#)
- Sepals 2-6 mm. long; pedicels 5-10 mm. long, 0.5-0.7 mm. diam.; leaves with 4-8 pairs of lateral nerves: **9**
- 9 Leaves rounded or truncate, rarely slightly cuneate at base; corolla-lobes 6-20 mm. long: **10**
- Leaves slightly cordate at base, rounded or deltoid at apex, oblong or obovate-oblong, 3-9 cm. long, 1.5-3.5 cm. broad; corolla-lobes 6-9 mm. long [9. subsessilis](#)
- 10 Leaves acuminate at apex; elliptic, ovate or broadly lanceolate, 5-13 cm. long, 2-5.5 cm. broad, midrib

puberulous beneath when young, later frequently glabrous except in the nerve-axils; corolla-lobes 12-20 mm. long [7. multiflora](#)

Leaves not acuminate, rounded or shortly deltoid at apex; usually oblong, sometimes ovate- or obovate-oblong, 2.5-6 cm. long, 1.2-4 cm. broad, midrib mostly pubescent beneath; corolla-lobes 6-10 mm. long [8. zygodoides](#)

- 11** Leaves gradually acuminate at apex, oblong, ovate or obovate, 2.5-7 cm. long, 1.2-3 cm. broad; inflorescence 1-5 cm. long; peduncle 8-20 mm. long [10. breviloba](#)

Leaves rounded or mostly deltoid at apex, not acuminate-oblong, 2.5-5 cm. long, 1.2-2.7 cm. broad; inflorescence very short, 0.5-1.5 cm. long; peduncle about 2-5 mm. long [11. axillaris](#)

- 1. *Baissea calophylla* (K. Schum.) Stapf** in F.T.A. 4, 1: 205 (1902); Brenan in Kew Bull. 7: 454.

APD: Synonym of Baissea welwitschii (Baill.) Stapf ex Hiern

Codonura calophylla K. Schum. in Engl. Bot. Jahrb. 23: 229 (1896).

Robust liane up to 32 ft. high with leaves very glossy above; flowers white to yellow, with red inside the tube.

S. Nig.: Sapoba (Feb.) Kennedy 1959! Meikle 542! Ekeji-Ipetu F.R., Ijesha Dist. (Dec.) Onochie FHI 5232! Usonigbe F.R., Benin (Nov.) Ejiofor FHI 24632! meikle 559! Chizea FHI 24475! Okomu F.R., Benin (Feb.) Brenan 9162!

Also in [Cameroun](#).

- 2. *Baissea tenuiloba* Stapf** in Kew Bull. 1894: 124; F.T.A. 4, 1: 214 (1902).

APD: Synonym of Baissea leonensis Benth.

Guerkea uropetala K. Schum. l.c. 228 (1896).

A climbing shrub with long-tailed violet flowers in terminal and axillary cymes.

S. Nig.: Bonny R. (Feb., Oct.) Mann 504! Kalbreyer 73!

Also in [Cameroun](#) and (?) [Uganda](#).

- 3. *Baissea odorata* K. Schum. ex Stapf** in F.T.A. 4, 1: 212 (1902). *APD acc*

A glabrous woody climber with white, purple-streaked flowers; inflorescences as above.

Lib.: Greenville, Sinoe Sim 32! **S. Nig.:** Lagos (Mar., Dec.) Dalz. 1258! Hangerup 806!

Also in [Cameroun](#).

- 4. *Baissea leonensis* Benth.** in Fl. Nigrit. 452 (1849); F.T.A. 4, 1: 213 (1902); Chev. Bot. 424. *APD acc*

Baissea brachyantha Stapf in Kew Bull. 1894: 125; F.T.A. 4, 1: 213.

A climbing shrub with small white flowers in axillary and terminal cymes; follicles in fruit up to 2 ft. long

Port. G.: Catio (July) Esp. Santo 2134! **Guin.:** Diaguissa Chev. 12421; 12693; 12930; 13613. Dalaba Caille in hb). Chev. 18117. Forécariah (June) Jac.-Fél. 1732! **S. L.:** (June) T. royd 119 1 Freetown (fr.Mar.) Lane-Poole 208! Bagroo R. (Apr.) Mann 854! Kenema (Apr.) Jordan 2051! Mano Thomas 9976! Bafodeya (Apr.) Sc. Elliot 5500! **Lib.:** Roberts Field (May) Baldwin 5800! Ba, Little Kola R. (Mar.) Baldwin 11188! Grand Bassa Dinklage! Suacoco, Gbanga (Apr., June) Konneh 163! Ganta (Apr.) Harley 1163 **Ghana:** Farmar 419! Aburi Hills (Nov.) Johnson 283! Axim (Feb.) Irvine 2165! Assuantsi (fr. Jan.) Baldwin 14021! Akwapim (Mar.) Murphy 677! **S. Nig.:** Oban Tn»o(I Eket (May) Talbot 3324! 3326! Onochie FHI 32935!

Also in [Cabinda](#).

- 5. *Baissea lane-poolei* Stapf** in Kew Bull. 1915: 46. *APD acc*

Baissea concinna Stapf ex Hutch. & Dalz. in Kew Bull. 1937: 338.

Very similar to the last.

S. L.: York Pass (July) Lane-Poole 322! Sugar Loaf Mt. (Apr.) Roberty 17297! Sambaia (June) Thomas T68! **Lib.:** Grand Bassa Dinklage 1630!

6. **Baissea laxiflora** Stapf in Kew Bull. 1894: 124 and in Hook. Ic. Pl. 24: t. 2342 (1894); F.T.A. 4, 1: 208.

APD: Synonym of Baissea multiflora A. DC.

Stout woody climber with pale cream flowers.

S. Nig.: Ubulubu (Jan.) Thomas 2266! Calabar (Feb.) Mann 2258! Eket Talbot 3164! Oban Talbot 2053! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba (Mar.) Latilo & Ujor FHI 31190!

Also in **Cameroun**, **Gabon**, **Rio Muni** and **the Congos**.

7. **Baissea multiflora** A. DC. in DC. Prod. 8: 424 (1844); F.T.A. 4,1: 207; Chev. Bot. 424. *APD acc*

Baissea caudiloba Stapf In J. Linn. Soc. 30: 90 (1894).

Baissea heudelotii Hua (1898).

Baissea multiflora var. **caudiloba** (Stapf) Stapf in F.T.A. 4, 1: 208 (1902); Chev. Bot. 425.

Woody climber 10-25 ft. high, usually rusty pubescent; flowers white or yellow, in axillary and terminal cymes; follicles narrowly cylindrical, up to 18 in. long when ripe.

Sen.: Ferlo Heudelot 186! Cape Nase (Feb.) Döllinger 45! **Gam.:** Dawe 53! Albreda Perrottet 480. Kuntaur (fl. & fr. Jan.) Dalz. 8043! Boroba Imp. Inst. 8! S. bank of R. Gambia Brown-Lester S14! **Mali:** Badinko Chev. 118! Kati Chev. 175. **Port. G.:** Pelaque, Bissau (Feb.) Esp. Santo 1723! Bissau to Prabis (Dec.) d'Orey 15! Bissalanca, Bissau (Jan.) Esp. Santo 1620! **Guin.:** Farmar 319a! Fouta Djallon Heudelot 597! 601! Kouroussa (May, Dec.) Pobéguin 242! Kindia Chev. 13371. **S. L.:** Jama (Mar.) Deighton 4726! Ninia, Talla Hills (Feb.) Sc. Elliot 4807! Kenema (Apr.) Jordan 2050! Gola Forest (Apr.) Small 584! Njala (Feb.) Deighton 4147! **Iv. C.:** Zaranou Chev. 17603; 17616. **Niger:** Diapaga Chev. 24436. Extends to Cabinda. (8ee Appendix, p. 367.)

8. **Baissea zygodioides** (K. Schum.) Stapf in F.T.A. 4, 1: 210 (1902); Chev. Bot. 425. *APD acc*

Oncinotis zygodioides K. Schum. l.c. 227 (1896).

Baissea aframensis Hutch. & Dalz. in Kew Bull. 1937: 338.

Woody climber with fairly small leaves and axillary cymes of white to yellow flowers; follicles more than 1 ft. long when ripe.

Guin.: Macenta (Apr.) Jax.-Fél. 829! Nimba Mts. (Apr.) Schnell 5250! **S. L.:** Afzelius! Bwedu to Kangama (Apr.) Deighton 3155! Njala (fl. May, fr. Jan.) Deighton 3435! 4577! Kenema (Apr.) Jordan 2042! **Lib.:** Sanokwele (fr. Sept.) Baldwin 9528! Gbanga (Mar.) Blickenstaff 32! Dobli Is., St. Paul R. (Apr.) Bequaert 167! Ganta (May) Harley 1169! Mnanulu (fr. June) Baldwin 6042! **Iv. C.:** vide Chev. l.c. **Ghana:** Kumasi (Apr.) Vigne FH 1107! Volta River F.R. (Mar.) Vigne FH 4373! Mayara, Akwapim (Mar.) Irvine 1534! Wuruboug to Okraji, Afram Plains (May) Kitson 1140! Aburi Hills (June) Patterson 287! Dodowa Plains (fr. Jan.) Johnson 558!

9. **Baissea subsessilis** (Benth.) Stapf ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 46 (1931).

APD: Synonym of Baissea campanulata (K. Schum.) de Kruif

Zygodia subsessilis Benth. in Hook. Ic. Pl. 12: 73 sub. t. 1184.

Oncinotis subsessilis (Benth.) K. Schum. in Schlechter Westafr. Kautsch.-Exp. 307 (1900); F.T.A. 4, 1: 224.

Climbing, reddish-brown puberulous shrub up to 20 ft. high with pale yellow flowers in axillary and terminal cymes.

S. Nig.: Ishagama (Mar.) Schlechter 12310! Osun F.R., Ijebu Igbo (Apr.) Ejiofor FHI 26114! Gambari to Ibadan (Mar.) Onochie FHI 21801!

10. **Baissea breviloba** Stapf in Kew Bull. 1912: 278.

APD: Synonym of Baissea baillonii Hua

Baissea ivorensis A. Chev. Bot. 424, name only.

Climbing shrub up to 10 ft. high very similar to the above.

Guin.: Nzérékoré (June) Collenette 34! **Iv. C.:** Makougnié, Agniéby valley Chev. 17191! **Ghana:** Ateiku (May) Vigne FH 1949! Abura Dunkwa (Apr.) Scholes 275! Manso (Apr.) Scholes 265! **S. Nig.:** Ikpe (Apr.) Farquhar 1! Igoubazowa, Benin Prov. (May) Onochie FHI 34894! Okomu F.R., Benin (June) Onochie FHI 31231!

11. Baissea axillaris (Benth.) Hua in Compt. Rend. Acad. Paris 134: 857 (1902); F.T.A. 4, 1: 210. *APD acc*

Zygodia axillaris Benth. in Hook. Ic. Pl. 12: t. 1184 (1876).

A climbing shrub similar to the last.

S. Nig.: Lagos Punch 77! Sapoba, Benin Prov. (June) Ejiofor FHI 32010! Abeokuta (fr. Oct.) Baldwin 13648! Ijaiye F.R., Ibadan (fr. Feb.) Onochie FHI 20691! Calabar (Feb.) Mann 2301! **[Br.] Cam.:** Johann-Albrechtshöhe Staudt 518!

Also in **Cameroun**, **Congo** and **Angola**.

36. MOTANDRA

A. DC.-F.T.A. 4, 1: 224.

- 1** Leaves elliptic- or obovate-oblong, acuminate, 6-13 cm. long and 2-5 cm. broad, with 5-8 pairs of lateral nerves, thickly pubescent in the nerve-axils; flowers in oblong, terminal panicles; corolla-tube 2.5-4 mm. long, the lobes about 5 mm. long [guineensis](#)

Motandra guineensis (Thonning) A. DC. in DC. Prod. 8: 423 (1844); F.T.A. 4,1: 224. *APD acc*

Echites guineensis Thonning (1827).

Motandra rostrata K. Schum. (1903).

A climbing or sometimes suberect shrub, more or less yellowish- or fulvo-tomentose, with small white flowers in tomentose inflorescences; fruiting carpels spindle-shaped, about 5 in. long and 3/4 in. across, densely brown-scaly.

Guin.: Dalaba (Jan.) Jac.-Fél. 754! **S. L.:** Smythe 266! Konnoh Country Burbridge 481! Bendu to Mamaima (Apr.) Deighton 3942! **Lib.:** Cess R., near Bahtown (fr. Aug.) Baldwin 9013! **Ghana:** Aburi Hills (Mar.) Brown 684! Kumasi (fl. Mar., fr. Oct.) Baldwin 13462! Vigne FH 3729! Zome (Mar.) Thomas D174! Atonso (fr. Oct.) Baldwin 13503! Tain II F.R. (fr. Dec.) Adams 2785! **Togo Rep.:** Misahöhe (fr. Nov.) Mildbr. 7379! **Dah.:** Adja Ouéré (Mar.) Le Testu 115! Bassila Poisson! **S. Nig.:** Ilaro F.R., Abeokuta Prov. (fr. Oct.) Onochie FHI 13613! Ishagama (Mar.) Schlechter 12312! Mamu F.R., Ibadan Dist. (Mar.) Keay & Foggie FHI 22529! Onitsha Barter 1636! Oban Talbot! **[Br.] Cam.:** Nkom-Wum F.R. (fr. July) Ujor FHI 29296! R. Sulli, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28838!

Also in **Cameroun**, **Congo**, **Uganda** and **Angola**.

37. ONCINOTIS

Benth.-F.T.A. 4, 1: 220.

- 1** Branches and undersurface of leaves rusty-pubescent; leaves obovate-elliptic, broadest mostly above the middle, 5-12 cm. long, 2.5-5.5 cm. broad; lateral nerves 4-7 pairs; corolla-tube about 3 mm. long, lobes 4-5 mm. long; ripe follicles 12-20 cm. long, narrowly spindle-shaped to almost cylindrical, up to about 1 cm. diam. [1. gracilis](#)
- Branches and leaves glabrous; leaves with 6-16 pairs of lateral nerves; ripe follicles 1-2 cm. diam.:.....**2**
- 2** Leaves obovate, broadest above the middle, usually rather long-cuneate at base, 4-9 cm. long, 2.5-6 cm. broad, main lateral nerves mostly 6 mm. apart from each other or less; corolla-tube about 4 mm. long, lobes about the same; ripe follicles cylindrical, 20-25 cm. long, 1-1.5 cm. broad[2. nitida](#)
- Leaves elliptic or ovate-elliptic, broadest at or below the middle, short-cuneate or rounded at base, 8-12 cm. long, 3-5 cm. broad; main lateral nerves more than 5 mm. apart from each other; fruiting follicles spindle-shaped, 10-20 cm. long, 1.5-2 cm. broad[3. glabrata](#)

1. Oncinotis gracilis Stapf in Kew Bull. 1894: 124; F.T.A. 4, 1: 223. *APD acc*

Oncinotis chlorogena K. Schum. in Schlechter Westafr. Kautschuk-Exp. 307 (1900), name only.

A rusty-pubescent climbing shrub up to 40 ft. high; flowers greenish or yellowish in terminal and axillary cymes.

Guin.: Pela, Nzérékoré (fr. Sept.) Baldwin 13312! **S. L.:** Yonibana (fr. Oct.) Thomas 4128! **Lib.:** Javajai, Boporo Dist. (fr. Nov.) Baldwin 10269a! Nikabuzu (Mar.) Bequaert 119! Zigida (Mar.) Bequaert 135! Sanokwele (fr. Sept.) Baldwin 9537! Tappita (fr. Aug.) Baldwin 9074! **Ghana:** Akropong (Mar.) Johnson 902! Kumasi (fr. Oct.) Baldwin 13454! Agogo (Apr.) Adams 2584! Kwahu (Apr.) Johnson 658! Atonso, Ashanti Dist. (fr. Oct.) Baldwin 13502! **N. Nig.:** Lokoja (Mar.) Shaw 18! **S. Nig.:** Igbessa, Lagos Millen 189! Ijoko (fr. Nov.) Baldwin 13705! Sapoba (fr. Nov.) Keay FHI 25572! Mamu F.R., Ibadan (Mar.) Keay FHI 22531! Oban Talbot 1675!

Also in **Cameroun**.

2. **Oncinotis nitida** *Benth.* in Fl. Nigrit. 451 (1849); F.T.A. 4, 1: 221. *APD acc*

Climbing glabrous shrub up to 25 ft. high; in gallery forest.

Port. G.: Empada (fr. Dec.) Esp. Santo 2337! Catió (Aug.) Esp. Santo 2174! **S. L.:** Sc. Elliot! T. Vogel 63! Waterloo (July) Lane-Poole 300! **Lib.:** Sinoe, Greenville Sim! **Togo Rep.:** Lomé Warnecke 450! **S. Nig.:** Lagos (June) Dalz. 1347! Batten-Poote 48! Ibadan (fr. Oct.) Baldwin 13677!

3. **Oncinotis glabrata** (*Baill.*) *Stapf ex Hiern* in Cat. Welw. 1: 674 (1898); F.T.A. 4, 1: 222. *APD acc*

Motandra glabrata *Baill.* (1888).

Oncinotis campanulata *K. Schum.* (1896)-F.T.A. 4, 1: 222.

Oncinotis batesii *Stapf* in F.T.A. 4, 1: 221 (1902).

Oncinotis glandulosa *Stapf* in F.T.A. 4, 1: 221 (1902).

A glabrous woody climber.

Guin.: Nzérékoré (fr. Sept.) Baldwin 13324! **Lib.:** Peahtah (Oct.) Linder 903! Dobli Is. Bequaert 22! Kondessu, Boporo Dist. (fr. Dec.) Baldwin 10684a! Sanokwele (fr. Sept.) Baldwin 13271! Tappita (fr. Aug.) Baldwin 9066a! **Ghana:** Aburi (Apr.) Johnson 883! 1064! Ateiku (May) Vigne FH 1951! Tafo (fr. July) Darko WACRI 914! Assuantsi (fr. Jan.) Baldwin 14031! **S. Nig.:** Sapoba-to Benin Thompson 20! Oban Talbot 1692! [**Br.**] **Cam.:** above Buca (Dec.) Migeod 256!

Also in **Cameroun**, **Gabon**, **Congo**, **Angola** and (?) **Tanganyika**.

PERIPLOCACEAE

Climbing, twining or erect, softly woody or occasionally with wiry stems, or herbaceous perennials with a tuberous rootstock; leaves opposite, entire, linear to very broad, pinnately nerved; stipules absent, but sometimes with a stipular frill around the stem at the nodes which may become woody; inflorescence a terminal cyme often lateral by sympodial growth of the axis, sometimes racemiform or umbelliform; bracts very small; flowers bisexual, sometimes functionally unisexual and then dioecious; calyx-tube very short or obsolescent, segments 5, valvate or imbricate but opening very early; corolla gamopetalous, 5-lobed, tube short or sometimes as long as or longer than the lobes, lobes contorted or very rarely valvate; corona of 5 lobes arising from the base of the stamen filaments, of varied form, or rarely absent or reduced to tubercles; stamens 5, inserted in the corolla-tube or at its throat, free from each other, but with the anthers pressed together and to the expanded apex of the style; anthers basifixed, introrse, usually with a scarious apical appendage inflexed over the style; pollen granular, in tetrads discharged on to 5 spathulate pollen carriers derived from the expanded part of the style and with a glandular base; pollen carriers concealing the 5 stigmatic surfaces; carpels two, joined only by their styles, which unite to form a flat or variously elongated head; ovules numerous, multiseriate on a single adaxial placenta; fruit of two (or one by abortion or pollination failure) divergent or reflexed sessile follicles; follicles more or less fusiform and often greatly elongated, or sometimes broadly ovoid, smooth, glabrous or hairy, sometimes warted or winged, finally dehiscing lengthwise adaxially; seeds flat, often winged, and crowned with a coma of soft silky hairs; endosperm present; embryo straight, almost as long as the seed, cotyledons flat.

Confined to the tropics and warm temperate regions of the Old World and reaching its greatest diversity in genera and species in tropical and S. Africa.

Distinguished from Asclepiadaceae, in which the genera were formerly placed, by the granular pollen carried on spathulate glandular carriers.

-
- 1 Corolla-tube a mere ring, or saucer-shaped:2
 Corolla-tube well developed; anthers glabrous:6
- 2 Anthers more or less villous [1. Parquetina](#)
 Anthers glabrous:3
- 3 Corona very small, of 5 indistinct emarginate lobules adnate to the bases of the filaments; pollen carrier rhombic, deeply cleft, attached to its gland by a short slender stalk [2. Batesanthus](#)
 Corona-lobes relatively large; pollen-carriers spatulate:4
- 4 Corona-lobes broadly obcordate, with a linear dorsal appendage; stems with conspicuous stipular frills at the nodes [3. Mondia](#)
 Corona-lobes linear, simple or divided:5
- 5 Leaves with numerous straight horizontal parallel lateral veins looped near the margin; flowers in congested lateral cymes; pedicels long and filiform [4. Zacateza](#)
 Leaves with fewer, curved, ascending lateral nerves; flowers in lax paniculate cymes; pedicels relatively short. [5. Tacazea](#)
- 6 Climbing shrubs:7
 Erect herbs or subshrubs with fleshy or woody tubers:8
- 7 Corolla-tube cylindrico-campanulate, less than half as long as the lobes; leaves not glaucous beneath [6. Cryptolepis](#)
 Corolla-tube narrowly urceolate, much longer than the lobes; leaves glaucous beneath [7. Mangenotia](#)
- 8 Corolla-tube cylindric or cylindrico-campanulate, not saccate at the base, corolla-lobes lanceolate or ovate-lanceolate, white, cream or purplish-pink:9
 Corolla-tube broadly campanulate, as broad as long, 5-angled and 5-saccate at the base; flowers blue, in 2-5-flowered terminal cymes; stamens with a horny callus at the base of the anthers [10. Pentagonanthus](#)
- 9 Subshrubs with wiry, erect stems and linear to narrowly oblong leaves; rootstock woody; flowers greenish-cream [8. Ectadiopsis](#)
 Herbs with erect simple stems from a tuberous rootstock; flowers pale violet-purple to deep crimson; corona of erect filiform lobes; follicles elongate-linear, erect [9. Raphionacme](#)

Cryptostegia grandiflora (Roxb.) R. Br. ex Lindley

Frequently cultivated and may have escaped in various places; it is a climbing or erect glabrous shrub with oblong-elliptic to almost rotund leathery leaves 5-10 cm. long, and terminal or lateral cymes of large funnel-shaped pink or lilac flowers 8-12 cm. across.

It is a native of Madagascar.

1. PARQUETINA

Baill. in Bull. Soc. Linn. Paris 2: 806 (1889); Bullock in Kew Bull. 15: 204 (1960).

Periploca of F.W.T.A., ed. 1, 2: 52, not of Linn.

Omphalogonus *Baill.* l.c. (1889).

- 1 Scrambling woody climber, glabrous; leaves coriaceous, oblong, elliptic, ovate, obovate or subrotund, abruptly acuminate, rounded to cordate at base, up to 15 cm. long and 8 cm. broad, dark shining green above, glaucous beneath; petioles 1.5-8 cm. long; flowers in lateral cymes; pedicels rarely exceeding 10 mm. long; sepals broadly ovate, 3 mm. long; corolla rotate, the lobes broadly ovate, about 10 mm. long; follicles widely spreading, woody, up to 45 cm. long but often much shorter [nigrescens](#)

Parquetina nigrescens (Afzel.) Bullock in Kew Bull. 15: 205 (1961).

APD: *Synonym of Omphalogonus calophyllus Baill.*

APD: *Synonym of Periploca nigrescens Afzel.*

Periploca nigrescens Afzel. (1817)-F.T.A. 4, 1: 256; F.W.T.A., ed. 1, 2: 52.

Parquetina gabonica *Baill.* l.c. (1889).

Omphalogonus nigritanus N. E. Br. in Kew Bull. 1912: 279; F.W.T.A., ed. 1, 2: 53.

O. calophyllus *Baill.* in Bull. Soc. Linn. Paris 2: 812 (1889); F.T.A. 4, 1: 256; Chev. Bot. 430.

Periploca calophylla (*Baill.*) *Roberty* in Bull. I.F.A.N. 15: 1429 (1953).

A twiner often herbaceous but becoming woody, with leathery glossy leaves; flowers greenish outside, deep red inside; [in regrowth forest](#).

Sen.: Diouloulou (fl. and fr. Sept., Oct.) Adam 17248. **Port. G.:** Cubisseco, Pobresa (fr. Feb.) Esp. Santo 2379! Cacheu (fl. & fr. Oct.) Esp. Santo 1266! **Guin.:** Kindia (July) Jac.-Fél. 1803! Massadou, Macenta Collenette 26! **S. L.:** Barter! Bagroo R. (Apr.) Mann 845! Njala (Apr.) Deighton 5724! Kambia Dist. (Apr.) Hepper 2649! Limba (Apr.) Sc. Elliot 5631! **Lib.:** Nyaake (June) Baldwin 6141! Zwedru (Aug.) Baldwin 7037! Sinoe Basin Johnston! Dukwia R. (May) Cooper 453! Gbanga (Sept.) Linder 529! Ganta (Mar.) Harley 195! **Iv. C.:** Abouabou Forest, Abidjan to Grand Bassam (Jan.) Leeuwenberg 2384! **Ghana:** Assuantsi (Mar.) Irvine 1562! Ancobra Junction (fr. Jan.) Irvine 1079! Ejian, Ashanti (Apr.) Vigne FH 1123! Bibiani (Dec.) Adams 1951! **Togo Rep.:** Lomé Warnecke 216! **Dah.:** Poisson! **N. Nig.:** Kontagora Dalz. 50! **S. Nig.:** Thomas 1011! Agbadi, Sapoba (Nov.) Meikle 547! Ile Ife, Lagos (fr. Dec.) Millen 70! Ibadan (July, Aug.) Keay & Latilo FHI 37131! Newberry 49! Degema (Sept.) Holland 127!

2. BATESANTHUS

N. E. Br.-F.T.A. 4, 1: 253; Bullock in Kew Bull. 15: 203 (1961). *APD acc*

- 1 Woody climber; leaves glabrous, elliptic to oblong-obovate or subrotund, apex abruptly acuminate, base cordate, usually 7-16 cm. long, 4-10 cm. broad, or sometimes larger; petioles more or less 2 cm. long; stipular fringes interpetiolar, reflexed, leathery, subsistent; flowers in lax lateral panicles; calyx small; corolla rotate, lobes elliptic-ovate up to 18 mm. long and 11 mm. broad, rounded at apex; corona annular, shortly 5-lobed, lobes emarginate, adnate to the base of the stamen-filaments; follicles more or less woody, about 12 cm. long and 2 cm. diam., suberect, shortly beaked [purpureus](#)

Batesanthus purpureus *N. E. Br.* in Hook. Ic. Pl. 25: t. 2500 (1896); F.T.A. 4, 1: 254; Bullock l.c. 204. *APD acc*

Batesanthus talbotii *S. Moore* in Cat. Talb. 63 (1913); F.W.T.A., ed. 1, 2: 52.

A twiner in [forest](#) with rather thick leaves; flowers greenish outside and (?) red inside.

S. Nig.: Oban Talbot 63! 20211 Eket (Apr.) Talbot! **[Br.] Cam.:** Buea (May) Maitland 666! Bamenda (June) Maitland 1565! Bafut-Ngemba F.R., Bamenda (Feb.) Hepper 2173!

3. MONDIA

Skeels in Bull. U.S. Dep.Agric. Bur. Pl. Ind. No. 223: 45 (1911).

Chlorocodon *Hook. f.* (1871), not of Fourreau (1869)-F.T.A. 4, 1: 254.

- 1 Softly woody climber with a large tuberous rootstock; stems puberulous, glabrescent, with persistent lignescent stipular frills at the nodes and prominent lenticels; leaves petiolate, broadly oblong, ovate, obovate or almost rotund, shortly acuminate, rounded to deeply cordate at base, up to about 17 cm. long and 15 cm. broad, but often smaller, glabrescent; petiole up to 7 cm. long but usually shorter; flowers in lax lateral pedunculate panicles up to 15 cm. long and 10 cm. across; pedicels slender, 0.5-2 cm. long; corolla subrotate, 5-lobed almost to the base, lobes 10-12 mm. long and about 6 mm. broad, ovate-oblong, 1 glabrous on both sides but minutely ciliate along one (the outside in bud) margin; follicles somewhat woody, lanciform, horizontally divaricate, about 9 cm. long and 1.5-2 cm. diam. [whitei](#)

Mondia whitei (*Hook. f.*) *Skeels* l.c. (1911); Bullock in Kew Bull. 15: 203 (1961). *APD acc*

Chlorocodon whitei *Hook. f.* in Bot. Mag. 97: t. 5898 (1871); F.T.A. 4, 1: 255.

Tacazzea viridis *A. Chev. ex Hutch. & Dalz.* in Kew Bull. 1937: 339; F.W.T.A., ed. 1, 2: 52.

A woody climber of [drier forest country](#), with pale greenish-white or cream flowers.

Port. G.: Bissau Esp. Santo 1760! Fulacunda (Aug.) Esp. Santo 2161! Bolola to Buba (Aug.) Esp. Santo 2155! Bafatá (Nov.) Esp. Santo 2977! **Guin.:** Bafing R., Man to Touba road (July) Collenette 55! Kindia (May, June) Jac.-Fél. 1632! 1750! **S. L.:** Musaia (July, Aug.) Deighlon 4405! 4805! Jordan 494! Kabala (July) Glanville 267! **Lib.:** Tappita (fr. Aug.) Baldwin 9051! **Iv. C.:** Mankono, Dialakoro to Kénéougoué (Julv) Chev. 21975! **N. Nig.:** Ankpa to Acharane, Kabba Prov. (June) Daramola FHI 38043! **S. Nig.:** Lagos Batten-Poole! Ibadan North F.R. (Aug.) Keay FHI 25361! Oke Eleyele, Ibadan (July) Sutton! Jones & Keay FHI 16223! Gambari F.R. (fr. Nov.) Onochie FHI 34943! **[Br.] Cam.:** Aba-ajia, Wum Dist. (July) Ujor FHI 30462!

Widely distributed in tropical Africa.

Replaced in eastern coastal districts by the very closely allied *M. ecornuta* (N. E. Br.) Bullock.

4. ZACATEZA

Bullock in Kew Bull. 9: 361 (1954).

- 1 Slender twining shrub, internodes 3-15 cm. long, completely glabrous; leaves shortly petiolate, oblong, abruptly and shortly acuminate, broadly rounded to truncate at base, up to 20 cm. long and 5.5 cm. broad, but usually about 10 cm. long and 3 cm. broad, with numerous slender, parallel, horizontal lateral veins looped near the margin and with fine reticulation between them; cymes lateral, with very short peduncle and main branches, but with slender pedicels 3-4 cm. long; flowers buds oblong, rounded at apex, 6 mm. long just before anthesis, tube very short, lobes oblong, spreading, rounded at apex; follicles falcate, reflexed, about 5.5 cm. long, 6-7 cm. diam. near the base, with two ventro-lateral longitudinal ridges *pedicellata*

Zacateza pedicellata (K. Schum.) Bullock l.c. (1954). *APD acc*

Tacazzea pedicellata K. Schum. in Engl. Bot. Jahrb. 17: 115 (1893); F.T.A. 4, 1: 262, incl. var. *occidentalis* N.E. Br. l.c. 263 (1902).

Climber up to 50 ft.; flowers cream.

S. Nig.: Lagos (Jan.) Dalz. 1348! Eglessa (Jan.) Millen 130! Eket Dist. Talbot 3265!

Also recorded from **N.E. Congo** and **Angola**.

5. TACAZZEA

Decne.-F.T.A. 4, 1: 253; Bullock in Kew Bull. 9: 350 (1954).

- 1 Woody climber; leaves oblong, ovate or subrotund, obtuse to acuminate at apex, rounded to cordate at base, 4-10 cm. long or more, 1.5-6 cm. broad, more or less glabrous, or pubescent, or tomentose beneath, glabrous or pubescent above; flowers in terminal or lateral diffuse panicles; calyx-lobes ovate, 1.5 mm. long; corolla-lobes 6-7 mm. long; follicles divaricate, narrowly or broadly ovoid, acuminate to the apex, glabrous or densely hirsute *apiculata*

Tacazzea apiculata Oliv. in Trans. Linn. Soc. 29: 108 (1875); F.T.A. 4, 1: 267; Bullock l.c. 354; Berhaut Fl. Sén. 60. *APD acc*

Tacazzea barteri Baill. (1889)-F.T.A. 4, 1: 266; F.W.T.A., ed. 1, 2: 52.

Tacazzea nigritana N. E. Br. (1895)-F.T.A. 4, 1: 265; F.W.T.A., ed. 1, 2: 52.

Tacazzea apiculata var. *benedicta* Sc. Elliot (1894)-F.T.A. 4, 1: 267; F.W.T.A., ed. 1, 2: 52.

A luxuriant **dry forest** climber with masses of creamy-white flowers.

Sen.: Berhaut 1342. **Mali:** Sole 589! **Port. G.:** Gabu (July) Esp. Santo 2708! **Guin.:** Macenta (Apr.) Jac.-Fél. 831! Kindia (May) Jac.-Fél. 1607! Dantilia R. (Mar.) Sc. Elliot 5269! **S. L.:** Rowalla (fr. July) Thomas 1061! Mattru (June) Deighton 4773! Musaia (fr. July) Deighton 4797! **Ghana:** Elmina (June) Hall 1469! Kumasi (May) Vigne FH 1709! Wenchi (Aug.) Darko 937! Kpong (June) Irvine 1789! Pong Tamale (June) Vigne FH 3865! Gambaga (fl. May) Morton GC 7413! **N. Nig.:** Kuzata R., Niger Prov. (June) Keay FHI 25877! Jemaa (Feb.) McClintock 183! Mairabo plantation, Zaria (Jan.) Lowe FHI 48408! Kachia to Kaduna (Feb.) Meikle 1204! Gaya, Kano (July) Daggash FHI 22393! Sokoto (fl. & fr. May) Dalz. 525!

Widely distributed in tropical and S. Africa.

6. CRYPTOLEPIS

APD: *Synonym of Pentopetia Decne.*

R. Br. -F.T.A. 4, 1: 242, partly.

- 1 Twining and scrambling thin-stemmed shrub with blood-red juice; leaves thinly herbaceous, elliptic, oblong-

elliptic or ovate, acutely and shortly acuminate, rounded or more rarely acutely cuneate at base, 2.5-7 cm. or more long, 1-3 cm. or more broad, glabrous; cymes lateral on lateral shoots, laxly few-flowered; pedicels 6-15 mm. long; corolla-tube 5 mm. long, lobes contorted to the left in bud, about 12 mm. long, lanceolate-acuminate; follicles linear, 18 cm. or more long, spreading or somewhat reflexed; seeds 12 mm. long, with a coma of long silky hairs [sanguinolenta](#)

Cryptolepis sanguinolenta (Lindl.) Schltr. Westafr. Kautschuk-Exped. 308 (1900); Berhaut Fl. Sén. 82; Bullock in Kew Bull. 10: 280 (1955). *APD acc*

Pergularia sanguinolenta Lindl. in Bot. Mag. t. 2532 (1825).

Cryptolepis triangularis N. E. Br. (1894)-F.T.A. 4, 1: 245; Berhaut l.c. 59.

Slender climber up to 25 ft. high with greenish-yellow flowers.

Sen.: Sangalkam, Niayes Berhaut 1811. Tambacounda Berhaut 1190. **Port. G.:** Bolama (fl. & fr. Apr.) Esp. Santo 1925! Bissau (fr. Feb.) Esp. Santo 1739! Bafatá (Aug.) Esp. Santo 3277! **Guin.:** Macenta (Mar.) Jac.-Fél. 1581! 1582! **S. L.:** Don! Lumbaraya (Feb.) Sc. Elliot 5013! Jigaya (Sept.) Thomas 2771! **Ghana:** Aburi Hill (June) Williams 289! L. Bosumtwe (Apr.) Adams 2473! Ejura (June) Vigne FH 2050! **N. Nig.:** Barter 3359! Nupe Barter 1333! Kabba (June) Daramola FHI 38040! Sokoto Moiser! **S. Nig.:** Lagos Rowland! Abeokuta (May) Keay & Onochie FHI 37013! Ibadan (Mar.) Meikle 1296! Ogwashi (Nov.) Thomas 2041!

7. MANGENOTIA

Pichon in Bull. Soc. Bot. Fr. 101: 246 (1954).

- 1 Scrambling and twining thin-stemmed shrub, internodes uniformly 2-3 cm. long; leaves oblong, acutely and abruptly acuminate, rounded or subacute at base, very uniform in size, about 3-5 cm. long, 1-2 cm. broad, glabrous, strongly discolorous, dark green above, glaucous beneath; cymes laxly few-flowered, lateral; peduncles 1-1.5 cm. long; pedicels 3-6 mm. long; corolla-tube urceolate, 6-8 mm. long, 1.5 mm. diam. in the lower part, narrower above, lobes spreading, lanceolate, acute, 5 mm. long; follicles straight, horizontally spreading, about 13 cm. long, 8 mm. diam., tapering to an acute tip [eburnea](#)

Mangenotia eburnea Pichon l.c. (1954); Bullock in Kew Bull. 9: 587 (1955).

APD: *Synonym of Cryptolepis eburnea* (Pichon) Venter

A shrub, erect at first, later climbing and twining; flowers creamy white.

S. L.: Port Loko (fr. Dec.) Thomas 6585! Matru to Gbangbama (Nov.) Deighton 2349! Mamaka (fl. & fr. Nov.) Thomas 4377! 4544! Yonibana (Oct.) Thomas 4119! Sukudu Dawe 543! **Ghana:** near Mampong (July) Darko 689! Mampong Scarp (May) Vigne FH 1739! **S. Nig.:** Lagos, Ikoyi Plains (Aug.) Dalz. 1405!

8. ECTADIOPSIS

Benth. in Benth. & Hook. f. Gen. Pl. 2: 741 (1876); Bullock in Kew Bull. 10: 267 (1955).

- 1 Erect subshrub with annual or perennial simple or sparingly branched stems 30-60 cm. high, glabrous; leaves linear, linear-lanceolate or oblanceolate, or more rarely oblong or ovate, apex subacutely narrowed and more or less mucronulate, cuneate at base, very variable in size, up to 10 cm. long; cymes lateral, few to many-flowered, lax or somewhat congested, branched from the base; pedicels 1-4 mm. long; corolla-tube 2-4 mm. long, lobes 3-4 mm. long; follicles erecto-patent, straight, tapering to a blunt apex, up to 14 cm. long, 1 cm. diam. but frequently smaller; seeds oblong-elliptic, about 1 cm. long and 2.5-3 mm. broad, crowned with a dense coma of long silky hairs [oblongifolia](#)

Ectadiopsis oblongifolia (Meisn.) Schltr. in Engl. Bot. Jahrb. 18, Beibl. 45: 14 (1894); Bullock l.c. 268.

APD: *Synonym of Cryptolepis oblongifolia* (Meisn.) Schltr.

Ectadium ? oblongifolium Meisn. (1843).

Ectadiopsis nigritana Benth. in Hook. Ic. Pl. 12: 75, t. 1187 (1876).

Cryptolepis nigritana (Benth.) N. E. Br. in F.T.A. 4, 1: 251 (1902); F.W.T.A., ed. 1, 2: 53.

An erect shrub to about 2 ft. high with cream flowers; in savanna woodland.

Port. G.: Pitche, Pansor (fr. Oct.) Esp. Santo 3429! Gabu, Calicunda to Paunca (fr. Sept.) Esp. Santo 2791! **Guin.:** Dabola (fl. & fr. June) Pobéguin 352! **Ghana:** Bole (May) Vigne FH 3828! Kintampo (July) Dalz. 46! Amedzofe (fl. Mar., fr. Nov.) Morton 9417! Hepper 2330! Shiare (Apr.) Hall 1424! Gambaga (July) Vigne FH 4536! **Togo Rep.:** (Feb.) Büttner 404! **N. Nig.:** Kupe Barter 1324! Zungeru (fl. & fr. July) Dalz. 7! Anara F.R., Zaria (May) Keay FHI 22939! Mande F.R., Zaria Prov. (June) Keay FHI 25841! Vom Dent Young 174! Nabardo (May) Lely 216! **S. Nig.:** Upper Ogun F.R., Oyo Prov. (Feb.) Keay FHI 22509! Yala Hill (May) Hambler 450! **[Br.] Cam.:** Abakpa, Bamenda (May) Ujor FHI 30096! Bamenda (June) Maitland 1694! Vogel Peak, Adamawa (fr. Dec.) Hepper 1556!

Widely distributed in tropical and S. Africa.

9. RAPHIONACME

Harvey-F.T.A. 4, 1: 268.

- 1 Leaves linear, up to 20 times as long as broad; inflorescence a lax terminal or lateral cyme with pedicels 8-14 mm. long; flowers frequently precocious, corolla-tube 3 mm. long, lobes 5-7 mm. long, oblong, spreading or reflexed, pink; corona-lobes erect, filiform 5-6 mm. long; follicles erect, often arcuate, linear-terete, 10-30 cm. long; dwarf 10-30 cm. high, with a fleshy tuberous rootstock [1. brownii](#)
- Leaves lanceolate, elliptic, or more or less rotund-obovate: **2**
- 2 Inflorescence lateral from upper leafy nodes: **3**
- Inflorescence a branched, congested, terminal cyme, more or less cylindrical in outline, with a bibracteate peduncle 2-3 cm. long; the congested lateral cymules racemously arranged along the erect rhachis; bracts and bracteoles minute, pedicels 1-2 mm. long; corolla-lobes ovate-lanceolate, about 3-5 mm. long, the tube cylindrico-campanulate, 2 mm. long; corona-lobes filiform, erect, 5 mm. long; stems simple, erect, about 6-16 cm. high, puberulous; leaves obovate-oblancheolate, the uppermost largest, 4-10 cm. long, 1-3 cm. broad, glabrescent above, scabrid-puberulous beneath, apex rounded, cuneate at base and shortly petiolate [4. vignei](#)
- 3 Inflorescence 2-3-flowered, peduncles very short, pedicels 1-2 cm. long; flowers sometimes precocious; corolla-tube more or less 3 mm. long, lobes oblong, about 13 mm. long, pink inside, green outside, spreading or somewhat reflexed; leaves shortly petiolate, lanceolate to broadly elliptic or obovate, apex rounded, apiculate, base cuneate to rounded, up to 12 cm. long and 4 cm. broad, the lower relatively broader and smaller; follicles "linear, erect 8-10 cm. long" (Berhaut); herb 10-30 cm. high, with a tuberous rootstock [2. daronii](#)
- Inflorescence cymose, multiflorous; pedicels 4-6 mm. long; corolla-tube 2 mm. long, lobes triangular, 5-6 mm. long, spreading or at length reflexed, green with a deep red zone at the base, minutely papillate inside; corona-lobes rectangular at the base, with a flexuose whip-like apical appendage intertwined and connivant over the style and stamens; stems simple, numerous, erect from a woody tuber, up to 1 m. high; leaves shortly or obsoletely petiolate, oblong-lanceolate, up to 12 cm. long and 2 cm. broad, apex and base acute, glaucous below and crispate-pubescent on both surfaces [3. keayii](#)

1. *Raphionacme brownii* Sc. Elliot in J. Linn. Soc. 30: 91 (1894); F.T.A. 4, 1: 273; Bullock in Kew Bull. 8: 60 (1953). *APD acc*

Raphionacme excisa Schltr. in J. Bot. 33: 301 (1895); F.T.A. 4, 1: 272.

Raphionacme brownii var. *longifolia* A. Chev. Bot. 430, name only.

Raphionacme juvenis N. E. Br. in F.T.A. 4, 1: 272; Bullock in Kew Bull. 8: 60 (1953).

A precocious herb 6-12 in. high with diffuse cymes of pink flowers about 1-2 in. diam.

Port. G.: Boé, Madina (June) Esp. Santo 2921! Bissoran, Lalaconquili (June) Esp. Santo 2391! **Guin.:** Labi (fr. Apr.) Chev. 12269! Beyla (fl. & fr. Apr.) Collenette 2! Telimélé (June) Jac.-Fél. 1777! **S. L.:** Kasanko (May) Adames 228! Falaba (fl. & fr. Mar.) Sc. Elliot 5179! **Ghana:** Achimota (fr. Apr.) Irvine 1834! Berekum to Sampa (fl. & fr. Apr.) Morton A3241! Sunyani (Jan.) Chipp 76! Okroso to Otiso Ferry (Mar.) Hepper & Morton A3038! Tamale to Bolgatanga (fr. Apr.) Adams 4163! **N. Nig.:** Ago-Are to Aha, Oyo Prov. (Mar.) Keay FHI 22525! Lokoja (Mar.) Dalz. 6! Jebba (Jan.) Meikle 1104! Birnin Gwari (Feb.) Meikle 1230! Abinsi Dalz. 688!

Widely distributed in the **Sudan**, northern Congo and E. Africa.

2. *Raphionacme daronii* Berhaut in Bull. Soc. Bot. Fr. 101: 374 (1955); Fl. Sén. 82. *APD acc*

APD: *Synonym of Raphionacme splendens subsp. bingeri* (A. Chev.) Vent.

A pink-flowered herb of **stony savanna**, said to be less precocious than the preceding.

Sen.: Vélor, Thiés to N'Gazobil Berhaut 1638! 4777. **Ghana:** W. of Abene, Kwahu (Jan.) Chipp 633! Kwahu Tafo to Mankrong (Dec.) Adams 5091! Laboni F.R., Tamale to Damongo (Mar.) Adams 3935! Bamboi to Kintampo (Mar.) Hepper & Morton A3191!

3. *Raphionacme keayii* Bullock in Kew Bull. 8: 63 (1953).

An erect herb to 3 ft. high, of open Isoberlinia-Uapaca woodland.

N. Nig.: Mando F.R., Zaria Prov. (July) Keay FHI 25983! 25990!

Also in Cameroun (Beretum, Mildbr. 9664).

4. *Raphionacme vignei* Bruce in Kew Bull. 1936: 477. *APD acc*

A dwarf erect geophytic herb from a fleshy edible disciform tuber, with pale green flowers.

Ghana: Dalz. 55! Sao Forest, Wa (May) Vigne FH 3823! Bole (Apr.) Morton GC 3301!

10. PENTAGONANTHUS

Bullock in Hook. Ic. Pl. 36: sub. t. 3583 (1961).

- 1 Erect herb 1-2 ft. high with simple steins from a large woody tuber, more or less hirsute but soon glabrescent; leaves subsessile, reduced to scales in the lower part of the stem, increasing in size upwards, linear, up to about 12 cm. long and about 5 mm. broad, with recurved edges and a prominent midrib, apex acute, narrowed to the base; flowers blue, in sessile fascicles 2-5 cm. apart of 2-4 flowers racemously arranged along the upper leafless part of the stem; pedicels 6-10 mm. long, elongating to about 2 cm. long as the flower ages; corolla-tube 5-angled, shallowly 5-saccate at the base, 4 mm. long and 4 mm. diam., lobes oblong-lanceolate, acute or subacute, nearly 2 cm. long and about 7 mm. broad; follicles not known *caeruleus*

Pentagonanthus caeruleus (E. A. Bruce) Bullock l.c. (1961).

APD: *Synonym of Raphionacme caerulea* E. A. Bruce

Raphionacme caerulea E. A. Bruce in Kew Bull. 1935: 279. (?)

(?) *R. sudanica* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 54 (1931); Chev. Bot. 430, name only.

A blue-flowered herb, unique in the family.

Guin.: Kindia (July) Jac.-Fél. 1793! Jaeger! **S. L.:** Bumban (Aug.) Deighton 1246!

ASCLEPIADACEAE

Twining or erect shrubs or perennial herbs; leaves opposite, linear to orbicular-obovate, entire, or rarely lobed or toothed. Inflorescence cymose, most frequently umbelliform but sometimes with flowers more or less racemously fasciculate along a simple or branched rhachis. Flowers regular, pentamerous; calyx-tube very short or obsolete; corolla contorted, imbricate or valvate, gamopetalous, the lobes sometimes connivent at the apex; filaments united into a tube, anthers connivent throughout their length and united with the expanded style apex, introrse, bilocular and provided with lateral horny wings. Corona arising from the staminal column, very variable in form or rarely absent or reduced to five small fleshy tubercles. Pollen in waxy masses (pollinia) attached in pairs by caudicles of various form to 5 corpuscular usually horny sutured pollen carriers arising from the style apex and concealing the stigmatic surfaces. Ovary of two separate carpels; styles free to the apex where they are united in a peltate disk which is convex, conical or beaked; ovules multiseriate, on a single adaxial placenta in each carpel. Fruit of two (by abortion often one) erect or divergent follicles which may be linear to ovoid or ellipsoidal, membranous to woody, smooth or winged or variously armed with soft or indurated prickles, always dehiscent lengthwise adaxially. Seeds compressed, often with a membranous or thickened margin and nearly always crowned with a coma of silky hairs.

A mainly tropical family of some 130 genera, most of its members occupying savanna, monsoon or semi-arid country, more rarely found in rain forest.

The tribe Ceropegieae is confined to the Old World. The gamopetalous corolla, staminal column and corona and peltate style-apex, together with follicular fruits, flattened seeds with silky coma and opposite exstipulate leaves, are characteristic. Except in the Secamonoideae, woody plants are rare, and the wood itself is very soft; milky latex is universally present, but sometimes small in quantity.

KEY TO THE SUBFAMILIES

- 1 Pollen-contents of each anther-loculus consisting of two minute waxy masses; pollen carrier pale-coloured, not of horny consistency, caudicles subobsolete; style often produced beyond the anthers . [1. SECAMONOIDEAE](#)
- Pollen-contents of each anther-loculus consisting of a single waxy mass, often hyaline along one edge; pollen carrier dark in colour, horny, caudicles well-developed, filiform or variously flattened; style usually not produced beyond the anthers [2. ASCLEPIADOIDEAE](#)

KEY TO THE TRIBES AND GENERA

Subfamily-SECAMONOIDEAE

- 1 A single tribe [1. SECAMONEAE](#)

Tribe 1. -SECAMONEAE

- 1 Style apex truncate or bilobed, scarcely exceeding the anthers; corona-lobes laterally flattened or subulate; inflorescence a diffuse dichotomous cyme [1. Secamone](#)
- Style apex subulate-conical to clavate, much exceeding the anthers; corona-lobes dorsally flattened: [2](#)
- 2 Inflorescence racemiform, much longer than the leaves; corona much exceeding the anthers; corolla-lobes about as long as the tube or a little longer [2. Rhynchosigma](#)
- Inflorescence cymose, shorter than the leaves; corona scarcely exceeding the anthers; corolla-lobes several times as long as the tube [3. Toxocarpus](#)

Subfamily-ASCLEPIADOIDEAE

- 1 Pollen masses pendulous in the anther-loculi, suspended by caudicles from horny reddish-brown to black corpuscular carriers, the latter with a dorsal suture [2. ASCLEPIADEAE](#)
- Pollen masses horizontal, ascending or erect in the anther loculi, attached by caudicles to horny dark or light-coloured sutured carriers: [2](#)
- 2 Corolla-lobes imbricate or contorted, never valvate [3. MARSDENIEAE](#)
- Corolla-lobes valvate, sometimes adherent to each other at their tips [4. CEROPEGIEAE](#)

Tribe 2. -ASCLEPIADEAE

- 1 Leafy twiners, scramblers or erect herbs or shrubs; leaves sometimes caducous: [2](#)
- Leafless scrambling shrubs with flowers in lateral umbelliform inflorescences at the nodes; corolla rotate or rotate-campanulate; corona-double, the outer annular, the inner of 5 erect fleshy laterally compressed lobes [19. Sarcostemma](#)
- 2 Corona of 5 free lobes arising from the junction between the corolla and staminal column; herbs of semi-arid areas [4. Glossonema](#)
- Corona simple or double, arising from the staminal column, sometimes at its extreme base: [3](#)
- 3 Corona tubular, membranous, variously toothed or lacinate; inflorescence subumbelliform or flowers in fascicles racemously arranged along an elongating axis; leaves usually cordate at the base [5. Cynanchum](#)
- Corona never tubular, but the lobes sometimes united near the base to form an annulus or shallow cup: [4](#)
- 4 Twining climbers: [5](#)
- Erect herbs, or shrubs, occasionally tree-like: [8](#)
- 5 Flowers about 3 cm. diam., saucer-shaped; corona simple, of 5 erect lanceolate lobes with a wrinkled gibbosity at the base [6. Oxystelma](#)
- Flowers not exceeding 1.5 cm. diam., usually much smaller: [6](#)
- 6 Corona double, the outer membranous, annular with very short subquadrate, often denticulate lobes; inner corona of 5 fleshy erect lobes adnate to the staminal column, free above with subulate horns incurved over the staminal column and produced below into spreading or deflexed spurs; corolla-tube cylindric, the lobes spreading [7. Pergularia](#)
- Corona simple; corolla lobed almost to the base: [7](#)
- 7 Corona-lobes fleshy, apex rounded or truncate, slipper-shaped, margins infolded, with an apical reflexed horn on the inner face; follicles usually softly echinate, ovoid [8. Pentarrhinum](#)
- Corona-lobes laterally compressed, adnate to the staminal column, with a free triangular apex; follicles narrowly lanceolate in outline, smooth [9. Pentatropis](#)
- 8 Corona-lobes laterally flattened, with a conspicuous curved basal spur; large, softly woody tree-like shrub ... [10. Calotropis](#)

- Corona-lobes without a spur at the base:9
- 9 Corona-lobes petaloid, complicate and claw-like at the base, expanded above into a broad limb, variously toothed or fimbriate, or almost entire[11. Margaretta](#)
- Corona-lobes not petaloid and without a claw-like basal part: 10
- 10 Flowers densely spirally arranged along the thickened apical part of the peduncle which elongates as the flowers develop; leaves narrowly lanceolate, with minute bristles in their axils [12. Kanahia](#)
- Flowers in a false umbel; leaves without axillary bristles: 11
- 11 Corona-lobes dorsally flattened, without an expanded free part; erect herbs with linear or linear-lanceolate leaves and flowers not exceeding 5 mm. diam. [13. Aspidoglossum](#)
- Corona-lobes laterally flattened or not at all compressed, sometimes with a strap-shaped free part: 12
- 12 Corona-lobes cucullate (i.e. hooded), the inner face densely beset with erect papillae [14. Trachycalymma](#)
- Corona-lobes not cucullate and not internally papillate: 13
- 13 The corona-lobes complicate:..... 14
- The corona-lobes not complicate, fleshy and solid:..... 15
- 14 Corona-lobes with a conspicuous horn arising from the base of the inner face [15. Asclepias](#)
- Corona-lobes quadrate in outline, but without an inner basally affixed horn [16. Gomphocarpus](#)
- 15 Corona-lobes arising from the staminal column on short horizontal stipes, with a fleshy apical ovoid-conical apical part tapering to a subulate point; follicles erect, long-fusiform [17. Xysmalobium](#)
- Corona-lobes dorsally flattened, sometimes with slightly infolded margins, with or without a strap-shaped apical appendage, and with or without wing-like keels on the inner face [18. Pachycarpus](#)
- Tribe 3. -MARSDENIEAE
- 1 Corona with three series of lobes; inflorescence racemiform, with a long naked peduncle and long filiform pedicels [20. Neoschumannia](#)
- Corona simple or double; inflorescence not as above:2
- 2 Corona simple, often reduced to minute tubercles:3
- Corona double, the inner arising from the staminal column, the outer from the sinus between the corolla and staminal column; high-climbing glabrous shrub with umbelliform inflorescences and very long widely divergent follicles [28. Anisopus](#)
- 3 Corolla-lobes with reflexed and more or less lacinate flaps arising from their bases, projecting into the tube and closing its throat; corona-lobes arising high on the staminal column, ovate, acuminate, coherent at their tips over the truncate style-apex and much swollen dorsally; flowers densely spirally arranged along the swollen apex of the peduncle [21. Dalzielia](#)
- Corolla not as above, at most hairy in the throat:4
- 4 Corona arising from the sinus between the corolla and staminal column and partly adnate to the corolla, consisting of 5 fleshy lobes channelled down the face and with free incurved tips; a climbing or sub-erect shrub with rusty indumentum [22. Gymnema](#)
- Corona arising from the staminal column, not at all adnate to the corolla:.....5
- 5 Corolla subrotate; corona of 5 minute tubercles; climbing herbaceous or softly woody lianes, or erect herbs from a woody rootstock; inflorescence usually a zigzag cyme [23. Tylophora](#)
- Corolla globose, campanulate or tubular:6
- 6 The corolla globose or globose campanulate, the lobes shorter than the tube; erect or semi-twining herbs from a woody rootstock [24. Sphaerocodon](#)
- The corolla tubular-campanulate or with a short tube:7
- 7 Corolla tubular-campanulate, inflated at the base, densely hairy in the throat; corona-lobes with the free part expanded and with a linear appendage arising from its inner face; a twining shrub [25. Telosma](#)
- Corolla with a short cylindric tube; corona-lobes without an appendage on the inner face; corolla-lobes spreading, reflexed, or suberect:.....8
- 8 Flowers 1 cm. or more diam., the lobes spreading or reflexed; follicles woody, ovoid, often winged . [26. Dregea](#)
- Flowers not more than 5 mm. diam., the lobes suberect; follicles membranous, lanceolate in outline, never winged [27. Gongronema](#)

Tribe 4. -CEROPEGIEAE

- 1 Leafy erect or twining shrubs or herbs, or if leafless, not at all succulent:2
- Succulent plants, the leaves reduced to minute triangular caducous scales:4
- 2 Corolla-tube short, scarcely longer than broad, or almost none:3

- Corolla-tube much longer than broad, the limb spreading or with the lobes variously connate at their tips[31. *Ceropegia*](#)
- 3 Twining leafy climbers or leafless shrubs; flowers small, campanulate[29. *Leptadenia*](#)
- Erect herbs with a tuberous rootstock; flowers more or less rotate, the limb with a broad disk, the lobes often long-caudate[30. *Brachystelma*](#)
- 4 Corolla with the sinus between the lobes produced into small triangular teeth[32. *Huernia*](#)
- Corolla without teeth at the sinuses between the lobes[33. *Caralluma*](#)

1. SECAMONE

R. Br.-F.T.A. 4, 1: 276.

- 1 Style with a truncate apex, not protruding beyond the anthers; flowers very small, rotate, about 3 mm. diam.; follicles horizontally spreading; leaves abruptly and fairly long-acuminate, ovate to oblong-elliptic, up to 5 cm. long and 2 cm. broad[1. *afzelii*](#)
- Style apex ovoid-clavate, most often somewhat bilobed, protruding beyond the anthers; flowers larger than above, corolla-lobes erecto-patent, 3 mm. long, the tube about 1.5 mm. long; follicles reflexed; leaves gradually acuminate or merely acute, somewhat narrowly ovate or elliptic, up to 7.5 cm. long but often less [2. *africana*](#)

1. *Secamone afzelii* (Schultes) K. Schum. in Engl. Bot. Jahrb. 23: 234 (1896); Bullock in Kew Bull. 9: 586 (1955). *APD acc*

Ichnocarpus afzelii Schultes in Roem. & Schult. Syst. Veg. 4: 399 (1819).
Secamone myrtifolia Benth. (1849)-F.W.T.A., ed. 1, 2: 54; Berhaut Fl. Sén. 57.
Toxocarpus leonensis Sc. Elliot (1894).
Secamone leonensis (Sc. Elliot) N. E. Br. (1902)-F.W.T.A., ed. 1, 2: 54.

Climbing or scrambling shrub with yellowish or orange flowers; [in secondary forest](#).

Sen.: (May) Thierry 58! Niayes Berhaut 413. **Port. G.:** Cumura, Bissau (fr. Nov.) Esp. Santo 2233! Bijinita, Bissau (Sept.) Esp. Santo 2183! **Guin.:** Péla (Sept.) Baldwin 13317! **S. L.:** Sugar Loaf Mt. (Apr.) Sc. Elliot 5773! Kissy Brook, Freetown (Aug.) Melville & Hooker 204! Njala (fr. Jan.) Deighton 2437! Jigaya (Sept.) Thomas 2538! Scarcies (fr. Feb.) Sc. Elliot 4781! Miligi, Tonko-Limba (Oct.) Jordan 928! **Lib.:** Bonuta (Oct.) Linder 883! Tappita (Aug.) Baldwin 9045! Suacoco (Sept.) Traub 273! Gbanga (Sept.) Linder 699! Belleyella (fr. Dec.) Baldwin 10644! **Ghana:** Ancobra Junction (fr. Jan.) Irvine 1077! Kumasi (Aug.) Darko 711! Aburi Scarp (fr. Sept.) Adams 1780! Somanya (Aug.) Johnson 1077! Oda (Aug.) Howes 963! **Togo Rep.:** Lomé Warnecke 203! **Dah.:** Poisson! **N. Nig.:** Dogon Kurmi, Jemaa Div. (Sept.) Killick 70! **S. Nig.:** Ijebu Ode (fr. Oct.) Tamajong FHI 20970! Ibadan (fr. Feb.) Meikle 1163! Ishan (Aug.) Onochie FHI 33276! Onitsha (Sept.) Onochie FHI 33444! Calabar (fr. Jan.) Onochie FHI 36172!

Also in [Cameroun](#) and [Gabon](#).

2. *Secamone africana* (Oliv.) Bullock in Kew Bull. 8: 362 (1953), and 15: 195 (1961). *APD acc*

Toxocarpus africanus Oliv. in Trana. Linn. Soc. 29: 109, t. 108A (1875).
Secamone platystigma K. Schum. (1893)-F.T.A. 4, 1: 280.

Climbing shrub about 15 ft. high; flowers white with yellow centre.

[Br.] Cam.: L. Nyos, 3,500-4,000 ft., Bamenda (Aug.) Savory UCI 344!

Widely distributed in tropical Africa.

2. RHYNCHOSTIGMA

Benth. in Benth. & Hook. f. Gen. Pl. 2: 771 (1876); Bullock in Kew Bull. 15: 194 (1961).

- 1 Twining climber; leaves coriaceous, oblong, cuspidate, 6-10 cm. long, 2.5-4 cm. broad, with numerous parallel obscure lateral veins; inflorescence lateral, distantly racemiform, 5-15 cm. long and with 4-10 flowers in pairs; pedicels 1-2 cm. long and the pairs of flowers 1-2.5 cm. apart; corolla-tube 3-4 mm. long, lobes 4-4.5 mm. long, recurved-spreading, oblong, obtuse, apex of style exserted, slender; corona-lobes incurved, somewhat clavate; follicles linear, about 15 cm. long, 5 mm. diam., widely divaricate[racemosum](#)

Rhynchosigma racemosum *Benth.* in Hook, Ic. Pl. 12: 77, t. 1189 (1876); Bullock l.c.

APD: Synonym of Secamone racemosa (Benth.) Klack.

Toxocarpus racemosus (*Benth.*) *N. E. Br.* in F.T.A. 4, 1: 287; F.W.T.A., ed. 1, 2: 54.

Climber over bushes.

[Br.] **Cam.:** Cam. Mt., 4,500 ft. (Feb.) Mann 1273! **F. Po:** Moka, 6,000 ft. (fr. Sept.) Wrigley & Melville 592!

3. TOXOCARPUS

APD: Synonym of Calyptranthera Klack.

Wight & Arn.-F.T.A. 4, 1: 268, partly; Bullock in Kew Bull. 15: 193 (1961).

- 1 Twining climber; young parts and inflorescences covered with conspicuous red pubescence; leaves discolorous, narrowly elliptic, oblong, lanceolate or oblanceolate through ovate or obovate to almost, rotund, abruptly and shortly acuminate, cuneate at base, 3-10 cm. long, rarely more than 4 cm. broad, lateral veins conspicuous, slightly ascending, parallel and numerous; cymes lateral, 6-10-flowered, shorter than the leaves; pedicels 4-12 mm. long; corolla 5-lobed almost to the base, lobes narrow, oblong, 5-7 mm. long, widely spreading, conspicuously contorted in bud; style protruding about 2 mm. beyond the anthers, the apical part acuminate conical, obtuse, spirally grooved; anther appendages fimbriate [brevipes](#)

Toxocarpus brevipes (*Benth.*) *N. E. Br.* in F.T.A. 4, 1: 287; Bullock l.c.

APD: Synonym of Secamone brevipes (Benth.) Klack.

Rhynchosigma brevipes *Benth.* in Hook. Ic. Pl. 12: 78, sub. t. 1189 (1876).

Slender climbing shrub; flowers white turning yellow.

S. Nig.: Ikoyi Plains, Lagos (Aug.) Dalz. 931! Agulu, Onitsha Prov. (Nov.) Keay FHI 25590! Milliken Hill, Enugu (Mar.) Hepper 2235! Nun R. Barter 2120! Mann 484! Bendiga Afi, Ogoja Prov. (Dec.) Keay FHI 28271!

Also in **Cameroun**, **Congo** and **N. Rhodesia**.

4. GLOSSONEMA

Decne.-F.T.A. 4, 1: 290, partly; Bullock in Kew Bull. 10: 613 (1956).

- 1 Spreading herb up to 30 cm. high, stems shortly pubescent; leaves linear or linear-lanceolate, up to 12 cm. long, 3-10 mm. broad, pubescent, at least beneath; flowers few, in subsessile extra-axillary cymes; corolla 4 mm. diam.; fruits fleshy when young, narrowly elongate-ovoid, acuminate, echinate, pubescent, up to 6 cm. long [boveanum subsp. nubicum](#)

Glossonema boveanum subsp. nubicum (*Decne.*) *Bullock* in Kew Bull. 10: 617 (1966). *APD acc*

Glossonema nubicum *Decne.* (1844)-F.T.A. 4, 1: 291; Chev. Bot. 431; F.W.T.A., ed. 1, 2: 55.

A herb a few inches to 1 ft. high, woody at the base; flowers greenish-white; **a weed of cultivation in dry country.**

Mali: Kolé (Feb.) Vaillant 900! Macina (Nov.) Davey 141! Dioura (fl. & fr. Jan.) Davey 211! Niamei-Niama, near Bore O.I.C.M.A. 44/1957! Timbuktu (fl. & fr. July) Hagerup 214! **Ghana:** Navrongo (fl. & fr. Mar.) Vigne FH 4487! 4682! **N. Nig.:** Thornewill 35! Fodama Moiser 187! Ibeto (fl. & fr. Jan.) Meikle 1048! Katagum (Dec.) Dalz. 99! Sokoto Dalz. 368! **S. Nig.:** Lagos Barter! [Br.] **Cam.:** Bama, Dikwa Div. (Jan.) McClintock 155!

Also in the **Sudan**.

G. boveanum subsp. boveanum occurs throughout N. Africa, extending into the Sudan, Ethiopia, Somalia, Aden and Arabia.

5. CYNANCHUM*Linn.-F.T.A.* 4, 1: 390.

- 1** Slender climbers; cymes lateral at leafy nodes; leaves 5-nerved, long-petiolate, the lamina deeply reniform-cordate at the base: **2**
 Erect, precocious herb, the flowers arising in cushioned cymes at ground level, 3-5 cm. high; leafy shoots arising later, the leaves more or less lanceolate, shortly petiolate, 2-4 cm. long, cuneate at the base [3. *praecox*](#)
- 2** Corolla-lobes 2-2.5 mm. long, erecto-patent; pedicels 4-6 mm. long; corona 2 mm. long: **3**
 Corolla-lobes 5-6 mm. long, widely spreading; pedicels 1.5-2.5 cm. long; corona 4 mm. long [2. *longipes*](#)
- 3** Peduncles 0-6 mm. long [1a. *adalinae* subsp. *adalinae*](#)
 Peduncles 2-3 cm. long [1b. *adalinae* subsp. *mannii*](#)
- 1. *Cynanchum adalinae* (K. Schum.) K. Schum.** in E. & P. Pflanzenfam. 4, 2: 253 (1895); F.T.A. 4, 1: 394; E.W.T.A., ed. 1, 2: 54. *APD acc*
Vincetoxicum adalinae K. Schum. (1893).
- 1a. *Cynanchum adalinae* subsp. *adalinae*** -Bullock in Kew Bull. 17: 185 (1963). *APD acc*
Cynanchum macinense A. Chev. Bot. 435, name only.
 Slender twiner with yellowish flowers; [in secondary forest](#).
Mali: Macina (Sept.) Chev. 24861. **Ghana:** Aburi Scarp (June, Sept.) Morton! Adams 1776! **S. Nig.:** E. Lagos (fl. & fr. May) Lamborn 303! Aweba, Idanre (fl. & fr. Jan.) Brenan 8691! Ijebu Dist. (Apr.) Tamajong FHI 23259! Sapoba F.R., Benin Prov. (fl. & fr. June) Onochie FHI 36654! S.W. Boje, Ogoja Prov. (May) Jones & Onochie FHI 18918! **[Br.] Cam.:** Ambas Bay Mann 765! Victoria Kalbreyer 3! **F. Po:** Mann!
- 1b. *Cynanchum adalinae* subsp. *mannii* (Sc. Elliot) Bullock** in Kew Bull. 17: 186 (1963). *APD acc*
Vincetoxicum mannii Sc. Elliot (1894).
Cynanchum mannii (Sc. Elliot) N. E. Br. in F.T.A. 4, 1: 394 (1903); F.W.T.A., ed. 1, 2: 54.
Cynanchum acuminatum (Benth.) K. Schum. (1896), not Humb. & Bonpl. ex Schultes.
S. L.: Bagroo R. Mann! Bumban to Port Loko (Apr.) Sc. Elliot 5672! Binkolo (Aug.) Thomas 1816! Njala (fr. May) Deighton 2522! Kabusa Sc. Elliot 5479! Vevehun, Fwendu to Potoru (Apr.) Deighton 1649! **Lib.:** Duport (July) Dinklage 3064! Du R. (July) Linder 258! Beiden, Boporo Dist. (fr. Nov.) Baldwin 12602! Peahtah (Oct.) Linder 914! 1026!
- 2. *Cynanchum longipes* N. E. Br.** in Kew Bull. 1897: 273; F.T.A. 4, 1: 393; Bullock in Kew Bull. 10: 286 (1955). *APD acc*
 Slender twiner with greenish-yellow flowers.
Port. G.: Bafatá, Geba to Mato de Cao (fr. Sept.) Esp. Santo 3370! Bafatá to Capé (Aug.) Esp. Santo 3311! **Guin.:** Kindia (July) Jac.-Fél. 1810! **S. L.:** Ronieta (Nov.) Thomas 5377! Mamaha (Nov.) Thomas 4553! Njala (Sept., Oct.) Deighton 3229! 5188! **Lib.:** Gbanga Linder 653! **S. Nig.:** Papalayito, E. Lagos Millen 48!
 Also in [Congo](#) and [Uganda](#).
- 3. *Cynanchum praecox* Schltr. ex S. Moore** in J. Bot. 40: 256 (1902); Bullock in Kew Bull. 8: 354 (1953) and 9: 362 (1964). *APD acc*
Cynanchum pygmaeum Schltr. (1913).
 Precocious herb with inflorescence about 2 in. high bearing brownish flowers, greenish inside with a white corona; [appearing after grass fires in upland](#).
S. L.: Loma Mts. (Jan.) Jaeger 4168! **N. Nig.:** N. of Zaria (Feb.) Milne-Redhead 5030! **[Br.] Cam.:** Kumbo to Oku, 6,000 ft. (Feb.) Hepper 2011! Gembu, 4,500 ft., Mambila Plateau (Jan.) Hepper 1831!
 Also in [Cameroun](#), [Congo](#), [Tanganyika](#), [N. Rhodesia](#) and [S. Rhodesia](#).

***Cynanchum hastifolium* N. E. Br.** in Kew Bull. 1895: 257; F.T.A. 4, 1: 397; Berhaut Fl. Sén. 57. *APD*

*acc**APD: Synonym of Cynanchum hastifolium K. Schum. subsp. hastifolium*

A twining plant.

Sen.: Adam 9996 (not seen).Previously recorded only from **Ethiopia** and **Eritrea**.**6. OXYSTELMA***R. Br.*-F.T.A. 4, 1: 382.

- 1** Twiner; stems wiry, glabrous; leaves oblong-lanceolate, mucronate at the apex, rounded, truncate or subcordate at base, 3-8 cm. long, 1.5-3.5 cm. broad, glabrous; cymes 2-4-flowered; pedicels slender, about 1 cm. long; calyx-lobes lanceolate, 4 mm. long, glabrous; corolla 3 cm. diam., lobes broadly triangular, ciliate at the sinus, veined dark purple inside; follicles about 5 cm. long, obliquely ellipsoid, glabrous *bornouense*

Oxystelma bornouense *R. Br.* in Denham & Clapp. Travels in N. & C. Afr., App. 239 (1826); F.T.A. 4, 1: 383; Berhaut Fl. Sén. 57. *APD acc*

Twiner with white flowers suffused crimson.

Sen.: (Nov.) Roger! Heudelot 423! Berhaut 1406! **Gam.:** Saunders 59! **Port. G.:** Farim (Nov.) Esp. Santo 3634! **Guin.:** Faranah (Mar.) Roberty 17227! **S. L.:** Dawe 510! Laminaia (fl. S fr. Apr.) Thomas 145! **Ghana:** Aburi Anderson 15! Kete Krachi (Dec.) Adams 4594! Bawku (Apr.) Vigne FH 3744! **N. Nig.:** Nupe Barter 1131! Minna (Dec.) Meikle 731! Lemme (May) Lely 144! Katagum Dist. Dalz. 98! L. Chad Talbot 1014! **S. Nig.:** Thomas! Lagos Rowland! Abeokuta Irving! Olokemeji (Aug.) Foster 298! [**Br.**] **Cam.:** Bama, Dikwa Div. (Jan.) McClintock 136!

7. PERGULARIA

Linn. Mant. 8: 53 (1767); N. E. Br. in Kew Bull. 1907: 323 (1907), and in This.-Dyer, Fl. Cap. 4, 1: 757 (1908).

Daemia *R. Br.* (1810)-F.T.A. 4, 1: 385.

- 1** Stems scrambling and twining, densely and harshly tomentose when young; leaves petiolate, ovate-orbicular, cordate at base, apiculate but not acuminate at apex, up to about 5 cm. diam. but often smaller, very densely strigose-tomentose on both surfaces when young, more or less glabrescent in age; peduncles lateral, short; pedicels slender, about 1 cm. long; corolla white and purple, about 8 mm. long, tube narrowly cylindric, lobes elliptic, bearded within the margin; follicles paired, divaricate, more or less echinate, very shortly tomentose, at least when young, ovoid in shape, beaked, up to about 7 cm. long *1. tomentosa*

Stems twining or trailing over the ground, more or less hirsute with stiff spreading hairs; leaves broadly ovate or more rarely almost orbicular, widely cordate at base, cuspidate-acuminate, up to 15 cm. or more long and 12 cm. or more broad, but usually smaller, thinly mesophytic, shortly pubescent on both surfaces, often early glabrescent, long-petiolate; peduncles slender, elongate, lateral; flowers in a terminal racemiform corymb; pedicels up to 3 cm. long, filiform; corolla white or greenish-white, about 1 cm. long, lobes bearded on the margin; follicles paired, widely divaricate, lanceolate in outline, smooth or variously echinate, sometimes densely so, up to 8 or 9 cm. long, densely pubescent to almost glabrous *2. daemia*

1. Pergularia tomentosa *Linn.* Mant. 53 (1767). *APD acc*

Asclepias cordata *Forsk.* (1775).**Daemia cordata** (*Forsk.*) *R. Br.* (1810)-F.T.A. 4, 1: 386.**D. incana** *Decne.* (1838).**D. tomentosa** (*Linn.*) *Pomel* (1874)-K. Schum. in E. & P. Pflanzenfam. 4, 2: 258 (1895).A low shrubby climber of **very dry country**, with purplish-white sweet-scented flowers.

Mali: Timbuktu Hagerup 232! 238a! Gao (Aug.) de Wailly 5162! Taga-aras (Sept.) Hagerup 319! **N. Nig.:** Sokoto (Nov.) Moiser 46! Lely 147! 154! Ngzuru (fl. & fr. June) Onochie FHI 23325! Katagum Dist. (fl. & fr. Jan.) Dalz. 322! Molomawa (Feb.) Foster 14!

Extending to N. Africa, **Egypt**, **Arabia**, Pakistan and India.

2. **Pergularia daemia** (*Forsk.*) *Chiov.* Res. Sci. Miss. Stefan.-Paoli Somal. Ital. 1: 115 (1916). *APD acc*

Asclepias daemia *Forsk.* (1775).

Pergularia extensa (*R. Br.*) *N. E. Br.* in This.-Dyer Fl. Cap. 4, 1: 758 (1908), partly; F.W.T.A., ed. 1, 2: 55; Berhaut Fl. Sén. 57.

Daemia extensa *R. Br.* (1810)-F.T.A. 4, 1: 387, partly .14

A high climbing herbaceous or semi-woody climber of **forest edges and damp savanna**, with white or greenish sweet-scented flowers.

Sen.: Heudelot 416! Farmar 125! Berhaut 518! Fasena R. (Feb.) Döllinger! **Gam.:** Don 8! (July) Brooks 20! **Port. G.:** Praia Varela, Suzana (fl. Mar., fl. A fr. Oct.) Esp. Santo 2248! 2281! Suzana to Casselol (fl. & fr. Nov.) Esp. Santo 3138! **Lib.:** Ganta (Oct.) Harley! Flumpa, Sanokwele Dist. (Sept.) Baldwin 9355! Nakabozu, Vonjama Dist. (Oct.) Baldwin 9978! **Ghana:** Cape Coast (July) T. Vogel 36! Accra T. Vogel 15! Nungua (fl. & fr. Mar.) Ankrah GC 20165! Aburi (fl. & fr. Nov.) Adams 1923! Jiasi (fl. & fr. Oct.) Vigne FH 1384! Akayao, Kwamikrom, Togo (Dec.) Adams 4503! **N. Nig.:** Lokoja Barter! Ansell! Nupe Barter 1320! Pandiaki Ansell! Gwari, Gawu Hills, Niger Prov. (Aug.) Onochie FHI 35916! Bossa, Minna (Feb.) Meikle 1232! Yola & Vango, Malabu Hills (fl. & fr. May) Dalz. 95! **S. Nig.:** Iagos (fl. Nov., fl. & fr. Apr.) Dalz. 1257! Moloney! Makori to Araromi, Ijebu Ode (fl. & fr. Jan.) Tamajong FHI 21053! Abeokuta to Ibadan (fl. & fr. Dec.) Burt B3! Busogboro, Ibadan Dist. (fl. & fr. Nov.) Okafor FHI 34951! Oban Talbot 997! **[Br.] Cam.:** Buea (Nov.) Migeod 93!

Widely distributed in tropical Africa, extending to **Arabia** and further east.

8. PENTARRHINUM

E. Mey. -F.T.A. 4, 1: 378.

- 1 Twining climber; leaves glabrous or nearly so, ovate-oblong, deeply cordate with a wide rounded sinus at the base, caudate-acuminate, up to about 10 cm. long and 6 cm. broad; petioles slender, 2-5 cm. long; inflorescence umbelliform, lateral at the nodes; peduncle about as long as the petioles, thinly pubescent; pedicels very slender, 1-5 cm. long, pubescent; corolla saucer-shaped, about 1 cm. diam., the lobes ovate, rounded at the apex; corona-lobes with an abruptly inflexed apical horn; follicles narrowly ovoid, narrowed to a beak at apex, more or less softly tuberculate-echinate or nearly smooth and glabrous *insipidum*

Pentarrhinum insipidum *E. Mey.* Comm. Pl. Afr. Austr. 200 (1837); F.T.A. 4, 1: 378. *APD acc*

APD: *Synonym of Pentarrhinum abyssinicum subsp. angolense (N.E. Br.) Liede & Nicholas*

Twining herbaceous climber 4-6 ft. or more high; corolla-lobes grey-green with faint purple lines, corona-lobes white, gynostegium brownish; **in open parts of montane forest.**

[Br.] Cam.: Cam. Mt., near Mann's Spring, 7,000 ft. (Mar.) Brenan 9510!

Tropical and S. Africa generally.

9. PENTATROPIS

Wight & Arn. -F.T.A. 4, 1: 380; Bullock in Kew Bull. 10: 283 (1955).

- 1 Stems twining, wiry, glabrescent; leaves elliptic to ovate, slightly cordate at base, acute, 2-5 cm. long, 1-2 cm. broad, glabrescent; flowers 1-4 on a very short extra-axillary peduncle; pedicels about 1 cm. long, very slender; calyx-lobes ovate, very small; corolla deeply lobed, lobes lanceolate, acuminate, about 1 cm. long, puberulous inside *spiralis*

Pentatropis spiralis (*Forsk.*) *Decne.* in Ann. Sci. Nat., sér. 2, 9: 327, t. 11E (1838); Bullock l.c. 284.

APD: *Synonym of Pentatropis nivalis (J.F. Gmel.) D.V. Field & J.R.I. Wood*

Asclepias spiralis *Forsk.* Fl. Aegypt.-Arab. 49 (1775).

Pentatropis senegalensis *Decne.* l.c. 328 (1838).

Pentatropis cynanchoides var. *senegalensis* (*Decne.*) *N. E. Br.* in F.T.A. 4, 1: 381; F.W.T.A., ed. 1, 2: 54.

A woody twiner with slightly fleshy leaves; flowers dull purplish-green; [in thickets, sandy places and by seasonal streams.](#)

Sen.: Roger! Heudelot 530! Berhaut 86. **Mali:** Koubita (Feb.) Davey 452! Rharous (Sept.) Hagerup 321! **N. Nig.:** Katagum Dist. (Aug.) Dalz. 94!

Extending across the northern dry savanna to [Kenya](#), [Ethiopia](#) and [Somalia](#), the Orient, Pakistan and India; also in Madagascar and the Comoro Islands.

10. CALOTROPIS

R. Br. -F.T.A. 4, 1: 294.

- 1 Shrub or small tree; leaves oblong-obovate to broadly obovate, cordate at base, abruptly and shortly acuminate, up to 30 cm. long and up to 15 cm. or more broad, very glaucous; cymes umbelliform, pedunculate, extra-axillary, several-flowered; pedicels 1-3 cm. long; calyx segments 6 mm. long; corolla campanulate, about 2 cm. diam.; follicles inflated, subglobose to obliquely ovoid, up to 10 cm. or more long [procera](#)

Calotropis procera (*Ait.*) *Ait. f.* Hort. Kew. ed. 2, 2: 78 (1811); F.T.A. 4, 1: 294; Berhaut Fl. Sén. 82. *APD acc*

A shrub or small tree with large glaucous leaves; flowers green with blue or violet markings; follicles bladder-like; seeds with a dense coma used as kapok; [found abundantly in semi-arid conditions.](#)

Sen.: Berhaut 37. **Gam.:** Ozanne 3! Pirie 52! Dawe 71! Kuntaur Ruxton! **Port. G.:** Bissau (fl. & fr. Mar.) Esp. Santo 1158! **S. L.:** Yoni, Bonthe Isl. (cult., Mar.) Deighton 2493! **Ghana:** Achimota (Apr.) Adams 2717! Kpedsu (fl. & fr. Dec.) Howes 143! Samdu (May) Kitson 719! Navrongo (May) Andoh 5187! **N. Nig.:** Jebba (fl. & fr. Feb.) Richards 5037! Ilorin Div. (fl. & fr. Dec.) Meikle 871! Katagum Dist. Dalz. 304! Sokoto (Mar.) Moiser! Jos Plateau (Mar.) Lely P189! **[Br.] Cam.:** near Vogel Peak, Adamawa (Dec.) Hepper 1558! **F. Po:** Mann 238!

Widely distributed (? introduced) in tropical Africa, extending to N. Africa, Orient, Pakistan and India.

11. MARGARETTA

Oliv. -F.T.A. 4, 1: 372; Bullock in Kew Bull. 7: 411 (1952).

- 1 Herb; stems simple or subsimple, from a woody tuberous rhizome, pubescent, rarely exceeding 30 cm. high; leaves broadly linear or lanceolate, acute, rounded or subcordate at base, sessile, 3-7 cm. long, up to 1 cm. broad, scabrid-pubescent on both surfaces; cymes umbelliform, terminal or becoming lateral; flowers numerous, corolla-lobes reflexed, corona-lobes conspicuous and petaloid [rosea](#)

Margaretta rosea *Oliv.* in Trans. Linn. Soc. 29: 111, t. 76 (1875); F.T.A. 4, 1: 373; Bullock l.c. *APD acc*
Margaretta inopinata *Hutch.* in Kew Bull. 1921: 387; F.W.T.A., ed. 1, 2: 68.

Perennial with annual shoots up to 1 ft. high from a tuberous rootstock; flowers with white, yellow, pink or red petaloid corona, corolla-lobes white, small, ligulate, reflexed; [in upland savanna.](#)

N. Nig.: between Hephram and Ropp (July) Lely 366! Jos Plateau (Apr.) Lely P226! Heipang (Apr.) Keay, Wimbush & E. W. Jones FHI 37610! **[Br.] Cam.:** Bamenda (fl. & fr. May) Maitland 1517! Ndu, 6,000 ft. (Feb.) Hepper 2844! Mambila Plateau, 6,600 ft. (Jan.) Hepper 1749! Vogel Peak Massif, Adamawa (Dec.) Hepper 1563!

Widespread in tropical Africa.

12. KANAHIA

R. Br. -F.T.A. 4, 1: 295; Bullock in Kew Bull. 7: 421 (1952).

- 1 Stems erect, woody; leaves linear-lanceolate, ascending, acute, up to 15 cm. long and 1-1.5 cm. broad, glabrous; flowers in extra-axillary multiflorous pedunculate umbelliform racemes; pedicels up to 2.5 cm. long; corolla deeply 5-lobed, about 1 cm. long, lobes ovate-triangular, villous inside; follicles ovoid, up to 5 cm. long

[*laniflora*](#)

Kanahia laniflora (*Forsk.*) *R. Br.* in Mem. Wern. Soc. 1: 40 (1810); F.T.A. 4, 1: 296; Bullock in Kew Bull. 7: 421 (1962). *APD acc*

Kanahia consimilis *N. E. Br.* (1902)-F.T.A. 4, 1: 298; F.W.T.A., ed. 1, 2: 65.

Asclepias fluviatilis *A. Chev.* Bot. 434, name only.

A woody herb, stiffly erect, to 6 ft. high with creamy white sweet-scented flowers; [along seasonal rivers](#).

IV. C.: Alépé to Malamalasso Chev. 17514. Marabadiassa Chev. 22021. **Dah.:** Savé to Agouagon Chev. 23594. **N. Nig.:** Lokoja (Mar.) Shaw 33! Jira (May) Lely 125! Plateau Prov. (Feb.) McClintock 249! Jos Plateau (fl. & fr. July) Lely P345! Kaura Namoda, Sokoto Prov. (May) Keay FHI 18082! **S. Nig.:** Idagun Rowland! Ijebu (Apr.) Tamajong FHI 23255! Etemi (Mar.) Jones & Onochie FHI 16692! Abeokuta (fr. Dec.) Meikle 923! Oban Talbot 1551! **[Br.] Cam.:** Preuss 1364! Johann-Albrechtshöhe (=Kumba) Staudt 603! Bamenda (Apr.) Maitland 1508! Kimbi Bridge, Wum Div. (Feb.) Hepper 1933! near Vogel Peak, Adamawa (Nov.) Hepper 1403!

Widely distributed throughout tropical Africa, extending southwards to Mozambique, the Transvaal and S.W. Africa, and northwards into [Egypt](#) and [Arabia](#).

13. ASPIDOGLOSSUM

E. Mey. Comm. Pl. Afr. Austr. 200 (1837). *APD acc*

- 1 Corolla-lobes conspicuously tomentose with long white hairs inside, pubescent outside; herb up to 60 cm. or more high, stems strictly erect, slender, simple or sparsely branched in the upper third, softly pubescent, arising from a carrot-like woody rootstock; internodes 5-10 cm. long; leaves linear, stiffly erecto-patent, 5-7 cm. long, margins incurved, rather thinly and shortly pubescent on both surfaces; flowers in dense fascicles about 2 cm. diam., lateral at the upper nodes; pedicels uniform in length in each fascicle, 5-7 mm. long .. [1. angustissimum](#)

Corolla-lobes with a few scattered hairs inside and outside; herb similar in habit to above, but rarely exceeding 40 cm. in height; stems slender, very thinly pubescent or almost glabrous; flowers few, in fascicles, lateral at the upper nodes; pedicels of variable length in each fascicle, 2-8 mm. long [2. interruptum](#)

1. *Aspidoglossum angustissimum* (*K. Schum.*) *Bullock* in Kew Bull. 7: 418 (1952). *APD acc*

Schizoglossum angustissimum *K. Schum.* in Engl. Bot. Jahrb. 17: 123 (1893); P.T.A. 4, 1: 357; F.W.T.A., ed. 1, 2: 58, partly (only the name).

Erect herb from a woody base; [savanna grasslands](#).

[Br.] Cam.: Nchan, 5,000 ft., Bamenda (June) Maitland 1384!

Widely distributed in savanna grasslands of tropical Africa.

2. *Aspidoglossum interruptum* (*E. Mey.*) *Bullock* l.c. 419 (1952). *APD acc*

Lagarinthus interruptus *E. Mey.* l.c. 208 (1837).

Schizoglossum interruptum (*E. Mey.*) *Schltr.* in Engl. Bot. Jahrb. 18, Beibl. 45: 4 (1894); N. E. Br. in This.-Dyer Fl. Cap. 4, 1: 660 (1907).

S. angustissimum of F.W.T.A., ed. 1, 2: 58, partly (specimens cited), not of K. Schum.

Similar to the last; flowers dull purplish; in [savanna](#).

Port. G.: Gabu, Pitche (Aug.) Esp. Santo 2723! **Ghana:** Winneba Plains (Apr.) Keay & Adams FHI 37764! Legon Hill (Nov.) Adams 3528! Akuse (fl. & fr. June) Dalz. 154! Ayafie to Atafie (Dec.) Adams 4671! **Niger:** Diapaga to Pada, Gourma (fl. & fr. July) Chev. 24492! **N. Nig.:** Zungeru (June) Dalz. 574! Abinsi (May, June) Dalz. 686! Maska, Katsina (June) Keay FHI 25890! **[Br.] Cam.:** Basenako, 5,000 ft., Bamenda (fl. & fr. June) Maitland 1453! Ngong, Bamenda (June) Maitland 1775!

Widely distributed through the savanna of tropical and S. Africa.

14. TRACHYCALYMMA

Bullock in Kew Bull. 8: 348 (1953).

- 1 Corona-lobes truncate, the internal papillae exserted; leaves linear-lanceolate, up to 10 cm. long and scarcely 5 mm. broad, with prominent midrib, narrowed to the base and sessile or nearly so; flowers 4-6, in umbelliform lateral cymes, saucer-shaped; follicles up to 20 cm. long, erect, narrowly fusiform, the stipe more than half the total length [1. cristatum](#)
- Corona-lobes produced upwards to a rounded distal horn, the internal papillae not exserted; leaves, etc., very much as above [2. pulchellum](#)

1. **Trachycalymma cristatum** (Decne.) Bullock l.c. 349 (1953).

APD: *Synonym of Asclepias palustris* (K. Schum.) Schltr.

Gomphocarpus cristatus Decne. in Ann. Sci. Nat. sér. 2, 9: 325 (1838).
Asclepias palustris (K. Schum.) Schltr. (1895)-F.T.A. 4, 1: 349.

A weak erect perennial herb of [open savanna](#), from a small turnip-like tuber, a few inches to 1 ft. high, with white flowers suffused with pink and very long erect fusiform follicles.

N. Nig.: Mongu, 4,300 ft. (Aug.) Lely 442! Rabo'utu R., Birnin Gwari Dist. (June) Keay FHI 25885! [**Br.**] **Cam.:** Lakom, Bamenda (Apr.) Maitland 1494!

Widely distributed in savanna country of tropical Africa.

2. **Trachycalymma pulchellum** (Decne.) Bullock l.c. 350 (1953).

APD: *Synonym of Asclepias foliosa* (K. Schum.) Hiern

APD: *Synonym of Asclepias ameliae* S. Moore

Gomphocarpus pulchellus Decne. l.c. (1838).
Asclepias foliosa (K. Schum.) Hiern (1898)-P.T.A. 4, 1: 349; F.W.T.A., ed. 1, 2: 56.

A weak erect herb very like the preceding but differing markedly in the form of the corona; in [savanna country](#).

N. Nig.: Naraguta (fl. & fr. July) Lely 317! Vom Dent Young 172! Anara F.R., Zaria Prov. (May) Keay FHI 22915! Mando F.R., Birnin Gwari Dist. (June) Keay FHI 25816! Kaciya to Zonkwa, Zaria Prov. (June) G. V. Summerhayes 96!

Widely distributed in savanna country of tropical Africa.

[Note: It is possible that the two species enumerated above represent no more than ecotypic genotypes of the same species. Although both are well-represented in herbaria, collectors' observations are not sufficient for a decision to be made.]

15. ASCLEPIAS

Linn.-F.T.A. 4, 1: 313, partly (introduced New World species). *APD acc*

- 1 Erect more or less glabrous herb up to 1.5 m. high; leaves lanceolate, acuminate, 1.5-2.5 cm. broad; corolla red-orange, the lobes soon reflexed; follicles erect, fusiform, smooth, about 8 cm. long [curassavica](#)

Asclepias curassavica Linn. Sp. Pl. 215 (1753); F.T.A. 4, 1: 328; Berhaut Fl. Sén. 88, 85.

An erect, shrubby herb up to 5 ft. high with umbelliform inflorescences of flowers with scarlet reflexed corolla-lobes and yellow corona.

Widely cultivated in our area as an ornamental plant and recorded from most countries from Senegal to Fernando Po. A native of tropical America and an escape from cultivation in our area, but not known to have established itself among the native flora.

16. GOMPHOCARPUS

R. Br. in Mem. Wem. Soc. 1: 37 (1810).

Asclepias of F.T.A. 4, 1: 294; of F.W.T.A., ed. 1, 2: 56, partly, not of Linn.

- 1 Follicles densely invested with filiform bristle-like outgrowths; peduncles and pedicels densely pubescent; flowers more or less cream-coloured; leaves linear to lanceolate up to 15 cm. long:**2**
 Follicles without outgrowths, narrowly fusiform, membranous, glabrous; peduncles and pedicels glabrous or with lines of sparse short hairs; leaves linear, up to 20 cm. long or more; flowers greenish-blue:**3**
- 2 Follicles inflated, bladder-like when ripe, apex rounded; calyx-lobes up to 1 cm. long; corona-lobes shorter than the staminal column [1. *physocarpus*](#)
 Follicles not inflated, more or less ovoid, apex rostrate; calyx-lobes not exceeding 5 mm. long; corona-lobes at least as long as the staminal column [2. *fruticosus*](#)
- 3 Leaves linear, very sharply ascending, 15-20 cm. long, scarcely 5 mm. wide; the whole plant glabrous; flowers more or less nodding, 2 cm. or more in diam. [3. *solstitialis*](#)
 Leaves linear-lanceolate, about 10 cm. long, 5-6 mm. wide, glabrous or with a few very short hispid hairs beneath; flowers not more than 1.5 cm. diam., pedicels and peduncles with opposite lines of sparse short hairs [4. *kamerunensis*](#)

1. **Gomphocarpus physocarpus** *E. Mey.* Comm. Pl. Afr. Austr. 202 (1837); Bullock in Kew Bull. 7: 408 (1952). *APD acc*

APD: Synonym of Gomphocarpus semilunatus A. Rich.

Gomphocarpus semilunatus *A. Rich.* (1851).

Asclepias semilunata (*A. Rich.*) *N. E. Br.* in F.T.A. 4, 1: 328 (1902); F.W.T.A., ed. 1, 2: 56, partly; Berhaut Fl. Sén. 265.

A perennial herb up to 6 ft. high with cream flowers and bladder-like fruits; [in upland seasonal swamp grassland](#).

Sen.: Kayar & Niayes Berhaut 1386. **N. Nig.:** Jos Plateau (fl. & fr. Apr.) Lely P248! [**Br.**] **Cam.:** Bamenda, 5,000 ft. (fl. & fr. Dec.) Baldwin 13863! Nchan, 5,000 ft., Bamenda (May) Maitland 1708!

Widespread in tropical and S. Africa.

2. **Gomphocarpus fruticosus** (*Linn.*) *Ait. f.* Hort. Kew ed. 2, 2: 80 (1811); Bullock l.c. 406. *APD acc*

Asclepias fruticosa *Linn.* (1753)-F.T.A. 4, 1: 330.

A. foliosa of F.W.T.A., ed. 1, 2: 56, partly, not of N. E. Br.

A. semilunata of F.W.T.A., ed. 1, 2: 56, partly (synonymy).

A. euphorbioides *A. Chev.* (1909).

Perennial herb up to 6 ft. high, with cream flowers; the fruits are not inflated; [in savanna grassland](#).

Guin.: Mali (Sept., Oct.) Schnell 7267! Jac.-Fél. 1970! Dalaba-Diaguissa Plateau Chev. 18372! Ditinn to Diaguissa Chev. 12849!

Widespread in tropical and S. Africa.

3. **Gomphocarpus solstitialis** (*A. Chev.*) *Bullock* l.c. 340 (1953).

APD: Synonym of Asclepias solstitialis A. Chev.

Asclepias solstitialis *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 270 (1917); Chev. Bot. 434; F.W.T.A., ed. 1, 2: 56.

A perennial herb about 3 ft. high with small bluish flowers; [in stream beds](#).

Guin.: Soarella (June) Pobéguin 1007! **Iv. C.:** Mt. Kamouéniboka, Marabadiassa (July) Chev. 22017! **Ghana:** Yeji (Aug.) Pomeroy 1343! **N. Nig.:** Aguji, Ilorin Thornton! Zungeru (fl. & fr. July) Dalz. 3! **S. Nig.:** Ogbuga, Enugu (June) Stevenson FHI 23643!

4. **Gomphocarpus kamerunensis** (*Schltr.*) *Bullock* l.c. 8: 340 (1953).

APD: Synonym of Asclepias kamerunensis Schltr.

Asclepias kamerunensis *Schltr.* in Engl. Bot. Jahrb. 51: 137 (1913).

A perennial herb about 3 ft. high, with bluish-green flowers; [in stream beds](#).

Ghana: Shiare, Buen-Krachi Dist. (Apr.) Hall 1448! **N. Nig.:** Mando, Zaria Prov. (June) Keay FHI 25857! **S. Nig.:** Nsuka, Onitsha Prov. (June) Thompson! [**Br.**] **Cam.:** Ngong, Bamenda (fl. & fr. June) Maitland 1747!

Also in [Cameroun](#).

17. XYSMALOBIMUM

R. Br.-F.T.A. 4, 1: 298, partly.

- 1 Leaves elliptic-oblong-oblancheolate, long-cuneate at base, with a petiole up to 1 cm. long, the lamina broadly acute, up to 8 cm. long and 1.5 cm. broad; inflorescences sessile, 6-8-flowered, extra-axillary at the upper nodes, umbelliform; pedicels 8-15 mm. long; corolla-lobes spreading-campanulate, oblong, 7 mm. long, 3 mm. broad [1. membraniferum](#)

Leaves narrowly oblong-linear, narrowly oblong, lanceolate, oblanceolate or rarely ovate or obovate, never long-cuneate at the base, usually rounded, very shortly petiolate, up to 11 cm. long, but usually 4-7 cm. long; inflorescences 10-12-flowered, extra-axillary at the upper nodes, umbelliform on very short or obsolete peduncles; pedicels 8-12 cm. long; corolla-lobes abruptly reflexed, oblong-lanceolate, 4-5 mm. long [2. heudelotianum](#)

1. *Xysmalobium membraniferum* *N. E. Br.* in Kew Bull. 1895: 251; F.T.A. 4, 1: 304. *APD acc*

An erect herb 12-18 in. high.

S. L.: Port Loko Sc. Elliot 5183! Falaba (Mar.) Sc. Elliot 5184!

2. *Xysmalobium heudelotianum* *Decne.* in DC. Prod. 8: 520 (1844); F.T.A. 4, 1: 304. *APD acc*

APD: *Synonym of Xysmalobium membraniferum N.E. Br.*

An erect herb from a fusiform tuber a few inches to 4 ft. high; flowers greenish-yellow, follicles erect, long-stipulate, narrowly fusiform, up to nearly 1 ft. long but often much less; [in grassy savanna](#).

Sen.: Komba Heudelot! *Gam.*: Genieri (Feb.) Fox 84! *S. L.*: Samaia (fr. May) N. W. Thomas 233! *Ghana*: Achimota (May) Irvine 1617! Aburi Anderson! Nangodi to Bongo (Nov.) Morton A3802! *N. Nig.*: Nupe Barter 1323! Anara F.R., Zaria (May) Keay FHI 19199! Assob (Feb.) McClintock 237! Mongu (July) Lely 439! Abinsi (fl. & fr. June-July) Dalz. 692! 693! 694! Kyana, Nassarawa Prov. (Feb.) Hepburn 3!

Widely distributed in savanna country of tropical and S. Africa.

[It is very doubtful whether *X. membraniferum* can be maintained as a species distinct from *X. heudelotianum*. The distinctions made above are somewhat poor and can be explained as artefactual or developmental. I have seen only the two original specimens of *X. membraniferum*-A.A.B.]

18. PACHYCARPUS

E. Mey. Comm. Pl. Afr. Austr. 200 (1837).

- 1 Follicles inflated, broadly rounded at base and apex; corona-lobes arising from the base of, and shorter than the gynostegium; leaves oblong-elliptic, rounded to subacute at base and apex, 6-15 cm. long, 2-6 cm. broad, with numerous parallel patent lateral veins; petiole 4-10 mm. long; stems simple, up to 1 m. high; inflorescence pedunculate, lateral from the upper nodes, umbelliform; the whole plant more or less hispid hairy [1. lineolatus](#)

Follicles broadly fusiform, narrowed to a beak above and a stipe below; corona-lobes from above the base of, and slightly overtopping the gynostegium; habit and leaves as in the preceding [2. schweinfurthii](#)

1. *Pachycarpus lineolatus* (*Decne.*) *Bullock* in Kew Bull. 8: 333 (1953). *APD acc*

APD: *Synonym of Pachycarpus bisacculatus (Oliv.) Goyder*

Gomphocarpus lineolatus *Decne.* in Ann. Sci. Nat. Paris, sér. 2, 9: 326 (1838).

Aselepias lineolata (*Decne.*) *Schltr.* in J. Bot. 33: 336 (1895), partly; F.T.A. 4, 1: 322; F.W.T.A., ed. 1, 2: 56; Berhaut Fl. Sén. 82.

An erect simple-stemmed perennial, hispid-hairy all over, with inflated bladder-like follicles; [savanna](#).

Sen.: Niokolo-Koba Berhaut 1555. *Guin.*: Beyla (June) Jac.-Fél. 985! Fabala, Kérouané (July) Collenette 75! *Ghana*: Aburi Anderson 3! Yeji (Aug.) Vigne FH 3310! Tolon (June) Williams 822! Logba Lota (June) Howes 925! *N. Nig.*: Aguji, Ilorin Thornton! Nupe Barter 1323a! Zungeru (July) Dalz. 2! Jos Plateau (May, July) Lely P329! Dent Young 171! Keay &

King FHI 37100! Maska, Katsina Prov. (June) Keay FHI 25897! **[Br.] Cam.:** Bamenda, 5,000 ft. (fl. & fr. May) Maitland 1428! Nchan, Bamenda (fl. & fr. June) Maitland 1748! 1789!

Widely distributed in the savanna of tropical Africa.

2. *Pachycarpus schweinfurthii* (N. E. Br.) Bullock l.c. 330 (1953).

APD: *Synonym of Pachycarpus lineolatus (Decne.) Bullock*

Asclepias schweinfurthii N. E. Br. in Kew Bull. 1895: 253; F.T.A. 4, 1: 323.

A hispid hairy perennial very similar to the preceding, but the follicles fusiform, not inflated; [savanna](#).

N. Nig.: Mando F.R., Birnin Gwari Dist. (June) Keay FHI 25837! **[Br.] Cam.:** Nchan, 5,000 ft., Bamenda (fr. May) Maitland 1521! Ngong, Bamenda (June) Maitland 1746! Nguroje, Mamblla Plateau (Jan.) Hepper 2819!

Widely distributed in the savanna of tropical Africa.

[A specimen collected by T. D. Maitland (No. 1437) at Bamenda in May 1931 may represent a third species for our area.]

19. SARCOSTEMMA

APD: *Synonym of Cynanchum L.*

R. Br.—F.T.A. 4, 1: 383; Bullock in Kew Bull. 11: 504 (1957).

- 1 Scrambling and twining shrub; branchlets leafless, terete, pubescent at the nodes; flowers numerous in sessile umbelliform fascicles, lateral at the nodes; pedicels 6-10 mm. long, more or less woolly; corolla cream or greenish, 5-6 mm. long; follicles up to 10 cm. long, narrowly linear-lanceolate, thinly puberulous [viminale](#)

Sarcostemma viminale (Linn.) R. Br. in Mem. Wern. Soc. 1: 51 (1810); F.T.A. 4, 1: 384.

APD: *Synonym of Cynanchum viminale (L.) L.*

Forming dense scrambling bushes with intricately interlaced branches; flowers cream or greenish, sweetly scented; [a plant of dry savanna country, or frequently found in semi-arid conditions](#).

Ghana: Komenda (Sept.) Chipp 577! Accra (Jan.) Dalz. 71! Accra Plains Vigne FH 2911! Achimota (fr. Jan.) Irvine 1969! Krobo Plains (Jan.) Johnson 604! **N. Nig.:** Takwara Lely 109! **S. Nig.:** Iseyin (Apr.) Onochie FHI 34687! Idanre (Jan.) Brenan, Jones, Richards & Keay 8649!

Widely distributed in tropical Africa.

20. NEOSCHUMANNIA

Schltr. in Engl. Bot. Jahrb. 38: 38 (1905).

- 1 Twining glabrous climber with very slender stems and long internodes; leaves elliptic or oblong elliptic, shortly acuminate, rounded at the base, 9-12 cm. long, 5-6.5 cm. broad; petiole flexuous, 2-2.5 cm. long; inflorescence extra-axillary, racemiform, with a slender naked peduncle as long as or longer than the leaves, the floriferous upper part bracteate, stouter, with numerous flowers borne on filiform pedicels about 4 cm. long; corolla lobed almost to the base, lobes about 11 mm. long, lanceolate, ciliate with clavate hairs; corona in three series, the outer lobes reflexed, glabrous, oblong, 2 mm. long, the intermediate lobes sickle-shaped, erect distally and bidentate, about 1 mm. long, maculate, the inner lobes lanceolate, erect, from a narrow base, elliptic, obtusely acuminate, 3 mm. long, ciliate on the margins and villous inside [kamerunensis](#)

Neoschumannia kamerunensis Schltr. l.c., fig. 4 (1905). *APD acc*

A slender twining climber [among shrubs at the forest edge](#); flowers dark purple outside, greenish inside.

[Br.] Cam.: near Man O' War Bay (Apr.) Schlechter 12384.

[I have not seen a specimen of this remarkable plant which is unique in the family in its inflorescence and corona.]

21. DALZIELIA

Turrill in Hook. Ic. Pl. 31: t. 3061 (1916).

- 1 A shrub or woody herb 60-100 cm. high with simple shortly pubescent stems; leaves narrowly linear-oblongate, 10-12 cm. long, 1-1.5 cm. broad, glabrous; flowers racemously umbelliform, numerous, at the apex of a short extra-axillary peduncle; pedicels 2 cm. long; calyx-lobes subulate-lanceolate, 4-5 mm. long, minutely ciliate; corolla lobed to the middle, the lobes ovate, 8 mm. long [oblanceolata](#)

Dalzielia oblanceolata *Turrill* l.c. (1916). *APD acc*

Xysmalobium graniticola A. Chev. Bot. 432, name only.

A shrubby perennial herb with simple stems up to 3 ft. high, crowded willow-like leaves and cream flowers, bearded on the inner face of the lobes; [along seasonal rivers](#).

Guin.: Macenta (fl. & fr. May) Jac.-Fél. 894! Mt. Nimba (Apr.) Schnell 5010! Upper Niger (Apr.) Chev. 13596! **S. L.:** Bandajuma (May) Aylmer 74! York (Apr.) Adames 204! York Pass (June) Lane-Poole 50! Makump (July) Thomas 933! Yifin (Apr.) Deighton 5085! **Iv. C.:** Guinea frontier (Aug.) Boughey 18135!

22. GYMNEMA

R. Br.—F.T.A. 4, 1: 413.

- 1 Shrubby scrambling twiner, young parts more or less tomentose; leaves more or less ovate, acuminate, cuneate to rounded or cordate at base, densely pubescent to glabrescent, up to about 7 cm. long and 4 cm. broad, but often smaller; flowers numerous, in sessile or shortly pedunculate lateral umbelliform cymes; pedicels about 6 mm. long; corolla about 4 mm. long, lobes spreading-recurved; follicles lanceolate, up to 10 cm. long [sylvestre](#)

Gymnema sylvestre (*Retz.*) *Schultes* Syst. Veg. 6: 57 (1820); F.T.A. 4, 1: 413; Chev. Bot. 436; Bullock in Kew Bull. 8: 68 (1953); Berhaut Fl. Sén. 719. *APD acc*

Periploca sylvestris *Retz.* Obs. Bot. 2: 5 (1781).

A scrambling shrub, leaves and young shoots densely hairy; flowers greenish, inconspicuous, sweetly scented; [a plant of savanna or deciduous forest](#).

Maur.: Webb! **Sen.:** (fl. & fr. Mar.) Roger 49! Sieber 22! Dagana (fr. Feb.) Roberty 16878! Berhaut 719. **Mali:** Bone (Aug.) Demange 39/1957! **Port. G.:** Carache (fr. May) Esp. Santo 1999! Farim (Aug.) Esp. Santo 3061! Fulacunda (July) Esp. Santo 2146! Bafata (Aug.) Esp. Santo 3279! **Guin.:** Nzérékoré (Sept.) Jac.-Fél. 1142! Kouroussa (July) Pobéguin 277! **Ghana:** Komenda (Aug.) Andoh FH 5549! Winneba Plains (fl. & fr. Oct.) Darko 1022! Accra (Aug.) Dalz. 155! Krobo Plains (Aug.) Johnson 1083! **Togo Rep.:** Lomé Warnecke 248! **N. Nig.:** Jebba (fl. & fr. Dec.) Hagerup 701! Kaduna (fr. Dec.) Meikle 837! Katagum (fr. Aug.) Dalz. 97! Bornu (fr. Oct.) Elliott 119! **S. Nig.:** Aguku Dist. Thomas 1022/3! Ibadan South F.R. (Sept.) Keay FHI 25401! Ogun R., Oyo (Sept.) Latilo FHI 23536! Oyo (Sept.) Keay FHI 28040! Ukpon F.R., Obubra Dist. (Aug.) Adebuseyi FHI 43961!

Widely distributed throughout tropical Africa, and in S. Africa and Madagascar, extending eastwards into India and beyond.

23. TYLOPHORA

R. Br.—F.T.A. 4, 1: 404.

- 1 Twining climbers; leaves petiolate, spreading:.....2
Erect perennial herb or sub-shrub with a woody rhizome and simple stems; leaves ascending, linear-lanceolate, sessile, apex acute, 3-7 cm. long, 5 mm. broad, glabrous; inflorescence lateral, longer than the leaves, with scattered fascicles of a few flowers in the upper half; flowers brown, about 3 mm. diam., with narrowly triangular acute lobes; follicles very slightly divergent, linear-acute, 3-4 cm. long [9. congolana](#)
- 2 Leaves large, about 15 cm. diam. or more, suborbicular, rounded subcordate at base, very shortly cuspidate at

- apex; flowers purple:3
- Leaves much smaller, oblong-obovate to linear-lanceolate, usually more than twice as long as broad, often acuminate, but not, or only rarely, cuspidate at apex:4
- 3 Stems and leaves glabrous; leaves green [1. cameroonica](#)
- Stems and inflorescences golden-tomentose; leaves glaucous, tomentose on the veins beneath [2. glauca](#)
- 4 Flowers dark reddish-brown, 1.5 cm. diam., in crowded racemiform spikes at the ends of the inflorescence branches; pedicels 1 cm. long; leaves oblong-obovate, deeply cordate at base, broadly acuminate, 10-16 cm. long, up to 8 cm. broad [3. conspicua](#)
- Flowers not exceeding 1 cm. diam., usually 3-5 mm. diam.:5
- 5 Flowers in very short racemiform clusters scattered diffusely along the inflorescence branches; pedicels about 5 mm. long; leaves oblong-ovate to obovate, rarely almost rotund, acutely acuminate, deeply cordate at base, with broad sinus, up to 16 cm. long and 8 cm. broad, thinly herbaceous, petiole 2-3 cm. long; follicles usually solitary, somewhat falcate, linear, about 7-9 cm. long [4. sylvatica](#)
- Flowers in umbelliform or racemiform groups at the ends of the inflorescence branches, or in simple cymes:6
- 6 Leaves 3-5-nerved from the cordate base, oblong, ovate or somewhat obovate, acutely acuminate, up to 8 cm. long and 4 cm. broad; petiole 1-2 cm. long [5. gillettii](#)
- Leaves pinninerved:7
- 7 Corolla-lobes broadly rounded, the flower about 1 cm. diam.:8
- Corolla-lobes narrow, acute, the flower 2-3 mm. diam.; leaves rounded or obtuse at base, not at all cordate, ovate to oblong-ovate, scarcely acuminate but with fine mucronate tip, lamina usually less than 5 cm. long and about half as broad; petiole 0.5-1 cm. long; inflorescence a lateral cyme about as long as the leaves ... [8. dahomensis](#)
- 8 Leaves with a definite narrow sinus at the cordate base, oblong, ovate or elliptical, apex acute, often apiculate but scarcely acuminate, up to 10 cm. long and 5 cm. broad, but usually smaller, glabrous; corona of 5 small, separate, fleshy tubercles [6. oculata](#)
- Leaves obtusely cuneate, truncate or cordate with a broad shallow sinus at base, oblong, ovate, elliptical or obovate, somewhat larger than above; corona of 5 laterally elongated, contiguous fleshy tubercles [7. oblonga](#)

1. **Tylophora cameroonica** *N. E. Br.* in Kew Bull. 1895: 258; F.T.A. 4, 1: 407; Bullock in Kew Bull. 9: 585 (1955). *APD acc*

A glabrous climber with very broad leaves and small purple flowers in clusters along the branches of large diffuse panicle cymes.

[Br.] Cam.: Rio del Rey Johnston! Buea (fl. & fr. Feb.) Dalz. 8236 bis!

Also in [Uganda](#).

2. **Tylophora glauca** *Bullock* l.c. 585 (1955). *APD acc*

A climber very like the above, but with less expanded panicles, the purple flowers larger and fewer, stems, inflorescences and veins golden-tomentose and the leaves very glaucous.

S. Nig.: Obomkpa, Benin Prov. (fl. & fr. Aug.) Onochie FHI 33430!

Also in [Congo](#).

3. **Tylophora conspicua** *N. E. Br.* in Kew Bull. 1895: 298; F.T.A. 4, 1: 405; Bullock l.c. 583. *APD acc*

Twiner with dark reddish-brown flowers.

Lib.: Ganta (May) Harley 1203! Ghana: Aburi (May) Johnson! Tafo (July) Owen 572! Amentia Irvine 518! W. Ashanti (May) Irvine 2501! Kumasi (fr. Oct.) Baldwin 13473!

Extending to Cameroun, Congo and E. Africa.

4. **Tylophora sylvatica** *Decne.* in Ann. Sci. Nat. sér. 2, 9: 273 (1838); F.T.A. 4, 1: 407; Berhaut Fl. Sén. 57; Bullock l.c. 582. *APD acc*

Tylophora adalinae *K. Schum.* (1895)-F.T.A. 4, 1: 410; Bullock in Kew Bull. 15: 202 (1961).

Marsdenia profusa *N. E. Br.* (1895)-F.T.A. 4, 1: 425; F.W.T.A., ed. 1, 2: 60.

Herbaceous twiner; flowers dull purple-brown; in thickets.

Sen.: Berhaut 1554. **Guin.:** Heudelot 816! Nzérékoré (fr. Oct.) Baldwin 9731! **S. L.:** Leicester (June) Lane-Poole 288! Kuntaia (fl. & fr. June) Thomas 418! Rokupr (fl. Apr., fr. May) Jordan 229! 256! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 704 bis! Cess R. (fr. Aug.) Baldwin 9010! Cape Palmas T. Vogel 3! Zolopla (Sept.) Baldwin 9380! **Ghana:** Essuanaw Fishlock 9! Agogo (fl. & fr. Apr.) Adams 2612! Aburi (Aug., Oct.) Johnson 770! 946! Nsawam (fl. & fr. May) Irvine 2837! **Togo Rep.:** Misahöhe Baumann 511! **N. Nig.:** Nupe Barter 1321! **S. Nig.:** Ikoyi Plains, Lagos (fr. Aug.) Dalz. 1411! Omo F.R., Ijebu Prov. (fl. & fr. Apr.) Onochie FHI 15528! Oke Are, Oyo Prov. Latilo FHI 21011 bis! Brass Barter 16! Akassa Dutton 29! Nun R. (Sept.) Mann 479! Onitsha (Apr.) Killick 113! Oban Talbot 374 bis! 375! **[Br.] Cam.:** Victoria Rosevear! Kumba road (fl. & fr. Feb.) Maitland 432! **F. Po.:** (Nov.) T. Vogel 237!

Extending to Congo, E. Africa, N. Rhodesia, **Angola** and Madagascar.

5. **Tylophora gillettii** *De Wild.* in Ann. Mus. Congo, sér. 5, 1: 193 (1904); Bullock in Kew Bull. 9: 580. *APD acc*

Tylophora smilacina *S. Moore* (1914)-F.W.T.A., ed. 1, 2: 59.

Climber, unique on account of its 3-5-nerved leaves.

S. Nig.: near Sacred Lake, Ikotobo, Eket Dist. Talbot 3252!

Also in **Congo**.

6. **Tylophora oculata** *N. E. Br.* in Kew Bull. 1895: 112; F.T.A. 4, 1: 406; Bullock l.c. 580. *APD acc*

Tylophora deightonii *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 59 (1931), and in Kew Bull. 1937: 340.

Twinner; flowers with crimson centre; in secondary forest.

Guin.: Nzérékoré to Macenta (Oct.) Baldwin 9744! **S. L.:** Sc. Elliot! Hill Station, Freetown (Oct.) Deighton 219! Kanya (Oct.) Thomas 3007! Matotaka (fr. July) Thomas 1277! Toma (fr. Feb.) Thomas 8781! **Lib.:** Peahtah (Oct.) Linder 1070! **Ghana:** Jimira F.R., Ashanti (Oct.) Vigne FH 3112! **S. Nig.:** Ibadan (Sept.) Keay FHI 37676!

7. **Tylophora oblonga** *N. E. Br.* in Kew Bull. 1896: 257; F.T.A. 4, 1: 408; Bullock l.c. 581. *APD acc*

Tylophora anfracta *N. E. Br.* in F.T.A. 4, 1: 408 (1903).

Tylophora liberica *N. E. Br.* in J. Linn. Soc. 37: 109(1905); F.W.T.A., ed. 1, 2: 59.

Secamone conostyla *S. Moore* in Cat. Talb. 64 (1913).

Lib.: Sinoe Basin White! Ganta (Oct.) Harley 696! **N. Nig.:** Benue R. Talbot 1013; **S. Nig.:** Talbot 3360! Ibadan (Sept.) Newberry 70! Sapoba, Jamieson R. (fl. & fr. Nov.) Keay FHI 28064!

Also in **Cameroun**.

8. **Tylophora dahomensis** *K. Schum.* in Engl. Bot. Jahrb. 33: 329 (1903); F.T.A. 4, 1: 619. *APD acc*

Tylophora minutiflora *A. Chev.* Bot. 436, name only.

Twinner in thickets; flowers reddish inside and greenish outside.

Ghana: Legon Bot. Gard. (May) Adams 4783! Legon Hill (Nov., fl. & fr. Dec.) Adams 3543! 3565! Achimota (fl. & fr. June, Oct.) Morton! Milne-Redhead 5109! **Togo Rep.:** Lomé Warnecke 190 bis! **S. Nig.:** Oyo road, Ibadan (Apr.) Meikle 1444!

9. **Tylophora congolana** (*Baill.*) *Bullock* in Kew Bull. 9: 585 (1955). *APD acc*

Nanostelma congolanum *Baill.* Hist. Pl. 10: 248 (1890); F.T.A. 4, 1: 411.

Tylophora orthocaulis *K. Schum.* (1896)-F.T.A. 4, 1: 410; Chev. Bot. 436; F.W.T.A., ed. 1, 2: 59.

Schizoglossum glanvillei *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 58 (1931), and in Kew Bull. 1937: 340

Erect herb from a woody base, 1-2 ft. high; flowers green and brown; amongst grass.

Guin.: Kouria Caille in Hb. Chev. 15064! **S. L.:** Port Loko to Lungi (June) Jordan 1047! Rowala (fr. July) Thomas 1075! 1096! Kulufaga (Apr.) Glanville 192!

Also in **Cameroun** and **Congo**.

24. SPHAEROCODON

Benth.-F.T.A. 4, 1: 411.

- 1 Stems subsimple from a woody rootstock, 30-100 cm. tall, softly pubescent; leaves oblong, lanceolate or oblanceolate to elliptic, 5-10 cm. long, 1.5-6 cm. broad, softly pubescent on the nerves; peduncles lateral at the upper nodes, about 2 cm. long; pedicels about 1 cm. long; flowers very dark purple, very variable in size, rotate, 1-2 cm. diam., glabrous or minutely pubescent outside [caffrum](#)

Sphaerocodon caffrum (Meisn.) Schltr. in J. Bot. 37: 339 (1895). *APD acc*

Tylophora caffra Meisn. (1843).

Sphaerocodon obtusifolium Benth. in Hook. Ic. Pl. 12: 78, t. 1190 (1876); F.T.A. 4, 1: 412; F.W.T.A., ed. 1, 2: 61.

Suberect perennial 1-3 ft. high, branched from the base only, with lateral umbelliform cymes of dark purple (almost black) flowers.

S. L.: Musaia (July) Deighton 4796! **N. Nig.:** Kontonkoro (June) Dalz. 552! Abinsi (July) Dalz. 687! **[Br.] Cam.:** Bamenda (May) Maitland 1558! Mt. Lakom (May) Maitland!

Widespread in tropical Africa, extending into Natal.

25. TELOSMA

Coville in U.S. Dept. Agric. Contrib. Nat. Herb. 9: 384 (1905).

Pergularia R. Br.-F.T.A. 4, 1: 426, not of Linn.

- 1 Stems glabrous; leaves ovate-oblong to broadly ovate, shortly cuspidate, cuneate to cordate at base, 5-10 cm. long, up to 7 cm. broad; cymes umbelliform, many-flowered, extra-axillary, sessile or shortly pedunculate; pedicels 4-6 mm. long; calyx-lobes ovate to lanceolate, 4 mm. long; corolla-lobes linear, 7-12 mm. long, spreading, sinuous, strongly contorted in bud; villous on the inner face, tube inflated in the lower half, 6-8 mm. long, conspicuously villous in the throat [africanum](#)

Telosma africanum (N. E. Br.) Colville l.c. (1905); Berhaut Fl. Sén. 57. *APD acc*

Pergularia africana N. E. Br. (1895)-F.T.A. 4, 1: 426; Chev. Bot. 437.

P. sanguinolenta Britten (1894), not of Lindley.

A slender climber with yellow flowers, [found in riverine or damper deciduous forest](#).

Guin.: Berhaut 392! Moussaya (May) Roberty 17851! **S. L.:** Nongowa (Apr.) Deighton 3930! Karga (Mar.) Thomas 9833! Bafodeya (Apr.) Sc. Elliot 5498! Kafogo (Apr.) Sc. Elliot 5489! Kamalu (May) Thomas 321! **Ghana:** Accra (June) Adams 4342! Assuantsi (Mar.) Irvine 1559! Kumasi (Mar.) Vigne FH 3739! Dawa Mato Kole (Mar.) Thomas D177! L. Bosumtwe (Apr.) Adams 2474! **N. Nig.:** Nupe Barter! Zaria (June) Keay FHI 25892! **S. Nig.:** Ijaye Barter 3332! W. Lagos Rowland! Ibadan (Apr.) Meikle 1427! Oyo (Apr.) Keay FHI 19165! Calabar Thomson 113! **[Br.] Cam.:** Kumba (Feb.) Binuyo & Daramola FHI 35556!

Widely distributed in tropical Africa, extending southwards into Natal.

26. DREGEA

E. Mey. Comm. Pl. Afr. Austr. 199 (after Apr. 1837), nom. cons.; Bullock in Kew Bull. 11: 512 (1957); not of Ecklon & Zeyher (Apr. 1837).

- 1 Corolla about 12 mm. diam., rounded in bud, lobes villous only near their margins, ovato-rotund, spreading or reflexed; follicles about 7 cm. long, with many intricately convolute, often cristate wings forming a spongy mass more than 1 cm. thick; leaves broadly acuminate, broadly cuneate at base, 6-11 cm. long, 3.5-7 cm. broad with 4-5 pairs of lateral nerves; inflorescence pedunculate, peduncle stout, woody, up to 2 cm. long; pedicels crowded-(Subgen. Dregea) [1. abyssinica](#)
- Corolla markedly acute in bud, lobes narrowly oblong, parallel-sided and twisted; follicles without wings-(Subgen. Traunia):..... **2**
- 2 Leafy branches densely appressed-pubescent; follicles thinly to densely pubescent, the surface shining and wrinkled, 7-14 cm. long; leaves ovate or ovate-elliptic, shortly acuminate, rounded-truncate at the base, 5-12 cm. long and half as broad; petioles 1-2.5 cm. long [2. schimperii](#)
- Leafy branches clothed with long tawny spreading hairs; leaves acutely acuminate, cordate or rounded at base, 9-12 cm. long, 3.5-8 cm. broad, loosely pilose above and densely pilose on the nerves beneath; cymes pedunculate, subumbellate; lower bracts linear, leafy; sepals lanceolate, pilose [3. crinita](#)

1. **Dregea abyssinica** (*Hochst.*) *K. Schum.* in Engl. Pflanzenw. Ost-Afr. C: 326 (1895); Bullock l.c. 516. *APD acc*

Pterygocarpus abyssinicus *Hochst.* in Flora 26: 78 (1843).

Marsdenia abyssinica (*Hochst.*) *Schltr.* (1913)-F.W.T.A., ed. 1, 2: 60; Berhaut Fl. Sén. 59.

M. spissa *S. Moore* (1901)-F.T.A. 4, 1: 420.

Climber; flowers white, fragrant.

Sen.: Berhaut 759. **Ghana:** Shai Hills, Accra Plains (June) Harris! Tamale Anderson 14! Tumu (Apr.) Vigne FH 3794! **N. Nig.:** Kontagora (Apr.) Dalz. 369! **S. Nig.:** Abeokuta Barter 3369! Ibadan (Apr.) Meikle & Keay 1456! Latilo FHI 21006! Ado rock, Oyo (fr. Feb.) Onochie FHI 35279! Olla Hills F.R., Ogbomoshosho (Mar.) Binuyo FHI 36903!

Widely distributed in tropical Africa.

2. **Dregea schimperi** (*Decne.*) *Bullock* l.c. 518 (1957). *APD acc*

Marsdenia schimperi *Decne.* (1844)-F.T.A. 4, 1: 419.

Traunia albiflora *K. Schum.* (1895).

Climber with whitish flowers.

[**Br.**] **Cam.:** Buea (May) Maitland 654! Bamenda (May) Daramola FHI 41071!

Also in **Sudan**, eastwards to **Somalia** and **Aden**, and in **Kenya** and **Tanganyika**.

3. **Dregea crinita** (*Oliv.*) *Bullock* l.c. 519 (1957). *APD acc*

Marsdenia crinita *Oliv.* in Hook. Ic. Pl. 20: t. 1993 (1891); F.T.A. 4, 1: 418; F.W.T.A., ed. 1, 2: 60.

Climber with brown-hairy branches; flowers white.

Port. G.: Catió (June) Esp. Santo 2094! **S. L.:** Baoma (Apr.) Deighton 3653! Tiama (fr. Jan.) Dalz. 8095! Yumbuma (Apr.) Deighton 3944! Bendembu (Apr.) Sc. Elliot 5651! **Ghana:** Apla, E. Prov. (Oct.) Vigne FH 4044! **S. Nig.:** Ibadan (Apr.) Meikle 1430! Oyo (May, Sept.) Millson! Barter 3426! Patel FHI 51345!

Also recorded from **Gabon** and **Angola**.

27. GONGRONEMA

Decne. in DC. Prod. 8: 624 (1844); Bullock in Kew Bull. 15: 197 (1961).

- 1 Climbing shrubs; leaves broadly ovate or ovate-rotundate, apex acutely acuminate:.....2
Erect shrub; leaves triangular-ovate or more or less oblong, apex apiculate [3. obscurum](#)
- 2 Flowers in racemously arranged fascicles along the branches of the inflorescence; pedicels 2-4 mm. long;
follicles narrowly lanceolate, about 8 cm. long, glabrous, 1-5 cm. diam. near the base [1. latifolium](#)
Flowers umbellately disposed at the ends of the inflorescence branches; pedicels 8-10 mm. or more long;
follicles linear, 10-11 cm. long, more or less densely pilose, 4 mm. diam. [2. angolense](#)

1. **Gongronema latifolium** *Benth.* in Fl. Nigrit. 456 (1849); Bullock l.c. 198. *APD acc*

Marsdenia leonensis *Benth.* l.c. 455 (1849); F.T.A. 4, 1: 424; F.W.T.A., ed. 1, 2: 60.

M. glabriflora *Benth.* l.c. (1849); F.T.A. 4, 1: 424; F.W.T.A., ed. 1, 2: 60.

M. latifolia (*Benth.*) *K. Schum.* (1900)-F.W.T.A., ed. 1, 2: 60.

M. racemosa *K. Schum.* (1893)-F.T.A. 4, 1: 425.

Climber, woody below, with hollow glabrous stems; flowers greenish-yellow.

Port. G.: Catió (June, July) Esp. Santo 2093! 2137! **Guin.:** Macenta (Apr.) Jac.-Fél. 830! **S. L.:** Waterloo (July) Lane-Poole 316! Yonibana (fr. Oct.) Thomas 4131! Makali (June) Marmo 49! Njala (May) Deighton 681! Mabonto (fr. Oct.) Thomas 3507! **Lib.:** Sanokwele Dist. (Sept.) Baldwin 9378! Ganta Harley 1171! **iv. C.:** Nimba Mt. (Aug.) Schnell 6208! **Ghana:** Agogo (Apr.) Adams 2595! Irvine 965! Amentia Irvine 506! New Tafo (Feb.) Lovi WACRI 3894! Kwahu (Apr.) Johnson 649! **Togo Rep.:** Baumann 465! **N. Nig.:** Ankpa (June) Daramola FHI 38041! **S. Nig.:** W. Lagos Rowland! Sapoba (fr. Nov.) Ejiofor FHI 24664! Iyekohiomwon, Benin (Apr.) Emwiogbon FHI 45501! Udi Dist. (May) Onochie FHI 35853! Ibadan (Apr.) Latilo FHI 34985! Oban Talbot 2072! [**Br.**] **Cam.:** Buea (Mar., May) Maitland 494! 705! Kumba Daramola FHI 29841! Bulijambo (Mar.) Maitland 581!

Widely distributed in tropical Africa.

2. **Gongronema angolense** (*N. E. Br.*) *Bullock* l.c. 199 (1961). *APD acc*

Marsdenia angolensis *N. E. Br.* in Kew Bull. 1895: 258; F.T.A. 4, 1: 423; F.W.T.A., ed. 1, 2: 60.

A softly hairy climber with greenish-white or cream flowers on short dense cymes.

S. L.: Yakala (Sept.) Thomas 2365! *N. Nig.*: (July) Lely P515!

Widely distributed in tropical Africa.

3. **Gongronema obscurum** *Bullock* l.c. 200 (1961).

APD: *Synonym of Marsdenia obscura (Bullock) Omlor*

A small erect shrub, softly hairy, with small dense extra-axillary cymes of cream flowers.

Ghana: Salaga (June) Vigne FH 3891! Yeadi Akpabla 559! Wa (June) Adams 768! Navrongo (June) Andoh FH 5905!

28. ANISOPUS

N. E. Br. 13-F.T.A. 4, 1: 415; *Bullock* in Kew Bull. 11: 510 (1957). *APD acc*

- 1 Glabrous twining shrub; leaves petiolate, oblong, elliptic, ovate or more or less rotund, acute to cordate at base, shortly cuspidate at apex, up to 15 cm. or more long and 12 cm. broad, but usually 6-8 cm. long and 3-4 cm. broad, petiole 1-2 cm. long; cymes about 10-20-flowered, umbelliform, often 2 at a node and then one sessile and one shortly pedunculate; pedicels about 1 cm. long; corolla-lobes tomentose inside, rotund-ovate, 3-5 mm. long; follicles 15-20 cm. long, linear, widely divaricate [mannii](#)

Anisopus mannii *N. E. Br.* in Kew Bull. 1895: 259; F.T.A. 4, 1: 416; *Bullock* l.c. 511. *APD acc*

Marsdenia efulensis *N. E. Br.* in Hook. Ic. Pl. 25: t. 2497 (1896); F.T.A. 4, 1: 423; F.W.T.A., ed. 1, 2: 60.

M. bicoronata *K. Schum.* (1896).

Anisopus bicoronatus (*K. Schum.*) *N. E. Br.* in F.T.A. 4, 1: 416 (1903); F.W.T.A., ed. 1, 2: 61.

Marsdenia rostrifera *N. E. Br.* (1906)-F.W.T.A., ed. 1, 2: 60.

Anisopus rostriferus (*N. E. Br.*) *Bullock* l.c. 512 (1957), and l.c. 15: 202 (1961).

Marsdenia rhynchogyna *K. Schum.* (1896).

A strong climber with greenish flowers in globose lateral umbelliform cymes and horizontally opposed follicles 6-8 in. long and about 1/2 in. thick, tapering to a slightly hooked point at the apex.

Ghana: Akim (Mar.) Irvine 1813! Banka (Mar.) Vigne FH 1865! Aburi (Sept.) Johnson 1078! *S. Nig.*: Akassa Dutton 32! Okomu, Benin (Mar.) Akpabla 1114! Oban Talbot 1684! [*Br.*] *Cam.*: Kumba (Feb.) Binuyo & Daramola FHI 35579!

29. LEPTADENIA

R. Br. -F.T.A. 4, 1: 430; *Bullock* in Kew Bull. 10: 287 (1955).

- 1 Erect, leafless shrubs, or with a few small, linear, fugacious leaves; peduncles very short, lateral; pedicels 1-2 mm. long, tomentellous; calyx and corolla outside shortly pubescent; follicles very narrow, long-beaked, about 12 cm. long, closely grooved [1. pyrotechnica](#)
- Twining shrubs with broad, well-developed and persistent petiolate leaves: **2**
- 2 Calyx longer than the corolla-tube; corolla-lobes 4-5 mm. long [2. hastata](#)
- Calyx shorter than the corolla-tube; corolla-lobes 2-2.5 mm. long [3. arborea](#)

1. **Leptadenia pyrotechnica** (*Forsk.*) *Decne.* in Ann. Sci. Nat. sér. 2, 9: 270 (1838); Berhaut Fl. Sén. 8; *Bullock* l.c. 289. *APD acc*

Cynanchum pyrotechnicum *Forsk.* Fl. Aeg.-Arab. 53 (1775).

Leptadenia spartium *Wight & Arn.* (1834)-F.T.A. 4, 1: 432; F.W.T.A., ed. 1, 2: 63; Chev. Bot. 438.

Erect, leafless shrub with green rather succulent stems, 3-6 ft. high; flowers yellowish; [in dry sandy places](#).

Sen.: Roger! Leprieur! Heudelot 482! Oualo Berhaut 1397! **Mali:** Timbuktu (fl. & fr. June) Hagerup 103! **Niger:** Konna (July) Lean 49! **N. Nig.:** Chad (fl. & fr. Jan.) Foster 93! Bure (Dec.) Elliott 116! Kukawa Rosevear FHI 26608!

Throughout the northern part of this Flora area, extending in semi-desert areas to [Arabia](#) and Palestine, to Baluchistan and Sind.

2. *Leptadenia hastata* (Pers.) Decne. in DC. Prod. 8: 551 (1844); Berhaut Fl. Sén. 58; Bullock l.c. 289. *APD acc*

Cynanchum hastatum Pers. Syn. Pl. 1: 273 (1805).

C. lancifolium Schum. & Thonn. (1827).

Leptadenia lancifolia (Schum. & Thonn.) Decne. (1838)-F.T.A. 4, 1: 430; F.W.T.A., ed. 1, 2: 63; Chev. Bot. 437.

Twiner with corky bark on the older stems; flowers dull yellowish; [in dry savanna](#).

Sen.: Brunner 158! Roger! Döllinger 60! Dakar (May) Baldwin 5704! Debeaux 181! **Gam.:** Saunders 20! **Mali:** Goumal, Dioura (Jan.) Davey 232! Timbuktu (July) Hagerup 227! **Port. G.:** Bissau (Feb.) Esp. Santo 1819! Suzana to Casseloi (Nov.) Esp. Santo 3137! **Guin.:** Kindia (May) Jac.-Fél. 1623! Dinguiraye (Dec.) Jac.-Fél. 1422! **Ghana:** Accra (Oct.) Brown 309! Dalz. 7! Accra Plains Irvine 417! Navrongo (May) Vigne FH 4505! Dedora Tankara (June) Andoh 5899! **Niger:** Gaillard! **N. Nig.:** Bida (Jan.) Meikle 1017! Zamfara (Apr.) Keay FHI 15636! Jibiya, Katsina (May) Onwudinjoh FHI 22373! near L. Chad. (Dec.) Elliott 110! Yola (Dec.) Hepper 1615! **S. Nig.:** W. Lagos Rowland! Yoruba country Barter 3336! Iseyin (Feb.) Onochie FHI 35277! Ibadan (May) Onochie FHI 19175! **[Br.] Cam.:** Bama, Dikwa Div. (Nov.) McClintock 7!

Extending to [Uganda](#), [Kenya](#) and southern [Ethiopia](#).

3. *Leptadenia arborea* (Forsk.) Schweinf. Arab. Pflanzenn. 167 (1912); Bullock l.c. 290. *APD acc*

Cynanchum arboreum Forsk. Fl. Aeg.-Arab. 53 (1775).

C. heterophyllum Del. (1826).

Leptadenia heterophylla (Del.) Decne. (1838)-F.T.A. 4, 1: 432; F.W.T.A., ed. 1, 2: 63.

Twiner over shrubs; flowers greenish-yellow.

Mali: Selingourou Davey 27! **Niger:** Zinder (Nov.) Hagerup 602! **N. Nig.:** Katagum (Nov.) Dalz. 96! Gajibo, Bornu (Nov.) Johnston N87! Bure, near L. Chad (Dec.) Elliott 112! **[Br.] Cam.:** Bama, Dikwa Div. (Dec., fl. & fr. Jan.) McClintock 126! 161! Gulumba, Dikwa Div. (Dec.) McClintock 106!

Extending to [Egypt](#) and [Arabia](#).

30. BRACHYSTELMA

R. Br. in Bot. Mag. t. 2343 (1822).

- 1 Flowers several, in umbelliform fascicles at the apex of leafy branches; corolla with a broad flat or funnel-shaped disk and triangular lobes; stems stout, branched sparingly, leafy: [2](#)

Flowers solitary at the upper nodes of leafless stems; pedicels filiform, up to 2 cm. long; corolla divided almost to the base into linear segments more than 4 cm. long and about 1 mm. wide at the base, beset with long purple clavate (? vibratile) hairs particularly towards the base; stems arising from a small flattened tuber, slender, with 2-3 long internodes below the flowering upper third, leaves reduced to scale-like cataphylls; stems extending after flowering to become leafy and flexuous; leaves lanceolate, sessile, subacute, subcordate at base, up to about 6.5 cm. long and 1 cm. wide, thinly scaberulous-puberulous on both sides [3. exile](#)

- 2 Pedicels about 4 cm. long; corolla purple, densely tomentose inside, with a very short tube and broad flat disk, nearly 2 cm. diam., the lobes very short, deltoid; leaves oblong-oblancoate, up to 6 cm. long and 1.5 cm. broad, more or less hispid on both sides [1. omissum](#)

Pedicels from less than 10 to 14 mm. long; corolla glabrous or pubescent inside, yellow, green or purple, the tube widely funnel-shaped, 5 mm. long, the lobes triangular, 5-10 mm. long and about 4 mm. broad at the base; leaves oblong-oblancoate, up to 11 cm. long and 4 cm. broad, more or less pubescent on both sides [2. togoense](#)

1. *Brachystelma omissum* Bullock in Kew Bull. 17: 193, fig. 2 (1963). *APD acc*

A perennial herb up to 1 ft. high, from a fleshy disciform tuber, with purple flowers.

[Br.] Cam.: Jua, Bamenda (Apr.) Maitland 1712!

2. *Brachystelma togoense* *Schltr.* in Engl. Bot. Jahrb. 38: 40, fig. 5H-O (1905); Bullock l.c. 191 *APD acc*

Brachystelma atacorensis A. Chev. (1917)-F.W.T.A., ed. 1, 2: 65.

A perennial erect herb up to 1 ft. high, from a fleshy disciform tuber, with green flowers, or greenish-yellow and often flecked with purple.

Ghana: Accra Plains (Feb., Mar.) Cox 130! **Togo Rep.:** Foot of Agomé Mts. (Mar.) Schlechter 12961. **Dah.:** Atacora Mts., Kovandé, 1,200-1,500 ft. (June) Chev. 24013. **N. Nig.:** Mongu, 4,300 ft. (July) Lely 443! Cece F.R., Niger Prov. (June) E. W. Jones 188! Mando, Birnin Gwari Dist. (June) Keay FHI 25856!

3. *Brachystelma exile* *Bullock* l.c. fig. 1 (1963). *APD acc*

A precocious erect geophytic herb of *savanna grassland*, about 18 in. high, the purple flowers with long spidery corolla-lobes beset with vibratile purple hairs.

N. Nig.: Ancho, Plateau Prov. (May) Hepburn 141! Mando F.R., Birnin Gwari Dist. (June) Keay FHI 25848!

Also in *Cameroun*.

Brachystelma bingeri A. Chev. in Rev. Cult. Colon. 8: 67, with fig. (1901); F.T.A. 4, 1: 469.

I have been unable to identify this plant from the description. Chevalier's description of the corona makes reference to the genus *Brachystelma* very doubtful, whilst his figure shows a turnip-like tuber unlike that of any other species of the genus. The small cyme is also strange, whilst the rather poor sketch of the flowers recalls the genus *Pentagonanthus* (Periplocaceae) rather than *Brachystelma*. The plant is recorded from the dry savanna of Mali and Dahomey (Chev. 992; 1015; 2703; 24251).

31. CEROPEGIA

Linn.-F.T.A. 4, 1: 435; H. Huber in Mem. Soc. Brot. 12: 5-203 (1958).

In the first edition of this work no fewer than 22 species were recognized; in this treatment several of them are reduced to synonymy following the work by Huber and by the present writer. There is no doubt, however, that several further species will be found in our area.

- 1 Slender erect herbs from a few to 40 cm. high; leaves linear to very narrowly lanceolate, sometimes absent at flowering time; corolla-lobes more or less coherent:2
- Twining climbers; leaves lanceolate to broadly ovate or elliptic:5
- 2 Corolla with subulate spreading appendage 3-6 mm. long at the sinus between corolla-lobes; tube 4-7 cm. long, mottled in upper half, lobes linear, 4-6 cm. long; leaves 5-8 cm. long, rarely as much as 8 mm. broad1. *ledermannii*
- Corolla without appendages at the sinus between corolla-lobes, or these reduced to very short broadly deltoid teeth:3
- 3 Corolla-tube about 2 cm. long; leaves linear, about 4 cm. long; corolla-lobes linear, minutely pubescent but with a few long purple hairs2. *deightonii*
- Corolla-tube 4 cm. long or usually more;4
- 4 Corolla-tube broadly funnel-shaped and 5-angled at the throat and somewhat flask-shaped at the base, glabrous outside, lobes very variable in length, up to 5 cm. long3. *campanulata*
- Corolla-tube almost cylindrical and very slender, pubescent outside, plants usually leafless at flowering time; corolla-lobes up to 9 cm. long4. *porphyrotricha*
- 5 Corolla-lobes quite free from each other, short and spreading in the open flower, triangular to oblong, somewhat longer than broad; tube 8-10 mm. long, thinly to densely pubescent, more or less globose at the base; leaves ovate or ovate-lanceolate, more or less cordate at base, thinly setulose above, and thinly pubescent beneath5. *nigra*
- Corolla-lobes connate into a slender column about 8 mm. long terminating in an ellipsoid head, tube 1.5-2 cm. long, swollen at the base; leaves ovate-lanceolate, ovate or elliptic; flowers in umbelliform lateral cymes; stems

- and leaves somewhat fleshy [6. rhynchantha](#)
- Corolla-lobes coherent at the tips only **6**
- 6** Calyx-lobes linear-subulate, about 2 cm. long; corolla-tube cylindric for 2-5 cm., expanded above, lobes 1-5 cm. long; leaves ovate, caudate-acuminate, almost glabrous [7. talbotii](#)
- Calyx-lobes more or less triangular, not more than about 5 mm. long: **7**
- 7** Leaves ovate or elliptic, not linear or linear-lanceolate: **8**
- Leaves linear or linear lanceolate: **14**
- 8** Leaves more or less hairy, at least on the veins beneath: **9**
- Leaves glabrous: **10**
- 9** Corolla-tube cylindric, 2-5 cm. long, the lobes 1-4 cm. long; leaves densely pilose on the veins beneath, subulate-acuminate, mostly cordate at base [8. johnsonii](#)
- Corolla-tube curved, 2 cm. long, the lobes 4 cm. long; leaves thinly pubescent on the veins beneath, subulate-acuminate [9. peulhorum](#)
- 10** Corolla-lobes with a fringe of long hairs at the apex, about 8 mm. long, the tube 1-5 cm. long; sepals 2-5 mm. long; leaves obovate-ob lanceolate, acutely acuminate, 4-7 cm. long [10. sankuruensis](#)
- Corolla-lobes without a fringe of long hairs at the apex: **11**
- 11** Corolla-lobes glabrous inside, broadly lanceolate: **12**
- Corolla-lobes pilose inside, linear, 1 cm. long, the tube 1-5-2-5 cm. long, mottled towards the apex; calyx-lobes narrowly lanceolate, glabrous: **13**
- 12** Corolla-tube 3 cm. long; leaves elliptic, acutely long-mucronate-acuminate, about 6 cm. long and 3-5 cm. broad [11. fusiformis](#)
- Corolla-tube 1-5 cm. long, gibbous at the base; leaves elliptic, narrowly long-triangular-acuminate [aristolochioides](#)
- 13** Leaves small, ovate, apex acute, base rounded or acute, not cordate; stems with fleshy deciduous axillary jointed gemmae [13. gemmifera](#)
- Leaves ovate-rounded, very acute, cordate at base; stems without gemmae [14. yorubana](#)
- 14** Corolla-lobes densely covered with purple setae, about 6 mm. long; leaves linear [15. tourana](#)
- Corolla-lobes without purple setae: **15**
- 15** Leaves linear, somewhat fleshy; corolla-tube 8-14 mm. long, the lobes narrowly linear, 5-7 mm. long [16. linophyllum](#)
- Leaves usually linear-lanceolate, rarely broader; corolla-tube 1-2 cm. long, the lobes oblong or ovate, 5-12 mm. long, thinly white-pilose inside [17. racemosa](#)

- 1. *Ceropegia ledermannii* Schltr.** in Engl. Bot. Jahrb. 51: 154 (1913); Hutch. in Kew Bull. 1921: 387; H. Huber in Mem. Soc. Brot. 12: 131 (1958). *APD acc*

Erect herb 6-12 in. high with an underground discoid tuber about 2 in. across, and purple-mottled tubular flowers with long green thread-like lobes.

N. Nig.: Takwara (May) Lely 110! Vom, Jos Plateau Dent Young! **S. Nig.:** Oyo (June) Burton H1616/38!

Also in **Cameroun**.

- 2. *Ceropegia deightonii* Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 61, 62 (1931); Kew Bull. 1937: 340; H. Huber l.c. 133. *APD acc*

From a few to 18 in. high, from a tuber up to 3/4 in. diam.; flowers green to deep red or purple with very hairy lobes; **often frequent in grassland on wet lateritic soils.**

S. L.: Waterloo (fl. & fr. June, fl. Aug.) Deighton 2057! 2743a! Melville & Hooker 279! Kambia (fl. Aug., fr. Sept.) Jordan 292! Adames 183! Binkolo (Aug.) Deighton 1289! Gbap (June) Adames 48! Kakama, Gbo (Aug.) Deighton 6100! **Ghana:** Bolgatanga (fl. & fr. June) Vigne FH 4511! **N. Nig.:** Bichikki (May) Lely 179! Zaria (Mar.) Milne-Redhead 5044! Randa (May) Hepburn 58!

- 3. *Ceropegia campanulata* G. Don** Gen. Syst. 4: 112 (1837); F.T.A. 4, 1: 462; Bullock in Kew Bull. 9: 592 (1955), partly; H. Huber l.c. 129, partly, incl. var. *abinsica* (N. E. Br.) H. Huber l.c. 130 (1958). *APD acc*

- Ceropegia kerstingii* K. Schum. (1903)-F.W.T.A., ed. 1, 2: 63.
Ceropegia abinsica N. E. Br. (1914)-F.W.T.A., ed. 1, 2: 62; Bullock l.c.
Ceropegia dalzielii N. E. Br. (1913)-F.W.T.A., ed. 1, 2: 62.
Ceropegia hepburnii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 62 (1931); Kew Bull. 1937: 341.
Ceropegia tamalensis W. W. Sm. (1922).

Erect herb, 6 in. high, from a tuber, with dark purple-brown flowers 2 in. long including the corolla lobes.

Mali: Mowan. **Ghana:** Don! Tamale Dalz. 60 (partly)! Achimota (cult. July,) Adams 967! **Togo Rep.:** Kersting 307! **N. Nig.:** Naraguta (Apr.) King in Hb. Hepper 2869! Abinsi (fl. June, fl. & fr. July) Dalz. 689! 690! Randa (fl. & fr. May) Hepburn 57! 62! **S. Nig.:** Old Oyo F.R. (Feb.) Keay FHI 23434!

4. *Ceropegia porphyrotricha* W. W. Sm. in Notes Roy. Bot. Gard. Edinb. 13: 307 (1922).

APD: Synonym of *Ceropegia campanulata* var. *porphyrotricha* (W.W. Sm.) H. Huber

- Ceropegia campanulata* of Bullock l.c. 592, partly, not of G. Don.
Ceropegia campanulata var. *porphyrotricha* (W. W. Sm.) H. Huber l.c. 130 (1958).

Erect herb about 1 ft. high, simple, from a discoid tuber; flowers 3-4 in. long, green and deep purple including the erect linear lobes, the lower part of the tube only slightly dilated, the base of the lobes fringed with dark purple hairs; in the leafy state one pair of leaves is much larger than the others.

Ghana: Accra (Apr.) Adams 230! Tamale (Apr.) Dalz. 60 (partly)! Kales Hill, Wa (Apr.) Adams 4004! 4007! **N. Nig.:** Katagum Dist. Dalz. 418!

5. *Ceropegia nigra* N. E. Br. in Kew Bull. 1895: 261; F.T.A. 4, 1: 440; Bullock l.c. 591; H. Huber l.c. 159. *APD acc*

- Ceropegia kroboensis* N. E. Br. in F.T.A. 4, 1: 440 (1903); F.W.T.A., ed. 1, 2: 63; Berhaut Fl. Sén. 59.

A pubescent twiner; flowers 1/2-2/3 in. long, the corolla-tube curved above the obliquely inflated base, the lobes dark blue-green, turning black.

Sen.: Tambacounda Berhaut 871. **Port. G.:** Bafatá (Aug.) Esp. Santo 2747! **S. L.:** Rokupr (Oct.) Adames 255a! **Ghana:** Krobo Plains (fl. & fr. Oct.) Johnson 790! Apla, E.P. (Oct.) Vigne FH 4047! **N. Nig.:** Niger Baikie! **S. Nig.:** Gambari, Oshun Dist. (Oct.) Onochie FHI 34936!

6. *Ceropegia rhynchantha* Schltr. in Engl. Bot. Jahrb. 51: 155 (1913); Berhaut Fl. Sén. 58; H. Huber l.c. 100. *APD acc*

A slender perennial twiner with glabrous stems and peduncled cymes of green and red-mottled flowers 1-1 1/4 in. long including the club-topped connate corolla-lobes.

Sen.: Tambacounda Berhaut 859. **Mali:** Bamako Waterlot 1281. **Guin.:** Kouroussa Pobéguin 438. **N. Nig.:** Lely 599! Naraguta (Aug.) Lely 523! 550! Anara F.R., Zaria Prov. (July) Keay FHI 25951!

Also in **Cameroun**.

7. *Ceropegia talbotii* S. Moore in Cat. Talb. 65 (1913); H. Huber l.c. 86. *APD acc*

A nearly glabrous twiner usually leafy, with flowers 2 in. long, dirty white with purple blotching.

S. L.: Masingbe (Oct.) Deighton 4401! Bobuabu (Sept.) Deighton 2249! Kanya (Oct.) Thomas 2987! **Lib.:** Gbanga (Sept.) Linder 817! Peahtah (Oct.) Linder 1032! **S. Nig.:** Ibadan (Sept.) Newberry 69! Eket Dist. Talbot 3357! Oban Talbot 116!

8. *Ceropegia johnsonii* N. E. Br. in F.T.A. 4, 1: 451 (1903); H. Huber l.c. 85. *APD acc*

A twiner with fairly stout, half-succulent glabrous stems; flowers 1 1/2 -2 in. long, whitish or green with purple blotches, the tube slightly curved.

Lib.: Ganta (Sept.) Harley 656! **Ghana:** Aburi (Nov.) Johnson 768! 1055! Ho to Adaklu (fl. & fr. Nov.) Adams 5376!

Also recorded from **Congo** and **Uganda**.

9. *Ceropegia peulhorum* A. Chev. in Journ. de Bot. 22: 118 (1909); H. Huber l.c. 87, incl. var. *breviloba*

Huber l.c. (1958); Adam in Bull. I.F.A.N. 24: 944 (1962). *APD acc*

Habit of the last, rather slender stemmed, glabrous, with dull mottled purple or almost black-purple flowers 2 in. or more long including the linear lobes; fruits narrow, paired, 3-5 in. long.

Sen.: Sélety, Diouloulou (Oct.-Nov.) Adam 18189. **Mali:** Chev. 18395! Macleod 73! **Port. G.:** Cumura, Bissau (Nov.) Esp. Santo 2231! Balanasinho, Fulacunda (July) Esp. Santo 2147! **S. L.:** Freetown Peninsula (Aug., Sept.) Melville & Hooker 83! 394! 470! Litchford! Rokupr (Aug.) Adames 115! Masasa (Sept.) Jordan 322! Mabum (Aug.) Thomas 1608!

Also in **Ubangi-Shari**.

10. *Ceropegia sankuruensis* *Schltr.* in Engl. Bot. Jahrb. 51: 155 (1913), as "sankurnensis"; H. Huber l.c. 79. *APD acc*

Ceropegia anceps S. Moore in Cat. Talb. 66 (1913); F.W.T.A., ed. 1, 2: 63.

Ceropegia degemensis S. Moore (1919).

Ceropegia batesii S. Moore (1926).

Ceropegia aristolochioides of F.W.T.A., ed. 1, 2: 63 (1931), partly, not of Decne.

A glabrous leafy climber, with flowers in short-pedunculate cymes, creamy-white and blotched on the tube, the lobes dark purple.

S. L.: Ronietta (Nov.) Thomas 5561! Yonibana (Oct.) Thomas 3982! Kanya (Oct.) Thomas 2981! Mamaka (Nov.) Thomas 4434! Mabonto (Oct.) Thomas 3561! **Lib.:** Bumbuma (Oct.) Linder 1323! Ganta (Oct.) Harley 718! **Ghana:** Nsemse F.R., Borku to Sunyani (fr. Dec.) Adams 5237! Wenchi (Sept.) Irvine 4769! **S. Nig.:** Degema Talbot 3652! Oban Talbot 174! Calabar (Nov.) Lloyd (drawing)!

Also in **Cameroun**, **Congo**, **E. Africa** and extending to S. Rhodesia.

11. *Ceropegia fusiformis* N. E. Br. in Kew Bull. 1897: 273; F.T.A. 4, 1: 450; H. Huber l.c. 91. *APD acc*

A glabrous twiner with curved flowers 13/4 in. long, subumbellate (at first) on a peduncle 1-1 1/2 in. long, greenish-white, purple at the base; fruits narrow, 8 in. long.

iv. C.: Baoulé Chev. 22216! Pobéguin 181! **Ghana:** Krobo Plains (fl. & fr. Dec.) Johnson 499! Odumasi (Aug.) Johnson 1075! Kumawu (Aug.) Cansdale 123! **S. Nig.:** Lagos (Sept.) Millen 89! Idanre (Oct.) Keay FHI 25501! Olokemeji F.R. (Sept.) Keay FHI 25391! Ibadan (Mar., Sept.) Latilo FHI 31775! Keay FHI 25382!

12. *Ceropegia aristolochioides* Decne. in Ann. Sci. Nat., sér. 2, 9: 263 (1838); F.T.A. 4, 1: 464; F.W.T.A., ed. 1, 2: 63, partly; Berhaut Fl. Sén. 57; H. Huber l.c. 91. *APD acc*

APD: *Synonym of Ceropegia sankuruensis Schltr.*

Ceropegia perrottetii N. E. Br. (1898)-F.T.A. 4, 1: 448.

A glabrous half-succulent twiner, with flowers clustered at the end of a peduncle scarcely 1 in. long, dark purple and mottled, about 1 in. long.

Sen.: Heudelot 477! Perrottet 791! Berhaut 386. **Mali:** Chev. 24499!

Extending eastwards to Ethiopia, Somalia, E. Africa and Congo.

13. *Ceropegia gemmifera* K. Schum. in Engl. Bot. Jahrb. 33: 328 (1903); F.T.A. 4, 1: 620.

APD: *Synonym of Ceropegia nilotica var. simplex H. Huber*

Ceropegia nilotica var. *simplex* H. Huber l.c. 104 (1958).

A half-succulent twiner, usually with few leaves, the axillary jointed gemmae acting as propagules and the species is unique in this respect; flowers 1 1/2 in. long, lurid-purple mottled; fruits 4-5 in. long.

Ghana: Accra (July) Dalz. 153! Achimota (May) Milne-Redhead 5086b! Pawmpawm R. (May) Morton 7261! **Togo Rep.:** Lomé Warnecke 242!

[The writer cannot agree with Huber in uniting this with *C. denticulata* K. Schum. as a variety of *C. nilotica* Kotschy.-A.A.B.]

14. *Ceropegia yorubana* *Schltr.* in Engl. Bot. Jahrb. 38: 48 (1905); Milne-Redhead in Kew Bull. 3: 465 (1948); H. Huber l.c. 93. *APD acc*

A glabrous climber, usually leafy with flowers about 1 in. long.

Ghana: Amosima, Cape Coast (Mar.) Hall 1737! Abokobi (Feb.) Irvine 1989! Anum (Dec.) Plumptre 31! Kumasi (Aug., Nov.) Darko 617! 705! **S. Nig.:** Ibadan (fl. & fr. Mar.) Meikle 1256!

15. *Ceropegia tourana* *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 61: 274 (1917); H. Huber l.c. 132. *APD acc*

A climber with deep purple flowers 3/4 in. long, and slender fruit follicles 10 in. long.

iv. C.: Toura, Sassandra Chev. 21653. **S. Nig.:** near Ado-Awaive, Oyo Dist. Hambler 650!

16. *Ceropegia linophyllum* *H. Huber* l.c. 115 (1958). 15 *C. senegalensis* *H. Huber* l.c. 116 (1958). *APD acc*

A slender twiner with small tubers, corolla dull purple outside, the lobes and inside very dark crimson.

Sen.: Near Dakar Pilot! **Ghana:** Navrongo (Sept.) Vigne FH 4602! Boro, near Wa Adams 1751! **S. Nig.:** Idanre Hills Keay FHI 22588! 37908!

17. *Ceropegia racemosa* *N. E. Br.* in Kew Bull. 1895: 262; F.T.A. 4, 1: 456; Werderman in Engl. Bot. Jahrb. 70: 207 (1939); Bullock in Kew Bull. 9: 591 (1955); H. Huber l.c. 93. *APD acc*

Ceropegia pedunculata *Turrill* in Kew Bull. 1921: 389; F.W.T.A., ed. 1, 2: 62.

A. atacorensis *A. Chev.* Bot. 439, name only.

A. gourmaca *A. Chev.* Bot. 439, name only.

A slender twiner with glabrous stems and flowers 1 1/2 in. long, orange or brown-purple with paler corolla-lobes; fruit follicles very narrow.

Mali: Ouagadougou to Ouahigouya, Mossi, Upper Volta (Aug.) Chev. 24689! 24732! **Port. G.:** Bafata, Tamtam Cossé (f. Sept.) Esp. Santo 3340! Farim (Aug.) Esp. Santo 3056! Fulacunda (Aug.) Esp. Santo 2179! Gabu, Gitche (fr. Oct.) Esp. Santo 3488! **Ghana:** Boro, Wa (June) Adams 681! **N. Nig.:** Anara F.R. Zaria Prov. (July) Keay & Clayton FHI 37084! Bonu Hill, Gwari, Niger Prov. (fl. & fr. Aug.) Onochie FHI 18262! Jos (Aug.) Keay FHI 20183! Naraguta (Aug.) Lely 495! Kilba country, near Yola (Aug.) Dalz. 96!

Widely distributed through tropical and S. Africa, and in Madagascar.

A highly polymorphic species; four subspecies are recognized by Huber (l.c. 1958), but I am unable to agree with his circumscriptions.

Ceropegia achtenii subsp. *togoensis* *H. Huber* l.c. 157 (1958).

C. achtenii De Wild. is widely distributed in central equatorial Africa. This subspecies is based on a single specimen (Ghana: Waribo Mt., N. of Wurupong (Adams 1834) preserved in the East African Herbarium, Nairobi.

32. HUERNIA

R. Br.-F.T.A. 4, 1: 495; White & Sloane, Stapelieae, ed. 2, 3: 819 (1937).

- 1 Stems succulent, glabrous, erecto-patent, about (3-)5(-8) cm. long and up to 1.5 cm. thick, 4-5 angled, glabrous, bluntly toothed; leaves opposite, triangular, 2 mm. long, at the tips of the stem teeth; flower solitary, extra-axillary, near the base of young stems; pedicel about 1 cm. long; corolla campanulate, tube 7-8 mm. long, 8-9 mm. diam., lobes broadly triangular, about 10 mm. long, sinus teeth deltoid, about 1.5 mm. long; flower pink outside, crimson-blotched on yellow papillate ground inside, corona very dark purple *nigeriana*

Huernia nigeriana *Lavranos* in Journ. S. Afr. Bot. 27: 233 (1961). *APD acc*

Succulent herb with campanulate flowers, pink outside and with crimson blotches inside; corona-lobes blackish-purple.

N. Nig.: Mongu F.R., Plateau Prov. Keay FHI 37098! 48 km. W.S.W. of Bauchi (July) Lavranos 1058.

33. CARALLUMA

R. Br.-F.T.A. 4, 1: 477; White & Sloane, Stapelieae, ed. 2, 1: 151 (1937).

- 1 Stems cylindric, not angled or winged, 20-30 cm. long, slender, much branched; leaves minute, caducous; flowers 1-2 together, extra-axillary near the stem apex, on slender curved pedicels 4-6 mm. long; calyx-lobes ovate-lanceolate, 3-4 mm. long, glabrous; corolla quite glabrous, campanulate urceolate, 7-8 mm. long and as broad, yellowish-green, longitudinally ridged inside corolla-limb dark purple with a narrow disk and 5 erect oblong-triangular lobes 5 mm. long and 2.5 mm. broad at the base; outer corona lobes bipartite, forming 10 filiform horns 5 mm. long [1. mouretii](#)
- Stems winged or angled: **2**
- 2 Stems with 4 wing-like ribs up to 2 cm. wide, indurated at the margins and with recurved or spreading indurated teeth from which the minute triangular leaves are early caducous; the stems branched, erect, up to about 60 cm. high; flowers in large apparently sub-terminal umbels forming a compound globose head 7-10 cm. or more diam. and with a hundred or more flowers; pedicels 2-4 cm. long, glabrous; calyx-lobes narrowly lanceolate, 2-5 mm. long; corolla 12-16 mm. diam., rotate, lobed to about half-way, the lobes ovate-triangular, 5-6 mm. long and as broad at the base, sparsely covered with purple hairs or glabrous, ciliate with vibratile club-shaped hairs; outer corona cup-shaped with 5 pairs of arcuate-subulate teeth 1-1.5 mm. long; follicles erecto-divergent, terete, 12-18 cm. long [2. retrospiciens](#)
- Stems 4 or 5 angled but not winged: **3**
- 3 Corolla-lobes 4-5 mm. long, lanceolate, with a constriction near the base, pilose inside with purple multicellular hairs, distinctly maculate below the constriction; outer corona lobes deeply bipartite into subulate horns; corolla almost rotate, the tube shortly campanulate; flowers in extra-axillary fascicles of 1-3 scattered along the upper part of the stem; calyx-lobes subulate-lanceolate, about 4 mm. long; stems 30 cm. or more high, with minute, caducous triangular leaves [3. dalzielii](#)
- Corolla-lobes 10-12 mm. long, ovate-oblong, acute; outer corona annular, truncate, with a reddish rim; corolla 2-5 cm. diam., rotate, with a very short tube; flowers in fascicles of 2-4 near the apex of the stem; calyx-lobes oblong-subulate, 4-5 mm. long, glabrous; stems 10-40 cm. high, up to 1.5 cm. thick at base, the minute triangular leaves borne at the apex of stout conical teeth, shield-shaped at the base 4. [decaisneana](#)

1. **Caralluma mouretii** A. Chev. in Rev. Bot. Appliq. 14: 270 (1934); White & Sloane l.c. 181.

APD: *Synonym of Caudanthera edulis* (Edgew.) Meve & Liede

Caralluma edulis A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 65 (1931); Chev. Bot. 440, name only, not of Benth. (1876).

A succulent with yellowish-green flowers.

Maur.: Tidjikja (Sept.) Charles in Hb. Chev. 28733.

Also in **Morocco**.

[There is no specimen of this plant at Kew, and I rely on the identification given by White and Sloane.-A.A.B.]

2. **Caralluma retrospiciens** (Ehrenb.) N. E. Br. in Gard. Chron. 12: 370 (1892); F.T.A. 4, 1: 480; White & Sloane l.c. 236. *APD acc*

Desmidorchis retrospiciens Ehrenb. in Abh. Acad. Berlin 33 (1831).

Boucerosia tombuctuensis A. Chev. (1900).

Caralluma tombuctuensis (A. Chev.) N. E. Br. in F.T.A. 4, 1: 622; F.W.T.A., ed. 1, 2: 65; Berhaut Fl. Sén. 3.

Caralluma retrospiciens var. *tombuctuensis* (A. Chev.) White & Sloane l.c. 240 (1937).

An erect sparsely branched greyish-green shrubby succulent, perhaps the largest of the stapeliads, the winged stems indurated on the margins and armed with spreading or reflexed hard teeth; flowers almost black in large globose heads at the tips of the branches.

Sen.: Guiers Berhaut. **Mali:** near Timbuktu and Arnassay (July) Chev. 1317; 1318.

The species as here understood is widespread in semi-arid areas from the west of our area to the Red Sea coast and islands, **Ethiopia**, **Kenya** and **Somalia**. Within our area, White and Sloane record it from "many points in Mauretania, Senegal, French **Sudan** (i.e. Mali), Nigeria, and the Algerian Sahara, up to 6,000 ft. elevation", but I have not seen specimens from most of these areas.

White and Sloane admit five varieties, all except one having been regarded as distinct species at one time or another. It is likely that some other plants which have been treated as distinct species, may belong here.

3. **Caralluma dalzielii** *N. E. Br.* in Kew Bull. 1912: 280; White & Sloane l.c. 185. *APD acc*

An erect sparsely branched succulent herb with green stems and scattered dark reddish-purple star-like flowers.

Ghana: Gambaga (Dec.) Morton A1408! **N. Nig.:** Sokoto (July) Dalz. 317! Katagum (cult.) Dalz. 367!

Found in cultivation in many localities.

4. **Caralluma decaisneana** (*Lem.*) *N. E. Br.* in Gard. Chron. 12: 369 (1892); F.T.A. 4, 1: 488; F.W.T.A., ed. 1, 2: 65; Bullock in Kew Bull. 17: 195 (1963).

APD: *Synonym of Orbea decaisneana* (*Lem.*) *Bruyns*

Boucerosia decaisneana *Lem.* in Herb. Gén. Amat, sér. 2, 4: t. 21 (1844).

Stapelia ango *A. Rich.* (1851).

Caralluma ango (*A. Rich.*) *N. E. Br.* (1892).

Caralluma sprengeri *N. E. Br.* (1895).

Caralluma commutata *Berger* (1910).

Caralluma hesperidum *Maire* (1922).

Caralluma venenosa *Maire* (1934).

Stapelia decaisneana (*Lem.*) *A. Chev.* (1934)-Berhaut Fl. Sén. 2, 3.

A slender much-branched succulent, the stems decurved and rooting freely in contact with the soil; flowers blackish-purple, frosted with minute white papillae.

Maur.: Tichoten Charles in Hb. Chev. 28690. **Mali:** Dienné (July) Chev. 1145! **Sen.:** fide Berhaut l.c. St. Louis Chev. 3489.

A widespread and variable species extending through the Sahara and **Sudan** to **Ethiopia**, **Somalia** and southern **Arabia**.

RUBIACEAE

Trees, shrubs or rarely herbs. Leaves opposite or rarely verticillate, entire; stipules inter- or intra-petiole, often connate, rarely leafy and not distinguishable from the leaves. Flowers usually hermaphrodite, actinomorphic or very rarely slightly zygomorphic, solitary to capitate. Calyx adnate to the ovary. Corolla epigynous, more or less tubular, rarely campanulate; lobes 4-12, contorted, imbricate or valvate. Stamens epipetalous, as many as and alternate with the corolla-lobes; anthers mostly separate, 2-celled, opening lengthwise or rarely by terminal pores, rarely transversely septate. Ovary inferior or rarely superior, 2- or more-celled, with axile, apical or basal placentas, or rarely 1-celled with parietal placentas; style often slender; ovules 1 to many. Fruit a capsule, berry or drupe. Seeds rarely winged, mostly with endosperm, the latter rarely ruminate; embryo straight or curved.

A very large and mostly tropical family, the herbaceous representatives largely in temperate regions.

Recognised at once in the Metachlamydeae (Gamopetalae) by the usually inferior ovary, regular corolla, separate anthers, and stipulate simple entire leaves.

KEY TO THE TRIBES

- 1 Corolla-lobes contorted or imbricate: **2**
Corolla-lobes valvate; trees, shrubs or herbs: **3**
- 2 Flowers not in globose heads; corolla contorted (rarely imbricate); trees, shrubs, climbers, or rarely subherbaceous (use combined Key for genera Nos. 4-42) 2. GARDENIEAE, 3. ALBERTEAE, 4. IXOREAE, 5. HAMELIEAE
Flowers in globose heads; corolla imbricate; trees or shrubs 6. NAUCLEEAE
- 3 Ovules 2 or more in each ovary-cell: **4**
Ovule solitary in each ovary-cell: **7**
- 4 Fruit a capsule or dicocous; seeds winged or appendaged: **5**
Fruit a berry or dry and indehiscent 7. MUSSAENDEAE
- 5 Trees or shrubs: **6**
Herbs or very small shrublets 12. HEDYOTIDEAE

- 6 Flowers in lax panicles or spike-like cymes [1. CINCHONEAE](#)
 Flowers in globose heads [6. NAUCLEEAE](#)
- 7 Ovule pendulous from near the top of the cell: **8**
 Ovule erect from near the base or peltately attached towards the middle of the cell: **10**
- 8 Woody plants: **9**
 Herbs [12. HEDYOTIDEAE](#)
- 9 Stigma capitate; cystoliths absent on leaves etc. [8. VANGUERIEAE](#)
 Stigma bilobed; cystoliths present on leaves and calyx; leaves often yellowish [9. CRATERISPERMEAE](#)
- 10 Stipules not leaf-like: **11**
 Stipules leaf-like, the "leaves" verticillate; herbs or herbaceous climbers [15. RUBIEAE](#)
- 11 Calyx-tubes confluent; flowers in heads; fruits more or less united into a mass; trees or shrubs [10. MORINDEAE](#)
 Calyx-tubes not confluent: **12**
- 12 Fruits fleshy, indehiscent; ovule attached to base of the cell; mostly trees and shrubs; flowers cymose or capitate, rarely axillary (in *Lasianthus*) [11. PSYCHOTRIEAE](#)
 Fruits dry, usually dehiscent; herbs or undershrubs often with small flowers in axillary or terminal clusters: .. **13**
- 13 Ovule attached to the septum of the ovary; flowers hermaphrodite [13. SPERMACOCEAE](#)
 Ovule attached to base of the ovary; flowers sometimes unisexual (*Anthospermum*) [14. ANTHOSPERMEAE](#)

Tribe 1—CINCHONEAE

- 1 Flowers in simple or slightly branched spike-like racemes, sometimes subtended by large leaf-like white or coloured bracts; corolla-lobes without appendages; anthers included; style long-exserted; capsules loculicidally dehiscent [1. Hymenodictyon](#)
 Flowers in panicles; corolla-lobes with appendages: **2**
- 2 Anthers and style exserted; capsule loculicidally dehiscent; flowers (in our species) 4-merous; corolla-appendages (in our species) short, subspherical, close together in bud [2. Corynanthe](#)
 Anthers and style included; capsule septicidally (and sometimes partially loculicidally) dehiscent; flowers 5-merous; corolla-appendages long, filiform or subulate, erect and often divergent in bud [3. Pausinystalia](#)

Tribes 2—GARDENIEAE, 3—ALBERTEAE, 4—IXOREAE & 5—HAMELIEAE

(Corolla-lobes contorted or rarely imbricate, overlapping to the left (except in some species of *Rothmannia*); fruit indehiscent (except *Crossopteryx*); trees, shrubs and lianes).

- 1 Fruit capsular; seeds winged; ovary 2-celled; ovules numerous; style long-exserted, style-head clavate, slightly 2-lobed; stamens exserted; flowers (4-)5(-6)-merous; flowers numerous in dense terminal corymbs [4. Crossopteryx](#)
 Fruit indehiscent; seeds not winged: **2**
- 2 Ovary (3-)6-celled; ovules 2 to numerous per cell, placentation axile; inflorescences several- to many-flowered, appearing laterally: **3**
 Ovary 1-2-celled: **4**
- 3 Corolla-lobes 5, longer than the short tube; ovules 2-4 per cell; stamens 5, exserted; style-head fusiform, undivided; flowers pedicellate in pedunculate cymes borne laterally at alternate nodes; leaves petiolate, up to 14 cm. long and 8 cm. broad [5. Morelia](#)
 Corolla-lobes (6-) 12, shorter than the long tube; ovules numerous in each cell; stamens (6-)13, included; style-head 4-6-lobed; flowers sessile in a dense sessile cluster subtended by broad bracts and borne at ends of shoots opposite a single leaf and just above a pair of leaves; leaves up to 120 cm. long and 45 cm. broad; ovary (3-)6-celled [10. Schumannioophyton](#)
- 4 Solitary flowers or inflorescences terminal (sometimes on lateral branchlets), or appearing laterally by sympodial growth of stem, never truly axillary, if apparently in axils then never on both sides of stem at same node (to p. 107): **5**
 Solitary flowers or subsessile clusters of flowers, axillary on both sides of the node; growth of stem monopodial: **34**
- 5 Ovules several to numerous; placentas on walls or septum of ovary (to p. 107): **6**
 Ovules solitary or paired; ovary 2-celled, placentation not parietal: **30**
- 6 Style-head usually capitate, clavate or fusiform, undivided or sometimes shortly cleft but never with spreading arms; calyx-lobes mostly open (but see *Pseudogardenia* and *Sherbournia*) (to p. 107): **7**
 Style with 2 recurved spreading arms: **28**
- 7 Inflorescences several- to many-flowered appearing laterally at alternate nodes; pollen grains not in tetrads; ovary 2-celled with placentas on the septum, rarely 1-2-celled with parietal placentation (*Brenania* only): **8**

- Inflorescences terminal, or appearing laterally at successive nodes, or flowers solitary or paired: 11
- 8 Stipules not forming a truncate sheath; laminae rounded to acuminate at apex usually with a fringe of hairs around the node inside them; ovary 2-celled, placentas borne on the septum; small or medium sized trees: 9
- Stipules forming a truncate sheath, ciliate at the margin; corolla-tube broadly cylindrical, glabrous except for a ring of hairs inside, lobes broad, rounded, erect; anthers included; style-head divided; placentas parietal, ovary 1-celled or partially 2-celled; pollen grains single; a large tree [9. Brenania](#)
- 9 Style well exerted from the cylindrical corolla-tube; corolla-lobes often reflexed: 10
- Style and anthers included in the funnel-shaped corolla-tube; corolla-lobes mostly erect; corolla silky pilose outside except at base, glabrous inside except for a band of hairs near the base; pollen grains single; style-head entire; fruits ellipsoid, up to 3 cm. long [8. Porterandia](#)
- 10 Corolla villous in the throat, glabrous or pubescent outside; anthers well exerted; pollen grains single; style-head entire; fruits subglobose, up to 1.5 cm. diam. [6. Aidia](#)
- Corolla glabrous inside and outside; anthers included; pollen grains aggregated into spindle-shaped masses about 250 μ long; style-head divided; fruits ovoid, beaked, 5-9 cm. long [7. Massularia](#)
- 11 The inflorescences several- to many-flowered always terminal (sometimes on lateral branchlets): 12
- The inflorescences appearing laterally at successive nodes, or if terminal then flowers 1-2 (very rarely 3): 20
- 12 Placentas attached to the septum of the distinctly 2-celled ovary: 13
- Placentas parietal; ovules numerous; ovary 1-2-celled: 16
- 13 Inflorescence either an elongated panicle of small cymes, or flowers in axils few or congested; fruits globose, not exceeding 1 cm. diam.; ovules numerous [41. Bertiera](#)
- Inflorescences not as above; trees, shrubs or lianes: 14
- 14 Fruits oblong or fusiform, 3-11 cm. long; ovules numerous; flowers in small cymes; lianes [40. Atractogyne](#)
- Fruits globose: 15
- 15 Corolla with 1 lobe imbricated; calyx-lobes foliaceous; fruit 1.5 cm. diam.; ovules numerous; inflorescences few-flowered [42. Heinsia](#)
- Corolla contorted; calyx small; fruit not more than 1 cm. diam.; ovules 1-6; inflorescences mostly corymbose; trees or shrubs, rarely climbers; see also below [28. Tarenna](#)
- 16 Anthers not included in the tubular lower portion of the corolla but completely exerted at the top between the lobes; style-head subglobose, very long-exserted; cymes 1- to many-flowered, terminating long and short shoots; corolla hairy outside; ovary 1-celled [11. Macrosphyra](#)
- Anthers included wholly or mostly in the corolla-tube; style-head usually longer than broad, not long-exserted: 17
- 17 Calyx-lobes distinct; corolla-tube cylindrical or infundibuliform, without a large campanulate upper portion: 18
- Calyx truncate; lower portion of corolla shortly and narrowly tubular, abruptly expanded into the relatively large upper campanulate portion; corolla glabrous except for a dense band of hairs inside at the top of the narrow tubular portion; ovary 1-celled; style-head elongate fusiform; cymes short, few-flowered; stem and leaves glabrous [15. Oligocodon](#)
- 18 Cymose panicles subsessile at the ends of long shoots: 19
- Cymose panicles borne terminally on young relatively short lateral shoots with 1-3 pairs of new leaves and conspicuous stipules; stem and leaves glabrous; corolla very narrowly infundibuliform, glabrous inside and outside; style-head obovate-spathulate; ovary 1-celled [14. Polycoryne](#)
- 19 Leaves and stem hirsute, the latter hollow; calyx-lobes subulate or lanceolate; corolla infundibuliform, pubescent outside, glabrous inside except for a ring of hairs near base; style-head clavate or obovate; ovary 1-celled . [12. Calochone](#)
- Leaves and stems glabrous, the latter solid; calyx-lobes leafy, persistent in fruit; corolla-tube cylindrical, glabrous outside, slightly pubescent inside; style-head linear-ellipsoid; ovary 2-celled, sometimes only partially so [13. Preussiodora](#)
- 20 Branches usually armed with spines formed from modified lateral branchlets; flowers 1-2 (-3) together, terminating opposite pairs of very much abbreviated leafy lateral shoots; ovary 2-celled, placentas attached to the septum which divides the seed-masses in fruit; pollen grains single [16. Xeromphis](#)
- Branches not armed with spines (but if, in some species of *Gardenia*, lateral branchlets tend to be spine-like, then pollen grains in tetrads and ovary 1-celled with 3-9 placentas); placentas 2-9, parietal; ovary 1-2-celled; seeds forming a single mass in fruit: 21
- 21 Flowers solitary or paired, terminal, or appearing lateral by sympodial growth; corolla usually more or less funnel-shaped and often large: 22
- Flowers 3 or more together in cymes appearing laterally or axillary (on only one side of the stem): 26
- 22 Stipules chaffy, persistent; leaves deciduous, crowded below the solitary flowers, with long almost leafless internodes between the clusters; calyx-tube very short, lobes spreading; ovary 2-celled; pollen grains in tetrads

- [17. Euclinia](#)
- Stipules not chaffy, leaves not as above: **23**
- 23** Stipules sheathing, persistent, often truncate; young parts usually glutinous; ovary 1-celled (or partially 2-celled in *G. sokotensis*), placentas 2-9; calyx-tube well developed; pollen grains in tetrads [18. Gardenia](#)
- Stipules not as above, mostly soon caducous; young parts not glutinous (except in *Rothmannia lujae*); ovary 1-2-celled; placentas 2; pollen grains single: **24**
- 24** Calyx-lobes in bud open or overlapping to the left; flowers terminal, solitary (except *Rothmannia lujae*), or appearing laterally on abbreviated shoots on account of the sympodial growth:..... **25**
- Calyx-lobes in bud contorted and over-lapping to the right (in species with short lobes, see very young bud or the thin margin on the left of each lobe); cymes 1 to several-flowered normally axillary on one side of stem at successive nodes, rarely terminal; calyx-tube finely velutinous inside and outside; corolla velutinous outside except for a glabrous portion at the base, lobes short and broad, overlapping to the left; lianes; see also below [21. Sherbournia](#)
- 25** Calyx-tube glabrous and minutely papillose inside, truncate, with broad leafy overlapping lobes attached outside; corolla-lobes overlapping to left; ovary 1-celled; scandent shrubs [19. Pseudogardenia](#)
- Calyx-tube velutinous inside, with dentate, linear or filiform lobes not attached outside a truncate tube and not overlapping in bud; calyx-tube sometimes split at anthesis; corolla-lobes overlapping to left or right; ovary 2-celled or partially 2-celled; erect shrubs or trees [20. Rothmannia](#)
- 26** Stipules rounded at apex, caducous and exposing a fringe of hairs at the nodes; ovary and fruit often distinctly 10-ribbed; ovary 2-celled; corolla funnel-shaped or campanulate, with short broad lobes; anthers and style included; cymes 1- to several-flowered; climbing shrubs [21. Sherbournia](#)
- Stipules acute at apex, persistent: **27**
- 27** Anthers not included in the long narrowly cylindrical corolla-tube; style well-exserted [22. Oxyanthus](#)
- Anthers included (or nearly so) in the funnel-shaped corolla-tube; style included or just exserted [23. Mitriostigma](#)
- 28** Calyx-lobes open in bud; flowers in terminal and axillary cymes; ovules several in each cell, pendulous from the upper part of the septum [25. Pouchetia](#)
- Calyx-lobes contorted in bud; flowers in terminal corymbs; placentas adnate to the septum of the 2-celled ovary: **29**
- 29** Anther cells divided into small compartments by longitudinal and numerous transverse septa [26. Dictyandra](#)
- Anther cells not divided into compartments [27. Leptactina](#)
- 30** Flowers normally 4-merous; ovules attached to the septum (if ovules basally attached, see Rutidea); flowers mostly in terminal corymbs:..... **31**
- Flowers normally 5-merous (but 4-merous in 2 spp. of Rutidea, ovules then basally attached); bacterial nodules absent: **32**
- 31** Style-head clavate, subentire; bracts stipular in origin (hence at right angles to the lateral branches of the inflorescence); floral bracts and bracteoles absent or very small; leaves and stems often with bacterial nodules; ovule solitary (rarely 2) [29. Pavetta](#)
- Style with 2 recurved spreading arms; bracts foliar in origin (hence subtending the lateral branches of the inflorescence); floral bracts and bracteoles well-developed (in our species); bacterial nodules absent; ovule solitary [30. Ixora](#)
- 32** Flowers 1-several subtended by a single leaf, clustered together at the ends of very short terminal branchlets often appearing laterally at the nodes owing to sympodial growth of the stem; ovules paired in each ovary-cell, immersed in a pendulous placenta; style long and very narrowly clavate, sometimes with 2 short arms [31. Aulacocalyx](#)
- Flowers not arranged as above, mostly in terminal panicles or corymbs; style clavate, subentire: **33**
- 33** Ovules 1-6, attached to the septum; endosperm not ruminant; see also above [28. Tarenna](#)
- Ovule 1, attached to base of ovary; endosperm ruminant [32. Rutidea](#)
- 34** Style-head fusiform or clavate, entire; ovules numerous on 2 parietal placentas which often meet to make the ovary partially 2-celled; flowers solitary, supra-axillary; corolla trumpet-shaped, longitudinally ribbed; stems often armed with spinescent abbreviated lateral shoots [24. Didymosalpinx](#)
- Style more or less filiform, entire or with 2 arms; ovary 2-celled, ovules 1-16 in each cell; placentas not parietal: **35**
- 35** Style exserted; anthers exserted or included; corolla-tube glabrous or hairy inside: **36**
- Style and anthers included in the corolla-tube, style not reaching to the level of the anthers; corolla-tube glabrous inside; flowers sessile or subsessile, solitary or a few together; bracteoles often cupular: **40**
- 36** Style undivided or shortly bifid; ovules solitary and pendulous, or 2-4 and attached to the septum: **37**
- Style distinctly divided into two spreading arms; ovules solitary and attached to the septum, or 1-16 and inserted

- in the placentas; bracteoles often cupular: **39**
- 37** Flowers opposite and solitary, appearing on lateral branchlets usually before these elongate and while they are still more or less covered by the bud-scales; bracteoles lanceolate; ovules 2-3, attached to the septum; corolla puberulous or glabrous inside [33. *Feretia*](#)
- Flowering not as above; ovules solitary and pendulous; corolla densely hairy in the throat: **38**
- 38** Flowers 5(-6)-merous; bracteoles not cupular; anthers exserted; calyx-teeth distinct; endosperm not ruminate [34. *Cremaspora*](#)
- Flowers 4-merous; bracteoles cupular; anthers included; calyx truncate or subtruncate; seeds with ruminate endosperm [35. *Polysphaeria*](#)
- 39** Corolla pubescent or pilose inside; ovules 1-16, inserted on the outer face of each placenta; placentas peltately attached to the septum; bracteoles often cupular, but only rarely with foliaceous appendages [36. *Tricalysia*](#)
- Corolla glabrous inside; ovules solitary in each cell, attached to the lower half of the septum, very rarely 2 immersed in each placenta; bracteoles usually cupular and often with foliaceous appendages; see also below [37. *Coffea*](#)
- 40** Ovules solitary in each cell, attached to the septum; calyx-lobes open in bud: **41**
- Ovules 2 in each cell, inserted on the inner face of a pendulous placenta; fruits marked at the apex by the wide remains of the disk and the calyx-lobes; calyx-lobes imbricate in bud, not enlarged in fruit; seeds 2-4 in each fruit, without longitudinal grooves [39. *Belonophora*](#)
- 41** Calyx-lobes not accrescent; seeds without a longitudinal groove; (*Coffea rupestris* and *C. ebracteolata*), for other species see above [37. *Coffea*](#)
- Calyx-lobes accrescent in fruit; seeds with a longitudinal groove [38. *Psilanthus*](#)

Tribe 6—NAUCLEEAE

- 1** Flowers entirely free from one another; fruit a capsule: **2**
- Flowers fused together by their ovaries and calyx-tubes, syncarpous in fruit; seeds not winged; corolla-lobes imbricate; stigma fusiform, with two papillose areas in the lower half [46. *Nauclea*](#)
- 2** Corolla-lobes valvate; seeds shortly winged; bracteoles present; stigma caplike, longitudinally grooved [43. *Mitragyna*](#)
- Corolla-lobes imbricate; seeds with tail-like wings; stigma more or less clavate, smooth: **3**
- 3** Scandent shrubs; branchlets more or less 4-angled, armed with axillary pairs of recurved spines; leaves not whorled; bracteoles absent [44. *Uncaria*](#)
- Trees; branchlets terete, without spines; leaves whorled; bracteoles present [45. *Adina*](#)

Tribe 7—MUSSAENDEAE

- 1** Inflorescences terminal, often one of the calyx-lobes of the outer flowers enlarged and petaloid; straggling shrubs [47. *Mussaenda*](#)
- Inflorescences axillary (terminal and axillary in *Pauridiantha viridiflora*); calyx-lobes never petaloid: **2**
- 2** Calyx-teeth minute or calyx truncate (up to 3 mm. long in *P. stipulosa*); bracts not enclosing inflorescence; erect shrubs or sometimes trees [48. *Pauridiantha*](#)
- Calyx-teeth well-developed; bracts often present and sometimes enclosing the inflorescence; mostly climbing shrubs, others erect shrubs [49. *Sabicea*](#)

Tribe 8—VANGUERIEAE

- 1** Corolla-tube curved, broad and about 2.5 cm. long, glabrous; stems annual from a rhizome; calyx-limb truncate [50. *Temnocalyx*](#)
- Corolla-tube always straight, mostly short (except *Hutchinsonia* & *Robynsia*); trees or shrubs (herbs in *Fadogia*): **2**
- 2** Corolla about 2 cm. long, densely pubescent, narrowly tubular; shrubs: **3**
- Corolla small (up to about 1 cm. long), usually glabrous; flowers rarely solitary: **4**
- 3** Flowers solitary; corolla-lobes with long filiform apex; stigma vertically lobed, shortly exserted [51. *Hutchinsonia*](#)
- Flowers cymose, numerous; corolla-lobes without appendages; stigma laterally lobed, long exserted [52. *Robynsia*](#)
- 4** Bracts and bracteoles foliaceous and conspicuous; calyx-lobes usually foliaceous or very rarely truncate; ovary 2-5-locular; corolla very acute; straggling shrubs [53. *Cuviera*](#)
- Bracts and bracteoles not foliaceous: **5**
- 5** Leaves in whorls of 3-5; stems mostly herbaceous, angular, rarely trees or shrubs; calyx-limb truncate, irregularly dentate or lobed; stigma 3-5-lobed [54. *Fadogia*](#)
- Leaves opposite; shrubs or trees: **6**
- 6** Ovary 2-locular; fruits didymous or by abortion 1-celled: **7**

-
- Ovary (3-)4-5-locular; fruits mostly of 5 pyrenes:9
- 7 Inflorescences with the ultimate branches always elongated, cymose-racemose; corolla-throat glabrous; calyx deeply lobed [55. *Vangueriopsis*](#)
- Inflorescences with the ultimate branches not elongated, mostly cymose-corymbose or umbellate; corolla-throat bearded or glabrous; calyx truncate or minutely denticulate:8
- 8 Flowers numerous, inflorescences mostly cymose-corymbose or rarely clustered [56. *Canthium*](#)
- Flowers few, in clusters (R. affine) [57. *Rytigynia*](#)
- 9 Flowers in clusters or very short cymes: 10
- Flowers in cymose racemose inflorescences with ultimate branches always elongated; calyx lobed; corolla throat villous [59. *Vangueria*](#)
- 10 Calyx truncate or minutely denticulate [57. *Rytigynia*](#)
- Calyx deeply lobed [58. *Globulostylis*](#)
- Tribe 9—CRATERISPERMEAE
- 1 Shrubs or small trees; leaves often yellowish; flowers in axillary clusters; fruits free from one another [60. *Craterispermum*](#)
- Tribe 10—MORINDEAE
- 1 Trees or climbing shrubs; flowers in heads; fruits fused [61. *Morinda*](#)
- Tribe 11—PSYCHOTRIEAE
- 1 Inflorescences strictly axillary, flowers fasciculate and sessile:2
- Inflorescences terminal (rarely also axillary), paniculate, capitate or spicate:3
- 2 Ovules solitary [62. *Schizocolea*](#)
- Ovules 6-10 [63. *Lasianthus*](#)
- 3 The inflorescences paniculate or if capitate not surrounded by an involucre; mainly shrubs:4
- The inflorescences capitate and involucre, or spicate and without an involucre:7
- 4 Ovary superior; stipules markedly ochreate [64. *Gaertnera*](#)
- Ovary inferior:5
- 5 Inner surface of seeds deeply and broadly concave, endosperm not ruminant; corolla-tube often curved, rather long [65. *Chassalia*](#)
- Inner surface of seeds more or less flat:6
- 6 Erect shrubs with panicles or if undershrubs inflorescences not capitate; endosperm either ruminant or not ... [66. *Psychotria*](#)
- Undershrubs with capitate inflorescences; endosperm not ruminant [69. *Trichostachys*](#)
- 7 Inflorescences capitate and involucre or flowers 1-few:8
- Inflorescences spicate, sometimes shortly so [69. *Trichostachys*](#)
- 8 Shrubs or creeping undershrubs; leaves cuneate; flowers numerous [67. *Cephaelis*](#)
- Herbs with soft, creeping stems; leaves usually cordate; flowers numerous or 1-few [68. *Geophila*](#)
- Tribe 12—HEDYOTIDEAE
- 1 Ovules solitary; ovary 2-celled; uncommon plants:2
- Ovules numerous:3
- 2 Pyrophyte, 5-25 cm. high; fruit indehiscent; calyx-lobes unequal; in upland savanna [70. *Pentanisia*](#)
- Half-succulent herb, 50-200 cm. high; fruit dehiscent; one calyx-lobe enlarged and leafy; in crevices of rock outcrops [71. *Neobaumannia*](#)
- 3 Stigma capitate:4
- Stigma lobed:5
- 4 Anthers opening by terminal pores, connivent; fruit dehiscing irregularly; small annual herbs in wet places with a basal rosette of leaves [72. *Argostemma*](#)
- Anthers opening by longitudinal slits; fruit with one valve remaining attached by a pedicel, the other deciduous; large herbs [73. *Virectaria*](#)
- 5 Flowers mainly 4-merous:6
- Flowers mainly 5-merous:8
- 6 Stigma over-topped by anthers, all inserted; common weeds [74. *Kohautia*](#)
- Anthers over-topped by stigma which is often exerted:7

- 7 Capsule with a horny wall, with or without a beak, but never with a solid beak, early dehiscent; common weeds [75. Oldenlandia](#)
- Capsule with a thick woody wall and a solid conical beak, dehiscence delayed; rare [76. Lelya](#)
- 8 Plant glabrous; leaves half-succulent; inflorescences lax axillary cymes; in wet places [77. Pentodon](#)
- Plants not glabrous; leaves not succulent: **9**
- 9 Climbing plants: **10**
- Erect, ascending or procumbent plants: **11**
- 10 Corolla-tube 5-6 mm. long; inflorescences terminal lax or congested panicles slender shrubs [78. Sacosperma](#)
- Corolla-tube 25-40 mm. long; flowers in a terminal cluster; herb; (O. volubilis) [83. Otomeria](#)
- 11 Inflorescences of long branched or un-branched spikes from middle axils; flowers minute; slender shrub [79. Hekistocarpa](#)
- Inflorescences terminal, axillary and confined to upper axils, or flowers solitary or paired: **12**
- 12 Flowers solitary or paired, sessile in axils: **13**
- Flowers in terminal inflorescences (with or without additional solitary flowers in lower axils) or in axillary clusters: **14**
- 13 Annual herb; style inserted [80. Thecorchus](#)
- Perennial herb; style exserted [81. Batopedina](#)
- 14 Inflorescences axillary, clustered, not elongating in fruit [82. Parapentas](#)
- Inflorescences terminal: **15**
- 15 Flowering inflorescences capitate, later elongating into a long, single spike, rarely with axillary spikes from upper axils and frequently with solitary flowers at lower nodes; fruits oblong to turbinate [83. Otomeria](#)
- Flowering inflorescences capitate or lax, much-branched, complicate-cymose, individual branches becoming spicate in fruit; fruits globose, obtriangular or oblong (in P. herbacea) [84. Pentas](#)
- Tribe 13—SPERMACOCEAE
- 1 Ovary 3-celled; stigmas 3; introduced prostrate hairy herb [85. Richardia](#)
- Ovary 2-celled; stigmas 2 or style bilobed: **2**
- 2 Fruit separating into 2 parts, each part remaining indehiscent; trailing or scandent herbs; stipules multi-setose; flowers 1-few at nodes [86. Diodia](#)
- Fruit with both loculi dehiscent; usually erect herbs; flowers in dense terminal or axillary clusters; common weeds; **3**
- 3 Fruit with loculi dehiscent at apex [87. Borreria](#)
- Fruit circumscissile [88. Mitracarpus](#)
- Tribe 14—ANTHOSPERMEAE
- 1 Fruits with 1(-2) persistent foliaceous calyx-lobe; flowers hermaphrodite, homostylous; prostrate herb [89. Otiophora](#)
- Fruits without foliaceous persistent calyx-lobe; flowers often unisexual, heterostylous; heath-like undershrubs [90. Anthospermum](#)
- Tribe 15—RUBIEAE
- 1 Climbers with hooked hairs, and whorls of linear leaves and leaf-like stipules [91. Galium](#)

Cinchona calisaya Wedd.

Cultivated as ornamentals, introduced into our area from tropical S. America.

Cinchona ledgeriana Moens. ex Trimen

Cultivated as ornamentals, introduced into our area from tropical S. America.

Cinchona succiubra Pav. ex Klotzsch

Cultivated as ornamentals, introduced into our area from tropical S. America.

Warscewiczia coccinea (Vahl) Klotzsch

Cultivated as ornamentals, introduced into our area from tropical S. America.

Pseudomussaenda flava Verdc.

Cultivated as ornamentals, introduced into our area from tropical E. Africa.

Benzona corymbosa Schumach. Beskr. Guin. Pl. 114 (1827)

Must remain an imperfectly known genus and species since the whereabouts of the type specimen is not known and it has not been possible to determine it from the description alone.

1. HYMENODICTYON

Wall.—F.T.A. 3: 42; K. Schum. in E. & P. Pflanzenfam. 4, 4: 47 (1891).

- 1 Corolla 3 mm. long, consisting of a tube 1.5 mm. long and 0.6 mm. diam. and an abruptly expanded upper part 1.5 mm. long and 3 mm. diam., densely pubescent outside; calyx-lobes 4.5-7 mm. long, subulate; anthers 0.75-1 mm. long; free part of filament 0.25 mm. long; inflorescence simple or branched, up to 32 cm. long, pubescent, without large leaf-like bracts; branchlets stout, glabrous, with the leaves crowded at the apices; leaves obovate or obovate-oblong, 8-18 cm. long, 5-10 cm. broad, glabrous or with hairs by the midrib beneath, venation obscure beneath; fruits ellipsoid, 5.5-5 cm. long, 2.2-2 cm. broad; seeds with broad wings [1. pachyantha](#)
- Corolla 4-7.5 mm. long, obovate to clavate or clavate-ellipsoid gradually widened from the base, glabrous or papillose outside; calyx-lobes 1-3 mm. long; anthers 1-2 mm. long; free part of filament 1.25-2.25 mm. long; inflorescences subtended by large leaf-like bracts; fruits 0.8-2 cm. long:..... [2](#)
- 2 Leaves quite glabrous, venation very obscure beneath; inflorescences often branched; bracteoles caducous or persistent, up to 15 mm. long and 1.5 mm. broad; calyx-lobes 2-3 mm. long; corolla 4-7 mm. long; fruits 1-2 cm. long; seeds with linear tails, one tail split to the base; leaves obovate to elongate-elliptic, 9-17 cm. long, 3.5-7.3 cm. broad [2. biafranum](#)
- Leaves pubescent beneath, sometimes densely so, venation distinct beneath; inflorescences not branched; bracteoles subulate, up to 5 mm. long, more or less caducous; calyx-lobes about 1.5 mm. long; corolla 4-5.25 mm. long; fruits 0.8-1 cm. long; seeds with a triangular wing deeply bilobed at one end; leaves obovate, 6-16 cm. long, 3-7.5 cm. broad [3. floribundum](#)

1. *Hymenodictyon pachyantha* K. Krause in Engl. Bot. Jahrb. 57: 26 (1920). *APD acc*

Hymenodictyon bracteatum of F.W.T.A., ed. 1, 2: 70, not of K. Schum.

Hymenodictyon gobiense Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 105: 34 (1958); Aubrév. Fl. For. C. Iv., ed. 2, 3: 294, t. 361, 1-3.

A tree, to 70 ft. high with clear, rough bole and rather small, pyramidal crown; leaves all green; flowers green; [in forest](#).

IV. C.: Gobia, N.W. of Oumé (Mar.) Aubrév. 4153! **S. Nig.:** Oke Igbo, Ondo Div. (Feb.) Tamajong FHI 14676! Benin City (Apr.) Farquhar 18! 33! Auchi Kennedy 2356! Onitsha Dist. Rosevear 26/28! Mamu River F.R. Kennedy 2529! Iyamoyong F.R., Ogoja Prov. (fr. Apr.) Binuyo FHI 41271! **[Br.] Cam.:** Aiyomojok, Mamfe Div. (fr. Feb.) Keay & Tiko FHI 41899!

Also in [Cameroun](#).

2. *Hymenodictyon biafranum* Hiern in F.T.A. 3: 42 (1877). *APD acc*

Hymenodictyon bracteatum K. Schum. in Engl. Bot. Jahrb. 23: 424 (1896), not of F.W.T.A., ed. 1, 2: 70.

Hymenodictyon epidendron Mildbr. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 70 (1931).

Hymenodictyon oreophyton Hoyle in J. Bot. 75: 168 (1937).

Hymenodictyon reflexum Hoyle l.c. 169 (1937).

A shrub or tree to 30 ft. or more high, deciduous; flowers pale purple, in erect racemes, subtended by white leaf-like bracts which turn red with age; [in open places, very abundant on the 1922 lava flow of Cameroon Mt., sometimes epiphytic](#).

S. Nig.: Oban Talbot 213! 256! **[Br.] Cam.:** Cam. Mt., 4,500 ft. (fr. Feb.) Mann 1194! Litoka, Cam. Mt., 4,500 ft., bordering 1922 crater (Apr.) Maitland 1074! Ebang, Cam. Mt., 5,000 ft. (May) Johnstone 320/32! Buea, 3,000 ft. (fr. Jan.) Maitland 201! Mopanya (Apr.) Kalbreyer 183! Isobi to Bibundi, 1922 lava flow, near sea level (fl. June, fr. Jan.) Dundas FHI 8466! Keay FHI 28652! Rosevear Cam. 68/37! **F. Po.:** N. side of St. Isabel's Peak Mildbr. 6431. Moka (fr. Sept.) Wrigley 581!

Also in [Cameroun](#) and [Principe](#).

3. *Hymenodictyon floribundum* (Steud. & Hochst.) B. L. Robinson in Proc. Amer. Acad. 45: 404 (1910); Aubrév. Fl. For. C. Iv., ed. 2, 3: 294, t. 349, 3-5; Fl. For. Soud.-Guin. 455. *APD acc*

Kurria floribunda Steud. & Hochst. (1842).

Hymenodictyon kurria Hochst. (1843)—F.T.A. 3: 42; Chev. Bot. 308.

A shrub or tree, to 25 ft. high, **in open places, commonly on rocky hills**; racemes erect, subtended by a pair of red leaf-like bracts; calyx yellow; corolla yellow, turning crimson-brown.

Guin.: Labé Pobéguin 2081. Diaguissa Chev. 12919. Ditinn to Dalaba Chev. 18543. Dalaba Chev. 20279. **S.L.:** summit of Sugar Loaf Mt. (Apr.) Sc. Elliot 5779! Lumley, by river (May) Deighton 2730! **Iv. C.:** Mt. Momy (Apr.) Chev. 21352! S. of Taï (young fr. Aug.) Boughey GC 14973! Mt. Nimba, Mt. Dou, Niangbo & Guiglo fide Aubrév. l.c. **Ghana:** Obuasi (young fr. Sept.) Vigne FH 927! **Togo Rep.:** Sokode-Basari Kersting A741! **N. Nig.:** Kargi Hill, Birnin Gwari, Zaria Prov. (June) Keay FHI 25884! Neill's Valley, Jos (June) Lely 266! Jos Plateau (May) Lely P321! **S. Nig.:** Lagos MacGregor 163! Rowland! Idanre Hills (fr. Apr.) Symington FHI 3366! **[Br.] Cam.:** Fonfuka, Bamenda (Apr.) Maitland 1418! Bapinyi, Bamenda (May) Ujor FHI 30364!

Also in **Cameroun, Ubangi-Shari, Congo, Sudan, Ethiopia, E. Africa, Nyasaland, N. & S. Rhodesia** and **Angola**.

2. CORYNANTHE

Welw. in Trans. Linn. Soc. 27: 37 (1869); **W. Brandt** in Archiv der Pharmazie 260: 55 (1933).

Pseudocinchona A. Chev. ex E. Perrot in Compt. Rend. Acad. Sci. Paris 148: 1466 (1909).

- 1 Capsules 0.7-1 cm. long, glabrous; seeds flat, thin, with a long membranous tail at each end; branchlets glabrous, with very short internodes; stipules early deciduous, leaving a very short ciliolate ring; leaves obovate-elliptic, cuneate at base, bluntly acuminate, 14-20 cm. long, 4-8 cm. broad, glabrous, with 6-10 main lateral nerves on each side of midrib and numerous parallel tertiary nerves; petiole up to 4 cm. long; flowers in sessile clusters, numerous, in a crowded panicle; ovary glabrous; flowers 4-merous; calyx-lobes very short and thick; corolla infundibuliform, with a tube 2.5 mm. long and 4 lobes 2 mm. long each with a subspherical appendage about 1 mm. long; anthers and style exserted, stigma ellipsoid, entire [L. pachyceras](#)

Capsules 2.5-3 cm. long; leaves oblong, cuneate at base, acuminate, 15-25 cm. long, 6-8 cm. broad, with 12-16 main lateral nerves on each side of midrib; flowers not known; otherwise similar to above [2. dolichocarpa](#)

1. **Corynanthe pachyceras K. Schum.** in Notizbl. Bot. Gart. Berl. 3: 96 (1901); **W. Brandt** in Archiv der Pharmazie 260: 62; Aubrév. Fl. For. C. Iv., ed. 2, 3: 296, t. 362; Kennedy For. Fl. S. Nig. 210. **APD acc**

Pausinystalia pachyceras (K. Schum.) De Wild. (1922).

Pseudocinchona africana A. Chev. ex E. Perrot (1909)—Chev. Vég. Util. 5: 229; Bot. 308.

P. pachyceras (K. Schum.) A. Chev. (1926).

A **lower storey forest** tree to 70 ft. high and 6 ft. girth, with deeply fluted, twisted bole, branching low; flowers white, in copious panicles, sweetly scented.

S. L.: Njala (Oct.) Deighton 1333! Dodo Hills F.R., (fr. Jan.) Sawyerr FHK 13598! **Lib.:** Moylakwelli (Oct.) Linder 1271! Suacoco, Gbanga (Oct.) Okeke 22! Kolahun (Nov.) Baldwin 10146! **Iv. C.:** Nzi, Baoulé-Nord (fl. buds Aug.) Chev. 22271! Bouroukrou (fr. Dec.-Jan.) Chev. 16141! Abidjan Aubrév. 183! Banco Martineau 344! Rasso Aubrév. 144! **Ghana:** Amentia (Sept.) Vigne FH 1368! Sefwi Bekwai (Oct.) Akpabla 886! Jabo, Upper Wassaw F.R. (young fr. June) Vigne FH 966! Pammer, Kilelu Dist. (fr. Dec.) Vigne FH 1569! **S. Nig.:** Akilla, Ijebu Ode Prov. (fl. buds & fr. Dec.) Mitchell! Okomu F.R., Benin Prov. (fr. Dec.-Mar.) Brenan 8609! A. F. Ross 195! Benin City Dennett 25! Bendiga Ayuk, Ikom Div. (fl. & fr. Dec.) Keay FHI 28164! Oban Talbot 2044! **[Br.] Cam.:** Likomba (Nov.) Mildbr. 10606! Tiko (fr. Jan.) Dunlap 165! Kumba (fr. Dec.) Bamenda FHI 8437!

Also in **Cameroun, Rio Muni** and **Congo**.

2. **Corynanthe dolichocarpa W. Brandt** l.c. 62, t. 1, 1 & 8, t. 2, 3 (1922).

APD: *Synonym of Pausinystalia talbotii Wernham*

A **forest** tree, to 100 ft. high.

[Br.] Cam.: Likomba (young fr. Dec.) Mildbr. 10773!

Also in **Cameroun**.

3. PAUSINYSTALIA

Pierre ex Beille in Act. Soc. Linn. Bordeaux 61: 130 (1906); W. Brandt in Archiv der Pharmazie 260: 64 (1922).

- 1 Leaves elongate-obovate or oblanceolate, narrowed to the usually auriculate base, very shortly and obtuse acuminate, 13-35 cm. long, 5-11.5 cm. broad, with 10-16 main lateral nerves on each side of midrib, prominently venose-reticulate above, margins often undulate; petioles up to 0.7 cm. long; panicles up to 18 cm. long, glabrous, flowers in clusters; corolla-appendages filiform, about 1.5 cm. long; capsules 1-1.6 cm. long [1. johimbe](#)

Leaves oblong or elliptic, not more than 20 cm. long; petioles up to 2.5 cm. long: [2](#)

- 2 Ovary and inflorescence-axes glabrous or nearly so; corolla-appendages filiform, about 1 cm. long, drying blackish; leaves thinly coriaceous or papery, elliptic, cuneate at base, acuminate, 6.5-15 cm. long, 2.5-6 cm. broad, with 5-10 main lateral nerves on each side of midrib; petioles 0.8-2.5 cm. long; panicles up to 15 cm. long; capsules 1-1.7 cm. long [2. macroceras](#)

Ovary and inflorescence-axes more or less densely pubescent; leaves coriaceous, cuneate to rounded or cordate at base, with (7-)10-15 main lateral nerves on each side of midrib: [3](#)

- 3 Corolla-appendages angular, dark brown, blackish or crimson and not usually wrinkled when dry, up to 8 mm. long; capsules 1.7-2.3 cm. long; leaves oblong to obovate-oblong, 9-20 cm. long, 4.2-11.5 cm. broad; panicles up to 15 cm. long [3. talbotii](#)

Corolla-appendages terete, pale brown and wrinkled when dry, up to 15 mm. long; capsules 0.8-1.4 cm. long; leaves oblong, obovate-oblong or elliptic, 7-20 cm. long, 3.2-9.5 cm. broad; panicles up to 25 cm. long [4. lane-polei](#)

1. **Pausinystalia johimbe** (*K. Schum.*) *Pierre ex Beille* in Act. Soc. Linn. Bordeaux 61: 130 (1906), *APD acc*

Pausinystalia "yohimba" W. Brandt in Archiv der Pharmazie 260: 70; Kennedy For. Fl. S. Nig. 209.

Corynanthe johimbe K. Schum. in Notizbl. Bot. Gart. Berl. 3: 94 (1901).

Pausinystalia macroceras of Kennedy l.c. 210.

A forest tree, to 90 ft. high; bole straight, without buttresses.

S. Nig.: Sapoba, Benin Prov. (Nov.) Chukwuogo FHI 4666! Kennedy 291! 331! 2071! 2117! 2143!

Also in **Cameroun** and **Rio Muni**.

2. **Pausinystalia macroceras** (*K. Schum.*) *Pierre ex Beille* l.c. (1906) *APD acc*

Pausinystalia "microceras" W. Brandt l.c. 65., by error;

Corynanthe macroceras K. Schum. in Engl. Bot. Jahrb. 23: 424 (1896).

Pausinystalia brachythyrsa of F.W.T.A., ed. 1, 2: 71; of Kennedy For. Fl. S. Nig. 209; (?) not of (K. Schum.) De Wild.

A forest tree, to 135 ft. high, with clean straight bole up to 6 ft. in girth; flowers white, scented; slash white, quickly turning yellow or brown.

S. Nig.: Ijebu Ode Prov.: Oni Sankey 2! Omo (formerly part of Shasha) F.R. (fr. Feb., Mar.) Richards 3047! Ross 67! Akilla Kennedy 367! Benin Prov.: Sapoba (June) Kennedy 409! 1423! 1516! 1740! 2633! Okomu F.R. (Sept.) Iriah FHI 23074! Ogoja Prov.: Cross River North F.R. Latilo FHI 31847! Boshi-Okwango F.R. (May) Latilo FHI 30958! **[Br.] Cam.:** Mbalange, Kumba Div. Olorunfemi FHI 30701!

Also in **Cameroun**, **Rio Muni**, **Gabon** and **Congo**.

3. **Pausinystalia talbotii** *Wernham* in Cat. Talb. 40 (1913). *APD acc*

Pausinystalia sankeyi Hutch. & Dalz. F.W.T.A., ed. 1, 2: 71 (1931).

A forest tree, to 90 ft. high; corolla white to crimson.

S. Nig.: Oni R., near Alafara (fr. Feb.) Jones & Onochie FHI 17529! Ijebu Ode Prov.: Oni Sankey! Akilla (young fr. Dec.) Mitchell! Omo (formerly part of Shasha) F.R. (fl. & fr. Apr.) Richards 3366! Ross 240! Calabar Prov.: Oban Talbot 1493! Gray 2/1! Odot (Mar.) Unwin 10!

4. **Pausinystalia lane-polei** (*Hutch.*) *Hutch. ex Lane-Poole* Trees, Shrubs etc. of Sierra Leone 74 (1916). *APD acc*

Corynanthe lane-polei Hutch. in Kew Bull. 1912: 98. New genus mentioned on page 381 of Hook. Fl. Nigrit.

Pausinystalia reticulata Hutch., name only.

A forest tree, up to 50 ft. high, with pitted bark; flowers white, turning to purplish pink, very numerous with a sickly scent.

S. L.: Don! York Pass (June, Dec.) Aylmer 1! Lane-Poole 46! Kenema Lane-Poole 468! Hangha (fr. Mar.) Lane-Poole 334! Kambui Hills South (Apr.) Small 897! Gola Forest (fl. & fr. Mar.) Small 508! **Lib.:** Dukwia R. (Nov.) Cooper 143! 278! **Ghana:** Ankasa F.R. (Dec.) Vigne FH 3171!

4. CROSSOPTERYX

Fenzl-F.T.A. 3: 43; K. Schum. in E. & P. Pflanzenfam. 4, 4: 51 (1891).

- Shoots and leaves varying from glabrous to shortly and softly pubescent; stipules small; leaves elliptic to suborbicular, rounded to shortly acuminate, averaging about 7 cm. long, mostly pubescent beneath; flowers very numerous in rather dense terminal corymbs; bracts small, linear; calyx very small; corolla tomentose, about 8 mm. long; stamens shortly exserted; style long-exserted, glabrous; fruit subglobose, slightly didymous, reticulate, about 1 cm. diam.; seeds thin, flat, with a jagged wing all round [febrifuga](#)

Crossopteryx febrifuga (*Afzel. ex G. Don*) *Benth.* in Fl. Nigrit. 381 (1849); Chev. Bot. 309; Aubrev. Fl. For. Soud.-Guin. 455, t. 98, 1-2. *APD acc*

Rondeletia febrifuga *Afzel. ex G. Don* (1834)

Crossopteryx kotschyana *Fenzl* (1839)-F.T.A. 3: 44; Chev. Bot. 309.

Rondeletia africana *T. Winterb.* (1803), name only.

A savanna tree, or shrub, up to 30 ft. high, with scaly bark; variable in leaf-shape and indumentum; flowers creamy-white, sickly scented; fruits blackish.

Sen.: Heudelot 357! Kolda, Casamance Serv. For. 9. **Mali:** Koulikoro Vuillet 658. Sareya (Feb.) Chev. 445bis! Kita Dubois 15. **Port. G.:** Esp. Santo 519! Tabanca de Forol, Bissoram (May) Esp. Santo 2388! **Guin.:** Heudelot 766! Sineia (Mar.) Pobéguin 199! Yorogama Pobéguin 904! Diaguissa Chev. 18067. **S. L.:** Afzelius! Don! Musaia (Apr.) Deighton 5478! Mt. Gonkwi, Talla Hills Sc. Elliot 4983! Batkanu (Apr.) Thomas 93! Magbile, Maforki (May) Jordan 891! 894! **iv. C.:** Banco Martineau 250! Dimbokro Aubrév. 431! And other localities fide Aubrév. l.c. **Ghana:** Achimota (Apr.) Irvine 1423! Kintampo (fl. & fr. May) Stevenson FH 4225! Salaga Anderson 56! Afram Plains (May) Kitson 1118! Tamale (fl. & fr. Apr.) Williams 119! Kpandu (May) Robertson 136! **Togo Rep.:** Baumann 384! Lomé Warnecke 445! Sokode (Apr.) Kersting 45! **Dah.:** Atacora Mts. Chev. 24137. **N. Nig.:** Nupe Barter 1197! 1233! Sokoto Ryna 12! Zungeru (fl. & fr. May) Dalz. 220! Jos Plateau (Feb.) Lely P150! **S. Nig.:** Onitsha Dist. Rosevear 10/29! Iva Valley, Enugu (Feb) Ainslie! **[Br.] Cam.:** Kentu, Bamenda (fl. & fr. June) Maitland 1550! 1580! Bamenda Prov. (May) Johnstone 123/31! Gashaka Dist. (fr. Dec., fl. Jan.) Latilo & Daramola FHI 28934! 34407!

Widespread in tropical Africa.

5. MORELIA

A. Rich. ex DC.-F.T.A. 3: 112; K. Schum. in E. & P. Pflanzenfam. 4, 4: 79 (1891).

- Branchlets glabrous; leaves oblong-elliptic, rather abruptly and obtusely acuminate, about 12 cm. long and 5-6 cm. broad, glabrous, with 5-6 pairs of lateral nerves rather sharply raised beneath; venation very obscure; petiole about 1 cm. long; cymes somewhat extra-axillary, short and many-flowered; bracts small, ciliate; calyx truncate and undulately lobed, shortly ciliate, 4-5 mm. long, glabrous outside or rarely pubescent; corolla 1-5 cm. long, the lobes reaching down to the top of the calyx and overlapping to the left in bud; fruit globose, 1-5 cm. diam., crowned by the short calyx [senegalensis](#)

Morelia senegalensis *A. Rich. ex DC.* Prod. 4: 617 (1830); F.T.A. 3: 113; Chev. Bot. 322; Aubrév. Fl. For. C. Iv., ed. 2, 3: 282, t. 355, 1-4. *APD acc*

Lamprothamnus fosteri *Hutch.* (1907).

An evergreen shrub or tree, up to 40 ft. high, branching low, with white fragrant flowers in abundant cymes; common by streams, especially in the savanna regions.

Sen.: Leprieur! Niokolo-Koba Berhaut 1469. **Mali:** Kita (Dec.) Chev. 105. Siguri (Jan.) Chev. 287! **Port. G.:** R. Jumbembem, Farim (Feb.) d'Orey 329! Cacine to Buba, Fulacunda (fr. July) Esp. Santo 2109! **Guin.:** Heudelot 737! Fouta Djallon Maclaud 353! Dentilia (Mar.) Sc. Elliot 5298! Boké Chillou! Kouroussa (Feb.) Pobéguin 649! **S. L.:** Pujehun (Apr.)

Dawe 472! Thomas 8404! Falaba (Mar.) Aylmer 261 Mawele (Feb.) Deighton 4192! Freetown (Dec.) Deighton 495! **Iv. C.:** Viala (fr. May) Bodard 1785! And various localities fide Aubrév. l.c. **Ghana:** Sungbo, Pong (Mar.) Kitson 872! Pong Tamale (fr. June) Vigne FH 3866! Atebubu (Jan.) Vigne FH 1526! Lissa (Mar.) Kitson 817! **Togo Rep.:** Kpedsu (Feb.) Bones 1124! **Dah.:** Poisson! Djougou Chev. 23870. Konkobiri Chev. 24349. **N. Nig.:** Zungeru (Jan.) Elliott 25! Kontagora (Dec.) Dalz. 225! Nupe Barter 1180! R. Taraba, Adamawa Prov. (Jan.) Latilo & Daramola FHI 34427! **S. Nig.:** Lagos Foster 4! Oyo to Iseyin, Ogun B. (Feb.) Brenan & Keay 8960! Ibo Country T. Vogel 29! Okpo (Jan.) Unwin 39! Calabar R. (Feb.) Mann 2274!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Sudan**.

6. AIDIA

Lour. Fl. Cochinch. 143 (1790); G. Taylor in Cat. S. Tomé 197 (1944). *APD acc*

- 1** Calyx-tube about 2 mm. long, glabrous outside, with thick, oblong-ovate, recurved lobes about 2 mm. long; corolla-tube 5-6 mm., lobes 7-9 mm. long, broadly sub-acute; anthers 4.5-5 mm. long, with filaments 1.5-2.5 mm. long; style about 11 mm. long; leaves coriaceous, oblong-elliptic, cuneate or obtuse at base, shortly and broadly acuminate, 9-16 cm. long, 3-6 cm. broad, with 7-8 main lateral nerves on each side of midrib, venation obscure beneath, glabrous, drying reddish brown; flowers in short paniculate cymes, appearing laterally opposite a very small leaf just above a pair of normal leaves; fruits globose, not crowned by the calyx, glabrous, smooth *1. rubens*

Calyx-tube 6-7 mm. long, more or less pubescent outside, with narrow teeth up to 1.5 mm. long; corolla-tube 16-17.5 mm., lobes 11-16 mm. long, gradually very acute; anthers about 7 mm. long, with filaments 1-2.5 mm. long; style about 26 mm. long; leaves thin, oblong-elliptic or elliptic, cuneate or obtuse at base, rather long-acuminate, 5-17 cm. long, 2-7 cm. broad, with 4-5(-7) main lateral nerves on each side of midrib, glabrous or very nearly so beneath, drying a dull or blackish olivaceous colour; flowers in short cymes, appearing laterally at alternate, equally spaced nodes; fruits globose, crowned by the persistent calyx-tube, more or less glabrous, 1-1.2 cm. diam. *2. genipiflora*

1. *Aidia rubens* (Hiern) G. Tayl. in Cat. S. Tomé 200 (1944). *APD acc*

Randia rubens Hiern in F.T.A. 3: 95 (1877); F.W.T.A., ed. 1, 2: 79.

R. refractiloba K. Krause (1907).

An understorey tree, to 18 ft. high; flowers white; **in forest**.

S. Nig.: Eket Dist. Talbot 3304! Calabar (Mar.) Thomson 87! Anyankene stream, Okwango F.R., Obudu Div. (May) Latilo FHI 30959!

Also in **Cameroun**.

2. *Aidia genipiflora* (DC.) Dandy in F.W. Andr. Fl. Pl. A.-E. Sud. 2: 424 (1952); Aubrév. Fl. For. C. Iv., ed. 2, 3: 282, t. 354, 1-4. *APD acc*

Randia genipaeiflora DC. (1830)-F.T.A. 3: 95; F.W.T.A., ed. 1, 2: 27.

Gardenia genipaeiflora (DC.) Roberty (1954).

Randia sassandrae A. Chev. Bot. 322, name only.

R. rhacodosepala of Chev. Bot. 321, not of K. Schum.

An understorey tree, to 40 ft., rarely to 70 ft. high; or sometimes only a shrub; flowers white, turning yellow, fragrant; **in forest**.

Port. G.: Fulacunda to Bedanda (Jan.) d'Orey 253! **Guin.:** Heudelot 780! Macenta (Mar.) Jac.-Fel. 1548! Nzo (Mar.) Schnell 811! **S. L.:** Afzelius! Bagroo R. (Apr.) Mann 804! Kambia (Dec.) Sc. Elliot 4358! Kambui F.R. (Apr.) Lane-Poole 220! Goderich (Apr.) Deighton 4753! Moyamba (Mar.) Deighton 1915! **Lib.:** Dukwia R. (fr. Aug.) Cooper 403! Linder 260! Gbanga (fr. Sept.) Linder 690! Mecca, Boporo (Nov.) Baldwin 10426! Ganta (fl. buds Feb.) Baldwin 11010! **Iv. C.:** Yapo (Oct.) Chev. 22371! Bingerville Chev. 15170! Abidjan Aubrév. 90! Danané Aubrév. 1037! **Ghana:** Cape Coast Brass! Banka, Ashanti (Mar.) Vigne FH 1879! Ampunyasi, Obuasi (July) Andoh FH 4413! Axim (Mar.) Irvine 2394! Pamuso Bibiani (Mar.) Darko 856! Togo Plateau F.R. St. C. Thompson FH 3588! **S. Nig.:** Western Lagos Rowland! Olokemeji (Apr.) A. F. Ross 155! Degema Dist. Talbot 3728! Oban Talbot 1553! **[Br.] Cam.:** Johann-Albrechtshöhe (= Kumba) Staudt 615! **F. Po:** Barter! Mann 228!

Also in **Sudan**.

7. MASSULARIA

(*K. Schum.*) *Hoyle*, Check List of the Gold Coast 110, 115 (1937).

Randia **Linn.** sect. *Massularia* *K. Schum.* in E. & P. Pflanzenfam. 4, 4: 76 (1891).

- 1 Branchlets puberulous; leaves obliquely elongate elliptic-obovate, asymmetrically subcordate and auriculate at base, acuminate, 15-32 cm. long, 5-12.5 cm. broad, pubescent on midrib and nerves beneath, with 12-16 main lateral nerves on each side of midrib; petioles very short; flowers in pseudolateral inflorescences; peduncles up to 3.5 cm. long, with 2-5 cymose branches up to 4.5 cm. long, glabrous, except for the ciliate bracts; calyx 7-10 mm. long, glabrous except towards the top and on the short teeth; corolla glabrous, very acute in bud, tube 11-15 mm. long, lobes acutely and narrowly lanceolate, reflexed, 8-12 mm. long; anthers included, pollen adhering in tiny spindle-shaped masses; style grooved, stigma 2-cleft, well exerted; fruits glabrous, ovoid, beaked, 5-9 cm. long, up to 6.5 cm. diam. [acuminata](#)

Massularia acuminata (*G. Don*) *Bullock ex Hoyle* l.c. (1937); Aubrév. Fl. For. C. Iv., ed. 2, 3: 282, t. 353. *APD acc*

Gardenia? *acuminata* *G. Don* (1834).

Randia acuminata (*G. Don*) *Benth.* (1849)-F.T.A. 3: 95; *K. Schum.* l.c. fig. 28, E-F; Chev. Bot. 320; F.W.T.A., ed. 1, 2: 79.

A shrub or small tree, 2-30 ft. high; corolla-tube greenish-white at base, shading into pink above, lobes pink or reddish-purple, often with white margins; **in forest**.

Guin.: Nimba Mts. Schnell 3481! **S. L.:** Afzelius! Don! Njala (Jan., June) Dalz. 8091! Deighton 1748! Fwendu, Perri (Apr.) Deighton 1625! Pujehun Thomas 8620! 8647! Gola Forest (fr. Apr.) Small 579! **Lib.:** Gbanga (Sept.) Linder 449! Kakatown Whyte! Dukwia E. (Jan., July) Cooper 201! 252! Linder 188! Brewersville (June) Barker 1331! **Iv. C.:** Massa Mé Avbrév. 132! Banco Aubrév. 232, And other localities fide Chev. l.c.. **Ghana:** Achimkrom, N. W. of Prestea (July) Vigne FH 1266! Kwahu Prasu (Feb.) Vigne FH 1945! Aburi (May) Johnson 954! **S. Nig.:** Epe (Feb.) Millen 164! Okomu F. R., Benin (Dec.-Jan.) Brenan 8473! 8830! R. Nun T. Vogel 40! Aguku Thomas 1148! 1234! Oban Talbot 210! 1328! [**Br.**] **Cam.:** Victoria (Nov.) Maitland 767! Johann-Albrechtshöhe Staudt 506! Abonando (Mar.) Rudatis 23! Oyomojok (July) Johnstone 160/31! **F. Po:** Mann 211! Boloko (Jan.) Guinea 907! 909!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Cabinda** and **Congo**.

8. PORTERANDIA

Ridley in Kew Bull. 1939: 593 (1940).

Randia **Linn.** sect. *Anisophyllea* *Hook. f.* (1880)-*K. Schum.* in E. & P. Pflanzenfam. 4, 4: 75 (1891).

- 1 Branchlets densely pubescent, later glabrescent, with a ring of villous hairs at each node exposed on the falling of the elliptic or obovate up to 3.5 cm. long stipules; leaves obovate, cuneate at base, rounded at apex, 11-38 cm. long, 8-18 cm. broad, densely appressed-pubescent beneath and on midrib and nerves above, with 10-19 main lateral nerves on each side of midrib, venation obscure beneath; flowers in short cymes borne pseudolaterally at alternate nodes, mostly on leafless parts of the stem; ovary and calyx velutinous outside (rusty-brown when dry); calyx-tube about 5 mm. long, truncate or 5-denticulate, velutinous inside; narrow part of corolla-tube about 5 mm. long, glabrous outside, expanded part (18-20 mm. long) and lobes (about 15 mm. long and up to 8 mm. broad) silky-pilose outside, corolla glabrous within except at base; anthers included, 7-7.5 mm. long; style included; ovary 2-celled; fruits ellipsoid, about 1.5 cm. long and 1 cm. broad, with 10 faint longitudinal lines crowned by the persistent calyx [cladantha](#)

Porterandia cladantha (*K. Schum.*) *Keay* in Bull. Jard. Bot. Brux. 28: 24 (1958).

APD: *Synonym of Aorantho cladantha* (*K. Schum.*) *Somers*

Randia cladantha *K. Schum.* in Engl. Bot. Jahrb. 28: 62 (1899); F.W.T.A., ed. 1, 2: 79; Kennedy For. Fl. S. Nig. 212.

A tree to 50 ft. high; flowers creamy-white or pink, yellowish inside; ripe fruits yellow or orange; **in the forest regions, especially in regrowth vegetation**.

S. Nig.: Agege Foster 223! Okomu F.R., Benin Div. (fr. Dec.) Brenan 8482! Sapoba, Benin Div. (fl. May-Aug., fr. Apr.) Kennedy 353! 1391! Onitsha (fr. Nov.) Keay FHI 22283! Ikom (Aug.) Catterall 35! Oban Talbot 145! 214! [**Br.**] **Cam.:** Mombo, Kumba Div. (fl. & young fr. May) Olorunfemi FHI 30555!

Also in **Cameroun**, **Rio Muni**, **Cabinda** and **Congo**.

9. BRENANIA

Keay in Bull. Jard. Bot. Brux. 28: 26 (1958).

- 1 A glabrous tree; young parts glutinous; branchlets stout; stipules united, truncate, ciliate on the margin, persistent; petioles up to 5 mm. long; leaves obovate-oblongate, subcordate to cuneate at base, rounded at apex and very shortly and bluntly acuminate, 30-62 cm. long, 12-25 cm. broad, with 13-18 main lateral nerves on each side of midrib; inflorescences about 5 cm. long, cymose, borne laterally opposite a single leaf at alternate nodes, axis becoming woody in fruit; flowers glabrous except for inside of corolla-tube; ovary about 5 mm. long; calyx-tube less than 3 mm. long, truncate or obscurely 5-toothed; corolla-tube 6-8 mm. long, 4 mm. diam. at throat, lobes about 5 mm. long and 4-5 mm. broad; anthers about 4-5 mm. long, inserted near the top of the tube; style about 6 mm. long, stigma 2-lobed, acuminate, longitudinally grooved, about 7 mm. long; fruits ellipsoid-subglobose, 3-6 cm. diam., glabrous, with a hard woody shell[brieyi](#)

Brenania brieyi (*De Wild.*) *Petit* in Bull. Jard. Bot. Brux. 31: 5 (1961). *APD acc*

Anthocleista brieyi *De Wild.* Miss. de Briey 210 (1920).

Randia spathulifolia *Good* in J. Bot. 64, Suppl. Gamopet. 13 (1926).

R. walkeri *Pellegr.* in Rev. Bot. Appliq. 18: 499 (1938).

Brenania spathulifolia (*Good*) *Keay* l.c. t. 1 (1958).

Gardenia voacangoides *Mildbr.* (1922), name only.

A forest tree to 90 ft. high, with cylindrical stem up to 8 ft. girth, and dense evergreen crown; corolla yellow with purple-red margins inside.

S. Nig.: Okomu F.R., Benin Div. (fr. Feb., Mar.) A. F. Ross 190! Brenan 9053! Akpa Ntong, N. of Odoro Nkot, Eket Div. (May) Onochie FHI 33163! [**Br.**] **Cam.:** Mbo F.R. (fr. May) Tiku FHI 24744!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

10. SCHUMANNIOPHYTON

Harms in E. & P. Pflanzenfam. Nachtr. 1: 313 (1897).

Tetrastigma *K. Schum.* (1896), not of Planch. (1887).

Assidora *A. Chev.* (1948).

- 1 Leaves sessile with lamina cuneate to base, elongate-obovate, 60-120 cm. long, 30-45 cm. broad, with about 30 pairs of lateral nerves, minutely pubescent on the nerves beneath; flowers sessile in a cluster; corolla-tube 6-7 cm. long, densely tomentellous, lobes 7-10 narrowly lanceolate, 2 cm. long; ovary 3-4-celled ... [1. magnificum](#)

Leaves with a thick petiole about 2 cm. long, lamina rounded to cuneate at base, 30-40 cm. long, 18-36 cm. broad, with 12-18 pairs of lateral nerves, nerves more or less pubescent beneath; flowers sessile clustered in a spathe; corolla-tube 5-6 cm. long, densely puberulous, lobes 8-10, 1 cm. long; ovary (3-)6-celled; fruits ovoid, about 5-5 cm. long [2. problematicum](#)

1. Schumanniphyton magnificum (*K. Schum.*) *Harms* l.c. (1897). *APD acc*

Tetrastigma magnificum *K. Schum.* in Engl. Bot. Jahrb. 23: 445 (1896).

Randia immanifolia *Wernham* (1913).

Schumanniphyton klaineum *Pierre ex A. Chev.* (1917).

A shrub or small tree, 12-16 ft. high, with soft-wooded stems and very large leaves; flowers white or yellow, in a dense cluster subtended by broad bracts and borne at ends of shoots opposite a single leaf and just above a pair of leaves; **in forest**.

S. Nig.: Idumuje (Dec.) Thomas 2104! Degema Talbot 3681! Oban Talbot 189! Boje, Ikom Div. (May) Latilo & Okeke FHI 31807! Calabar to Mamfe (Jan.) Onochie & Okafor FHI 35999!

Also in **Cameroun**, **Gabon** and **Cabinda**.

2. Schumanniphyton problematicum (*A. Chev.*) *Aubrév.* Fl. For. C. Iv., ed. 2, 3: 256, t. 361, 4-7 (1959). *APD acc*

Assidora problematica *A. Chev.* in Compt. Rend. Acad. Sci. Paris 228: 1115 (1948).

A small tree 20-40 ft. high with large deciduous leaves grouped in threes at the ends of the branches; flower yellowish-white, fragrant; **in forest**.

S. L.: Bagbe, Gola Forest (fr. Mar.) Small 679! Kpuabu, Gaura (fr. Apr.) Pyne 169! **iv. C.:** Kassa (fl. July, fr. June) Aké Assi 1178! 5408! **Ghana:** Ateiku (fr. Nov.) Vigne FH 1506!

11. MACROSPHYRA

Hook. f. in Benth. & Hook. f. Gen. Pl. 2: 86 (1873); F.T.A. 3: 105; K. Schum. in E. & P. Pflanzenfam. 4, 4: 77 (1891).

- 1 Flowers white, cream or yellowish; corolla-tube 20-50 mm. long, lobes 10-15 mm. long; flowers several to many in a terminal sessile cluster; ovary and calyx densely pubescent, tube 1-2 mm. long, lobes 3-8 mm. long; branchlets and leaves densely pubescent, almost tomentose at first; leaves obovate to ovate-lanceolate, cuneate to subcordate at base, acuminate, 9-19 cm. long, 5.5-11 cm. broad, main lateral nerves 5-8 on each side of midrib; petioles 1.5-4.5 cm. long; fruits subglobose, about 4.5 cm. diam. [1. *longistyla*](#)

Flowers red or pink (with yellow markings); corolla-tube less than 20 mm. long, lobes 4.5-6.6 mm. long; flowers 1-3 in a terminal cluster; leaves up to 8 cm. long and 4.5 cm. broad; petioles up to 2 cm. long; fruits not known; otherwise similar to the above [2. *brachysiphon*](#)

1. **Macrosphyra longistyla (DC.) Hiern** in F.T.A. 3: 106 (1877); Chev. Bot. 318; Aubrév. Fl. For. Soud.-Guin. 458, t. 98, 3-6. *APD acc*

Ranidia longistyla DC. (1830).

A scandent shrub; corolla-tube and exposed parts of lobes in bud cream or yellow, inner part of lobes white or cream; flowers with a strong, sweet scent.

Sen.: Boivin! Cayor Leprieur! R. Salum Brunner 110! 133! Thiès de Wailly 4622. **Gam.:** Albreda Leprieur; Perrottet. Koto (May) Fox 108! Kerewan (May) Rosevear! **Mali:** Birgo Dubois 184. **Port. G.:** Bissau Dist. (Mar.) Esp. Santo 1880! Bubaque (May) Esp. Santo 2017! **Guin.:** Kouroussa Pobéguin 221! **S. L.:** Don! R. Bagroo (Apr.) Mann 821! Waterloo (Mar.) Kirk! Mando (Apr.) Jordan 213! Helewa, Dase (Apr.) Deighton 6046! **Lib.:** Ganta (Mar.) Harley 412! **iv. C.:** Tafiré Aubrév. 1420. Ferkéssédougou Aubrév. 1532 **Ghana:** Kumasi (Mar.) Vigne FH 1641 (partly)! Birrifwa (Mar.) Kitson 807! Burufo, Lawra (Apr.) Adams 4016! Kpong (Apr.) A. S. Thomas M11! Kpandu (fr. June) Andoh FH 5284! **Togo Rep.:** Baumann 451! **Dah.:** Burton! Zagnanado chev. 23068. Abomey chev. 23147. **N. Nig.:** Zurmi, Sokoto Prov. (Apr.) Keay FHI 16128! Lokoja (Apr.) Elliott 49! Vom (Feb.) McClintock 229! Naraguta Lely 83! **S. Nig.:** Ebute Metta (Jan.) Millen 91! Ado Rock Rowland! Abeokuta Irving 166! Agulu Thomas 169! **[Br.] Cam.:** Fonfaka, Bamenda (May) Maitland 1700! Extends to Sudan and Uganda.

2. **Macrosphyra brachysiphon Wernham** in J. Bot. 55; 79 (1917). *APD acc*

A scandent shrub; corolla "azalea-pink", or "brick-red, and yellow near the tube"; **in forest**.

S. Nig.: Maitland 16! Ogba R., Benin (Dec.) Farquhar 45! Sapoba (Dec.) Collier FHI 4667! Abua-Owere-were Road, Degema Talbot 3764!

12. CALOCHONE

Keay in Bull. Jard. Bot. Brux. 28: 28 (1958).

- 1 Branchlets, petioles and leaves densely hirsute; inflorescence densely many-flowered; ovary and calyx densely pubescent, tube 1 mm. long, lobes lanceolate, about 8 mm. long; corolla-tube pubescent outside, gradually expanded above, about 40 mm. long, lobes about 30 mm. long and 25 mm. broad, acuminate; anthers 10.5-12 mm. long; leaves oblong-ovate to oblong-obovate, cordate at base, gradually long-acuminate, 12-22 cm. long, 5.5-8 cm. broad, with 8-12 main lateral nerves on each side of midrib; petioles up to 2.8 cm. long . [. *acuminata*](#)

- Calochone acuminata Keay** l.c. 30, t. 2 (1958). *APD acc*

A shrub, to 10 ft. high; midrib and nerves red beneath; calyx green; corolla bright orange-pink; **in secondary forest**.

[Br.] Cam.: 45 miles from Kumba, on Mamfe Road (Jan.) Keay FHI 28554! Wone Keay FHI 37356!

Also in **Cabinda**.

13. PREUSSIODORA

Keay in Bull. Jard. Bot. Brux. 28: 31 (1958).

- 1** A glabrous shrub; stipules ovate to lanceolate, long-acuminate, united at base, persistent, 7-9 mm. long; petioles 1.5-5.5 cm. long; leaves membranous, oblong-ob lanceolate or elongate-obovate, cuneate at base, acuminate, 18-30 cm. long, 6.5-13 cm. broad, with 11-13 main lateral nerves on each side of midrib; inflorescences terminal, short, about 6-flowered; ovary glabrous, about 3 mm. long; calyx mostly glabrous, tube about 3 mm. long, lobes oblanceolate, ciliate at margins, up to 15 mm. long and 7 mm. broad; corolla-tube glabrous outside, slightly pubescent inside, 12-20 mm. long, lobes ovate, 12-17 mm. long and broad, spreading ciliate at margins; anthers included in corolla-tube or slightly exserted; style-head linear-ellipsoid, longitudinally grooved, entire; fruits ellipsoid about 2.5 cm. long and 2 cm. broad, crowned by the persistent calyx [sulphurea](#)

Preussiodora sulphurea (*K. Schum.*) *Keay* l.c. 32 (1958). *APD acc*

Randia sulphurea *K. Schum.* in Engl. Bot. Jahrb. 23: 441 (1896); F.W.T.A., ed. 1, 2: 79.

R. exserta *K. Schum.* in Engl. Bot. Jahrb. 33: 343 (1903).

A forest shrub, to 6 ft. high with sulphur-yellow or yellowish-white flowers.

S. Nig.: Degema Talbot! Ndiumo to Orora Road (Nov.) Rosevear C32! Oban Talbot 1544! [**Br.**] **Cam.:** Rio del Rey Johnston! Victoria (fl. Feb.-May, July, fr. Dec.) Preuss 1296; 1308; 1327. Maitland 790! Tiko (Feb.) Dunlap 254! Mbalange to Bombe Ndifo, Kumba Div. (Mar.) Onochie FHI 30881! Kumba Preuss 34. Mokundange to Ngeme (Mar.) Preuss 1386! **F. Po:** Mann 288!

14. POLYCORYNE

Keay in Bull. Jard. Bot. Brux. 28: 32 (1958).

- 1** Branchlets and leaves glabrous; leaves broadly oblong-elliptic, cordate, rounded, obtuse or cuneate at base, shortly acuminate, 4.5-25 cm. long, 3-14 cm. broad, with 5-6 main lateral nerves on each side of midrib; petioles 1-4.8 cm. long; cymes many-flowered, borne terminally on lateral branches, with 1-5 pairs of new leaves and large stipules; calyx-tube 0.5-1 mm. long, with ovate-lanceolate, ciliate lobes about 2 mm. long; corolla glabrous outside and inside, tube about 30 mm. long, with spreading oblong lobes about 10 mm. long and 6 mm. broad; anthers 4-5 mm. long, partially exserted; style-head obovate-spathulate; fruits globose, about 3 cm. diam. [fernandensis](#)

Polycoryne fernandensis (*Hiern*) *Keay* l.c. 34, t. 3 (1956).

APD: *Synonym of Pleiocoryne fernandense* (*Hiern*) *Rauschert*

Gardenia fernandensis *Hiern* in F.T.A. 3: 105 (1877); F.W.T.A., ed. 1, 2: 75.

Randia psychotrioides *K. Schum.* (1896).

R. chloroleuca *K. Schum.* (1899).

Gardenia ramentacea *K. Schum.*, MS. name only.

A scrambling shrub or liane; flowers fragrant, white or with green corolla-tube and white lobes; in forest.

S. L.: Litchford in Hb. Lane-Poole 343! Freetown (Feb.) Deighton 3991 Bumban, N. Prov. (Feb.) Glanville 163! Ninia, Talla Hills (Feb.) Sc. Elliot 4914! Falaba (Mar.) Sc. Elliot 5184! **Lib.:** Kakatown Whyte! **Iv. C.:** Abouabou (fr. Feb.) Leeuwenberg 2689! Adiopodoumé (Nov.) Roberty 15490! **Ghana:** Bunsu to Koforidua (Jan.) Morton GC 8336! Kumasi (Feb., Apr.) Darko 523! Vigne FH 1052! 1116! Worawora, Kobo Biver F.R. (Dec.) St. C. Thompson FH 3705! **N. Nig.:** Loko, R. Benue (Nov.) Dalz. 44! **S. Nig.:** Degema Dist. Talbot! Eket Dist. Talbot 3030! Oban Talbot 2041! Ikom (Dec.) Keay FHI 28159!0 [**Br.**] **Cam.:** Johann-Albrechtshöhe (= Kumba) (Nov.) Staudt 445! **F. Po:** (Dec.) Mann 22!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

15. OLIGOCODON

Keay in Bull. Jard. Bot. Brux. 28: 36 (1958).

- 1 Branchlets and leaves glabrous; leaves obovate-elliptic, cuneate at base, rounded at apex, 6-8.5 cm. long, 3-4 cm. broad, with 4-5 main lateral nerves on each side of midrib; petioles 1-3 cm. long; cymes about 3-6-flowered, short, terminating short lateral branchlets; calyx-tube subtruncate, scarcely 1 mm. long; corolla glabrous except for a band of hairs inside near the base, bell-shaped, with a narrow tube 5 mm. long, an abruptly expanded part about 35 mm. long and 30 mm. diam., and rounded lobes about 18 mm. long and 12-15 mm. broad; anthers 18 mm. long, included or only slightly exserted; style-head linear-fusiform; fruits ellipsoid, up to 3.5 cm. long and 2.5 cm. diam. [cunliffeae](#)

Oligocodon cunliffeae (*Wernham*) *Keay* l.c. 36, t. 4 (1958). *APD acc*

Gardenia cunliffeae *Wernham* in J. Bot. 52: 5 (1914); F.W.T.A., ed. 1, 2: 75.

A glabrous climbing shrub with rough splitting bark; corolla-tube very palegreen externally, dark green inside towards the base, lobes white above, with vivid purple splashes; flowers fragrant, turning black in drying as do the leaves; fruits vivid orange; [in forest vegetation](#).

S. Nig.: Lagos (fl. Feb., Dec., fr. Dec.) Hagerup 754! Millen 144! Onochie FHI 26675! Ubium R., Eket Dist. Talbot 3149! Akampa, Calabar (fr. Mar.) Latilo FHI 41312! [**Br.**] **Cam.:** R. Meme, Kumba Keay FHI 37379!

16. XEROMPHIS

Raf. Sylva Tellur. 21 (1838).

Lachnosiphonium Hochst. (1842).

- 1 Branches whitish, pubescent, armed with sharp spines 1-3 cm. long; spines usually solitary and alternate, but sometimes in unequal pairs; leaves and flowers on much abbreviated lateral branchlets borne in pairs just below the spines; leaves obovate, cuneate at base, rounded at apex, 2-7 cm. long, 1-3 cm. broad, shortly pubescent especially beneath, with 3-4 main lateral nerves on each side of midrib; flowers solitary or paired, terminating the lateral branchlets; pedicels 5-10 mm. long; calyx about 7 mm. long, shortly toothed, glabrous outside; corolla about twice as long as the calyx, villous outside; fruits ellipsoid, 1.8-2 cm. long, 1-1.5 cm. broad, glabrous, 2-celled [nilotica](#)

Xeromphis nilotica (*Stapf*) *Keay* in Bull. Jard. Bot. Brux. 28: 39 (1958).

APD: *Synonym of Catunaregam nilotica* (*Stapf*) *Tirveng.*

Randia nilotica *Stapf* (1906)—F.W.T.A., ed. 1, 2: 78; Aubrév. Fl. For. Soud.-Guin. 462, t. 100, 5-6.

Lachnosiphonium niloticum (*Stapf*) *Dandy* (1952).

Randia dumetorum of F.T.A. 3: 94, not of (Retz.) Lam.

A stiff, spiny shrub, often many-stemmed, with whitish bark; corolla white; fruits yellowish; [in arid types of savanna woodland](#).

Guin.: Gaya Aubrév. 19n. **N. Nig.:** Sokoto (fl. & fr. May, July) Lely 824! Ryan 39! 68! Keay FHI 37787! Katagum Dalz. 298! Sherifuri (fr. May) Thornewill 182! Lantewa, Bornu Prov. (June) Onochie FHI 23369!

Extends to [Sudan](#), [Ethiopia](#) and E. Africa.

17. EUCLINIA

Salisb. Parad. Lond. index sexualis & errata sub. t. 93 (1808).

- 1 Stipules chaffy, persistent, 5-16 mm. long; leaves crowded at the ends of almost leafless branchlets, deciduous, membranous, oblong or oblong-obovate, cuneate at base, acuminate, 7-28 cm. long, 3-5-10 cm. broad, with 8-10 main lateral nerves on each side of midrib, pubescent beneath on midrib, nerves and in axils of nerves; petioles up to 4 cm. long; flowers 5-merous; ovary and calyx glabrous, tube up to 1.5 mm. long only, lobes triangular-lanceolate, spreading, 9-16 mm. long; corolla-tube 16-24 cm. long, glabrous outside, pubescent inside, lobes 1.5-5 cm. long and 1.5-3.5 cm. broad; fruits ellipsoid-globose, 2.6-4 cm. diam., with 15-16 faint longitudinal lines, crowned with the persistent, spreading calyx-lobes [longiflora](#)

Euclinia longiflora *Salisb.* l.c. (1808); Aubrév. Fl. For. C. Iv., ed. 2, 3: 280. *APD acc***Randia longiflora** *Salisb.* l.c. t, 93 (1808), not of Lam. (1789).**Gardenia longiflora** (*Salisb.*) *Dryander* (1810), not of Ruiz & Pav. (1799).**G. macrantha** *Schultes* (1819).**Randia macrantha** (*Schultes*) *DC.* (1830)-F.T.A. 3: 97; Chev. Bot. 320; F.W.T.A., ed. 1, 2: 78.**Rothmannia macrantha** (*Schultes*) *Robyns* Fl. Sperm. Parc Nat. Alb. 2: 341 (1947); F.W. Andr. Fl. Pl. A.-E. Sud. 2: 462.**Gardenia ? longifolia** *G. Don* (1834).**Randia bowieana** *Hook.* (1836).**Rothmannia bowieana** (*Hook.*) *Benth.* (1849).**Gardenia devoniana** *Lindl.* (1846).

A shrub or small tree, to 20 ft. high, deciduous, with membranous leaves and conspicuous, persistent stipules; flowers fragrant, corolla white, turning to cream, with red markings between the lobes; **in forest and forest regrowth vegetation.**

Port. G.: Catió (fl. Aug., fr. May) Esp. Santo 2061! 2159! **Guin.:** Kiasidougou (Apr.) Martine 295! Nimba Mts. (fr. Oct.) Schnell 3775! **S. L.:** Don! Smeathmann! Regent (fr. Dec.) Sc. Elliot 4137! Njala (fl. May, Dec., fr. Nov.) Deighton 671! 2587! 3099! Blama (Dec.) Deighton 314! Kurusu, Limba (Apr.) Sc. Elliot 5511! Gola Forest (Apr.) Small 608! **Lib.:** Gbanga (Sept.) Linder 662! **Iv. C.:** various localities fide Chev. l.c. **Ghana:** Kibi (Aug.) Miles 541! Banka, Ashanti (Mar.) Vigne FH 1869! Tukobo, Axim (Nov.) Vigne FH 1446! Arikasa F.R. (Dec.) Vigne FH 3178! New Janbin (Mar.) Johnson 694! **S. Nig.:** Lagos Millson! Rowland! Epe Barter 3291! Sapoba Kennedy 2213! Oban Talbot 1672! **[Br.] Cam.:** Likomba (Oct.) Mildbr. 10568! Bamenda (young fr. May) Ujor FHI 30357!

Also in **Cameroun, Sudan, Uganda, Congo** and **Angola.**

18. GARDENIA

Ellis-F.T.A. 3: 99. Nom. cons.

- 1 Corolla-tube 1-1.2 cm. long, campanulate, with 5 lobes about 5 mm. long and broad; calyx-tube 2-3 mm. long, with 5(-6) linear lobes, 7-8 mm. long; placentas 2, often joining to make the ovary spuriously 2-celled; flowers puberulous outside, borne in terminal pairs (rarely solitary) usually appearing at the nodes on account of sympodial growth; pedicels slender, 3-12 mm. long in flower, up to 18 mm. long in fruit; fruits ellipsoid-subglobose, about 10 mm. long and 7 mm. diam., with a thin shell; leaves oblong-elliptic, obtuse or sometimes cuneate at base, subacute to rounded at apex, 2-10 cm. long, 1-5 cm. broad, with (6-)9-13 main lateral nerves on each side of midrib, puberulous beneath [1. sokotensis](#)
- Corolla-tube 1.2-22.5 cm. long, relatively slender and gradually expanded, with 5-9 (-11) lobes; placentas (2-) 3-9; flowers sessile or on short stout pedicels; fruits at least 2 cm. long, with thick walls: **2**
- 2 Corolla-tube scabrid-puberulous outside, 11-22.5 cm. long, much widened towards the 3-4 cm.-wide top, with 5 lobes 2.5-5 cm. long; flowers in pairs, terminal but often appearing at the nodes on account of sympodial growth; ovary and calyx-tube each about 10 mm. long, calyx-lobes 12-15 mm. long; placentas 2-3; fruits ellipsoid, 4.5-5 cm. long, 3.5-5 cm. broad; leaves more or less sessile, obovate, with small pouches at the base, shortly acuminate, 20-50(-80) cm. long, 10-22.5(-40) cm. broad, with 13-29 main lateral nerves on each side of midrib, venation parallel, scabrid puberulous beneath; tree to 20 m. high [2. imperialis](#)
- Corolla-tube 1.2-15 cm. long, less than 1 cm. wide at top, with 5-9 lobes; flowers usually solitary (but see Nos. 3 & 4), terminal (but see No. 3); placentas 3-6(-9); leaves up to 30 cm. long and 11 cm. broad; shrubs or small trees to 5 m. high: **3**
- 3 Calyx-lobes broadly spatulate or obovate, 12-25 mm. long, 3-13 cm. broad, tube 8-11 mm. long; flowers solitary or rarely paired, terminal but often appearing laterally at the nodes by sympodial growth; corolla-tube 7.5-10.5 cm., lobes 2.5-4.5 cm. long; placentas 4; fruits clavate, woody, 5-8 cm. long, 1.5-2.5 cm. broad; leaves elliptic, cuneate at base, acuminate, 3.3-14.5 cm. long, 1.3-7 cm. broad, with 6-12 main lateral nerves on each side of midrib, glabrous [3. nitida](#)
- Calyx-lobes filiform to linear-oblong, 1-15 mm. long; flowers terminal: **4**
- 4 Corolla-tube 12-15 cm. long, with 5(-6) lobes 3-8.5 cm. long; calyx-tube 15-18 mm. long, very sparsely setose outside, lobes 1-15 mm. long; flowers solitary or sometimes 3 together, the 2 lateral ones borne on very short lateral shoots and subtended by short broad bract-like leaves; placentas 3; fruits elongate, up to 11 cm. long and 1.3 cm. diam.; leaves oblong-oblancoolate, cuneate at base, acuminate, margin sometimes lobulate, 8.5-30 cm. long, 3-10.5 cm. broad, with 10-12 main lateral nerves on each side of midrib, glabrous; a forest shrub or small tree, with relatively slender branchlets [4. vogelii](#)
- Corolla-tube 1.2-9 cm. long with 6-9 lobes; flowers solitary, terminal; placentas 6(-9); savanna shrubs or small trees with stout branchlets; leaves and branching often ternate: **5**
- 5 Plants puberulous, pubescent or tomentose at least on the branchlets and outside of calyx: **6**

Plants quite glabrous (except for the style); calyx subtruncate or with 1-10 mm. long linear-oblong lobes; corolla-tube 4-9 cm., lobes 2-4 cm. long; fruits more or less ellipsoid, up to 10 cm. long, fibrous or woody; leaves obovate, to 19 cm. long and 7 cm. broad, prominently reticulate with more or less parallel venation on both surfaces [9. ternifolia](#)

- 6 Leaves pubescent on both surfaces; fruits fibrous or woody: **7**

Leaves glabrous, except occasionally for a few hairs near the very short petiole and rarely in the axils of the nerves beneath: **8**

- 7 Corolla-tube 1.2-3(-4) cm. long, pubescent outside, lobes 0.9-2 cm. long; calyx-lobes subulate, 1.5-3 mm. long; leaves oblanceolate or obovate, rather densely pubescent especially beneath, nerves and veins very prominent beneath and more or less impressed above at maturity, 2-6 cm. long, 1-2 cm. broad on flowering shoots; fruits ellipsoid, ribbed, 2-3(-4) cm. long, 1.2-1.6(-2) cm. broad [5. aqualla](#)

Corolla-tube 4-6(-9) cm. long, glabrescent outside, lobes 3-5 cm. long; calyx lobes linear-oblong, 3-15 mm. long; leaves obovate, scabrid-puberulous, nerves and veins prominent on both surfaces, 3.5-12 cm. long, 1.2-5.5 cm. broad; fruits ellipsoid, ribbed when young, 4-8 cm. long, 1.8-3.5 cm. broad [6. triacantha](#)

- 8 Calyx-tube and branchlets densely tomentose; leaves drying with the upper surface reddish and the lower surface glaucous green with reddish nerves, broadly obovate, up to 21 cm. long and 11 cm. broad; calyx-lobes subulate; corolla-tube 2-8 cm. long; fruits ellipsoid or subglobose, up to 8 cm. long, rather fleshy, edible [7. erubescens](#)

Calyx-tube puberulous, branchlets pubescent; leaves drying uniformly greenish, obovate to oblanceolate, up to 20 cm. long and 8 cm. broad; calyx-lobes linear-oblong, often very short; corolla-tube 2.5-6(-9) cm. long; fruits ellipsoid, up to 6 cm. long, fibrous or woody [8. lutea](#)

1. **Gardenia sokotensis** *Hutch.* in Kew Bull. 1912: 99; in Hook. Ic. Pl. t. 2991 (1913); Aubrév, Fl. For. Soud.-Guin. 460-462, t. 99, 10. *APD acc*

Gardenia mossica *A. Chev.* Bot. 323, name only.

Randia lucida *A. Chev.* Bot. 320, name only.

R. mossica *A. Chev.* Bot. 321, name only.

A shrub, or small tree to 8 ft. high, with tough branchlets, glutinous on young parts; flowers white; **on dry rocky hills in the drier savanna regions.**

Sen.: Ouassadou Berhaut 1457. **Mali:** Kangala (May) Chev. 829. Fô (June) Chev. 965. Koulikoro Chev. 2118. Bamako Waterlot 1138. **Port. G.:** Madina, Boé (fr. Jan.) Esp. Santo 2368! **Guin.:** Kankan to Kouroussa Chev. 15640. **iv. C.:** Yako to Gourpé, Mossi (fl. & fr. Aug.) Chev. 24733! Banfara Serv. For. 286. Kaya Serv. For. 2211. Black Volta Serv. For. 2601. **Ghana:** Gradaw, Banda Hills (Oct.) Rose Innes GC 31645! Gambaga Dist. (fl. & young fr. June) Akpabla 703! Burufo, N.T. (fl. Apr., fr. Dec.) Adams GC 4018! 4405! **N. Nig.:** Sokoto (fl. & young fr. July) Dalz. 402! Zurmi (fr. Apr.) Keay FHI 16181! Rimi Dist., Katsina (Aug.) Onwudinjo FHI 24006! Bichi Dist., Kano Keay FHI 211421!

2. **Gardenia imperialis** *K. Schum.* in Engl. Bot. Jahrb. 23: 442 (1896); Aubrév, Fl. For. C. iv., ed. 2, 3: 274, t. 351; Kennedy For. Fl. S. Nig. 210. *APD acc*

Randia physophylla *K. Schum.* (1899).

Gardenia physophylla (*K. Schum.*) *De Wild.* (1904).

Gardenia viscidissima *S. Moore* (1905)-Chev. Bot. 324.

A tree, to 60 ft. high, with stout branchlets and large shining leaves, viscid on the younger parts; flowers white; **in swamp forest and by streams.**

Sen.: Badi Berhaut 1489. Bignona to Massasoun Chev. 2120. **Mali:** Nono Chev. 431. Siguir (May) Chev. 887! **Port. G.:** Pecixe Isl., Canchungo Esp. Santo 2046! **Guin.:** Mamou (fr. Mar.) Dalz. 8405! Kollangui Chev. 13501. **S. L.:** Falaba (fr. Mar.) Sc. Elliot 5141! Jama to Yamadu (July) Aylmer 91! Kyema (Apr.) Aylmer 92! Samaia Thomas 241! **iv. C.:** Dabou (fr. Feb.) Chev. 16210! Bondoukou, Tiengara, Port Bouët & Ferkéssédougou fide Aubrév. l.c. **Ghana:** Burton & Cameron! Essiama (fr. Feb.) Irvine 2323! Neung F.R., Tarkwa Dist. (fr. June) Enti FH 6243! **N. Nig.:** Jos Plateau (Jan.) Lely P117! Vom (fl. & fr. Feb.) McClintock 205! **S. Nig.:** Eba Isl. (Aug.) Sankey! Sapoba (July) Kennedy 1409! Mamu River F.R., Awka (Sept.) Onochie FHI 34070! Degema Talbot 3616! Oban Talbot 175! 278!

Also in **Cameroun, Congo, Uganda, Tanganyika, Nyasaland, N. Rhodesia** and **Angola.**

3. **Gardenia nitida** *Hook.* Bot. Mag. t. 4343 (1847); F.T.A. 3: 102. *APD acc*

Gardenia assimilis *Afzel. ex Hiern* in F.T.A. 3: 102 (1877).

Gardenia fragrantissima *Hutch.* in Kew Bull. 1916: 39, & fig.

Gardenia lane-poolei *Hutch. ex Lane-Poole* (1916), name only.

A glabrous shrub or small tree, to 12 ft. high; flowers white, turning yellow, fragrant, lasting only a day; branchlets and fruits ashen-grey; **in drier types of forest; sometimes planted, in villages.**

Port. G.: Catió Esp. Santo 3004. Cantanhez (fr. Apr.) d'Orey 380! **S. L.:** Afzelius! Whitfield. Wilford! Sugar Loaf Mt. (fl. & fr. May) Tindall 66! Kessewe (Apr.) Lane-Poole 127! Kambia, Scarcies R. (fl. Nov., fr. Jan.) Jordan 374! Sc. Elliot 4410! Makump (fr. July) Thomas 934! **Ghana:** Cape Coast Brass! Nsawam (Jan.) Brown 132! Atrokpe, Krobo (fl. & fr. Nov.) Irvine 1702! Ofuman, Wenchi Dist. (fr. Jan.) Vigne FH 3558! Afram Plains (May) Kitson 1134! Dawa Matokole (fl. & fr. Jan.) A. S. Thomas D67! **S. Nig.:** Foster 190! Olokemeji (fr. Feb.) Ejiofor FHI 26899! Ibadan South F.R. (fl. Apr., fr. Apr., Aug.) Keay FHI 22549! 25370! Gambari F.R. (fl. & fr. Mar.) Latilo FHI 34982!

4. **Gardenia vogelii** Hook. f. ex Planch. in Hook. Ic. Pl. t. 782-3 (1848); F.T.A. 3: 103; Chev. Bot. 324.
APD acc

APD: Synonym of Gardenia leopoldiana De Wild. & T. Durand

A shrub or small tree, to 15 ft. high; flowers white, fragrant; fruits often curved; **in forest.**

Lib.: Dukwia R. (fr. Aug.) Bequaert in Hb. Linder 297! **iv. C.:** Bouroukrou Chev. 16515; 16517. Taté Chev. 19796. **Ghana:** Akyease (fl. & fr. June) Fishlock 79! Benso (fr. Sept.) Andoh FH 5888! **N. Nig.:** Kurmin Damisa, Jemaa Div. (fr. Nov.) Keay & Onochie 21728! **S. Nig.:** Okomu F.R., Benin (fl. & fr. June) Onochie FHI 31234! Aboh Barter 156! Ibo country (fl. & fr. Aug.) T. Vogel 58! Oban Talbot 1243! **[Br.] Cam.:** Bamenda (young fr. May) Maitland 1536!

Also in **Sudan, Uganda, Congo, Angola** and **S. Rhodesia.**

5. **Gardenia aqualla** Stapf & Hutch. in J. Linn. Soc. 38: 427 (1909); Chev. Bot. 322; Aubrév. Fl. For. Soud.-Guin. 460-461, t. 99, 1-2. *APD acc*

Gardenia thunbergia of F.T.A. 3: 100, partly (Barter 1234).

A **savanna** shrub, to 9 ft. high; flowers yellow, fragrant.

Sen.: Berhaut 130. **Mali:** Zorgongo to Ouagnan, Mossi Chev. 24636. **iv. C.:** Lalérabah Aubrév. 1445. Bâtié Aubrév. 2496. **Ghana:** Sambisi to Hamboi (May) Kitson 670! Lawra to Lissa (fl. & fr. Mar.) Kitson 811! Bawku (Apr.) Vigne FH 3752! Kugri, N.T. (Apr.) Vigne FH 4706! **N. Nig.:** Thornehill 102! Morai, Ilorin Prov. (Mar.) J. A. D. Jackson FHI 27746! Sokoto Ryan 16! Zaria (Feb.) Dalz. 352! Gari GwENCHI, E. of Zaria (Apr.) Ryan 46! Anara F.R., Zaria Prov. (fr. Oct.) Keay FHI 20106! Faran, N. of Yola (fr. Dec.) Hepper 2896! **S. Nig.:** hills in Yoruba country Barter 1234! Ago-Are, Oyo Keay FHI 37558!

Also in **Ubangi-Shari** and **Sudan.**

6. **Gardenia triacantha** DC. Prod. 4: 382 (1830); Stapf & Hutch. l.c. 426; Aubrév. l.c. 460-461, t. 99, 11-12.

APD: Synonym of Gardenia ternifolia var. goetzei (Stapf & Hutch.) Verdc.

Gardenia nigerica A. Chev. Bot. 323, name only.

Gardenia thunbergia of F.T.A. 3: 100, partly.

Gardenia ternifolia of F.W.T.A., ed. 1, 2: 73, partly (Talbot 271 (partly), Dalz. 161).

A **savanna** shrub, to 12 ft. high; flowers white, fragrant.

Sen.: Roger! Tivaouane to Mbara de Wailly 4625. Bakel Carrey 57; Collin 63. **Gam.:** Leprieur; Mungo Park! Perrottet; Whitfield! N. bank (July) Ozanne 7! **Mali:** Moriquénieba (Mar.) Chev. 447 bis. Tiédiana (June) Chev. 993. Sansanding (fr. Sept.) Chev. 2025. Mamba, Diafarabé (Apr.) Davey 606! **Port. G.:** Esp. Santo 1883! **Guin.:** Boké Paroisse 27. Kadé Pobéguin. Ditinn (fl. & fr. Mar.) Langdale-Brown 2619! **S. L.:** Glanville 184 (partly)! Smythe! Thomas! Yana, Tambaka Miszewski 29a! Musaia (fl. & fr. Feb.) Deighton 4214! **iv. C.:** Aubrév. 2592. **Ghana:** Kuluissa to Tagalo (Feb.) Kitson 868! **N. Nig.:** Katagum Dist. (fr. Feb.) Dalz. 161 (partly)! Near L. Chad (Jan., Feb.) Talbot 271 (partly)!

Also in **Chad** and **Sudan.**

7. **Gardenia erubescens** Stapf & Hutch. l.c. 428 (1909); Chev. Bot. 322; Aubrév. l.c. 460-462, t. 99, 3-4.
APD acc

Gardenia triacantha var. **parvilimbis** F. N. Williams (1907).

Gardenia ternifolia of F.W.T.A., ed. 1, 2: 73, partly (Anderson 50, Chipp 493, 630).

A **savanna** shrub, or small tree, to 10 ft. high, rarely more; flowers white, turning yellow, fragrant; fruits yellow when ripe, edible.

Sen.: Bondou Heudelot 181! Fouladou, Casamance Etesse 59! **Gam.:** Whitfield! Georgetown (Jan.) Dalz. 8044! Bulak (Apr.) Rosevear 52! Genieri (fl. & fr. Feb.) Fox 78! 79! **Mali:** Nigalia (fl. & fr. Jan.) Chev. 160! Bamako Waterlot 1139. Arbala Dubois 17. Koulikoro Vuillet 655. **Guin.:** Mamou (Mar.) Dalz. 8408! Timbo Pobéguin 121. Tombia, Samu Country (Dec.) Sc. Elliot 4370! Wulia Scarcies R. (Feb.) Sc. Elliot 4574! **S. L.:** Glanville 184 (partly)! Batkanu Thomas 91! Yana, Tambaka (Jan.) Miszewski 29! **Iv. C.:** Ghighi Aubrév. 2422! **Ghana:** Sissu, N. Ashanti (young fr. June) Chipp 493! W. Abene, Kwahu (Jan.) Chipp 630! Yendi (Apr.) Vigne FH 1696! Yipala to Kulmassa (Feb.) Kitson 857! Tumu to Lawra (Dec.) Adams GC 4377! Salaga Anderson 50! **Dah.:** Natitingou Aubrév. 100d. **N. Nig.:** Kontagora (fl. & young fr. Jan.) Dalz. 224! Jos Plateau (Jan.) Batten-Poole 238! Lely P93! Katagum Dist. (Feb.) Dalz. 161 (partly)!

Also in **Ubangi-Shari**, **Uganda** and **Sudan**.

8. **Gardenia lutea** *Fres.* in Mus. Senckenb. 2: 167 (1837); Stapf & Hutch. l.c. 425.

APD: *Synonym of Gardenia ternifolia var. goetzei (Stapf & Hutch.) Verdc.*

APD: *Synonym of Gardenia ternifolia var. jovis-tonantis (Welw.) Aubrév.*

Gardenia thunbergia of F.T.A. 3: 100, partly.

A **savanna** shrub, like the preceding.

[**Br.**] **Cam.:** Bamumkumbit, Bamenda (Jan.) Johnstone 278/32!

Also in **Sudan**, **Ethiopia** and (?) **E. Africa**.

9. **Gardenia ternifolia** *Schum. & Thonn.* Beskr. Guin. Pl. 147 (1827); Stapf & Hutch. l.c. 425; Chev. Bot. 323; Aubrév. l.c. 460-462, t. 99, 5-9. *APD acc*

Gardenia medicinalis *Vahl ex Schumach.*, (1827).

Gardenia thunbergia of F.T.A. 3: 100, partly.

Gardenia jovis-tonantis of F.W.T.A., ed. 1, 2: 73, not of (Welw.) Hiern, see note below.

A **savanna** shrub, 5-15 ft. high; flowers fragrant, white, opening at night, turning yellow next day; fruits fibrous, grey-green, long-persistent; extending into rather moister regions than the preceding four species.

Sen.: Berhaut 802. Irvine 3239! Niokolo-koba Adam 14158! **Mali:** Oualia chev. 35. Ouagadougou Aubrév. 2392. **S. L.:** Kabala Thomas 2334! **Guin.:** Timbo Miquel 13. **Iv. C.:** Dotou Chev. 21778. Fétékro Aubrév. 800. Bâtié Aubrév. 2835. **Ghana:** Gah & Adampi Thonning. Ejura (fr. Aug.) Chipp 737! Afram Plains Kitson 1131! Abofaw (Feb.) Vigne FH 1837! Jema, Ashanti Brown FH 2153! Navrongo (fl. & fr. Mar., Apr.) Vigne FH 4684! Hughes FH 5276! Kpedsu (fl. & fr. Jan.) Howes 1078!25 **Togo Rep.:** Kenre Kersting A408! **Dah.:** Tanguéta, Atacora Mts. (fr. June) Chev. 24105. Allada Chev. 23230. **N. Nig.:** Nupe Barter 1205! Baikie! Zungeru (Jan.) Elliott 30! Jemaa (fl. & fr. Feb.) McClintock 194! Katagum Dalz. 162! Near L. Chad (Jan., Feb.) Talbot 27! (partly)! Kukawa (Apr.) E. Vogel 92! **S. Nig.:** Olokemeji (fl. & fr. Jan.) Dodd 401! Old Oyo F.R. (Feb.) Keay FHI 16274! S. Ugboha Clan F.R., Ishan (Feb.) Umana FHI 29122! [**Br.**] **Cam.:** Gashaka Dist. (Jan.) Latilo & Daramola FHI 34437!

Also in **Ubangi-Shari** and **Sudan**.

[*G. jovis-tonantis* (Welw.) Hiern is widespread in tropical Africa south of the Equator. It differs from *ternifolia* in the calyx which is puberulous and in the normally 8-9-merous ovary and corolla. Aubréville (l.c.) treats it as *G. ternifolia* var. *jovis-tonantis* (Welw.) Aubrév.-R.W.J.K.]

Gardenia alba *J. D. Kennedy* For. Fl. S. Nig. 211 (1936), name only.

S. Nig.: Olokemeji Kennedy 73.

Specimen not traced.

19. PSEUDOGARDENIA

Keay in Bull. Jard. Bot. Brux. 28: 45 (1958).

- 1 Young stems, petioles and underside of leaves rusty- setose -pilose; leaves obovate, cuneate or obtuse at base, shortly acuminate, 9-25 cm. long, 4-11 cm. broad, with 8-14 main lateral nerves on each side of midrib; flowers solitary, terminal; calyx sparingly or more or less densely setose outside, glabrous and minutely papillose inside, lobes 2.5-3 cm. long, 1-2 cm. broad, attached outside the truncate 2.5-3.2 cm. long tube; corolla-tube 10.5-15 cm. long, gradually expanded, densely silky outside, lobes 6-8 cm. long; anthers 2.5 cm. long, partially exerted; style-head fusiform, about 4 cm. long; fruits obovoid-cylindrical, 10-ribbed, about 6 cm. long and 4.5 cm. diam., crowned with the persistent calyx-tube[kalbreyeri](#)

Pseudogardenia kalbreyeri (Hiern) Keay l.c. 46 (1958).

APD: *Synonym of Adenorandia kalbreyeri* (Hiern) Robbr. & Bridson

Gardenia kalbreyeri Hiern in J. Bot. 16: 97, t. 195 (1878); F.W.T.A., ed. 1, 2: 73.

G. gossleriana J. Braun & K. Schum. (1889).

Randia purpureo-maculata C. H. Wright (1901).

A forest shrub, usually scrambling, 5-40 ft. high; corolla cream or yellow, streaked, dark red inside.

S. Nig.: Akilla, Ijebu Ode Prov. (Jan.) Emumwen FHI 20684! Omo (formerly part of Shasha) F.R. (Apr.) Ross 239! Owena, Ondo Prov. (Mar.) Darko 189! Uquo, Eket Div. (May) Onochie FHI 33156! Calabar (Jan., Feb.) Holland 8! Kalbreyer 212! Oban Talbot 200! 1311! 1817! [Br.] **Cam.:** Abonando, Mamfe Div. (May) Rudatis 56! Kembong, Mamfe Div. (May) Ndep Enoh Cam. 49/38!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Cabinda**.

20. ROTHMANNIA

APD: *Synonym of Hyperacanthus E. Mey. ex Bridson*

Thunb. in Vet. Acad. Handl. Stockh. 65 (1776); Fagerlind in Arkiv för Bot. Stockh. 30A, No. 7: 39 (1943).

- 1 Corolla-lobes overlapping to the right:2
Corolla-lobes overlapping to the left; flowers 5-merous:4
- 2 Flowers 7-8-merous; calyx-tube 3-5 mm. long, not split, lobes 2-4.5 cm. long, setose-pilose; corolla-tube 14-18 cm. long, gradually expanded towards apex, spreading-pubescent outside, lobes 3.5-8 cm. long, 1-1.5 cm. broad, acute; branchlets and leaves hirsute; leaves oblanceolate or elliptic-oblanceolate, cuneate at base, caudate or shortly acuminate, 9-22 cm. long, 2.5-8 cm. broad, with 5-12 main lateral nerves on each side of midrib; fruits cylindrical-club-shaped, about 13.5 cm. long and 3.5 cm. broad, nearly glabrous[1. octomera](#)
Flowers 5-merous; calyx usually split down one side:3
- 3 Calyx-tube 2.5-4 cm. long, markedly spathaceous, lobes linear or lanceolate, 3-4 cm. long; corolla-tube 13-17 cm. long, densely shaggy villous outside, lobes 2.5-3 cm. long; fruits ellipsoid and markedly 5-ridged, each ridge longitudinally grooved, 6-11 cm. long, 3.5-6 cm. broad; branchlets and leaves spreading-pilose; leaves elliptic, more or less obtuse at base, long-acuminate, 9-20 cm. long, 3.5-8 cm. broad, with 7-8 main lateral nerves on each side of midrib[2. hispida](#)
Calyx-tube 1-1.5 cm. long, lobes filiform, 0.3-1 cm. long; corolla-tube 4.5-6.5 cm. long, pilose outside, lobes 1.5-3 cm. long; fruits ellipsoid or subglobose, not ridged but with 10-12 longitudinal lines, 3.5-7.5 cm. long, 3.3-5.5 cm. broad; branchlets and leaves pubescent and glabrescent or quite densely pilose; leaves elliptic, cuneate or obtuse at base, acuminate, 8-13 cm. long, 2.8-5.5 cm. broad, with 5-8 main lateral nerves on each side of midrib[3. urcelliformis](#)
- 4 Corolla glabrous outside, consisting of a 11-18 cm. long narrow lower portion and an abruptly expanded 1.5-3 cm. long campanulate upper portion, lobes 2-3 cm. long; flowers normally in pairs; calyx-tube 5-angled, glabrous, 7-9 mm. long, teeth 1-2 mm. long; fruits 15-20 cm. diam., woody, taking several years to grow; leaves obovate-oblong, cuneate at base, acuminate, 11-28 cm. long, 4.5-14 cm. broad, with 6-15 main lateral nerves on each side of midrib; a tree 10-30 m. high[4. lujae](#)
Corolla appressed-puberulous (at least when young) or densely tomentellous or velutinous outside, tube gradually expanded and funnel-shaped; flowers solitary; fruits up to 12 cm. long:5
- 5 Calyx glabrous outside, teeth usually much shorter than tube; leaves glabrous except for tufts in nerve-axils:6
Calyx densely brown-tomentellous outside, lobes linear, (3-)5-66 mm. long; leaves rusty pubescent on midrib and nerves beneath when young; fruits up to 7 cm. long; Ovary and fruit 5-ridged, the latter ellipsoid, about 6 cm. long and 3.5 cm. diam.; calyx-tube inside finely silvery velutinous above, sparsely so below, lobes up to 3-

15 mm. long; corolla-tube densely and shortly velutinous outside, 20-25 cm. long, very gradually widened and only about 2.5 cm. wide at mouth, lobes about 4-5 cm. long; leaves obovate-oblongate, cuneate at base, acuminate, 12-24 cm. long, 4-9 cm. broad, with 7-9 main lateral nerves on each side of midrib, venation very obscure beneath 7. *talbotii*.....7c136fn1_7
Ovary 10-ridged; fruit 10-ridged or nearly smooth, subglobose, up to 7 cm. diam.; calyx-tube densely and evenly brown-velutinous inside, lobes 15-66 cm. long; corolla-tube densely long-velutinous outside, 3-17 cm. long, with expanded part (including lobes) 3.7-12 cm. long, lobes 1.7-6 cm. broad; leaves oblong-obovate, oblanceolate or narrowly elliptic, cuneate at base, acuminate, 6-30 cm. long, 2-11 cm. broad, with 7-12 main lateral nerves on each side of midrib, venation obvious beneath8. *whitfieldii*

- 6 Leaves more or less elliptic, cuneate at base, acuminate, 5-13 cm. long, 2.5-2 (-6.5) cm. broad with 4-6 main lateral nerves on each side of midrib; corolla appressed-puberulous outside, sometimes glabrescent, tube 12-25 cm. long, lobes 1.5-4 cm. long; fruits subglobose, 4-5 cm. diam.5. *longiflora*

Leaves obovate-oblongate, broadly cuneate to subcordate at base, very shortly and broadly acuminate, 19-35 cm. long, 9.5-21.5 cm. broad, with 7-10 main lateral nerves on each side of midrib; fruits ellipsoid, 10-12 cm. long, 6.5-9 cm. broad6. *megalostigma*

1. **Rothmannia octomera** (Hook.) Fagerlind in Arkiv för Bot. Stockh. 30A, 7: 39 (1943). *APD acc*

Gardenia octomera Hook. Bot. Mag. t. 5410 (1868).

Randia octomera (Hook.) Hook. f. (1873)-F.T.A. 3: 98; F.W.T.A., ed. 1, 2: 78.

Rothmannia galtonii Wernham (1914).

Rothmannia cunliffeae Wernham (1914).

A forest shrub or small tree, about 7 ft. high; "calyx very dark green, corolla-tube bright green, lobes white within and divided on the back longitudinally into a bright green half and a creamish-white half, stamens light drab, style and stigma cream"; "fruits green with pale green speckles".

S. Nig.: Degema Talbot 3631! Oron to Eket (Feb.) Talbot 3219! 3220! 3385! Calabar Goldie! Robb! Thomson 140! Lower Enyong F.R., Itu (fr. May) Onochie FHI 33205! [**Br.] Cam.:** Banga, Kumba Div. (fl. buds & fr. Mar.) Brenan 9318! **F. Po:** Mann!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

2. **Rothmannia hispida** (K. Schum.) Fagerlind l.c. (1943); Aubrév. Fl. For. C. Iv., ed. 2, 3: 278, t. 352A. *APD acc*

Randia hispida K. Schum. in Engl. Bot. Jahrb. 23: 437 (1896); F.W.T.A., ed. 1, 2: 78.

Rothmannia pynaertii De Wild. (1907).

Gardenia spathicalyx K. Schum. ex Wernham (1919).

An erect shrub or small tree, to 35 ft. high; corolla white, with purple markings inside, densely silky outside; **in forest**.

Guin.: Nimba Mts. (Feb.) Schnell 4267! **Lib.:** Gbanga (fr. Sept.) Linder 785! Belefanaï, Gbanga Dist. (Dec.) Baldwin 10542! Karmadhun, Kolahun (fr. Nov.) Baldwin 10188! **Iv. C.:** Danané to Mt. Kouan Chev. 21261! Banco Aubrév. 366! **Ghana:** Tukobo, Axim Vigne FH 1438! Nyaso, Ashanti (Dec.) Vigne FH 1481! Benso, Tarkwa (fl. Sept., fr. Apr.) Andoh FH 5479! Vigne FH 4746! **S. Nig.:** Sapoba (Feb.) Kennedy 724! 2026! 2070! 2575! Awka Dist. (Nov.) Onwudinjoh FHI 21914! Degema Talbot 3638! Eket Talbot 3137! Aboabam, Ikoma Div. (Dec.) Keay FHI 28204! Oban Talbot 201! 2004! 2026! [**Br.] Cam.:** Ndebanja, Mamfe (Nov.) Ndep Enoh 8! Okoyong, Mamfe (Feb.) Enjong 4!

Also in **Cameroun**, **Cabinda** and **Congo**.

3. **Rothmannia urcelliformis** (Hiern) Bullock ex Robyns Fl. Sperm. Parc Nat. Alb. 2: 340 (1947); Aubrév. Fl. For. C. Iv., ed. 2, 3: 278, t. 355,5-6. *APD acc*

Gardenia urcelliformis Hiern in F.T.A. 3: 104 (1877).

Randia urcelliformis (Hiern) Eggeling (1940).

Gardenia tigrina Welw. ex Hiern (1898)-Aubrév. Fl. For. C. Iv., ed. 1, 3: 248.

Randia stenophylla K. Krause (1909)-F.W.T.A., ed. 1, 2: 78.

Rothmannia chevalieri Aubrév. l.c. 244 (1936), French descr. only.

A shrub or small tree, to 25 ft. or more high; corolla white, mottled purple within; **in forest**.

Guin.: Dalaba (Jan.) Roberty 16472! Mt. Benna, Kindia (Dec.) Jac.-Fél 2156! **S. L.:** Mano, Luawa (fr. Apr.) Deighton 3217! Kukuna (Jan.) Sc. Elliot 4673! **Lib.:** Vahon, Kolahun (fr. Nov.) Baldwin 10246! **Iv. C.:** Man Aubrév. 987! 1086. Orumbo-Bocca Aubrév. 839. Bouroukrou Chev. 17003! **Ghana:** Akwapim Hills (Jan.) Johnson 555! Suhum West-Skinn! Ejan, N. of Agogo (Jan.) Vigne FH 1785! Ejura Vigne FH 3457! Koforidua (fl. & fr. Jan.) Vigne FH 4322! Kudje, Hohoe Dist. (Nov.) St. C. Thompson FH 3689! **Togo Rep.:** Agaua (fr. Jan.) Kersting A285. **Dah.:** Chev. 22836; 22932; 23696. **N.**

Nig.: Sanga River F.R., Jemaa Div. (Nov.) Keay FHI 37238! Gidan-Anju, S. Muri Dist., Adamawa (Nov.) Latilo & Daramola FHI 28726! **S. Nig.:** Olokemeji Foster 131! Hepper 2300! Awba Hills F.R., Ibadan Prov. (fr. Apr.) Onochie FHI 32078! Idumuje (fl. buds Jan.) Thomas 2181! **[Br.] Cam.:** Cam. Mt., 5,700 ft. (fr. Apr.) Hutch. & Metcalfe 44! Bamenda (Jan.) Johnstone 1831!

Also in **Sudan**, **Congo**, **Ethiopia**, **Kenya**, **Uganda**, **Tanganyika**, **Angola**, **S. Rhodesia** and **Mozambique**.

4. **Rothmannia lujae** (*De Wild.*) Keay in Bull. Jard. Bot. Brux. 28: 53 (1958). *APD acc*

Randia lujae *De Wild.* (1904).

Rothmannia coriacea *K. Schum. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 78 (1931); Kennedy for. Fl. S. Nig. 211; not of Benth. (1849).

Rothmannia coriacea *Fagerlind* l.c. 39 (1943).

Rothmannia giganthrophaera *Fagerlind* l.c., name only.

A forest tree, 30-105 ft. high, with clean cylindrical bole up to 5 ft. girth and relatively small dense crown of deep green glossy leaves; splash reddish with fine white lines, exuding dark orange sap; corolla white; fruits brown, heavy, pendulous, evidently taking several years to mature as the twigs on which they are borne become woody and up to 2.5 cm. diam.

S. Nig.: Freeman 350! Okomu F.R. (fr. Feb.) Brenan 9111! Sapoba Kennedy 189! 235! 934! 1625! Usonigbe F.R., Benin (fl. buds & fr. Nov.) Keay & Onochie FHI 21605! Degema to Isoba (Oct.) King-Church 48! Oban Talbot 1267! **[Br.] Cam.:** mile 48, Kumba to Victoria (fr. Apr.) Daramola FHI 29817!

Also in **Cameroun**, **Rio Muni**, **Cabinda** and **Congo**.

5. **Rothmannia longiflora** *Salisb.* Parad. Lond. t. 65 (1807); Aubrév. Fl. For. C. Iv., ed. 2, 3: 278, t. 353, 6. *APD acc*

Randia maculata *DC.* (1830)-F.T.A. 3: 96; Chev. Bot. 321; F.W.T.A., ed. 1, 2: 78, excl. distrib. Gambia.

Rothmannia maculata (*DC.*) *Fagerlind* (1943).

Gardenia speciosa *A. Rich.* (1834).

G. stanleyana *Hook. ex Lindl.* (1845).

Rothmannia stanleyana (*Hook. ex Lindl.*) *Hook. ex Benth.* (1849).

Randia stanleyana (*Hook. ex Lindl.*) *Walp.* (1851-52).

Rothmannia thomasii *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 78 (1931).

A shrub or small tree, up to 15 ft. high, with shiny foliage, often much-branched; flowers more or less erect, corolla greenish or reddish outside, the lobes white with purplish or reddish markings within; mostly in forest regrowth vegetation.

Port. G.: Dandua, Bafata (Oct.) Esp. Santo 190! **Guin.:** Pobéguin 2197! Santa to Timbo Chev. 12627. **S. L.:** Whitfield! Kambia (Dec., Jan.) Deighton 839! Sc. Elliot 4392! Serabu (Jan.) Smythe 238! Zimmi (Nov.) Deighton 384! Rokupr (Nov.) Jordan 378! Yetaya (fl. buds Sept.) Thomas 2311! **Lib.:** Kakatown Whyte! Zorzor, Vonjama (Oct.) Baldwin 10071! Ganta (May) Harley! Javajal, Boporo (Nov.) Baldwin 10263a! **Iv. C.:** Danané Collenette 47! Mt. Tonkoui (Dec.) Roberty 15740! Agboville Aubrév. 1921! **Ghana:** Cape Coast Brass! L. Bosumtwi (Jan.) Dalz. 65! Asuansi Road (May) Fishlock 21! Nkwantanang, Kwahu (Nov.) Irvine 1717! Nkroful (Nov.) Vigne FH 1417! Togo Plateau F.R. (Nov.) Adogla FH 4228! **Togo Rep.:** Lomé Warnecke 472! **Dah.:** Poisson! Le Testu 101! **N. Nig.:** Nupe Barter! **S. Nig.:** Lagos Punch 79! Rowland 16! Ibadan (Dec.) Keay FHI 37195! Ejiofor FHI 28632! Ogwashi (Nov.) Thomas 2028! Degema Dist. Talbot 3678! Oban Talbot 182! **[Br.] Cam.:** Victoria (Jan.) Maitland 183! Abonando, Mamfe (Apr.) Rudatis 51! **F. Po:** Mann 178!

Also in **Cameroun**, **Congo**, **Sudan**, **Uganda** and **Angola**.

6. **Rothmannia megalostigma** (*Wernham*) Keay l.c. 54 (1958); Aubrév. Fl. For. C. Iv., ed. 2, 3: 278, t. 354 B.

APD: *Synonym of Rothmannia munsae subsp. megalostigma (Wernham) Somers*

Randia megalostigma *Wernham* in J. Bot. 57: 279 (1919).

Rothmannia lane-poolei *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 78 (1931).

(?) **R. munsae** *Schweinf. ex Hiern* in F.T.A. 3: 99 (1877), partly.

A shrub or tree, 8-50 ft. high, with straight bole; calyx deep purplish-green; corolla brownish, lobes pale green outside and white inside, with pink spots in throat, stigma yellow; in swamp forest.

S. L.: Taninahun, Tunkia (fr. Dec.) Deighton 3831! Wandei, Kayamba (fr. July) Jordan 2132! Quia (fl. & fr. July) Lane-Poole 309! Bumbuna Thomas 3793! **Lib.:** Johnston! Peahtah (fr. Oct.) Linder 967! Ganta (May) Harley 514! **Iv. C.:** Danipleu Aubrév. 1155. Abidjan Aubrév. 1648. **Ghana:** Neung F.R., Tarkwa (Jan.) Vigne FH 4837! Subiri F.R. (fr. Sept.)

Andoh FH 5235! **S. Nig.**: Abeku, Ijebu Ode Prov. Jones & Onochie FHI 17172! Okomu F.R., Benin (Feb.) Brenan & Onochie 9011! [**Br.**] **Cam.**: Serti, Gashaka Dist. (Feb.) Latilo & Daramola FHI 34453!

Also in **Cameroun** and **Congo**.

7. **Rothmannia talbotii** (Wernham) Keay l.c. (1957). *APD acc*

Randia talbotii Wernham in Cat. Talb. 45 (1913); F.W.T.A., ed. 1, 2: 78.

Rothmannia tubaeformis Pellegr. (1936).

A small tree; leaves whitish beneath; in forest.

S. Nig.: Oban Talbot 217! Boje, Afi River F.R., Ikom Div. (fl. buds May) Jones & Onochie FHI 5814! [**Br.**] **Cam.**: Ekoneman, Mamfe (Aug.) Johnstone 147/31!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

8. **Rothmannia whitfieldii** (Lindl.) Dandy in F. W. Andr. Fl. Pl. A.-E. Sud. 2: 461, fig. 165 (1952); Aubrév. Fl. For. C. Iv., ed. 2, 3: 276, t. 352B. *APD acc*

Gardenia whitfieldii Lindl. Bot. Reg. 31: sub. t. 47 (1845).

G. malleifera Hook. Bot. Mag. t. 4307 (1847).

Rothmannia malleifera (Hook.) Hook. ex Benth. (1849).

Randia malleifera (Hook.) Hook. f. (1873)-F.T.A. 3: 98; Chev. Bot. 32; F.W.T.A., ed. 1, 2: 78; Aubrév. Fl. For. Soud.-Guin. 462-464, t. 100, 1-4.

A shrub or tree, 6-40 ft. high; flowers fragrant with the corolla white inside brownish-velvety outside, pendulous; fruit 10-ridged or nearly smooth, yielding an inky black dye; in forest vegetation, including forest outliers in the savanna regions.

Sen.: Mangacounda, Casamance (fl. bud Jan.) Chev. 2099! **Mali**: Banancoro (fl. bud Feb.) Chev. 505! **Port. G.**: Prabis, Bissau (fl. bud Mar.) Esp. Santo 1854! **Guin.**: Rio Nunez Heudelot 809! Mamou (May) Schnell 5409! **S. L.**: Whitfield! Turner! Bagroo R. (Apr.) Mann 913! Lomaburu, Scarcies R. (Feb.) Sc. Elliot 5025! Giehun (Mar.) Aylmer 565! Njala (Apr.) Deighton 2887! Mafokoya, Roruks (May) Deighton 3003! **Lib.**: Kakatown Whyte! Dukwia R. (fr. May) Cooper 450! Gbanga (fr. Sept.) Linder 482! Taninewa (Mar.) Bequaert 150! **Iv. C.**: Nzi Comoé Aubrév. 2124. And various localities fide Chev. l.c. **Ghana**: Kumasi (Mar.) Dalz. 36! Prestea (July) Vigne FH 1264! Banka, Ashanti (Dec.) Vigne FH 1487! Pra R. (Feb.) Vigne FH 1597! Kwahu (Jan.) Irvine 1688! **N. Nig.**: Kurmin Damisa, Jemaa (fr. Nov.) Keay FHI 21661! **S. Nig.**: Lagos Foster 76! Agbemia Barter 3367! Okomu F.R., Benin (Feb.) Onochie in Hb. Brenan 9179! Awka Thomas 75! Degema Talbot 3697! Insofan (Jan.) Holland 252! [**Br.**] **Cam.**: Mamfe (Mar.) Collier in Hb. Maitland 1060! Fonfuka, Bamenda (May) Maitland 1585! Babessi (Oct.) Ledermann 5797! Lus, Nkambe Div. (Feb.) Hepper 1874! R. Sulli, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28837!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo**, **Ubangi-Shari**, **Sudan**, **E. Africa**, **N. Rhodesia** and **Angola**.

Rothmannia capensis Thunb. in Vet. Acad. Handl. Stockh. 67, t. 2 (1776).

Gardenia rothmannia Linn. f. (1781).

Randia maculata of F.T.A. 3: 96 and F.W.T.A., ed. 1, 2: 78, partly (Boteler ex Gambia).

This is a South African species and it is very unlikely that Boteler's specimen was indigenous in the Gambia. I suggest that either the specimen was not in fact collected in the Gambia, or that it was from an introduced cultivated plant.

21. SHERBOURNIA

G. Don in Loudon Encycl. Pl., Suppl. 2, 1303 (1855).

Amaralia Welw. ex Hook. f.-F.T.A. 3: 112; Wernham in J. Bot. 55: 1 (1917); Keay in Bull. Jard. Bot. Brux. 28: 57 (1958).

- 1 Calyx-lobes 6-28 mm. long, much longer than the calyx-tube:.....2
Calyx-lobes broadly triangular, up to 2.5 mm. long, much shorter than the 9-10 mm. long tube; cymes up to 7-flowered; fruit oblong-ellipsoid, strongly ribbed:.....5
- 2 Main lateral nerves (4-)5-7 on each side of midrib; lamina appressed-puberulous to nearly glabrous beneath, midrib and main nerves usually more densely puberulous or pubescent; flowers solitary, rarely paired:3
Main lateral nerves 10-12 on each side of midrib; leaves rather densely appressed-pubescent beneath, elliptic, ovate-elliptic or obovate-elliptic, acute or obtuse at base, acuminate, 9-14 cm. long, 3.3-7 cm. broad; cymes 1-3(-5)-flowered; calyx-tube about 3 mm. long, lobes 12-15 mm. long, 5-7 mm. broad; corolla-tube 26-32 mm.

long, lobes about 10 mm. long and broad; fruits cylindrical, strongly ribbed, about 3.5 cm. long and 1.5 cm. broad [4. zenkeri](#)

- 3 Leaves mostly cordate and often unequal at base, ovate-elliptic or obovate-elliptic, acuminate, 9-21 cm. long, 5-11.5 cm. broad; calyx-tube 3-10 mm. long, lobes 17-28 mm. long; corolla-tube 36-55 mm. long, lobes 10-18 mm. long and broad; fruits ellipsoid-subglobose, faintly ribbed about 7.5 cm. long and 5.5 cm. diam. [1. bignoniiflora](#)

Leaves cuneate to obtuse or rarely rounded at base, narrowly elliptic or obovate-elliptic, gradually acuminate, 7-17 cm. long, 2.5-7.5 cm. broad; calyx-tube up to 4 mm. long; corolla-tube up to 30 mm. long: [4](#)

- 4 Calyx-tube very short, up to 1 mm. long, lobes 15-28 mm. long, 6-10 mm. broad; corolla-tube 15-30 mm. long, lobes 10-11 mm. long, 12-14 mm. broad; fruits campanulate or broadly ellipsoid, only very slightly ribbed, 3.2-4.5 cm. long, 2.5-3 cm. broad [2. calycina](#)

Calyx-tube 3-4 mm. long, lobes 6-10 mm. long, 3.5-4.5 mm. broad; corolla-tube 24-28 mm. long, lobes 4-7 mm. long, 5-8 mm. broad; fruits cylindrical, often slightly curved, somewhat ribbed, 2.5-3.2 cm. long, 1-1.2 cm. broad [3. millenii](#)

- 5 Leaves densely setose-pubescent beneath, with 9-15 main lateral nerves on each side of midrib, broadly elliptic or obovate-elliptic, unequal and rounded at base, abruptly acuminate, 14-31 cm. long, 7-15 cm. broad; corolla-tube about 26 mm. long, lobes about 8 mm. long and broad; fruits about 2.3 cm. long and 2 cm. broad [5. hapalophylla](#)

Leaves pubescent only on midrib beneath, with 5-6 main lateral nerves on each side of midrib, broadly elliptic, acute or somewhat obtuse at base, shortly acuminate, 10-17 cm. long, 5-8 cm. broad; corolla-tube about 35 mm. long, lobes about 6 mm. long and 5 mm. broad; fruits about 3.5 cm. long and 1.7 cm. broad [6. amaraliocarpa](#)

1. *Sherbournia bignoniiflora* (Welw.) Hua in Bull. Soc. Hist. Nat. Autun 14: 396 (1901). *APD acc*

Gardenia bignoniaeflora Welw. (1859).

Amaralia bignoniiflora (Welw.) Hiern in F.T.A. 3: 112 (1877), partly; Wernham in J. Bot. 55: 5.

Amaralia heinsioides Wernham l.c. 5 (1917); F.W.T.A., ed. 1, 1: 84.

A. buntingii Wernham l.c. 4 (1917).

A scandent shrub or liane; calyx green with crimson markings, turning purplish within; **in forest**.

S. L.: Kafogo (Apr.) Sc. Elliot 5602! Mano Thomas 10553! Yalumbu to Kurobonia (young fr. May) Deighton 5083! **Lib.:** S.W. of Jiu, Gola Forest (fl. & fr. Apr.) Bunting! Kulo, Sinoe Co. (Mar.) Baldwin 11432! 11438! **IV. C.:** Adiopodoumé (July) de Wilde 82! Sassandra (Dec.) Leeuwenberg 2240! **Ghana:** Finsense, Obuasi (Mar.) Chipp 149! Bawdia (Apr.) Vigne 164! Mrenya, Ashanti Irvine 484! **S. Nig.:** Lagos Rowland! Ijaiye F.R., Oyo (fl. & fr. Apr.) Onochie FHI 21959! Etemi, Omo F.R., Ijebu Ode Prov. (May) Tamajong & Latilo FHI 16776! Owo (May) Jones FHI 3623! Ukpon F.R. (Apr.) Jones 1533!

Also in **Cameroun, Sudan, Congo, N. Rhodesia** and **Angola**.

2. *Sherbournia calycina* (G. Don) Hua l.c. 398 (1901), partly (excl. Barter ex Eppah); Chev. Bot. 324. *APD acc*

Gardenia calycina G. Don (1834).

Amaralia calycina (G. Don) K. Schum. in E. & P. Pflanzenfam. 4, 4: 78, fig. 28, K (1891); Wernham l.c. 4.

Gardenia sherbourniae Hook. Bot. Mag. t. 4044 (1843).

Randia sherbourniae (Hook.) Hook. (1849).

Amaralia sherbourniae (Hook.) Wernham l.c. (1917), partly (excl. distrib. Cameroons); F.W.T.A., ed. 1, 2: 84, partly (excl. distrib. Nigeria & Cameroons).

Randia doniana Benth. (1849).

Sherbournia foliosa G. Don (1855)-Chev. Bot. 324.

Randia amaralioides K. Schum. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 79 (1931), partly (Soward 650).

Amaralia bignoniaeflora of F.T.A. 3: 112, partly.

A. huana of Wernham l.c. 5, partly.

A scandent shrub or liane; corolla white, fading to cream, sometimes pink, with deep pink markings inside; ripe fruits red or orange; **mostly in forest**.

Guin.: Karkandy (Apr.) Heudelot 839! Lola to Nzo (Mar.) Chev. 20985! Kaba valley, Chev. 13127. Kouria Chev. 14712. **S. L.:** Barter! Don! Bagroo R. (Apr.) Mann 819! Regent (Dec.) Sc. Elliot 4110! Kurusa, Kafogo (Apr.) Sc. Elliot 4602! Njala (fl. May, fr. Feb.) Deighton 676! 2459! 2634! Moyamba (June) Lane-Poole 51! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! Dukwia R. (Mar.) Cooper 328! Brewersville (Mar.) Barker 1231! Ba, Little Kolu R. (Mar.) Baldwin 11186! **IV. C.:** Bingerville Region Chev. 15290. Guidéko Chev. 16445. Aboisso (Apr.) Chev. 17841. Davo confluence, Sassandra R. (May) Chev. 17976. **Ghana:** Bonsa Su (May) Vigne FH 1987! Obuasi, Ashanti (young fr. Jan.) Soward 650! Kumasi Cummins 143!

3. *Sherbournia millenii* (Wernham) Hepper in Kew Bull. 16: 469 (1963). *APD acc*

Amaralia millenii Wernham in J. Bot. 55: 6 (1917).

A. micrantha Wernham l.c. (1917); F.W.T.A., ed. 1, 2: 84, partly (excl. Talbot 202).

A. huana Wernham l.c. 5 (1917), partly (excl. Mann 819).

A. sherbourniae of F.W.T.A., ed. 1, 2: 84, partly (distrib. Nigeria & Cameroons only).

Randia amaralioides K. Schum. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 79 (1931), partly (Rowland s.n.); not *R. amaralioides* K. Schum. ex Hua (1901).

A liane, to about 20 ft.; calyx purplish, corolla and style red; **in forest**.

S. Nig.: Lagos (Nov.) Millen 143! Rowland! Ebute Metta (Dec.) Millen 31! Epe Barter! Olokemeji Foster 295! Oyo (May) Millson! Omo F.R., Ijebu Ode Prov. (Apr.) Jones & Onochie FHI 16841! Onochie FHI 15541! Okomu F.R., Benin Div. (Feb.) Brenan 9172!

Also in **Cameroon**.

4. *Sherbournia zenkeri* Hua (1901); Kennedy For. Fl. S. Nig. 213. *APD acc*

Amaralia zenkeri (Hua) Wernham l.c. 6 (1917).

A. millenii of F.W.T.A., ed. 1, 2: 84, partly (Talbot 202).

Scandent shrub or liane with dull purplish branchlets and petioles; calyx and corolla dull purple with whitish-grey indumentum (fide Onochie), or corolla white with reddish-purple throat (fide Kennedy); **in forest**.

S. Nig.: Ipocon, Benin Div. (Apr.) Farquhar 198! Sapoba, Benin Div. (fl. Apr., May, fr. June) Ejiofor FHI 32008! Kennedy 1134! 2631! 2632! Oban Dist. (Mar.) Onochie FHI 34810! Talbot 202! s.n.! **[Br.] Cam.:** Ambas Bay (Feb.) Mann 1329! Victoria (Mar.) Maitland 1063! Bulifambo, Buea (Mar.) Maitland 539!

Also in **Cameroon** and **Cabinda**.

5. *Sherbournia hapalophylla* (Wernham) Hepper l.c. 459 (1963). *APD acc*

Randia hapalophylla Wernham in J. Bot. 55: 9 (1917); F.W.T.A., ed. 1, 2: 79.

Amaralia hapalophylla (Wernham) Keay in Bull. Jard. Bot. Brux. 28: 58 (1958).

R. streptocaulon of Cat. Talb. 131, not of K. Schum.

A climbing shrub; **in forest**.

S. Nig.: Oban Talbot 211a! **[Br.] Cam.:** Abonando, Mamfe (May) Rudatis 66! Banga, Kumba Div. (fr. Jan.) Binuyo & Daramola FHI 35185!

Also in **Cameroon**.

6. *Sherbournia amaraliocarpa* (Wernham) Hepper l.c. 459 (1963). *APD acc*

Randia amaraliocarpa Wernham l.c. 8 (1917); F.W.T.A., ed. 1, 2: 79.

Amaralia amaraliocarpa (Wernham) Keay l.c. 59 (1958).

A scandent shrub; calyx " bronzy-green " with greyish indumentum; corolla-tube creamy yellow, lobes with dark purplish to black spots; **in farm clearings in the forest regions**.

S. Nig.: Oron to Eket Talbot 3021!

22. OXYANTHUS

DC.-F.T.A. 3: 106; K. Schum. in E. & P. Pflanzenfam. 4, 4: 78 (1891).

- 1 Branchlets and leaves more or less densely puberulous, pubescent or pilose; corolla-tube 10-17 cm. long:.....2
Branchlets and leaves quite glabrous, or leaves sparingly pubescent or puberulous beneath mainly by midrib
(Nos. 4, 5 & 8):4
- 2 Leaves 18-40 cm. long, 10-25 cm. broad, very asymmetrical at base with one side broadly auriculate, lamina ovate-elliptic, shortly acuminate, spreading pilose beneath and on midrib above, with 8-14 main lateral nerves on each side of midrib; inflorescences widely paniculate, axes (including pedicels) up to 8 cm. long, with very numerous flowers; calyx-lobes filiform, about 7 mm. long; corolla-tube 13-15.5 cm. long, lobes about 2 cm. long; fruits about 2.5 cm. diam.*I. unilocularis*

- Leaves not exceeding 24 cm. long and 10 cm. broad; inflorescence-axes (including pedicels) up to 2 cm. long, with not more than about 12 flowers; calyx-lobes triangular-lanceolate, 1.5-2.5 mm. long; main lateral nerves 7-10 on each side of midrib: [3](#)
- 3** Branchlets, petioles and undersurface of leaves setose-pilose; corolla-tube 16-17 cm. long, glabrous outside; leaves oblong, more or less asymmetrical and rounded to cuneate at base, acuminate, 14-22 cm. long, 5.3-10 cm. broad; inflorescence-axes (including pedicels) up to 0.8 cm. long [2. setosus](#)
- Branchlets, petioles and undersurface of leaves softly puberulous or pubescent; corolla-tube 11-14 cm. long, pubescent or glabrescent; leaves oblong, very asymmetrical, cuneate and rounded to subcordate at base, broadly acuminate, (5-) 9-20 cm. long, (1.5-) 2-8 cm. broad; inflorescence-axes (including pedicels) up to 2 cm. long [3. racemosus](#)
- 4** Corolla-tube 10-17.5 cm. long, 2-3 mm. wide (when flattened), lobes (1.5-) 2-3.2 cm. long: [5](#)
- Corolla-tube 2.5-7 cm. long, up to 1.5 mm. wide (when flattened), lobes 0.5-1.2 cm. long; leaves more or less symmetrical and often cuneate at base: [8](#)
- 5** Calyx-lobes well-developed, 1.5-2.5 mm. long; leaves symmetrical and usually cuneate at base, oblong, acuminate; flowers up to about 15, but usually much fewer: [6](#)
- Calyx subtruncate or with very short teeth; leaves usually asymmetrical, cuneate to obtuse and obtuse to subcordate at base, with 9-11 main lateral nerves on each side of midrib, oblong, shortly and broadly acuminate, 15-30 cm. long, 4-12 cm. broad; inflorescence-axes (including pedicels) up to 10 cm. long, flowers up to about 30, but usually much fewer, bracts minute [7. formosus](#)
- 6** Leaves pubescent on midrib and especially in axils of main nerves beneath, rarely minutely puberulous on lamina, 5-18 cm. long, 2-7 cm. broad; inflorescence-axes (including pedicels) less than 1 cm. long, with conspicuous persistent bracts: [7](#)
- Leaves quite glabrous, 11-25 cm. long, 4-10 cm. broad, with 6-8 main lateral nerves on each side of midrib; inflorescence-axes (including pedicels) up to 2.5 cm. long, with minute bracts; fruits ellipsoid, about 3.5 cm. long and 1.8 cm. broad [6. pallidus](#)
- 7** Main lateral nerves 5-8 on each side of midrib; corolla-tube 11-15 cm., lobes 2-2.5 cm. long; fruits ellipsoid, about 3.2 cm. long and 1.8 cm. broad [4. subpunctatus](#)
- Main lateral nerves (8-) 10-12 on each side of midrib; corolla-tube 10-10.5 cm., lobes 1.5-2 cm. long; immature fruits ovoid, about 5 cm. long [5. sp. A](#)
- 8** Calyx 1 mm. wide or less, teeth less than 1 mm. long; corolla-tube 0.75-1.5 mm. wide (when flattened); inflorescence a lax corymbose cyme, with axes (including the slender pedicels) up to 2 cm. long, bracts inconspicuous, usually 1 mm. or less long: [9](#)
- Calyx about 1.5 mm. wide, teeth 1-2 mm. long; corolla-tube about 1.5 mm. wide (when flattened); inflorescence a dense, many-flowered, narrow panicle, with the main axis up to 8 cm. long and conspicuous bracts up to 7 mm. long; corolla-tube (2.5-) 4.5-5(-6.5) cm., lobes 0.6-1.2 cm. long; leaves oblong, rounded, obtuse or cuneate at base, shortly and broadly acuminate, 7-25 cm. long, 2-13 cm. broad, with 7-10 main lateral nerves on each side of midrib; fruits ellipsoid, stipitate, about 2.5 cm. long and 1.5 cm. broad, black and shiny when dry [10. speciosus](#)
- 9** Corolla-tube 5-2-7 cm., lobes 1-1.2 cm. long; branchlets slender; leaves membranous, slightly pubescent by midrib beneath, especially in the axils of the 5-7 main lateral nerves; lamina oblong-elliptic, acuminate, 8.5-16 cm. long, 3-6.5 cm. broad [8. gracilis](#)
- Corolla-tube 2-7-3.2 cm., lobes 0.5-0.9 cm. long; branchlets rather stout; leaves subcoriaceous, quite glabrous, with 4-6 main lateral nerves on each side of midrib; lamina oblong or oblong-elliptic, acuminate, 9-20 cm. long, 3-8.5 cm. broad [9. laxiflorus](#)
- 1. *Oxyanthus unilocularis* Hiern** in F.T.A. 3: 110 (1877); Aubrév. Fl. For. C. Iv., ed. 2, 3: 286, t. 357; F. W. Andr. Fl. Pl. A.-E. Sud. 2: 455. *APD acc*
- Oxyanthus macrophyllus* Schweinf. ex Hiern l.c. (1877).
Oxyanthus litoreus S. Moore (1905).

A shrub or tree, to 25 ft. high, with stout, more or less angled branchlets sometimes becoming hollow; leaves dark glossy green above, coarsely hairy beneath; calyx green, corolla white; **in forest, including fringing forest in the savanna regions.**

S. L.: Kahreni to Port Loko Sc. Elliot 5827! Makeni (young fr. Jan.) Deighton 2837! Njala (fl. buds Apr.) Deighton 2888! Bandajuma (May) Aylmer 80! **Lib.:** Ganfa (June) Harley 1211! Flumpa (fl. buds Sept.) Baldwin 9361! Dobli Isl., St. Paul R. Bequaert 17! Moylakwelli Linder 1317! **Iv. C.:** Abidjan Aubrév. 195; 469. **Ghana:** Tukobo, Axim Dist. (Nov.) Vigne FH 1437! Adeiso (Mar.) Irvine 1612! Bansu (Mar.) Vigne FH 1900! Aburi Hills (Oct.) Johnson 480! Kumasi (Mar., Apr.) Darko 383! Vigne FH 1646! **N. Nig.:** Jebba Barter 1075! Acharane, Kabba Prov. (June) Daramola FHI 38030! Anara F.R., Zaria Prov. (fr. Oct.) Keay FHI 5463! Katsina Ala Dalz. 644! **S. Nig.:** Ibadan (fl. buds Jan.) Meikle 1119! Sapoba Kennedy

2269! 2317! Bonny R. (Oct.) Mann 506! Oban Talbot 289! 1416! **[Br.] Cam.:** Serti, Gashaka Dist. (fr. Feb.) Latilo & Daramola FHI 34452!

Also in **Cameroun**, **Ubangi-Shari**, **Sudan**, **Gabon**, **Cabinda**, **Congo** and **Uganda**.

2. **Oxyanthus setosus** *Keay* in Bull. Jard. Bot. Brux. 28: 44 (1958). *APD acc*

A **forest** shrub, to 8 ft. high; calyx pale green; corolla-tube greenish-white below, white at apex, lobes white, spreading or somewhat reflexed.

[Br.] Cam.: near Banga, S. Bakundu F.R., Kumba Div. (Jan., Mar.) Brenan 9283! 9438! Latilo FHI 43828!

3. **Oxyanthus racemosus** (*Schum. & Thonn.*) *Keay* l.c. 42 (1958). *APD acc*

APD: Synonym of Oxyanthus speciosus DC. subsp. speciosus

Ucriana racemosa *Schum. & Thonn.* (1827).

Oxyanthus hirsutus *DC.* (1830).

Oxyanthus thonningii *Benth.* (1849).

Oxyanthus rubriflorus *Hiern* in F.T.A. 3: 108 (1877); F.W.T.A., ed. 1, 2: 80.

Oxyanthus ? sulcatus *Hiern* l.c. (1877); Chev. Bot. 325.

Oxyanthus tubiflorus of F.T.A. 3: 107; of Chev. Bot. 325; of F.W.T.A., ed. 1, 2: 80; not of (Andr.) DC.

A shrub or small tree, 21/2-15 ft. high; flowers white, fragrant; ripe fruits orange or red; **in coastal scrub** and **in forest vegetation well inland**.

Port. G.: Catió (fl. buds June) Esp. Santo 2097! Cacine Guileje (young fr. Aug.) Esp. Santo 2152! **Guin.:** Kindia (Mar.) Chev. 13070. Doubaya, Forécariah (June) Jac.-Fél. 1728! **S. L.:** Afzelius! Stormont! Bagroo R. Mann! Yoni, Sherbro Isl. (Mar.) Deighton 2474! Goderich (Apr.) Deighton 4751! Mesima (Apr.) Deighton 3700! Mando (May) Jordan 249! **Lib.:** Brewerville (fl. & fr. Dec.) Baldwin 10942! 11956! **Iv. C.:** Bouroukrou Chev. 16997. **Ghana:** Cape Coast to Saltpond (Apr.) Scholes 207! Aburi Brown 431! Nchenenchene (Apr.) Kitson 1072! Accra T. Vogel! Akwapim (May) Irvine 1765! Thonning! **Togo Rep.:** Lomé Warnecke 460! **N. Nig.:** near Gerki, Abuja Dist. (Apr.) Keay FHI 37648! **S. Nig.:** Lagos Rowland! Elugu Barter 3417! Abeokuta Barter 3325! Ibadan (Apr.) Meikle 1395! Onitsha Barter 1794!

Also to **Angola**.

4. **Oxyanthus subpunctatus** (*Hiern*) *Keay* l.c. 44 (1958). *APD acc*

APD: Synonym of Oxyanthus subpunctatus (Hiern) Keay

Mitriostigma ? subpunctatum *Hiern* in F.T.A. 3: 111 (1877); F.W.T.A., ed. 1, 2: 72.

Oxyanthus tenuis *Stapf* in J. Linn. Soc. 37: 107 (1905); F.W.T.A., ed. 1, 2: 80.

A **forest** shrub 2-10 ft. high, with dark green leaves; corolla white or with pale green tube, fragrant; fruits orange.

S. L.: Madina, Limba Country (Apr.) Sc. Elliot 5571! Nyandehun (Apr.) Deighton 3669! Dodo (Apr.) Deighton 3910! Gola Forest (Mar.) Small 549! **Lib.:** Sinoe Basin Whyte! **Ghana:** Agogo, Ashanti (Apr.) Vigne FH 1079! Kumasi Cummins 1! **Togo Rep.:** Badja (Mar.) Schlechter 12975! **S. Nig.:** Lagos (May) Dalz. 1052! Foster 83! Olokemeji (fl. Apr., fr. Nov.) Onochie FHI 8138! A. F. Ross 154! Mamu F.R., Ibadan Prov. (Mar.) Keay & Foggie FHI 22527! Osho, Omo F.R., Ijebu Ode Prov. (Apr.) Jones & Onochie FHI 17259! **[Br.] Cam.:** Mamfe (Apr.) Ndep Enoh Cam. 39/38!

Also in **Congo**.

5. **Oxyanthus sp. A.** *APD acc*

A species of **montane forest**, close to the preceding; more material required.

[Br.] Cam.: Nyanga Camp, 4,000 ft. (Dec.) Maitland 1208! **F. Po:** Marcelino Puente's estate (Jan.) Guinea 1695! Moka, 4,600 ft. (fl. & fr. Sept.) Wrigley & Melville 559!

6. **Oxyanthus pallidus** *Hiern* in Cat. Welw. 1: 465 (1898). *APD acc*

Oxyanthus tubiflorus of F.W.T.A., ed. 1, 2: 80, partly (Johnson 603).

A shrub or small tree to 25 ft. high, with dark green foliage usually drying paler; flowers white, fragrant; **in forest**.

Iv. C.: Anguededou Forest (Mar.) Aké Assi 1509! Abidjan to Dabou (fr. July) de Wilde 104! **Ghana:** Simpa, W. Prov. (Feb.) Kinloch FH 3228! Vigne FH 2792! Kukerentumi, E. Akim (Mar.) Johnson 603! S. Scarp F.R., E. Prov. (Mar.) Vigne FH 4353! Banka (Mar.) Irvine 477! Vigne FH 1883! Begoro Dist. (Mar.) Irvine 1815!

Also in **Congo** and **Angola**.

7. **Oxyanthus formosus** *Hook. f. ex Planch.* in Hook. Ic. Pl. tt. 785-6 (1848); F.T.A. 3: 109; Chev. Bot. 325. *APD acc*

Oxyanthus breviflorus *Benth.* (1849)-F.T.A. 3: 109; F.W.T.A., ed. 1, 2: 80.

A **forest** shrub, to 15 ft. high, with dark green foliage, and stout but soft-wooded branchlets; flowers white, fragrant.

Guin.: Nimba Mts. (June) Schell 2893! **S. L.:** Njala (July) Deighton 1168! **Lib.:** Cape Palmas (July) T. Vogel 27! Jabroke, Webo Dist. (fr. July) Baldwin 6677! **Iv. C.:** various localities fide Chev. l.c. Banco (July) de Wilde 132! **Ghana:** Kumasi (Apr., May) Akwa FH 1706! Vigne FH 2924! Beyera stream, New Tafo (fr. Nov.) Lovi WACRI 3954! Accra Moloney! **S. Nig.:** Omo F.R., Ijebu Ode Prov. (fr. Mar.) Jones & Onochie FHI 16836! 17210! Akure F.R. (fr. Aug.) Jones FHI 19531! Eket Dist. Talbot 3310! Ikewette Plateau, 5,200 ft., Obudu Div. (fl. buds Dec.) Keay & Savory FHI 25259! Aboabam (May) Jones & Onochie FHI 14150! **[Br.] Cam.:** Buea to Musake, 5,500 ft., Cam. Mt. (fl. & fr. Apr.) Hutch. & Metcalfe 68! **F. Po:** (Apr.) Mann 390! Gutwok Bay (Nov.) T. Vogel 209!

Also in **Cameroun**, **Gabon**, **Congo** and **Sudan**.

8. **Oxyanthus gracilis** *Hiern* in F.T.A. 3: 109 (1877). *APD acc*

A **forest** shrub, 2-10 ft. high; flowers white; ripe fruits yellow.

S. Nig.: Omo (formerly part of Shasha) F.R., Ijebu Ode Prov. (Feb.-Apr.) Richards 3217! 3354! Tamajong FHI 23257! Nikrowa, Benin Div. (Mar.) Ross 117! Obaritin F.R., Benin Div. (May) Chizea FHI 8299! Sapoba (fr. Aug.) Kennedy 178! 2241! Olorunfemi FHI 34163! **F. Po:** (Apr.) Mann 389!

9. **Oxyanthus laxiflorus** *K. Schum. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 80 (1931). *APD acc*

A glabrous, **forest** shrub.

S. Nig.: Eket Dist. Talbot! Oban Talbot 1314! 1359! 2034! Orem, Oban F.R. (fl. & fr. Jan., Feb.) Onochie & Okafor FHI 36107x! 36147x! 36272x! **[Br.] Cam.:** Banga, Kumba Div. (June) Akuo FHI 15105! Ejiofor FHI 15257!

Also in **Cameroun**.

10. **Oxyanthus speciosus** *DC.* in Ann. Mus. Paris 9: 218 (1807); F.T.A. 3: 108; Chev. Bot. 325; Aubrév. Fl. For. C. Iv., ed. 1, 3: 248, t. 340. *APD acc*

APD: *Synonym of Oxyanthus tubiflorus (Andrews) DC.*

Oxyanthus racemosus of Aubrév. l.c. ed. 2, 3: 286, t. 356.

A shrub or tree, to 50 ft. high, with dark shining foliage and fragrant white flowers; **in forest**.

Port.G.: Fulacunda (young fr. Aug.) Esp. Santo 587! Bafata (fr. Aug.) Esp. Santo 3298! **Guin.:** Heudelot 849! Dantilia (Mar.) Sc. Elliot 5301! Pela, Nzérékoré (young fr. Sept.) Baldwin 13316! **S. L.:** Smeathmann! Heddle's Farm, Freetown (May) Deighton 5927! Berria, Falaba (fl. buds Mar.) Sc. Elliot 5231! Rolal, Mambolo (May) Jordan 248! Sefadu (May) Small 69! **Lib.:** Moylakwelli (fl. & fr. Oct.) Linder 1265! Yeh R., 2 miles above junction with St. Paul R. (fr. Oct.) Linder 1000! Browntown, Tchien (fr. Aug.) Baldwin 7087! Ganta (Apr.) Harley 1904! **Iv. C.:** Abidjan Aubrév. 342; 1353. Djibi Aubrév. 535. Rasso Aubrév. 568. Malamalasso (Mar.) Chev. 17543. **Ghana:** Bia F.R., Sunyani Dist. (Apr.) Enti FH 6694! Kumasi (May) Cummins 213! Vigne FH 1720! Kwahu (Apr.) Johnson 466! Aburi (June) Patterson 298! Akropong, Akwapim (fr. Aug.) Irvine 795! **S. Nig.:** Lagos Millen 33! 202! Rowland! Ibadan (Nov.) Jones & Keay FHI 13897! Urhehue, Benin Div. (Nov.) Keay FHI 25585! Bonny R. (Oct.) Mann 509! Brass Barter 1852! Oban Talbot 288! **[Br.] Cam.:** Rio del Rey Johnston! Banga, Kumba Div. (fr. Apr.) Olorunfemi FHI 30527!

Also in **S. Tomé** and widespread in tropical Africa.

Oxyanthus tubiflorus (*Andr.*) *DC.* Prod. 4: 376 (1830); not of F.T.A. 3: 107, nor of F.W.T.A., ed. 1, 2: 80.

Gardenia tubiflora *Andr.* Bot. Repos. 3: t. 183 (1801).

Andrews' plate is of a plant grown in a hot-house at Hammersmith (London) from seed sent from Sierra Leone; I have not been successful in tracing a specimen of this plant. The plate differs from *O. racemosus* (the plant referred to as *O. tubiflorus* in the F.T.A. and F.W.T.A.) as follows:-(i) stem, leaves and flowers glabrous, (ii) leaves cuneate at base, (iii) inflorescence shorter and ebracteate, (iv) calyx-lobes broader. I cannot, moreover, satisfactorily match Andrews' plate with any other specimen. It is perhaps nearest to *O. subpunctatus* but differs in the broadly triangular calyx-lobes. Since the name *O. tubiflorus* cannot certainly be associated with any known species of *Oxyanthus* it seems best to cease using it.-R.W.J.K.

23. MITRIOSTIGMA

Hochst.-F.T.A. 3: 111.

- 1 Branchlets glabrous; leaves broadly oblanceolate, very acute at base, acutely acuminate, 10-15 cm. long, 3-4.5 cm. broad, glabrous, with about 6-8 pairs of looped lateral nerves and lax venation between; stipules subulate from a broad base, glabrous; cymes axillary, very short and few-flowered; calyx-lobes subulate, 1-1.5 mm. long; corolla 1 cm. long, gradually widened from a cylindric base; fruits oblong-lanceolate in outline, beaked, 3 cm. long; seeds with a fibrous testa[barteri](#)

Mitriostigma barteri *Hook. f. ex Hiern* in F.T.A. 3: 111 (1877); Gen. Pl. 2: 90 (1873), name only. *APD acc*

Randia barteri (*Hook. f. ex Hiern*) *K. Schum.* in E. & P. Pflanzenfam. 4, 4: 75 (1891).

Half-woody undershrub 3 ft. high; " calyx green, corolla brown ".

F. Po: Barter! Mann 234!

24. DIDYMOSALPINX

Keay in Bull. Jard. Bot. Brux. 28: 61 (1958).

- 1 Calyx glabrous, tube scarcely 1 mm. long, lobes triangular 2-4 mm. long; corolla-tube 3.5-8 cm. long, lobes ovate, acuminate, 1.5-3 cm. long; anthers 1-1.4 cm. long; style-head dilated, fusiform; pedicels 1.2-2.4 cm. long, without bracteoles; branchlets, stipules and leaves glabrous; arrested lateral branchlets sometimes becoming spines; petioles up to 8 mm. long; leaves drying greenish, elliptic to elliptic-lanceolate, cuneate at base, acuminate at apex, 3.5-18 cm. long, 1.7-8 cm. broad, with 5-7 main lateral nerves on each side of midrib, usually pitted in the axils; fruits subglobose, about 2.5 cm. diam.[1. abbeokutae](#)

Calyx puberulous, tube about 2 mm. long, lobes triangular, 1.5-2 mm. long; corolla-tube 1.8-2.5 cm. long, lobes obovate-elliptic, rounded at apex, 1.5-2 cm. long; anthers about 1 cm. long; style-head attenuate; pedicels about 1.2 cm. long, with puberulous bracteoles; stipules and young leaves pubescent; branchlets not becoming spines; petioles 8-16 mm. long; leaves drying reddish beneath, oblong or obovate-oblong, usually obtuse at base, acuminate at apex, 8.5-22 cm. long, 4-8 cm. broad, with 5-10 main lateral nerves on each side of midrib, not pitted in axils; young fruits fusiform[2. parviflora](#)

1. **Didymosalpinx abbeokutae** (*Hiern*) *Keay* in Bull. Jard. Bot. Brux. 28: 62, t. 5 (1958); Aubrév. Fl. For. C. Iv., ed. 2, 3: 274. *APD acc*

Gardenia abbeokutae *Hiern* in F.T.A. 3: 104 (1877); F.W.T.A., ed. 1, 2: 75.

G. hiernii *Sc. Elliot* (1894).

A scrambling glabrous shrub with shining leaves and cream-white or greenish-yellow flowers; [in forest vegetation](#).

Guin.: Kissidougou (Apr.) Martine 297! **S. L.:** Bagroo R. (Apr.) Mann 840! Kafogo, Limba (Apr.) Sc. Elliot 5516! Freetown (May) Deighton 2984! Njala (fl. Apr., May, fr. Mar.) Deighton 3434! 4744! 5749! Magbile (fr. Dec.) Thomas 5946! 6475! **Lib.:** Jaurazon, Sinoe County (Mar.) Baldwin 11451! 11459! Dukwia R. (Feb.) Cooper 290! 327! 388! Taninewa (Mar.) Bequaert 151! Mt. Barclay (May) Bunting! **Iv. C.:** Mt. Tonkoui (fr. Jan.) Schnell 4065! Man Chev. 21240. Bériby Pobéguin 45. **Ghana:** Amentia (Mar., Apr.) Vigne FH 1873! 2889! Bosusu, Begoro (July) Moor 91! Cape Coast (May) Dalz. 51! Asakraka to Nteso (Apr.) Kitson 1044! **S. Nig.:** Abeokuta Irving 32! Ibadan South F.R. (Apr.) Keay FHI 22545! Oban Talbot 1519! **[Br.] Cam.:** Victoria to Bimbina (May) Preuss 1259!

Also in **Cameroun** and **Congo**.

2. **Didymosalpinx parviflora** *Keay* l.c. 64 (1958).

APD: Synonym of Petitiocodon parviflorum (Keay) Robbr.

An erect shrub, 6-12 ft. high, or small tree; flowers slightly fragrant, calyx pale green, corolla white; **in forest.**

S. Nig.: Boje, Afi River F.R., Ikom Div. (May) Jones & Onochie FHI 18905! 18912! [**Br.**] **Cam.:** Mabeta, Victoria Div. (young fr. May) Motuba FHI 15067! Bopo, S. Bakundu F.R. (Mar.) Brenan 9425!

25. POUCHETIA

A. Rich. ex DC. Prod. 4: 393 (1830); **A. Rich.** in Mém. Soc. Hist. Nat. Paris 5: 251 (1834); F.T.A. 3: 116; **K. Schum.** in E. & P. Pflanzenfam. 4, 4: 79 (1891).

- 1** Upper bracteate leaves imbricate, markedly decreasing in size towards apex of shoot and broadly ovate with cordate base, 1-4 cm. long, 1-2.5 cm. broad, normal leaves ovate-elliptic, rounded to cuneate at base, long-acuminate, 6-9(-15) cm. long, 2-4(-6) cm. broad, glabrous; corolla about 1 cm. long, tubular; flowers in axillary clusters or shortly pedunculate with peduncle up to 2.5 cm. long [1. gillettii](#)

Leaves all similar, cuneate to obtuse at base, not as above: **2**

- 2** Corolla funnel-shaped, the 3.5 mm. long tube gradually widened into the 3.5 mm. long, more or less erect lobes; anthers 4 mm. long; inflorescence and outside of calyx glabrous, except for the ciliate calyx-teeth; flowers in lax axillary and terminal racemes or panicles, up to 11 cm. long; fruits ellipsoid, acute, nearly 1 cm. long; leaves oblong-elliptic, obtuse or cuneate at base, broadly acuminate, 2-11 cm. long, 1-5.5 cm. broad, pubescent only in the axils of the 4-7 main lateral nerves beneath [2. africana](#)

Corolla with narrow tube 2 mm. long, abruptly widened into the reflexed, 3 mm. long lobes; anthers 2.75 mm. long; inflorescence and outside of calyx more or less densely puberulous; flowers in axillary and terminal usually narrow panicles, up to 13 cm. long; leaves broadly elliptic, cuneate at base, gradually acuminate, 6-14 cm. long, 2.5-6 cm. broad, puberulous on the midrib and 6-9 main lateral nerves beneath [3. parviflora](#)

- 1. Pouchetia gillettii De Wild.** in Ann. Mus. Congo, sér. 5, 3: 289 (1910).

APD: Synonym of Pouchetia baumanniana Büttner

A shrub about 10 ft. high with pendulous inflorescences; flowers pale cream and berries dark red; **in swamp forest.**

S. Nig.: Imo River Village, Port Harcourt to Aba (fl. & fr. Dec.) Onochie FHI 40442!

Also in **Congo** and **Angola**.

- 2. Pouchetia africana A. Rich. ex DC.** Prod. 3: 393 (1830); F.T.A. 3: 117, excl. var.; Chev. Bot. 325; Aubrév. Fl. For. Soud.-Guin. 464, t. 101, 6-7. *APD acc*

A shrub or small tree, up to 15 ft. or more high, glabrous, with greenish or white, scented flowers; berries blackish-purple when ripe; **in coastal vegetation and in forest, including fringing forest in savanna regions.**

Sen.: Casamance & Cayor fide DC. l.c. **Gam.:** Heudelot 28! fide DC. l.c. **Mali:** Kouroukouto (fr. Mar.) Roberty 17082! Katou (Mar.) Chev. 541. Nguer to Bir, Tialam (Dec.) Chev. 2097! **Port. G.:** Prabis, Bissau (young fr. Feb.) Esp. Santo 1813! Bissalanca, Bissau (Jan.) Esp. Santo 1661! **Guin.:** Heudelot 682! Conakry Chev. 12018. Kadé, R. Badi, Timbo & Bramaya fide Aubrév. l.c. **S. L.:** Don! Smeathmann. T. Vogel 85! Freetown (Oct.) Deighton 248! Bonthe (Apr.) Deighton 4303! Surinua, Talla Hills (Apr.) Sc. Elliot 5527! Rosino (Feb.) Deighton 4974! Mabonto (Oct.) Thomas 3527! **Lib.:** Monrovia (Nov.) Linder 1420! 1559! Sangwin (fl. & fr. Dec.) Baldwin 11440! Congotown (Aug.) Barker 1398! **Iv. C.:** Diénougou Aubrév. 2737! **Ghana:** Bou, W. Prov. (Nov.) Vigne FH 1419! Prang (Jan.) Vigne FH 1562! Sambisi to Hamboi (May) Kitson 793! Wa, N.T. (Dec.) Adams & Akpabla 4469! **Togo Rep.:** Dgaba Kersting A270! **N. Nig.:** Borgu Barter 714!

Also in **Ubangi-Shari** (fide Aubrév. l.c.).

- 3. Pouchetia parviflora Benth.** in Hook. Fl. Nigrit. 395 (1849); F.T.A. 3: 117. *APD acc*

Feretia ? virgata K. Schum. (1905).

A shrub or small tree, with white flowers; **in forest.**

S. L.: Lumbaraya, Talla Hills, up to about 3,000 ft. (Feb.) Sc. Elliot 4989! **S. Nig.:** Gambari Group, Ibadan (young fr. Feb.) Chizea FHI 23972! W. D. MacGregor 579! Ibadan (fl. & young fr. Jan.) Meikle 954! **F. Po:** (Jan., Nov.) Barter 2065! T. Vogel 183! 252!

Also in **Principe** and **S. Tomé**.

26. DICTYANDRA

Welw. ex Hook. f.-F.T.A. 3: 85; K. Schum. in E. & P. Pflanzenfam. 4, 4: 73 (1891).

- 1 Corolla about 2½ times as long as the calyx, silky-tomentose outside, 3 cm. long; calyx-lobes broadly elliptic, about 1 cm. long, with one thickened recurved margin; leaves obovate-elliptic, shortly-acuminate, 12-20 cm. long, 5-9 cm. broad, slightly pubescent in the axils of the nerves beneath; stipules broadly triangular, 5 mm. long; flowers in lax cymes; style hairy [1. *arborescens*](#)

Corolla about 8 times as long as the calyx, slender, appressed-pilose, about 8 cm. long; calyx-lobes lanceolate, hardly 1 cm. long, with slightly curled edges; leaves obovate, sharply cuneate at the base, 12-23 cm. long, 6-12 cm. broad, glabrous; stipules semi-orbicular, leafy, 1-1.5 cm. long; flowers rather crowded [2. *involucrata*](#)

1. **Dictyandra arborescens** *Welw. ex Hook. f.* in Benth. & Hook. f. Gen. Pl. 2: 85 (1873); F.T.A. 3: 86; Aubrév. Fl. For. C. Iv., ed. 2, 3: 272, t. 350. **APD acc**

A shrub or small tree, up to 25 ft. high, with shining dark green foliage, white silky fragrant flowers 1-1½ in. long in cymes, and small guava-like fruits crowned by the leafy calyx; bole with short, stout, blunt, conical spines; **in forest**.

Guin.: Nzo (Mar.) Schnell 869! **S. L.:** Limba, Bafodeya (Apr.) Sc. Elliot 5584! Kofiu Mt. (Jan.) Sc. Elliot 4760! Kenema Thomas 7837! 7923! Jama (fr. Sept.) Deighton 3081! **Lib.:** Zigida (Mar.) Bequaert 131! **Iv. C.:** Bouroukrou Aubrév. 712! Bouaké Aubrév. 119! **Ghana:** Aburi Hills (Oct.) Johnson 465! Banka (Dec.) Vigne FH 1484! Bunso, Akim (Oct.) Scholes 312! Awoso, Dunkwa (Oct.) Akpabla 875! **Dah.:** Le Testu 67! **S. Nig.:** Abakurudu, Shasha F.R. (Mar.) Jones & Onochie FHI 16635! Idanre Hills (Jan.) Brenan 8676! Idumuje (Dec.) Thomas 2112! 2137! Oban Talbot 1515! Calabar Thomson 77! **[Br.] Cam.:** Kiliwindi to Mamfe (fr. July) Akuo FHI 15155! **F. Po:** Guinea 1512!

Extends to **Uganda**, Congo and **Angola**.

2. **Dictyandra involucrata** (*Hook. f.*) *Hiern* in F.T.A. 3: 86 (1877).

APD: *Synonym of Leptactina involucrata Hook. f.*

Leptactina involucrata *Hook. f.* (1871).

A shrub 15-20 ft. high or more or less climbing, with rather broad leaves and long tubular white flowers 3-4 in. long, crowded in terminal cymes; **in forest**.

S. L.: Lumbaraya (young fr. Feb.) Sc. Elliot 4935! **Ghana:** Kudje, Hohoe Dist. (Nov.) St. C.-Thompson FH 3688! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 99! **S. Nig.:** Awba Hills, Ibadan (Oct.) Jones FHI 5972! Sapoba F.R., Benin (Nov.) A. F. Ross 231! Okwashi (young fr. Nov.) Thomas 2035! Oban Talbot 283! Degema Dist. Talbot! **[Br.] Cam.:** Ambas Bay (Dec.) Mann 2156! S. Bakundu, Kumba Dist. (fr. Jan.) Binuyo & Daramola FHI 35469! Ossidinge (Sept.) Rudatis 73! R. Sulli, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28840!

Also in **Cameroun** and **Rio Muni**.

27. LEPTACTINA

Hook. f.-F.T.A. 3: 87; K. Schum. in E. & P. Pflanzenfam. 4, 4: 73 (1891).

- 1 Style included in the corolla-tube; leaves more than 7.5 cm. long and 3 cm. broad, with 7-10 main lateral nerves on each side of midrib; petioles more than 5 mm. long; calyx-lobes 1.3-3 cm. long; corolla-tube (2-)4-8(-10.5) cm., lobes (1.2-)1.8-3 (-3.5) cm. long; branchlets densely or sparingly pilose, or nearly glabrous; leaves broadly elliptic to obovate, obtuse or cuneate at base, more or less acuminate at apex, 7.5-20 cm. long, 3-11 cm. broad:..... [2](#)

Style exserted; leaves narrowly elliptic, acute at both ends, 3-8 cm. long, 1-3.5 cm. broad, softly pubescent beneath, with 5-8 main lateral nerves on each side of midrib; petioles 3-4 mm. long; calyx-lobes about 1.3 cm.

- long; corolla-tube 2-5 cm., lobes 1-5-2-5 cm. long, ovary densely pubescent [2. senegambica](#)
- 2 Ovary densely pubescent; leaves usually with long weak hairs and tufts of shorter hairs by the midrib and nerves beneath [1. densiflora var. densiflora](#)
- Ovary glabrous or sparingly pubescent; leaves with only short hairs beneath [1a. densiflora var. glabra](#)

Leptactina densiflora Hook. f. *APD acc*

1. *Leptactina densiflora var. densiflora* -Hook. Ic. Pl. sub t. 1092 (1871); F.T.A. 3: 87. *APD acc*

A large bushy shrub with rather large leaves, and white fragrant tubular flowers 1-3 in. long, velvety outside, in dense heads; fruits black, ribbed and wrinkled, 1/2 in. diam., crowned by the long calyx.

S. L.: Mabonto Thomas 3542! Nganyama, Tikonko (Sept.) Deighton 4028! Yonibana (Nov.) Thomas 4861! 4908! 5031! Mamaha Thomas 4396! Batkanu (fr. Jan.) Deighton 2845! **Lib.:** Gbanga (Sept.) Linder 617! Gontatown, Grand Cape Mount Baldwin 10783! **iv. C.:** Adiopodoumé Giovannetti 51! **Ghana:** Krobo Plains (Dec.) Johnson 512! Bana Hill, Krobo (fr. Jan.) Irvine 1916! Volta River F.R. Morton GC 6072! Alavanyo, Hohoe Dist. (Nov.) St. C.-Thompson FH 3654! **S. Nig.:** Lagos (Dec.) Millen 23! 181! Abeokuta (Jan.) Irving 94! Rowland! Eba Isl. Kennedy 1705! Sapoba (July) Onochie FHI 23421! Uwet Odot F.R., Itu (Jan.) Jones FHI 6861! Oban Talbot 220! 1613!

1a. *Leptactina densiflora var. glabra* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 84 (1931), excl. Johnson 512. *APD acc*

Similar to above but less hairy.

Ghana: Atauso, N.E. of Tarkwa (May) Chipp 230! Kumasi Cummins 150! Jiasi (fl. & fr. Oct.) Vigne FH 1391! Essiama (Nov.) Vigne FH 1407! Central Prov. Fishlock 76! **S. Nig.:** Sapoba, Benin Prov. (fr. Nov.) Ejiofor FHI 24614! Kennedy 1921!

2. *Leptactina senegambica* Hook. f. l.c. (1871); F.T.A. 3: 88; Chev. Bot. 318; Aubrév. Fl. For. Soud.-Guin. 469, t. 101, 1-3. *APD acc*

A shrub with rather stiff subquadrangular branchlets, dark shining foliage, and greenish flowers 1-2 1/2 in. long, softly hairy outside in small dense cymes.

Mali: Moussaia (Feb.) Chev. 402. **Guin.:** 126 km. S. of Kouroussa (Dec.) Roberty 16194! Kouroussa (Feb., Apr.) Chev. 375! Pobéguin 220! 678! Rio Pongo Heudelot 893! And other localities fide Aubrév. l.c. **S. L.:** Afzelius! Kofiu Mt., Scarcies (Jan.) Sc. Elliot 4759! Kukuna (Apr.) Hepper 2643! Makumre (June) Thomas 504!

28. TARENNA

Gaertn.-F.T.A. 3: 88.

- 1 Style pilose in the lower half, always well-exserted; ovules several in each ovary cell: **2**
- Style glabrous in the lower half, often only slightly exserted or included; leaves usually drying blackish; pedicels (2-) 4-7 mm. long: **14**
- 2 Calyx glabrous outside, lobes very short, often broader than long; inflorescences glabrous or puberulous; corolla-tube glabrous outside, pilose within: **3**
- Calyx pubescent or setose outside, lobes short or long, mostly longer than broad; corolla-tube glabrous, puberulous or pubescent outside, glabrous or pilose inside; inflorescences mostly densely puberulous, pubescent or setose; pedicels 0-5-10 mm. long: **7**
- 3 Corolla-tube 9-30 mm. long; pedicels 4-35 mm. long, glabrous or puberulous: **4**
- Corolla-tube 2-5-4 mm., lobes 4-6(-7) mm. long; pedicels 1-2 mm. long, puberulous; leaves oblong-elliptic, rather asymmetrically cuneate at base, acuminate, 8-17 cm. long, 2-5-6-5 cm. broad, glabrous, with 4-6 main lateral nerves on each side of midrib, prominent beneath [4. pallidula](#)
- 4 Pedicels 25-35 mm. long; cymes 1-3-flowered; corolla-tube 10-13 mm. long, lobes 7-8 mm. long; leaves elliptic, rounded or obtuse at base, abruptly spatulate-acuminate, 3-5-8-5 cm. long, 1-2-3-8 cm. broad, glabrous, with 2-4 main lateral nerves looped on each side of the midrib [1. flavo-fusca](#)
- Pedicels 4-10 mm. long; cymes several- to many-flowered; leaves more or less asymmetrically long-cuneate at base, acumen not spatulate; main lateral nerves 4-9 on each side of midrib: **5**
- 5 Corolla-tube 25-30 mm., lobes 8-9 mm. long; leaves oblong-oblancoate or oblong-elliptic, acuminate, 12-24 cm. long, 4-9-5 cm. broad, glabrous; fruits sub-globose, 10-12 mm. diam., 10-ribbed, glabrous [2. grandiflora](#)

- Corolla-tube 9-10 mm., lobes 6-8 mm. long; leaves oblong-oblancoate, long-acuminate, 5-5-17 cm. long, 1-7-5 cm. broad; fruits as above, but scarcely ribbed: **6**
- 6** Leaves rather densely pubescent beneath [3. *vignei* var. *vignei*](#)
 Leaves glabrous or nearly so beneath [3a. *vignei* var. *subglabra*](#)
- 7** Corolla-tube glabrous inside: **8**
 Corolla-tube pilose inside: **9**
- 8** Outside of corolla-tube puberulous; leaves glabrous; calyx-lobes ovate-triangular, up to 0-5 mm. long, densely puberulous; corolla-tube 6-8 mm., lobes 4-6 mm. long; pedicels 3-5 mm. long; leaves ovate, elliptic or obovate-elliptic, cuneate at base, acuminate, 7-18 cm. long, 2-7-5 cm. broad, with 7-10 main lateral nerves on each side of midrib; fruits slightly bilobed, 8-9 mm. diam., glabrous, wrinkled and shining when dry [5. *gracilis*](#)
 Outside of corolla-tube glabrous; leaves pubescent on midrib and nerves and appressed-puberulous on lamina beneath; calyx-lobes triangular-lanceolate, 1-2 mm. long, densely setose-pubescent; corolla-tube 3-5 mm., lobes 5-7 mm. long; pedicels 1-3 mm. long; leaves oblanceolate, oblong-elliptic or lanceolate, cuneate at base, 2-8-12 cm. long, 1-5-5 cm. broad, with 6-9 main lateral nerves on each side of midrib; fruits subglobose, 5 mm. diam., glabrous, wrinkled and shining when dry [6. *thomasi*](#)
- 9** Outside of corolla-tube pubescent, at least when young; inflorescence-axes, the 4-10 mm. long pedicels, ovary and the 1 mm. long ovate-acute calyx-lobes densely golden-brown (when dry) silky pubescent; corolla-tube 6 mm., lobes 4-4-5 mm. long; leaves coriaceous, drying brown, elliptic to obovate, cuneate at base, acuminate, 8-5-15 cm. long, 2-7-6 cm. broad, pubescent beneath especially on the midrib, with 5-8 main lateral nerves on each side of midrib [7. *eketensis*](#)
 Outside of corolla-tube glabrous; pedicels 1-4 mm. long: **10**
- 10** Calyx-lobes oblong, rounded at apex, 2 mm. long, 1-5 mm. broad, margins ciliate, often overlapping at anthesis; leaves rounded or obtuse at base, oblong, 10-17 cm. long, 4-5 cm. broad, rather abruptly acuminate, glabrous, with 4-6 main lateral nerves on each side of midrib; corolla-tube 7-8 mm., lobes 8 mm. long; pedicels 1-1-5 mm. long [8. *baconoides*](#)
 Calyx-lobes triangular, ovate or lanceolate, narrower and/or shorter than above, not overlapping at anthesis; leaves cuneate at base, mostly puberulous beneath: **11**
- 11** Calyx-lobes lanceolate, 1-5-3-5 mm. long, up to 1 mm. broad; inflorescence-axes, pedicels and ovary densely setose-pilose; corolla-tube 7-10 mm., lobes 5-8 mm. long; leaves elliptic or obovate, obtuse or cuneate at base, acuminate, 8-20 cm. long, 3-10 cm. broad, appressed-puberulous on midrib above and on midrib, nerves and lamina beneath; main lateral nerves 6-13 on each side of midrib; fruits subglobose, glabrous, about 7 mm. diam., wrinkled, black and shining when dry [9. *lasiorhachis*](#)
 Calyx-lobes broadly triangular or ovate, up to 1-5 mm. long; inflorescence-axes, pedicels and ovary more or less densely appressed-pubescent: **12**
- 12** Inflorescence up to 3-5 cm. diam., densely flowered, with pedicels up to 2 mm. long, closely subtended by 1-2 pairs of small leaves near the apex of long lateral shoots; calyx-lobes 1-1-5 mm. long; corolla-tube and lobes each about 5 mm. long; leaves obovate or elliptic, distinctly and often abruptly acuminate, 8-17-5 cm. long, 3-7-8 cm. broad, rather densely puberulous beneath, with 6-9 main lateral nerves on each side of midrib; fruits subglobose, about 8 mm. diam., glabrous, shining [10. *conferta*](#)
 Inflorescence 4-10 cm. diam., pedicels 1-4 mm. long; leaves sparingly puberulous, especially in axils of nerves, or glabrous beneath; calyx-lobes 0-5-1 mm. long: **13**
- 13** Inflorescence dense; leaves obovate, acuminate, 7-16 cm. long, 3-6-5 cm. broad, with 6-9 main lateral nerves on each side of midrib; corolla-tube 4-5 mm., lobes 4-5-5 mm. long [11. *pavettoides*](#)
 Inflorescence lax; leaves narrowly elliptic or elliptic-oblancoate, very gradually long-acuminate, 6-14 cm. long, 2-5-5 cm. broad, with 5-8 main lateral nerves on each side of midrib; corolla-tube and lobes each 5-8 mm. long [12. *nitidula*](#)
- 14** Calyx and ovary glabrous; corolla-tube glabrous inside: **15**
 Calyx and ovary puberulous outside; corolla-tube pilose inside: **16**
- 15** Calyx-lobes broad and imbricate, overlapping to the left, 1 mm. long; corolla-tube short (specimens available only in bud); pedicels setose; leaves oblanceolate-elliptic, cuneate at base, acuminate, 7-12 cm. long, 2-5 cm. broad, with 6-8 main lateral nerves on each side of midrib; ovules 4 per cell [13. *hutchinsonii*](#)
 Calyx-lobes triangular, 0-5 mm. long; corolla-tube 12-19 mm. long, glabrous inside and outside, lobes 6-10 mm. long; pedicels glabrous; leaves ovate, lanceolate, elliptic or obovate, obtuse, cuneate or rounded at base, acuminate, 6-16 cm. long, 2-9 cm. broad, with 3-6 main lateral nerves on each side of midrib; ovules 1 per cell; fruit usually with a single seed or with a second imperfectly developed seed [14. *soyauxii*](#)
- 16** Corolla-tube 4-7(-10) mm. long, glabrous or puberulous outside, lobes 7-8(-9) mm. long; calyx puberulous, lobes lanceolate to subulate, 1-2 mm. long; pedicels puberulous; leaves narrowly elliptic, elliptic-lanceolate or oblanceolate, usually unequal at base, obtuse and/or cuneate, gradually obtusely acuminate, 6-5-18 cm. long, 3-8 cm. broad, with 7-11 main lateral nerves on each side of midrib; ovules usually 3 per cell; fruit with 2-6 seeds [15. *bipindensis*](#)
 Corolla-tube 4 mm. long, glabrous outside, lobes 4-4-5 mm. long; calyx minutely puberulous; lobes triangular,

0.75 mm. long; pedicels glabrous or puberulous; leaves similar to above [16. brachysiphon](#)

1. **Tarenna flavo-fusca** (*K. Schum.*) *S. Moore* in J. Linn. Soc. 37: 302(1906).

APD: *Synonym of Tarenna fusco-flava* (*K. Schum.*) *S. Moore*

Chomelia flavo-fusca *K. Schum.* in Engl. Bot. Jahrb. 33: 339 (1903).

C. laxissima *K. Schum.* l.c. 340 (1903).

Ixora laxissima (*K. Schum.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 87 (1931).

A slender climber, or small tree to 12 ft. high; flowers white; **in forest**.

Lib.: Yeh R., 2 miles above junction with St. Paul R. (Oct.) Linder 993! **Ghana:** Konongo (Apr.) Vigne FH 1929! Abofaw (June) Vigne FH 1175! **S. Nig.:** Oban Talbot 232! **[Br.] Cam.:** Kumba (June) Preuss 312! Mbalange F.R., Kumba Div. (fr. Jan.) Binuyo & Daramola FHI 35479!

Also in **Cameroun**, **Angola** and **Uganda**.

2. **Tarenna grandiflora** (*Benth.*) *Hiern* in F.T.A. 3: 91 (1877). *APD acc*

Styllocoryne grandiflora *Benth.* (1849).

Chomelia grandiflora (*Benth.*) *O. Ktze.* (1891).

C. neurocarpa *K. Schum.* (1903).

A shrub or small tree to 50 ft. high; corolla green outside and white inside; fruits pale orange; **in forest**.

S. Nig.: Eket Dist. Talbot 3366! Oban Talbot 279! Ikom (ft. May) Jones & Onochie FHI 17444! **[Br.] Cam.:** Mile 49, Victoria to Kumba road (Aug.) Olorunfemi FHI 30745! Korop F.R., Kumba (fr. July) Olorunfemi FHI 30670! **F. Po:** (June, Dec.) Barter! Mann 25! T. Vogel 262!

Also in **Cameroun**.

Tarenna vignei *Hutch. & Dalz.* *APD acc*

3. **Tarenna vignei var. vignei** -F.W.T.A., ed. 1, 2: 76 (1931). *APD acc*

A forest shrub.

Ghana: Amentia (fl. buds Nov.) Vigne FH 1461!

3a. **Tarenna vignei var. subglabra** *Keay* in Bull. Jard. Bot. Brux. 27: 98 (1957). *APD acc*

Tarenna sp. of Aubrév. Fl. For. C. Iv., ed. 1, 3: 237.

A forest shrub or small tree, to 12 ft. high; flowers white, fragrant; fruits yellow or orange when ripe.

S. L.: Gola Forest Small 554! Gorahun to Zimi, Gola Forest (fl. & fr. Apr.) Deighton 3640! 3685! **Lib.:** Vahon, Kolahun Dist. (ft. Nov.) Baldwin 10248! Ba, Mano R., (fr. Sept.) Baldwin 10724! Peahtah, Salala Dist. (fr. Dec) Baldwin 10610! Zeahtown, Tchien Dist. (ft. Aug.) Baldwin 6930! Sarbo, Webo Dist. (fr. July) Baldwin 6409! **Iv. C.:** Man to Danané Aubrév. 1033. Kissidougou Chev. 20758. **Ghana:** Tano-Nlmri F.R. (fr. July) Foggie FH 4459! Ankasa Su (ft. July) Chipp 304! Ankassa F.R. (fl. buds & fr. Dec.) Vigne FH 3179! Enchi (fr. Oct.) Tolmie FH 2380!

4. **Tarenna pallidula** *Hiern* in F.T.A. 3: 91 (1877). *APD acc*

Chomelia oligoneura *K. Schum.* (1898).

Tarenna patula *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 76 (1931).

A glabrous shrub; **in forest**.

S. Nig.: Eket Dist. Talbot 3257! Stubb's Creek F.R., Eket Dist. (young fr. May) Onochie FHI 33161!

Also in **Cameroun**, **Rio Muni** and **Gabon**.

5. **Tarenna gracilis** (*Stapf*) *Keay* l.c. 99 (1957); Chev. Bot. 319, name only. *APD acc*

Webera gracilis *Stapf* in J. Linn. Soc. 37: 106(1906).

Tarenna thomasii of F.W.T.A., ed. 1, 2: 76, partly (Sc. Elliot 5554, only).

Tarenna nitidula of F.W.T.A., ed. 1, 2: 76, partly.

A shrub, apparently deciduous, 3-9 ft. high; flowers white, fragrant; fruits white, borne on leafless lower lateral branchlets.

S. L.: Bafodeya, Limba (Apr.) Sc. Elliot 5554! Kenema (Apr.) Lane-Poole 284! Njala (May) Deighton 3437! 3438! 8968! Nyeminga (Apr.) Deighton 3680! Panguma (Apr.) Deighton 3907! Bumpe, Peri (fr. Aug.) Deighton 5134! **Lib.:** Sinoe Basin Whyte! Kulo, Sinoe County (fl. buds Mar.) Baldwin 11426! Ganta (Feb.) Harley 867! Wanau (Mar.) Harley 1389! **Iv. C.:** Zaranou, Indénié (Mar.) Chev. 17623! **Ghana:** Simpa, W. Prov. (Feb.) Andoh FH 2789! Mpraeso Scarp (fr. Apr.) Morton A 694!

6. **Tarenna thomasii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 76 (1931), excl. Sc. Elliot 5554. *APD acc*

Tarenna flexilis A. Chev. Bot. 319 (1920), name only.

Tarenna sp.? nov. of F.T.A. 3: 90.

Tarenna conferta of Chev. Bot. 319, partly (Chev. 578); of F.W.T.A., ed. 1, 2: 76, partly (Guin. & Iv.C. records).

A shrub, 5-12 ft. high; flowers white, fragrant; fruits red; in forest vegetation, especially by streams.

Guin.: R. Milo, Kankan (Mar., Apr.) Adam 12134! Chev. 578! R. Niger, Farana (Mar.) Sc. Elliot 5344! **S. L.:** Thomas 10463! 10496! 10539! 10614! Laminaiya (Apr.) Thomas 126! Njala (Mar., May) Deighton 1582! 5042! Mesima (Apr.) Deighton 3695! Diamain (Apr.) Adames 36! **Iv. C.:** Ouaguié to Capiécrou, Agniéby Valley (Jan.) Chev. 17177! **Ghana:** Prang (fr. June) Vigne FH 3897! Suguri, N.T. (Apr.) Pomeroy FH 1232! **N. Nig.:** Abinsi (fr. May) Dalz. 636! **S. Nig.:** Onitsha Barter 1245! Obubra (Jan.) Jones FHI 5878!

7. **Tarenna eketensis** *Wernham* in J. Bot. 52: 4 (1914). *APD acc*

Rutidea degemensis *Wernham* in op. cit. 55: 80 (1917).

R. talbotiorum *Wernham* l.c. 81 (1917).

A scandent shrub to 30 ft. high, or a tree; inflorescence light golden-silky pubescent, flowers white; in forest, especially in regrowth.

Lib.: Karmadhun, Kolahun (fr. Nov.) Baldwin 10164! **Ghana:** Bou, W. Prov. (Nov.) Vigne FH 1411! Bogosu (Dec.) Vigne FH 3147! **S. Nig.:** Sapoba (Mar., Nov.) Jones FHI 547! Keay FHI 28076! Oron-Eket Road Talbot 3024! Degema Disk. Talbot 3827! 3828! s.n.! Oban Dist. Talbot! **[Br.] Cam.:** Abonando (May) Rudatis 61!

Also in **Cameroun**, **Rio Muni** and **Gabon**.

[Chomelia gillettii De Wild. & Th. Dur. (1900) from Congo is very similar but has membranous instead of coriaceous leaves.]

8. **Tarenna baconioides** *Wernham* in Cat. Talb. 44 (1913). *APD acc*

A shrub, glabrous except on the inflorescence; flowers white, crowded in terminal trichotomous cymes; in forest.

S. Nig.: Oban Talbot 1595!

9. **Tarenna lasiorhachis** (*K. Schum. & K. Krause*) *Bremek.* in Fedde Rep. 37: 196 (1934). *APD acc*

Pavetta lasiorhachis *K. Schum. & K. Krause* in Engl. Bot. Jahrb. 39: 550 (1907).

A forest shrub or small tree, to 10 ft. high; flowers white.

[Br.] Cam.: Victoria (fl. Nov., fr. Apr.) Maitland 87! 620! Mamfe (Mar.) Richards 5221!

Also in **Cameroun**.

10. **Tarenna conferta** (*Benth.*) *Hiern* in F.T.A. 3: 90 (1877); F.W.T.A., ed. 1, 2: 78, partly (**S. Nig.** & **F. Po** spec. only). *APD acc*

Stylocoryne conferta *Benth.* (1849).

Tarenna talbotii *Wernham* (1913).

A shrub or liane; flowers white, fragrant; in swampy and riverside forest.

S. Nig.: Lagos (Feb., Apr., July, Oct., fr. July) Dalz. 1019! 1054! 1202! Jones FHI 18846! 19428! Sapoba Kennedy 1795! Brass Barter 28! R. Nun (fi. & fr. Aug.) Barter 2131! T. Vogel 23! Oban Talbot 1548! **F. Po:** (fl. & fr. Jan.) Mann 207!

Also in **Cameroun** and **Gabon**.

11. **Tarenna pavettoides** (Harv.) Sim For. & For. Fl. Col. Cape of Good Hope 239 (1907). *APD acc*

APD: Synonym of Tarenna pavettoides subsp. affinis (K. Schum.) Bridson

APD: Synonym of Tarenna pavettoides subsp. gillmanii Bridson

Kraussia pavettoides Harv. Fl. Cap. 3: 22 (1865).

A shrub, in fringing forest.

[Br.] Cam.: Bamenda Prov.: Bum, 4,000 ft. (May) Maitland 1530! Lakom, 6,000 ft. (May) Maitland 1776!

Also in **Uganda**, **Sudan**, **Tanganyika**, N. & **S. Rhodesia** and **S. Africa**.

(A specimen (Deighton 3211) from Jaiama, Sierra Leone, is, perhaps also this species.)

12. **Tarenna nitidula** (Benth.) Hiern in F.T.A. 3: 90 (1877), excl. var. afzelii Hiern; Chev. Bot. 319; F.W.T.A., ed. 1, 2: 76, partly. *APD acc*

Stylocoryne nitidula Benth. (1849).

Pavetta striatula Hutch. & Dalz. F.W.T.A., ed. 1, 2: 91 (1931); Bremek. in Fedde Rep. 37: 205.

Tarenna nimbana Schnell in Bull. I.F.A.N. 16: 87, fig. 5 (1954).

A shrub 6-7 ft. high, with shining leaves; flowers white, fragrant; fruits white; in forest.

Port. G.: Cumura, Bissau (fr. Nov.) Esp. Santo 2229! **Guin.:** Koundian to Ouria, Kissi (Feb.) Chev. 20758! Nimba Mts. (Apr.) Schnell 4361! 4955! 4988! 5331! **S. L.:** Barter! Smythe 48! 131! 256! Whitfield! T. Vogel 147! Hills near Freetown (fl. Feb., Apr., Dec., fr. Nov., Dec.) Deighton 523! 5639! Johnston 4! Sc. Elliot 3869! 5769! Heddle's Farm (fl. Apr., fr. Dec.) Lane-Poole 279! Limba Country (Apr.) Sc. Elliot 5473! 5618! Kukuna, Scarcies (fl. & fr. Jan.) Sc. Elliot 4700! **Lib.:** Monrovia (Feb.) Barker 1216! Taninewa (Mar.) Bequaert 153! Dukwia R. (Feb.) Cooper 206! **Iv. C.:** Tonkoui Mt. Schnell 4172! Oroumbo Boka (ft. Aug.) Schnell 6461!

13. **Tarenna hutchinsonii** Bremek. in Fedde Rep. 37: 200 (1934). *APD acc*

Pavetta nigrescens Hutch. & Dalz. F.W.T.A., ed. 1, 2: 91 (1931), not *Tarenna nigrescens* Hiern.

A shrub with shining foliage turning blackish in drying and rather small white flowers numerous in branched terminal cymes.

S. L.: Kenema (Jan.) Thomas 7500! 7527! 7536! 7834!

14. **Tarenna soyauxii** (Hiern) Bremek. in Fedde Rep. 37: 7 (1934).

APD: Synonym of Nichallea soyauxii (Hiern) Bridson

Ixora soyauxii Hiern in F.T.A. 3: 166 (1877).

I. thomsonii Hiern l.c. 164 (1877); F.W.T.A., ed. 1, 2: 89.

I. asteriscus K. Schum. (1899).

Tarenna asteriscus (K. Schum.) Bremek. l.c. (1934).

Pavetta melanophylla K. Schum. (1899)-F.W.T.A., ed. 1, 2: 91.

Ixora atrata Stapf (1905)-F.W.T.A., ed. 1, 2: 87.

Tarenna lagosensis Hutch. & Dalz., F.W.T.A., ed. 1, 2: 76 (1931).

Tarenna nigrescens Good (1926), not of Hiern (1877).

Tarenna nigroviridis Good (1926).

A much-branched shrub, sometimes scandent, or tree to 16 ft. high; leaves deep green, drying black; flowers white or partly pale green, very fragrant.

S. L.: Mt. Aureol Lane-Poole 362! Glewahun (fl. buds & fr. Dec.) Deighton 3836! Kenema Lane-Poole 456! **Lib.:** Monrovia Whyte! Zuie, Boporo Dist. (ft. Nov.) Baldwin 10236a! **Ghana:** Bobiri F.R. (fr. Aug.) Tsawe FH 6258! **S. Nig.:** Lagos (Feb., Dec.) Dalz. 1043! 1203! 1375! Akilla, Ijebu-Ode Prov. (Jan.) A.F.A. Lamb FHI 4526! Okomu F.R., Benin Div. (Dec.) Brenan 8556! Calabar Thomson 45! Mbot to Akpan, Calabar (fr. July) Ujor FHI 31646! [Br.] **Cam.:** Likomba (Dec.) Mildbr. 10793! N. Korup F.R., Kumba Div. (fr. July) Olorunfemi FHI 30675!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

15. **Tarenna bipindensis** (K. Schum.) Bremek. in Fedde Rep. 37: 7, 208 (1934). *APD acc*

Chomelia bipindensis K. Schum. (1903).

Pavetta warburgiana De Wild. & Th. Dur. (1901); not *Tarenna warburgiana* Valetton (1924).
Ixora bipindensis K. Schum. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 87 (1931).
Tarenna adamii Schnell in Bull. I.F.A.N. 16: 79, fig. 2 (1954), incl. var. *nigeriana* Schnell.
Tarenna mangelotii Schnell l.c. 77, fig. 1 (1954).

A shrub, often scandent; leaves usually drying black; flowers green; in forest.

Guin.: Macenta (May) Collenette 12! Adam 5282; 5951; s.n.! **S. L.:** Gomdama, Maje (May) Deighton 5782! **Iv. C.:** Mangelot! Sampleu (Apr.) Chev. 21093! **Ghana:** Abra, W. Prov. (Jan.) Akpabta 807! **S. Nig.:** Lagos (Aug.) Rowland! Oban Talbot 1048! Oban F.R. (fr. May) Ujor FHI 30847! **F. Po:** (Jan.) Mann 212!

Also in **Cameroun** and **Gabon**.

16. *Tarenna brachysiphon* (Hiern) Keay in Bull. Jard. Bot. Brux. 27: 99 (1957). *APD acc*

Ixora brachysiphon Hiern in F.T.A. 3: 165 (1877); F.W.T.A., ed. 1, 2: 89.
Tarenna ombrophila Schnell in Bull. I.F.A.N. 16: 85, fig. 4 (1954).
Tarenna tomensis Schnell l.c. 81, fig. 3 (1954).

A glabrous shrub with shining leaves and white flowers in lax cymes.

Guin.: Nimba Mts. (Apr.) Schnell 5114! Macenta (Feb.) Adam 3885! **S. L.:** Thomas 10045! Bagroo R. (Mar.) Mann 792! Mabonto (fr. Oct.) Thomas 3546! 8657!

29. PAVETTA

Linn.-F.T.A. 3: 167; Bremekamp in Fedde Rep. 37: 1-208 (1934).

- 1 Corolla-tube 2-5-7 mm. long, usually shorter than the lobes but sometimes equalling them; throat of corolla bearded (i.e. with a dense ring of long hairs); calyx often imbricate in bud-(Subgen. Baconia): **2**
 Corolla-tube 8-40 mm. long (but only 3-4 mm. long in No. 20), usually longer than the lobes but sometimes as long as the lobes; throat of corolla not bearded; calyx very rarely imbricate-(Subgen. Pavetta): **16**
- 2 Each ovary cell with 2 collateral ovules; midrib, nerves and veins of leaves impressed above; leaves more or less elliptic, 10-22 cm. long, 4-10 cm. broad, softly pubescent beneath, with 11-15 main lateral nerves on each side of midrib, prominent beneath; branchlets, inflorescence-axes and calyces densely pubescent; flowers numerous in corymbose cymes; corolla-tube 5 mm., lobes 8 mm. long [1. lasioclada](#)
 Each ovary cell with a solitary ovule; nerves and veins not impressed above; leaves mostly glabrous or nearly so beneath (but see Nos. 2a and 3): **3**
- 3 Stipules and bracts pilose inside: **4**
 Stipules and bracts entirely glabrous; branchlets and leaves glabrous or nearly so; bacterial nodules usually present: **12**
- 4 Calyx-lobes persistently imbricate at anthesis, 1-1.5 mm. long, 1.5-2 mm. broad, rounded or truncate at apex, puberulous outside; corolla-tube about 5 mm., lobes about 10 mm. long; cymes many-flowered, widely corymbose; leaves oblanceolate to elliptic, 7.5-20 cm. long, 2-8 cm. broad, with 7-9 main lateral nerves on each side of midrib, bacterial nodules usually conspicuous: **5**
 Calyx-lobes open or imbricate in bud only, or calyx truncate; corolla (tube and lobes together) 5-5-17 mm. long: **6**
- 5 Leaves puberulous or nearly glabrous; branchlets and inflorescence puberulous ... [2. corymbosa var. corymbosa](#)
 Leaves more or less densely pubescent beneath; branchlets and inflorescence pubescent [2a. corymbosa var. neglecta](#)
- 6 Leaves softly and densely pubescent all over the lower surface, especially on the midrib and nerves; branchlets, inflorescence and calyx shortly tomentose; leaves elliptic to obovate, 8-20 cm. long, 4-10 cm. broad, with 9-14 main lateral nerves on each side of midrib; corolla about 10 mm. long; flowers numerous, in rather dense, widely corymbose cymes [3. mollissima](#)
 Leaves glabrous or puberulous beneath mainly on midrib and nerves or in axils of nerves; branchlets glabrous or puberulous: **7**
- 7 Corolla 8-17 mm. long: **8**
 Corolla about 5-5 mm. long; calyx-lobes distinct; inflorescence puberulous, up to 7 cm. diam.; branchlets and leaves glabrous; leaves oblong-elliptic, 11-17 cm. long, 2.5-6 cm. broad, with 6-8 main lateral nerves on each side of midrib, venation slightly prominent, lower surface shining, bacterial nodules conspicuous .. [9. obanica](#)
- 8 Calyx-lobes less than 0.5 mm. long, or calyx merely 4-lobulate; corolla about 8 mm. long; inflorescences puberulous, up to 5 cm. diam.; branchlets and leaves glabrous or nearly so; leaves elliptic, 9-22 cm. long, 2-5-9

- cm. broad, with 4-9 main lateral nerves on each side of midrib, venation rather obscure 4. brachycalyx Calyx-lobes distinct, 1-3 mm. long: [9c136fn1_9](#)
- Leaves sessile or subsessile, oblong or oblanceolate, shortly cuneate or rounded at base, 8-15 cm. long, 1.8-4.8 cm. broad, puberulous beneath mainly on midrib and nerves, with 7-8 main lateral nerves on each side of midrib; branchlets and inflorescence puberulous, the latter less than 4 cm. diam.; corolla about 11 mm. long [5. oblongifolia](#)
- Leaves distinctly petiolate, mostly long-cuneate at base: **10**
- 10** Calyx-lobes longer than broad, 1.5-3 mm. long, slightly keeled; corolla 15-17 mm. long; inflorescence puberulous, up to 10 cm. diam., rather lax; branchlets and leaves glabrous or nearly so; leaves oblanceolate to elliptic, 9-24 cm. long, 2.5-7 cm. broad, with 5-8 main lateral nerves on each side of midrib [6. glaucescens](#)
- Calyx-lobes as long as broad or shorter, 1-2 mm. long, not keeled; corolla 8-12 mm. long: **11**
- 11** Corolla 8-9 mm. long; plant usually drying blackish; calyx-lobes broad and rounded; branchlets glabrous; leaves oblanceolate to obovate, 7-12 cm. long, 2.5-5 cm. broad, with 7-11 main lateral nerves on each side of midrib [7. hookeriana](#)
- Corolla 10-12 mm. long; plant drying greenish-brown; calyx-lobes obtuse to subacute; branchlets minutely puberulous; leaves elliptic to oblanceolate or obovate, 7-22 cm. long, 3-9 cm. broad, with 6-12 main lateral nerves on each side of midrib [8. owariensis](#)
- 12** Corolla 6-8 mm. long; inflorescences 1-3 cm. diam., subtended by a single pair of leaves at the ends of long axillary shoots: **13**
- Corolla 10-16 mm. long; inflorescences 3-13 cm. diam., subtended by 1-3 pairs of leaves: **14**
- 13** Venation of leaves obscure, main lateral nerves 8-11 on each side of midrib; calyx and inflorescence glabrous; calyx-lobes distinct, imbricate at anthesis; leaves coriaceous, elongate-oblong-elliptic, 14-25 cm. long, 6-10 cm. broad [10. mannioides](#)
- Venation of leaves prominently reticulate on both surfaces, main lateral nerves 10-14 on each side of midrib; calyx and inflorescence puberulous; calyx subtruncate or with short broad lobes not imbricate at anthesis; leaves stiffly chartaceous (when dry), elliptic to lanceolate, 9-25 cm. long, 2.5-10 cm. broad [11. ixorifolia](#)
- 14** Calyx-lobes persistently imbricate, subquadrate, very short; corolla about 13 mm. long; leaves oblong or lanceolate, 10-18 cm. long, 3.5-5 cm. broad, with 7-9 main lateral nerves on each side of midrib ... [12. staudtii](#)
- Calyx-lobes imbricate in bud only, triangular to ovate: **15**
- 15** Corolla about 11 mm. long; leaves oblong-elliptic, 15-22 cm. long, 6-8.5 cm. broad, with 9-13 main lateral nerves on each side of midrib; stipules not seen [13. neurocarpa](#)
- Corolla 12-16 mm. long; leaves lanceolate, elongate-elliptic or broadly oblanceolate, 12-28 cm. long, 3.5-9 cm. broad, with 12-14 main lateral nerves on each side of midrib; stipules with points up to 10 mm. long [14. bidentata](#)
- 16** Calyx-lobes 12-20 mm. long, linear-filiform, densely plumose-pilose; corolla 32-38 mm. long; branchlets and leaves densely spreading pilose: **17**
- Calyx-lobes up to 6 mm. long, or if up to 12 mm. then oblong, obovate or spatulate and up to 5 mm. broad; corolla 7-50 mm. long; branchlets and leaves pilose, pubescent or glabrous: **18**
- 17** Leaves elongate-obovate or oblanceolate, 20-35 cm. long, 6-11 cm. broad, with (12-) 15-16 main lateral nerves on each side of midrib; corolla glabrous outside, tube 17-18 mm., lobes 15-20 mm. long [15. hispida](#)
- Leaves oblong-elliptic, 15-22 cm. long, 5-8 cm. broad, with 9-11 main lateral nerves on each side of midrib; corolla-tube about 22 mm. long, lobes pilose outside, about 13 mm. long [16. plumosa](#)
- 18** Calyx-lobes oblong, obovate or spatulate, accrescent and reaching 9-12 mm. long and 3-5 mm. broad in fruit; corolla 24-32 mm. long; leaves narrowly elliptic, with 7-12 main lateral nerves on each side of midrib: **19**
- Calyx-lobes 0.6 mm. long, broadly triangular to linear-filiform: **21**
- 19** Flowers in a dense subglobose cluster; calyx-lobes oblong to obovate-oblong, up to 11 mm. long and 3 mm. broad; upper surface of leaves glabrous except near the petiole; branchlets pubescent to pilose; leaves 11-28 cm. long, 3.5-8.5 cm. broad, more or less densely pubescent beneath; corolla-tube 16-22 mm., lobes about 10 mm. long [17. genipifolia](#)
- Flowers in corymbose cymes; calyx-lobes obovate or spatulate; corolla-tube 14-14.5 mm., lobes 10-11 mm. long: **20**
- 20** Leaves pilose on both surfaces; calyx-lobes spatulate, up to 12 mm. long and 5 mm. broad; leaves 8-23 cm. long, 2.5-7.5 cm. broad, rather densely pilose beneath [18. leonensis](#)
- Leaves glabrous or sparsely pubescent; calyx-lobes obovate, about 9 mm. long and 5 mm. broad; leaves 10-25 cm. long, 3.5-10 cm. broad [19. platycalyx](#)
- 21** Each ovary cell with 2 collateral ovules; glabrous shrub, not exceeding 1 m. high; leaves oblanceolate, attenuate at base into the 0.5-3 cm. long petiole, acuminate, 9.5-20 cm. long, 2.5-7.5 cm. broad, with 8-11 main lateral nerves on each side of midrib; inflorescences up to 2 cm. long; calyx-lobes broad and rounded, scarcely 1 mm. long; corolla-tube 5-8 cm. long, pubescent inside, lobes about 5 mm. long and 3-4 mm. broad; style about 30 mm. long, far-exserted [20. tetramera](#)

- Each ovary cell with a solitary ovule; shrubs exceeding 1 m. high: **22**
- 22** Corolla-tube 3-4 mm. long, approximately equal in length to the lobes; calyx-lobes broadly triangular, up to 2 mm. long; branchlets and leaves glabrous; leaves elliptic-oblong, up to 32 cm. long and 9 cm. broad, petiole up to 7 cm. long, with about 12 main lateral nerves on each side of midrib; cymes up to 2 cm. long, appearing axillary [21. talbotii](#)
- Corolla-tube (8-) 10-40 mm. long, longer than the lobes: **23**
- 23** Calyx-lobes (3-)5-6 mm. long, linear-lanceolate to filiform; corolla-tube 24-40 mm. long; main lateral nerves 6-8 on each side of midrib: **24**
- Calyx-lobes 0-2 mm. long, or if up to 3 mm. long (species No. 28) then corolla not exceeding 16 mm. long and leaves, branchlets, inflorescence and outside of flowers glabrous or sparingly pubescent: **25**
- 24** Inflorescence subumbellate, congested; corolla-tube about 24 mm. long, lobes about 9 mm. long; leaves broadly elliptic, 12-20 cm. long, 6-12.5 cm. broad, pubescent beneath [22. dolichosepala](#)
- Inflorescence paniculate, lax; corolla-tube 35-40 mm. long, lobes about 10 mm. long, acute-acuminate; leaves elliptic, 5-11 cm. long, 2.5-4 cm. broad, densely and softly pubescent beneath [23. mollis](#)
- 25** Flowering shoots greenish; corolla-lobes 10-16 mm. long, tube 13-19 mm. long; branchlets and leaves glabrous or nearly so; inflorescence laxly corymbose, minutely puberulous; calyx-lobes broadly triangular, 0.2-1 mm. long; leaves elliptic, 15-30 cm. long, 7.5-14 cm. broad, with 8-11 main lateral nerves on each side of midrib [24. rigida](#)
- Flowering shoots covered with whitish corky bark; corolla-lobes 5-8 mm. long; leaves with 5-8 main lateral nerves on each side of midrib: **26**
- 26** Stipules and bracts glabrous inside; branchlets stout; leaves often in threes, subsessile, glabrous, narrowly elongate-oblong-oblancheolate, rounded at apex, 15-25 cm. long, 3-5 cm. broad, corymbs many-flowered, glabrous; calyx subtruncate, glabrous outside; corolla-tube 12-18 mm. long, lobes about 5 mm. long [25. crassipes](#)
- Stipules and bracts pilose inside; branchlets more slender; leaves elliptic, oblong or obovate, 3-11(-16) cm. long, 1.5-4.5(-7) cm. broad; calyx-lobes mostly distinct: **27**
- 27** Flowers subsessile, in clusters on very short lateral shoots; corolla-tube about 20 mm. long, 3-4 times as long as the lobes; calyx densely puberulous outside, lobes triangular; branchlets and leaves densely pubescent; leaves elliptic, rounded or obtuse at apex, 4-7 cm. long, 2-4 cm. broad [26. subcana](#)
- Flowers rather long-pedicellate, in lax corymbs on relatively long shoots; corolla-tube not more than twice as long as the lobes: **28**
- 28** Leaves rather densely puberulous, especially beneath when young, obtuse at apex, cuneate at base, 10-16 cm. long, 3-7 cm. broad, sessile or nearly so; branchlets, inflorescence and calyx puberulous; corolla glabrous, tube 7 mm., lobes 5 mm. long; fruits 6 mm. diam. [27. cinereifolia](#)
- Leaves, branchlets, inflorescence and outside of flowers glabrous or sparingly pubescent: **29**
- 29** Leaves elliptic or oblong, 5-8 cm. long, 2.5-4 cm. broad, with a distinct pubescent petiole 4-15 mm. long; calyx-lobes to 3 mm. long; corolla-tube 14-15.5 mm., lobes 7-8 mm. long; style 40-45 mm. long [28. subglabra](#)
- Leaves obovate or oblanceolate, 3-6.5(-8) cm. long, 1.2-2(-3) cm. broad, long-attenuate and almost sessile at base, quite glabrous; calyx-lobes less than 0.5 mm. long; corolla-tube 8-12 mm., lobes 5-7 mm. long; style 20-22 mm. long [29. saxicola](#)

1. Pavetta lasioclada (*K. Krause*) *Mildbr. ex Bremek.* in Fedde Rep. 37: 62 (1934); Aubrév. Fl. For. Soud.-Guin. 471-474, t. 104, 1. *APD acc*

Chomelia lasioclada *K. Krause* (1909).

Pavetta vibunoides *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 91 (1931); Chev. Bot. 334, name only.

A shrub 8-15 ft. high, pale brownish-pubescent, with white flowers.

Mali: Moussaia (Feb.) Chev. 403! **Guin.:** Timbo (Feb.) Pobéguin 158! KoUangui (Mar.) Chev. 12193! Mali (Jan.) Roberty 16554! Labé Chev. 12351. Timbo Chev. 12523. Kankan to Kouroussa Chev. 15649. **S. L.:** Falaba (Mar.) Sc. Elliot 5142! Bintumane Peak, 3,000 ft. (bud Jan.) Glanville 453! **Iv. C.:** Tafiré Aubrév. 1829! Dyolo country Chev. 21376. Mt. Dou Aubrév. 1075. Ferkéssédougou Aubrév. 2313. **Togo Rep.:** Sokode (fr. Dec.) Kersting A56. Bismarckburg Büttner 392.

Also in **Cameroun**.

2. Pavetta corymbosa (*DC.*) *F. N. Williams* *APD acc*

Pavetta corymbosa var. **corymbosa** -in Bull. Herb. Boiss. sér. 2, 7: 378 (1907); Bremek. l.c. 69, as var. glabra; Aubrév. Fl. For. Soud.-Guin. 471-474, t. 104, 2. *APD acc*

Baconia corymbosa *DC.* (1807).

Ixora nitida Schum. & Thonn. (1827).

Pavetta nitida (Schum. & Thonn.) Hutch. & Dalz., F.W.T.A., ed. 1, 2: 91 (1931), partly; Aubrév. Fl. For. C. Iv., ed. 1, 3: 219.

Pavetta baconia Hiern in F.T.A. 3: 179 (1877); Kennedy For. Fl. S. Nig. 213 (as "P. baconi").

Pavetta rhombifolia Bremek. l.c. 64 (1934).

Pavetta hygrophytica Bremek. l.c. 68 (1934), partly (Chipp 420).

A shrub or small tree, usually less than 20 ft. high; corolla greenish-white outside, white inside; fruits whitish when young, black when ripe; in forest regrowth and drier types of forest including fringing forest and forest margins.

Sen.: Cape Verde Leprieur. Casamance Perrottet. **Gam.:** Heudelot 62! **Port. G.:** Fonte, Bubaque (May) Esp. Santo 2020! Brene, Bissau (fr. Jan.) Esp. Santo 1681! **Guin.:** Rio Nunez Heudelot 772! Koloiea Paroisse 4! Toumbo Paroisse 80. Souguékourou Paroisse 144. **S. L.:** Hormont! Smeathmann. Whitfield! Heddle's Farm (May) Lane-Poole 270! Goderich (Apr.) Deighton 4763! Musaia (Mar.) Deighton 5454! Seliakuri (Mar.) Sc. Elliot 5093! Bafodeya (Apr.) Sc. Elliot 5506! Falaba (Mar.) Sc. Elliot 5129! **Iv. C.:** fide Aubrév. l.c. **Ghana:** Axim (young fr. Apr.) Chipp 420! Cape Coast Brass! Achimota (Feb.) Irvine 1997! Aboma F.R., Mampong Dist. (fl. & fr. Jan.) Andoh FH 5451! 5454! Kpeve (fl. buds Mar.) Williams 68! Amedzofe (Mar.) Williams 96! 292! **Togo Rep.:** Lome Warnecke 49! **Dah.:** Le Testu 250! **N. Nig.:** Anara F.R., Zaria Prov. (fl. May, fr. Oct.) Keay FHI 21133! 25783! **S. Nig.:** Lagos Barter 2200! Dalz. 1053! Millen 209! Abeokuta Irving 140! Oyo Barter 3402! Onitsha Barter 1257! **[Br.] Cam.:** Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28846!

2a. *Pavetta corymbosa* var. *neglecta* Bremek. l.c. 70 (1934). *APD acc*

As above, but leaves densely pubescent.

Iv. C.: Dimbokro Aubrév. 1811! **Ghana:** Volta River F.R. (Feb.) Vigne FH 4351! Akropong (Mar.) Johnson 899! Achimota (Feb.) Irvine 285! 2000! Inhaban (Jan.) Vigne FH 4129! Kpandu Robertson 102! **Dah.:** Burton! Boguila, Abomey (Feb.) Chev. 23194! **N. Nig.:** Dogon Kurmi, Jemaa Div. (May) E. W. Jones 47! **S. Nig.:** Lagos Millen 75! Ibadan (fl. Jan.-Apr., fr. Aug.-Jan.) Meikle 949! 1307! Newberry 46! 190! Ijaiye F.R. (Mar.) Onochie FHI 20694! Idanre Hills (Jan.) Brennan 8680!

Also in **Ubangi-Shari**.

3. *Pavetta mollissima* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 91 (1931); Bremek. l.c. 70. *APD acc*

A forest shrub, 6 ft. high, with profuse white flowers.

Iv. C.: Gagnoa (fl. buds & young fr. Feb.) Kerharo & Bouquet 981! **Ghana:** Kwahu Praso (Feb.) Vigne FH 1601! Bansa, Ashanti (Mar.) Vigne FH 1866! S. Fomang Su F.R. (Jan.) Andoh FH 2680!

4. *Pavetta brachycalyx* Hiern in F.T.A. 3: 169 (1877); Bremek. l.c. 76. *APD acc*

Exechostylus flaviflorus K. Schum. (1899).

Pavetta flaviflora (K. Schum.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 92 (1931), partly.

Pavetta hierniana Bremek. l.c. 76, partly (Dunlap 20).

A shrub up to 10 ft. high; in forest.

[Br.] Cam.: Cam. Mt., 2,000-4,800 ft. (Dec., Jan.) Dunlap 20! Maitland 213! 908! Mann 2159! Johann-Albrechtshöhe (=Kumba) (Jan.) Staudt 565.

Also in **Cameroun**.

5. *Pavetta oblongifolia* (Hiern) Bremek. l.c. 65 (1934). *APD acc*

Pavetta baconia var. *oblongifolia* Hiern in F.T.A. 3: 176 (1877).

Pavetta schweinfurthii var. *oblongifolia* (Hiern) Aubrév. Fl. For. Soud.-Guin. 471-474, t. 103, 4; Berhaut Fl. Sén. 106.

Pavetta nitida of F.W.T.A., ed. 1, 2: 91, partly (Heudelot 673).

A shrub.

Sen.: Berhaut 1229. Niokolo-koba Adam 14236! **Mali:** Kerfomouria (Mar.) Chev. 600! Niayes to Koulikoro Chev. 2020! **Port. G.:** Contabani to Guilege, Boé (June) Esp. Santo 3196! **Guin.:** Landouma country Heudelot 673! Kadé Pobéguin. **S. L.:** Laminaiya (Apr.) Thomas 147!

Also in **Ubangi-Shari** (fide Aubrév.).

6. *Pavetta glaucescens* Hiern in F.T.A. 3: 171 (1877); Bremek. l.c. 71.

APD: Synonym of Pavetta owariensis var. glaucescens (Hiern) Manning

Pavetta chionantha K. Schum. & K. Krause (1907)-Bremek. l.c., excl. syn. *P. owariensis*.

Pavetta hygrophytica Bremek. l.c. 68 (1934), excl. Chipp 420.

A small tree; corolla white.

S. Nig.: Eket Talbot 3120! Calabar (Mar.) Thomson 68! Oban Talbot 1451! 2042! Orem, Calabar to Mamfe (Jan.) Onochie FHI 36075x! **[Br.] Cam.:** Rio del Rey Johnston! S. Bakundu F.R. (Mar., Apr.) Ejiofor FHI 29306! Onochie FHI 31199! **F. Po:** Mann!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Cabinda** and **Congo**.

7. *Pavetta hookeriana* Hiern in F.T.A. 3: 176 (1877); Bremek. l.c. 63 (excl. spec. ex Annobon). *APD acc*

Baconia montana Hook. f. (1864); not *Pavetta montana* Reinw. ex Blume (1826).

Pavetta exellii Bremek. l.c. 73 (1934).

Pavetta molundensis of Bremek. l.c. 64, partly (Johnstone 102/31).

A well-branched shrub, to 10 ft. high, with white flowers; in montane forest.

[Br.] Cam.: Cam. Mt., 4,000-7,600 ft. (fl. Dec.-Apr., fr. Dec.-Feb.) Mann 2166! Maitland 206! 992! 1139! 1312! Bafut-Ngemba F.R., Bamenda (Feb.-Apr.) Onochie FHI 34850! Ujor FHI 30050! Hepper 2160! Kishaw, Bamenda (Apr.) Johnstone 102/31! L. Oku, Bamenda (Jan.) Keay FHI 28514! **F. Po:** Moka, 4,000-5,000 ft. (fl. & young fr. Sept., Jan.) Exell 787! 790! Wrigley & Melville 529!

[*P. monticola* Hiern, from S. Tomé and Annobon is closely related, but appears to differ in having considerably longer corolla-lobes.]

8. *Pavetta owariensis* P. Beauv. Fl. Oware 1: 87, t. 52 (1806); F.T.A. 3: 170, excl. Vogel spec. *APD acc*

Pavetta smythei Hutch. & Dalz. F.W.T.A., ed. 1, 2: 92 (1931); Bremek. l.c. 76 (1934).

Pavetta eketensis Bremek. l.c. 75 (1934).

Pavetta hierniana Bremek. l.c. 76 (1934), (excl. Dunlap 20).

Pavetta intermedia Bremek. l.c. 71 (1934), partly (Kalbreyer 92 &? Dinklage 2635).

Pavetta nigritana Bremek. in Fedde Rep. 47: 20 (1939).

Pavetta staudtii of Bremek. in Fedde Rep. 37: 77, partly (S.L. spec.).

Pavetta flaviflora of F.W.T.A. ed. 1, 2: 92, partly.

A forest shrub or small tree, 6-20 ft. high; flowers white.

Guin.: Nimba Mts. Schnell 426! **S. L.:** Fundu (Jan.) Smythe 214! Sinja (Feb.) Lane-Poole 153! Gorahun (Apr.) Deighton 3657! Bumbuna (fr. Oct.) Thomas 3439! Ronietta (fr. Nov.) Thomas 5514! **Lib.:** Dinklage 2635. Batwa, Gola Forest (Dec.) Bunting 87! **Iv. C.:** R. Davo, Béyo (Jan.) Leeuwenberg 2599! **Ghana:** Sui F.R. (Mar.) Foggie FH 4449! Donkoto, Bibiani (Mar.) Darko 857! **S. Nig.:** Iddu, Benin Div. (Mar.) Farquhar 32! Warri to Buonopozo Beauvois! Okomu F.R. (Dec., Jan.) Brenan 8569! 8876! Sapoba Kennedy 1776! 1990! 2072! 2346! 2620! Eket Dist. Talbot! Degema Dist. Talbot 3806! 3807! **[Br.] Cam.:** Victoria (Mar.) Kalbreyer 92! **F. Po:** Mann 195! Clarence (fl. buds Nov.) T. Vogel 114!

Also in **Cameroun**.

9. *Pavetta obanica* Bremek. l.c. 77 (1934). *APD acc*

Pavetta flaviflora of F.W.T.A., ed. 1, 2: 92, partly.

A forest shrub.

S. Nig.: Oban Talbot s.n.! 349! 359! Obom Itiat, Itu Div. (Jan.) Jones FHI 6871!

10. *Pavetta mannioides* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 91 (1931); Bremek. l.c. 80.

APD: Synonym of Pavetta neurocarpa Benth.

A glabrous forest shrub.

S. Nig.: Oban Talbot!

11. *Pavetta ixorifolia* Bremek. in Fedde Rep. 37: 79 (1934). *APD acc*

A forest shrub, to 15 ft. high; flowers green or cream.

Guin.: Dalaba (Feb.) Chev. 18137! **Iv. C.:** Sassandra to Gagnoa (fr. Aug.) de Wilde 338! Béyo (fl. & fr. Dec.) Leeuwenberg 2216! Abouabou Forest (fl. & fr. Jan.) Leeuwenberg 2367! Grand Bassam (Dec.) Schnell 3957! **Ghana:** Princes, W. Prov. (Jan.) Akpabla 781! Tano Anwia, Enchi Dist. (fr. May) Enti FH 6722! S. Scarp F.R., Mpraeso Dist. (Dec.) Moor FH 2117! Adu FH 6583! **S. Nig.:** Okomu F.R., Benin (Feb.) Richards 3938!

12. **Pavetta staudtii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 91 (1931); Bremek. l.c. 77, excl. S.L. spec. **APD acc**

APD: *Synonym of Pavetta owariensis P. Beauv. var. owariensis*

A glabrous forest shrub.

[Br.] Cam.: Johann-Albrechtshöhe (=Kumba) Staudt 599!

Also in **Cameroun**.

13. **Pavetta neurocarpa** *Benth.* in Hook. Fl. Nigrit. 414 (1849); F.T.A. 3: 172; F.W.T.A., ed. 1, 2: 91, excl. syn. *P. macrostemon* K. Schum.; Bremek. l.c. 79. **APD acc**

Pavetta mannii *Hiern* in F.T.A. 3: 169 (1877); F.W.T.A., ed. 1, 2: 91, excl. Oban spec.

A glabrous forest shrub about 3 ft. high; corolla white.

[Br.] Cam.: Cameroon R. (Dec.) Mann! NE. of Bafia, Victoria Dist. (Feb.) Keay FHI 37533! **F. Po:** (fr. Nov.) T. Vogel 151!

14. **Pavetta bidentata** *Hiern* in F.T.A. 3: 176 (1877); Bremek. l.c. 78. **APD acc**

APD: *Synonym of Pavetta nitidula Hiern*

Pavetta deistelii *K. Schum.* (1903). *P. longistipulata* Bremek. l.c. 78 (1934).

A forest shrub.

S. Nig.: Eket Dist. Talbot 3316! **[Br.] Cam.:** Victoria (Apr., Dec.) Deistel 127. Maitland 1180! Smith Cam. 34/37! Njoke to Malende Schlechter 12872! **F. Po:** (Apr.) Mann 395!

Also in **Congo**.

15. **Pavetta hispida** *Hiern* in F.T.A. 3: 175 (1877); Bremek. l.c. 135. **APD acc**

A forest shrub, to 8 ft. high; flowers white.

S. Nig.: Oban Talbot 26! 1490! **[Br.] Cam.:** Kembong F.R., Mamfe Div. (fl. buds Mar.) Onochie FHI 32053! **F. Po:** (Jan.) Mann 227!

Also in **Cameroun** and **Cabinda**.

16. **Pavetta plumosa** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 91 (1931). **APD acc**

A forest shrub, about 3 ft. high.

[Br.] Cam.: Likomba (Dec.) Mildbr. 10743!

17. **Pavetta genipifolia** *Schumach.* Beskr. Guin. Pl. 78 (1827); F.W.T.A., ed. 1, 2: 91, excl. spec. ex S.L.; Keay in Bull. Jard. Bot. Brux. 27: 100 (1957). **APD acc**

APD: *Synonym of Pavetta leonensis Keay*

Pavetta megistocalyx *K. Krause* (1909)-Bremek. l.c. 136.

A shrub, to 10 ft. high; flowers white; in forest and thickets.

Ghana: Farmar 431! Mampong Scarp (May) Vigne FH 1129! Aburi (May) Johnson 131! Kwahu Hills (fl. buds Apr.) Johnson 905! Jimira F.R. (June) Vigne FH 2966! Akropong, Akwapim (fl. May, fr. Jan.) Irvine 1760! **Togo Rep.:** Baumann 278! Misahöhe (fr. Dec.) Busse 3424. **S. Nig.:** Oni River F.R., Ife-Ilesha Dist. (Apr.) Onochie FHI 15508! Oluwa F.R., Ondo Dist. (young fr. July) Kennedy 2481! Onochie FHI 33413!

18. *Pavetta leonensis* Keay in Bull. Jard. Bot. Brux. 27: 101 (1957). *APD acc*

Pavetta genipifolia of Hiern in F.T.A. 3: 175; F.W.T.A., ed. 1, 2: 91, partly (spec. ex S.L.); Bremek. l.c. 136; not of Schum.

A shrub, to 10 ft. high.

Guin.: Nimba Mts. (June) Schnell 3014! **S. L.:** Barter! Near top of Sugar Loaf Mt. (fr. Dec.) Sc. Elliot 4024! Kent (fr. Nov.) Tindall 13! Nyandehun (young fr. July) Deighton 5792! Benikoro (fr. Oct.) Thomas 2886! Masankoi (June) Marmo 24!

19. *Pavetta platycalyx* Bremek. l.c. 137 (1934). *APD acc*

A forest shrub; flowers white.

Guin.: Forocontan (fr. Oct.) Jaeger 86! **S. L.:** Sankan Biriwa Massif (fr. Jan.) Cole 178! **Lib.:** Bilimu (fr. Dec.) Harley 1629! **Iv. C.:** Sassandra Chev. 17982. Foot of Mt. Momy, Haut-Cavally (Apr.) Chev. 21353!

20. *Pavetta tetramera* (Hiern) Bremek. l.c. 134 (1934). *APD acc*

A low shrub, 1-3 ft. high, with white flowers; in forest.

[**Br.**] **Cam.:** S. Bakundu F.R., Banga, Kumba Div. (Jan.) Binuyo & Daramola FHI 35156! Keay FHI 28559!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Angola**.

21. *Pavetta talbotii* Wernham in Cat. Talb. 52 (1913); Bremek. l.c. 133. *APD acc*

S. Nig.: Oban Talbot 1638!

22. *Pavetta dolichosepala* Hiern in F.T.A. 3: 174 (1877); Bremek. l.c. 141. *APD acc*

A forest shrub, to 6 ft. high.

[**Br.**] **Cam.:** Likomba (young fr. Nov.) Mildbr. 10602!

Also in **the Congos**.

[Although cited, without comment, by Bremekamp, the specimen from our area has the sepals considerably more pubescent than in the type from Middle Congo.]

23. *Pavetta mollis* Afzel. ex Hiern in F.T.A. 3: 174 (1877); Bremek. in Fedde Rep. 37: 178. *APD acc*

Pavetta apiculata Hutch. & Dalz. F.W.T.A., ed. 1, 2: 91 (1931); Bremek. l.c. 139.

A shrub, to 15 ft. high. with pale branchlets; flowers whitish, scented.

Guin.: Kouroussa (July) Pobéguin 274! **Iv. C.:** Lomo (fr. Sept.) Aké Assi 5947! **Ghana:** Cape Coast Brass! Okroase (fl. buds May) Johnson 754! Achimota (fl. buds Apr.) Irvine 330! 756! Afram to Mankrong (Apr.) Morton A731!

[Hiern cites a specimen from Hb. Afzelius, and Bremekamp cites Afzelius s.n. in Hb. Berlin, both from Sierra Leone; I have not been able to trace these specimens.]

24. *Pavetta rigida* Hiern in F.T.A. 3: 178 (1877); Bremek. l.c. 188. *APD acc*

Pavetta macrostemon K. Schum. (1899)-Bremek. l.c. 132.

Pavetta grandiflora K. Schum. & K. Krause (1907).

Pavetta neurocarpa of F.W.T.A., ed. 1, 2: 91, partly (Kalbreyer 171).

A glabrous shrub, to 12 ft. high; corolla white except for a green stripe down back of lobes; inflorescence, ovary and calyx green; in forest.

S. Nig.: Afi River F.R., Ikoma Div. (May) Jones & Onochie FHI 18761! [**Br.**] **Cam.:** Cam. Mt., 4,000 ft. (Mar.) Deistel 134; Kalbreyer 171! Maitland 509! Rudatis 164. Barombi Preuss 293. Tinto Banyang Conrau 111. Nkom-Wum F.R., Bamenda Prov. (Apr.) Ujor FHI 30065! **F. Po:** (Jan., Nov.) Mann 183! Guinea 2612!

Also in **Cameroun**.

25. *Pavetta crassipes* K. Schum. in Engl. Pflanzenw. Ost-Afr. C: 389 (1895); Bremek. l.c. 169; Aubrév. Fl. For. Soud.-Guin. 471-474, t. 104, 4-5. *APD acc*

Pavetta barteri Dawe (1906).

***Pavetta utilis* Hua** (1907)-Chev. Bot. 334.

A glabrous shrub with stout squarish branchlets covered, with pale corky bark which splits and falls off; leaves often in threes; flowers greenish-white; fruits black; **in savanna**.

Sen.: Koulaye, Casamance Chev. 2021. **Mali:** Bongouni (Apr.) Chev. 684! Kéméné Chev. 653. Linaré to Gampéla, Mossi Dist. Chev. 24608! Birgo Dubois 199. **Port. G.:** Gabu (fr. Oct.) Esp. Santo 3471! 3558! **Guin.:** Kouroussa Pobéguin 272. **iv. C.:** Touba Aubrév. 1253. Ouangolo Aubrév. 1472. Ferkéssédougou Aubrév. 1524. **Ghana:** Bussie, Wa (Mar.)? coll. 823! Parria to Nabingo (May) Kitson 739! 963! Han (Apr.) Vigne FH 3799! Asi, Nante (June) Lamptey FH 2423! Bosomoa F. R. (fr. June) Vigne FH 2999! **Dah.:** Atacora Mts. Chev. 24130. **N. Nig.:** Sokoto (May) Lely 829! Kontagora (Feb.) Dalz. 217! Ikoja Barter! Elliott 194! Meringa, Biu (May) Rosevear FHI 26606! Yola (May) Dalz. 42! **S. Nig.:** Aboh Barter 324!

Also in **Cameroun, Congo, Sudan, E. Africa, N. Rhodesia, Nyasaland** and **Mozambique**.

26. ***Pavetta subcana* Hiern** in F.T.A. 3: 172 (1877); Bremek. l.c. 175. **APD acc**

A more or less scrambling shrub pubescent on the young parts, with whitish branches and slender white flowers crowded in clusters on short lateral branchlets; **on hills in savanna country**.

N. Nig.: Malabu Hills, near Yola (May) Dalz. 40!

Also in **Ubangi-Shari, Sudan, Kenya** and **Uganda**.

27. ***Pavetta cinereifolia* Berhaut** in Mém. Soc. Bot. Fr. 1953-54: 8 (1954); Fl. Sén. 105 (1954). **APD acc**

A shrub 3-8 ft. high with rather thick white bark and hairy leaves drying dark; **in savanna woodland**.

Sen.: Tambacounda, Goudiry (fr. Sept.-Nov.) Berhaut 1456! 2921; 3148! 3162! Mokolo-Koba to Kédougou Adam 14405! **Mali:** Kita (July-Aug.) Duong 403!

28. ***Pavetta subglabra* Schumach.** Beskr. Guin. Pl. 78 (1827); F.T.A. 3: 174; Bremek. in Fedde Rep. 37: 207; op. cit. 47: 92. **APD acc**

***Pavetta warneckei* K. Schum. & K. Krause** (1907)-F.W.T.A., ed. 1, 2: 91; Bremek. in op. cit. 37: 179.

A nearly glabrous shrub, to 12 ft. high; flowers white; fruits black.

Ghana: Thonning (photo!) Abetifi (June) Box 3452! Nungua and Afienya, Accra Plains (May) Rose Innes GC 30048! Adams 4771! Achimota Irvine 751! **Togo Rep.:** Lomé (fl. & fr. May) Warnecke 301!

29. ***Pavetta saxicola* K. Krause** in Engl. Bot. Jahrb. 48: 421 (1912); Bremek. l.c. 180.

APD: *Synonym of Pavetta gardeniifolia* A. Rich. var. *gardeniifolia*

***Pavetta thorbeckei* K. Krause** in Engl. Bot. Jahrb. 57: 40 (1920); Bremek. l.c. 179.

An erect shrub, to 6 ft. high, with glossy leaves; flowers yellow; fruits black; **on rocky hills**.

Mali: Guimel, Douentza (fr. Oct.) Jaeger 5515! **iv. C.:** Geriereni, Haut Sassandra (May) Fleury in Hb. Chev. 21644! **Togo Rep.:** Ssodu-Dako Plateau, Kumonde (May) Kersting A740! Kodjelua (May) Kersting A613! **N. Nig.:** Nupe Yates! Naraguta (June) D. E. S. King FHI 38861! **S. Nig.:** Ado Rock, Oyo Prov. (fl. Apr., fr. Oct.) Keay & Savory FHI 25444! Onochie FHI 34686! Idanre Hills (fr. Aug.) Jones FHI 20727! **[Br.] Cam.:** Vogel Peak, 4,700 ft., Adamawa (Nov.) Hepper 2739!

Also in **Cameroun**.

1. ***Pavetta oresitropha* Bremek.** in Fedde Rep. 37: 73 (1934). Type specimens presumably destroyed in Berlin.

F. Po: Mildbr. 7100; 7135.

Near to *P. owariensis* and *P. hookeriana*.

2. ***Pavetta bangweensis* Bremek.** l.c. 79 (1934). Type specimen presumably destroyed in Berlin.

[Br.] Cam.: Bangwe Conrau 66.

In addition to the above, I have seen a number of sterile and fruiting specimens which probably belong to *Pavetta* but which cannot at present be satisfactorily determined.-R.W.J.K.

30. IXORA

Linn.-F.T.A. 3: 162.

- 1 Leaves oblanceolate or oblanceolate-obovate, subsessile, with conspicuous pouches (1-1.5 cm. long) on either side at the base, acuminate, 20-33 cm. long, 7.5-10 cm. broad, with 10-12 main lateral nerves; peduncle 1.5-16 cm. long; flowers sessile, in clusters; calyx with short triangular lobes; corolla-tube about 20 mm., lobes about 6 mm. long [1. hippoperifera](#)
- Leaves without large pouches at their base: 2
- 2 Corolla-tube not exerted from the calyx, about 0.5 mm. long, lobes 3.5-4 mm. long; calyx-lobes short and broad; inflorescence and flowers glabrous; peduncle 4.5-8.5 cm. long, pedicels 5-15 mm. long; leaves glabrous, obovate or obovate-oblong, cuneate, distinctly acuminate, 4.5-16.5 cm. long, 1.8-6 cm. broad, with 10-16 main lateral nerves [2. divaricata](#)
- Corolla-tube well exerted from the calyx, 5-60 mm. long: 3
- 3 Corolla-tube 5-35(-37) mm. long (to p. 142): 4
- Corolla-tube (25-)40-60 mm. long; pedicels 0-1 (-2) mm. long; flowers in rather dense terminal corymbs; leaves glabrous: 19
- 4 Leaves mostly glabrous or sometimes puberulous beneath; peduncle 0-13(-15) cm. long (to p. 142): 5
- Leaves densely covered with short hairs beneath; peduncle 13-31 cm., pedicels 0-4.5 mm. long, both densely pubescent; corolla densely pubescent outside, tube red, 19-20 mm. long, lobes 7-8 mm. long, acuminate in bud; calyx-lobes triangular; bracteoles nearly as long as the calyx; leaves oblong-elliptic, cuneate, abruptly acuminate, 12-30 cm. long, 3.5-8.5 cm. broad, with 12-15 main lateral nerves rather conspicuous beneath [17. nigerica](#)
- 5 Corolla-tube 5-11 mm. long: 6
- Corolla-tube 13-37 mm. long (but occasional flowers in No. 14 have corolla-tubes 7-13 mm. long): 10
- 6 Peduncle 5-15 cm. long; lateral pedicels 8-17 mm. long; corolla-tube 6-11 mm., lobes 7-10 mm. long; leaves oblong or obovate-oblong, obtuse to cuneate at base, abruptly acuminate, 11-20 cm. long, 3-8 cm. broad, with about 12 main lateral nerves [3. nematopoda](#)
- Peduncle 0-2 cm. long; lateral pedicels 0-3.5 mm. long: 7
- 7 Corolla-lobes 9-11 mm., tube 10-11 mm. long; calyx with short broad lobes; inflorescence up to 3 cm. long, with the primary branches up to 1.2 cm. long, minutely and sparingly puberulous; leaves elliptic, oblong-elliptic or lanceolate, cuneate or obtuse at base, acuminate, 6-16 cm. long, 2.5-8 cm. broad, thinly membranous, drying pale green, with 10-16 main lateral nerves spreading at a wide angle [4. delicatula](#)
- Corolla-lobes 4-5.5 mm. long: 8
- 8 Inflorescences 4-11 cm. long, with the primary branches 1.5-7 cm. long, puberulous: 9
- Inflorescences up to 3 cm. long, with the primary branches not exceeding 1.5 cm., minutely puberulous; corolla-tube 5.5-11 cm., lobes 4-5 mm. long; leaves oblanceolate to elongate-elliptic, cuneate, usually acutely acuminate, 6.5-15 cm. long, 2.5-4.5 cm. long, with 8-10 main lateral nerves; whole plant not more than 1 m. high [7. talbotii](#)
- 9 Corolla-tube 10-15 mm. long; inflorescence up to 7 cm. long, with the primary branches 1.5-3 cm. long; leaves elliptic or oblong-elliptic, cuneate, acuminate, 6-17(-19) cm. long, 3-8 cm. broad, with 6-8 main lateral nerves; at low altitudes [5. guineensis](#)
- Corolla-tube 4.5-8 mm. long; inflorescence up to 11 cm. long, with the primary branches 2-7 cm. long; leaves 9-19 cm. long, 3.5-6.5 cm. broad, with 7-10 main lateral nerves; at higher altitudes [6. breviflora](#)
- 10 Peduncle 0-3.5 cm. long; bracteoles minute, caducous; corolla rounded or subacute in bud: 11
- Peduncle 2-2-13 cm. long; bracteoles ovate or triangular 1/4 to 3/4 length of calyx, often persistent; corolla rounded, subacute or acuminate in bud: 15
- 11 Inflorescence glabrous; corolla-tube 13-17 mm. long: 12
- Inflorescence densely puberulous, with the primary branches 1.7-4 cm. long; corolla-tube 10-30 mm. long: .. 14
- 12 Primary branches of inflorescence not exceeding 1 cm., lateral pedicels 0-1 mm. long; leaves thin, elliptic, cuneate or obtuse at base, broadly acuminate, 4.5-9.5 cm. long, 2-4 cm. broad, with 8-10 main lateral nerves; corolla-tube 14.5 mm., lobes 5.5 mm. long [8. sp. A](#)
- Primary branches of inflorescence 1.5-4 cm., lateral pedicels 1-6 mm. long: 13
- 13 Leaves membranous, very narrowly elliptic, attenuate at base, gradually acutely acuminate, 5-13 cm. long, 1.2-2.4 cm. broad, with 6-13 main lateral nerves; corolla-tube 13-14 mm., lobes 6-7 mm. long [9. sp. B](#)
- Leaves subcoriaceous, elliptic to oblanceolate, cuneate at base, subacute or obtuse at apex, 6-17 cm. long, 2-2.5

- cm. broad, with 8-15 main lateral nerves; corolla-tube 13-17 mm., lobes 6 mm. long [10. bauchiensis](#)
- 14** Corolla-tube 10-15 mm., lobes 4.5-5.5 mm. long; inflorescence very shortly puberulous; see also above [5. guineensis](#)
- Corolla-tube 16-30 mm., lobes 6-8 mm. long; inflorescence puberulous; leaves subcoriaceous, elongate-elliptic, acute at each end, 12-20 cm. long, 4.2-6.8 cm. broad, with 10-15 main lateral nerves [11. hiernii](#)
- 15** Main lateral nerves 2-7, looped well within the margin; peduncle 3.5-4.5 cm., lateral pedicels 3-6 mm. long; corolla-tube 30 mm., lobes 11 mm. long, acuminate in bud; leaves elliptic or oblong-elliptic, rounded or obtuse at base, long-acuminate, 3-12 cm. long, 1.5-5.5 cm. broad [12. baldwinii](#)
- Main lateral nerves 8-21: **16**
- 16** Corolla white or pale pink, tube (7-)15-24(-34) mm. long, lobes at least 1/3 length of tube: **17**
- Corolla-tube and outside of lobes red, tube 24-37 mm. long, lobes 5-7 mm. long (i.e. about 1/5 length of tube), rounded or subacute in bud; peduncle 6-13 cm. long, lateral pedicels 0-4 mm. long; calyx-lobes ovate-triangular to lanceolate; leaves oblong-lanceolate or oblong-oblongeolate rounded, obtuse or cuneate at base, acuminate, 10-25 cm. long, 3-9 cm. broad, with 7-12 main lateral nerves [16. nimbana](#)
- 17** Peduncle 9-13 cm. long; flowers numerous and congested in a flat corymbose cyme, pedicels 0-1 mm. long; corolla-tube 16-20 mm., lobes 8 mm. long, conspicuously acuminate in bud; leaves oblanceolate, cuneate into a distinct petiole, long-acuminate, 18-35 cm. long, 4-12 cm. broad, with 15-21 main lateral nerves; leaves subtending the inflorescences subcordate and sessile [13. aggregata](#)
- Peduncle 2.2-8.5 cm. long; flowers in usually lax inflorescences, pedicels 0-12 mm. long; corolla subacute or rounded in bud; leaves up to 25 cm. long and 9 cm. broad, with up to 18 main lateral nerves: **18**
- 18** Calyx-lobes ovate-triangular, about 1 mm. long; bracteoles 3/4 length of calyx; corolla-tube (7-)13-18 mm., lobes 6 mm. long; lateral pedicels 0.2-5 mm. long; leaves obovate or elliptic, cuneate, shortly and obtusely acuminate, 7-14 cm. long, 3-6 cm. broad, with about 12 main lateral nerves; leaves subtending inflorescences often smaller and relatively broad; stipules with long points [14. foliosa](#)
- Calyx subtruncate or with short broad lobes; bracteoles about 1/4 length of calyx; corolla-tube (10-)15-25(-34) mm., lobes 8-12 mm. long; lateral pedicels (1-)4-12 mm. long; leaves elliptic-oblongeolate, oblong-obovate, oblong-elliptic, ovate-oblong or lanceolate, cuneate to rounded at base, shortly acuminate, 4.5-20 cm. long, 2-7.5 cm. broad, with 8-18 main lateral nerves [15. laxiflora](#)
- 19** Peduncle 0-1 cm. long; upper and lower leaves with petioles about 1 cm. long, elliptic or obovate-elliptic, cuneate at base, gradually and acutely acuminate, 12-15 cm. long, 4-6 cm. broad, with about 8 main lateral nerves; corolla-tube 40-45 mm., lobes 6-7 mm. long [18. degemensis](#)
- Peduncle 3-7 cm. long; upper leaves sessile, rounded or subcordate at base, lower leaves petiolate; leaves oblong, elliptic, ovate or oblanceolate, shortly acuminate, 11-27 cm. long, 4.4-11(-13.5) cm. broad, with 9-13 main lateral nerves; corolla (37-)40-60 mm. long, lobes 8-9 mm. long [19. brachypoda](#)

1. *Ixora hippoperifera* Bremek. in Hook. Ic. Pl. t. 3241 (1934). APD acc

A glabrous shrub, with white flowers; in forest.

S. Nig.: Kwa Falls, Calabar (fr. Mar.) Brenan 9241! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba Div. (Jan., Mar.) Binuyo & Daramola FHI 35163! Onochie FHI 30868!

Also in **Cameroun**.

2. *Ixora divaricata* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 89 (1931).

APD: *Synonym of Ixora laxiflora Sm. var. laxiflora*

A forest shrub or small tree, 10-35 ft. high, with small flowers in a lax panicle; fruits red.

S. L.: Gola Forest (Apr.) Small 619! **Lib.:** Dukwia R. (May) Cooper 58! 307! 308! Zwedru, Tchien (fr. Aug.) Baldwin 7014!

3. *Ixora nematopoda* K. Schum. in Engl. Bot. Jahrb. 33: 357 (1903). APD acc

***Ixora rosea* K. Schum. l.c. 358 (1903); F.W.T.A., ed. 1, 2: 89; not of Wall. (1820).**

***Ixora tetramera* K. Schum. ex Wernham in Cat. Talb. 132 (1913), name only.**

A forest shrub.

S. Nig.: Oban Talbot 231! 2037! Eyeyin, Ikom Div. (July) Mason FHI 4209 (partly)! [**Br.**] **Cam.:** Preuss 1338! Barombi to Ninga (June) Preuss 345! Mungo (May) Buchholz. Kumba to Barombi (Aug.) Preuss 338. **F. Po:** Mann!

[The specimen Preuss 1338 which I have seen at the British Museum is quite possibly a duplicate of the specimen cited by K. Schumann as Preuss 338.]

4. *Ixora delicatula* Keay in Bull. Jard. Bot. Brux. 27: 96 (1967). *APD acc*

Erect shrub, to 6 ft. high; corolla white; **in forest**.

S. Nig.: Degema Dist. Talbot 3822! **[Br.] Cam.:** S. Bakundu F.R., Banga (Jan.) Keay FHI 28668!

5. *Ixora guineensis* Benth. in Fl. Nigrit. 414 (1849); F.T.A. 3: 165. *APD acc*

Ixora riparia Hiern in F.T.A. 3: 164 (1877); F.W.T.A., ed. 1, 2: 89.

(?) *I. buchholzii* Engl. (1886).

Ixora obanensis Wernham (1913).

A small shrub; corolla pale pinkish-white; **near the sea coast and by streams**.

S. Nig.: Oban Talbot 230! **[Br.] Cam.:** Victoria (Apr., Nov.) Brenan 9592! Maitland 771! Tiko (Jan.) Dunlap 169! Mungo R. Buchholz. Bai to Bokosso (Jan.) Keay FHI 37367! S. Bakundu F.R., Kumba (fl. & fr. Dec.) Latilo FHI 43810! **F. Po:** (Dec.) Mann 19!

Also in **Cameroun** and **Rio Muni**.

[The type of *I. guineensis* Benth. is a specimen at Kew from Hb. Hooker; it has the locality "Guinea Coast" but no collector's name.]

6. *Ixora breviflora* Hiern in F.T.A. 3: 165 (1877).

APD: *Synonym of Ixora guineensis Benth.*

(?) *I. carniflora* K. Krause (1917).

Erect shrub or small tree, to 25 ft. high; corolla creamy-white, fragrant, becoming pinkish (or red fide Mann).

S. Nig.: Ikvette Plateau, 5,200 ft., Obudu Div. (Dec.) Keay & Savory FHI 25213! **[Br.] Cam.:** Bafut-Ngemba F.R., 7,200 ft., Bamenda (Feb.) Hepper 2132! **F. Po:** 1,000 ft. Mann 315! N. side of St. Isabel Peak, 3,000-3,200 ft. (Aug.) Mildbr. 6391.

Also in **Cameroun**.

7. *Ixora talbotii* Wernham in Cat. Talb. 51 (1913).

APD: *Synonym of Ixora minutiflora subsp. chasalliensis De Block*

APD: *Synonym of Ixora guineensis Benth.*

Low shrub, with red calyx and white corolla; **in forest**.

S. Nig.: Oban Talbot 1413! 2038! Ikom (Dec.) Rosevear 63/30a! Cross River North F.R. (Dec.) Keay FHI 28152! A fl River F.R. (Jan.) Motuba PHI 28686! **[Br.] Cam.:** Mamfe (Dec.) Baldwin 13818!

8. *Ixora* sp. A. *APD acc*

Flowers cream; **in forest**; further material required.

Lib.: Mt. Bili (Dec.) Barker 1153! Ganta (Dec.) Barley 1465!

9. *Ixora* sp. B. *APD acc*

A **forest** shrub; flowers white; further material required.

Ghana: Esem Epan F.R., W. Prov. (Oct.) Darko 1013! Southern Scarp F.R. (fr. Feb.) Moor FH 2229!

10. *Ixora bauchiensis* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 87 (1931). *APD acc*

A shrub, to 20 ft. high; flowers white, sweetly scented; **in fringing forest by streams**.

N. Nig.: Naraguta (Nov.) Lely 723! Jos Plateau (fl. Jan., Oct., fr. Jan.) Lely P102! 845! **S. Nig.:** Kundeve, Obudu Div. (Dec.) Keay & Savory FHI 25138! 25148! **[Br.] Cam.:** Mai-Isoanu, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28972!

11. *Ixora hiernii* *Sc. Elliot* in J. Linn. Soc. 30: 82 (1894); Aubrév. Fl. For. C. Iv., ed. 2, 3: 292, t. 360 B. *APD acc*

Ixora breviflora of F.W.T.A., ed. 1, 89, partly (S.L. records).

A shrub or tree, to 15 ft. high, with white flowers and red berries.

Guin.: Chev. 12980. Pobéguin 883. Eremakuna Sc. Elliot 5405! **S. L.:** Freetown Sc. Elliot 5909! Koflu, R. Scarcies (Jan.) Sc. Elliott 4596! Ninia, Talla Hills (fr. Feb.) Sc. Elliot 4890! Musaia (Dec.) Deighton 4588! **Iv. C.:** Man Aubrév. 1059! Mt. Dou Aubrév. 2113. **Ghana:** Adamsu (Dec.) Vigne FH 3502! Kadjakpe, Hohoe Dist. (Nov.) St. C. Thompson FH 3669! **N. Nig.:** Kurmin Damisa, Jemaa (Nov.) Keay & Onochie FHI 21727! Kwakuti, near Minna (Dec.) Keay FHI 37309! [**Br.**] **Cam.:** W. of Nkambe (fl. & fr. Feb.) Hepper 1915! Vogel Peak, 3,850 ft., Adamawa (Nov.) Hepper 1337!

12. *Ixora baldwinii* *Keay* in Bull. Jard. Bot. Brux. 27: 97 (1957). *APD acc*

A forest shrub with red fruits.

Lib.: Jaurazon (Mar.) Baldwin 1146! Mnanulu, Webo (fr. June) Baldwin 6047! Nyaake, Webo (fr. June) Baldwin 6095! Diebla, Webo (fr. July) Baldwin 6312!

13. *Ixora aggregata* *Hutch.* F.W.T.A., ed. 1, 2: 607 (1936). *APD acc*

Ixora congesta *Stapf* (1905)-F.W.T.A., ed. 1, 2: 87; not of Roxb. (1820).

A shrub to 4 ft. high, or small tree; flowers white.

Lib.: Sinoe Basin Whyte! Dukwia R. (fl. buds Feb.) Cooper 201! About 15 miles Inland from River Cess (Mar.) Baldwin 11248! Nyaake, Webo (June) Baldwin 6181! Jabroke, Webo (fr. July) Baldwin 6500! 6608! 6609!

14. *Ixora foliosa* *Hiern* in F.T.A. 3: 166 (1877). *APD acc*

A tree to 30 ft. high; corolla white, tinged pink; fruits black and glossy; in montane forest and woodland.

[**Br.**] **Cam.:** Cam. Mt., 4,000-7,200 ft. (fl. Dec.-Apr., fr. Apr.) Brenan 9562! Maitland 198! 208! 514! Mann 2154! Preuss 665! Thorold CM42! Bafut-Ngemba F.R., 5,000-6,700 ft., Bamenda (Dec.-Apr.) Keay FHI 28357! Onochie FHI 34868! Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1380!

Also in **Kenya**.

15. *Ixora laxiflora* *Sm.* in Rees Cycl. 19, No. 8 (1819); Bot. Mag. t. 4482; F.T.A. 3: 164, partly (excl. syn. *I. brachypoda* DC.); Aubrév. Fl. For. C. Iv., ed. 2, 3: 292, t. 360 A. *APD acc*

Ixora odoratissima *Klotzsch* in Abh. Acad. Berl. 227, t. 1 (1856).

Ixora brachypoda of F.W.T.A., ed. 1, 2: 87, not of DC.

A shrub or small tree, to 12 ft. high; flowers pale pink in lax drooping cymes; by streams and in sandy coastal situations. Specimens from coastal areas tend to have broader, thicker leaves.

Port. G.: R. Colufe, Gabu (June) Esp. Santo 2509! Cacine Esp. Santo 643! **Guin.:** Kouroussa (May) Pobéguin 893! Macenta (May) Jac.-Fél. 936! **S. L.:** Afzelius! Whitfield! Sugar Loaf Mt. Barter! Bagroo B. Mann! Tombo (May) Deighton 2670! York (Apr.) Jordan 863! Gbap (June) Adames 52! **Lib.:** Grand Bassa (July) T. Vogel 73! Middleton! Cape Palmas (Nov.) Schoenlein; T. Vogel 6! 61! Sinoe Basin Whyte! Monrovia (May) Baldwin 5829! Lider 1535! Whyte! Ba, Little Kola R. (Mar.) Baldwin 11190! **Iv. C.:** Tabou Aubrév. 1284. **Ghana:** Kikum (Jan.) Brent Idd! Aprembo, Takoradi (fl. buds May) Hughes 509! 533! Essiama (June) Fishlock 16!

[*I. linderi* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 87 (1931) appears to be a coastal form of this species with very short pedicels.-
Lib.: Monrovia (Nov.) Linder 1636!]

16. *Ixora nimbana* *Schnell* in Rev. Gén. Bot. 57: 282 (1950). *APD acc*

Ixora laxiflora of F.W.T.A., ed. 1, 2: 87, partly.

Shrub to 6 ft. high, or climber; corolla-tube and outside of lobes red, inside of lobes pinkish-white; fruit red; in forest.

Guin.: lower slopes of N.E. Nimba Mts. (Aug.) Schnell 3334! **S. L.:** Mayoso (Aug.) Thomas 14621 Njagbahuna, Kowa (Aug.) Deighton 6103! Roruks (July) Deighton 2508! 3251! Sewa R., Jaiama (July-Aug.) Dawe 529! Levuma (Aug.)

Deighton 2210! **Lib.:** Gletown, Tchien (July) Baldwin 6793! Peahat (fr. Dec.) Baldwin 10612! Ganta (fl. & fr. July) Harley 622! **Iv. C.:** Tai (Aug.) Boughey GC 14968! **Ghana:** E. Akim (May) Johnson 767! Kwahu Praso (June) Vigne FH 1751! Kumasi (June) Vigne FH 1204! 1764! Jimira F.R. (June) Vigne FH 2963!

17. ***Ixora nigerica* Keay** in Bull. Jard. Bot. Brux. 27: 96 (1957). *APD acc*

A forest shrub; corolla-tube and outside of lobes red, inside of lobes white.

S. Nig.: Umon-Ndealichi F.R., Itu Div. (June) Ujor FHI 30176! Ukpon F.R., Obubra Div. (July) Latilo FHI 31875!

18. ***Ixora degemensis* Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 87 (1931).

APD: *Synonym of Ixora euosmia K. Schum.*

A glabrous shrub with slender flowers in a terminal corymb; in forest.

S. Nig.: Degema Talbot 3767! 3773!

19. ***Ixora brachypoda* DC.** Prod. 4: 488 (1830); not of F.W.T.A., ed. 1, 2: 87; Keay l.c. 95.

APD: *Synonym of Tarenna grevei (Drake) Homolle*

***Ixora radiata* Hiern** in F.T.A. 3: 163 (1877); Chev. Bot. 333; Aubrév. Fl. For. C. Iv., ed. 1, 3: 254; Fl. For. Soud.-Guin. 469, t. 103, 3. ***Ixora capitata* A. Chev.** Bot. 332.

A shrub, 10-20 ft. high, with terminal corymbs of flowers; corolla white, with the lobes pink at the tips; fruits red; in swamps and other moist situations.

Sen.: Casamance (fl. buds & fr. Apr.) Perrottet & Leprieur! Sangalkam Berhaut 1624. **Gam.:** Hayes 524! **Mali:** Bougouri to Sikasso (Dec.) Roberty 13319! Bobo-Dioulasso (May) Chev. 904. **Port. G.:** Nova Cintra, Bolama (Apr.) Esp. Santo 1923! Buruntuma, Gabu (fl. & fr. July) Esp. Santo 2711! **Guin.:** Santa to Timbo Chev. 12802. **S. L.:** Sherbro (Feb.) Dote. 952! Gegbwema (Nov.) Deighton 438! Mabonto (Oct.) Thomas 3610! Kokoru, Gaura (Oct.) Deighton 5212! Daragbe, Samu (Dec.) Sc. Elliot 4306! **Lib.:** Mitten 196! Monrovia (Aug.) Baldwin 13063! Road to Brewerville (Sept.) Barker 1057! Buchanan (Mar.) Baldwin 11209! **Iv. C.:** Ferkessedougou Aubrév. 1627; 1836. Gaoua to Banfora Aubrév. 2209. Bouaké Chev. 22081; 22129. **Ghana:** Ejura (fl. Oct., fr. Nov.) Vigne FH 3466! 4871! **Togo Rep.:** Wiawia, Hohoe Dist. (Oct., Nov.) St. C. Thompson FH 3619! **N. Nig.:** Loin Nupe Barter 1236! Kontagora (Dec.) Dalz. 214! Kaduna (Dec.) Meikle 750! 775! **S. Nig.:** Lagos Barter 2210! Moloney! Aligere, Lagos (Feb.) Millen 149! Sapoba Kennedy 1974! 2757! Mamu River F.R., Awka (Sept.) Onochie FHI 34079! **[Br.] Cam.:** Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28808!

Extends to Congo and the Sudan.

***Ixora coccinea* Linn.**

An Asiatic species cultivated in our area:

***Ixora parviflora* Vahl.**

An Asiatic species cultivated in our area:

***Ixora* sp. near to *inundata* Hiern and *I. euosmia* K. Schum.**

Further material of this group needed.

Shrub of river banks with elliptic-lanceolate leaves, attenuate at base and acutely acuminate at apex.

[Br.] Cam.: R. Marie, Anyu-Lipundu path, Kumba Div. Olorunfemi FHI 30617!

31. AULACOCALYX

Hook. f.-F.T.A. 3: 129; K. Schum. in E. & P. Pflanzenfam. 4, 4: 87 (1891). *APD acc*

***Dorothea* Wernham** (1913)-F.W.T.A., ed. 1, 2: 76.

- 1 Corolla-tube not split at anthesis:2
Corolla-tube split down one side at anthesis; style recurved through the slit in the corolla-tube; anthers exerted well beyond the corolla-tube:3
- 2 Anthers 13-15 mm. long, exerted for at least half their length; main lateral nerves 2-4 on each side of midrib, not

conspicuously looped, with numerous closely parallel fine transverse tertiary nerves spreading at right angles to the midrib; leaves elliptic, long-cuneate to obtuse or rarely rounded at base, gradually long-acuminate, 6.5-16 cm. long, 2.2-6(-9) cm. broad, thinly pilose on midrib and main nerves beneath; flowers silky outside, 1-8 together; corolla-tube 1.5-2.8 cm., lobes 1-1.5 cm. long [1. *jasminiflora*](#)

Anthers 10-12 mm. long, only very slightly exerted; main lateral nerves 6-10 on each side of midrib, looped well within the margin, with rather irregular tertiary nerves between; leaves elliptic or ovate-elliptic or obovate-elliptic, subcordate to auriculate and often asymmetric at base, long-acuminate, 7.5-19 cm. long, 3.5-9 cm. broad, thinly pilose on midrib and main nerves beneath; flowers pilose outside, 1-3 together; corolla-tube 4-5 cm., lobes 1.5-1.7(-2.4) cm. long [2. *caudata*](#)

- 3 Calyx divided into subulate teeth, 4-5 mm. long; tube about 3.5 mm. long; corolla-tube 0.7-1.5 cm., lobes 1-2 cm. long; anthers 1-1.3 cm. long; flowers 3-4 together, pilose outside; branchlets pubescent; leaves elliptic to narrowly obovate, cuneate or obtuse at base, gradually long-acuminate, 6-10 cm. long, 2-4 cm. broad, with 5-7 main lateral nerves on each side of midrib, pubescent beneath [3. *divergens*](#)

Calyx subtruncate, sulcate, about 5 mm. long; corolla-tube 3.5-4.5 cm., lobes 1.5-2 cm. long; anthers 1.8-2 cm. long; flowers 2-3 together, pilose outside; branchlets glabrous; leaves elliptic to obovate-elliptic, cuneate at base, gradually acuminate, 8-18 cm. long, 3.5-8.5 cm. broad, with 3-5 main lateral ascending nerves on each side of midrib, conspicuous and pubescent beneath [4. *talbotii*](#)

1. ***Aulacocalyx jasminiflora* Hook. f.** in Hook. Ic. Pl. t. 1126 (1873); F.T.A. 3: 129; Aubrév. Fl. For. C. Iv., ed. 2, 3: 290. *APD acc*

An **understorey forest** tree, to 40 ft. high, rarely more, with fluted bole; calyx pale green, corolla greenish below, white above.

S. L.: Kafogo, Limba (young fr. Apr.) Sc. Elliot 5611! Dansogoia, Tonkolili Dist. (fl. buds Jan.) King 153b! **Lib.:** Kakatown Whyte! Dukwia R. (Nov.) Cooper 90! 142! **Ghana:** Pusupusu (Nov.) McAinsh FH 1572! Begoro, Akim (Jan.) Irvine 1161! S. Scarp F.R. (fl. Dec., fr. Feb.) Moor FH 1149! 2224! Pinpinsu, Begoro (Dec.) Tinsley WACRI 4936! Buaku, Wiaso (Nov.) Talmie FH 3037! **S. Nig.:** Omo F.R., Ijebu Ode Prov. (young fr. Mar.) Jones & Onochie FHI 17201! Okomu F.R., Benin Prov. (Feb., Dec.) Brenan 8562! 8602! Hide 39/37! **[Br.] Cam.:** Buea (Mar.) Maitland 456! 493! 687! Mopanya (fr. Apr.) Maitland 1126! Banga, Kumba Div. (Jan.) Keay & Russell FHI 28681!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Angola**.

2. ***Aulacocalyx caudata* (Hiern) Keay** in Bull. Jard. Bot. Brux. 28: 60 (1958). *APD acc*

Randia ? caudata Hiern in F.T.A. 3: 96 (1877).

Aulacocalyx leptactinoides K. Schum. in Engl. Bot. Jahrb. 23: 453 (1897).

Randia leptactinoides K. Schum. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 78 (1931).

Rothmannia leptactinoides (K. Schum. ex Hutch. & Dalz.) Fagerlind (1943).

A **forest** shrub; flowers white.

S. Nig.: Oban Talbot 285! Orem (Jan.) Onochie FHI 36060x! Akamkpa Rubber Estate, Calabar R. Div. (Mar.) Latilo FHI 40930! Ukpon River F.R., Obubra Dist. (Aug.) Amachi FHI 38282! **[Br.] Cam.:** Kumba Div. (fr. June) Akuo FHI 15107! Nta Ali F.R., near Bakebe, Mamfe Div. (Jan.) Umana FHI 28551!

Also in **Cameroun**, **Rio Muni** and **Gabon**.

3. ***Aulacocalyx divergens* (Hutch. & Dalz.) Keay** l.c. 61 (1958). *APD acc*

Dorothea divergens Hutch. & Dalz. F.W.T.A., ed. 1, 2: 76 (1931).

D. minor Wernham ex A. Chev. Bot. 324, name only.

A shrub or tree, 3-25 ft. high, with white flowers, sickly scented; **in forest**.

Guin.: Farmar 317! Kindia (Feb.) Jac.-Fél. 1544! Kaba Valley (May) Chev. 13180! Farana (Apr.) Chev. 13198. **S. L.:** Mt. Horton (Jan.) T. S. Jones 305! Hanga (Apr.) Lane-Poole 219! Musaia (young fr. Apr.) Deighton 5407!

4. ***Aulacocalyx talbotii* (Wernham) Keay** l.c. 61 (1958). *APD acc*

Dorothea talbotii Wernham in Cat. Talb. 46, t. 7 (1931); F.W.T.A., ed. 1, 2: 76.

A small **forest** tree, to 15 ft. high, with cream-coloured flowers.

S. Nig.: Oban Talbot 1546! Aking, Calabar Prov. (Apr.) Onochie FHI 21887! Dukwe, Calabar R. Div. (fr. Mar.) Latilo FHI 40342!

Also in **Cameroun**.

32. RUTIDEA

DC.—F.T.A. 3: 187.

- 1 Stipules divided (at least near the inflorescence) into 3-7 filiform segments; corolla-tube glabrous, 6-8 mm. long; branchlets bristly-pubescent:2
- Stipules undivided:3
- 2 Bracteoles linear, as long as calyx, 2-3 mm. long; stipules with 3-5 segments; bracts linear-subulate, about 5 mm. long; leaves elliptic, 6-10 cm. long, 3-5.5 cm. broad, rounded to subcordate at base, acutely acuminate, subglabrous above, pilose on nerves beneath often with tuft of pale coloured hairs in nerve axils .1. [parviflora](#)
- Bracteoles subulate, twice as long as calyx, about 6 mm. long; stipules with 5-7 segments; bracts subulate, about 1 cm. long, spreading-pilose; leaves elliptic, 8-14 cm. long, 4-6 cm. broad, cuneate to rounded at base, acute or long mucronate at apex, setose above and below, pilose on nerves beneath with dense tuft of brown hairs in nerve axils2. [syringoides](#)
- 3 Leaves setose-pilose above and beneath, ciliate on margins, elliptic to ovate-elliptic, 7-14 cm. long, 4-7.5 cm. broad, subcordate at base, acuminate at apex, nerves impressed above and prominent beneath without hair clusters in the axils; branchlets pilose; bracts and bracteoles linear-lanceolate, much longer than calyx, about 1 cm. long, pilose; corolla-tube 13 mm. long, pubescent, corolla-lobes 53. [pavettoides](#)
- Leaves glabrous, subglabrous or softly tomentose beneath; bracts and bracteoles inconspicuous:4
- 4 Leaves softly tomentose beneath, densely so in the axils of the nerves which loop distinctly round the margin, 7-15 cm. long, 4-8 cm. broad, rounded at base, acute or subacute at apex, all nerves impressed above; branchlets softly tomentose; corolla-tube 4 mm. long, pubescent, corolla-lobes 54. [olentricha](#)
- Leaves beneath and branchlets glabrous or subglabrous:5
- 5 Corolla-tube densely pubescent, 3 mm. long, corolla-lobes 5; leaves ovate-elliptic, 8-15 cm. long, 5-7 cm. broad, cuneate to rounded at base, acutely acuminate, with 8-10 pairs of minutely pubescent nerves; panicles spreading5. [smithii](#)
- Corolla-tube glabrous or sparsely pubescent:6
- 6 Reflexed spinescent arrested branchlets, 1.5-4 cm. long, present in some axils; inflorescence about 11 cm. diam. of spreading corymbs; corolla-tube glabrous, 3 mm. long, corolla-lobes 4; leaves elliptic or broadly so, 7-13 cm. long, 4-7 cm. broad, 8-10 pairs of nerves6. [membranacea](#)
- Modified branchlets absent:7
- 7 Inflorescences dense terminal corymbs about 3 cm. long and 4 cm. diam.; corolla-tube 5 mm. long, glabrous, corolla-lobes 4, bud-swelling ovoid, obtuse, 2 mm. long; leaves elliptic, 8-15 cm. long, 3-7 cm. broad, with 8-10 pairs of nerves, long acuminate7. [glabra](#)
- Inflorescences lax axillary panicles 4-9 cm. long; corolla-tube 3 mm. long; glabrous or sparsely pubescent, corolla-lobes 5, bud-swelling ellipsoid, acute, 3 mm. long; leaves broadly elliptic, 7-13 cm. long, 3-7.5 cm. broad with about 6 pairs of nerves, long acuminate8. [decorticata](#)

1. *Rutidea parviflora* DC. in Ann. Mus. Paris 9: 219 (1807); F.T.A. 3: 188; Chev. Bot. 377. *APD acc**Rutidea kerstingii* K. Krause (1909).*Tarenna pobeguinii* Pobéguin (1906).Scandent shrub with shiny leaves; flowers white, fragrant, fruits yellow-red; [in regrowth forest](#).

Sen.: Perrottet! **Mali:** Bambanatoumba (fr. Mar.) Chev. 558! **Port. G.:** Biombo, Bissau (fr. Feb.) Esp. Santo 1795! Prabis, Bissau (fr. Feb.) Esp. Santo 1825! **Guin.:** Kissidougou (fr. Mar.) Martine 278! Timbo (buds & fr. Feb.) Pobéguin 157! Nzérékoré to Macenta (fr. Oct.) Baldwin 9747! Konkouré to Timbo Chev. 12465; 12510. Kindia Chev. 12793. **S. L.:** Lumbaraya, Talla Hills (Feb.) Sc. Elliot 4945! Falaba to Pujehun (Mar.) Aylmer 19! Loma Mts. (bud Jan.) Jaeger 4041! Njala (fl. Mar., fr. Jan.) Deighton 2881! 5020! Newton (fl. & fr. Feb.) Deighton 5360! **Lib.:** Robertsport (fr. Dec.) Baldwin 10927! Jabrocca (Dec.) Baldwin 10854! Gbanga (Dec.) Baldwin 10534! Cape Palmas (fr. July) T. Vogel 26! 39! Monrovia White! **iv. C.:** Potou Lagoon to Alépé Chev. 17380. Grabo, Cavally basin Chev. 19728. Mt. Tonkoui (Mar.) Leeuwenberg 2980! **Ghana:** Kumasi (fl. & fr. Jan.) Vique 1641! Darko 502! Bibiani (Mar.) Darko 858! Essiama (fr. Oct.) Fishlock 4! **N. Nig.:** Kaduna (fl. & fr. Feb.) Meikle 1206! Nupe Barter! Assob, Plateau (Feb.) McClintock 240! **S. Nig.:** Lagos Rowland!

2. *Rutidea syringoides* (Webb) Bremek. in Fedde Rep. 37: 206 (1934).*APD:* *Synonym of Rutidea rufipilis Hiern**APD:* *Synonym of Rutidea orientalis Bridson*

APD: Synonym of Rutidea dupuisii subsp. occidentalis Bridson

APD: Synonym of Rutidea parviflora DC.

Pavetta syringoides Webb (1850).

Rutidea rufipilis Hiern in F.T.A. 3: 188 (1877); F.W.T.A., ed. 1, 2: 93.

Scandent shrub covered with brown hairs; flowers white; fruits yellow-red.

S. L.: Heddle's Farm, Freetown (fr. Dec.) Sc. Elliot 3927! **Lib.:** Ganta (fr. Sept.) Baldwin 9250! Harley 1522! **Iv. C.:** Adiopodoumé Mangelot & Aké Assi IA 1229. N'Zida Aké Assi IA 1603. **Ghana:** Kubeasi (Mar.) Andoh 4953! Bosumkese F.R. (fr. Dec.) Adams 5263! **S. Nig.:** Lagos Moloney 7! Jamieson R., Sapoba (fr. Feb.) Onochie FHI 31942! Nikrowa Creek, Okomu F.R. (fr. Feb.) Brenan 9185! Calabar (fl. & fr. Feb., Mar.) Mann 2295! Brenan 9220! Oban Talbot 223! **F. Po:** Musola (fr. Jan.) Guinea 1143!

Also in **Cameroun**, **Congo**, **Uganda**, **Kenya**, **Tanganyika** and **Mozambique**.

3. *Rutidea pavettoides* Wernham in J. Bot. 57: 345 (1919).

APD: Synonym of Rutidea hispida Hiern

APD: Synonym of Rutidea nigerica Bridson

APD: Synonym of Rutidea hispida Hiern

Scandent shrub or liane, densely hairy with stiff brown hairs; flowers white, fragrant; fruits yellow or yellow-red; **in forest**.

S. Nig.: Lagos (Dec.) Dalz. 1201! Hagerup 809! Ilaro F.B., Egbado Dist. (Dec.) Onochie FHI 31889! Etemi to Atikiriji, Ijebu-Ode Dist. (Dec.) Tamajong FHI 20278! Oban Talbot!

4. *Rutidea olentricha* Hiern in F.T.A. 3: 189 (1877). *APD acc*

Scandent shrub with dense velvety-brown indumentum and dark green shiny leaves; flowers white; fruits yellowish.

S. L.: Don! Heddle's Farm, Freetown (May, young fr. Dec.) Sc. Elliot 3929! Deighton 1192! Kenema (fr. Jan.) Thomas 7663! Leicester (May) Lane-Poole 281! **Lib.:** Monrovia to Ganta (fr. Jan.) Harley 1105! Bobei (Mar.) Harley 1791! **Iv. C.:** Soubiré to Yaou Chev. 17803! **Ghana:** Aburi (May) Brown 325! Abetifi, Kwahu (young fr. June, Dec.) Irvine 313! 1665! Begoro, Akim (Apr.) Irvine 1188! Simpa (Feb.) Vigne FH 2788! **S. Nig.:** Ibadan South F.R. (Apr.) Keay FHI 22832! Aguku Dist. Thomas 980! Ekeji-Ipetu F.R., Ilesha Dist. (fr. Dec.) Onochie FHI 5242! **[Br.] Cam.:** S. Bakundu, Kumba (fr. Mar.) Binuyo & Daramola FHI 35641! R. Labati, Serti, Gashaka Dist. (fr. Feb.) Latilo & Daramola FHI 34449!

Also in **Cameroun**, **Rio Muni**, **Sudan**, **Congo**, **Angola** and **N. Rhodesia**.

5. *Rutidea smithii* Hiern in F.T.A. 3: 189 (1877). *APD acc*

Rutidea albiflora K. Schum. (1899).

Scandent shrub becoming a liane 20 ft. or more high; flowers whitish, strongly fragrant; fruits yellow-red; **in secondary forest or forest margins**.

S. L.: Ronietta (bud & fr. Nov.) Thomas 5509! 5661! Berria, Tambakka (Feb.) Sc. Elliot 5003! Joru (Jan.) Deighton 3853! Tikonka (Jan.) Deighton 3886! **Lib.:** Kakatown Whyte! Du R. (fr. Aug.) Linder 280! Karmahun (fr. Nov.) Baldwin, 10157! **Iv. C.:** Guédéyo to Soubiré (fr. Apr.) Leeuwenberg 3220! **Ghana:** Kumasi (fr. Oct.) Andoh FH 5577! New Jauben (Mar.) Johnson 629! Mpraeso (fl. & fr. Feb.) Foggie FH 4857! Assuantsi Road (Jan.) Fishlock 25! **S. Nig.:** Lagos Moloney! Schlechter 12298! Ijaiye F.R., Oyo (Feb.) Keay FHI 21156! Ibadan (Jan.) Keay FHI 19804! Meikle 1123! Okomu F.R., Benin (bud & fr. Dec., fl. Jan.) Brenan 8496! 8907! Oban Talbot 2039! **[Br.] Cam.:** Buea, 3,200 ft. Cam. Mt. (Feb., Apr.) Maitland 1016! Hutch. & Metcalfe 94! Lakom, Bamenda, 6,000 ft. (Apr.) Maitland 1656!

Also in **Annobon**, **Cameroun**, **Gabon**, **Congo**, **Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **N. Rhodesia** and **Angola**.

6. *Rutidea membranacea* Hiern in F.T.A. 3: 190 (1877). *APD acc*

Rutidea glabra of F.W.T.A., ed. 1, 2: 93, partly (Thomson 126; Johnson 650; Irvine 382), not of Hiern.

Rutidea obtusata K. Krause (1920).

Rambling shrub **usually on edge of forest**; flowers white in spreading panicles, fragrant, fruits yellow-red.

S. L.: Gorahun (Apr.) Deighton 3643! Daru (Apr.) Deighton 4111! **Lib.:** Peahtah (fr. Oct.) Linder 1503! Zwedru, Tchien Dist. (fr. Aug.) Baldwin 7028! Vahon, Kolahun Dist. (fr. Nov.) Baldwin 10208! **Iv. C.:** Adiopodoumé Aké Assi IA 1009. Anguédédou (fr. Aug.) de Wilde 199! **Ghana:** Burton! Irvine 382! Osino (June) Arnold 373! Kwahu, 2,000 ft. (Apr.) Johnson 650! Ebin-Mamiri F.R., Tarkwa Dist. (fr. June) Enti FH 6247! **S. Nig.:** Ogwashi-Uku F.R., Asaba Dist. (fr. Aug.) Onochie FHI 33296! Okomu F.R., Benin (fr. June) Onochie FHI 34614! Calabar (Apr.) Thomson 126! **[Br.] Cam.:** Buea, 3,000 ft. (fr. Jan.) Maitland 262! Nkom-Wum F.R. (fr. July) Ujor FHI 29286!

[The two Nigerian FHI specimens cited have larger fruits than is usual for this species and lack the axillary hooks.]

7. *Rutidea glabra* Hiern in F.T.A. 3: 190 (1877); F.W.T.A., ed. 1, 2: 83, partly (excl. syn. R. membranacea Hiern). *APD acc*

Pavetta brachycoryne K. Schum. (1899).

Slender rambling shrub with papery outer bark sometimes peeling when dry; flowers white in compact terminal panicles.

S. Nig.: Calabar (Apr.) Thomson 107! Oban Talbot 1573! **[Br.] Cam.:** Barombi Preuss 37! Abonando (Mar.) Rudatis 11! Buea, 2,500 ft. (Mar.) Maitland 556!

Also in **Cameroun**.

8. *Rutidea decorticata* Hiern in F.T.A. 3: 190 (1877). *APD acc*

Rutidea landolphioides Wernham (1917).

A climbing shrub up to 30 ft. high, with the papery outer bark peeling off; flowers in slender, lax, divaricately branched panicles 2-3 in. long.

S. Nig.: Oban Talbot 248! Degema Talbot 3829! **[Br.] Cam.:** Cam. Mt., 2,000-3,000 ft. Mann 2157! Bamenda (fr. Feb.) Daramola FHI 40499!

Also in **Cameroun** and **Gabon**.

***Rutidea* sp. A (?)**

Straggling shrub densely pilose with brown or purplish hairs, very long subulate bracts and bracteoles, and large entire stipules: further material required.

Lib.: Since Basin Whyte! Sanokwele (bud Sept.) Baldwin 9509!

33. FERETIA

Del.-F.T.A. 3: 115; K. Schum. in E. & P. Pflanzenfam. 4, 4: 79 (1891).

Leaves appearing with or usually after the flowers, ovate-elliptic to obovate, mucronate, 4-6 cm. long, 2-3 cm. broad, pubescent on the nerves beneath when young; flowers clustered on the usually leafless shoots; bud-scales (perulae) broadly ovate, dry; pedicels up to 2.5 cm. long, with one or two bracteoles towards the apex; calyx glabrous, lobes linear-lanceolate, 2.5 mm. long; corolla widely expanded from a short cylindrical base, 1.5-2 cm. long; anthers wholly exserted, nearly 1 cm. long; fruit globose, stalked, about 8 mm. diam. ...[*apodanthera*](#)

***Feretia apodanthera* Del.** in Ann. Sci. Nat., sér. 2, 20: 92, t. 1, 4 (1843); F.T.A. 3: 115; Chev. Bot. 326. *APD acc*

***Feretia ? canthioides* Hiern** in F.T.A. 3: 116 (1877); Chev. Bot. 326; F.W.T.A., ed. 1, 2: 81; Aubrev. Fl. For. Soud.-Guin. 464, t. 101, 4-5.

A bushy shrub, up to 15 ft. high, with sweetly scented flowers abundant on short lateral shoots usually appearing before the leaves; calyx pink; corolla-tube pink and white, lobes white within and half pink and half white outside; **in savanna**.

Sen.: Dagana Heudelot 436! **Gam.:** Hayes 551! **Mali:** Dialacoro (Apr.) Chev. 705! Kouroukoto (Mar.) Roberty 17087! Famsala (Mar.) Davey 262! Bobo-Dioulasso (May) Chev. 917. **Iv. C.:** Ouangolo Aubrév. 1415. Kaya Aubrév. 2375.

Ghana: Bawku (Apr.) Vigne FH 3749! Pan to Bujan (Apr.) Kitson 682! Samboro to Basisau (fl. & fr. May) Kitson 766! Kologu, Navrongo Dist. (Apr.) Vigne FH 4499! **Dah.:** Boukombé Aubrév. 86d. **N. Nig.:** Nupe Barter 1242! Sokoto Ryan 24! Zungeru (Apr.) Dalz. 91! Keay FHI 25720! Katagum Dalz. 164! Yola (May) Dalz. 38!

Also in **Ubangi-Shari**, **Sudan**, **Ethiopia**, **Kenya** and **Uganda**.

[Experimental field studies are needed to determine how far the variation in length of pedicel is significant taxonomically. Specimens with long pedicels have been named *F. canthioides* and are commoner in western than in eastern Africa, but there are many intermediates. It would appear that when the flowers first appear on leafless shoots the pedicels are very short, but as flowering continues in the rainy season they are then much longer].

34. CREMASPORA

Benth.-F.T.A. 3: 126; K. Schum. in E. & P. Pflanzenfam. 4, 4: 87 (1891).

- 1 Underside of leaves pubescent with relatively short hairs more or less appressed and directed away from the base, scattered on the lamina as well as on the midrib and nerves; branchlets pubescent; leaves broadly or narrowly ovate, or elliptic rounded or obtuse at base, broadly acuminate, 3-10 cm. long, 1.8-5 cm. broad, with 4-6 main lateral nerves on each side of midrib; flowers in dense axillary clusters; calyx setosepilose, teeth about 1 mm. long; corolla-tube 4-6 mm. long, pubescent or glabrous outside, lobes 3-5 mm. long, pubescent outside; fruits ellipsoid, ultimately glabrous, about 1 cm. long, tipped with the persistent calyx [1. *triflora*](#)

Underside of leaves pilose with 1-1.5 mm.-long spreading hairs mainly on midrib and nerves; branchlets long-spreading pilose; leaves oblong-ovate, rounded at base, abruptly acuminate, 2.5-11 cm. long, 1.3-5 cm. broad, with 3-6 main lateral nerves on each side of midrib; fruits spreading-pilose; otherwise similar to above [2. *thomsoni*](#)

1. ***Cremaspora triflora* (Thonn.) K. Schum.** in E. & P. Pflanzenfam. 4, 4: 88, fig. 31, F-G (1891); Hutch. & Dalz. F.W.T.A., ed. 1, 2: 86 (1931), excl. Warnecke 415. *APD acc*

***Psychotria triflora* Thonn.** (1827).

***Coffea ? microcarpa* DC.** (1830).

***Cremaspora microcarpa* (DC.) Baill.** (1879).

***Coffea hirsuta* G. Don** (1834).

***Cremaspora africana* Benth.** (1849)-F.T.A. 3: 126; Chev. Bot. 327.

***Cremaspora heterophylla* F. Didr.** (1854).

Cremaspora thomsonii of Chev. Bot. 327.

A fair-sized shrub with rusty-pubescent, usually spreading and more or less straggling branches, fragrant white subsessile flowers 1/2 in. long and usually several together in the axils, and scarlet berries.

Sen.: Cape Rouge, Casamance Leprieur; Perrottet. **Mali:** Kouroukoto (Mar.) Roberty 17084! **Port. G.:** Catió (fr. July) Esp. Santo 2103! Brene, Bissau (fr. Jan.) Esp. Santo 1719! **Guin.:** Rio Nunez Heudelot 654. Konkouré to Timbo (Mar.) Chev. 12505! **S. L.:** Don! Hill Station (fl. & fr. May) Deighton 2981! Musaia (Mar.) Sc. Elliot 5120! Yonibana (fr. Nov.) Thomas 5079! Batkanu (fr. May) Deighton 3006! **Lib.:** Sanokwele (fr. Sept.) Baldwin 13264! Gletown, Tchien (fr. July) Baldwin 6742! **Iv. C.:** Nandala to Mankono (fr. June) Chev. 21866! **Ghana:** Secondi Hove! Dixcove (fr. Mar.) Morton A465! Kwahu (Mar.) Johnson 699! Nabingo Waterside (May) Kitson 964! Asiamia Thonning. **N. Nig.:** Yates 2! **S. Nig.:** Lagos Foster 74! Millen 56! Ijaiye (Apr.) Barter 3333! Onochie FHI 21954! Ibadan (fl. Apr., fr. Jan.) Meikle 962! 1431! Oban Talbot 1507! **[Br.] Cam.:** Su, Bamenda (Apr.) Maitland 1622! Bum, Bamenda (May) Maitland 1670! Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28898.

Widespread in tropical Africa.

2. ***Cremaspora thomsoni* Hiern** in F.T.A. 3: 126 (1877). *APD acc*

A climbing shrub with brown-hirsute branchlets with white flowers 1/2 in. long, few, sessile in axillary clusters; fruits deep red.

S. Nig.: Eket Talbot 3189! Oban Talbot 1049! Calabar (fl. & fr. Mar.) Thomson 94!

Also in **Cameroun**.

35. POLYSPHAERIA

Hook. f.-F.T.A. 3: 127; K. Schum. in E. & P. Pflanzenfam. 4, 4: 201 (1891); Brenan in Kew Bull. 4: 854 (1949).

- 1 Axillary flower-clusters with peduncle up to 9 mm. long; flowering branchlets subterete; leaves lanceolate or narrowly ovate-lanceolate, shortly cuneate or obtuse at base, gradually tapered at apex, 7.5-19 cm. long, 1.6-6.2 cm. broad, with 8-10 looped lateral nerves on each side of midrib, glabrous, shining above when dry; calyx obconic, undulately lobed, 1.5 mm. long, puberulous or nearly glabrous outside, corolla-tube 4 mm. long, densely villous inside, lobes 4 mm. long; anthers included; style long-exserted, densely pilose; fruits ellipsoid-globose, about 1 cm. diam., capped by the cupular persistent calyx [1. *arbuscula*](#)

Axillary flower-clusters sessile; flowering branchlets angled; leaves oblong-elliptic, obtuse or acute at base, gradually acuminate, 13-25 cm. long, 5-8 cm. broad, with 8-12 looped lateral nerves on each side of midrib, glabrous, often drying rather dull and blackish; calyx glabrous outside; corolla-tube and lobes each about 3 mm. long; fruits nearly 1.5 cm. long; otherwise similar to above [2. *macrophylla*](#)

1. ***Polysphaeria arbuscula* K. Schum.** in Engl. Bot. Jahrb. 33: 349 (1903); F.W.T.A., ed. 1, 1: 86, excl. syn. *P. pedunculata* K. Schum. ex De Wild.; Aubrév. Fl. For. Soud.-Guin. 469, t. 103, 1-2. *APD acc*

***Polysphaeria lagosensis* A. Chev.** Bot. 328 (1920), name only.

A shrub or small tree, up to 12 ft. high; flowers cream, sweet-scented; ripe fruits red; **especially common in fringing forest in savanna regions.**

Ghana: Anderson 44! Afram Plains (May) Kitson 1083! 1112! 1122! Ejura (June) Vigne FH 2058! Fuller Falls, Kintampo (fr. Nov.) Andoh FH 5416! **Togo Rep.:** Sokode-Basari (Aug.) Kersting 385. **Dah.:** Ouessé Poisson. Djougou Chev. 23917. Konkobiri, Atakora Chev. 24318. **N. Nig.:** Giwa Dist., Zaria Prov. (July) Keay FHI 25941! Anara F.R., Zaria Prov. (fr. Oct.) Keay FHI 21127! Zungeru (June) Dalz. 213! Abinsi (July) Dalz. 637! **S. Nig.:** Lagos Foster 85! Olokemeji (fl. & fr. Aug.) Symington FHI 5076! **[Br.] Cam.:** Kwagiri to Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28782! foot of Vogel Peak, Adamawa (fr. Nov.) Hepper 1472!

Also in **Cameroun**.

2. ***Polysphaeria macrophylla* K. Schum.** l.c. (1903). *APD acc*

A **forest** shrub or small tree; flowers cream tinged pink, with red calyx; fruits blue-black.

Ghana: Bobiri F.R. (fr. Nov.) Andoh FH 5841! Pra-Anum (fr. Oct.) Amediwole FH 5846! **S. Nig.:** Ibadan North F.R. (fr. Dec.) Jones FHI 7179! Eluju, Omo (formerly part of Shasha) F.R. (Apr.) Ross 226! Mamu River F.R., Onitsha Prov. (fr. Sept.) Onochie FHI 34068! **[Br.] Cam.:** Isongo to Bakingele, Victoria Div. (Mar.) Preuss 1382. Bulifambo, Buea (Mar.) Maitland 599! Ekumbe Ndene waterfalls, Meme R., Kumba Dist. (fr. Jan.) Keay FHI 37375!

36. TRICALYSIA

A. Rich. ex DC.-F.T.A. 3: 117. *APD acc*

- 1 Calyx not covering the corolla in bud and not splitting into 2 paleaceous pieces at anthesis; corolla-tube glabrous, or nearly so outside (but densely appressed-pilose in No. 21) (to p. 150): **2**
- Calyx covering the corolla in bud and splitting at anthesis into usually 2 paleaceous pieces 5-7 mm. long, densely pilose outside; corolla-tube densely appressed-pilose outside; flowers 6-8-merous; ovules 1-3 on each placenta; fruits about 1-2 cm. diam.: **24**
- 2 Calyx consisting of a rim less than 0.25 mm. high and teeth up to 1 mm. long, glabrous; ovules 1 on each placenta; style glabrous; bracteoles not cupular; corolla-tube and lobes each 3-3.5 mm. long, glabrous outside, lobes acute in bud, reflexed at anthesis, throat very densely villous; leaves oblong or narrowly elliptic, margins revolute at the cuneate or obtuse base, apex acuminate, 7.5-16 cm. long, 2-6.3 cm. broad, midrib and nerves (5-6 on each side) and reticulate venation prominent on both surfaces, glabrous [1. *reflexa*](#)
- Calyx with a distinct campanulate tube or with well-developed lobes; placentas attached to the upper part of the septum back to back, with 1-16 ovules immersed or partially immersed on the face: **3**
- 3 Style glabrous (to p. 150): **4**
- Style pilose or pubescent; calyx truncate or subtruncate or with short teeth, closely subtended by the connate calyx-like bracteoles: **15**
- 4 Branchlets densely pubescent (to p. 149): **5**
- Branchlets glabrous, or with very minute hairs when young: **9**

- 5 Leaves cordate or auriculate at base, petiole very short; calyx-tube about 4 mm. long, with short teeth; flowers 8-merous, solitary; corolla densely appressed-pilose outside, lobes subglabrous inside, tube 9 mm., lobes 8 mm. long; leaves oblong-elliptic or oblong-obovate, sometimes subfalcate, (5-)12-19.5 cm. long, 2.8-4.8 cm. broad, long-acuminate, with conspicuous parallel venation; fruits ellipsoid, about 3 cm. long and 2 cm. diam.; ovules 4 on each placenta [21. auriculata](#)
- Leaves cuneate at base; calyx-tube 1 mm. long or less; corolla-tube glabrous or nearly so outside; fruits up to 1.5 cm. long: **6**
- 6 Flowers solitary, on peduncles 4-5 mm. long; calyx-tube about 1 mm. long, with 4-5 filiform lobes about 2 mm. long; calyx densely puberulous, closely subtended by the connate calyx-like bracteoles; leaves oblong-lanceolate, cuneate at base, caudate-acuminate, 7-14 cm. long, 3-4.5 cm. broad, glabrous beneath, with about 5 main lateral nerves and very obscure venation; fruits fusiform, about 15 mm. long and 6 mm. diam.; ovules 1 on each placenta [2. wernhamiana](#)
- Flowers several; calyx not as above: **7**
- 7 Calyx-tube about 1 mm. long, with short teeth; calyx puberulous outside, closely subtended by the connate calyx-like bracteoles; corolla-lobes densely pubescent outside; inflorescences rather lax, with branches up to 10 mm. long; leaves ovate- or obovate-elliptic or oblong-elliptic, cuneate at base, acuminate, 5-18 cm. long, 2.3-6.5 cm. broad, with 3-5 main lateral nerves on each side of midrib, nearly glabrous except for the midrib beneath; ovules 2 on each placenta [3. oligoneura](#)
- Calyx deeply divided into ovate or triangular lobes, densely pubescent outside; bracteoles connate but scarcely calyx-like; flowers in dense sessile clusters; corolla-lobes glabrous or nearly so outside; ovules 2(-3) on each placenta: **8**
- 8 Leaves shortly appressed-pubescent mainly on midrib and nerves beneath; corolla-tube about 4 mm. long; leaves oblong-elliptic or slightly obovate-elliptic, cuneate or obtuse at base, shortly and obtusely acuminate, 2-9 cm. long, 1.2-4 cm. broad, with usually 4 main lateral nerves on each side of midrib [4. deightonii](#)
- Leaves spreading-pilose mainly on midrib and nerves beneath; corolla-tube 3-3.5 mm. long; leaves elliptic or obovate-elliptic, cuneate or obtuse at base, acutely acuminate, 4-12 cm. long, 2-4.7 cm. broad, with 4-8 main lateral nerves on each side of midrib, impressed above [5. talbotii](#)
- 9 Calyx closely subtended by the connate calyx-like bracteoles; calyx subtruncate, glabrous outside: **10**
- Calyx separated from the connate bracts by pedicels which bear usually free, ovate or lanceolate bracteoles: . **11**
- 10 Flowers with short but distinct pedicels and peduncles; bracteolar calyculus with two processes; calyx up to 1 mm. long; corolla-tube 2-4 mm., lobes about 4 mm. long; leaves elongate-elliptic, ovate-elliptic or obovate-elliptic, cuneate at base, gradually long-acuminate, 8-18 cm. long, 3-7 cm. broad, glabrous, with 5-8 main lateral nerves on each side of midrib; ovules (1-)2 on each placenta [6. biafrana](#)
- Flowers sessile in the leaf-axils; bracteolar calyculus with undulate margin; calyx 1-2 mm. long; corolla-tube about 5 mm., lobes 6-7 mm. long; leaves oblong or broadly elliptic, cuneate, obtuse or rounded at base, broadly acuminate, 13-25 cm. long, 4.5-11 cm. broad, glabrous, with 6-8 main lateral nerves on each side of midrib; fruits globose, 7-8 mm. diam.; ovules 3 on each placenta [7. vignei](#)
- 11 Corolla-tube 9-12 mm. long; calyx-tube 3 mm. long, subtruncate, with short teeth, appressed-pubescent outside; ovules 5-8 on each placenta; leaves elongate-elliptic, cuneate (or obtuse or rounded) at base, gradually long-acuminate, 8-25 cm. long, 3-7 cm. broad, glabrous, except for tufts in the axils of the 5-7 pairs of main lateral nerves [8. elliotii](#)
- Corolla-tube 2.5-7 mm. long; calyx-tube distinctly and rather deeply lobed: **12**
- 12 Leaves glabrous beneath; inflorescence and outside of calyx pubescent: **13**
- Leaves minutely puberulous on midrib and nerves beneath; inflorescence and outside of calyx glabrous or pubescent; ovules 2 on each placenta: **14**
- 13 Calyx-lobes rounded-oblong, overlapping at anthesis, about 1 mm. long; corolla-tube and lobes each 3.5-4 mm. long; ovules 12-16 on each placenta; leaves broadly lanceolate, rather abruptly narrowed to the cuneate base, gradually acuminate, 11-22 cm. long, 4-8 cm. broad, with 6-10 main lateral nerves prominent on each side of midrib beneath, strongly reticulate [9. macrophylla](#)
- Calyx-lobes ovate, not overlapping at anthesis, about 1.5 mm. long; corolla-tube 3.5-4 mm., lobes 4.5-5 mm. long; ovules 2(-5) on each placenta; leaves elliptic, oblong-elliptic, ovate-elliptic or obovate-elliptic, obtuse or cuneate at base, distinctly acuminate, 6.5-16 cm. long, 1.5-7 cm. broad, with 4-6 main lateral nerves on each side of midrib, venation reticulate; fruits 5-7 mm. diam. [10. bracteata](#)
- 14 Corolla-tube 5-7 mm. long, densely pilose in the throat, lobes 4-5 mm. long; leaves oblong-lanceolate or oblong-elliptic, cuneate at base, acuminate, 13-26 cm. long, 4-9 cm. broad, with 8-11 main lateral nerves on each side of midrib; seeds with ruminate endosperm [11. discolor](#)
- Corolla-tube 3.5-4 mm. long, sparingly pubescent in the throat, lobes 3-4 mm. long; leaves narrowly elliptic or oblong-lanceolate, 12-20 cm. long, 4.5-6 cm. broad, with about 7 main lateral nerves on each side of midrib [12. mildbraedii](#)
- 15 Flowers 11-14-merous; corolla-tube about 10 mm., lobes about 6 mm. long; anthers densely pubescent, long-exserted; calyx puberulous outside, 3-3.5 mm. diam.; leaves oblong or oblong-lanceolate, obtuse or rounded at

- base, broadly acuminate, about 22 cm. long and 7.5 cm. diam., glabrous with 8-9 main lateral nerves on each side of midrib; ovules several on each placenta [13. pleiomera](#)
- Flowers 5-8-merous; corolla-tube 2.5-5 mm. long; anthers glabrous, or pubescent mainly at the tips: **16**
- 16** Calyx glabrous outside, 2-2.5 mm. long, margin undulate; corolla-tube and lobes, each 3-4 mm. long; flower-cluster crowded and sessile; leaves coriaceous, broadly elliptic to oblong-obovate, cuneate or obtuse at base, broadly and shortly acuminate, 9-16 cm. long, 3-9 cm. broad, glabrous, venation rather obscure between the 4-6 main lateral nerves; ovules about 4 on each placenta; fruits about 10 mm. diam. [14. coriacea](#)
- Calyx pubescent outside: **17**
- 17** Branchlets glabrous; corolla-tube 4-5 mm. long; calyx-tube 1.5-2.5 mm. long; leaves glabrous except often in nerve-axils: **18**
- Branchlets pubescent or puberulous, sometimes very minutely so: **20**
- 18** Calyx with subulate teeth 1-1.5 mm. long; corolla-lobes 3.5-4 mm. long; midrib of leaves only very slightly prominent beneath, venation and the 3-4 pairs of main lateral nerves obscure; leaves elliptic, cuneate at base, long-acuminate, 6.5-9 cm. long, 2.5-3.5 cm. broad; ovules 2 on each placenta [15. parva](#)
- Calyx subtruncate; corolla-lobes 5-7 mm. long; midrib venation and the 4-6 pairs of main lateral nerves prominent beneath; ovules 3-4 on each placenta: **19**
- 19** Outside of calyx and inflorescence rather densely setose-pubescent; outside of corolla-lobes pubescent; leaves more or less elliptic, cuneate at base, broadly and slightly pointed at apex, 6-14.5 cm. long, 2-7 cm. broad [16. okelensis var. okelensis](#)
- Outside of calyx and inflorescence puberulous; outside of corolla-lobes appressed-puberulous or subglabrous; leaves oblanceolate, cuneate at base, obtuse at apex, 4.5-12 cm. long, 1.8-4.5(-5.5) cm. broad . [16b. okelensis var. oblanceolata](#)
- 20** Leaves densely and softly pubescent beneath; branchlets densely and softly puberulous; otherwise similar to var. okelensis (see above) [16a. okelensis var. pubescens](#)
- Leaves glabrous or sparsely puberulous beneath: **21**
- 21** Venation of leaves strongly reticulate; corolla-tube 4.5-5 mm., lobes 5-6 mm. long; calyx-tube 2 mm. long; leaves oblong-elliptic, lanceolate-elliptic or obovate-elliptic, cuneate at base, rather abruptly acuminate, 5.5-17 cm. long, 1.8-6.2 cm. broad, with 4-6 main lateral nerves on each side of midrib: **22**
- Venation of leaves obscure; corolla-tube 2-3 mm. long; branchlets puberulous: **23**
- 22** Young branchlets very minutely puberulous; pedicels very short; ovules 3-6 on each placenta [17. reticulata](#)
- Young branchlets appressed-puberulous or shortly pubescent; pedicels 2-4 mm. long; ovules 2 on each placenta [18. faranahensis](#)
- 23** Lateral nerves very obscure, 5-6 on each side of midrib; leaves papery, oblanceolate to elliptic-lanceolate or obovate-elliptic, cuneate or obtuse at base, distinctly acuminate, 5.5-16 cm. long, 2.5-5 cm. broad; fruits about 5 mm. diam.; ovules 2 on each placenta [19. pallens](#)
- Lateral nerves distinct, 3-4(-5) on each side of midrib; leaves subcoriaceous, elliptic or obovate-elliptic, cuneate at base, acuminate, 4-12.5 cm. long, 2-4.5 cm. broad; ovules 3-4 on each placenta [20. obanensis](#)
- 24** Leaves glabrous or sparingly pubescent on midrib and nerves beneath, but sometimes with tufts of hair in the nerve-axils, oblanceolate, cuneate at base, often undulate towards the apex: **25**
- Leaves densely pilose beneath, obovate-oblong, rounded or subcordate at base, acuminate, 6-17 cm. long, 2.5-6.5 cm. broad, with 7-10 main lateral nerves on each side of midrib [25. chevalieri](#)
- 25** Leaves with 7-8 main lateral nerves spreading on each side of midrib, lamina abruptly acuminate, 12-17 cm. long, 4.5-8 cm. broad; ovules solitary on each placenta; fruits about 2 cm. diam.; trees, up to 20 m. high ... [22. toupetou](#)
- Leaves with 4-5 main lateral nerves ascending on each side of midrib, lamina acute or obtuse at apex, 4-12 cm. long, 1.2-4.5 cm. broad; ovules 2-3 on each placenta; fruits about 1 cm. diam.; shrubs, up to 4 m. high: **26**
- 26** Branchlets densely pubescent; leaves sparingly pubescent on midrib and nerves beneath [23. trilocularis](#)
- Branchlets glabrous; leaves glabrous on midrib and nerves beneath [24. paroissei](#)

1. *Tricalysia reflexa* Hutch. in Kew Bull. 1915: 44. *APD acc*

APD: *Synonym of Empogona bracteata* (Hiern) J. Tosh & Robbr.

Coffea arabica var. *leucocarpa* Hiern (1876)-F.T.A. 3: 181.

Tricalysia reticulata of F.W.T.A., ed. 1, 2: 83, partly (Chipp 368).

A forest shrub 4-6 ft. high; flowers white.

S. L.: T. Vogel 174! Kessewe (Apr.) Lane-Poole 131! Gola Forest (Jan.) King 1! Waima, Kori (young fr. June) Deighton 5333! Giewahun (young fr. Apr.) Deighton 3661! **Lib.:** Dukwia R. (July) Linder 113! Nikabuzu to Zigida (Mar.) Bequaert

121! **Iv. C.:** Mt. Tonkoui Aubrév. 994! Bingerville (cult., fl. Mar.) Bodard 1360! **Ghana:** Nkwanta, W. Prov. (fr. Sept.) Chipp 368! Dompim, Tarkwa Dist. (Aug.) Darko 978! Benso, Tarkwa Dist. (Sept.) Andoh FH 5774! **S. Nig.:** Lagos (young fr. Apr.) Dalz. 1379! Ilaro F.R., Abeokuta Prov. Onochie FHI 8198! 13542! [**Br.**] **Cam.:** Bova, Kumba Div. (young fr. Sept.) Olorunfemi FHI 30778!

2. **Tricalysia wernhamiana** (*Hutch. & Dalz.*) *Keay* in Bull. Jard. Bot. Brox. 28: 291 (1958). *APD acc*

Cremaspora wernhamiana *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 85 (1931).

Coffea talbotii *Wernham* in Cat. Talb. 52 (1913).

A forest shrub; fruits red.

S. Nig.: Oban Talbot 1620!

3. **Tricalysia oligoneura** *K. Schum.* in Engl. Bot. Jahrb. 23: 448 (1896). *APD acc*

A shrub or small tree, 5-20 ft. high, with smooth grey bark; leaves papery, deep green and glossy above, pale beneath; flowers white, corolla-lobes reflexed; fruits orange when ripe.

S. Nig.: Abeku, Omo F.R. (Mar.) Jones & Onochie FHI 17163! Oshun F.R., Ijebu-Ode (young fr. Apr.) Chizea FHI 23954! Omo (formerly part of Shasha) F.R. (Feb.) Richards 3073! Idanre Hills (fl. buds Jan.) Brenan 8673! Okomu F.R., Benin (fl. Jan., fr. Feb.) Brenan 8877! 9024!

Also in **Cameroun**.

4. **Tricalysia deightonii** *Brenan* in Kew Bull. 8: 112 (1953).

APD: *Synonym of Empogona deightonii* (*Brenan*) *J. Tosh & Robbr.*

A forest shrub, 4-7 ft. high; flowers white.

S. L.: Thomas 7964! Jama, Moyamba Dist. (Mar., Dec.) Deighton 4692! 4723! Faiama (Jan.) Deighton 3872! 3873! Nyandehun, Koya (Dec.) Deighton 3659! 3804! Koribundu, Jaiama (Feb.) Deighton 5907! Gola Forest (Dec.) King 80b!

5. **Tricalysia talbotii** (*Wernham*) *Keay* l.c. 291 (1958).

APD: *Synonym of Empogona talbotii* (*Wernham*) *J. Tosh & Robbr.*

Cremaspora talbotii *Wernham* in Cat. Talb. 49 (1913); F.W.T.A., ed. 1, 2: 85.

A forest shrub, erect or half-straggling, to 6 ft. high; flowers white; fruits "white and purple".

S. Nig.: Oban Talbot 287! Boli to Bateriko, Obudu Div. (fr. June) Jones & Onochie FHI 17350!

6. **Tricalysia biafrana** *Hiern* in F.T.A. 3: 122 (1877). *APD acc*

Tricalysia hookeri *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 83 (1931).

A shrub or small tree, 5-30 ft. high; flowers white, fragrant; **in forest**.

Lib.: Kakatown Whyte! **Iv. C.:** Davo R., Béyo (Jan.) Leeuwenberg 2598! **Ghana:** 7 miles N. of Abofuo (Feb.) Vigne FH 1805! **S. Nig.:** Ibadan (Feb., Mar.) Meikle 1132! 1240! Onda, Omo F.R. (Feb.) Jones & Onochie FHI 16951! Okomu F.R., Benin (Feb.) Brenan 9070! Calabar (Feb.) Mann 2305! [**Br.**] **Cam.:** Preuss 1310! 1311! Ambas Bay (Feb.) Mann 7! Victoria (Feb.) Maitland 981! Cam. Mt., 500 ft. (Jan.) Mann 1212! Mai Idoanu, Gashaka Dist. (Feb.) Latilo & Daramola FHI 34471!

7. **Tricalysia vignei** *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 41, fig. 2A (1936); Aubrév. Fl. For. C. Iv., ed. 2, 3: 288, t. 358, A.

APD: *Synonym of Tricalysia coriacea* (*Benth.*) *Hiern subsp. coriacea*

A shrub or small tree, with large coriaceous leaves; flowers white; fruits red; **in forest**.

Iv. C.: Danané Aubrév. 1103! **Ghana:** Beyin, W. Prov. (Nov.) Vigne FH 1469!

8. **Tricalysia elliotii** (*K. Schum.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 83 (1931). *APD acc*

Probletoctemon elliotii *K. Schum.* in Engl. Bot. Jahrb. 23: 450 (1897).

Tricalysia batesii A. Chev. Caf. du Globe 3: 243 (1947); op. cit. 2: t. 146, name and plate only (1942).

A tree, to 20 ft. high; flowers white, fragrant; **in forest**.

S. L.: Lumbaraya (Feb.) Sc. Elliot 4937! **Ghana:** Akwapim Hills (Nov.) Johnson 775! Aburi Hills (Feb.) Johnson 941! Kumasi (Jan.) Vigne FH 1000! 1576! **S. Nig.:** Ugo, Benin (Jan.) Latilo & Olorunfemi FHI 33692!

Also in **Cameroun**.

9. **Tricalysia macrophylla** K. Schum. in Engl. Bot. Jahrb. 28: 66 (1899); Brenan in Kew Bull. 2: 73 (1947).

APD: *Synonym of Empogona macrophylla (K. Schum.) J. Tosh & Robbr.*

Tricalysia pluriovulata K. Schum. ex Hoyle in Gold Coast Checklist 119 (1937), English descr. only.

A shrub or tree, to 50 ft. high, with long drooping branches; fruits black, red and white.

iv. C.: Abengourou (young fr. Mar.) Renaud in Hb. Bodard 1380! **Togo:** Asuokoko R. (fr. Mar.) Beveridge FH 2943! **S. Nig.:** Jamieson R., Sapoba (young fr. Nov.) Kennedy 1822! 1854! 1922! Meikle 549!

Also in **Cameroun**.

10. **Tricalysia bracteata** Hiern in F.T.A. 3: 120 (1877); Chev. Bot. 327; Aubrév. Fl. For. Soud.-Guin. 466-469, t. 102, 4-7.

APD: *Synonym of Empogona bracteata (Hiern) J. Tosh & Robbr.*

Tricalysia syrmanthera Hiern l.c. (1877).

A shrub or tree, 5-20 ft. high; flowers white; fruits white at first, turning red and finally brownish-purple; **in forest**.

Port. G.: Balanasinho, Fulacunda (young fr. June) Esp. Santo 2083! **Guin.:** Labé (Mar.) Chev. 12414! Between R. Konkouré and Timbo (Mar.) Chev. 12482! Karkandy Heudelot 855! Bafing (fr. Apr.) Adam 11863! **S. L.:** Afzelius! Talla Hills (Feb.) Sc. Elliot 4908! 5054! Falaba (young fr. Mar.) Sc. Elliot 5425! 5428! Bintumane (Jan.) Glanville 458! Kambui F.R., Kenema (young fr. Mar.) Jordan 2006! Gola Forest (fr. Apr.) Small 589! **Ghana:** Suku Suku Chipp!

11. **Tricalysia discolor** Brenan in Kew Bull. 2: 72 (1947).

APD: *Synonym of Empogona discolor (Brenan) J. Tosh & Robbr.*

A tree, 20-30 ft. high; flowers white; **in forest**.

Lib.: Beiden, Boporo Dist. (fr. Nov.) Baldwin 10265! **iv. C.:** Kodopleu Bodard 1247! **Ghana:** Krokosu Hills F.R., Sefwi Wiawso Dist. (fr. Apr.) Enti FH 6701! Mampong Scarp (Feb.) Vigne FH 2748! Bobiri F.R., Juaso (young fr. July) Andoh FH 5538! Kwajo Nkwanta to Sikamang (young fr. June) Kitson

12. **Tricalysia mildbraedii** Keay in Bull. Jard. Bot. Brux. 28: 293 (1958).

APD: *Synonym of Empogona discolor (Brenan) J. Tosh & Robbr.*

A tree to 25 ft. high.

[Br.] **Cam.:** Dikome, Mamfe Rd., Kumba Div. (young fr. July) Akuo FHI 15158!

Also in **Cameroun**.

13. **Tricalysia pleiomera** Hutch. in Cat. Talb. 48 (1913).

APD: *Synonym of Tricalysia bifida De Wild.*

A shrub or small tree; **in forest**.

S. Nig.: Oban Talbot 1277!

14. **Tricalysia coriacea** (Benth.) Hiern in F.T.A. 3: 120 (1877); Chev. Bot. 327; Aubrév. Fl. For. Soud.-

Guin. 468-469.

APD: Synonym of Tricalysia reflexa var. ivorensis Robbr.

APD: Synonym of Empogona coriacea (Sond.) J. Tosh & Robbr.

APD: Synonym of Empogona coriacea (Sond.) J. Tosh & Robbr.

Randia coriacea Benth. in Fl. Nigrit. 387 (1849).

A shrub, 6-12 ft. high; flowers white, fragrant in **undergrowth of forest in swampy places, including brackish areas.**

Guin.: Téliélé Pobéguin 2190! **S. L.:** Mofari, Scarcies R. (Jan.) Sc. Elliot 4441 (Kew spec.)! Njala (Jan.) Deighton 1519! 2440! Gbanbama Thomas 8973! Ronietta (fl. bud Nov.) Thomas 5419! Moselelo to Sembahun (Nov.) Deighton 2389! **Lib.:** Grand Bassa (July, Aug.) T. Vogel 172! Dinklage 1696! Duport (Nov.) Linder 1501! 1504! **Iv. C.:** Aboisso Chev. 17862. Kéeta, Mid. Cavally (July) Chev. 19309. **Ghana:** Beyin, W. Prov. (Nov.) Vigne FH 1454! **S. Nig.:** Okomu F.R., Benin (fr. Feb.) Brenan 9109! Jamieson R., Sapoba Kennedy 2800! 2818!

Also in **Cameroun**, **Gabon** and **Congo**.

15. Tricalysia parva Keay l.c. 292 (1958). *APD acc*

Small shrub; ripe fruit red, with persistent waxy red calyx; **in forest.**

S. L.: S. Prov.(Jan.) Smythe 239! Gola Forest (fr. May) Small 675! 691!

Tricalysia okelensis *APD acc*

16. Tricalysia okelensis var. okelensis F.T.A. 3: 122 (1877); Aubrév. Fl. For. Soud.-Guin. 466-468, t. 102, 1-3; Fl. For. C. Iv., ed. 2, 3: 288, t. 358B; Berhaut Fl. Sén. 103. *APD acc*

Tricalysia pobeguini Hutch. & Dalz. F.W.T.A., ed. 1, 2: 83 (1931).

A shrub or small tree, to 15 ft. high; flowers white; **in savannah woodland and fringing forest.**

Sen.: Niokolo-Koba Berhaut 1458. **Mali:** Bobo Dioulasso, Upper Volta Aubrév. 1820. **Guin.:** Kouroussa (Jan.) Pobéguin 638! 650! 822! Kissidougou (Jan.) Martine 197! Timbo Pobéguin 112. Dinguiraye (Dec.) Jac.-Fél. 1457! **S. L.:** Musaia (fl. Jan.-Feb., fr. Apr.) Deighton 4158! 4180! 5418! Miszewski 27! **Iv. C.:** Ferkéssédougou Aubrév. 1470; 2309! Bondoukou Aubrév. 762! **Ghana:** Grube (Jan.) Vigne FH 1580! Ejura (Nov.) Vigne FH 3463! Bosomoa F.R. (Jan.) Lyon FH 2740! Kpandu Robertson 52! Ho (Feb.) Bowes 1105!

Also in **Ubangi-Shari** and **Sudan**.

16a. Tricalysia okelensis var. pubescens Aubrév. & Pellegr. ex Keay l.c. 292 (1958); Aubrév. Fl. For. Soud.-Guin. 466, 468 (1950), French descr. only. *APD acc*

Guin.: Farana Chev. 20454. **Iv. C.:** Oumé (young fr. Apr.) Aubrév. 1261! Tafiré Aubrév. 1582! Ferkéssédougou Aubrév. 1629!

16b. Tricalysia okelensis var. oblanceolata (Hutch. & Dalz.) Keay l.c. 292 (1958).

APD: Synonym of Tricalysia okelensis Hiern var. okelensis

Tricalysia oblanceolata Hutch. & Dalz. F.W.T.A., ed. 1, 2: 83 (1931).

A shrub or small tree to 30 ft. high; flowers white; fruits red; **in fringing forest in the savanna regions.**

N. Nig.: 12 miles N. of Zaria (young fr. Feb.) Thornewill 37! Anara F.R., Zaria Prov. (fl. Nov., fr. May) Keay FHI 21685! 25784! 28123! Naraguta (Nov.) Lely 725! Jos Reservoir Catchment Area (Nov.) Keay FHI 21485! **[Br.] Cam.:** Bambui, Bamenda (young fr. Apr.) Maitland 1664! Bayango, Bamenda (young fr. Apr.) Ujor FHI 30043! Vogel Peak, Adamawa (Nov., Dec.) Hepper 1464! 1543!

17. Tricalysia reticulata (Benth.) Hiern in F.T.A. 3: 121 (1877); Chev. Bot. 327; Aubrév. Fl. For. Soud.-Guin. 466. *APD acc*

Randia reticulata Benth. in Fl. Nigrit. 386 (1849).

Tricalysia pseudoreticulata Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 100: 25 (1953); Aubrév. Fl. For. Soud.-Guin. 466.

A shrub 3-7 ft. high; flowers white; in forest, especially near water.

Port. G.: Bubaque (May) Esp. Santo 2016! Formosa (Apr.) Esp. Santo 1973! Balanasinho, Fulacunda (young fr. July) Esp. Santo 2106! **Guin.:** Karkandy Heudelot 884! Bouma, Fouta Djallon (Mar.) Pobéguin 2283! Between R. Konkouré and Timbo (Mar.) Chev. 12484! Boké Chillou! **S. L.:** Afzelius! Don! Freetown and environs (fl. Dec.-Mar., fr. June) Dalz. 963! Deighton 468! 1052! 4748! Bagroo R. (Apr.) Mann 887! Ninia, Talla Hills (Feb.) Sc. Elliot 4810! Mange, Bure Makonte (Mar.) Adames 223! Gola Forest (May) King 127b! **Lib.:** Peahtah, Salala Dist. (Dec.) Baldwin 10571! **Iv. C.:** Mt. Tonkoui (buds Nov.) de Wilde 916!

[In the first edition this species was recorded from Ghana, but the specimen (Chipp 368) is *T. reflexa* Hutch., q.v.]

18. *Tricalysia faranahensis* Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 100: 25 (1953). *APD acc*

Tricalysia chevalieri Aubrév. Fl. For. Soud.-Guin. 468 (1950), French descr. only; not of K. Krause (1909).

A shrub.

Guin.: Timbikounda to Farakoro, Farana (Jan.) Chev. 20632! **Iv. C.:** Abengourou (fr. Feb., Apr.) Bodard 1399! 1592!

19. *Tricalysia pallens* Hiern in F.T.A. 3: 121 (1877). *APD acc*

A shrub or small tree, 7-30 ft. high, with profuse white flowers; fruits red; in forest.

Iv. C.: Akabossue to Ebrinahoué, Mid. Comoé (Dec.) Chev. 22607! Abengourou (young fr. Mar.) Renaud in Hb. Bodard 1391! Dieouzon to Sebazon (fl. buds Jan.) Bodard 1244! **Ghana:** L. Bosumtwi (Dec.) Vigne FH 1497! Kumasi Cummins 136! Aburi Hills (young fr. Feb.) Johnson 942! Asenano F.R., Akota (Nov.) Darko 1059! Nkwatia to Mpraeso, Kwahu Plateau (fr. May) Kitson 1183! Kobo River F.R., Okrabi, Hohoe Dist. (Nov.) St. C. Thompson FH 3695! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan 8577! Sapoba, Benin (Nov.) Ejiofor FHI 24615! Keay FHI 25571! Kennedy 1864! 1902! Calabar (fr. Apr.) Holland 103! **[Br.] Cam.:** Buea (young fr. Mar.) Maitland 492! Nyanga camp, 4,500 ft., Cam. Mt. (fl. buds Dec.) Maitland 1206! **F. Po:** Mann!

20. *Tricalysia obanensis* Keay in Bull. Jard. Bot. Brux. 28: 294 (1958). *APD acc*

S. Nig.: Oban Talbot 1324! s.n.!

21. *Tricalysia auriculata* Keay l.c. 295 (1958).

APD: *Synonym of Sericanthe auriculata* (Keay) Robbr.

S. Nig.: near waterside, between Budeng and Ewen Road, Calabar Prov. (fl. & fr. Nov.) Rosevear C33! C34!

Also in **Cameroun**.

22. *Tricalysia toupetou* Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 100: 26 (1953); Aubrév. Fl. For. Soud.-Guin. 466, 468 (1950), French descr. only.

APD: *Synonym of Sericanthe toupetou* (Aubrév. & Pellegr.) Robbr.

Tree to about 65 ft. high and 4 ft. girth; in forest.

Iv. C.: Tabou Serv. For. 2797! 2800!

23. *Tricalysia trilocularis* (Sc. Elliot) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 83 (1931).

APD: *Synonym of Sericanthe trilocularis* (Scott-Elliot) Robbr. subsp. *trilocularis*

Aulacocalyx trilocularis Sc. Elliot in J. Linn. Soc. 30: 81 (1894).

Shrub to 12 ft. high, with fragrant white flowers; leaves usually with bacterial nodules; on river banks.

S. L.: Moria (fl. buds & fr. Jan.-Feb.) Sc. Elliot 4435! 4563! Mange (Apr.) Hepper 2609! Njala (Feb.) Deighton 1815! 4154! 4158! Rowalla (young fr. July) Thomas 1063! Laminaiya (Apr.) Thomas 138!

24. *Tricalysia paroissei* Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 100: 26 (1953); Aubrév. Fl. For. Soud.-

Guin. 466, 468 (1950), French descr. only.

APD: Synonym of Sericanthe trilocularis subsp. paroissei (Aubrév. & Pellegr.) Robbr.

A shrub, about 3 ft. high.

Guin.: Konkouré Falls, Lahaya Paroisse 112! R. Badi, Toudou (Apr.) Roberty 17482!

25. **Tricalysia chevalieri** K. Krause in Engl. Bot. Jahrb. 43: 141 (1909); not of Aubrév. (1950).

APD: Synonym of Sericanthe chevalieri (K. Krause) Robbr. var. chevalieri

APD: Synonym of Sericanthe chevalieri var. velutina Robbr.

APD: Synonym of Sericanthe chevalieri var. coffeoides (A. Chev.) Robbr.

APD: Synonym of Tricalysia faranahensis Aubrév. & Pellegr.

Feretia coffeoides A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 179 (1912); Chev. Bot. 326.

Tricalysia coffeoides (A. Chev.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 83 (1931); Aubrév. Fl. For. Soud.-Guin. 466, 469, t. 102, 8-10; Berhaut Fl. Sén. 102, 105; not of Good (1926).

Tricalysia sudanica A. Chev. Caf. du Globe 3: 238 (1947); Brenan in Kew Bull. 5: 221 (1950).

Tricalysia jasmiflora of Chev. Bot. 327.

A shrub, erect or scandent, 3-12 ft. high, flowers white, appearing when the reddish twigs are almost leafless; ripe fruit red and glossy.

Sen.: Tambacounda Berhaut 1244; 4068. **Mali:** Birgo Dubois 196. Chute de la Conisé Adam 15282! **Port. G.:** Madina, Boé (fl. buds Jan.) Esp. Santo 2357! **Guin.:** Dalaba (fl. & fr. Dec.-Jan.) Chev. 20285! Roberty 16482! 16842! Kouroussa (Feb.) Pobéguin 641! **S. L.:** Loma Mts. (fr. Aug.) Jaeger 1281! **Iv. C.:** Pâ Aubrév. 2216. Boromo Aubrév. 2215. Mt. Dourou, Koualé Chev. 21735! **Ghana:** Shiare, Buem-Krachi Dist. Hall 1411! Chai River F.R., Kete-Krachi Dist. (fr. Nov.) Enti FH 7061! Nalerugu, Gambaga (young fr. June) Akpabla 686! **Dah.:** Atacora Mts. Chev. 24062. **N. Nig.:** Jos (Feb.) Wimbush FHI 42216! **S. Nig.:** Foster 165! Olokemeji (fr. Aug.) Symington FHI 5079! R. Ogun, Lanlate F.R. (Mar.) Keay FHI 21169! Itesi, Oyo Prov. (Mar.) Onochie FHI 20695! Idanre Hills (fl. bud & fr. Jan.) Brenan 8729! Asata, Enugu (Feb.) Jones FHI 709!

Also in **Ubangi-Shari**.

1. **Tricalysia** sp. A

Small tree or shrub; fruits bright red; **in forest**. Probably near *T. biafrana*, but with narrowly elliptic-lanceolate leaves, 6-9 cm. long, 1-2 cm. broad. More material required.

[Br.] Cam.: banks of Mainya R., Mundani, Mamfe Div. (fl. & fr. Sept.) Eyeku FHI 22306!

2. **Tricalysia** sp. B

Shrub or small tree, 5-15 ft. high; flowers white fragrant. More material required.

Ghana: Tumfa Hills, 1,000 ft., Akim (Dec.) Johnson 274! Opon-Mansi F.R., Atobiasi (fr. Mar.) Foggie 189!

37. COFFEA

Linn.-F.T.A. 3: 179; A. Chev. Les Caféiers du Globe 1 (1929), 2 (1942), 3 (1947); Lebrun Inst. Roy. Colon. Belg., sect. Sci. Nat. et Méd., Mém. 11 (1941).

- 1 Anthers wholly exerted on distinct filaments; leaves evergreen; corolla-tube less than twice as long as the lobes; style exerted (to p. 154):2
- Anthers included in the corolla-tube for most of their length, sessile or on very short filaments; leaves deciduous, with 4-6 main lateral nerves on each side of midrib; calyx very short; flowers solitary to few: 15
- 2 Calyx consisting of a mere rim or very small teeth, shorter than the disk; seeds with a longitudinal groove on the flat inner face; flowers solitary to numerous in each axil:3

- Calyx well-developed; seeds (where known) without a longitudinal groove; flowers 1-few in each axil: **10**
- 3** Leaves usually cuneate at base or sometimes obtuse, rarely rounded, never long-attenuate to a subcordate or rounded base; petioles 3 mm. or more long; trees or shrubs, often exceeding 2 m. high: **4**
- Leaves oblanceolate, long-attenuate to a rounded or subcordate base, acuminate, 15-37 cm. long, 5-11 cm. broad, with 10-15 main lateral nerves on each side of midrib, domatia (pits) present or absent; petiole 1-3 mm. long; stipules with subulate points; whole plant seldom exceeding 2 m. high; flowers 1-3 in each leaf axil; foliar appendages of bracteoles up to 15 mm. long; fruits 15-25 mm. long, 8-12 mm. broad, red when ripe [8. humilis](#)
- 4** Stipules obtuse or subacute at apex; leaves rounded, obtuse, or shortly and broadly acuminate at apex, obovate, oblanceolate or broadly elliptic, (9-)14-37(-47) cm. long, (4-)6-13.5(-20) cm. broad, usually coriaceous, with 6-16 main lateral nerves on each side of midrib, domatia (pits) usually on the base of the nerves; flowers 4-50 in each axil, 5-6(-9)-merous, exserted from the connate bracteoles which lack foliar appendages; corolla-tube (6-)10-15(-18) mm., lobes (6-)10-21 (-25) mm. long; disk distinctly lobed at apex; fruits 12-25 mm. long, 9-21 mm. broad, 8-16 mm. thick, disk generally prominent at the apex [1. liberica](#)
- Stipules cuspidate or long-acuminate at apex; leaves distinctly and often long-acuminate at apex; connate bracteoles often with foliar appendages, disk not lobed at apex: **5**
- 5** Flowers (4-)10-24(-48) in each axil, 5-6(-7)-merous; calyx subtruncate; main lateral nerves 9-14 on each side of the midrib; fruits red, orange, or yellow at maturity: **6**
- Flowers 1-2(-4) in each axil, (4-)5-8(-9)-merous; calyx with more or less distinct teeth; main lateral nerves 6-10 on each side of midrib: **7**
- 6** Foliar appendages of the bracteoles conspicuous, 2-22 mm. long, 1-9 mm. broad; calyces more or less hidden by the bracteoles at anthesis; leaves broadly elliptic or oblong or obovate, 12-35(-40) cm. long, 5-12 cm. broad; puberulous domatia (pits) usually present in the axils of the main lateral nerves; corolla-tube (5-)9-14(-16) mm., lobes (8-)9-14(-21) mm. long; fruits 9-17 mm. long, 7-13 mm. broad, 6-12 mm. thick [2. canephora](#)
- Foliar appendages of the bracteoles small, 0.5-5 mm. long, 0.3-1.5 mm. broad; calyces well exserted from the bracteoles at anthesis; leaves elliptic or oblong or ovate, (6-)8-16(-18) cm. long, 3-7(-8.5) cm. broad; domatia (pits) in the axils of the main lateral nerves usually glabrous; corolla-tube 5-11 mm., lobes 8-13 mm. long; fruits 13-17 mm. long, 9-13 mm. broad, 7-10 mm. thick [3. arabica](#)
- 7** Calyx well exserted from the bracteoles at anthesis; corolla-tube 6-8 mm., lobes 10-15 mm. long; leaves with glabrous domatia (pits) usually present in the axils of the 6-10 main lateral nerves on each side of midrib: **8**
- Calyx hidden by the bracteoles at anthesis: **9**
- 8** Branchlets minutely puberulous; leaves oblong-elliptic, 6-11 cm. long, 2-4 cm. broad; fruits 10-14 mm. long, 7-10 mm. broad, colour not recorded [4. togoensis](#)
- Branchlets glabrous; leaves narrowly oblong-oblanceolate, 5-14 cm. long, 0.7-4.5 cm. broad; ripe fruits violet-black, 12-13 mm. long, 8-10 mm. broad and 6-8 mm. thick [5. stenophylla](#)
- 9** Stipules with the point not exceeding 1 mm. long; leaves obovate, obovate-elliptic or oblanceolate, 7-14 cm. long, 2.8-6.5 cm. broad, with glabrous domatia (pits) usually present in the axils of the 6-8 main lateral nerves on each side of midrib; corolla-tube 3.5-4(-6) mm., lobes 10(-19) mm. long [6. sp. nr. carrisoi](#)
- Stipules with points about 2 mm. long; leaves oblanceolate or obovate-elliptic, 10-21 cm. long, 3.8-8 cm. broad, with 7-8 main lateral nerves on each side of midrib, domatia absent; corolla-tube about 7 mm., lobes about 10 mm. long; ripe fruits red [7. brevipes](#)
- 10** Flowers shortly pedicellate; calyx-tube 2-7 mm. long; erect shrubs or trees, to 8 m. high; leaves 7-24 cm. long, 2-9 cm. broad: **11**
- Flowers sessile; calyx deeply divided into distinct lobes; lianes or low shrubs; leaves 3-10 cm. long, 1.5-5.5 cm. broad, oblong-elliptic or elliptic or more or less obovate or ovate, usually rather abruptly long-acuminate: ... **12**
- 11** Calyx-tube about 2 mm. long, not split at anthesis; corolla-tube 7-10 mm. long, lobes 10-12 mm. long, 5-8 mm. broad; bracteoles with foliar appendages up to 10 mm. long; leaves elliptic, obtuse at base, long-acuminate, 17-24 cm. long, 6.5-9 cm. broad with 9-11 main lateral nerves on each side of midrib; stipules with a point about 1 cm. long; each ovary cell with 2 collateral ovules completely immersed in the placenta [9. macrochlamys](#)
- Calyx-tube 3-7 mm. long, split down one side at anthesis; corolla-tube 9-14 mm. long, lobes 10-12 mm. long, 3-5.5 mm. broad; bracteoles with small narrow foliar appendages up to 2.5 mm. long; leaves elliptic narrowly oblong-elliptic or lanceolate, obtuse or cuneate at base, abruptly long-acuminate, 7-19 cm. long, 2-6.5 cm. broad, with 4-9 main lateral nerves on each side of midrib; stipules with a point 2.5-4 mm. long; each ovary cell with 1 ovule completely immersed in the placenta [10. spathicalyx](#)
- 12** Branchlets and leaves glabrous; leaves cuneate, obtuse or sometimes rounded at base, main lateral nerves 3-5 on each side of midrib with glabrous domatia (pits) at their bases or in their axils: **13**
- Branchlets puberulous or densely hispid; leaves puberulous or pubescent mainly on midrib and nerves beneath; main lateral nerves 4-6 on each side of midrib with pubescent domatia (pits): **14**
- 13** Corolla-tube 8-16 mm., lobes 10-15 mm. long; foliar appendages of bracteoles more or less ovate, up to 10 mm. long and 6 mm. broad [11. afzelii](#)
- Corolla-tube 2-3 mm., lobes 4-5 mm. long; foliar appendages of bracteoles ovate-orbicular, about 2 mm. long

and broad [12. pulchella](#)

- 14** Branchlets closely puberulous; leaves obtuse or rounded at base; calyx-lobes rounded; corolla-tube 5-7 mm., lobes 5-6.5 mm. long [13. lemblini](#)

Branchlets densely hispid; leaves subcordate or rounded at base; calyx-lobes triangular; corolla-tube 7-17 mm., lobes 5-10 mm. long [14. subcordata](#)

- 15** Flowers axillary, subtended by several glumaceous or foliaceous bracts and bracteoles, sessile, corolla-tube at least twice as long as the lobes; fruits subglobose 6-10 mm. diam.; seeds without a longitudinal groove; young branchlets densely pubescent or minutely and rather sparingly puberulous: **16**

Flowers subtended only by a pair of leaves, solitary or paired, terminal; corolla-tube (7-)13-20 mm., lobes 7-15 mm. long; style included; fruits 2-lobed, 7-8 mm. long and broad, 4 mm. thick; seeds with a longitudinal groove; young branchlets minutely puberulous or glabrous; leaves elliptic or ovate, cuneate at base, long-acuminate, 2.5-10.5 cm. long, 1.5-3 cm. broad, glabrous [17. ebracteolata](#)

- 16** Flowers subtended by rigid dry bracts and bracteoles with inrolled margins and sharp setose points; style exserted; corolla-tube (10-)18-30 mm., lobes (5-)7-11 mm. long; leaves elliptic or ovate or obovate, rounded or subcordate or obtuse at base, long-acuminate, 3-11 cm. long, 1.5-6 cm. broad, pubescent beneath especially on midrib and main lateral nerves [15. eketensis](#)

Flowers subtended by soft, often rather leafy, bracts and bracteoles; style included, much shorter than corolla-tube; corolla-tube 28-45 mm., lobes 7-18 mm. long; leaves broadly or narrowly elliptic or obovate-elliptic, cuneate or obtuse at base, gradually acuminate, 3-12 cm. long, 1.5-4.5 cm. broad, glabrous or pubescent beneath [16. rupestris](#)

- 1. *Coffea liberica* Bull ex Hiern** in Trans. Linn. Soc., ser. 2, 1: 171, t. 24 (1876); F.T.A. 3: 181; Aubrév. Fl. For. C. iv., ed. 2, 3: 291, t. 359, 5-9; Lebrun Inst. Roy Colon. Belge, sect. sci. Nat. et Méd., Mém. 11, 3: 153, tt. 15-19 (q.v. for syn.); Chev. Caf. du Globe 2: t. 1; 3: 170. **APD acc**

Coffea dewevrei De Wild. & Th. Dur. (1899)-Chev. op. cit. 2: t. 2; 3: 179.

Coffea excelsa A. Chev. (1903).

Coffea abeokutae Cramer (1913)-F.W.T.A., ed. 1, 2: 96; Chev. op. cit. 2: t. 42; 3: 175.

Coffea excelsoidea Portères (1937).

An evergreen tree, to 60 ft. high, **spontaneous in the understorey of rain forest; also commonly cultivated.**

Port. G.: Bissalanca, Bissau (cult., fr. Jan.) Esp. Santo 1627! **Guin.:** spont. & cult. fide Chev. Il.c. **S. L.:** Njala (cult., fl. Mar.) Deighton 3376! Kambema, Joru (cult., fl. Jan.) Deighton 3854! Kassewe F.R. (Apr.) Lane-Poole 128! **Lib.:** Cape Palmas T. Vogel 63! Bangee, Boporo (cult., fr. Nov.) Baldwin 10369! Grand Bassa (Feb.) Dinklage 1778! **Iv. C.:** Assikasso, Mid. Comoe (fr. Dec.) Chev. 22588! Mt. Momy Aubrév. 1175. **S. Nig.:** Lagos Millen 192! Omo (formerly part of Shasha) F.R., Ijebu Prov. (Feb.) Jones & Onochie FHI 17214! 17229! Richards 3070! Ross 251! Sapoba, Benin Div. (Jan.) Onyeagocha FHI 7605! **[Br.] Cam.:** Lakom, 6,000 ft., Bamenda (fr. May) Maitland 1587!

Also in **Cameroun, Gabon, Cabinda, the Congos, Ubangi-Shari, Sudan** and **Uganda**; and widely cultivated in the moister tropics. (See Appendix, pp. 393-394.)

For the varieties and forms reference should be made to the special literature.

[*G. abeokutae*, Cramer was described from living material cultivated at Buitenzorg, Indonesia, specimens of which are preserved in the Kew herbarium. This material was presumably obtained originally from one of the several forms which were known in W. Nigeria as "Abeokuta" coffee early in this century.]

- 2. *Coffea canephora* Pierre ex Froehner** in Notizbl. Bot. Gart. Berl. 1: 237 (1897); Aubrév. Fl. For. C. Iv., ed. 1, 2: 250, 252; Lebrun l.c. 122, tt. 11-14 (q.v. for syn.); Chev. Caf. du Globe 2: tt. 28-39; 3: 186 (q.v. for vars.). **APD acc**

Coffea robusta Linden Cat. Pl. Econ. Hort. Colon. 64 (1900).

Coffea canephora var. *robusta* (Linden) A. Chev. op. cit. 3: 191 (1947).

Coffea maclaudi A. Chev. (1905)-F.W.T.A., ed. 1, 2: 96.

Coffea canephora var. *maclaudi* (A. Chev.) A. Chev. op. cit. 2: 30, t. 34 (1942); 3: 194.

An evergreen shrub or small tree, to 20 ft. high; **spontaneous in the understorey of rainforest; also cultivated**; flowers white.

Guin.: Labé (Apr.) Chev. 12330! Mt. Bilima, Upper Konkouré (May) Chev. 12332! **S. L.:** Njala (cult., fl. Mar.) Deighton 3377! **Iv. C.:** Assikasso, Mid. Comoé (Dec.) Chev. 22590! **Dah.:** Allada (cult., fr. Mar.) Ches. 23389! **S. Nig.:** Shasha F.R., Oyo Prov. (Feb.) Jones & Onochie FHI 16968! Akure F.R., Ondo Prov. (fr. Nov.) Keay FHI 25542! Okomu F.R., Benin Prov. (Jan., Feb.) Brenan 8871! 9028! Onochie FHI 19727! Degema Talbot! **[Br.] Cam.:** Likomba (fl. buds Dec.) Mildbr. 10766!

Also in **Cameroun**, **Gabon**, **the Congos**, **Sudan**, **Uganda** and **Angola**; and widely cultivated in the moister tropics.

For the varieties and forms reference should be made to the special literature.

3. **Coffea arabica** *Linn.* Sp. Pl. 1: 172 (1753); F.T.A. 3: 180 (excl. var. *leucocarpa* Hiern); Lebrun l.c. 114; Chev. Caf. du Globe 2: tt. 17-24; 3: 196 (q.v. for vars.). *APD acc*

Sen.: Sedhiou, Casamance (cult.) Chev. 2019. **Guin.:** Conakry (cult.) Chev. 12025. Macenta (cult.) Barthe 24. **S. L.:** Njala (cult.) Deighton 3378! **S. Nig.:** Lagos (cult.)? Millen! Calabar (cult.) Chev. 13724. **[Br.] Cam.:** Gembu, Mambila Plateau, Adamawa (cult., fr. Jan.) Latilo & Daramola FHI 34371! **F. Po.:** (cult.) Barter 2077!

Indigenous in **Arabia** and N.E. tropical Africa, now cultivated widely in the tropics.

Not indigenous in W. Africa, where it thrives in cultivation only at altitudes above 3,000-4,000 ft. Numerous varieties and forms have been described.

4. **Coffea togoensis** *A. Chev.* in Rev. Bot. Appliq. 19: 402 (1939); Chev. Caf. du Globe 2: t. 49; 3: 169. *APD acc*

A shrub or small tree, 6-10 ft. high; flowers white or pale pink, sweetly scented.

Ghana: near R. Asuokoko (Mar.) Beveridge FH 2945! **Togo Rep.:** lateritic plateaux near Lomé (fr. Sept.) Warnecke 415!

5. **Coffea stenophylla** *G. Don* Gen. Syst. 3: 581 (1834); F.T.A. 3: 182; Bot. Mag. t. 7475; Chev. Caf. du Globe 2: t. 46; 3: 210. *APD acc*

?**C. affinis** *De Wild.* (1904).

A glabrous shrub or small tree, to 10 ft. high.

Guin.: spont. & cult. fide Chev. l.c. **S. L.:** Barter! Don! Morson! Sc. Elliot 3909! Kassewe Hills (fl. Apr., fr. Nov.) Lane-Poole 125! Gbanja! **Iv. C.:** Aniasvé, R. Comoé Court. Abengourou Chev. And other localities fide Chev. l.c. **Ghana:** Aburi (cult., fr. Feb.) Johnstan, 611!

Indigenous in Guinée, Sierra Leone and Ivory Coast, but also cultivated in these and other countries.

6. **Coffea sp. nr. carrissoi** *A. Chev.* in Rev. Bot. Appliq. 19: 401 (1939). *APD acc*

A shrub or small tree, to 12 ft. high, with white flowers.

N. Nig.: Sanga River F.R., Jemaa Div. (Nov.) Keay FHI 22263! **S. Nig.:** Ohosu F.R., Benin (Dec.) Hide 5/38! Okomu F.R., Benin (fl. Jan., young fr. June) Brenan 8847! 8854! 8878! Onochie FHI 34608! Sapoba Kennedy 2167! 2352! **[Br.] Cam.:** Barombi (Sept.) Preuss 517! 520!

The type specimen of *C. carrissoi* from Angola is in fruit only.

7. **Coffea brevipes** *Hiern* in Trans. Linn. Soc., ser. 2, 1: 172 (1876); F.T.A. 3: 182; Lebrun l.c. 147; Chev. Caf. du Globe 2: t. 53; 3: 166. *APD acc*

Coffea staudtii *Froehner* (1897).

?**C. montana** *K. Schum. ex A. Chev.* op. cit. 2: t. 45; 3: 169 (1947).

A forest shrub to 6 ft. high; flowers white.

[Br.] Cam.: 2,000-3,000 ft., Cam. Mt. (fl. & fr. Dec.) Mann 2158! Banjongo, Mopanya, Cam. Mt. (Dec.) Preuss 1383. Johann-Albrechtshöhe (= Kumba) Staudt 548! Bambuko F.R., Kumba Dist. (fl. & fr. Jan.) Keay FHI 37420!

Also in **Cameroun** and **Congo**.

8. **Coffea humilis** *A. Chev.* in C.R. Acad. Sci. Paris 145: 349 (1907); Chev. Caf. du Globe 2: tt. 55 & 56; 3: 165. *APD acc*

A forest undershrub, to 6 ft. high, rarely more; ripe fruits red; flowers seldom collected.

Lib.: Dukwia R. (fr. Oct., Nov.) Cooper 28! 137! Gbanga (fr. Sept.) Linder 628! Tawata, Boporo (fr. Nov.) Baldwin 10295! Ganta (fr. Sept.) Baldwin 9327! **Iv. C.:** Guideko, Mid. Sassandra (fr. May) Chev. 16406! Sampleu to Ganhoué, Danané Chev. 21153. And other localities fide Chev. l.c.

9. **Coffea macrochlamys** *K. Schum.* in Engl. Bot. Jahrb. 23: 463 (1897).

APD: Synonym of Calycosiphonia macrochlamys (K. Schum.) Robbr.

Tricalysia macrochlamys (K. Schum.) A. Chev. in C.R. Acad. Sci. Paris 210: 358 (1940); Caf. du Globe 2: 36, t. 143 (1942); 3: 240 (1947).

A shrub or small tree, to 25 ft. high; seeds not known.

Ghana: Bunting 9 (partly)! **F. Po:** Guinea!

Also in **Cameroun**.

10. **Coffea spathicalyx** K. Schum. l.c. 587 (1897).

APD: Synonym of Calycosiphonia spathicalyx (K. Schum.) Robbr.

Calycosiphonia spathicalyx (K. Schum.) Lebrun l.c. 69, t. 7 (1941).

Tricalysia spathicalyx (K. Schum.) A. Chev. Caf. du Globe 2: 36, t. 144 (1942); 3: 240 (1947).

A straggling shrub or small tree, to 25 ft. high; flowers white; in forest.

Iv. C.: Abengourou (young fr. Feb.) Bodard 1400! **Ghana:** Ofin Headwaters F.R. (Jan.) Andoh FH 4289! Oda (Jan.) Enti FH 6874! **S. Nig.:** Omo (formerly part of Shasha) F.R., Ijebu Ode Prov. (Feb.) Jones & Onochie FHI 16960! 17525! Richards 3103! 3164! Ohosu F.R., Benin Div. (Dec.) Hide 6/88! **[Br.] Cam.:** Kuke Bova, Kumba Div. (Jan.) Keay FHI 37463! Fonfuka, 6,000 ft., Bamenda (fr. May) Maitland 1376!

Also in **Cameroun**, **Gabon**, **Congo**, **Sudan** and **Angola**.

11. **Coffea afzelii** Hiern in Trans. Linn. Soc., ser. 2, 1: 174 (1876); F.T.A. 3: 184; Chev. Caf. du Globe 2: t. 102; 3: 134.

APD: Synonym of Argocoffeopsis afzelii (Hiern) Robbr.

Coffea scandens K. Schum. (1897).

Argocoffeopsis scandens (K. Schum.) Lebrun l.c. 56 (1941).

Coffea ligustrifolia Stapf (1909)-F.W.T.A., ed. 1, 2: 96; Aubrév. Fl. For. C. Iv. 3: 252.

A forest liane; flowers white, very fragrant; leaves shining.

S. L.: Afzelius. Victoria Thomas 9059! 9062! Zimmi (Nov.) Deighton 365! Kenema (Oct.) Deighton 5229! Mamansu, Kumrabai (Nov.) Marmo 143! **Lib.:** Gola Forest (Nov.) Bunting 63! Kakatown Whyte! Sinoe Basin Whyte! Bonuta (Oct.) Linder 885! Beiden, Boporo (Nov.) Baldwin 10277! **Iv. C.:** fide Aubrév. l.c. Angedédou Forest (Nov.) Leeuwenberg **Ghana:** Bou, Axim Dist. (Nov.) Vigne FH 1587! **[Br.] Cam.:** Victoria (young fr. Mar.) Maitland 527! Bai, Kumba (Feb.) Lobe Babute Cam. 48/36! Kumba, near Boviongo (Jan.) Keay FHI 37389!

Also in **Cameroun** and **Congo**.

12. **Coffea pulchella** K. Schum. in Bngl. Bot. Jahrb. 23: 462 (1897); Chev. Caf. du Globe 2: t. 98; 3: 132.

APD: Synonym of Argocoffeopsis pulchella (K. Schum.) Robbr.

Cremaspora glabra Wernham (1913)-F.W.T.A., ed. 1, 2: 85.

A forest liane, attaining more than 70 ft. in height; flowers white.

S. Nig.: Eket Talbot 3200! Obani Talbot 1536!

Also in **Gabon**.

13. **Coffea lemblini** (A. Chev.) Keay in Bull. Jard. Bot. Brux. 28: 296 (1958); Chev. Bot. 336 (1920), name only.

APD: Synonym of Argocoffeopsis lemblinii (A. Chev.) Robbr.

APD: Synonym of Argocoffeopsis lemblinii (A. Chev.) Robbr.

Randia lemblini A. Chev. in Rev. Bot. Appliq. 18: 415, t. 10 (1938).

A much branched shrub, to 20 in. high; flowers white; in forest.

IV. C.: Voguié, Agnéby valley (Jan.) Chev. 17180!

14. *Coffea subcordata* **Hiern** in Trans. Linn. Soc., ser. 2, 1: 174 (1876); F.T.A. 3: 184; Chev. Caf. du Globe 2: t. 95; 3: 130.

APD: *Synonym of Argocoffeopsis subcordata (Hiern) Lebrun*

Argocoffeopsis subcordata (Hiern) Lebrun l.c. 61, t. 6 (1941).

A small liane or scrambling shrub; flowers white, fragrant; fruits red; **in forest**.

S. Nig.: Eket Talbot! Calabar (Mar.) Thomson 35! Oban Talbot 243! 1523! Onochie FHI 36348x! **[Br.] Cam.:** Mbalange to Ndifo, S. Bakundu (Jan., Mar.) Onochie FHI 30854! 35477!

Also in **Cameroun**, **Gabon**, **Cabinda** and **Congo**.

15. *Coffea eketensis* **Wernham** in J. Bot. 52: 8 (1914).

APD: *Synonym of Argocoffeopsis eketensis (Wernham) Robbr.*

Coffea jasminoides **Welw. ex Hiern** (1876)-F.T.A. 3: 185; Aubrév. Fl. For. C. Iv. 3: 252; Chev. Caf. du Globe 2: t. 99; 3: 131; not of Cham. (1834).

Argocoffea jasminoides (Welw. ex Hiern) Lebrun l.c. 40, t. 4 (1941).

A scandent shrub; flowering when leafless; flowers white, fragrant; fruits in **forest regrowth and margins**.

Guin.: Farmar 252! Dalaba Chev. 18115. **S. L.:** Smythe 35! Mofari Sc. Elliot 4443! Sendugu (young fr. June) Thomas 561! 600! Hallawa, Dasse (young fr. May) Jordan 2102! **IV. C.:** fide Aubrév. l.c. **S. Nig.:** Onitsha Barter 1249! Orlu (Feb.) Thompson! Awka Thomas 16! Eket Talbot 3064! 3171! Calabar Thomson 37!

Also in **Cameroun**, **Gabon**, **the Congos**, **Angola** and **N. Rhodesia**.

16. *Coffea rupestris* **Hiern** l.c. 174 (1876); F.T.A. 3: 184; Chev. Caf. du Globe 2: t. 16; 3: 135.

APD: *Synonym of Argocoffeopsis rupestris (Hiern) Robbr. subsp. rupestris*

Argocoffea rupestris (Hiern) Lebrun l.c. 48 (1941).

Coffea divaricata **K. Schum.** (1897); not of DC. (1830).

Coffea nudiflora **Stapf** (1905)-Chev. op. cit. 2: t. 104; 3: 137.

Coffea nudicaulis **A. Chev.** Bot. 336 (1920), name only.

Coffea brenanii **J. F. Leroy** in J. Agric. Trop. 7: 714 (1961), French descr. only.

Psilanthus jasminoides **Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 92 (1931); Chev. Caf. du Globe 2: t. 136; 3: 225.

An erect shrub to 6 ft. high, with stiff branches; flowers white, very sweet scented; fruits yellow, turning red; **in forest and also in open situations, especially rocky hills**.

Guin.: Fossakoidou to Kesséridou, Konianké Chev. 20816. **S. L.:** Faya (Feb.) Marmo 164! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! Ganta (fr. Apr.) Harley! **IV. C.:** Mid. Sassandra to Mid. Cavally Chev. 19262. Mt. Kouan, Danané Chev. 21255. Bontrou to Bampleu (fr. Apr.) Chev. 21170. **Ghana:** near Larte (Jan.) Johnson! Bou, Axim Dist. (Nov.) Vigne FH 1473! Kintampo (Mar.) Dalz. 27! Kpong (fl. Feb., Apr., fr. Apr.) Johnson 964! A. S. Thomas M2! Accra Plains (fl. Jan.-Mar., young fr. Mar., Apr.) Adams 3733! Irvine 1425! Rose Innes GC 30102! **Togo Rep.:** Lomé Warnecke 89! Agome (Mar.) Schlechter 12963! Misahöhe (Mar.). Baumann 377. Kpedsu (Jan.) Howes 1112! **Dah.:** L. Azri to Zagnanado (Feb.) Chev. 23063! **N. Nig.:** Esie, Ilorin (Jan.) Latilo FHI 18224! **S. Nig.:** Abeokuta Barter 3343! Rowland! Ogbomosho Rowland! Owo G. Burton! Sapoba (Jan.) Brennan 8932! Obu Thomas 356!

There is a tendency for the specimens from forest to have longer, narrower leaves and minutely puberulous branchlets, and for those from open situations to have smaller, broader leaves and more densely spreading pubescent branchlets; these distinctions break down however, especially in W. Nigeria, and do not seem to be of sufficient importance for specific recognition. [The Congo plant (e.g. Louis 1234) referred to by Lebrun (l.c.) as *Argocoffea rupestris* is a distinct species, note in particular the exerted style.]

17. *Coffea ebracteolata* (Hiern) **Brenan** in Kew Bull. 8: 115 (1953). **APD acc**

Psilanthus ?ebracteolatus **Hiern** in F.T.A. 3: 186 (1877); Chev. Cat. du Globe 2: t. 135; 3: 226.

P. ?tetramerus **Hiern** l.c. 187 (1877).

Coffea nigerina **A. Chev.** in Rev. Bot. Appliq. 19: 402 (1939).

A **forest** shrub, 1-8 ft. high; flowers white.

Guin.: Kaba valley (May) Chev. 13245! Farana (Mar.) Sc. Elliot 5382! Farmoreah (Apr.) Roberty 17342! Kissidougou Chev. 20718! **S. L.:** Bagroo R. (Apr.) Mann 846! Lomaburn, Scarcies (fl. & young fr. Feb.) Sc. Elliot 5028! Kuntaia (June) Thomas 450! Njala (fl. Mar., Apr., fr. Nov.) Deighton 1136! 1908! 5659! York (May) Deighton 5526! **Lib.:** Peahtah (fr. Oct.) Linder 1018! Gletown (fr. July) Baldwin 6945! Ganta (Mar.) Harley 451! **Iv. C.:** Bouroukrou Chev. 16914! Sea coast between Tabou and Bériby Chev. 19991; 20010. **Ghana:** Bia F.R. (Apr.) Foggie FH 4455! S. Scarp F.R. (young fr. Dec.) Moor FH 2111! Sekasua (Mar.) A. S. Thomas D172! Togo Plateau F.R. (Apr.) Beveridge FH 2944! **N. Nig.:** Irenedu, Kabba Prov. (fr. Sept.) Daramola & Adebusuyi FHI 38411! **S. Nig.:** Olokemeji Foster 275! 282! Ibadan South F.R. (Apr.) Keay FHI 22829! Akure F.R. (fr. Oct.) Adekunle FHI 24230! Idanre Foster 199! Oji R., Udi Dist. (Apr.) Kitson! [**Br.**] **Cam.:** Amba Bay (Jan.) Mann 740! Johann-Albrechtshöhe (= Kumba) Staudt 562! S. Bakundu F.R., Kumba (Jan.) Latilo FHI 43830!

38. PSILANTHUS

APD: Synonym of Coffea L.

Hook. f.-F.T.A. 3: 185. Nom. cons.

- 1 A shrub or small tree; branchlets glabrous or minutely puberulous; stipules very short; leaves elliptic, oblong-elliptic, obovate-elliptic or elliptic-oblongate, cuneate at base, acuminate, 7-18 cm. long, 2.5-7 cm. broad, with 4-6 main lateral nerves on each side of midrib, glabrous; flowers axillary, solitary or paired, subsessile; calyx-lobes lanceolate, about 2 mm. long at anthesis, glabrous; corolla glabrous, tube 45-67 mm., lobes 26-34 mm. long; anthers mostly included; style much shorter than corolla-tube; fruits obovoid-ellipsoid, 12-20 mm. long, 10-14 mm. broad, ribbed and crowned by the persistent, enlarged, 20-30 mm. long calyx-lobes ...[mannii](#)

Psilanthus mannii *Hook. f.* in *Hook. Ic. Pl.* t. 1129 (1873); *F.T.A. 3: 186*; *Chev. Caf. du Globe 2: tt. 131-132; 3; 223*; *Rev. Bot. Appliq. 27: 499, t. 23.*

APD: Synonym of Coffea mannii (Hook. f.) A.P. Davis

Heinsia jasminiflora of Chev. Bot. 317 (fide Hutch. & Dalz.).

A **forest** shrub or small tree, to 12 ft. high; corolla white; fruits black when ripe, with conspicuous green persistent calyx lobes.

Guin.: Kaba Chev. 18245. Farana Chev. 13401. **S. L.:** Pujehun (Apr.) Aylmer 67! Yonibana (fr. Oct., Nov.) Thomas 4108! 4254! 4971! **Iv. C.:** Grand Bassam Vest. Guidéko (fr. May) Chev. 16420. Bouroukrou (Dec.-Jan.) Chev. 16914. Bériby Chev. 20010. **Ghana:** Akwapim (fr. Apr.) Irvine 1152! S. Scarp F.R. (Feb.) Beveridge FH 4160! Ofin Headwaters F.R. (fr. Nov.) Vigne FH 3413! **S. Nig.:** Oshogbo Millson! Akure F.R. (fr. Oct.) Adekunle FHI 24228! Okomu F.R., Benin (fr. Jan., Feb.) Brenan 8783! 9191! Oban (Mar.) Richards 5203! Talbot 1414! [**Br.**] **Cam.:** Bimbi road, Victoria Maitland 612! Bambuko F.R., Kumba Div. (fr. Sept.) Olorunfemi FHI 30769! **F. Po:** on the beach Mann 266!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **Congo** and **Angola**.

39. BELONOPHORA

Hook. f.-F.T.A. 3: 129; *Keay in Bull. Jard. Bot. Brux. 28: 297 (1958).* *APD acc*

Kerstingia K. Schum. (1903).

Diplosporopsis Wernham (1913).

- 1 Leaves cordate-auriculate and sometimes pouched at base, up to 35 cm. long, and 20 cm. broad, with 9-12 main lateral nerves on each side of midrib:2
Leaves cuneate or obtuse at base, elliptic, oblong-elliptic or obovate-elliptic, up to 27 cm. long and 12.5 cm. broad; petiole distinct; branchlets glabrous; calyx-lobes 1-2 mm. long:3
- 2 Branchlets scurfy puberulous; stipules lanceolate and long-acuminate, up to 3 cm. long and 0.5 cm. broad, with a strong dorsal nerve; petiole up to 7 mm. long; leaves obovate or obovate-elliptic, narrowed to the markedly-pouched auriculate base, gradually long-acuminate, 16-30 cm. long, 6-13 cm. broad; calyx-lobes triangular-ovate, about 4 mm. long, conspicuous; corolla-tube 15-20 mm. long, lobes 10-13 (-18) mm. long, 3.5-5 mm. broad; anthers about 6 mm. long, their tips 1-5 mm. below the apex of the corolla-tube[l. wernhamii](#)

Branchlets glabrous; stipules broadly ovate, acuminate, up to 4.5 cm. long and 2.5 cm. broad, without a strong dorsal nerve; petiole up to 15 mm. long; leaves elliptic or obovate-elliptic, broadly cordate-auriculate at base, rather abruptly acuminate, 22-35 cm. long, 9-19.5 cm. broad; calyx-lobes small; corolla-lobes 18 mm. long, anthers 8-9 mm. long; otherwise similar to above [2. talbotii](#)

- 3 Stipules linear-oblong, oblong-spathulate, or oblong, rounded at apex, 8-14(-20) mm. long, 1.5-6(-10) mm. broad; leaves shortly acuminate, (5-)10-27 cm. long, (2.5-) 4-11 cm. broad, with 6-7 main lateral nerves; corolla-tube about 13 mm. long, lobes about 8 mm. long and 3 mm. broad; anthers about 6 mm. long, their tips about 1 mm. from the apex of the corolla-tube; fruits about 15 mm. diam. [3. coriacea](#)

Stipules lanceolate or triangular, with long points, up to 18 mm. long; leaves gradually and often long acuminate, 12-23 cm. long, 3-9(-12.5) cm. broad, with 4-6(-7) main lateral nerves on each side of midrib; corolla-tube 9-17 mm. long, lobes 4-9 mm. long and 2-4 mm. broad; anthers 4.5-5.5 mm. long, with their tips 1-4 mm. from the apex of the corolla-tube; fruits ellipsoid-subglobose, about 12 mm. long [4. hypoglauca](#)

1. **Belonophora wernhamii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 85 (1931). *APD acc*

Diplosporopsis coffeoides *Wernham* in Cat. Talb. 47, t. 8 (1913), not *B. coffeoides* Hook. f. (1873).

Treelet, 3-8 ft. high; corolla white; [in forest](#).

S. Nig.: Oban Talbot 1649! **[Br.] Cam.:** S. Bakundu F.R., Banga, Kumba Div. (Mar.) Brenan 9292! 9437!

2. **Belonophora talbotii** (*Wernham*) *Keay* in Bull. Jard. Bot. Brux. 28: 298 (1958). *APD acc*

Disposporopsis talbotii *Wernham* in Cat. Talb. 47 (1913).

A small tree; [in forest](#).

S. Nig.: Oban Talbot 1056!

3. **Belonophora coriacea** *Hoyle* in Kew Bull. 1935: 263. *APD acc*

A tree, 4-40 ft. high; flowers white; [in forest](#).

S. Nig.: Lagos Rowland 45! Okomu F.R., Benin (fr. Jan.) Brenan 8844! Sapoba, Benin (fl. Aug., fr. Apr.) Kennedy 1730! 1852! 2279! Mamu River, Onitsha Prov. (fr. Feb.) Kennedy 2542! **[Br.] Cam.:** Kumba Div. (young fr. Apr.) Olorunfemi FHI 30530! Nkom-Wum F.!, Bamenda (July) Ujor FHI 29283!

Also in [Cameroun](#).

4. **Belonophora hypoglauca** (*Welw. ex Hiern*) *A. Chev.* in Rev. Bot. Appliq. 19: 398 (1939); Chev. Caf. du Globe 3: 247.

APD: *Synonym of Belonophora coffeoides subsp. hypoglauca (Welw. ex Hiern) S. E. Dawson & Cheek*

Coffea hypoglauca *Welw. ex Hiern* (1876)-F.T.A. 3: 183.

Kerstingia lepidopoda *K. Schum.* (1903).

Belonophora lepidopoda (*K. Schum.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 85 (1931); Aubrév. Fl. For. C. Iv., ed. 2, 3: 290, t. 359, 1-4; Chev. Caf. du Globe 3: 248.

Belonophora morganae *Hutch.* (1921)-F.W.T.A., ed. 1, 2: 86 (1931).

Belonophora glomerata *M. B. Moss* (1929).

A shrub or small tree, to 30 ft. high; flowers white, strongly scented; [in evergreen forest, especially by streams in the savanna woodland regions and on hills](#).

Guin.: Dalaba Chev. 18124. Pita, 4,000 ft. Chev. 34064. **S. L.:** Smythe 132! Kambui F.R., Kenema (young fr. June) Jordan 2122! Bintumane, 3,000 ft. (Jan.) Glanville 451! **Lib.:** Mt. Wolagwisa, 4,600 ft., Pandami (Mar.) Bequaert 102! Mt. Bobei, Sanokwele (fr. Sept.) Baldwin 9603! 12596! **Iv. C.:** Mt. Tonkoui (fr. Dec.) Aubrév. 1006! Roberty 15878! Abengourou Bodard 1394! 1674! **Ghana:** Atuna, N.W. Ashanti (fl. buds & fr. Dec.) Vigne FH 3504! **Togo Rep.:** Loso, Sokode-Basari (Apr.) Kersting 362! 398! **N. Nig.:** Gwaha Kurmi, Kuta Dist., Niger Prov. (fl. buds Mar.) Jibrin Jia FHI 5572! Zaria Prov. (fl. buds Dec.) Taylor FHI 9870! Jos Morgan! Kennedy FHI 11885!

Also in [Ubangi-Shari](#), [Sudan](#), [Uganda](#) and [Angola](#).

40. ATRACTOGYNE

Pierre in Bull. Soc. Linn. Paris, 2: 1261 (1896); F. Hallé in Adansonia 2: 309-311 (1962). *APD acc*

Afrohamelia Wernham (1913).

- 1 Fruit oblong, about 3 cm. long and 1-2 cm. diam.; cymes about 1.5 cm. long, pedicel and peduncle elongating up to 6 cm. long in fruit; corolla about 1 cm. long; leaves ovate, rounded or subcordate at base, acuminate, 7-20 cm. long, 3-11 cm. broad, with 6-7 main lateral nerves on each side of midrib, puberulous on midrib and nerves beneath [1. bracteata](#)

Fruit fusiform, 9-11(-15) cm. long and about 1 cm. wide; leaves ovate, obtuse, rounded or subcordate at base, acuminate, 6-16 cm. long, 2.5-6.2 cm. broad, puberulous only on the pits in the axils of the main lateral nerves beneath; otherwise similar to above [2. gabonii](#)

1. *Atractogyne bracteata* (Wernham) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 98 (1931); F. Hallé l.c. 313, t. 3-5. *APD acc*

Afrohamelia bracteata Wernham in Cat. Talb. 43, t. 6 (1913).

Atractogyne melongenifolia A. Chev. Bot. 350 (1920), name only.

A shrub, climbing by recurved branches; in forest.

IV. C.: Guidéko (May) Chev. 16388! Bingerville Dist. Chev. 16377! Taté, Cavally Basin (Aug.) Chev. 19797! **S. Nig.:** Oban Talbot 262! 1662!

Also in **Cameroun** and **Gabon**.

2. *Atractogyne gabonii Pierre* in Bull. Soc. Linn. Paris 2: 1262 (1896) F. Hallé l.c. 311, t. 2. *APD acc*

Atractogyne batesii Wernham (1919).

A liane; fruits red when ripe; in forest.

[Br.] **Cam.:** S. Bakundu F.R., Kumba Dist. (fr. Mar., Apr.) Olorunfemi FHI 30547! Binuyo & Daramola FHI 35598!

Also in **Cameroun** and **Gabon**.

41. BERTIERA

Aubl.-F.T.A. 3: 82; Wernham in J. Bot. 50: 110 (1912); N. Hallé in Notulae Syst. 16: 280 (1960).

- 1 Flowers on elongated inflorescences: 2
Flowers axillary, not in elongated inflorescences: 11
- 2 Inflorescence with stalked lateral branchlets, lax flowered: 3
Inflorescence with sessile or subsessile clusters of crowded flowers, or subsimply racemose: 6
- 3 Inflorescence with a few scorpioid branches at length recurved, like that of *Heliotropium*, pubescent; leaves elliptic to broadly oblanceolate, acuminate, 7-12 cm. long, 3-6 cm. broad, sparingly pubescent beneath, lateral nerves about 5 pairs [1. breviflora](#)
Inflorescence more or less elongated and raceme-like: 4
- 4 Stipules 5-8 mm. long, connate and shortly sheathing, acuminate; leaves rather broadly and shortly elliptic, pubescent on the 5-6 pairs of nerves beneath, glabrous between them, abruptly acuminate, 8-12 cm. long, 3-6 cm. broad; inflorescence slender, many flowered; bracteoles linear, about 5 mm. long; corolla 7 mm. long; fruits globose, 4 mm. diam., strongly ribbed [2. bracteolata](#)
Stipules 20-35 mm. long, free; corolla about 2 cm. long; fruits globose, 5-7 mm. diam., strongly ribbed; leaves with 7-9 pairs of nerves, sparsely appressed-pubescent beneath: 5
- 5 Leaves, branchlets and stipules glabrous, inflorescence-rhachis pubescent; stipules lanceolate, very acute, 2-2.5 cm. long, 7-8 mm. broad; leaves elliptic, abruptly acuminate, 10-17 cm. long, 4-7 cm. broad, with 7-8 pairs of nerves; inflorescence lax [3a. laxa var. bamendae](#)
Leaves (at least the nerves beneath), branchlets and stipules pubescent; stipules broadly lanceolate to ovate, shortly and very acutely acuminate, 2-2.5(-3.5) cm. long, 7-11 mm. broad; leaves narrowly elongated-ovate, acuminate, 10-20 cm. long, 4-8 cm. broad, with 7-9 pairs of nerves; inflorescence rather few flowered, lax .. [3. laxa var. laxa](#)
- 6 Branchlets densely clothed with long spreading hairs; leaves ovate-oblong, acutely acuminate, rounded or subcordate at base, 15-25 cm. long, 4-7 cm. broad, pilose beneath, especially on the 10-12 pairs of lateral nerves; inflorescence up to 20 cm. long; calyx pubescent with short triangular lobes; corolla nearly 1 cm. long, sparsely pubescent [4. spicata](#)
Branchlets glabrous or with closely appressed hairs: 7

- 7 Flowers on simple pedicels on the axis; corolla 4 mm. long, minutely pubescent; calyx 1 mm. long; leaves oblong-elliptic, abruptly acuminate, 6-9 cm. long, 3-4 cm. broad, pubescent on the 4-5 pairs of nerves beneath; stipules connate and shortly sheathing, acuminate, about 5 mm. long [5. *chevalieri*](#)
- Flowers in crowded cymes on the main axis; stipules 1-3 cm. long: **8**
- 8 Stipules very acutely long-acuminate, sheathing, thin, 1.0-1.8 mm. long, 4 mm. broad, median nerve prominent with pubescence limited to it; corolla-limb ovoid in bud, nearly as broad as long, corolla-tube 6-7 mm. long, all densely pubescent; flowers densely clustered in whorls on the rachis; calyx 1 mm. long, densely pubescent; leaves oblong-lanceolate, gradually long-acuminate, cuneate at base, 10-15 cm. long, 4-5 cm. broad, pubescent on the 8-10 pairs of lateral nerves beneath [6. *subsessilis*](#)
- Stipules subacute at apex, thick, 1-2.5 cm., about 7 mm. broad at base, more or less evenly appressed-pubescent, 1-nerved; flowers in subsessile clusters, not whorled; corolla limb narrowly ellipsoid in bud, pubescent or glabrous; **9**
- 9 Calyx glabrous or slightly pubescent; corolla-limb glabrous at apex or entirely so; inflorescence-branches 1-2 cm. long; leaves oblong-elliptic, acuminate, rounded at base, distinctly petiolate, 15-20 cm. long, about 10 cm. broad, with about 8 pairs of lateral nerves: **10**
- Calyx densely pubescent; corolla-limb entirely pubescent, acutely acuminate at apex; inflorescence branches up to 1 cm. long; leaves slightly oblanceolate, shortly acuminate, slightly cuneate at base, subsessile, 10-35 cm. long, 4-11 cm. broad, with about 9 pairs of lateral nerves [8. *retrofracta*](#)
- 10 Corolla pubescent [7. *racemosa* var. *racemosa*](#)
- Corolla glabrous [7a. *racemosa* var. *glabrata*](#)
- 11 Stoloniferous subherbaceous plant of the forest floor; stems about 3 cm. high above ground; flowers solitary or almost so, sessile; leaves elliptic, 5-7 cm. long, 2.5-4 cm. broad, rather densely appressed-pilose, spreading on the margins; petiole slender [9. *adamsii*](#)
- Shrub up to 1.2 m. high, upper nodes congested, internodes about 1.5 cm. long obscured by large sheathing stipules with fimbriate margins; flowers concealed within the stipules; leaves elongate-ob lanceolate and slightly pandurate, 30-42 cm. long, 6-7 cm. broad, young leaves sericeous beneath; petiole short and stout [10. *fimbriata*](#)

1. *Bertiera breviflora* *Hiern* in F.T.A. 3: 85 (1877); Wernham in J. Bot. 60: 156 (1912). *APD acc*

Small single-stemmed shrub 3-12 ft. high; flowers greenish-white on the spreading branches of terminal and axillary cymes, fruits red; **in forest**.

S. L.: Kukuna, R. Scarcies (fr. Jan.) Sc. Elliot 4646! Mabonto (fr. July) Deighton 3266! Kenema Thomas 7892! Gola F.R. (fr. May) Small 686! **Lib.:** Peahtah (fr. Oct.) Linder 965! Genna Tanyehun (fr. Dec.) Baldwin 10751! Gletown (July) Baldwin 6909! **iv. C.:** Béyo (fr. Dec.) Leeuwenberg 2206! **Ghana:** Assin Nyankumasi Cummins 124! Otumi, Kibbi Dist. (fr. Apr.) Andoh 5149! Bunso Plantation (Oct.) Darko 1046! **S. Nig.:** Lagos Rowland! Epe Barter 3292! Omo F.R., Ijebu (Feb.) Jones & Onochie FHI 17151! Umon-Ndealichi F.R., Itu Dist. (fl. & fr. June) Ujor FHI 30181! Aboabam, Ikom Dist. (fl. & fr. Dec.) Keay FHI 28205! **[Br.] Cam.:** Victoria (fl. & fr. Feb.) Maitland 393! Johann-Albrechtshöhe (= Kumba) Staudt 550! Barombi Preuss 324! S. Bakundu F.R., Kumba (fl. Apr., fr. Jan.) Ejiofor FHI 29344! Binuyo & Daramola FHI 35071!

Also in **Cameroun**, **Gabon** and **Congo**.

2. *Bertiera bracteolata* *Hiern* in F.T.A. 3: 84 (1877); Wernham l.c. 160. *APD acc*

Bertiera africana of Chev. Bot. 317, partly, not of A. Rich.

Scandent shrub; flowers white in slender racemes 6-12 ins. long; **in forest**.

S. L.: Bonganema (Oct.) Deighton 6132! Gbangbama (Nov.) Deighton 2337! Ronietta (fl. & fr. Nov.) Thomas 5455! Kafogo (fr. Apr.) Sc. Elliot 5619! **Lib.:** Vahon (Nov.) Baldwin 10232! Gbanga (Sept.) Linder 675! Peahtah (Oct.) Linder 985! Gletown (July) Baldwin 6919! Tappita (Aug.) Baldwin 9111! **iv. C.:** Agniéby Valley Chev. 17086; 17208. Alépé Chev. 17456. Taté to Tabou Chev. 19812. **Ghana:** Atroni (Aug.) Vigne FH 2445! Asankrangwa (Aug.) Vigne FH 1288! Mt. Ejuanema, Kwahu (fl. & fr. Dec.) Adams 5128! Benso (fl. & fr. Nov.) Andoh FH 5412! **S. Nig.:** Ibadan to Ife Meikle 1458! Oban Tilbot 1288! Onochie FHI 36090x! **[Br.] Cam.:** S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35491!

Also in **Cameroun**, **Rio Muni**, **Gabon**.

Bertiera laxa *Benth.* *APD acc*

3. *Bertiera laxa* var. *laxa* -in Fl. Nigrit. 394 (1849); F.T.A. 3: 85; Wernham l.c. 157. *APD acc*

Bertiera maitlandii *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 97 (1931).

A shrub 12-15 ft. high; flowers green; fruits bluish.

S. Nig.: Nikrowa, Benin (fr. Dec.) Brenan 8401! Oban Talbot 51! **[Br.] Cam.:** Johann-Albrechtshöhe (= Kumba) Staudt 579! Bulifumbo, 2,500 ft., Buea (Mar.) Maitland 544! Bafia (fr. Feb.) Keay FHI 37540! **F. Po:** T. Vogel 148! Mann 200! Ureka (fl. & fr. Feb.) Guinea 2445! 2503!

Also in **Cameroun**.

3a. **Bertiera laxa** var. **bamendae** *Hepper* in Kew Bull. 13: 405 (1959). *APD acc*

Shrub 4 ft. high, leaves very dark green above, paler beneath; fruits bluish; in high forest.

[Br.] Cam.: Wum Fuel Plantation, Bamenda (fr. Apr.) Ujor FHI 30087!

4. **Bertiera spicata** (*Gaertn.f.*) *Wernham* in J. Bot. 50: 160 (1912).

Pomatium spicatum *Gaertn. f.* (1805).

Bertiera africana *A. Rich.* (1834)-F.T.A. 3: 84; Chev. Bot. 317, partly.

A hairy shrub 6-12 ft. high; flowers white, yellowish-green or pinkish, fruits brown; in forest, often beside water.

Port. G.: Bangacia (fr. Dec.) Esp. Santo 3178! Pussubé (fr. Jan.) Esp. Santo 1114! Bissalanca (fr. Jan.) Esp. Santo 1665! **Guin.:** Heudelot 719! Kindia Chev. 13003; 13083. Kouria to Ymbo Chev. 14998. **S. L.:** Gbinti (Jan.) Deighton 980! Njala (Jan., July) Deighton 1740! Dalz. 8074! Kenema (fr. Jan.) Smythe 235! Kasawe F.R. (fr. Dec.) King 49b! Rokupr (Nov.) Jordan 693! Hepper 2620! **Lib.:** Belleyella (fr. Dec.) Baldwin 10650! Genna Tanyehun (fr. Dec.) Baldwin 10737! Ganta (Sept.) Baldwin 9241! Rippue's Town (Aug.) Linder 361! Bahtown (Aug.) Baldwin 9019!

5. **Bertiera chevalieri** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 97 (1931). *APD acc*

Shrub with the appearance of *B. bracteolata* except for the simpler inflorescences.

Guin.: Bérezia to Diorodougou (Feb.) Chev. 20786! **Lib.:** Bilimu (fr. Aug.) Harley 1448!

6. **Bertiera subsessilis** *Hiern* in F.T.A. 3: 83 (1877). *APD acc*

A shrub about 12 ft. high, with wide-angled brittle branches; flowers white or pale mauve in pendant inflorescences; in *Rhizophora* swamp forest.

S. Nig.: Brass Barter 1831! Port Harcourt (fl. & fr. Jan.) Jones FHI 6198! Degema Talbot! Eket Talbot 3067! Stubbs Creek F.R., Eket (Jan.) Keay FHI 37713!

Also in **Gabon**.

Bertiera racemosa *K.Schum.* *APD acc*

7. **Bertiera racemosa** var. **racemosa** -in Bol. Soc. Brot. 10: 127 (1892); Wernham l.c. 160; Aubrév. Fl. For. C. Iv., ed. 2, 3: 294. *APD acc*

Wendlandia racemosa *G. Don* (1834).

Bertiera macrocarpa *Benth.* (1849)-F.T.A. 3: 84.

Bertiera racemosa var. **glabrata** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 97, partly.

Bertiera montana *Hiern* in F.T.A. 3: 83 (1877); F.W.T.A., ed. 1, 2: 97; Aubrév. l.c.

Bertiera laxa of Chev. Bot. 318, not of Benth.

Erect (or scandent, Chizea FHI 12386) shrub or small tree 10-25 ft. high, with thin papery scales on the bole; flowers white in pendulous racemes, fruits greenish-brown; in high forest.

S. L.: Kenema (Oct.) Deighton 52851 Kambul Hills (fr. Mar.) Small 6181 Sasseni, B. Scarcies (fr. Jan.) Sc. Elliot 4523! Vevehun (fr. Apr.) Deighton 1618! **Lib.:** Monrovia (Oct.) Cooper 55! Kakatown Whyte! Gletown, Tchien Dist. (fr. July) Baldwin 6959! **Iv. C.:** Abidjan Aubrév. 477. Dabou Chev. 15288. Mbago Chev. 17076. Grabo Chev. 19730. Alépé Chev. 17509. **Ghana:** Tano R. (fl. & fr. Sept.) Chipp 349! Tarkwa (Feb.) Thompson 42! Kumasi (fl. & fr. Sept.) Vigne FH 1353! Jiasi (fl. & fr. Oct.) Vigne FH 1392! **Dah.:** Debeaux 374! **S. Nig.:** Lagos Millen 13! Ehor F.R., Benin (fr. Feb.) Chizea FHI 12386! Brass Barter 10! Calabar (fr. Dec.) Thomson 101! Olorunfemi FHI 34208! Eket (fr. May) Onochie FHI 33184! **[Br.] Cam.:** Rio del Rey Johnston! S. Bakosi F.R., Kumba (fr. May) Olorunfemi FHI 30595! **F. Po:** 7,000 ft. Mann 292!

Also in **Cameroun**, **Gabon**, **Congo**, **Cabinda**, **Principe**, **Uganda** and **Tanganyika**.

7a. **Bertiera racemosa** var. **glabrata** (*K. Schum.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 97 (1931). *APD acc*

Bertiera glabrata *K. Schum.* (1897)-Wernham l.c. 161.

S. L.: Kambui F.R. (Mar.) Lane-Poole 191! **Lib.:** Sinoe Basin Whyte! Gbanga (Sept.) Linder 582! Flumpa, Sanokwele Dist. (Sept.) Baldwin 9366! Zigida, Vonjama (Oct.) Baldwin 10021a!

[Apart from the corolla being glabrous in this variety it appears to be indistinguishable from var. *racemosa*, hence some of the fruiting specimens cited under the type variety might ultimately prove to be var. *glabrata*.]

8. **Bertiera retrofracta** *K. Schum.* in *Engl. Bot. Jahrb.* 23: 452 (1897). *APD acc*

Bertiera obversa *K. Krause* (1917).

A shrub or small tree 8-10 ft. high, with obtusely quadrangular branchlets; flowers white, fruits clustered; **in high forest**.

S. Nig.: Oban Talbot 236! Boshi-Okwangwo F.R., Obudu Dist. (May) Latilo FHI 30942! **[Br.] Cam.:** Victoria to Bimbina (May) Preuss 1279. Barombi (June) Preuss 337! Mbalange, S. Bakundu F.R., (fr. Jan.) Binuyo & Daramola FHI 35452! Kumba F.R. (Aug.) Okereke FHI 8372! **F. Po:** Bokoko (Oct.) Mildbr. 6833.

9. **Bertiera adamsii** (*Hepper*) *N. Hallé* *Adansonia* 3: 177 (1963). *APD acc*

Sabicea adamsii *Hepper* in *Kew Bull.* 13: 291, fig. 2 (1958); Petit in *Bull. Jard. Bot. Brux.* 32: 193 (1962).

A hairy plant with slender stolons above and below ground level; flowers white, fruits red; **amongst leaves on the forest floor**.

Ghana: Mpameso F.R., W. Ashanti (fl. & fr. Dec.) Adams 2967!

Also in **Rio Muni** and **Congo**.

10. **Bertiera fimbriata** (*A. Chev. ex Hutch. & Dalz.*) *Hepper* in *Kew Bull.* 16: 329 (1962). *APD acc*

Psychotria fimbriata *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 123 (1931); Chev. Bot. 341.

A small shrub 2-4 ft. high with greenish-white flowers.

Lib.: Boporo (Nov.) Baldwin 10372! **Iv. C.:** Toula to Nékaougnié, Cavally (July) Chev. 19582! Mt. Tou, Cavally (July) Chev. 19683! Tabou (Oct.) Aké Assi 6079!

42. HEINSIA

DC.-F.T.A. 3: 80.

- 1 Branchlets very slightly pubescent; leaves elliptic-lanceolate, acutely acuminate, acute at base, 5-10 cm. long, 2-4 cm. broad, slightly pubescent on the nerves beneath; stipules short and subulate; flowers usually solitary at the end of short branchlets; ovary setulose; calyx-lobes foliaceous, oblanceolate, 1-1.5 cm. long; corolla-tube 1.5-2.5 cm. long, appressed-tomentose, very setose-tomentose in the mouth, with style slightly exerted, limb 5-6 cm. diam., the lobes ovate to oblanceolate with crispate margins; fruit globose, 1-1.5 cm. diam., crowned with the calyx-lobes [crinita](#)

Heinsia crinita (*Afzel.*) *G. Tayl.* in *Exell Cat. S. Tomé* 209 (1944). *APD acc*

APD: *Synonym of Heinsia crinita subsp. parviflora (K. Schum. & K. Krause) Verdc.*

Gardenia crinita *Afzel.* (1829).

G. pulchella *G. Don* (1824), name only.

Heinsia jasminiflora *DC.* (1830)-*F.T.A.* 3: 81; Chev. Bot. 317.

Heinsia pulchella *K. Schum.* (1891)-*F.W.T.A.*, ed. 1, 2: 98.

A branching shrub **in secondary forest or a small understorey tree in high forest**, 8-25 ft. sometimes up to 40 ft. high; flowers white with yellow throat-hairs, fruits yellow.

Guin.: Kaba Valley Chev. 13245. Farana Chev. 13401; 13431. **S. L.:** Yonibana (fr. Oct.) Thomas 4192! Mt. Omi Lane-Poole 116! Njala (May, Sept.) Deighton 654! 675! SLH 2130! Gola Forest (Mar.) Small 560! **Lib.:** Monrovia (Nov.) Whyte! Linder 1564! Congotown (fl. & fr. Mar.) Barker 1222! Javajai (fr. Nov.) Baldwin 10275! Bobei Mt. (fr. Sept.)

Baldwin 9604! Fortsville (Mar.) Baldwin 11146! **Iv. C.:** Guidéko Chev. 16420. Bouroukrou Chev. 16914. Kéeta Chev. 19317. Bériby Chev. 19991; 20010; 20043. **Ghana:** Bonsasu, Tarkwa Dist. (fr. June) Enti FH 6246! **S. Nig.:** Lagos Punch 46! Oban Talbot 276! 281! Boshi-Okwangoro F.R., Ogoja (fr. May) Okeke FHI 30943! **[Br.] Cam.:** Victoria (Jan.) Kalbreyer 12! Abonando (May) Rudatis 35! S. Bakundu F.R., Kumba (Jan., Apr.) Olorunfemi FHI 30535! Binuyo & Daramola FHI 35077! Korup F.R., Kumba (fr. July) Olorunfemi FHI 30663! Mamfe (fr. Nov.) Tamajong FHI 22109! Mbikas, Wum (fr. July) Ujor FHI 30477! **F. Po:** T. Vogel 177! Barter 2064! Mann 402!

Also in **Cameroun, Gabon, Congo, Principe, Kenya, Tanganyika, S. Rhodesia, Nyasaland, Mozambique, Cabinda** and **Angola**.

43. MITRAGYNA

Korth.-F.T.A. 3: 40 (as *Mitragyna*). Nom. cons.

- 1 Corolla-lobes glabrous outside; anthers exerted and pendulous between corolla-lobes; calyx truncate, glabrous; globose inflorescences 2-2.5 cm. diam., about 1.5 cm. diam. in fruit; fruits with a callous ring at apex; leaves obovate-elliptic, acute to shortly acuminate, rounded to subcordate at base, 6-9 cm. long, 3-5-5 cm. broad, ciliate on nerves beneath; petioles about 1 cm. long; stipules oblong-lanceolate, thin, 1.5-2 cm. long, acute, early caducous; savanna tree [1. *inermis*](#)
- Corolla-lobes densely pubescent outside; anthers included; leaves large; forest trees: [2](#)
- 2 Calyx glabrous, truncate forming an erect cupule in fruit; globose inflorescences (1.5-) 2-2.5 cm. diam., about 1.5 cm. diam. in fruit; leaves broadly elliptic, 15-45 cm. long, 8-15 cm. broad, more or less pubescent on nerves beneath; stipules obovate up to 10 cm. long and 7 cm. broad, tomentose especially towards the base [2. *stipulosa*](#)
- Calyx ciliate on the 5 distinct lobes which persist and usually curve inwards in fruit; globose inflorescences 1.5-2 cm. diam., about 1 cm. diam. in fruit; leaves broadly elliptic, 15-62 cm. long, 8-44 cm. broad, subglabrous beneath with tufts of hairs in nerve axils; stipules ovate-elliptic to obovate, 4-10 cm. long, 3-7 cm. broad, tomentose [3. *ciliata*](#)

1. *Mitragyna inermis* (Willd.) O. Ktze. Rev. Gen. Pl. 1: 288 (1891); K. Schum. in E. & P. Pflanzenfam. 4, 4: 56; Aubrév. Fl. For. Soud.-Guin. 474; Berhaut Fl. Sén. 104. *APD acc*

Uncaria inermis Willd. (1793).

Mitragyna africana (Willd.) Korth. (1839)-F.T.A. 3: 40; Chev. Bot. 307.

Nauclea africana Willd. (1798).

Shrub or low-branching tree 20-40 ft. high with scaly bark; flower-heads white; **usually on wet heavy clay in savanna.**

Sen.: Bondu Heudelot 456! Walo country (Sept.) Roger! Samandiniéry, Casamance Chev. 2100! Tamboukané Chev. 2103! **Gam.:** Saunders 39! Kuntaur Ruxton 54! Genieri (July) Fox 174! **Mali:** San to Bani Chev. 1102! Sebi Chev. 1180; 2112! Labézanga (Sept.) Hagerup 445! **Port. G.:** Prabis, Bissau (fr. Feb.) Esp. Santo 1807! **Guin.:** Kouroussa Pobéguin 431! Farana (ft. Mar.) Sc. Elliot 5378! **S. L.:** Don! **Lib.:** Grand Bassa Ansell! Ouangolo Aubrév. 1398. Groumania Aubrév. 781. Red Volta Aubrév. 2429. **Ghana:** Accra Plains (Feb.) Brown 929! Wenchi Dist. (fl. & fr. July) Enti FH 6245! Yeji (Aug.) Pomeroy 1341! Kpedsu (fr. Jan.) Howes 1085! **Togo Rep.:** Lomé (Nov.) Warnecke 247! Mildbr. 7507! **Dah.:** Djougou Chev. 23878! Konkobiri to Diapaga Chev. 24389! **Niger:** Zinder Arnaud in Hb. Chev. 25180! **N. Nig.:** Nupe Barter 1189! Share F.R., Ilorin (fr. Jan.) Ujor FHI 31604! Zungeru (Aug.) Elliott 5! Bornu (Nov.) Elliott 120! E. Vogel 70! Yola (Oct.) Shaw 62! Hepper 1614! **S. Nig.:** Osomari F.R. Kennedy 2494! Orle F.R., Kukuruku, Afenmai Div. (Aug.) Onochie FHI 33290! Nkalago, Enugu to Abakaliki (Jan.) Cons. of For. 216! Bansara (Oct.) Smith 27! **[Br.] Cam.:** Gulumba, Dikwa Div. (fr. Dec.) McClintock 45!

Also in **Mauritania, Cameroun, Ubangi-Shari, Sudan** and **Congo**.

2. *Mitragyna stipulosa* (DC.) O. Ktze. Rev. Gen. Pl. 1: 289 (1891); F.W.T.A., ed. 1, 2: 98, is mainly *M. ciliata* and *Nauclea diderrichii* except Sc. Elliot 5014; Aubrév. Fl. For. C. Iv., ed. 2, 3: 260; Berhaut Fl. Sén. 104.

APD: *Synonym of Hallea stipulosa* (DC.) Leroy

Nauclea stipulosa DC. (1830).

N. stipulacea G. Don (1834).

Mitragyna macrophylla Hiern in F.T.A. 3: 41 (1877), partly; Chev. Bot. 307.

Tree 20-100 (-140) ft. high with grey bark; slash dull white; flower-heads white; **in swamp forest.**

Sen.: Leprieur! Serv. For. 56. Koulage-Harage Chev. 2016. Badi Berhaut 1847. **Guin.:** Timbo Pobéguin 1505! Chev. 12430! 12822! Kouria Dumas in Hb. Chev. 18201! **S. L.:** Kenema (Apr.) Lane-Poole 214! Likuru (fr. Feb.) Sc. Elliot 5014! Rokupr (fr. Jan.) Deighton 2964! Commendi (Nov.) Aylmer 615! **Iv. C.:** Bondoukou Aubrév. 748! Man Aubrév. 989; 2103. Konilou Sargos 119. fide Chev. l.c. **N. Nig.:** Agaie (Dec.) Yates 2! Mker F.R., Benue Prov. (fr. Feb.) Jones 929! **S. Nig.:** Udi Plateau Cons. of For. 170! Enugu F.R. (Dec.) Cons. of For. 184! 192! 193! **[Br.] Cam.:** Bakaw Dist. Maitland FHI 10017! Mai Idoam, Gashaka Dist. (Jan., Feb.) Latilo & Daramola FHI 28985! 34480!

Also in **Ubangi-Shari, Gabon, Congo, Angola, Sudan, Uganda** and **N. Rhodesia.**

3. **Mitragyna ciliata** Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 83: 36 (1936); Aubrév. Fl. For. C. Iv., ed. 2, 3: 262, t. 345.

APD: Synonym of Hallea ledermannii (K. Krause) Verdc.

Mitragyna stipulosa of F.W.T.A., ed. 1, 2: 98, mainly.

Mitragyna macrophylla Hiern in F.T.A. 3: 41 (1877), partly.

A tree 40-100 ft. or more high with low buttresses and clear bole; flower-heads white; **in swamp forest and beside streams.**

Lib.: Dukwia R., Monrovia (bud Oct.) Cooper 104! 312! Ganta (Feb.) Harley 880! **Iv. C.:** Alépé (fr. Mar.) Chev. 16234! Banco Aubrév. 877! Man Aubrév. 1633! Azaguié Chev. 22301! San Pedro Thoiré 40! **Ghana:** Esherasu (Jan.) Thompson 5! Imbraim (Mar.) Thompson 21! Benso (Nov.) Quao FH 4920! Axim (ft. Mar.) Chipp 417! **S. Nig.:** Sapoba (May) Kennedy 1272! Nun (ft. Sept.) Mann 494! Oni Sankey 7! Akilla (fr. June) Owoseje FHI 25352! Oban Talbot 2023! Uwet Odot F.R., Calabar (July) L. G. Cooper FHI 39688! **[Br.] Cam.:** Victoria (fr. Feb.) Maitland 363! **F. Po:** T. Vogel 138!

Also in **Cameroun, Gabon, Rio Muni, the Congos** and **Cabinda.**

44. UNCARIA

Schreb.—F.T.A. 3: 41. Nom. cons.

- 1 Calyx shortly 5-toothed with the obtuse tips usually dark brown and glabrous; flower-heads about 4 cm. diam.; fruit-heads 5-8 cm. diam.; flowers usually sessile, becoming pedicellate in fruit with pedicel about 1 cm. long; fruit linear-elliptic, ribbed, about 2 cm. long; seed with long hyaline tails, one of them deeply divided; corolla-tube about 1 cm. long, densely yellow-pubescent outside; leaves elliptic or ovate-elliptic, 7-15 cm. long, 3-6.5 cm. broad, sub-glabrous to sparsely pilose on nerves beneath; larger branchlets 4-angled, glabrous *la. africana* var. africana

Calyx deeply toothed or if rather shortly so then flower-head 9-11 cm. diam.; flowers and fruits pedicellate in the head:2

- 2 Corolla-tube up to 1 cm. long with style exerted about 5 mm., appressed-pubescent outside; flower-head about 4 cm. diam.; calyx deeply 5-toothed with the tips usually glabrous; leaves elliptic to ovate-elliptic, 7-13 cm. long, 3-6 cm. broad, subglabrous or, sparsely pilose on nerves beneath; larger branchlets 4-angled, subglabrous. *lb. africana* var. angolensis

Corolla-tube 2-3 cm. long with style exerted about 2 cm., densely appressed pubescent outside; flower-heads 9-11 cm. diam.; calyx rather deeply 5-toothed, wholly pubescent; leaves ovate-elliptic 11-14 cm. long, 5-8 cm. broad, densely pilose on nerves beneath; all branchlets markedly 4-angled and pubescent on the angles2. talbotii

1. **Uncaria africana** G. Don Gen. Syst. 3: 471 (1834); F.T.A. 3: 41; Haviland in J. Linn. Soc. 33: 76; Chev. Bot. 308; Petit in Bull. Jard. Bot. Brux. 27: 445 (1957). *APD acc*

- 1a. **Uncaria africana** var. africana *APD acc*

Uncaria talbotii of F.W.T.A., ed. 1, 2: 99, partly (Talbot 39).

A climbing shrub 7-60 ft. high with paired axillary hooks; flowers in dense heads, yellow-silky outside; **in secondary forest.**

Port. G.: Ponte de Daba, Fulacunda (Oct.) Esp. Santo 2201! Sare N'gana Geba (Nov.) Esp. Santo 3118! **Guin.:** Nzo (fr. Dec.) Roberty 16084! Kindia Chev. 13001. Bilima Caille in Hb. Chev. 14879. Kouria Cattle in Hb. Chev. 14954. Bembaya, Farana Chev. 20676. **S. L.:** Don! Njala (July) Deighton 5984! Kasewe F.R. (Jan.) King 206b! Kambia (fl. & fr. Jan.) Sc.

Elliot 4709! Rokupr (Feb.) Jordan 192! **Lib.:** Kakatown Whyte! Banga (Oct.) Linder 1258! Tappita (Aug.) Baldwin 9083! **Iv. C.:** Dabou Chev. 15347; 15463. **Ghana:** Obuasi, Ashanti (fr. Jan.) Soward 649! Shiare (Nov.) Morton A4113! **N. Nig.:** Patti Lokoja (Oct.) Dalz. 39! Abinsi (fr. Feb.) Dalz. 778! **S. Nig.:** Oban Talbot!

Also in **Congo**, **Sudan**, **Uganda**, **Tanganyika**, **Angola** and **Annobon**.

1b. *Uncaria africana* var. *angolensis* Havil. in J. Linn. Soc. 33: 76 (1897); Petit l.c. 447. *APD acc*

Uncaria angolensis (Havil.) Welw. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 99 (1931).

A climbing shrub like the preceding.

Iv. C.: Gagnoa to Sassandra (July) de Wilde 169! **S. Nig.:** Onitsha (Oct.) Onochie FHI 34065! Oban Talbot 274 (partly)!

Also in **Congo** and **Angola**.

2. *Uncaria talbotii* Wernham in Cat. Talb. 40 (1913). *APD acc*

A climbing shrub with hooks and acutely 4-angled stem hairy on the angles; flowers white with yellow pubescence outside; **in fringing forest**.

S. L.: Kamabai to Kabala (Sept.) Deighton 3980! **Lib.:** Zigida, Vonjama Dist. (fr. Oct.) Baldwin 9997! Ganta (July) Harley 1225! Gbau, Sanokwele Dist. (Sept.) Baldwin 9407! Tappita (Aug.) Baldwin 9110! Yamoussokro to Bouaflé Mangenot & Aké Assi IA 721. Man to Danané Aké Assi IA 3246. **Ghana:** Konongo (Oct.) Adjie FH 1394! Bobiri (Sept.) Tsawe FH 6266! Nkawkaw (Sept.) Darko 1002! Togo Plateau F.R. (Sept.) St. C. Thompson FH 3576! **S. Nig.:** Oban Talbot 168! 274 (partly)!

45. ADINA

Salisb.-F.T.A. 3: 39. APD acc

- 1 Branchlets glabrous, dull; stipules caducous; leaves lanceolate, cuneate at base, acute or slightly acuminate at apex, 9-15 cm. long, 2.5-5 cm. broad, with numerous lateral nerves slightly prominent beneath, glabrous; flowers sessile in axillary, solitary, globose heads, 1.5-2 cm. diam.; peduncle 3 cm. long with a pair of ovate, membranous bracts above the middle; calyx-lobes oblong, 1.5 mm. long, pubescent; corolla 5 mm. long, silky-pubescent, style long-exserted with an ellipsoid stigma [microcephala](#)

***Adina microcephala* (Del.) Hiern** in F.T.A. 3: 40 (1877); Chev. Bot. 307; Aubrév. Fl. For. Soud.-Guin. 474.

APD: Synonym of Breonadia salicina (Vahl) Hepper & J.R.I. Wood

Nauclea microcephala Del. (1826).

Tree 15-50 ft. high with grey fissured and scaly bark and shiny leaves; flowers yellowish; **beside streams in savanna**.

Mali: Douiana to Sikasso (Sept.) Jaeger 5136! **U. Volta:** Banfora Aubrév. 1850! Kampti Aubrév. 2500. **Iv. C.:** Tourmi Vuillet 704. **Ghana:** Gurumbele to Bantala (Apr.) Kitson 833! Gambaga (Oct.) Vigne FH 4569! **Togo Rep.:** Syori (Apr.) Kersting 57! **Dah.:** Atacora Mts. (June) Chev. 24144! Konkobiri chev. 24339! Tankiéta Aubrév. 91d. **N. Nig.:** Ilorin (Sept.) Adejumo FHI 5737! Kaduna (Feb.) Meikle 1203! Zamfara F.R., Sokoto (fl. & fr. Apr.) Keay 15619! 18011! Assob (Feb.) McClintock 247! Beli, Muri Disk. (bud Jan.) Latilo & Daramola FHI 34426! [**Br.**] **Cam.:** Karamti, Gashaka Dist. Latilo & Daramola FHI 28944! Vogel Peak Massif fide Hepper.

Also in **Cameroun**, **Ubangi-Shari**, **Sudan**, **Kenya**, **Tanganyika**, **N. & S. Rhodesia**, **Nyasaland**, **Mozambique** and **Angola**.

***Adina cordifolia* Hook. f.**

Has been introduced from tropical Asia into Olokemeji F.R., S. Nigeria.

It has rather large ovate and cordate leaves.

46. NAUCLEA

Linn. Sp. Pl., ed. 2, 1: 243 (1762); Merrill in *J. Wash. Acad. Sci.* 5: 530 (1915).

Sarcocephalus Afzel. ex Sabine (1824)-*F.T.A.* 3: 38; *F.W.T.A.*, ed. 1, 2: 99.

- 1 Stipules broadest at the base, rounded or subacute at apex, 3-7 mm. long; corolla 8-10 mm. long:.....2
Stipules broadest above the base, elliptic or obovate, often keeled, rounded or obtuse at apex, up to 50 mm. long;
calyx-lobes not exceeding 1 mm. long:3
- 2 Calyx-lobes pyramidal, 0.5-1 mm. long, pubescent; corolla glabrous inside; syncarp 2-5 cm. diam., the surface
pitted; leaves broadly elliptic to rounded-ovate, abruptly and shortly acuminate at apex, shortly cuneate to
rounded or subcordate at base, 10-21 cm. long, 7-12 cm. broad; petioles 1-2 cm. long; pubescent bracteoles
present; small tree or shrub with arching branchlets, in savanna [1. latifolia](#)
Calyx-lobes oblong-spathulate, 2-4 mm. long, pubescent all over; corolla pubescent inside; syncarp 2-3 cm.
diam., the surface densely papillose with the hairy, long calyx-lobes; leaves broadly elliptic, rounded to
subacute at apex, rounded to truncate at base, 12-18 cm. long, 8-11 cm. broad; petioles slender, 2-4.5 cm. long;
bracteoles absent; tall tree in forest [2. pobeguini](#)
- 3 Leaves elliptic (to oblong-elliptic) 13-13.5, 8-12 (-40) cm. long, 4-10 (-18) cm. broad, with 5-8 (-11) nerves on
each side, cuneate (to rounded) at base; corolla about 6 mm. long, densely pilose inside; syncarp about 3 cm.
diam., pits on surface of mature fruit, 7-9 mm. diam.; peduncle about 2 cm. long; tall tree, in forest [3. diderrichii](#)
Leaves oblong, 20-44 cm. long, 10-20 cm. broad, with 8-11 nerves on each side, truncate at base; corolla about
12 mm. long, glabrous inside; syncarp sessile, about 7 cm. diam., pits on surface of mature fruit 3-4 mm. diam.;
small tree, in forest 4. [4. vanderguchtii](#)

1. *Nauclea latifolia* Sm. in Rees Cyclop. 24, No. 5 (1813); Milne-Redhead in *Kew Bull.* 3: 459 (1948);
Petit in *Bull. Jard. Bot. Brux.* 28: 8 (1957).

APD: Synonym of Sarcocephalus latifolius (Sm.) E. A. Bruce

Sarcocephalus esculentus Afzel. ex Sabine (1824)-*F.T.A.* 3: 38; *F.W.T.A.* ed. 1, 2: 100; Chev. in *Rev. Bot. Appliq.* 18: 179 (incl.
vars.); Aubrév. *Fl. For. Soud.-Guin.* 477, t. 105, 3-6; Berhaut *Fl. Sén.* 103.

S. russegeri Kotschy ex Schweinf. (1868)-*F.T.A.* 3: 39; Chev. *Bot.* 306.

S. sambucinus K. Schum. (1891).

Nauclea esculenta (Afzel. ex Sabine) Merrill (1915).

Sarcocephalus sassandrae A. Chev. *Bot.* 307, name only.

Straggling shrub or small tree about 10 ft. high; flowers white, fragrant; fruits reddish; in savanna
woodland.

Sen.: Heudelot! Ugazobil (July) Berhaut 167! **Gam.:** Saunders 22! Ozanne 23! **Mali:** Ouacoro Chev. 92! Couroula chev.
734. Soubaraniédougou to Kountseni Chev. 894! **Port. G.:** Uno (May) Esp. Santo 2012! **Guin.:** Kouroussa (Apr.) Pobéguin
238! Dalaba Chev. 18140! **S. L.:** Bagroo R. (Apr.) Mann 801! Njala (May) Deighton 655! Batkanu (Apr.) Thomas 5!
Bumbuna (fr. Oct.) Thomas 3719! Falaba (Apr.) Aylmer 51! **Lib.:** Monrovia (fl. July, fr. June) Linder 12! Baldwin 5874!
Suacoco (Mar., May) Blickenstaff 27! 29! Daniel 174! Vonjama Dist. (fr. Oct.) Baldwin. 9993! **Iv. C.:** Dabou Chev. 15286!
Bériby Chev. 2000! Brafofédi (Dec.) Leeuwenberg 2309! Diamancrou, Nzi Chev. 20126! Kangoroma Mt. Chev. 22170!
Ghana: Cape Coast (July) T. Vogel 93! Ejura (fl. May, fr. Aug.) Chipp 722! Vigne FH 1199! Aburi (May) Johnson 952!
Kpedsu (fr. Jan.) Howes 1142! Tamale (Apr.) Williams 117! **Togo Rep.:** Sokode (Apr.) Kersting 83! **Dah.:** Atacora Mts.
Chev. 23960! **N. Nig.:** Nupe Barter 1244! Kontagora (Nov.) Dalz. 219! Abuja to Badeggi (Feb.) Meikle 1210! Assob (Feb.)
McClintock 245! **S. Nig.:** Lagos (Aug.) Phillips 28! Shaki Road (fr. May) Denton 14! Enugu (Mar.) Ainslie 104! Mamu
River F.R. Kennedy 3085! **[Br.] Cam.:** (cult.) Maitland 97!

Also in **Cameroun**, **the Congos**, **Cabinda** and **Uganda**.

2. *Nauclea pobeguini* (Pobéguin ex Pellegr.) Petit in *Bull. Jard. Bot. Brux.* 32: 191 (1962), q.v. for
discussion on valid combinations; Aubrév. *Fl. For. C. Iv.*, ed. 2, 3: 266, t. 346.

APD: Synonym of Sarcocephalus pobeguini Pobeg.

Sarcocephalus pobeguini Pobéguin ex Pellegr. in *Bull. Soc. Bot. Fr.* 79: 222 (1932); Berhaut *Fl. Sén.* 103.

Mitragyna stipulosa of *F.W.T.A.*, ed. 1, 2: 98, partly.

Sarcocephalus diderrichii of *F.W.T.A.*, ed. 1, 2: 607, partly.

A tree 25-100 ft. high; flowers white; in marshes and flooded forest.

Sen.: Bantancountou Trochain 3543! **Port. G.:** Gabú (June) Esp. Santo 2513! **Guin.:** Kouroussa Pobéguin 433! **S. L.:** Njala
(June) Deighton 3522! **Iv. C.:** Abidjan Aubrév. 170! Dabou Aubrév. 892! **Ghana:** Kotokrom, Ofin R. (June) Vigne FH

1200! Pamu-Berekum F.R. (fr. Sept.) Vigne FH 2520! **N. Nig.:** Kurmin Damisa, Zaria Prov. (fr. Nov.) Keay FHI 21545! **S. Nig.:** Shasha F.R., Oyo (Apr., June) Jones & Onochie FHI 17311! 17594! Akilla (June) Lamb 222/37! Kennedy 2017! Awana R., Ibadan (fr. Nov.) Keay & Jones FHI 14208! 14226! Boje, Afi River F.R. (May) Jones & Onochie FHI 18933!

Also in **Cameroun** and **N. Rhodesia**.

3. **Nauclea diderrichii** (*De Wild. & Th. Dur.*) *Merrill* l.c. 535 (1915); Petit in Bull. Jard. Bot. Brux. 28: 10. *APD acc*

Sarcocephalus diderrichii *De Wild. & Th. Dur.* in Rev. Cult. Colon. 9: 7 (1901); F.W.T.A. ed. 1, 2: 608, partly (excl. syn. *S. pobeguini*); Pellegr. l.c. 223; Aubrév. l.c. 232, t. 330.

S. trillesii *Pierre* —A. Chev. in Vég. Util. 9: 229, 230, t. 24 (1917); Rev. Bot. Appliq. 18: 185 (1938). Aubrév. Fl. For. Soud.-Guin. 475.

S. badi *Aubrév.* l.c. 475, name only.

Tree 30-130 ft. high with clear bole and low buttresses.

S. L.: Njala (Aug.) Deighton 3025! Kambui F.R. (fr. Mar.) Jordan 2003! Edwardson 224! **Lib.:** Gletown, Tchien Dist. (fr. July) Baldwin 6937! Dukwia R. (Feb.) Cooper 279! **Iv. C.:** Azaguié (fr. Sept.) Chev. 22302! Alépé Chev. 17235! Dakpadou F.R. Aubrév. 871! 872! Abidjan Aubrév. 1369! Guiglo Aubrév. 2047! **Ghana:** Kankan (June) Thompson 89! Dunkwa Foggie 200! Abofaw (June) Vigne FH 1211! **S. Nig.:** Ondo Thornehill 226! Omo River F.R., Ijebu-Ode (fr. Nov.) Tamajong FHI 20994! Onysanya to Owesemele, Shasha F.R. (fr. Mar.) Jones & Onochie FHI 16677! Udi Plateau Kennedy 3094! Degema to Abua (fr. Sept.) King Church 41! **[Br.] Cam.:** Likomba, Victoria (fr. Nov.) Mildbr. 10605! Mamfe Eyong 3! Badsu Akagbe, Mamfe Johnstone 152/31!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **Congo**, **Uganda** and **Mozambique**.

4. **Nauclea vanderguchtii** (*De Wild.*) *Petit* in Bull. Jard. Bot. Brux. 28: 12 (1958). *APD acc*

Sarcocephalus vanderguchtii *De Wild.* (1923).

S. nervosus *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 100 (1931); Chev. in Rev. Bot. Appliq. 18: 189, 190 (1938), incl. var. *cordifolia* A. Chev.

A tree 50 ft. high with ant-holes in the branchlets; flowers white; **beside rivers and streams in forest.**

S. Nig.: Akilla (Jan.) Kennedy 2363! 2579! Oluwa F.R., Ondo (Apr.) Symington 3389! Shasha F.R. (Apr.) Jones & Onochie FHI 17282! Oban Talbot 1604!

Also in **Cameroun**, **Congo** and **Cabinda**.

47. MUSSAENDA

Linn.—F.T.A. 3: 65; Wernham in J. Bot. 51: 233 (1913); F. Hallé in *Adansonia* 1: 266-298 (1961).

- 1 Upper leaf-surface glabrous or at most ciliate on midrib (see also No. 14); one enlarged white calyx-lobe present on some flowers; corolla-tube about 2 cm. long:.....2
- Upper leaf-surface pubescent (at least on nerves) or scabrid; enlarged red, white or yellow calyx-lobe present or absent:4
- 2 Corolla and calyx pilose outside; calyx-lobes linear, about 1 cm. long; leaves broadly elliptic, shortly acuminate at apex, rounded at base, setose on nerves beneath, 13-16 cm. long, 8-9 cm. broad, with about 8 nerves on each side; petiole 6 mm. long, setose[1. conopharyngiifolia](#)
- Corolla and calyx minutely pubescent or glabrous:.....3
- 3 Corolla-tube 11/2-21/2 times as long as corolla-lobes; calyx glabrous (rarely pubescent), lobes subulate, 2-10 mm. long, erect or slightly recurved, enlarged lobe glabrous; inflorescence usually glabrous; leaves elliptic to ovate, acuminate, cuneate to rounded at base, 7-16 cm. long, 4-8 cm. broad, glabrous or ciliate on the nerves beneath[2. arcuata](#)
- Corolla-tube 5-7 times as long as corolla-lobes; calyx appressed-pubescent, lobes triangular-subulate, 1-2 (-3) mm. long, slightly incurved, enlarged lobe shortly pubescent on the nerves; inflorescence puberulous; leaves elliptic, caudate-acuminate, rounded to cuneate at base, 7-12 cm. long, 3-5-6 cm. broad, slightly ciliate on the nerves beneath[3. polita](#)
- 4 Leaves covered with white appressed hairs on both surfaces, specially above when young, ovate to elliptic, slightly acuminate, cuneate at base, 7-9 cm. long, 4-5 cm. broad, with about 10 pairs of lateral nerves; petiole about 1-5 cm. long; corolla densely pubescent, 1-5 cm. diam., tube 2 cm. long; calyx-lobes 1 cm. long, oblanceolate, densely pubescent outside, glabrous inside, enlarged lobe absent[4. nivea](#)

- Leaves variously more or less pubescent beneath, but not white-appressed:.....5
- 5 Calyx-lobes (both the normal and enlarged) red, normal lobes lanceolate, about 1 cm. long, pubescent and ciliate; corolla 1.5 cm. diam., tube 2 cm. long, pilose; leaves broadly ovate to elliptic, truncate to cuneate at base, shortly acuminate, 7-15 cm. long, 5-11 cm. broad, densely to slightly tomentose beneath [5. erythrophylla](#)
- Calyx-lobes not red:6
- 6 Lobes of calyx obtuse, mucronate, obovate, 3-4 mm. long, all softly pubescent; corolla-tube 2 cm. long, densely reflexed appressed-pubescent; leaves ovate, ovate-elliptic or oblanceolate, rounded or subcordate at base, 10-14 cm. long, 4.5-7 cm. broad, with about 13 closely parallel nerves, shortly scabrid-hispid on both sides; fruit about 2.5 cm. long and 1.5 cm. broad, densely pubescent [6. afzelii](#)
- Lobes of calyx acute or acuminate, not mucronate:7
- 7 Corolla-tube 4-5 (-6) mm. diam. in middle, about 2.5 cm. long, lobes 6 (-7); stamens 6 (-7), style-lobes (2-) 3 (-4); calyx-lobes 7 mm. broad at base:8
- Corolla-tube 1.5-3 mm. diam. in middle; calyx-lobes up to 1.5 mm. broad:9
- 8 Hairs on outside of corolla-tube reflexed, lobes ovate, apiculate, 1.5 cm. long; flowers terminal, 1-several; calyx-lobes triangular-lanceolate, about 1 cm. long, about 5 mm. broad at base; leaves ovate to elliptic, 10-15 cm. long, 4-7 cm. broad, pilose on nerves beneath [7. grandiflora](#)
- Hairs on outside of corolla-tube ascending, lobes suborbicular, apiculate, 5 mm. long; leaves obovate, 8-11 cm. long, 3.5-5 cm. broad, pilose on nerves beneath [8. tristigmatica](#)
- 9 Corolla-lobes 1-4 cm. long, 1-2.5 cm. broad, broadly obovate to elliptic, densely pubescent outside, tube 2-3 cm. long; calyx-lobes linear to linear-ob lanceolate, 5-10 mm. long, not enlarged; leaves elliptic to obovate-elliptic, subacute to rounded at base, 7-11 cm. long, 3-6 cm. broad, shortly pubescent beneath; fruits oblong-ellipsoid, glabrescent, with persistent calyx-lobes [9. elegans](#)
- Corolla-lobes 2-4 mm. long:..... 10
- 10 Leaves scabrid above with many minute acute papillae and short curved hairs: 11
- Leaves hispid or subglabrous above: 12
- 11 Lower surface of leaves densely to moderately covered with long, soft, brown hairs, oblong-elliptic, shortly and abruptly acuminate; calyx-lobes triangular to triangular-subulate, densely appressed-pubescent, enlarged lobe 1.5-3 cm. diam. on stalk about 1 cm. long; corolla densely appressed-pubescent outside, lobes not tailed ... [10. linderi](#)
- Lower surface of leaves glabrous and papillose (for other characters see below) [12. chippii](#)
- 12 Calyx-lobes subulate (to linear-triangular) 3-6 mm. long; corolla-lobes distinctly tailed, tube pubescent with rather long more or less appressed brown hairs; leaves elliptic, acutely acuminate, 9-12 cm. long, 5-8 cm. broad, setulose on the 8-10 lateral nerves beneath [11. tenuiflora](#)
- Calyx-lobes shortly triangular, 1-2 mm. long:..... 13
- 13 Leaves beneath (at least when dry) papillose; corolla-tube minutely and sparsely pubescent, hairs often in longitudinal lines, corolla-lobes acute but not tailed; branchlets more or less appressed-pubescent .. [12. chippii](#)
- Leaves beneath not papillose; corolla-tube pubescent:..... 14
- 14 Corolla-tube densely pubescent with erect spreading hairs, 2-3 cm. long, lobes slightly tailed; branchlets hispid with recurved hairs; leaves with about 10 nerves on each side [13. landolphioides](#)
- Corolla-tube appressed-pubescent:..... 15
- 15 Leaves with about 6 nerves widely spaced on each side; corolla-tube 3-4 cm. long, lobes slightly tailed; branchlets shortly pubescent, glabrescent [14. isertiana](#)
- Leaves with 11-14 nerves, closely parallel, on each side; corolla-tube 2-2.5 cm. long; branchlets pubescent .. [15. afzeliioides](#)

1. **Mussaenda conopharyngiifolia** Stapf in J. Linn. Soc. 37: 104 (1905); Wernham in J. Bot. 51: 275 (1913); Chev. Bot. 313, partly. *APD acc*

A straggling shrub with rather large leaves and hirsute corymbs.

Lib.: Sinoe Basin Whyte! **IV. C.:** fide Chev. l.c.

2. **Mussaenda arcuata** Lam. ex Poir. in Lam. Encycl. Méth. Bot. 4: 392 (1797); F.T.A. 3: 68; Wernham l.c. 274. Aubrév. Fl. For. Soud.-Guln. 478, t. 108, 5-7; F. W. Andr. Fl. Pl. Sud. 3: 446 (incl. var. pubescens Wernham). *APD acc*

Mussaenda laurifolia A. Chev. Bot. 314.

Erect or scrambling shrub; flowers yellow with yellow-hairy centre which turns brown later, fruits orange, enlarged calyx white; **in forest and beside streams.**

Guin.: Dalaba to Diaguissa Chev. 18582; 18847. Macenta (Oct.) Baldwin 9794! **S. L.:** Jigaya (Sept.) Thomas 2743! Warantamba (Oct.) Small 351! Firana (fr. Mar.) Sc. Elliot 5353! Loma Mts. (Sept.) Jaeger 1943! **Lib.:** Kolahun (fl. & fr. Nov.) Baldwin 10132! **Iv. C.:** Bouaké Chev. 22134. **Ghana:** Gambaga to Nakpanduri (fr. Mar.) Hepper & Morton A3142! **N. Nig.:** Kontagora Prov. (Apr.) Dalz. 403! Nupe Barter 1239! Vom (Feb.) McClintock 219! Katsina Alla Dalz. 645! **S. Nig.:** Agbadi, Sapoba (fl. & fr. Nov.) Meikle 548! Okomu F.R., Benin (fl. & fr. Mar.) Akpabla 1117! Oban (Apr.) Ejiofor FHI 21873! Talbot 203! Boshi, Ogoja Dist. Rosevear 62/29! **[Br.] Cam.:** Victoria to Kumba (fr. Apr.) Ejiofor FHI 29367! Johann-Albrechtshöhe (= Kumba) Staudt 458! Mambila Plateau (Jan.) Latilo & Daramola FHI 34386! Hepper 1647! **F. Po:** Mann!

Widespread in tropical Africa and Madagascar.

3. **Mussaenda polita** *Hiern* in F.T.A. 3: 67 (1877); Wernham l.c. 239. *APD acc*

Scrambling shrub; flowers yellow, about 1/4 in. across, enlarged calyx-lobe white; **in forest.**

S. Nig.: Oban Tatbot! Calabar Williams 26! 36! Cross R. (Dec.) Holland 228! **[Br.] Cam.:** Kumba (Oct.) Dundas FHI 15326!

Also in **Cameroun** and **Gabon**.

4. **Mussaenda nivea** *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 101 (1931); Chev. Bot. 315, name only. *APD acc*

Straggling shrub with silvery hairy leaves; flowers red.

Iv. C.: Guidéko, Mid. Sassandra (May) Chev. 16467! **Ghana:** Dunkwa (fl. & fr. July) King-Church 903! Osino Arnold 371! Manso (Apr.) Scholes 266! Assin West-Skinn 16!

5. **Mussaenda erythrophylla** *Schum. & Thonn.* Beskr. Guin. Pl. 116 (1827); F.T.A. 3: 69; Wernham l.c. 275; Chev. Bot. 314. *APD acc*

Climbing shrub to 40 ft. high; flowers cream, yellow or orange, enlarged sepal pink or red; **in forest and beside streams.**

Guin.: Labé Chev. 12279. Kollangui Chev. 12545. Kouria to Irébéléya Chev. 18241. Dalaba-Diaguissa Plateau Chev. 18367. **S. L.:** Kofiu Mt. (Jan.) Sc. Elliot 4608! Kaballa (Sept.) Thomas 2227! Jaiama (Apr.) Deighton 3160! Gbinti (Jan.) Deighton 5898! **Lib.:** Ganta (Apr.) Harley 2047! Bili (Aug.) Harley 1265! Sakimpa (Mar.) Harley 1797! Sodu (Jan.) Bequaert 44! Dubo (Sept.) Baldwin 9479! **Iv. C.:** Nzi Croux in Hb. Chev. 20144. Danané to Kouan Mt. Chev. 21263. **Ghana:** Winnebah (fl. & fr. Sept.) Fishlock 53! Akwapim Reade! Prasu Cummins 3 p! Kumasi (Apr.) Vigne FH 1681! Kpeve (June) Howes 1008! **N. Nig.:** Jemaa to Kafanchan (Apr.) Mutch FHI 21861! Naraguta (June) Lely 288! Vom Dent Young 110! Jos (fl. & fr. Oct.) Thornewill 121! **S. Nig.:** Boshi, Ogoja, 3,000 ft. Rosevear 60/29! **[Br.] Cam.:** Cam. Mt., 1,600-4,500 ft. (Feb.-Apr.) Kalbreyer 93! Deistel 642! Mann 1278! Bali (May) Ujor FHI 30353! Widdekum, 3,000 ft. (Jan.) Keay FHI 28544!

Widespread in tropical Africa.

The "Ashanti Blood".

6. **Mussaenda afzelii** *G. Don* Gen. Syst. 3: 490 (1834); F.T.A. 3: 66; Wernham l.c. 237; Chev. Bot. 313. *APD acc*

Small tree or shrub sometimes climbing, up to 20 ft. high; flowers yellow, foliaceous sepal white; **in moist forest.**

Guin.: Konkouré to Timbo Chev. 12512. Kindia Chev. 13030. SW. of Dalaba (fr. Mar.) Langdale-Brown 2629! **S. L.:** Mahela (Dec.) Sc. Elliot 4166! Kumrabai (fr. Dec.) Thomas 7043! Port Loko (Dec.) Thomas 6627! Ronietta (Nov.) Thomas 5422! **Lib.:** Monrovia (Dec.) Okeke 75! Baldwin 10987! Suen to Brewer's landing (Nov.) Linder 1405! Zorzor (Jan.) Harley 1524! **Iv. C.:** San Pedro (Feb.) Aké Assi 2861! Danané (Nov.) Aké Assi 5499!

Also in (?) **Angola**.

7. **Mussaenda grandiflora** *Benth.* in Fl. Nigrit. 392 (1849); F.T.A. 8: 70; Wernham l.c. 277. *APD acc*

Mussaenda macrosepala *Stapf* (1905)-Chev. Bot. 315.

Mussaenda uniflora Hutch. & Dalz. F.W.T.A., ed. 1, 2: 101 (1931), not of Wall. ex G. Don (1834).

Mussaenda collenettei Hutch. F.W.T.A., ed. 1, 2: 608 (1936).

Scrambling shrub with coarsely hairy stems and leaves; flowers yellow, enlarged calyx-lobe pure white, sometimes absent; **in forest**.

Guin.: Zoubouroumai (May) Collenette 28! Nzo (Apr.) Schnell 1102! **S. L.:** Njala (July, Aug.) Deighton 722! 1833! Kambui HUIs (fr. Mar.) Small 512! Bumpe to Mano (Aug.) Deighton 6112! Gola F.R. (May) Small 682! **Lib.:** Monrovia (July) Linder 14! Kakatown Whyte! Roberts Field (May) Baldwin 6801! Ganta (May) Harley 1181! White Plains (Apr.) Barker 1280! **Iv. C.:** Dabou Chev. 16231, Agnieby Valley Chev. 17049. Bingerville Chev. 17313. Abidjan Chev. 17320. Cavally Valley Chev. 19625.

8. *Mussaenda tristigmatica* Cummins in Kew Bull. 1898: 74; Wernham l.c. 276; Chev. Bot. 316. *APD acc*

Straggling hairy shrub; flowers yellow, enlarged calyx-lobe white.

Lib.: Kasono (fl. & fr. Sept.) Harley 1914! **Iv. C.:** Dabou Chev. 15173! Adiopodoumé Leeuwenberg 1777! Brafoedi (fr. Dec.) de Wit 7220! **Ghana:** Asin-Nyankumasi Cummins 41! 113! Axim (fl. Dec., fr. Mar.) Johnson 877! Chipp 169! Simpa (May) Vigne FH 1960! Tarkwa (fl. & fr. Jan.) Vigne FH 4123!

Also in (?) **Gabon**.

9. *Mussaenda elegans* Schum. & Thonn. Beskr. Guin. Pl. 117 (1827); F.T.A. 3: 69; Wernham l.c. 276; Chev. Bot. 313. *APD acc*

Gardenia coccinia G. Don (1824), not *Mussaenda coccinia* Poir. (1797).

Shrub or scrambler in thickets 10 to 30 ft. high, with slender branches; flowers scarlet or orange with yellow throat-hairs.

Mali: Kangala Chev. 830! 858. **Port. G.:** Catio (June) Esp. Santo 2091! **Guin.:** Heudelot 806! Kouroussa Chev. 15707; 15726. Conakry Debeaux 423! Macenta, 2,000 ft. (May) Collenette 14! **S. L.:** Sherbro Sc. Elliot 6795! No. 2 River F.R. (Apr.) Hepper 2514! Moyamba (June) Lane-Poole 47! Njala (May) Deighton 688! **Lib.:** Ganta (May) Harley 1148! **Iv. C.:** Bingerville Chev. 16055. Abidjan Chev. 17316. Sassandra Port Chev. 17996. Nzi Chev. 20146. **Ghana:** Accra to Aburi (Apr.) Baldwin 11988! Tarkwa (May) Chipp 231! Kumasi (Mar., Apr.) Vigne FH 1680! 3738! Dawa (May) Howes 909! **Dah.:** Dassa-Zoumé Chev. 23631. Savalou Chev. 23799. **N. Nig.:** Aguiji, Ilorin Thornton! Nupe Barter! Mada Hills (June) Hepburn 72! Ruka, Zaria (Feb.) Dalz. 397! Jos Plateau (Aug.) Lely P640! **S. Nig.:** Lagos Phillips 7! Okomu F.R. (Mar.) Akpabla 1091! Calabar Thomson 125! Oban (Apr.) Ejiofor FHI 21875! **[Br.] Cam.:** Victoria (fl. & fr. Nov.) Mildbr. 10598! Kumba (Apr.) Hutch. & Metcalfe 152! Ekwe, Bamenda, 3,000-4,000 ft. (June) Maitland 1573!

Also in **Cameroun, Congo, Sudan** and **Uganda**.

[This is a species variable in several characters: several varieties of doubtful taxonomic value have been described.-F.N.H.]

10. *Mussaenda linderi* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 103 (1931). *APD acc*

Mussaenda punctulata Hutch. & Dalz. F.W.T.A., ed. 1, 2: 103 (1931).

Brown-pubescent shrub 3-5 ft. high; flowers yellow, enlarged calyx-lobe white.

Lib.: Miamu (Aug.) Linder 368! Gbanga (Sept.) Linder 536! Tubman Bridge (Sept.) Barker 1424! R. Cess (fr. Mar.) Baldwin 11262! **Iv. C.:** Guiglo to Taï Manganot, Miége & Aké Assi IA 5350! **Ghana:** Prestea (Sept.) Vigne FH 3103!

11. *Mussaenda tenuiflora* Benth. in Fl. Nigrit. 392 (1849); F.T.A. 3: 69; Wernham l.c. 274. *APD acc*

Mussaenda entomophila Wernham (1916).

Shrub; flowers creamy yellow, enlarged calyx-lobe white.

Guin.: Macenta, 2,000-2,600 ft. (Oct.) Baldwin 9838! **S. L.:** Jau, Tunkia Chiefdom (Oct.) Deighton 5196! **S. Nig.:** Degema Talbot! Calabar (Aug.) Holland 73! Oban Talbot 1050! Nkuru to Abaragba, Ikom (Apr.) Jones 1547! **[Br.] Cam.:** Victoria (Jan.) Kalbreyer 71! Victoria to Kumba (Apr., June) Hutch. & Metcalfe 141! Dundas FHI 8351a! S. Bakundu, Kumba (Jan.) Binuyo & Daramola FHI 35174! **F. Po:** (fl. & fr. Nov.) T. Vogel 67! Barter! Mann 60! Plaza de Ureka (Nov.) Guinea 2505! Moka, 5,000 ft. (Sept.) Boughey 89!

Also in **Cameroun, Congo, Angola** and **S. Tomé** and **Principe**.

[Baldwin 9838 and Deighton 5196 cited above have broader calyx-lobes than usual but appear to be referable to this sp.-F.N.H.]

12. *Mussaenda chippii* Wernham l.c. 237 (1913). *APD acc*

Mussaenda buntingii Wernham l.c. (1913).

Mussaenda conopharyngiifolia of Chev. Bot. 313, not of Stapf.

A slender straggling shrub; flowers yellow or orange, enlarged calyx-lobe white; on forest margins and roadsides in forest.

Guin.: Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9838a! **S. L.:** Malema (Nov.) Deighton 328! Kenema (fl. Oct. & fr. Nov.) Deighton 5278! Joru (Oct.) Deighton 5195! **Lib.:** Monrovia (June) Baldwin 5877! Begwai, Gola Bunting 144! Gbanga (Sept.) Linder 635! Ganta (Sept.) Harley! Kakatown Whyte! **Iv. C.:** Yapo (fl. & fr. Oct.) Chev. B22366! Prolo (Aug.) Chev. 19859! Abidjan (Dec.) Chev. 16503! **Ghana:** Amokokrom (Aug.) Chipp 323! Dixcove to Busua (ft. Mar.) Morton A264! Ankobra Junction (Jan.) Kitson 1008! Nsuaem (fl. & fr. Sept.) Fishlock 51! Tarkwa (fl. & fr. Jan.) Vigne FH 4122!

13. *Mussaenda landolphioides* Wernham l.c. 238 (1913). *APD acc*

Mussaenda scabrida Wernham l.c. 236 (1913).

Mussaenda brachyantha Wernham l.c. 238 (1913).

A woody climber with harsh reflexed hairs on the younger stems; flowers yellow, enlarged calyx-lobe white or pale yellow; in swamp forest.

Lib.: Begwai, Gola Bunting 147! **Iv. C.:** N'Zida Aké Assi IA 5494. **S. Nig.:** Lagos Millen 95! 100! Sapoba Kennedy 2647! Meikle 611! Nikrowa, Okomu F.R. (Sept.) Iriah FHI 23090! Ibadan Foster 157!

14. *Mussaenda isertiana* DC. Prod. 4: 371 (1830); F.T.A. 3: 67; Wernham l.c. 238; Chev. Bot. 314. *APD acc*

Mussaenda macrophylla Schum. & Vahl (1827), not of Wall. (1824).

Climbing shrub up to 30 ft. high; flowers yellow, strongly scented, enlarged calyx-lobe white; in forest.

S. L.: Don! **Iv. C.:** Banco (June) Aké Assi 5409! **Ghana:** Essiama (Oct.) Fishlock 5! Axim Fishlock 40! **Dah.:** Ouida (= Whydah) Isert. Porto Novo Chev. 22728! **N. Nig.:** Bassa (Aug.) Elliott 94! Anara F.R., Zaria (May) Keay FHI 22889! **S. Nig.:** Lagos Barter 3236! Ogun River F.R. (Mar.) Hepper 2257! Jamieson R., Sapoba Kennedy 2038! Shasha F.R. (Mar.) Richards 3202! Abeokuta Irving 95! Eket Talbot 3000! 3124! **F. Po:** T. Vogel 226!

Also in Cameroun.

15. *Mussaenda afzelioides* Wernham in Cat. Talb. 40 (1913); J. Linn. Soc. 51: 238. *APD acc*

A climbing shrub.

S. Nig.: Oban Talbot 212! 275!

Mussaenda lancifolia K. Krause in Engl. Bot. Jahrb. 57: 58 (1920).

F. Po: Bokoko (Oct.) Mildbr. 6813.

The type specimen was destroyed at Berlin and it has not been possible to key out the species satisfactorily from the description alone.

48. PAURIDIANTHA

Hook. f.-F.T.A. 3: 71; Bremkamp in Engl. Bot. Jahrb. 71: 200-227 (1940).

Urophyllum of F.T.A. 3: 72; of F.W.T.A., ed. 1, 2: 103, not of Wall.

- 1 Inflorescences (6-) 10-20 cm. long, sometimes as long as or longer than the leaves, openly cymose; stipules large and foliaceous:2
- Inflorescences axillary clusters at most 4 cm. long (in No. 11), often dense:3
- 2 Calyx glabrous, shortly toothed; inflorescences always axillary, the branches puberulous with very short crispate hairs; leaves broad at base, oblong-elliptic, acuminate, up to 20 cm. long and 7 cm. broad, glabrous beneath,

- except in the axils of the 15-20 pairs of lateral nerves, reticulate between them; stipules broadly ovate, abruptly mucronate [1. floribunda](#)
- Calyx shortly pubescent outside, undulate; inflorescences terminal with some axillary, the branches pubescent with loose hairs; leaves similar to above but acute at base; stipules broadly ovate, gradually acute; fruits globose, wrinkled when dry about 5 mm. diam., capped by cupular calyx [2. viridiflora](#)
- 3 Branchlets more or less glabrous: [4](#)
- Branchlets conspicuously pubescent: [7](#)
- 4 Calyx undulate or with triangular teeth: [5](#)
- Calyx-teeth subulate, 1 mm. long; leaves long-acuminate, cuneate at base, lanceolate to oblong-elliptic, 7-11 cm. long, 2-3(-4) cm. broad, with about 8 pairs of lateral nerves; stipules linear-triangular [5. paucinervis](#)
- 5 Stipules spatulate, at least 1.5 mm., and up to 6 mm., broad, early caducous; leaves reddish beneath, rather coriaceous, 10-28 cm. long, 4-12 cm. broad, with distinct intra-marginal nerve; inflorescences 2-3 cm. long; branchlets glabrous: [6](#)
- Stipules filiform; branchlets sparsely and minutely pubescent; inflorescences few-flowered, 1 cm. long; leaves light green, long-acuminate, mucronate, shortly cuneate at base, oblong-elliptic, 4-14 cm. long, 1.5-4.5 cm. broad, with 5-6 pairs of lateral nerves [9. sylvicola](#)
- 6 Intra-marginal nerve of leaves beneath clearly looped, lateral nerves about 7, apex acute; calyx about 2 mm. diam., truncate; fruits 5-6 mm. diam.; stipules ovate, 4-6 mm. broad [3. rubens](#)
- Intra-marginal nerve of leaves beneath almost parallel with margin, lateral nerves about 12, apex acuminate; calyx about 4 mm. diam., slightly lobed; stipules linear-lanceolate, 1.5-3 mm. broad [4. ziamaeana](#)
- 7 Stipules filiform or subulate: [8](#)
- Stipules ovate to lanceolate; branchlets hirsute: [10](#)
- 8 Branchlets hirsute with spreading hairs; leaves oblong-elliptic, broadly acuminate, about 12 cm. long and 5 cm. broad, pilose on nerves beneath, tertiary nerves inconspicuous [6. insculpta](#)
- Branchlets shortly and densely pubescent (see also No. 9 above); calyx-teeth shortly subulate or triangular: [9](#)
- 9 Tertiary nerves numerous (obvious at least when dry) and at right angles to the midrib, leaves elliptic to oblong-elliptic, broadly acuminate, 3-6 cm. long, 1.5-3 cm. broad; calyx-lobes very shortly subulate [7. canthiiflora](#)
- Tertiary nerves inconspicuous and anastomosing, leaves oblong-elliptic, acuminate, 4-8 cm. long, (1.5-) 2-2.5 cm. broad; calyx-lobes triangular [8. afzelii](#)
- 10 Inflorescence congested axillary cluster; calyx-lobes lanceolate about 3 mm. long, densely hairy; stipules lanceolate 1.5-2 cm. long, 5-7 mm. broad; leaves narrowly oblong-elliptic, acuminate, 15-18 cm. long, 5-6 cm. broad, pilose beneath, about 18 pairs of lateral nerves [10. stipulosa](#)
- Inflorescence shortly pedunculate; calyx truncate, glabrous; stipules ovate-lanceolate, 1.3-2.5 cm. long, 7-11 mm. broad; leaves oblanceolate, acute or abruptly acuminate, 5-8 cm. broad, pubescent beneath, about 20 pairs of lateral nerves [11. hirtella](#)

1. *Pauridiantha floribunda* (K. Schum. & K. Krause) Bremek. in Engl. Bot. Jahrb. 71: 216 (1940). *APD acc*

Urophyllum floribundum K. Schum. & K. Krause (1907)-F.W.T.A., ed. 1, 2: 104.

Erect shrub 12-25 ft. high; flowers small and whitish; [in high forest](#).

S. Nig.: Sapoba Kennedy 354! 2308! Eket Dist. Talbot! Ikom (July) Catterall 12! Boshi-Okwangwo F.R., Ogoja (May) Latilo FHI 30950! **[Br.] Cam.:** S. Bakundu F.R., Kumba (fr. Aug.) Akuo FHI 15170! Mungo F.R., Kumba (May) Olorunfemi FHI 30603!

Also in [Cameroun](#), [Gabon](#) and [S. Tomé](#).

2. *Pauridiantha viridiflora* (Schweinf. ex Hiern) Hepper in Kew Bull. 13: 405 (1959). *APD acc*

Urophyllum viridiflorum Schweinf. ex Hiern in F.T.A. 3: 74 (1877); F.W.T.A., ed. 1, 2: 104.

U. eketense Wernham (1914).

Pamplathantha viridiflora (Schweinf. ex Hiern) Bremek. l.c. 217 (1940).

Shrub or small tree 10-20 ft. high, with yellow-green leaves; flowers greenish or grey; [at edges of forest](#).

S. Nig.: Eket Dist. Talbot 3327! Degema Dist. Talbot! **[Br.] Cam.:** Buea and Mopanya, Cam. Mt., 2,400-3,200 ft. (Mar.-Apr.) Maitland 502! 1075! Bali (May) Ujor FHI 30378! Wum (June) Daramola FHI 41093!

Also in [Cameroun](#), [Ubangi-Shari](#), [Congo](#), [Uganda](#) and [Tanganyika](#).

3. *Pauridiantha rubens* (Benth.) Bremek. l.c. 215 (1940). *APD acc*

Urophyllum rubens Benth. (1849)-F.T.A. 3: 73; F.W.T.A., ed. 1, 2: 104.

A glabrous shrub with the branches and leaves beneath reddish; at forest edge.

[Br.] Cam.: Bulifambo, Buea, 2,500 ft. (fr. Mar.) Maitland 576! Johann-Albrechtshöhe (= Kumba) Staudt 860a. F. Po: (Oct.) T. Vogel 48! Arabin! Musola, 1,600 ft., Mildbr. 6933; 7006. Also in Cameroun, Congo and S. Tomé.

4. *Pauridiantha ziamaeana* (Jac.-Fél.) Hepper in Kew Bull. 13: 405 (1959).

APD: Synonym of Stelechantha ziamaeana (Jacq.-Fél.) N. Hallé

Urophyllum ziamaeum Jac.-Fél. in Bull. I.F.A.N. 16: 990 (1954).

U. rubens Benth. (1849), partly (Afzelius).

Shrub up to 15 ft. high.

Guin.: Ziam, near Macenta (Mar.) Jac.-Fél. 1559! S. L.: Afzelius! Kambui Hills (Feb.) Edwardson 9! Lib.: Truo, Sinoe Co. (fr. Mar.) Baldwin 11390! Kulo, Sinoe Co. (fr. Mar.) Baldwin 11414!

5. *Pauridiantha paucinervis* (Hiern) Bremek. l.c. 212 (1940). *APD acc*

Urophyllum paucinerve Hiern in F.T.A. 3: 74 (1877); F.W.T.A., ed. 1, 2: 10.

A shrub 10-20 ft. high with arching branches and slender green branchlets; flowers white; fruits red; in understorey of upland forest.

[Br.] Cam.: Cam. Mt., 4,000-5,000 ft. (Feb.) Maitland 1308! 1320! Bali-Ngemba F.R. (May) Ujor FHI 30342! Nkambe (fl. & fr. Feb.) Hepper 1896! F. Po: Mann 577! Mioko, 4,500 ft. (Feb.) Exell 844! Las Cascadas (Jan.) Guinea 2172! Finca Puente (Jan.) Guinea 1791!

6. *Pauridiantha insculpta* (Hutch. & Dalz.) Bremek. l.c. 215 (1940).

APD: Synonym of Empogona talbotii (Wernham) J. Tosh & Robbr.

Urophyllum insculptum Hutch. & Dalz. F.W.T.A., ed. 1, 2: 104 (1931).

A shrub with shortly hirsute branches.

S. Nig.: Oban Talbot! Orem, Oban F.R. (fr. Feb.) Onochie FHI 36257x!

7. *Pauridiantha canthiiflora* Hook. f. in Benth. & Hook. f. Gen. Pl. 2: 70 (1871); F.T.A. 3: 71 (as *P. canthiifolia*); Bremek. l.c. 210. *APD acc*

Urophyllum canthiiflorum (Hook. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 104 (1931).

U. talbotii Wernham in Cat. Talb. 41 (1913).

A shrub 6-15 ft. high; flowers few, yellowish.

S. Nig.: Oban Talbot 225! [Br.] Cam.: Victoria (Oct.) Winkler 548! Johann-Albrechtshöhe (= Kumba) Staudt 566! 804! Banga F.R., Kumba (fr. Mar.) Binuyo & Daramola FHI 35591! Mamfe (fr. Mar.) Richards 5222! F. Po: Mann 167!

Also in Congo.

8. *Pauridiantha afzelii* (Hiern) Bremek. l.c. 212 (1940). *APD acc*

Urophyllum afzelii Hiern in F.T.A. 3: 73 (1877); F.W.T.A., ed. 1, 2: 104; Chev. Bot. 315; Aubrév. Fl. For. C. Iv., ed. 2, 3: 298.

U. micranthum of Chev. Bot. 315, not of Hiern.

A shrub up to 15 ft. high (or tree, in Ghana, to 40 ft. high), with slightly pubescent green branchlets; flowers greenish-white; fruits red; in high forest.

Port. G.: Bissau (fl. & fr. Feb., Mar.) Esp. Santo 1833! 1888! Guin.: Labé (Apr.) Chev. 12301! Fiffa (fr. Dec.) Roberty 16221! Erimakuna (Mar.) Sc. Elliot 5263! S. L.: Berria, Falaba (fr. Mar.) Sc. Elliot 5413! Njala (Mar.) Deighton 1581! Baoma (fr. Apr.) Deighton 3168! Pujehun (Apr.) Lane-Poole 59! Lib.: Ganta (fr. Jan.) Baldwin 14056! Harley 292! Iv. C.: Yapo Serv. For. 1717! Ouaguié Chev. 17175. Beyo (fl. & fr. Jan.) Leeuwenberg 2453! Ghana: Afram Plains (fl. & fr. May) Kitson 1135! Tano Nimiri F.R. (fr. July) Agbley 6257! S. Nig.: near Lagos Rowland 51!

9. *Pauridiantha sylvicola* (Hutch. & Dalz.) Bremek. l.c. 212 (1940). *APD acc**Urophyllum sylvicola* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 104 (1931).*U. afzelii* of F.W.T.A., ed. 1, 2: 104, partly (Cooper 48; 250), not of Hiern.

Shrub or small tree; flowers whitish; in understorey of high forest.

Lib.: Dukwai R. (fr. Nov., Feb.) Cooper 48! 250! Medina, Bumbuna (Oct.) Linder 1307! Karmadhun, Kolahun Dist. (fl. & fr. Nov.) Baldwin 10204! Ba, Boporo Dist. (fr. Dec.) Baldwin 10716! **Ghana:** Esem Epan F.R. (Oct.) Darko 1015! Sefwi Bekwai (fr. Oct.) Akpabla 899! Benso, Tarkwa Dist. (fl. & fr. Aug.) Andoh 5745! 5753! **[Br.] Cam.:** Banga, S. Bahundu F.R. (Mar.) Brenan 9452!

[Close to *P. afzelii* and perhaps a less pubescent form of it; the leaves are usually broader and longer acuminate-F.N.H.]10. *Pauridiantha stipulosa* (Hutch. & Dalz.) Hepper in Kew Bull. 13: 405 (1959).*APD:* *Synonym of Poecilocalyx stipulosa* (Hutch. & Dalziel) N. Hallé*Urophyllum stipulosum* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 104 (1931).*Pentaloncha ? stipulosa* (Hutch. & Dalz.) Bremek. l.c. 226 (1940).

A shrub with white flowers.

Lib.: Dukwai R. (Feb., Nov.) Cooper 37! 205! Du R. (July) Linder 86! Duo (Mar.) Baldwin 11347!11. *Pauridiantha hirtella* (Benth.) Bremek. l.c. 216 (1940). *APD acc**Urophyllum hirtellum* Benth. (1848)-F.T.A. 3: 73; F.W.T.A., ed. 1, 2: 104; Aubrév. Fl. For. C., ed. 2, 3: 298.

Shrub up to 15 ft. high, usually hairy; flowers greenish-white; in secondary swamp forest and moist ground.

Port. G.: Bissau (fl. Feb., fr. Mar.) Esp. Santo 1776! 1832! 1861! **S. L.:** Bagroo R. Mann 868! Gbanbama Thomas 8951! Zimi (fl. A fr. Apr.) Deighton 3638! Dodo (fr. Apr.) Deighton 3923! Kassa, 4,000 ft. (Mar.) Sc. Elliot 5058! **Lib.:** Doblí Isl. (fr. Apr.) Bequaert 175! Barclayville (fr. Mar.) Baldwin 11108! Mecca (Dec.) Baldwin 10822! Gbanga (Sept.) Baldwin 528! **Iv. C.:** Port Bouët Aubrév. 1637! Danipleu Serv. For. 1154. **Ghana:** Benso (fr. Nov.) Andoh FH 5413! Ankobra R., Axim Morton A373! Nkroful (fl. & fr. Nov.) Vigne FH 1409! Essiama (fr. Oct.) Unknown Collector No. 7! **S. Nig.:** Lagos (July) Dalz. 1200! Omo (formerly part of Shasha) F.R. (Mar.) Jones & Onochie FHI 17001! Iva Valley, Enugu (Feb.) Jones FHI 567! Calabar (Feb.) Mann 2237! **[Br.] Cam.:** Mamfe (Mar.) Onochie FHI 34833! Man o' War Bay (Apr.) Schlechter 12380!

Also in **Cameroun**.

49. SABICEA

Aubl. (1775)-F.T.A. 3: 74; Wernham Monogr. Sabicea (1914); Hepper in Kew Bull. 13: 289 (1958); F. Hallé in *Adansonia* 1: 266-298 (1961).

Stipularia P. Beauv. (1807)-F.T.A. 3: 79; F.W.T.A. 2: 107.

- 1 Leaves more or less thinly pilose or pubescent beneath, not completely covered with a felt of hairs; (to p. 171): **2**
 Leaves completely covered with a dense felt of usually white hairs: **28**
 - 2 Inflorescences cauliflorous, i.e. on older stems and separated from the leaves (see also No. 8): **3**
 Inflorescences not cauliflorous, in axils of leaves, flowers solitary or clustered: **6**
 - 3 Lateral nerves of leaves 8-10 (-15) pairs; leaves up to 15 cm. long; stipules ovate, about 1 cm. long; corolla hairy outside: **4**
 Lateral nerves of leaves 20-25 pairs; leaves 30 or more cm. long; stipules 3-6 cm. long; corolla glabrous; calyx-lobes filiform, about 1 cm. long: **5**
 - 4 Inflorescences on aerial shoots, sessile, few-flowered; calyx-lobes linear-filiform, 1-5 cm. long, whole calyx densely pilose; corolla densely pilose; bracts wanting or very small; leaves broadly elliptic, rounded or subcordate at base, slightly acuminate, 10-14 cm. long, 4-7.5 cm. broad, thinly pilose above and densely spreading-pilose on midrib beneath *1. speciosa*
- Inflorescences on rooting prostrate shoots, shortly pedunculate, many-flowered; calyx-lobes broadly oblong to lanceolate, 1-5 cm. long, whole calyx long-ciliate; corolla villose; bracts forming an open involucre; leaves

- obovate, cuneate at base, long-caudate-acuminate, 12-15 cm. long, 4-7 cm. broad, thinly pilose above and on nerves beneath [2. pilosa](#)
- 5 Leaves shortly pubescent on nerves beneath, weakly pilose above, ciliate; stipules ovate about 3 cm. long; young branchlets densely hispid with long spreading hairs [3. xanthotricha](#)
- Leaves long-pilose on nerves beneath, pilose above; stipules broadly lanceolate about 6 cm. long; young branchlets densely villose [4. urbaniana](#)
- 6 Prostrate undershrub; flowers in bracteate heads 2-3 cm. diam.; calyx and corolla villose; peduncle about 1.5 cm. long; stems far-creeping, rooting at nodes; leaves elliptic, 3-7 cm. long, 2-4 cm. broad, laxly pilose [19. geophiloides](#)
- Climbing or erect shrubs: 7
- 7 Flowers solitary in leaf axils: 8
- Flowers clustered: 11
- 8 Calyx-lobes 2.5-5 mm. long, triangular; leaves cuneate at base, elliptic, about 8 cm. long and 4 cm. broad, with about 11 pairs of lateral nerves, pubescent on nerves beneath; corolla densely pilose; bracts small and inconspicuous at base of calyx: 9
- Calyx-lobes 10-15 mm. long, subulate or linear; bracts united into a cup 5 mm. long closely surrounding ovary: 10
- 9 Corolla 14 mm. long; calyx-lobes long-triangular, about 5 mm. long [5. bracteolata](#)
- Corolla 20 mm. long; calyx-lobes short-triangular, about 2.5 mm. long [6. rosea](#)
- 10 Calyx-lobes subulate, 0.5 mm. broad; corolla about 3 cm. long, densely pilose with spreading pink hairs; leaves cordate to cuneate at base, ovate-elliptic, 10-13 cm. long, 4-6.5 cm. broad, pubescent beneath on the 9-12 pairs of lateral nerves; branchlets spreading-pilose [7. cordata](#)
- Calyx-lobes linear, 2 mm. broad; corolla 2 cm. long, densely appressed-pilose; leaves cuneate at base, elliptic, 8-10 cm. long, 3-4.5 cm. broad, pilose all over lower surface, lateral nerves about 12 pairs; branchlets appressed-pilose, becoming subglabrous [10. liberica](#)
- 11 Stout, erect, shrub; stipules free, foliaceous (3-) 7 cm. long, (1-) 4 cm. broad; leaves oblanceolate, long-cuneate to base, 20-50 cm. long, 8-20 cm. broad 24. gigantistipula Climbing shrubs:..... [12c136fn1_12](#)
- Inflorescences lax, not distinctly surrounded by bracts: 13
- Inflorescences close, usually globose, surrounded by distinct bracts: 14
- 13 Flowers in small cymes, 2-3 cm. long, with about 2 small often reflexed bracts at base; corolla 9-10 mm. long; calyx-lobes about 3 mm. long; leaves oblong-elliptic to ovate, acutely acuminate, rounded to subcordate at base, 8-10 cm. long, 4-5 cm. broad, distinctly setulose above [12. venosa](#)
- Flowers in large cymes, up to 20 cm. long, with numerous bracteoles; corolla about 4 mm. long; calyx-lobes about 2 mm. long; leaves oblong-elliptic to elliptic, acute to acuminate, cuneate to subcordate at base, 10-15 cm. long, 5-7 cm. broad, almost glabrous above except on nerves [13. floribunda](#)
- 14 Flower-heads long-pedunculate, (2-) 4-8 cm. long:..... 15
- Flower-heads sessile or shortly pedunculate (with peduncle up to 1 cm. long):..... 19
- 15 Peduncles glabrous; calyx-lobes 5-8 mm. broad, foliaceous, ovate; ovary glabrous; corolla-lobes pubescent, tube glabrous; leaves oblong-elliptic, acutely acuminate, rounded to cordate at base, 5-8 cm. long, 3-4 cm. broad, thinly pilose beneath, with 8-12 pairs of lateral nerves [14. calycina](#)
- Peduncles pubescent; calyx-lobes linear (narrowly lanceolate in No. 15); ovary pubescent: 16
- 16 Calyx-lobes spreading-pilose, linear, 9-12 mm. long, 1 mm. broad; (see other characters below) [20. vogelii](#)
- Calyx-lobes appressed- or sparsely-pubescent: 17
- 17 Peduncle 4-8 cm. long: 18
- Peduncle 2-2.5 cm. long; leaves oblong-elliptic, shortly cuneate at base, 6-10 cm. long, 3-4 cm. broad, pubescent only on the 10 pairs of lateral nerves; calyx campanulate, lobes linear; bracts leafy at apex [23. robbii](#)
- 18 Leaves glabrous above, ovate, 5-8 cm. long, 3-6 cm. broad, acuminate, evenly appressed-pubescent and densely so on the midrib and lateral nerves beneath; calyx-lobes linear, 1.5-2 mm. broad, 10-12 mm. long, shortly pubescent inside, ciliate on margins, pubescent along midrib outside; corolla densely pubescent .. [16. harleyae](#)
- Leaves pubescent above, narrowly elliptic, cuneate at both ends, 8-12 cm. long, 2.5-5 cm. broad, with 14-18 pairs of appressed-pubescent lateral nerves, otherwise nearly glabrous; corolla appressed-pilose . [15. schaeferi](#)
- 19 Flowers 2-4 together, sessile: 20
- Flowers numerous (at least 4) in the head: 24
- 20 Bracts an obscure cup about 1 mm. long at base of each distinct flower; calyx shortly pubescent; (see also above) [6. rosea](#)
- Bracts fused into an open or urn-shaped cup:..... 21

- 21 Bracts fused into an urn-shaped cup about 1 cm. long completely enclosing the calyx; corolla glabrous, about 2.5 cm. long; leaves obovate, 7-11 cm. long, 3-5 cm. broad, hispid on both sides, with about 15 pairs of arching lateral nerves [11. urceolata](#)
- Bracts forming an open involucre cup; corolla densely pilose; 22
- 22 Branchlets and leaves on both surfaces spreading-pilose: 23
- Branchlets shortly and densely pubescent; leaves glabrous above except the nerves, pubescent on the nerves beneath [5. bracteolata](#)
- 23 Leaves shortly and abruptly acuminate, cuneate at base, ovate to obovate, 7-11 cm. long, 4-6 cm. broad, shortly pilose above and on midrib and nerves beneath, with 9 pairs of lateral nerves; calyx-lobes long-triangular, 4-5 mm. long, tube densely pilose at base; involucre about 7 mm. diam.; stipules ovate about 7 mm. long and broad [8. sp. nr. cordata](#)
- Leaves long-acuminate at apex, cuneate to rounded at base, elliptic to oblanceolate, 10-17 cm. long, 3-7 cm. broad spreading-pilose above and on the midrib and nerves beneath, with about 11 pairs of lateral nerves; calyx-lobes linear, 10 mm. long, densely pilose; involucre about 1.5 cm. diam.; stipules broadly ovate, up to 12 mm. long and broad [9. neglecta](#)
- 24 Bracts usually obscure except when young, reflexed beneath the globose inflorescence, ovate-lanceolate about 1 cm. long; corolla-lobes pubescent, tube glabrous; calyx-lobes linear, 9-12 mm. long, 1 mm. broad; leaves ovate, about 8 cm. long and 4 cm. broad, thinly pilose; petioles up to 1 cm. long [20. vogelii](#)
- Bracts conspicuous at all stages of inflorescence; most of corolla pubescent: 25
- 25 Inflorescences aggregated near ends of shoots, compact; 1 cm. diam.; bracts ovate, about 1 cm. long; leaves ovate-elliptic, acuminate, 8-9 cm. long, 3.5-4 cm. broad, scabrid above, sparingly pubescent beneath [22. talbotii](#)
- Inflorescences axillary, not specially towards ends of shoots: 26
- 26 Bracts ovate to ovate-lanceolate, up to 1.5 cm. long and at most 1 cm. broad at base; leaves ovate 6-9 (-12) cm. long, 3-5 cm. broad, long-cuneate to acute at apex, rounded at base, rather densely pubescent on both sides; petiole about 1 cm. long [21. brevipes](#)
- Bracts very broadly ovate, broadest above the base, up to 2 cm. broad, enclosing the inflorescences: 27
- 27 Petioles 3-6 cm. long; leaves obovate to ovate-elliptic, 9-17 cm. long; 5-9 cm. broad, with 12-15 pairs of lateral nerves, acute or shortly acuminate at apex, often long-cuneate at base, glabrous or shortly pubescent above, pubescent beneath; in lowland forest [17. gabonica](#)
- Petioles about 1 cm. long; leaves elliptic to ovate-elliptic, 4-11 cm. long, 2-7 cm. broad, with about 13 pairs of lateral nerves, acute or shortly acuminate at apex, rounded to cuneate at base, pubescent above and often densely so beneath; upland species [18. efulensis](#)
- 28 Flowers in a loose shortly pedunculate cyme; leaves oblong or ovate-elliptic, acutely acuminate, 6-9 cm. long, 3-4.5 cm. broad, shortly pilose above, with 12-18 pairs of lateral nerves; stipules ovate, about 7 mm. long; corolla appressed-pubescent outside, 1 cm. long [26. discolor](#)
- Flowers in a compact head or solitary (then also with creeping habit); involucre of bracts usually conspicuous: 29
- 29 The flowers solitary or a few together; creeping and with erect stems up to 15 cm. high; lower leaves markedly smaller than upper, normal leaves about 9 cm. long and 5 cm. broad, appressed-pilose above; stipules 8-14 cm. long, margins densely brown-pilose [27. medusula](#)
- The flowers numerous; climbing or erect shrubs: 30
- 30 Stipules very large, about 30 mm. long and broad, enclosing sessile inflorescence in urn-shaped fused bracts 2-3 cm. long; leaves lanceolate-elliptic or broadly oblanceolate, subacute at apex, 10-15 cm. long, 4-7 cm. broad, glabrous above, margins and petioles ciliate; erect shrub [25. africana](#)
- Stipules 5-20 mm. long (when over 10 mm. long then inflorescence pedunculate):
- 31 Bracts fused into a sessile urn-shaped involucre enclosing the flowers; stipules about 5 mm. long; leaves broadly lanceolate to obovate or elliptic, acute, 10-15 cm. long, 4-7 cm. broad, with about 11 pairs of distinct lateral nerves; erect shrub [28. elliptica](#)
- Bracts not fused into urn-shaped involucre; climbers: 32
- 32 Flowers pedicellate in the heads; leaves ovate-elliptic, acutely acuminate, 8-13 cm. long, 4-6 cm. broad: 33
- Flowers sessile or subsessile in the head: 34
- 33 Calyx-lobes 5-6 mm. long, narrowly lanceolate, spreading, ciliate; pedicels about 6 mm. long; leaves with up to 20 pairs of lateral nerves; corolla a little longer than the calyx, pubescent on lobes outside [29. johnstonii](#)
- Calyx-lobes 1.5-2.5 mm. long, narrowly triangular, reflexed against ovary, woolly outside; pedicels about 6 mm. long, up to 13 mm. long in fruit; leaves with about 10 pairs of lateral nerves; corolla much longer than the calyx, pubescent on lobes outside [30. pedicellata](#)
- 34 Heads sessile or subsessile: 35
- Head pedunculate, peduncle 4-10 cm. long: 37

- 35** Leaves yellow rusty-brown beneath; (see other characters below) [33. ferruginea](#)
 Leaves white or greyish-brown beneath: **36**
- 36** Calyx-lobes lanceolate, acute, more or less brown appressed-pubescent, about 3 mm. long; inflorescences sessile or with peduncle up to 1.5 cm. long; leaves ovate-elliptic to oblanceolate, 5-15 cm. long, 2-8 cm. broad, subglabrous above, greyish-brown beneath [31. capitellata](#)
 Calyx-lobes markedly acuminate from ovate base, densely clothed with long white hairs, about 7 mm. long; inflorescences sessile; leaves ovate to obovate, rounded to subcordate at base, 5-12 cm. long, 3-5 cm. broad, rather densely pubescent above, white beneath (at least when young) [32. arachnoidea](#)
- 37** Leaves yellow rusty-brown beneath, broadly ovate subcordate to rounded or subacute at base, 10-15 cm. long, 5-11 cm. broad, sparsely hairy above; stipules broadly ovate, 1-1.5 (-2) cm. long, striate; inflorescences 3-5 cm. diam.; calyx-lobes filiform, about 1 cm. long [33. ferruginea](#)
 Leaves grey or light brownish beneath, elliptical, subacute at both ends, 8-12 cm. long, 4-6.5 cm. broad, glabrous or loosely woolly above when young; calyx-lobes oblong, 4 mm. long [34. lanuginosa](#)

1. *Sabicea speciosa* K. Schum. in Engl. Bot. Jahrb. 23: 429 (1896); Wernham Monogr. Sabicea 44 (1914). *APD acc*

Slender climbing shrub; flowers densely pink-hairy, in dense clusters.

Togo Rep.: Büttner 263. **S. Nig.:** Oban Talbot 1040. Afi River F. R., Ogoja Prov. (May) Jones & Onochie FHI 18906! 18936! [**Br.**] **Cam.:** Victoria Winkler 27. Barombi (Nov.) Preuss 150! Abonando Rudatis 57! Lakka, Bamenda, 4,000 ft. (June) Maitland 1569!

Also in **Cameroun**.

2. *Sabicea pilosa* Hiern in F.T.A. 3: 76 (1877); Wernham l.c. 61. *APD acc*

A creeping and climbing shrub up to 10 ft. or more high, flowering on the fairly stout older stems which root at the nodes; flowers pink.

[**Br.**] **Cam.:** Barombi Preuss 15; 278.

Also in **Cameroun** and **Gabon**.

[Vigne FH 2807 (Simpa, Ghana) and Aké Assi 2830 (Gabo to Gaouri, Iv.C.) are closely allied but have narrow calyx-lobes and sparsely pilose corolla.-F.N.H.]

3. *Sabicea xanthotricha* Wernham in Cat. Talb. 42, t. 11, 1-4 (1913), and Monogr. Sabicea 28. *APD acc*

Hairy erect shrub with fascicles of flowers on older branches.

S. Nig.: Oban Talbot 249! 251!

4. *Sabicea urbaniana* Wernham Monogr. Sabicea 28 (1914). *APD acc*

Undershrub up to 8 ft. high; flowers white, densely clustered on older wood.

F. Po: Musola, 1,950-3,900 ft., Mildbr. 7041.

[This specimen was apparently destroyed in Berlin and the species needs to be re-collected. It appears to be a shrub 8 ft. high and not up to 70 ft. as stated in F.W.T.A., ed. 1.]

5. *Sabicea bracteolata* Wernham l.c. 73 (1914). *APD acc*

Sabicea aff. segregata of Chev. Bot. 316, partly (Chev. 12390).

A shrub, the branchlets densely rusty-tomentose when young; flowers densely silky-pubescent outside, solitary.

Guin.: Labé (Apr.) Chev. 12367! 12390! Pita Adam 11651!

[Vigne FH 4841 from Tarkwa, Ghana, has filiform calyx-lobes about 1 cm. long.-F.N.H.]

6. *Sabicea rosea* A. C. Hoyle in Kew Bull. 1935: 264. *APD acc*

Slender scrambling or climbing shrub; flowers red, very hairy; in forest.

IV. C.: Yapo (Dec.) Aké Assi 3889! Gouro to Gouékangouiné Chev. 21397! Taï (Mar.) Leeuwenberg 3013! **Ghana:** Boinsu (Dec.) Vigne FH 3190! Axim (fr. Feb.) Irvine 2376! **S. Nig.:** Omo (formerly part Shasha) F.R. (fl. & fr. Apr.) Jones & Onochie FHI 17279!

7. **Sabicea cordata** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 106 (1931). *APD acc*

Slender climbing shrub up to 10 ft. high; flowers scarlet, densely hairy, fruits red; in secondary deciduous forest.

IV. C.: Daoukrou to Morénou (Dec.) Chev. 22499! **Ghana:** Mampong Scarp (Apr.) Dalz. 54! Nsuta (fl. & fr. May) Vigne FH 1738! Abetifi (Jan.) Irvine 1691a! Odomi River F.R., Hohoe Dist. (Oct.) St. C. Thompson 1569!

8. **Sabicea sp. nr. cordata** Hutch. & Dalz. l.c. (1931). *APD acc*

Climbing shrub.

S. Nig.: Iagos Batten Poole 1!

[This is probably a form of *S. cordata* with short calyx-lobes like those of *S. bracteolata*.]

9. **Sabicea neglecta** Hepper in Kew Bull. 14: 255 (1960). *APD acc*

Climbing shrub; flowers red; in forest.

S. Nig.: Oban F.R. (May) Ujor FHI 30836!

10. **Sabicea liberica** Hepper in Kew Bull. 13: 293, fig. 1 (1968). *APD acc*

A climbing shrub; flowers pink, fruits red.

Lib.: Moala (Nov.) Linder 1380! Bahtown, Tchien Dist. (fr. Aug.) Baldwin 8030!

11. **Sabicea urceolata** Hepper in Kew Bull. l.c., fig. 4 (1968). *APD acc*

Slender climbing shrub about 4 ft. high; flowers white, bracts green sometimes tipped pink; in secondary forest.

S. Nig.: Okomu F.R., Benin (Feb.) Brenan 9032! Oban F.R. (Feb.) Onochie FHI 36325! **F. Po:** Musola (Jan.) Guinea 1053!

12. **Sabicea venosa** Benth. in Fl. Nigrit. 399 (1849); Wernham l.c. 32; Chev. Bot. 317. *APD acc*

Sabicea discolor of Chev. Bot. 316 (Chev. 17493), not of Stapf.

Sabicea schumanniana of Wernham l.c. 42, partly; of Aké Assi Contrib. 1: 151, not of Büttner.

A climbing shrub with branchlets pubescent or subglabrous; flowers whitish, fruits red.

Port. G.: Bissau (Mar.) Esp. Santo 1876! Fulacunda (fr. July) Esp. Santo 2105! **Guin.:** Karkandy Heudelot 821! Timbo to Conakry (fr. July) Pobéguin 770! Timbo Chev. 12423! **S. L.:** Hill Station Smythe 58! Sulimania (Mar.) Sc. Elliot 5276! Mabum (fr. Aug.) Thomas 1616! Njala (fr. May) Deighton 2518! **Lib.:** Yratoke, Webo Dist. (fr. July) Baldwin 6257! **IV. C.:** Guidéko Chev. 16453! Dabou Chev. 17160! 17222! Lamé (Oct.) Leeuwewberg 1730! **Ghana:** Axim (Feb.) Irvine 2136! Essiama Fishlock 11! Tarkwa (fl. Feb., fr. Dec.) Thompson 46! Miles 7! **[Br.] Cam.:** Buea (fl. Apr., fr. July) Maitland 32! Hutch. & Metcalfe 95!

Also in **Cameroun**, and **the Congos**.

13. **Sabicea floribunda** K. Schum. in Engl. Bot. Jahrb. 23: 428 (1897); Wernham l.c. 72. *APD acc*

Slender climbing shrub; flowers white or greenish-white, fruit whitish.

S. Nig.: Oban Talbot 228! New Ndebiji, Calabar (Apr.) Ejiofor FHI 21883!

Also in **Cameroun**, **Gabon** and **the Congos**.

14. **Sabicea calycina** Benth. in Fl. Nigrit. 399 (1840); F.T.A. 3: 76; Wernham l.c. 63; Chev. Bot. 316. *APD acc*

Sabicea barteri Wernham l.c. 64, t. 11, 5-7 (1914).

Slender climbing shrub, sometimes creeping; flowers white, calyx and stipules pinkish, fruits red; **in thickets chiefly in transitional savanna to forest regions.**

S. L.: Njala (May) Deighton 4765! Kasewe Hills F.R. (June) Deighton 5829! Bumbuna (fr. Oct.) Thomas 3338! **Lib.:** Cess River, Tchien Dist. (fr. Aug.) Baldwin 9021! **Iv. C.:** Alépé Chev. 17421! Indenié Chev. 17667! Sanvi Chev. 17722! Danané (fl. & fr. June) Collenette 46! **Ghana:** Dajon, near Axim (fl. & fr. Apr.) Chipp 167! Amentia Irvine 514! Nsuta (ft. May) Vigne FH 1742! Mampong (Apr.) Vigne FH 1922! **N. Nig.:** Awton (Apr.) Elliott 77! **S. Nig.:** Epe (= Eppah) (fl. A fr. May) Barter 3282! Hamblar N48! Ikene (Jan.) Burt B30! Eket Dist. Talbot! Ikom (May) Jones & Onochie FHI 17442! **[Br.] Cam.:** Victoria (fr. June) Maitland 54! Victoria to Kumba, 2,000 ft. (fr. Apr.) Hutch. & Metcalfe 147! Kumba to Mamfe (Jan.) Keay FHI 28555! Wum Div. (fr. July) Ujor FHI 30476! **F. Po:** Clarence Peak (Oct.) T. Vogel 35! Las Corteras (Jan.) Guinea 2072! Musola (Jan.) Guinea 973!

Also in **Cameroun**, **Gabon** and **Congo**.

15. *Sabicea schaeferi* Wernham l.c. 59 (1914). *APD acc*

Slender climbing shrub up to 12 ft. high; flowers white, buds pink.

F. Po: Moka (Jan.) Guinea 2241! L. Blao (Sept.) Wrigley 656!

Also in **Cameroun**.

16. *Sabicea harleyae* Hepper in Kew Bull. 13: 292, fig. 3 (1958). *APD acc*

A slender climbing shrub; flowers white, bracts and calyx-lobes pinkish.

S. L.: Kambui Hills (May) Bakshi 186! **Lib.:** Ganta (May) Harley 1167! s.n.!

17. *Sabicea gabonica* (Hiern) Hepper l.c.(1958). *APD acc*

***Stipularia gabonica* Hiern** in F.T.A. 3: 80 (1877).

A slender climbing shrub in **forest**.

S. Nig.: Okomu F.R., Benin (fr. Dec., Feb.) Brenan 8410! 8997! **[Br.] Cam.:** Mamfe (fr. Jan.) Maitland 1161! S. Bakundu F.R., Kumba (fr. Jan.) Binuyo & Daramola FHI 35067!

Also in **Gabon**.

18. *Sabicea efulenensis* (Hutch.) Hepper l.c. (1958).

***APD:* *Synonym of Sabicea gabonica* (Hiern) Hepper**

***Stipularia efulenensis* Hutch.** in Kew Bull. 1908: 291.

***Sabicea tchapensis* K. Krause** (1912), and var. *glabrescens* Wernham l.c. 59 (1914).

Climbing shrub up to 15 ft. high; fruits red; **upland forest margins and stream sides.**

S. Nig.: Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25217! **[Br.] Cam.:** Bamenda (Jan., Apr.) Migeod 433! Maitland 1706! Daramola FHI 40615! Mambila Plateau (Jan.) Hepper 1800! 2807! Vogel Peak, Adamawa (Nov.) Hepper 1439!

Also in **Cameroun**.

19. *Sabicea geophiloides* Wernham in Cat. Talb. 41 (1913), and Monogr. Sabicea 60. *APD acc*

Prostrate herb with long reddish stems giving rise to erect leafy shoots; flowers white, calyx lobes pink, fruits red; **on stream banks in forest.**

Ghana: Kumasi (Apr.) Piening 2345! Mpraeso Scarp (Apr.) Morton A707! **S. Nig.:** Sapoba Kennedy 1098! Ibadan North F.R. (fl. & fr. June) Jones FHI 3643! Olokemeji F.R. (June) Jones & Keay FHI 18813! Oban Talbot 255! **[Br.] Cam.:** Abonando Rudatis 44!

20. *Sabicea vogelii* Benth. in Fl. Nigrit. 398 (1849); F.T.A. 3: 76; Wernham Monogr. Sabicea 43; Chev. Bot. 317. *APD acc*

***Sabicea globifera* Hutch. & Dalz., F.W.T.A., ed. 1, 2: 106 (1931).**

Slender climbing shrub; flowers white or pale pink.

Guin.: Labé Chev. 12348! Diaguissa Chev. 12687! Nimba Mts. (Nov.) de Wilde 873! **S. L.:** Kumrabai (Jan.) Thomas 6855! Kenema (Apr.) Lane-Poole 227! Yonibana to Moyamba (Apr.) Deighton 6049! Bintumane (fr. Aug.) Jaeger 1058!

21. *Sabicea brevipes* Wernham l.c. 58 (1914). *APD acc*

APD: Synonym of Sabicea solitaria J.B. Hall

Climbing or erect shrub 3 or 4 ft. high; flowers white or mauvish, fruits and calyx red.

Iv. C.: Yapo (Aug.) Aké Assi 3122! **Ghana:** Volta River F.R. (Oct.) Morton GC 6069! Kpeve (May) Darko 567! Trawa (Jan.) Vigne FH 4396! **N. Nig.:** Gawu Hills, Niger Prov. (Aug.) Onochie FHI 35931! Anara F.R., Zaria (May) Keay FHI 22912! Mande F.R., Zaria (June) Keay FHI 25821! Naraguta (June) Lely 284! **S. Nig.:** Milliken Hill, Enugu (Feb.) Jones FHI 560!

22. *Sabicea talbotii* Wernham in Cat. Talb. 43 (1913), and Monogr. Sabicea 66. *APD acc*

S. Nig.: Oban Talbot 259!

23. *Sabicea robbii* Wernham Monogr. Sabicea 69, t. 10, 1-2 (1914).

APD: Synonym of Sabicea duparquetiana var. robbianella N. Hallé

APD: Synonym of Sabicea duparquetiana Baill. ex Wernham var. duparquetiana

A (? climbing) shrub 10-15 ft. high; flowers whitish.

S. Nig.: Calabar Robb!

Also in **Gabon**.

24. *Sabicea gigantistipula* K. Schum. in Engl. Bot. Jahrb. 33: 337 (1903), as *S. gigantostipula*; Wernham l.c. 27. *APD acc*

Erect shrub 10 ft. high, soft-wooded and with large leaves; **in forest**.

S. Nig.: Oban Talbot 259! s.n.! **F. Po:** Mt. Balen Guinea 427! El Pico, 3,000 ft. (Dec.) Boughey 192!

Also in **Cameroun**.

25. *Sabicea africana* (P. Beauv.) Hepper in Kew Bull. 13: 292 (1958). *APD acc*

Stipularia africana P. Beauv. (1807)-F.T.A. 2: 80; F.W.T.A., ed. 1, 2: 108; Chev. Bot. 317.

Soft-stemmed shrub 3-8 ft. high; flowers white, involucre reddish, fruits red; **in swamps and wet places**.

S. L.: Lusenya Sc. Elliot 4077! Samuel Town (Dec.) Deighton 3306! Bagroo R. (Apr.) Mann 877! Mano Bonjema Deighton 3708! **Lib.:** Paynesville (Apr.) Bequaert 165! Duport (Nov.) Linder 1482! Janrocca (Dec.) Baldwin 10850! Bushrod Isl. (Feb.) Baldwin 11080! **Iv. C.:** Dabou (Feb.) Chev. 17230. **Ghana:** Awiabo (Nov.) Vigne FH 1435! **S. Nig.:** Lagos Isl. Dalz. 1055! Sapoba Kennedy 1801! Eket Dist. Talbot 3292! Oban Dist. (Mar.) Onochie FHI 7710!

Also in **Cameroun**, **Gabon** and **Congo**.

26. *Sabicea discolor* Stapf in J. Linn. Soc. 37: 105 (1905); Wernham l.c. 35. *APD acc*

Sabicea loxothyrsus K. Schum. & Dinkl. ex Stapf (1906).

Sabicea discolor var. **β laxothyrsa** Wernham l.c. (1914).

Climbing shrub with leaves white beneath; flowers pink or white.

S. L.: Njala (May, Sept.) Deighton 2125! 4766! Mayaso (Aug.) Thomas 1381! Falaba (Apr.) Aylmer 31! **Lib.:** Monrovia Whyte! Grand Bassa (May) Dinklage 1903! Ganta Harley 425! Brewersville (fr. June) Barker 1329! **Iv. C.:** Abidjan Chev. 15343! Borobo Chev. 17664! **Ghana:** Akwapim (Mar.) Murphy 679! Essiama (fr. Apr.) Williams 433! Kumasi (Mar.) Vigne FH 1642! Tarkwa (Jan.) Vigne FH 4118!

27. *Sabicea medusula* K. Schum. ex Wernham l.c. 44, t. 6, 1-3 (1914). *APD acc*

Creeping herb about 6 ins. high, leaves white-felted beneath; fruits white; **in high forest**.

[Br.] Cam.: Mamfe (fr. Mar.) Coombe 198! 237!

Also in Cameroun.

28. *Sabicea elliptica* (Schweinf. ex Hiern) Hepper in Kew Bull. 13: 292 (1958). *APD acc*

Stipularia elliptica Schweinf. ex Hiern in F.T.A. 3: 80 (1877); F.W.T.A., ed. 1, 2: 108.

Soft-stemmed shrub about 4 ft. high, with quadrangular branches, hoary on the young parts and underleaf; flowers white, enclosed in an urn-shaped involucre of red-tinged bracts; in wet places.

S. Nig.: Onitsha Barter 166!

Also in Sudan.

29. *Sabicea johnstonii* K. Schum. ex Wernham l.c. 69 (1914). *APD acc*

A climbing shrub up to 10 ft. high, with leaves pale tomentose beneath; flower whitish.

S. Nig.: Ologbo Kennedy 2103! Ulasi, Onitsha Prov. (Mar.) Brenan 9204! Calabar (fr. Mar.) Holland 95! Brenan 9217! Eket Taltob! Cross R. Johnston!

Also in Congo.

30. *Sabicea pedicellata* Wernham in Cat. Talb. 42 (1913), and Monogr. Sabicea 67.

APD: *Synonym of Pseudosabicea pedicellata* (Wernham) N. Hallé

Climbing shrub; fruits red.

S. Nig.: Oban (Mar.) Talbot 1367! 2033. Onochie FHI 36477x! Afi River F.R., Ogoja Prov. (fr. May) Jones & Onochie FHI 18940! Boshi-Okwangwo F.R., Obudu Dist. (fr. May) Latilo FHI 30945! [Br.] Cam.: Kumba to Mamfe (Jan.) Keay FHI 28556!

31. *Sabicea capitellata* Benth. in Fl. Nigrit. 398 (1849); Wernham Monogr. Sabicea 65. *APD acc*

Sabicea brunnea Wernham l.c. (1914).

A climbing shrub with rufo-pilose branchlets; flowers pinkish-brown; fruits red, yielding a red juice, with stiff grey hairs.

S. Nig.: Oban F.R. (fr. Jan.) Onochie FHI 36101x! Okuni and Ikom Holland 262! [Br.] Cam.: S. Bakundu F.R. (fr. Mar.) Brenan 9299! Kembong F.R. (fl. & fr. Mar.) Richards 5210! Ikom to Mamfe (Mar.) Onochie FHI 30894! F. Po: Mann 41! T. Vogel 88!

Also in Cameroun, Gabon, Congo and S. Tomé.

32. *Sabicea arachnoidea* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 106 (1931). *APD acc*

A rather slender-branched pubescent climber with pale underleaf; flowers in woolly heads.

S. L.: Roruks (Nov.) Thomas 5703! Yonibana (Nov.) Thomas 5062! 5275!

33. *Sabicea ferruginea* (G. Don) Benth. in Fl. Nigrit. 397 (1849); F.T.A. 3: 75; Wernham Monogr. Sabicea 60. *APD acc*

Cephaelis ferruginea G. Don (1834).

Sabicea lasiocalyx Stapf (1905)-F.W.T.A., ed. 1, 2: 107.

Sabicea ferruginea var. *lasiocalyx* (Stapf) Wernham l.c. (1914).

Sabicea salmonea A. Chev. Bot. 316, name only.

A climbing shrub with fairly large rusty-tomentose leaves.

S. L.: Don! Jigaya (fr. Sept.) Thomas 2842! Bagroo R. Mann 862! Jaiama (Apr.) Deighton 3161! Lib.: Tappita (fr. Aug.) Baldwin 9072! Monrovia Whyte! Banga Linder 1193! Dukwia R. (May) Cooper 459! Iv. C.: Guébo Chev. 17031! Alépé Chev. 17418! Mamba (ft. Oct.) Aké Assi 287! Gouék-angouiné (May) Chev. 21452! Lamé (Nov.) Leeuwenberg 1898! Ghana: Assin Juaso West-Skinn 24!

[Specimens from Sierra Leone and Liberia have pedunculate inflorescences while those from Ivory Coast and Ghana have them sessile.]

34. *Sabicea lanuginosa* Wernham l.c. 67, t. 9, 1-3 (1914). *APD acc*

A climbing shrub up to 12 ft. high; flowers white; in mangrove swamps and swamp forest.

S. Nig.: Lagos Millen 68! Hagerup 808! Ikoyi Plains Dalz. 1377! Apapa (Nov.) Keay & Savory FHI 22451!

50. TEMNOCALYX

Robyns in Bull. Jard. Bot. Brux. 11: 23, 317 (1928).

- 1 Branches glabrous, with rather long internodes; leaves in whorls of three, obovate, shortly and bluntly pointed, 3-5 cm. long, 2-3 cm. broad, glabrous, with about 4 pairs of lateral nerves; flowers supra-axillary, paired; pedicels 1 cm. long; calyx truncate, rim-like; corolla-tube curved, 1.5-2 cm. long; anthers partly exerted; stigma, long-exserted, short and cylindric-capitate; ovary 5-celled; fruit globose [obovatus](#)

Temnocalyx obovatus (N. E. Br.) Robyns l.c. 320, figs. 31, 32 (1928).

APD: *Synonym of Fadogia ancylantha Schweinf.*

Fadogia obovata N.E. Br. in Kew Bull. 1906: 105.

An undershrub sometimes in clumps, 2-3 ft. high, with 3-angled slightly pubescent stems; flowers greenish with darker apex, solitary or a few together in the axils.

N. Nig.: Kontagora Prov. (June) Dalz. 554! Naraguta, Jos Plateau (June) Lely 326!

Extends in savanna regions to E. Africa and south to S. Rhodesia.

51. HUTCHINSONIA

Robyns in Bull. Jard. Bot. Brux. 11: 24 (1928).

- 1 Branchlets covered with long slender spirally twisted hairs; leaves ovate-oblong or oblong-elliptic, slightly cordate at base, acuminate, 3.5-6 cm. long, 1.5-2 cm. broad, laxly pilose on both surfaces with setose hairs, with 5-6 pairs of lateral nerves; stipules linear from a broad base, 3-5 mm. long; flowers solitary, axillary; pedicels 3-4 mm. long, setose; calyx-lobes filiform, 2.5-3 mm. long; corolla cylindric, tube 2.3 cm. long, lobes ovate, with long ciliate tails; ovary 3-4-celled [1. barbata](#)

Branchlets nearly glabrous; leaves ovate-oblong or oblong-elliptic, slightly cordate at base, gradually acuminate, 3.5-5.5 cm. long, 1.3-2 cm. broad, glabrous except the midrib and the axils of the nerves; lateral nerves about 6 pairs; stipules linear-subulate from a broad base, 5 mm. long, sparingly ciliate; flowers axillary or terminal; pedicels 4 mm. long; calyx-lobes linear, 2.5-3 mm. long; corolla-tube 2.2 cm. long, lobes narrowly triangular, appendiculate; ovary 3-celled [2. glabrescens](#)

1. *Hutchinsonia barbata* Robyns l.c. 25, figs. 5 & 6 (1928). *APD acc*

A straggling shrub up to 10 ft. high with occasional spines on the lower stems; flowers yellow or orange; undershrub in forest.

Guin.: Kolamba, Gueckedou Adam 5773! **S. L.:** Kambui F.R. (Feb.) Lane-Poole 341! Small 864! Nongowa Forest, Kenema (fl. & fr. Mar.) Jordan 1007! Baiima (May) Deighton 5773! Makump (May) Deighton 1716! Gola F.R. (Apr.) Small 604! **Lib.:** Peahtah (Dec.) Baldwin 10605! Kitoma (Feb.) Adam 16648! **iv. C.:** confluence of R. Davo and R. Sassandra (May) Chev. 17954!

2. *Hutchinsonia glabrescens* Robyns l.c. 28 (1928). *APD acc*

A straggling shrub up to 6 ft. high; flowers yellow or orange.

Lib.: Monrovia (July) Linder 40! at the mouth of Since R. (Dec.) Dinklage 2144! Tappita (Aug.) Baldwin 9109!

52. ROBYNSIA

Hutch. F.W.T.A., ed. 1, 2: 108 (1931). Nom. cons.

- 1 Branchlets shortly pubescent; stipules with a long tail about 2 cm. long, the sheath at the base villous within; leaves elliptic, subcordate at the base, acuminate, 10-14 cm. long, 5-6 cm. broad, nearly glabrous beneath, lateral nerves about 8 pairs; petiole up to 1 cm. long, pubescent; cymes axillary, shortly pedunculate, many-flowered; bracts linear, 1-1.5 cm. long; calyx-lobes linear, 1 cm. long, pubescent; corolla long-tubular, 2 cm. long, pubescent, lobes broadly linear; style exserted for 1 cm.; fruit globose [glabrata](#)

Robynsia glabrata *Hutch.* l.c. (1931); Hepper in Kew Bull. 16: 157 (1962). *APD acc*

Cuviera bolo *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 38 (1936); Aubrév. Fl. For. C. Iv., ed. 2, 3: 300; N. Hallé in Bull. Soc. Bot. Fr. 106: 346.

A shrub or tree 40-60 ft. high with a drooping crown; flowers greenish-white.

Iv. C.: Mudjika (fr. Aug.) Aubrév. 1798! **Ghana:** Amumuniso to Enchi (fl. & fr. May) Enti FH 6707! Mim, Ashanti (fl. & fr. June) Andoh FH 5512! **S. Nig.:** Sapoba Kennedy 177! 2552!

53. CUVIERA

DC.-F.T.A. 3: 156. Nom. cons.

- 1 Style pubescent; ovary 5-locular:2
Style glabrous; ovary (1-) 2-5-locular:4
- 2 Bracteoles ovate-lanceolate to linear-lanceolate, 1.5-4 cm. long, 4-8 mm. broad; calyx-lobes 5, linear to oblanceolate, 1-1.5 cm. long, 2.5-4 mm. broad; leaves oblong to oblong-elliptic, 15-27 cm. long, 5-10 cm. broad, with about 10 pairs of lateral nerves, subcordate or upper ones cuneate at base [1. longiflora](#)
Bracteoles and calyx-lobes subulate to linear, 1-2 (-4) mm. broad:3
- 3 Calyx-lobes and bracteoles subulate, about 1 cm. long and 1 mm. broad; inflorescences congested; leaves oblong-elliptic to narrowly oblong, 18-20 cm. long, 3-6 cm. broad, with 6-8 pairs of lateral nerves, cuneate to rounded or rarely subcordate at base [2. macroua](#)
Calyx-lobes and bracteoles linear, 2-4 cm. long, 2 (-4) mm. broad; inflorescences branched; leaves oblong, 20-35 cm. long, 6-8 cm. broad, subcordate at base [3. subuliflora](#)
- 4 Calyx-lobes spatulate, 1 cm. long; ovary 3-celled; leaves oblong to oblong-elliptic, broadly acuminate at apex, rounded at base, about 15 cm. long and 5 cm. broad, with about 8 pairs of lateral nerves; petiole 1 cm. long; flowers few in a small cyme; corolla glabrous; fruits obliquely ellipsoid, ribbed, 3 cm. long [4. trilocularis](#)
Calyx-lobes never spatulate:5
- 5 Calyx truncate or calyx-lobes 1-5, unequal; bracteoles oblanceolate, 3.5-4 cm. long; leaves oblong, about 25 cm. long and 10 cm. broad, coriaceous [5. truncata](#)
Calyx-lobes 5, equal, calyx never truncate:6
- 6 Corolla glabrous; inflorescences much-branched paniculate cymes:7
Corolla sparsely pilose; leaves not coriaceous, elliptic, 6-12 cm. long, 2.5-5.5 cm. broad, long-apiculate at apex:8
- 7 Ovary and fruit 5-locular; calyx-lobes linear-lanceolate, about 10 mm. long, 1-2 mm. broad; bracteoles similar, 1.5-2.5 cm. long, 2-3 mm. broad; leaves coriaceous, oblong, 12-20 cm. long, 4-9.5 cm. broad, shortly acuminate at apex, rounded to subcordate at base [6. acutiflora](#)
Ovary and fruit (1-) 2-locular; calyx-lobes lanceolate, acute, 5 mm. long, 1.5 mm. broad at base; bracteoles similar, about 1 cm. long; leaves hardly coriaceous, oblong to lanceolate, 11-14 cm. long, 3.5-7 cm. broad, acuminate at apex, cuneate to rounded at base [7. sp. A](#)
- 8 Calyx-lobes lanceolate, long-attenuate at apex, longer than corolla, about 2 cm. long and 6 mm. broad at base [8. calycosa](#)
Calyx-lobes narrowly oblong-elliptic, acute at apex, shorter than corolla, about 8 mm. long and 3 mm. broad [9. nigrescens](#)

1. **Cuviera longiflora** *Hiern* in F.T.A. 3: 157 (1877); Hepper in Kew Bull. 16: 453 (1963). *APD acc*

Cuviera angolensis *Welw. ex Hiern* (1898).

A small glabrous tree up to 30 ft. high, with arching branches usually infested with ants; flowers green, with pale yellowish bracts; **in montane forest**.

[Br.] Cam.: Cam. Mt., 2,000-3,200 ft. (Dec.-Jan.) Mann 1211! Maitland 1212! Bafut-Ngemba F.R. (Mar.) Richards 5307! Tiku FHI 22247! Bali-Ngemba F.R., 6,500 ft. (June) Ujor FHI 30415! Lakom, 6,000 ft., Bamenda (May) Maitland 1361! Nkambe, 3,600 ft. (Feb.) Hepper 1916!

Also in **Cameroun**, **Congo** and **Angola**.

2. **Cuviera macroura** K. Schum. in Engl. Bot. Jahrb. 33: 352 (1903). *APD acc*

Cuviera subuliflora of Chev. Bot. 331, not of Benth.

Cuviera djalonensis A. Chev. Bot. 331, name only.

A glabrous, straggling tree 20-40 ft. high; flowers white, becoming yellow, fragrant, crowded in short axillary cymes.

Guin.: Diaguissa Chev. 12417! Konkouré to Timbo Chev. 12496. Bilima Caille in Hb. Chev. 14821! **S. L.:** Binkolo (bud Aug.) Thomas 1857! Bumbuna (Oct.) Thomas 3184! Komorobai (Dec.) Thomas 6914! Loma Mts. (Sept.) Jaeger 1959! **Lib.:** Peatah (fl. & fr. Oct.) Linder 1035! Zeahtown, Tchien Dist. (Aug.) Baldwin 6967! **Iv. C.:** Prolo, Lower Cavally Chev. 19869! Bliéron to Tabou Chev. 19921! **Ghana:** Kumasi Vigne FH 3008! Wassaw F.R. (June) Vigne FH 181! Anyinasin, Akim (fl. & fr. July) Darko 898! Boin River F.R., Enchi (July) Agbley FH 6263! **Dah.:** Spire 87!

3. **Cuviera subuliflora** Benth. in Fl. Nigrit. 407 (1849); F.T.A. 3: 157 (1877). *APD acc*

Cuviera plagiophylla K. Schum. (1903).

A small tree 15-25 ft. high, with horizontal branches; flowers reddish and green with yellow anthers; **at the edge of forest**.

Ghana: Kumasi (July) Vigne FH 1242! **S. Nig.:** Degema Talbot 3383! Oban Talbot 222! 2036! [Br.] Cam.: Victoria (Feb., Oct.) Maitland 417! 740! Barombi (Feb.) Binuyo & Daramola FHI 35530! **F. Po:** T. Vogel 83! Mann 87!

4. **Cuviera trilocularis** Hiern in F.T.A. 3: 157 (1877). *APD acc*

A small glabrous shrub; flowers few in axillary cymes, green, bracts greenish-white.

S. Nig.: Calabar Thomson 122! Oban Talbot 221! 272!

5. **Cuviera truncata** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 118 (1931). *APD acc*

Cuviera subuliflora of Wernham in Cat. Talb. 131, not of Benth.

A scrambling shrub with occasional sharp supra-axillary spines; corolla greenish outside and orange-yellow inside, with conspicuous pale yellow-green bracts.

N. Nig.: Sanga River F.R., Jemaa Dist. (Nov.) Keay & Onochie FHI 21535! Keay FHI 37246! **S. Nig.:** Onitsha Unwin 64! Degema Talbot 3686! Oban Talbot 286! [Br.] Cam.: Gangumi, Adamawa (Dec.) Latilo & Daramola FHI 28861! Vogel Peak, Adamawa (Nov.) Hepper 1448!

[Note: most of these specimens have irregular calyx-lobes and are intermediate between true *C. truncata* (Talbot 286, 3686) and *C. acutiflora*-F.N.H.]

6. **Cuviera acutiflora** DC. Ann. Mus. Paris 9: 222, t. 15 (1807); F.T.A. 3: 156; Chev. Bot. 331; Aubrév. Fl. For. C. Iv., ed. 2, 3: 300, t. 363. *APD acc*

Vangueriopsis coriacea Robyns in Bull. Jard. Bot. Brux. 22: 319 (1952).

Shrub or small tree up to 30 ft. high with leathery shining leaves; flowers whitish-green, sometimes with a pink centre, in spreading cymes with conspicuous pale bracteoles and calyx-lobes.

Guin.: R. Lanfomé (Mar.) Pobéguin 907! **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3898b! Kambui Hills (Mar.) Lane-Poole 463! Njala (Nov.) Small 808! Rokupr (Apr.) Jordan 240! **Lib.:** Monrovia (Nov.) Linder 1539! Grand Bassa (July) T. Vogel 72! Brewersville (Dec.) Baldwin 10955! Fisherman's L. (Dec.) Baldwin 10893! Gbanga (Oct.) Traub 299! **Iv. C.:** Yapó (Oct.) Roberty 15338! Dabou Chev. 15380! 15456! Assinie Chev. 17865! 17877! Bliéron Chev. 19905! **Ghana:** Alavango, Hohoe Dist. (Nov.) St. C. Thompson FH 3658! **N. Nig.:** Lokoja (Oct.) Dalz. 46! **S. Nig.:** Sapoba Kennedy 2079! Owena F.R., Ondo (Oct.) Ujor FHI 23920! Ibadan South F.R. (Dec.) Onochie FHI 7496! Olokemeji (Dec.) Foster 26! [Br.] Cam.: Victoria (Nov.) Maitland 784! Kalbreyer 29! Ambas Bay (Feb.) Mann 776!

Also in **Cameroun** and **Gabon**.

7. *Cuviera* sp. A. *APD acc*

A small tree about 16 ft. high, with straight spines 1 1/2 in. long on some branches; flowers greenish-white.

Lib.: Geo, Gbanga (Dec.) Baldwin 10573! Ganta (fl. Apr., fr. May) Harley 513!

8. *Cuviera calycosa* Wernham in J. Bot. 52: 7 (1914). *APD acc*

A small tree about 20 ft. high; flowers white turning yellow and with a red centre; **in forest**.

S. Nig.: Esuk Ekkpo Abassi, Eket Talbot 3300! [**Br.**] **Cam.:** S. Bakundu F.R., Kumba (Mar.) Binuyo & Daramola FHI 35613!

Also in **Cameroun** and **Gabon**.

9. *Cuviera nigrescens* (*Sc. Elliot ex Oliv.*) Wernham in J. Bot. 49: 321 (1911); Aubrév. Fl. For. C. Iv., ed. 2, 3: 302, t. 363. *APD acc*

Vangueria nigrescens *Sc. Elliot ex Oliv.* in Hook. Ic. Pl. t. 2283 (Jan. 1894); *Sc. Elliot* in J. Linn. Soc. 30: 81 (1 Feb. 1894).

Cuviera minor *C. H. Wright* in Kew Bull. 1906: 105.

Cuviera trichostephana *K. Schum.* (1897).

Shrub or small tree up to 25 ft. high, with pale grey bark and sharp spines on the bole, slash green and brown, branches arching, leaves dry black; flowers white, fragrant; **in forest**.

Port. G.: Guiledje, Boé (June) Esp. Santo 2923! Gadamael, Cacine (July) Esp. Santo 2113! **Guin.:** Kaba R. (May) chev. 13134! 13232! **S. L.:** York Pass (June) Lane-Poole 52! Mesima (Apr.) Deighton 3721! Falaba (Mar.) *Sc. Elliot* 5736! Vevehun, Fwendu to Potoru (Apr.) Deighton 1615! **Lib.:** Jui, Gola (Apr.) Bunting! **Iv. C.:** Aubrév. 91! 277! Mt. Kouan (Apr.) Chev. 21267! **Ghana:** Kwahu (Apr.) Johnson 646! Kumasi (Apr.) Vigne FH 1113! 1712! Boankra, Kumasi Dist. (Mar.) Andoh 5484! S. Fomang Su F.R., Ashanti (Feb.) Vigne FH 1834! **S. Nig.:** Lagos Foster 73! Sapoba (Apr.) Kennedy 2319! Onyeagocha FHI 7124! Omo F.R., Ijebu Ode (May) Tamajong FHI 16942! Owo F.R. (May) Jones FHI 3610! Ijaiye F.R., Ibadan (Apr.) Onwudinjo FHI 23400!

54. FADOGIA

Schweinf.-F.T.A. 3: 152, partly; Robyns in Bull. Jard. Bot. Brux. 11: 41 (1928).

- 1 Leaves glabrous beneath except sometimes (in No. 4) on the midrib and lateral nerves:.....2
- Leaves pubescent or tomentose more or less all over the lower surface:.....5
- 2 Small tree or shrub; leaves in whorls of 3, elliptic, 4-7 cm. long, 2-4 cm. broad, glabrous, with paler conspicuous lateral nerves; flowers in dense clusters on the previous season's growth; calyx-lobes oblong-lanceolate, 2-5 mm. long; corolla 4-5 mm. long, 5-6-lobed; fruit oblique, 1 cm. long [1. erythrophloea](#)
- Perennial herbs or undershrubs:3
- 3 Calyx truncate; flowers in few-flowered cymes without bracteoles or solitary; pedicels about 1 cm. long; corolla 5-6 mm. long, glabrous; leaves usually in threes, elliptic-lanceolate, 3-5-6 (-10) cm. long, 1-2 (-2-5) cm. broad, glabrous [2. ledermannii](#)
- Calyx toothed:4
- 4 Branchlets glabrous; leaves paired or in threes, oblanceolate, 4-5 cm. long, about 1-5 cm. broad, closely venose beneath; flowers few, in very shortly pedunculate cymes; calyx-lobes ovate; corolla 1 cm. long, with acuminate lobes [3. andersonii](#)
- Branchlets pubescent; leaves in whorls of 3 or 4, obovate-elliptic, abruptly apiculate, subsessile, 6-8 cm. long, 3-4-5 cm. broad, setulose above, at length glabrous, setulose on the midrib beneath, glaucous-green; flowers about 3 in shortly pedunculate axillary cymes; pedicels about 3 mm. long; calyx-lobes linear-lanceolate; corolla about 8 mm. long, lobes acuminate; fruit globose [4. pobeguinii](#)
- 5 Calyx subulate-dentate:6
- Calyx with broad ovate-triangular lobes; leaves obovate, rounded at apex, subcuneate at base, 4-8 cm. long, 2-4 cm. broad, densely softly tomentose beneath; flowers several in short axillary cymes, tomentose all over; corolla about 8 mm. long [7. agrestis](#)
- 6 Leaves lanceolate, acute at both ends, 5-6 cm. long, 1-1-5 cm. broad, sparingly setulose above, softly

tomentellous beneath, with 4-5 pairs of lateral nerves; flowers in small 2-3-flowered cymes [5. *rostrata*](#)

Leaves obovate or elliptic-obovate, subacute, 3-5-8 cm. long and about 2-5 cm. broad, softly tomentellous beneath; flowers about 3 in each axillary cyme; corolla-lobes sparingly pubescent outside; fruits globose, hardly 1 cm. diam. [6. *cienkowski*](#)

1. ***Fadogia erythrophloea*** (*K. Schum. & K. Krause*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 109 (1931); Hepper in Kew Bull. 16: 453. *APD acc*

Vangueria erythrophloea *K. Schum. & K. Krause* in Engl. Bot. Jahrb. 39: 533 (1907).

V. dalzielii *Hutch.* (1913).

Fadogia djalensis *A. Chev. ex Robyns* in Bull. Jard. Bot. Brux. 11: 88 (1928); Chev. Bot. 331, name only.

Fadogia cinerascens *Robyns* l.c. (1928).

Fadogia leucophloea var. *djalensis* *Aubrév.* Fl. For. Soud.-Guin. 480, name only.

Shrub or small tree 4-19 ft. high, with the younger branches grey, the bark later flaking and becoming red; flowers yellow-green or white, usually on leafless branches; [in savanna woodland](#).

Mali: Kobale Chev. 334! **Guin.:** Bissikrima (June) Pobéguin 801! Kankan Chev. 572! Labé (fr. Apr.) Chev. 12307! Mamou to Timbo (Dec.) Chev. 14639! **S. L.:** Sc. Elliot 5159b! **Iv. C.:** Boundiali Aké Assi IA 4693. **Ghana:** Dutukpene (fl. & fr. Mar.) Hepper & Morton A3058! Shiare (Apr.) Hall 1420! **Togo Rep.:** Basari Kersting 539. **Dah.:** Atacora Mts. Chev. 24065! **N. Nig.:** Naraguta Lely 64! Katagum Dalz. 379! Katsina to Zaria (Dec.) Meikle 823! Katabu, Zaria (fl. & fr. May) Keay FHI 25790! Zuru, Niger Prov. (fl. & fr. Mar.) Daley FHI 32254! **[Br.] Cam.:** Gangumi, Adamawa (fl. & fr. Dec.) Latilo & Daramola FHI 28893!

Also in [Cameroun](#).

2. ***Fadogia ledermannii*** *K. Krause* in Engl. Bot. Jahrb. 48: 416 (1912); Robyns in Bull. Jard. Bot. Brux. 11: 59; Hepper in Kew Bull. 16: 464.

APD: *Synonym of Fadogia glaberrima Hiern*

An erect herb 1 1/2-3 ft. high with several stems arising from a woody rootstock; flowers greenish-white with white hairs in the throat; [in savanna](#).

[Br.] Cam.: Vogel Peak, Adamawa (Nov.) Hepper 1368!

Also in [Cameroun](#) and [Uganda](#).

3. ***Fadogia andersonii*** *Robyns* l.c. 86 (1928). *APD acc*

Erect undershrub 1-2 ft. high, stems more or less 3-angled from a stout woody rootstock; flowers greenish-yellow, fruits yellow; [in savanna woodland](#).

Ghana: Volta R. Anderson 43! Damongo (Apr., July) Adams 3942! Andoh 5204! **N. Nig.:** Samaru, Zaria (fl. & fr. June) Keay FHI 25862!

[Note: Keay FHI 25862 has more spreading inflorescences and the corolla is more pubescent than the type-F.N.H.]

4. ***Fadogia pobeguini*** *Pobéguin* in Ess. Fl. Guin. Franc. 316 (1906); Robyns l.c. 74. *APD acc*

APD: *Synonym of Fadogia tetraquetra* var. *grandiflora* (*Robyns*) *Verdc.*

Fadogia dalzielii *Robyns* l.c. 66 (1928).

Fadogia cienkowski of Robyns l.c. 79, partly (Chev. 12832).

Erect undershrub 1-4 ft. high, with several pubescent stems arising from a woody rootstock; flowers yellow; [in savanna](#).

Guin.: Farmar 270! Timbo Pobéguin 89! Fouta Djallon (fr. Mar.) Chev. 12832! **Ghana:** Banda F.R., Wenchi Dist. (July) Enti FH 6264! Damongo Scarp (May) Enti FH 6981! Jema (fr. June) Brown 2279! **N. Nig.:** Kontagora (fl. & fr. Feb.) Dalz. 218b! Anara F.R., Zaria (May, Oct.) Keay FHI 21135! 22929! Gidan Mudi, Zaria (July) Keay FHI 37123! **S. Nig.:** Ngwo, Udi Dist. (May) Jones FHI 1694!

Also in [Cameroun](#).

5. ***Fadogia rostrata*** *Robyns* l.c. 78 (1928). *APD acc*

Erect herb or undershrub about 11/2 ft. high from a woody base.

Dah.: Pelebina to Djougou Chev. 23855! Tomba, Atacora Chev. 24143!

6. **Fadogia cienkowskii** *Schweinf.* in Reliq. Kotsch. 47, t. 32 (1868); F.T.A. 3: 154; Robyns l.c. 79; Aubrév. Fl. For. Soud.-Guin. 480, t. 106, 4-5; Chev. Bot. 330. *APD acc*

Cuviera cienkowskii (*Schweinf.*) *Roberty* (1954).

Erect undershrub from stout base 11/2-3 ft. high with pale under surfaces to the leaves; flowers greenish-yellow; **in savanna**.

Mali: Bambonatonba (Mar.) Chev. 561! **Guin.:** Faranna Chev. 13407. Timbo Caille in Hb. Chev. 14672! **Iv. C.:** Ouango-Fitini Aké Assi IA 4692. **Ghana:** Karega (Apr.) Williams 147! **Dah.:** Kouandé to Konkobiri, Atacora Mts. Chev. 24274! **N. Nig.:** Nupe Barter 1116! Naraguta Lely 48! Shere Hills, Plateau (fr. Dec.) Coombe 111! Birnin Gwari (Mar.) Meikle 1340! Cece F.R., Lapai Dist. (Apr.) Abiai FHI 7044! **S. Nig.:** Ngwo, Udi Dist. (Dec.) Jones FHI 6844! Milliken Hill, Enugu (Feb.) Abrahall FHI 27558!

Widespread in the drier parts of tropical Africa.

7. **Fadogia agrestis** *Schweinf. ex Hiern* in F.T.A. 3: 154 (1877); Robyns l.c. 92; Aubrév. Fl. For. Soud.-Guin. 480, t. 106, 1-3; Chev. Bot. 330. *APD acc*

APD: Synonym of Fadogia oblongo-lanceolata Robyns

Fadogia cienkowskii of Chev. Bot. 330, partly (Chev. 24274).

An erect undershrub with yellowish tomentellous stems and leaves, 1-3 ft. high; flowers yellow-green; **in savanna**.

Mali: Koumantou Chev. 714! Bobo-Dioulasso, U. Volta (fr. June) Serv. For. 1963! **Guin.:** Dafila Pobéguin 798! Banko Pobéguin 802! Dantilla (Mar.) Sc. Elliot 5301! **Ghana:** Damongo Andoh FH 1963! 5207! Yeji (fr. Aug.) Vigne FH 3357! Tamale to Yendi (fl. & fr. Mar.) Adams 3853! Nakpanduri (fl. & fr. Mar.) Hepper & Morton A3134! Salaga Krause! **Dah.:** Abomey Chev. 23132! Gouka to Bante Chev. 23724! Djougou Chev. 23871! **N. Nig.:** Jebba (Jan.) Meikle 1004! Samaru (fl. & fr. May) Keay FHI 25723! Sanga River F.R., Zaria (July) Keay FHI 37125! Vom, 3,000-4,500 ft. Dent Young 121! **S. Nig.:** Lagos (fr. Mar.) Dennett 485!

Also in **Cameroun**, **Ubangi-Shari** and **Sudan**.

55. VANGUERIOPSIS

Robyns in Bull. Jard. Bot. Brux. 11: 23, 248 (1928).

- | | | |
|---|---|--------------------------------|
| 1 | Corolla glabrous outside or at most shortly puberulous: | 2 |
| | Corolla tomentose or (at least the lobes) pilose outside; branchlets pubescent or setose: | 6 |
| 2 | Young branches glabrous: | 3 |
| | Young branches pubescent or tomentose: | 5 |
| 3 | Petioles 4-6 mm. long; leaves obovate-elliptic, shortly abruptly acuminate, 10-14 cm. long, 4-5-7 cm. broad, leathery, with about 5 pairs of lateral nerves; pedicels and ovary puberulous; calyx-lobes suborbicular, conspicuous; branchlets without spines | 1. calycophila |
| | Petioles about 1 cm. long; pedicels and ovary glabrous: | 4 |
| 4 | Branchlets greenish, without spines; leaves broadly oblong-elliptic, abruptly long-acuminate, rounded at base, 10-15 cm. long, 5-7 cm. broad, with 6-7 pairs of lateral nerves; calyx-lobes 1-2 mm. long, linear-lanceolate | 2. chlorantha |
| | Branchlets grey, with sharp slightly curved spines; leaves broadly elliptic to obovate, acutely acuminate, rounded and subcordate to acute at base, 6-12 cm. long, 2-5-7 cm. broad, very thin, glabrous; calyx-lobes inconspicuous | 3. spinosa |
| 5 | Branchlets often spiny; leaves much paler beneath, broadly elliptic, abruptly and obtusely acuminate, 6-10 cm. long, 3-4 cm. broad, puberulous on the nerves beneath; cymes many-flowered; calyx-lobes broadly ovate, small; corolla 5 mm. long; fruit very oblique, 1-5 cm. long | 4. discolor |
| | Corolla-buds with long subulate apices; leaves ovate-elliptic, acutely acuminate, rounded at base, 6-12 cm. long, 3-5-7 cm. broad, pubescent only on the nerves beneath; veinlets very close and parallel beneath; fruit mostly | |

kidney-shaped, 2.5-3 cm. long 5. vanguerioides7c136fn1_7
 ...Corolla-buds not apiculate or very shortly so; leaves ovate-elliptic to lanceolate, shortly acuminate, more or less rounded at base, 8-15 cm. long, 4.5-7 cm. broad, shortly pubescent on the nerves and veins beneath, the latter close and fine; cymes laxly few-flowered, with rather large persistent bracts and broad calyx-lobes; fruit about 2.5 cm. long, 1-2-seeded6. *nigerica*

6 Corolla tomentose outside; calyx-lobes ovate, 3 mm. long:

Corolla-lobes pilose; calyx-lobes subulate, 1-5 mm. long:

Leaves ovate-oblong or elliptic, never over 5.5 cm. broad, caudate-acuminate, very thin, rather densely pilose on both surfaces; branchlets setose and with curved sharp spines; cymes subracemose, long-pilose; pedicels slender, about 5 mm. long; upper part of corolla long-pilose; calyx-lobes 3-5 mm. long, subulate 7. subulata

.....8c136fn1_8
 ...Leaves broadly ovate-rounded up to 8.5 cm. long, 6.5-7 cm. broad, abruptly and shortly acuminate, shortly pilose on the nerves beneath; branchlets with rather long spines; cymes subracemose, shortly pilose; pedicels 3 mm. long; corolla-lobes very thinly pilose; calyx-lobes 1 mm. long, subulate3. *spinosa*

1. *Vangueriopsis calycophila* (K. Schum.) Robyns in Bull. Jard. Bot. Brux. 11: 256 (1928).

APD: *Synonym of Vangueriella laxiflora* (K. Schum.) Verdc.

Electronia calycophila K. Schum. (1899). Erect or climbing shrub; flowers greenish, few in short loose cymes; in forest.

S. Nig.: Oban Talbot 246! 1657! Eket Talbot!

Also in Cameroun and Gabon.

2. *Vangueriopsis chlorantha* (K. Schum.) Robyns l.c. 255 (1928).

APD: *Synonym of Vangueriella chlorantha* (K. Schum.) Verdc.

Electronia chlorantha K. Schum. (1897).

A glabrous shrub 6-10 ft. high with smooth greenish branchlets and thorns on the bole; flowers greenish-white: in forest.

S. Nig.: Oban Talbot 1549! 1653! Aningeje to Mamfe, Calabar Dist. (ft. Apr.) Ujor FHI 31778! [Br.] Cam.: Banga, S. Bakundu F.R. (Mar.) Binuyo & Daramola FHI 35607!

Also in Cameroun.

3. *Vangueriopsis spinosa* (Schum. & Thonn.) Hepper in Kew Bull. 17: 170 (1963).

APD: *Synonym of Vangueriella spinosa* (Schumach. & Thonn.) Verdc.

Vangueriopsis leucodermis (K. Krause) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 117 (1931).

Phallaria spinosa Schum. & Thonn. Beskr. Guin. Pl. 133 (1827).

Canthium thonningii Benth. (1849)-F.T.A. 3: 134.

Chomelia leucodermis K. Krause (1909).

Vangueriopsis membranacea Robyns l.c. 271 (1928).

Vangueriopsis violacea Robyns l.c. 270 (1928).

A shrub or small tree up to 12 ft. high; flowers greenish, the corolla appearing inflated; in shady savanna woodland.

Iv. C.: Ouango-Fitini (Apr.) Mangenot & Aké Assi 4266! Ghana: Accra Plains (Jan., Apr., fr. Mar.) Irvine 207! Adams 3741! 3790! Damongo Scarp (Mar.) Hepper & Morton A3179! Akim, Ashanti (fr. Apr.) Irvine 960! Kpandu (Feb.) Robertson 108! Togo Rep.: Lomé Warnecke 349! Basari (fr. June) Kersting A69. S. Nig.: Lagos Rowland! Olokemeji foster! Hepper 2305! Ijebu (Apr.) Tamajong FHI 23251!

4. *Vangueriopsis discolor* (Benth.) Robyns l.c. 264 (1928); Aubrév. Fl. For. Soud.-Guin. 484; Berhaut Fl. Sén. 99.

APD: *Synonym of Vangueriella discolor* (Benth.) Verdc.

Canthium discolor Benth. (1849)-F.T.A. 3: 138; Chev. Bot. 329.

Canthium venosissimum Hutch. & Dalz. F.W.T.A., ed. 1, 2: 115, partly (Linder 267).

Small tree or scrambling shrub, often spiny, the young branchlets rusty-pubescent, with leaves pale beneath; flowers greenish in short branched cymes often at nodes below the leaves.

Sen.: Diouloulou, Casamance (fr. Sept.) Adam 18139! Badi Berhaut 1807; 4736. **Port. G.:** Fonte, Bubaque (May) Esp. Santo 2021! 2052! Pessubé, Bissau (Mar.) Esp. Santo 1153! **Guin.:** Kouroussa (Mar.) Pobéguin 664! Ditinn (Apr.) Chev. 12993! Fouta Djallon Heudelot 802! Bafing (Apr.) Adam 11864! **S. L.:** Freetown (Apr.) Deighton 4747! Hepper 2481! Bagroo R. (Apr.) Mann 878! Njala (Apr.) Deighton 1120! Rokupr (Apr.) Jordan 233! **Lib.:** Dukwia R. (May) Cooper 425! Du R. (fr. Aug.) Linder 267! White Plains (Apr.) Barker 1279! Kulo, Sinoe (Mar.) Baldwin 11406! **Iv. C.:** Danané Chev. 21185!

5. *Vangueriopsis vanguerioides* (Hiern) Robyns l.c. 260 (1928); Aubrév. Fl. For. C. Iv., ed. 2, 3: 302.

APD: Synonym of Vangueriella vanguerioides (Hiern) Verdc.

Canthium vanguerioides Hiern in F.T.A. 3: 146 (1877), mostly; Chev. Bot. 329.

Plectronia vanguerioides (Hiern) K. Schum. (1897).

Shrub or small tree up to about 25 ft. high; flowers greenish in lax branched cymes mostly at nodes below the leaves; **in secondary forest**.

Guin.: Kouria Dumas 18194. Kaba to Mamou Chev. 12754! **S. L.:** Sugar Loaf Mt. (Mar., Apr.) Sc. Elliot 5776! Hepper 2544! Kenema (May) Lane-Poole 280! Baoma (Apr.) Deighton 3218! Boruks (fr. July) Deighton 3256! **Lib.:** Ganta Harley 1905! **Iv. C.:** Zoanhé, Upper Sassandra (May) Chev. 21462! Nimba Mt. Aubrév. 1136! Mt. Tonkouï (Mar.) Leeuwenberg 2968! Aubrév. 998!

6. *Vangueriopsis nigerica* Robyns l.c. 261, figs. 25, 26 (1928).

APD: Synonym of Vangueriella nigerica (Robyns) Verdc.

Canthium vanguerioides Hiern in F.T.A. 3: 138 (1877), partly; Robyns l.c. 260, partly (Chev. 23710, Baumann 308); F.W.T.A., ed. 1, 2: 116, partly.

Vangueriopsis lanceolata Robyns l.c. 271 (1928).

A shrub or tree with arching branches; flowers greenish in lax branched cymes mostly at older nodes; **in streamside forest**.

Ghana: Afram Plains (Mar.) Johnson 710! Neung F.R., Tarkwa Enti FH 6229! **Togo Rep.:** Misahöhe Baumann 243! 308! **Dah.:** Savalou (May) Chev. 23710! **N. Nig.:** Lokoja Elliot 229! Katsina Allah (June) Dalz. 756! Mando F.R., Zaria (June) Keay FHI 25820! **S. Nig.:** Abeokuta Irving 155! Idu Barter 1251! Ibadan (Apr.) Meikle 1442! Ijaiye F.R., Oyo (Apr.) Onochie FHI 21970!

Also in **Cameroun**.

7. *Vangueriopsis subulata* Robyns l.c. 268 (1928).

APD: Synonym of Vangueriella campylacantha (Mildbr.) Verdc.

Vangueriopsis setosa Robyns l.c. 268 (1928).

A scrambling or climbing shrub with spines; flowers greenish; **in forest**.

Guin.: Mt. Boola (Mar.) Chev. 20928! **S. L.:** Berria, Falaba (Mar.) Sc. Elliot 5400! **S. Nig.:** Obani Talbot 1688! Degema Talbot. **[Br.] Cam.:** Mbalange F.R., Kumba (Mar.) Binuyo & Daramola FHI 35649! Fonfuka, Bamenda (Apr.) Maitland 1768!

Also in **Cameroun** and **Ubangi-Shari**.

56. CANTHIUM

Lam.-F.T.A. 3: 132.

This genus presents considerable taxonomic difficulties owing to great variability and often wide distribution of the species.

- 1 Inflorescences sessile or subsessile umbellate fascicles; calyx truncate:2
- Inflorescences shortly pedunculate cymes; corolla-buds obtuse:5

- 2 Flower-buds very acute:3
 Flower-buds rounded at apex; leaves acutely cuneate at base, ovate, gradually acuminate, 4-10 cm. long, 2-4.5 cm. broad, glabrous beneath, glossy above; pedicels of flower about 7 mm. long, densely fasciculate4.
[schimperianum](#)
- 3 Corolla 1-1.3 cm. long; pedicels slender, 8 mm. long, about 6 or more on a short peduncle; leaves elliptic, shortly and broadly acuminate, 9-13 cm. long, 4-6 cm. broad, with about 6 pairs of lateral nerves raised on both surfaces, glabrous, tertiary nerves obscure [1. henriquesianum](#)
 Corolla up to 7 mm. long, or if 10 mm. long (in No. 3) then the tertiary veins prominent on the leaves above: ...4
- 4 Veins between the 4-5 pairs of lateral nerves obscure or invisible when dry; leaves broadly elliptic, acuminate, rounded to the acute base, 6-10 cm. long, 3-5 cm. broad, with very prominent sharp nerves beneath, glabrous; corolla about 7 mm. long [2. acutiflorum](#)
 Veins between the lateral nerves prominent and raised on the upper surface when dry; pedicels elongated and slender in fruit; leaves oblong-elliptic, acuminate, shortly cuneate at the base, 7-10 cm. long, 4-6 cm. broad, glabrous; corolla about 8 mm. long; fruits didymous or obliquely globose, the lobes about 7 mm. diam., black [3. horizontale](#)
- 5 Branchlets conspicuously hispid-pilose, but not pubescent or glabrous:6
 Branchlets glabrous or pubescent, but not hispid-pilose:9
- 6 Stipules large and persistent, broadly lanceolate about 1 cm. broad and 2 cm. long; stems, leaves beneath and inflorescences densely pilose with reddish hairs; leaves oblong-elliptic, rounded at base, shortly acuminate at apex, 10-14 cm. long, 4-5 cm. broad, glabrous above including midrib; calyx-teeth acute, about 2 mm. long [5. sp. A](#)
 Stipules inconspicuous and often caducous; leaves pilose above, at least the midrib:7
- 7 Leaves with 8-9 parallel nerves on each side of midrib, oblong-elliptic, shortly cordate at base, acuminate at apex, 5-12 cm. long, 3-5.5 cm. broad, pilose or scabrid above, usually densely pubescent beneath; calyx shortly lobed, densely pilose; stems densely pilose [6. rufivillosum](#)
 Leaves with 5-6 widely spaced nerves on each side of midrib; calyx pilose or nearly glabrous:8
- 8 Hairs on stems few and near the nodes; leaves 8-15 cm. long, 4-8 cm. broad; (see other characters below) [10. setosum](#)
 Hairs evenly spaced on stems; leaves 5-11 (-13) cm. long, 2-4(-6) cm. broad, rounded to slightly cordate at base, hispid; calyx rather densely pubescent [7. hispidum](#)
- 9 Branchlets glabrous or almost so: 10
 Branchlets conspicuously pubescent: 21
- 10 Pedicels densely and rather long-pubescent: 11
 Pedicels glabrous or more or less shortly pubescent: 12
- 11 Stipules linear-lanceolate, with a broad base and linear above, about 6 cm. long, caducous and only seen at the younger nodes; leaves elliptic or obovate-elliptic, cuneate at base, shortly acuminate at apex, 8-15 cm. long, 2.5-6 cm. broad, entirely glabrous on both sides (rarely a few hairs in the axils of the lateral nerves beneath) [8. manni](#)
 Stipules ovate-lanceolate, 9-16 mm. long, 5-13 mm. broad, persistent; (other characters as below) [21. rubens](#)
- 12 Pedicels of flowers 5-8 mm. long; inflorescences not spreading-branched: 13
 Pedicels of flowers up to 3 mm. long (4 mm. in No. 15); inflorescences spreading-branched: 17
- 13 Inflorescences subsessile; leaves cordate or truncate at base: 14
 Inflorescences pedunculate; flowers congested on the peduncle: 16
- 14 Armed with 1 cm.-long supraxillary spines; leaves oblong-ovate, cuneate at base, caudate at apex, 5-10 cm. long, 2-4 cm. broad, glabrous or sparsely pubescent; pedicels more or less pubescent; flowers few; calyx very shortly toothed [9. orthacanthum](#)
 Unarmed; flowers numerous: 15
- 15 Leaves setose on both surfaces, especially beneath, glabrescent above later, subcordate at base, shortly and abruptly acuminate, broadly ovate-elliptic, 8-15 cm. long, 4-8 cm. broad; pedicels setose; calyx shortly lobed [10. setosum](#)
 Leaves glabrous except for the nerves and clusters of brown hairs in some axils, rather long acutely and abruptly acuminate, broadly obovate, 9-13 cm. long, 5-8 cm. broad; pedicels glabrous; calyx truncate [11. rubrinerve](#)
- 16 Leaves broadly ovate-rounded, unequally rounded at base, broadly acuminate, 4-5 cm. long, 2.5-3.5 cm. broad, glabrous; calyx-lobes glabrous [12. inaequilaterum](#)
 Leaves elliptic to ovate, shortly acuminate, cuneate or rarely rounded at base, (5-)7-10 cm. long, 3-4.5 cm. broad, glabrous; calyx-lobes usually with a tuft of hairs [13. multiflorum](#)
- 17 Stipules persistent, densely pilose inside; leaves ovate, 4-7 cm. long, 2.5-3.5 cm. broad, glabrous; peduncle and

- pedicels slightly puberulous; calyx glabrous [14. pobeguinii](#)
- Stipules caducous, glabrous inside: 18
- 18 Calyx, ovary, pedicels and peduncle minutely pubescent: 19
- Calyx glabrous: 20
- 19 Inflorescences 1-2 cm. long, congested; leaves oblong-elliptic, 6-9 cm. long, 3-4 cm. broad, midrib and lateral nerves raised above with lamina smooth between them [15. arnoldianum](#)
- Inflorescences about 5 cm. long, rather lax and branched; leaves ovate or ovate-elliptic, 11-16 cm. long, 5-7 cm. broad, with raised reticulation above (at least when dry) [16. vulgare](#)
- 20 Leaves broadly ovate, rounded, truncate or slightly cordate at base, 9-20 cm. long, 5-17 cm. broad, sparsely setose or glabrous on both sides; lowland tree [17. subcordatum](#)
- Leaves oblong or oblong-elliptic, rounded to cuneate at base, 15-20 cm. long, about 6 cm. broad, glabrous; highland tree [18. dunlapii](#)
- 21 Leaves harshly scabrid above and beneath with short stiff hairs, lanceolate, cuneate to rounded at base, acuminate at apex, 9-15 cm. long, 3.5-7 cm. broad; calyx, ovary, pedicels and peduncle densely pubescent [19. scabrosum](#)
- Leaves pubescent or glabrous above, not scabrid: 22
- 22 Leaves long-oblong, truncate at base, long-acuminate at apex, 9-15 cm. long, 2.5-4 cm. broad, shortly pubescent beneath; petiole about 3 mm. long; pedicels etc. pubescent [20. palma](#)
- Leaves more or less ovate or elliptic: 23
- 23 Stipules ovate, sometimes broadly so, more or less persistent; bracteoles ovate at apex of the peduncles; leaves ovate, rounded at base, shortly acuminate at apex, 6-13 cm. long, 3.5-7.5 cm. broad, glabrous above, pubescent beneath; (see other characters above) [21. rubens](#)
- Stipules lanceolate usually with a linear apex: 24
- 24 Corolla-lobes 4: 25
- Corolla-lobes 5; tertiary nerves reticulate: 27
- 25 Leaves densely and softly pubescent beneath, ovate-elliptic, 6-8 cm. long, 3-4 cm. broad, tertiary nerves parallel [22. sp. B](#)
- Leaves pubescent on the nerves beneath: 26
- 26 Tertiary nerves markedly parallel, numerous and prominent especially beneath [23. venosum](#)
- Tertiary nerves reticulate, few and not prominent [24. zanzibaricum](#)
- 27 Pedicels glabrous, or sparsely setose; (other characters as above) [10. setosum](#)
- Pedicels densely pubescent: 28
- 28 Leaves with about 10 lateral nerves on each side of the midrib, impressed above and prominent beneath, rounded at base, shortly acuminate at apex, ovate, 7-14 cm. long, 3-7 cm. broad, pubescent on the nerves beneath, more or less glabrous above; inflorescences slightly branched [25. gueinzii](#)
- Leaves with about 7 lateral nerves on each side of the midrib: 29
- 29 Flowers clustered at the end of the peduncle; leaves subcordate to rounded at base, acuminate at apex, ovate, 6-8.5 cm. long, 2.5-4 cm. broad, lateral nerves impressed above; calyx shortly toothed [26. manense](#)
- Flowers in a closely branched inflorescence; leaves usually cuneate, sometimes rounded or subcordate at base, acute or slightly acuminate at apex, 4-10 cm. long, 2-5 cm. broad, pubescent beneath or on the nerves only; calyx deeply lobed [27. cornelia](#)

1. **Canthium henriquesianum** (*K. Schum.*) *G. Tayl.* in Cat. S. Tomé 210 (1944).

APD: *Synonym of Psydrax kraussioides* (Hiern) Bridson

APD: *Synonym of Psydrax acutiflora* (Hiern) Bridson

Plectronia henriquesiana *K. Schum.* (1893).

Canthium kraussioides *Hiern* in Cat. Welw. 1: 473 (1898); F.W.T.A., ed. 1, 2: 113; Aubrév. Fl. For. Soud.-Guin. 484.

A glabrous climbing or scrambling shrub with shiny coriaceous leaves; flowers yellow-green; **beside upland streams.**

Guin.: Pita Pobéguin 2185! Boulivel Pobéguin 18042. Mali Schnell 2301! **S. L.:** Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 141! Jaeger 4170! Sankan Biriwa summit, 5,500 ft. (fr. Jan.) Cole 150! **N. Nig.:** Jos Plateau (Nov., Jan.) Lely 719! P51! Batten-Poole 255! **S. Nig.:** Ikwette Plateau, 5,000 ft., Obudu Div. (Dec.) Savory & Keay FHI 25132! 25241! [**Br.**] **Cam.:** Sabga, 6,200 ft., Bamenda (fl. & fr. Jan.) Keay FHI 28462! Mambila Plateau, 6,000 ft., Adamawa (fr. Jan.) Latilo & Daramola FHI 34398! Vogel Peak, 4,000 ft., Adamawa (Nov.) Hepper 1487!

Also in **S. Tomé**, **Angola** and **Nyasaland**.

2. **Canthium acutiflorum** *Hiern* in F.T.A. 3: 136 (1877).

APD: Synonym of Psydrax acutiflora (Hiern) Bridson

Electronia acutiflora (*Hiern*) *K. Schum.* (1907).

A glabrous shrub with coriaceous shiny leaves.

Ghana: Gradaw, Banda Hills (fl. & fr. Oct.) Rose Innes GC 31620! Damongo Scarp Harris! **N. Nig.:** Anara F.R., Zaria Prov. (fr. May) Keay FHI 22989! **S. Nig.:** Stubbs Creek F.R., Eket Dist. (fr. May) Onochie FHI 33174! Calabar Thomson 97! Oban Talbot 1543! **[Br.] Cam.:** foot of Cam. Mt. (Feb.) Mann 1179! Mopanya, Cam. Mt. 4,000-5,000 ft. (July) Kalbreyer 182!

[Species 2, 3 and 4 are easily confused when not in flower.]

3. **Canthium horizontale** (*Schum. & Thonn.*) *Hiern* in F.T.A. 3: 137 (1877).

APD: Synonym of Psydrax horizontalis (Schumach.) Bridson

Phallaria horizontalis *Schum. & Thonn.* (1827).

Canthium anomocarpum *DC.* (1830)-F.T.A. 3: 136; F.W.T.A., ed. 1, 2: 113; Aubrév. Fl. For. Soud.-Guin. 484; Berhaut Fl. Sén. 101.

Canthium caudatiflorum *Hiern* in F.T.A. 3: 137 (1877); Chev. Bot. 328.

Electronia anomocarpa (*DC.*) *K. Schum.* (1900).

Glabrous shrub, more or less scrambling; flowers greenish-white, fruits black; **beside streams usually in savanna.**

Sen.: Heudelot 567! Berhaut 1862! Floup-Fedyan Chev. 2093! **Mali:** Tabacco Chev. 3025. **Port. G.:** Biombo, Bissau (fr. Feb.) Esp. Santo 1797! Prabis, Bissau (fr. Mar.) Esp. Santo 1855! **Guin.:** Santa to Timbo Chev. 12583! Kouria Caille in Hb. Chev. 14733! **S. L.:** York (Sept.) Melville & Hooker 402! Kangahun, Gandima (Feb.) Deighton 5993! Njala (fr. Feb.) Deighton 3996! Musaia (fr. Feb.) Deighton 4243! **Lib.:** Monrovia (Nov.) Linder 1570! Mecca (fr. Nov., Dec.) Baldwin 10397! 10826! **Iv. C.:** Mt. Niénokué, 1,600 ft. Chev. 19445! Ferkéssédougou Aubrév. 2743! Brafouédi (fl. & fr. Dec.) Leeuwenberg 2299! **Ghana:** Sekondi (Aug., Oct.) Vigne FH 4787! Howes 975! Achimota (fr. Mar.) Irvine 422! Sekodamasi (Oct.) Vigne FH 3405! Prang (fr. Jan.) Vigne FH 1561! **Togo Rep.:** Lomé Warnecke 120! Badja (Mar.) Schlechter 12976! **Dah.:** Allada (Mar.) Chev. 23400! **N. Nig.:** Nupe Barter 1034! Osi to Oke-Opin, Ilorin (fr. Dec.) Ajayi FHI 19277! Anara F.R., Zaria (Oct.) Keay FHI 5468! 20123! **S. Nig.:** Lagos Isl. Barter 2208! Iddo Isl. (fr. Dec.) Millen! Ezi (fr. Feb.) Thomas 2337! Idanre, Akure Div. (Jan.) Brenan & Keay 8654! Agulu, Onitsha (Oct.) Onochie FHI 34130!

4. **Canthium schimperianum** *A. Rich.* Tent. Fl. Abyss. 1: 350 (1847); F.T.A. 3: 385; Bullock in Kew Bull. 1932: 385; Aubrév. Fl. For. Soud.-Guin. 483, t. 107, 3.

APD: Synonym of Psydrax schimperiana (A. Rich.) Bridson

Canthium euryoides *Bullock ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 113 (1931); Bullock l.c. 384; F.W. Andr. Fl. Pl. A.-E. Sud. 2: 429.

Canthium nitens *Hiern* in F.T.A. 3: 135 (1877), not of DC.

Evergreen shrub, climber or small tree; flowers whitish.

Dah.: Atacora Mts. Chev. 24049. **S. Nig.:** R. Nun Barter 2114!

Also in **Cameroun**, **Sudan**, **Ethiopia**, **Uganda**, **Kenya**, **Tanganyika** and **Congo**.

5. **Canthium** *sp. A.* *APD acc*

Climbing shrub with long brown hairs; **in high forest and edge of savanna.**

S. Nig.: Sapoba (Sept.) Onochie FHI 34313! Mamu F.R., Akwa Dist. Onochie FHI 34067!

[Apparently closely related to *C. rubens* Hiern].

6. **Canthium rufivillosum** *Robyns ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 113 (1931).

APD: Synonym of Keetia rufivillosa (Robyns ex Hutch. & Dalziel) Bridson

APD: Synonym of Keetia molundensis (K. Krause) Bridson var. molundensis

A scrambling shrub densely covered with rust-coloured hairs; **in forest**.

S. L.: Yonibana (Nov.) Thomas 4740! 4946! **Lib.:** Kakatown Whyte! **S. Nig.:** Calabar (Nov.) Baldwin 13790! **[Br.] Cam.:** mile 42, Victoria to Kumba (Apr.) Olorunfemi FHI 30513!

7. **Canthium hispidum** *Benth.* in Fl. Nigrit. 409 (1849); F.T.A. 3: 140; Chev. Bot. 329, partly.

APD: Synonym of Keetia gueinzii (Sond.) Bridson

APD: Synonym of Keetia hispida (Benth.) Bridson

Climbing or straggling shrub; flowers white; **in forest**.

S. L.: Don! Sugar Loaf summit, 2,490 ft. (fr. Nov.) Deighton 5619! Gbangbama Thomas 9467! **Lib.:** Dukwia R. (fr. Mar.) Cooper 309! Harbel (fr. July) Baldwin 6619! Nekabozu (Oct.) Baldwin 9959! Kolahun (Nov.) Baldwin 10142! **iv. C.:** Sassandra Port Chev. 17916! Leeuwenberg 2233! Assinie Chev. 17873! 17884! **Ghana:** Essiama (Nov.) Vigne FH 1475! Aburi Brown 683! Kumasi (fr. Jan.) Irvine 40! Abotia Hills F.R., Ho Dist. Enti FH 6876! **Dah.:** Ouidah to Adjounja (Apr.) Chev. 23468! Allada to Niaouli Chev. 23394! **S. Nig.:** Lagos Barter 2182! Dalz. 1051! Oshun River F.R. (fr. May) Chizea FHI 23956! Olokemeji (fr. Nov.) Latilo FHI 8102! Ibadan (fl. May, fr. Jan.) Keay FHI 16209! Meikle 966!

Also in **Cameroun** and (?) **Gabon**.

8. **Canthium mannii** *Hiern* in F.T.A. 3: 143 (1877).

APD: Synonym of Keetia mannii (Hiern) Bridson

Canthium nervosum *Hiern* in F.T.A. 3: 143 (1877); Aubrév. Fl. For. Soud.-Guin. 484.

Plectronia flaviflora *K. Schum. & K. Krause* (1907).

Climbing shrub up to 20 ft. high; flowers white; **beside streams in forest**.

Guin.: R. Koumi Pobéguin 1630! Mamou Pobéguin 1622! Kissi Chev. 20759! **S. L.:** Bagroo R. (Apr.) Mann 814! Makunde (Apr.) Sc. Elliot 5695! Njala (Apr.) Deighton 4743! Tabor (Apr.) Deighton 3723! **S. Nig.:** Shasha F.R., Ijebu-Ode (fl. & fr. Apr.) Keay FHI 16098! Orle F.R., Benin (fr. Aug.) Onochie FHI 33287! Carter's Peak, Idanre (Jan.) Brenan & Keay 8690! Ikpan, Calabar (fr. July) Ujor FHI 31635! **[Br.] Cam.:** Tiko, Victoria (Feb.) Maitland 974! Johann-Albrechtshöhe (= Kumba) Staudt 511!

Also in **Cameroun**, and **Ubangi-Shari**.

9. **Canthium orthacanthum** (*Mildbr.*) *Robyns* in Bull. Jard. Bot. Brux. 11: 334 (1928); Aké Assi Contrib. 1: 154 (excl. syn. *C. thonningii* and *Plectronia spinosa*).

APD: Synonym of Vangueriella orthacantha (Mildbr.) Bridson & Verdc.

A spiny shrub; **in moist forest**.

iv. C.: Banco Forest Aké Assi IA 5318; 5325.

Also in **Cameroun** and **Congo**.

10. **Canthium setosum** *Hiern* in F.T.A. 3: 141 (1877).

APD: Synonym of Keetia hispida (Benth.) Bridson

Plectronia macrophylla *K. Schum.* (1899).

A climbing shrub, sometimes up to 50 ft. high; flowers white, fragrant; **at edge of forest**.

S. L.: Yonibana (Nov.) Thomas 4733! Mabonto (Oct.) Thomas 3576! 3606! **Lib.:** Dukwia R. (fr. Apr.) Cooper 389! Bushrod Isl. (fr. Aug.) Baldwin 13092! Beiden, Boporo Dist. (fr. Nov.) Baldwin 10271! Bobei Mt., Sanokwele Dist. (fr. Sept.) Baldwin 9632! **Ghana:** Kibbi to Potroase (fr. Oct.) Glover 9! Owabi (fl. & fr. Dec.) Lyon 2630! **S. Nig.:** Benin (Nov., Dec.) Brenan 8390! Ajayi FHI 26925! Afi River F.R., Ikom (Dec.) Keay FHI 28249! Oban Talbot! Degema Dist. Talbot 3680! **[Br.] Cam.:** Bimbina Forest, Victoria (fr. Feb.) Maitland 392! Cam. Mt., 2,500 ft. (Dec.) Mann 1190! Buea Deistel 628! **F. Po:** Musola (Jan.) Guinea 242! 978! 979!

Also in **Ubangi-Shari** and **Gabon**.

11. **Canthium rubrinerve** (*K. Krause*) *Hepper* in Kew Bull. 16: 157 (1962). *APD acc*

Electronia rubrinervis *K. Krause* (1917).

Canthium favosum *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 113 (1931).

Canthium setosum of F.W.T.A., ed. 1, 2: 113, partly (syn. *Electronia rubrinervis* *K. Krause*), not of Hiern.

A climber; in forest.

S. Nig.: Oban Talbot 1284! **[Br.] Cam.:** Victoria (Oct.) Mildbr. 10564! 10585! Barombi (fr. Feb.) Binuyo & Daramola FHI 35533!

Also in **Cameroun**.

12. **Canthium inaequilaterum** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 115 (1931).

APD: *Synonym of Keetia inaequilatera* (*Hutch. & Dalziel*) *Bridson*

A glabrous climbing shrub.

S. Nig.: Oban Talbot 277!

13. **Canthium multiflorum** (*Schum. & Thonn.*) *Hiern* in F.T.A. 3: 144 (1877).

APD: *Synonym of Psydrax parviflora* (*Afzel.*) *Bridson subsp. parviflora*

APD: *Synonym of Keetia multiflora* (*Schumach. & Thonn.*) *Bridson*

Psychotria multiflora *Schum. & Thonn.* (1827).

Canthium afzelianum *Hiern* in F.T.A. 3: 142 (1877); F.W.T.A., ed. 1, 2: 113; Aubrév. Fl. For. Soud.-Guin. 483; Berhaut Fl. Sén. 105.

Canthium kitsoni *S. Moore* in J. Bot. 48: 220 (1910).

Canthium heudelotii *Hiern* in F.T.A. 3: 139 (1877); F.W.T.A., ed. 1, 2: 114; Berhaut Fl. Sén. 101.

A more or less straggling shrub with whitish flowers.

Mali: Kita (July) Duong 353! 521! **Guin.:** Heudelot 653! Pita Pobéguin 2050! **S. L.:** Kumrabai (Dec.) Thomas 6944! 7068! Kukuna, Scarcies R. (fl. & fr. Jan.) Sc. Elliot 4503! 4685! Musaia to Faranna (bud Mar.) Sc. Elliot 5178! Njala (fr. Sept.) Deighton 2916! Mano Thomas 14069! **Ghana:** Thonning! Cape Coast (fl. Feb., fr. July) T. Vogel 63! Hall 1045! Accra (fl. & fr. Apr.) Irvine 277! Rose Innes GC 30344! **Dah.:** Atacora Mts. (June) Chev. 2399! 24128!

Also In **Cameroun**, **Gabon**, **Ubangi-Shari** and **Sudan**.

14. **Canthium pobeguini** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 115 (1931).

APD: *Synonym of Multidentia pobeguini* (*Hutch. & Dalziel*) *Bridson*

A shrub or tree to 20 ft. high with dark reddish branchlets and leaves paler beneath.

Guin.: Kouroussa (Apr., May) Pobéguin 229! 240! **Ghana:** N. Scarp F.R., Mpraeso Dist. (fr. May) Enti FH 7162!

[Note: this may be a small-leaved form of *C. crassum* Hiern (in F.T.A. 3: 145 (1877); Aubrév. Fl. For. Soud.-Guin. 484, t. 107, 1, 2) known from Ubangi-Shari, Sudan and other parts of Africa-F.N.H.].

15. **Canthium arnoldianum** (*De Wild. & Th. Dur.*) *Hepper* in Kew Bull. 16: 156 (1962).

APD: *Synonym of Psydrax arnoldiana* (*De Wild. & T. Durand*) *Bridson*

Electronia arnoldiana *De Wild. & Th. Dur.* (1900).

Canthium tekbe *Aubrév. & Pellegr.* in Bull. Soc. Bot. Fr. 83: 37, fig. 1 (1936); Aubrév. Fl. For. C. Iv., ed. 2, 3: 306, t. 385.

Canthium anomocarpum of F.W.T.A., ed. 1, 2: 113, partly (Chev. B22333), not of DC.

A tree up to 80 ft. high; in forest.

Iv. C.: Yapo (fr. Oct.) Chev. B22333! Djibi F.R. Aubrév. 1362! Abidjan Aubrév. 1363! Banco F.R. Aubrév. 1371! **S. Nig.:** Ekiadolor F.R., Benin Wardrop FHI 293!

Also in **Cameroun** and **Congo**.

16. **Canthium vulgare** (*K. Schum.*) *Bullock* in Kew Bull. 1932: 374.

APD: Synonym of Psydrax parviflora subsp. chapmanii Bridson

APD: Synonym of Psydrax parviflora (Afzel.) Bridson subsp. parviflora

Electronia vulgaris K. Schum. in Pflanzenw. Ost-Afr. C: 386 (1895).

Canthium glabriflorum of F.W.T.A., ed. 1, 2: 115, partly (Chev. 23843), not of Hiern.

Canthium horizontale of Chev. Bot. 329, (Chev. 23743), not of Schum. & Thonn.

Tree 20-100 ft. high or sometimes a shrub, bark rough, slash brown with grey spots turning greenish; flowers creamy-yellow or greenish-white, with an unpleasant smell; **beside rivers**.

Sen.: Basse Casamance (fr. Sept.) Adam 18038! **Port. G.:** Granja, Catio (June) Esp. Santo 2087! **Guin.:** Kouroussa (June) Pobéguin 704! Dalaba (fr. Sept.) Chev.! Forécariah (June) Jac.-Fél. 1672! **S. L.:** Heddle's Farm, Freetown (May) Deighton 1199! Loma Mts. (fr. Sept.) Jaeger 1396! **Iv. C.:** Daloa to Oumé Aubrév. 1257! **Ghana:** Awura F.R., Ejura (fr. June) Enti FH 6708! Kade, Oda Dist. (fr. Dec.) Enti FH 6852! Bana Hill, Krobo (Apr.) Irvine 2895! Mampong (Apr.) Vigne FH 1928! **Dah.:** Savalou (May) Chev. 23743! **N. Nig.:** Gindiri, Jos Plateau (Oct.) Hepper 1109! **S. Nig.:** Olokemeji F.R. (May) Okeke & Adebusuyi FHI 28299! Owo F.R. (May) Jones FHI 3611! **[Br.] Cam.:** Bamenda to Kentu, 1,500 ft. (June) Maitland 1721!

Widespread in tropical Africa.

[Note: Esp. Santo 2041 & 2052 from Portuguese Guinea have the calyx slightly and minutely pubescent like *C. vulgare* but leaves setose above like some forms of *C. subcordatum* DC.]

17. **Canthium subcordatum** DC. Prod. 4: 473 (1830); F.T.A. 3: 141; Aubrév. Fl. For. Soud.-Guin. 480; Fl. For. C. Iv., ed. 2, 3: 306, t. 366B.

APD: Synonym of Psydrax subcordata (DC.) Bridson

Canthium glabriflorum Hiern in F.T.A. 3: 140 (1877); Chev. Bot. 329.

Electronia glabriflora (Hiern) K. Schum. (1892).

A small or medium-size tree about 30 ft. or up to 80 ft. high with horizontal branches near the crown, slash whitish, buttresses at the base; flowers white, heavily scented; **in the more open parts of high forests**.

Gam.: Albreda Leprieur! **Guin.:** Mt. Benna, Kindia (Dec.) Jac.-Fél. 2120! Labé Chev. 12347! 12353! Dalaba (fl. Sept., fr. Mar.) Chev. A! Langdale- Brown, 2609! **S. L.:** Waterloo (July) Lane-Poole 293! Bonthe (fr. June) Deighton 4840! Njala (Apr.) Deighton 1137! Sefadu (May) Small 96! Loma Mts. (Nov.) Jaeger 415! **Lib.:** Kakatown Bequaert! **Iv. C.:** Abidjan Chev. 15281! 15384. Bettié, Bas-Comoé Chev. 17581! **Ghana:** E. Akim (June) JoAwion 736! Kumasi (fr. July) Andoh FH 5520! Burufo Plateau (Apr.) Adams 4029! Juaso Dalz. 159! Obuasi (fr. June) Andoh 4214! **S. Nig.:** Usonigbe F.R., Benin (Oct.) Keay & Onochie FHI 19668! Jekri Isl., Sapoba R. (Oct.) A. F. Ross 217! Awka to Imofia, Onitsha (May) Jones FHI 496! Calabar Thomson 112! Eket Talbot 3041!

Also in **Cameroun**, **Angola** and **S. Tomé**.

18. **Canthium dunlapii** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 115 (1931).

APD: Synonym of Psydrax dunlapii (Hutch. & Dalziel) Bridson

A medium-sized tree; flowers white; **in upland forest**.

[Br.] Cam.: Cam. Mt. (Dec., Jan., Mar., Apr.) Dunlap 93! Maitland 795! Brenan 9553! Hutch. & Metcalfe 10! Bamenda (fl. Mar., fr. Jan.) Johnstone 264/32! Daramola FHI 40530! **F. Po:** Moka, 4,000-6,000 ft. (fl. Jan., Feb., fr. Sept.) Exell 810! 851! Wrigley 572!

19. **Canthium scabrosum** Bullock in Kew Bull. 1932: 367.

APD: Synonym of Keetia gueinzii (Sond.) Bridson

Climbing shrub; flowers whitish.

[Br.] Cam.: S. Bakundu F.R., Kumba Dist. (Mar.) Onochie FHI 30862! Binuyo & Daramola FHI 35612!

20. **Canthium palma** (K. Schum.) Good in J. Bot. 64, Suppl. 2: 22 (1926).

APD: Synonym of Psydrax palma (K. Schum.) Bridson

Electronia palma K. Schum. (1899).

P. oddoni De Wild. (1907).

Small tree with spreading branches; **beside rivers**.

S. Nig.: Sapoba Kennedy 2240! 2329! A. F. Ross 237! Ikom (July) Catterall 19! Mackay 15! Afi River F.R., Ikom Jones & Onochie FHI 18717! Eket Dist. Talbot 3069!

Also in **Cameroun**, **Gabon** and **Congo**.

21. **Canthium rubens** Hiern in F.T.A. 3: 142 (1877).

APD: Synonym of Keetia molundensis (K. Krause) Bridson var. molundensis

APD: Synonym of Keetia rubens (Hiern) Bridson

A climbing shrub up to 20 ft. high, rusty-pubescent on the young branchlets, becoming glabrous.

Guin.: Diaguissa (Oct.) Jac.-Fél. 2061! Mali (Jan.) Roberty 16566! **S. L.:** Bagroo R. (Apr.) Mann 818! Berria (? = Gberia Fotombu) (fr. Mar.) Sc. Elliot 5416! Gberia Fotombu (fr. Sept.) Small 386! **Ghana:** Krokosua F.R., Kwakrom (Feb.) Cansdale FH 3986!

[The Guinée specimens may be specifically distinct from true C. rubens.]

22. **Canthium** sp. **B. APD acc**

A climbing shrub about 10 ft. high, branchlets and nerves of leaves rusty-pubescent;

Ghana: Princes (fl. bud Jan.) Darko 790! **N. Nig.:** Omo (formerly part of Shasha) F.R. (Feb.) Jones & Onochie FHI 17584!

It may prove to be a form of the next.

23. **Canthium venosum** (Oliv.) Hiern in F.T.A. 3: 144 (1877), incl. var. pubescens Hiern; Aubrév. Fl. For. Soud.-Guin. 483, t. 107, 4; Berhaut Fl. Sén. 102.

APD: Synonym of Keetia venosa (Oliv.) Bridson

Electronia venosum Oliv. in Trans. Linn. Soc. 29: 85, t. 49 (1873).

Canthium barteri Hiern in F.T.A. 3: 143 (1871).

Canthium heudelotii of F.W.T.A., ed. 1, 2: 116, partly (Sc. Elliot 5434), not of Hiern.

Straggling shrub or small tree up to 20 ft. high with rough square scaly bark, slash reddish brown; flowers whitish; **in savanna woodland and beside streams**.

Sen.: Berhaut 1858. **Mali:** Oualia, Kati (fr. Dec.) Chev. 103! **Port. G.:** Prabis, Bissau (fr. Feb.) Esp. Santo 1804! **Guin.:** Kouroussa (July) Pobéguin 282! Fouéboundougou, Beyla (July) Collenette 701 Timbo to Ditinn (Sept.) Chev. 18380! Dalaba (fr. Feb.) Langdale- Brown 2583! **S. L.:** Berria (? = Gberia Fotombu) (fr. Mar.) Sc. Elliot 5434! Gberia Fotombu (Oct.) Small 336! Kambui F.R. (fr. Apr.) Jordan 2055! Sini-Koro to Zanda Kaifaia (Sept.) Jaeger 1896! Musaia (fl. Oct., fr. Feb.) Thomas 2628! Deighton 4179! **Lib.:** Dukwia R. (fr. May) Cooper 448! Mecca (fr. Nov., Dec.) Baldwin 10448! 10817! Bobei Mt., Sanokwele Dist. (ft. Sept.) Baldwin 9627! **Iv. C.:** Tiengara Aubrév. 1563. Bondoukou Aubrév. 764. Marabadissa Chev. 21998. **Ghana:** New Jantin (Mar.) Johnson 633! Kintampo (fr. Nov.) Andoh FH 5427! Mampong to Ejura (July) Darko 927! Awura F.R. (Aug.) Andoh FH 5319! **Dah.:** Bimbéréké Aubrév. 13d! Koundé Chev. 24293! Tchaourou Poisson 41! **N. Nig.:** Atakati, Bassa (June) Elliot 235! Cece-Boku F.R., Lapai Dist. (Aug.) Onochie FHI 35110! Jos (Aug.) Keay FHI 20198! Abinsi (Aug.) Dalz. 768! **S. Nig.:** Lagos MacOregor 220! Aguku Dist. Thomas 1157! Asaba Barter 285! Onitsha Barter 1800! Mamu F.R., Awka Dist. (Aug.) Olorunfemi FHI 34185! Oban Talbot 2075! **[Br.] Cam.:** Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28799!

Also in **Cameroun**, **Ubangi-Shari**, **Congo**, **Angola**, **Sudan** and E. Africa to N. Rhodesia.

24. **Canthium zanzibaricum** Klotzsch in Peters Reise Mossamb. Bot. 291 (1861); F.T.A. 3: 138; Bullock l.c. 373.

APD: Synonym of Keetia venosa (Oliv.) Bridson

APD: Synonym of Keetia zanzibarica subsp. cornelioides (De Wild.) Bridson

APD: Synonym of Keetia zanzibarica (Klotzsch) Bridson

Canthium cornelia of F.W.T.A., ed. 1, 2: 115, partly (Kitson 679), not of Cham. & Schlecht.

Straggling shrub 10-30 ft. high; flowers white.

S. L.: Kambaia (Oct.) Small 471! Mabonto (Oct.) Thomas 3539! Mafombo (Sept.) Deighton 3058! **Ghana:** Black Volta R. (fl. & fr. Mar.) Kitson 679! [**Br.**] **Cam.:** Bafachu, Bamenda Johnstone 261! Bamenda (fr. May) Vjor FHI 30363!

Also in **Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **Zanzibar** and **Angola**.

25. Canthium gueinzii Sond. in Linnaea 23: 54 (1850); Bullock in Kew Bull. 1932: 368; Hepper in Kew Bull. 16: 157 (1962).

APD: Synonym of Keetia gueinzii (Sond.) Bridson

APD: Synonym of Keetia venosa (Oliv.) Bridson

Canthium venosissimum Hutch. & Dalz. F.W.T.A., ed. 1, 2: 115 (1931), partly (Vigne FH 1336).

A shrub with white flowers.

Ghana: Kumasi (Sept.) Vigne FH 1336! [**Br.**] **Cam.:** Buea, 3,000 ft. (fr. Jan.) Maitland 194! Bamenda Nkwe (Aug.) Ujor FHI 29987! Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1658! Nkambe, 6,000 ft. (Feb.) Sepper 1897!

Also in E. Africa.

26. Canthium manense Aubrév. & Pellegr. in Bull. Soc. Bot. Fr. 83: 38 (1936); Aubrév. Fl. For. C. Iv., ed. 2, 3: 306, t. 366A.

APD: Synonym of Psydrax manensis (Aubrév. & Pellegr.) Bridson

Small tree, with horizontal branches.

Iv. C.: Man to Danané (Mar.) Aubrév. 1099! Ferkessédougou (Apr.) Aubrév. 2310.

27. Canthium cornelia Cham. & Schlecht. in Linnaea 4: 14 (1829); F.T.A. 4: 140; F.W.T.A., ed. 1, 2: 115, partly; Aubrév. Fl. For. Soud.-Guin. 483; Berhaut Fl. Sén. 102.

APD: Synonym of Keetia cornelia (Cham. & Schltdl.) Bridson

Canthium ruminatum Baill. (1878).

Canthium heudelotii of F.W.T.A., ed. 1, 2: 115 partly (Heudelot 191), not of Hiern.

Straggling shrub; flowers greenish-yellow; in moist thickets in northern savanna.

Sen.: Sieber 21! Roger 37! Leprieux! Heudelot 101 (= 191)! Ouassadou Berhaut 1537! Niokolo-Koba (fr. Nov.) Adam 17192! **Cam.:** Genieri (July) Fox 138! Hayes 555! **Mali:** Kita Duong 543! Dubois 31! Samandini Chev. 948! L. Debo Vuillet 217. **Port. G.:** Sonaco, Gabu (fr. Nov.) Esp. Santo 35821 **Guin.:** Kouroussa Pobéguin 229; 240. Farana (Apr.) Pilot! Dantilia (Mar.) Sc. Elliot 5296! **Ghana:** Suguri (Apr.) Pomeroy 1234! Saboba (Mar.) Hepper & Morton A3118! Tumu (Mar.) Morton GC 8837! Kumbungu (May) Kitson 677! 717! **Niger:** Diapaga Chev. 24392. Also in Cameroun and Ubangi-Shari (fide Aubrév. l.c.).

57. RYTIGYNIA

Blume Mus. Bot. Lugd. Bat. 1: 178 (1850); Robyns in Bull. Jard. Bot. Brux. 11: 132 (1928).

- 1** Leaves covered all over the lower surface by a fine whitish tomentellous indumentum, ovate-elliptic, narrowly rounded at base, 7-10 cm. long, 3-4.5 cm. broad, with about 5 pairs of lateral nerves; petioles 3 mm. long; flowers axillary, solitary or paired; pedicels 4-5 mm. long; corolla-tube 3-3.5 mm. long, lobes appendiculate; fruit 6-7 mm. diam. *L. argentea*

Leaves from densely tomentose to glabrous, not whitish tomentellous, beneath: **2**

- 2 Flowers in short branched cymes, rather numerous; branchlets glabrous or pubescent; leaves subacute at base, obtusely acuminate at apex, broadly elliptic, 8-12 cm. long, 3-5 cm. broad, thin and membranous, bright green when dry, with 6-7 pairs of lateral nerves; pedicels nearly 1 cm. long; branchlets villous at the nodes within the stipules; corolla-tube 3-4 mm. long [2. membranacea](#)
- Flowers fasciculate on a short simple peduncle, few or subsolitary: **3**
- 3 Peduncle longer than the pedicels; flowers in pairs: **4**
- Peduncle much shorter than the pedicels: **5**
- 4 Branchlets glabrous, lenticellate; leaves broadly acuminate at apex, ovate-elliptic, 5-6 cm. long, 2-3 cm. broad, with about 6 pairs of lateral nerves often with tufts of hairs in their axils, otherwise glabrous; pedicels about 5 mm. long, glabrous; bracts subulate; corolla-tube 3-5 mm. long, lobes slightly apiculate; fruits obliquely ellipsoid, 1 cm. long [3. senegalensis](#)
- Branchlets thinly tomentose; leaves broadly acuminate at apex, ovate-lanceolate, 3-5-6 cm. long, 1-2-5 cm. broad, discolorous, thinly pubescent beneath; pedicels 2 mm. long, tomentose; corolla-tube 2 mm. long, lobes acutely apiculate [4. rhamnoides](#)
- 5 Pedicels of flowers at least 7 mm. long, in fruit up to 2-5 cm. long; flowers paired; branchlets glabrous; leaves oblong-elliptic, acuminate to caudate, rounded at base, 5-8 cm. long, 2-3-5 cm. broad, paler beneath, with repeatedly looped lateral nerves, glabrous; bracts ovate-apiculate; calyx denticulate; corolla-tube 5 mm. long [5. rubra](#)
- Pedicels of flowers up to 5 mm. long (up to 1 cm. long in fruit in some species); inflorescences 1-several flowered: **6**
- 6 Flower-buds long-apiculate at apex; corolla-lobes 5; 1-3 flowers at nodes: **7**
- Flower-buds at most shortly mucronate at apex, glabrous outside (except rarely in Nos. 8 & 13); corolla-lobes 4-5: **8**
- 7 Leaves densely pale tomentose beneath, shortly acuminate at apex, rounded at base, oblong-elliptic, 3-6 cm. long, 1-5-2-5 cm. broad; corolla densely pubescent outside [6. leonensis](#)
- Leaves setose-pilose beneath, broadly acuminate at apex, rounded at base, ovate to elliptic, 4-8 cm. long, 2-4 cm. broad; corolla-lobes sparsely setose outside [7. nigerica](#)
- 8 Young branchlets glabrous or only slightly pubescent; leaves glabrous beneath or slightly pubescent on the midrib: **9**
- Young branchlets densely pubescent: **12**
- 9 Flowers at nodes on the new-growth branchlets; corolla-lobes 4-5: **10**
- Flowers on one-year-old (or previous season's) branchlets; corolla-lobes 5: **11**
- 10 Corolla-lobes 3 mm. long and half as long as the tube; flowers 2-several in short stout peduncle; calyx-teeth acute, distinct; ovary 2-celled [8. affinis](#)
- Corolla-lobes 4 as long as the tube; flowers several in subsessile clusters; calyx very shortly toothed; ovary 4-celled [9. liberica](#)
- 11 Corolla 8-10 mm. long, tube about 2-5 mm. diam; leaves long acuminate at apex; upland shrub [10. neglecta](#)
- Corolla about 5 mm. long, tube about 1-5 mm. diam.; leaves acuminate, rounded to subacute at base, elliptic to ovate-elliptic, 5-10 cm. long, 3-5 cm. broad, with tufts of short hairs in the axils of the 5 pairs of lateral nerves [11. umbellulata](#)
- 12 Leaves rather densely puberulous beneath, less so above, elliptic to ovate, rather long-acuminate at apex, rounded at base, 4-6 cm. long, 1-5-3 cm. broad; flowers mostly in the axils of leaves on one-year-old branchlets [12. laurentii](#)
- Leaves slightly pubescent on nerves beneath and on upper surface, oblong-elliptic; more or less rounded at base, rather long-acuminate at apex, 5-9(-11) cm. long, 2-3-5(-5) cm. broad; flowers in the axils of leaves on the young branchlets [13. canthioides](#)

1. *Rytigynia argentea* (Wernham) Robyns in Bull. Jard. Bot. Brux. 11: 205 (1928). *APD acc*

Vangueria argentea Wernham in Cat. Talb. 49 (1913).

A shrub, with rusty-pubescent branchlets, leaves silvery-grey beneath and small single or paired axillary flowers.

S. Nig.: Oban Talbot 215!

2. *Rytigynia membranacea* (Hiern) Robyns l.c. 217 (1928). *APD acc*

Vangueria membranacea Hiern in F.T.A. 3: 151 (1877).

Rytigynia viridissima (Wernham) Robyns l.c. 213 (1928).

Canthium viridissimum Wernham (1914).

A shrub or small tree, mostly glabrous, with small yellow flowers in subumbellate cymes.

S. Nig.: Sapoba Kennedy 2553! Eket Dist. Talbot 3121! Calabar Thomson 114! [**Br.**] **Cam.:** R. Kindong, S. Bakundu, Kumba Dist. (Jan.) Binuyo & Daramola FHI 35494!

3. *Rytigynia senegalensis* *Blume* in Mus. Bot. Lugd. Bat. 1: 179 (1850); Robyns l.c. 163, figs. 19 & 20; F.W. Andr. Fl. Pl. A.-E. Sud. 2: 462; Berhaut Fl. Sén. 102. *APD acc*

Vangueria senegalensis (*Blume*) *Hiern* in F.T.A. 3: 149 (1877); Chev. Bot. 330.

V. euonymoides *Schweinf. ex Hiern* in F.T.A. 3: 150 (1877); Chev. Bot. 830.

A glabrous shrub with slender branchlets, more or less scrambling, with elegant foliage; flowers white or greenish, paired on slender axillary peduncles, with reflexed petals; **moist shady places in savanna.**

Sen.: Leprieur! Park 255! Berhaut 645! **Mali:** Bafing Lécard 82! Kita (July) Duong 544! **Guin.:** Kaba to Haut Mamou Chev. 12711. Kouroussa Pobéguin 269; 697. **Lib.:** Grand Bassa Dinklage 2035. **Iv. C.:** Yaou to Ahiamé Chev. 17698. Byanounan to Soubiré Chev. 17744. **Ghana:** Kumbungu (fl. & fr. May) Kitson 678! Zantana to Lunbunu (May) Kitson 962! Yeji Anderson 23! Wa (May) Vigne FH 3826! **N. Nig.:** Zungeru (July) Dalz. 221! Abinsi (June) Dalz. 757!

Extends to the **Sudan.**

4. *Rytigynia rhamnoides* *Robyns* l.c. 207 (1928). *APD acc*

Vangueria canthioides of F.T.A. 3: 149, partly (Barter 1243).

A slender shrub, about 12 ft. high; flowers greenish-white.

N. Nig.: Nupe Barter 1243!

5. *Rytigynia rubra* *Robyns* l.c. 162 (1928). *APD acc*

A climbing or straggling shrub about 8 ft. high, with wiry branches and thorns; flowers green in **forest.**

S. Nig.: Ikoyi Plains, Lagos (Mar.) Dalz. 1050! Ishan (fr. Apr.) Daramola FHI 31265! Degema Dist. Talbot 3823! [**Br.**] **Cam.:** Barombi L., Kumba (Mar.) Brenan 9457!

Also in **Cameroun** and **Gabon.**

6. *Rytigynia leonensis* (*K. Schum.*) *Robyns* l.c. 205 (1928). *APD acc*

Vangueria leonensis *K. Schum.* in Engl. Bot. Jahrb. 23: 467 (1897).

V. oxyantha *K. Schum.* (1899), excl. Rowland s.n.

Shrub or small tree in **forest.**

Guin.: Kouroussa Pobéguin 666! Farana (Mar.) Sc. Elliot 6358! **S. L.:** Da-Ouley, Loma Mts. (fr. Aug. Jaeger 1283!

7. *Rytigynia nigerica* (*S. Moore*) *Robyns* l.c. 208 (1928). *APD acc*

Vangueria nigerica *S. Moore* (1910).

V. oxyantha *K. Schum.* in Engl. Bot. Jahrb. 28; 72 (1899), partly (Rowland s.n.).

Shrub or small tree with horizontal branches; flowers greenish-white.

Ghana: Afram Plains (fl. & fr. May) Kitson 1141! Achimota Milne-Redhead 5057! Legon Hill (Apr.) Adams 4194! **N. Nig.:** Bonu (June) E. W. Jones 151! Gornapara, Gurara R. Elliott 181! **S. Nig.:** Lagos Rowland! Olokemeji F.R. (Apr.) Keay FHI 37003! Ibadan (Apr.) Meikle 1467! Brenan 9605! Eket Dist. Talbot 3289!

Similar to *R. canthioides*.

8. *Rytigynia affinis* (*Robyns*) *Hepper* in Kew Bull. 17: 171 (1963).

APD: *Synonym of Pyrostria affinis* (*Robyns*) *Bridson*

Dinocanthium affine *Robyns* in Bull. Jard. Bot. Brux. 17: 94 (1943).

D. bequaertii *Robyns* l.c. 95 (1943).

Canthium affine (*Robyns*) *Hepper* in Kew Bull. 16: 338 (1962).

A climbing shrub with greenish-yellow, sweet-scented flowers.

Ghana: Donkolo, near Bibiani (Feb.) Darko 854! Atewa Range F.R. (Feb.) Vigne FH 4330!

Also in **Congo**.

9. *Rytigynia liberica* *Robyns* l.c. 182 (1928). *APD acc*

Rytigynia claviflora of F.W.T.A., ed. 1, 2: 111, partly (syn. *R. liberica* Robyns; Whyte) not of Robyns.

A shrub.

Lib.: Kakatown Whyte! Suen, Montserrado (Nov.) Baldwin 10484!

10. *Rytigynia neglecta* (*Hiern*) *Robyns* l.c. 183 (1928). *APD acc*

Canthium neglectum *Hiern* in F.T.A. 3: 183 (1877).

Rytigynia rubra of F.W.T.A., ed. 1, 2: 111, partly (Maitland 648), not of Robyns.

Scrambling shrub or small understorey tree about 15 ft. high; flowers greenish-white; in montane forest.

[**Br.**] **Cam.:** below Musaka, about 5,000 ft., Cam. Mt. (Apr., May) Maitland 648! Hutch. & Metcalfe 30! Bamenda: Mbakakeka Mt., 7,800 ft. (fr. July) Lightbody FHI 30112! Lakom, 6,000 ft. (May) Maitland 1359! L, Oku, 7,200 ft. (Jan.) Keay & Lightbody FHI 28490!

Also in **Sudan**, **Ethiopia**, **Uganda**, **Kenya**, **Tanganyika** and **Congo**.

11. *Rytigynia umbellulata* (*Hiern*) *Robyns* l.c. 184 (1928). *APD acc*

Vangueria umbellulata *Hiern* in F.T.A. 3: 150 (1877).

V. canthioides of K. Schum. in Schlechter W.-Afr. Kautschuk Exped. 320 (1901), partly (Schlechter 12322).

V. concolor *Hiern* in F.T.A. 8: 160, partly (Barter 3418).

Scrambling or erect shrub or small tree up to 15 ft. high; flowers pale greenish or yellowish; fruits reddish; in secondary forest.

Port. G.: Catio (fr. July) Esp. Santo 2135! **S. L.:** Sugar Loaf Mt. (Apr.) Sc. Elliot 5780! Mt. Aureol (fr. June) Deighton 2717! Messina (Apr.) Deighton 3699! **Ghana:** Axim (Feb.) Irvine 2273! Begoro (Mar.) Vigne FH 4349! Kumasi (Apr.) Vigne FH 1114! Aboma F. R., Mampong Dist. (Jan.) Andoh FH 5453! **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 22974! Sanga River F.R., Jemaa Div. (May) E. W. Jones 43! Cece F.R., Bida (fr. June) E. W. Jones 191! **S. Nig.:** Ikoyi Plains, Lagos (fl. & fr. Mar.) Dalz. 1505a! Ibadan (Mar., Apr.) Schlechter 12322! Latilo FHI 22744! Ijaye Barter 3418! Onitsha Akpaka F.R. (fr. Mar.) Onochie FHI 35752! Akame-Oghe, Udi Dist. (fr. May) Onochie FHI 35849!

Also in **Cameroun**, **Angola** and **N. Rhodesia**.

12. *Rytigynia laurentii* (*De Wild.*) *Robyns* l.c. 192 (1928). *APD acc*

Vangueria laurentii *De Wild.* in Mission Laurent 292 (1906).

Shrub or small tree up to 15 ft. high; flowers greenish-yellow.

N. Nig.: Sanga River F.R., Jemaa Dist. (Apr.) Keay FHI 37627! [**Br.**] **Cam.:** Bafut-Ngemba F.R., 6,000 ft., Bamenda (Apr., May, fr. June) Ujor FHI 30309! Richards 5316! Lightbody FHI 26338! Johnstone 306/32!

Also in **Congo**.

13. *Rytigynia canthioides* (*Benth.*) *Robyns* l.c. 188 (1928). *APD acc*

Vangueria canthioides *Benth.* (1849)-F.T.A. 3: 149, partly.

Canthium benthamianum *Baill.* (1878).

Rytigynia claviflora *Robyns* l.c. 187 (1928); F.W.T.A., ed. 1, 2: 111, partly (excl. syn.).

A straggling shrub or small tree with rusty-pubescent branchlets and horizontal branches; flowers green or yellowish, fragrant; in secondary forest.

Guin.: Macenta (fl. & fr. Apr., May) Jac.-Fél. 907! Adam 12077! **S. L.:** Don! Sugar Loaf Mt., 2,500 ft. (Apr.) Hepper 2541! Bagroo R. (Apr.) Mann 866! Kenema (Apr., May) Lane-Poole 240! Small 43! Njala (May) Deighton 6061! **Lib.:** Mecca (fl. & fr. Dec.) Baldwin 10815! Kakatown Whyte! Moala-Suen (Nov.) Linder 1385! Ganta (May) Barley 1156! Gletown (July) Baldwin 6907! **Iv. C.:** Tonkouy (Dec.) Roberty 15844! Sassandra (Dec.) Leeuwenberg 2231! **Ghana:** Abra, W. Prov. (Jan.) Akpaba 810! Kumasi (Mar.) Vigne FH 1643! Ashanti Akim (Apr.) Irvine 959! Aboma F.R., Mampong Dist. (fl. & fr. Jan.) Andoh FH 5450! **Togo Rep.:** Misahöhe Baumann 433. **S. Nig.:** Eba Isl., Ijebu Prov. (Mar.) Richards 3250!

[Note: Jac.-Fél. 907, Adam 12077 and Harley 1156 are intermediate between this species and *R. nigerica*: they also possess pubescent corolla and calyx.]

Rytigynia gracilipetiolata (*De Wild.*) *Robyns* in Bull. Jard. Bot. Brux. 11: 176 (1928); Berhaut Fl. Sén. 102; Aké Assi Contrib. 1: 153. *APD acc*

Sen.: Sangalkam Berhaut 1625. *iv. C.*: Adiopodoumé Aké Assi IA 5298; 5299.

58. GLOBULOSTYLIS

Wernham in Cat. Talb. 49, t. 9 (1913).

- 1 Branchlets glabrous; leaves oblong-elliptic, subabruptly acuminate, subacute at base, with 5-7 pairs of lateral nerves, glabrous; tertiary nerves few and distant; calyx-lobes ovate, leafy, about 8 mm. long, nearly enclosing the corolla:.....[2](#)
- 2 Corolla sharply keeled in bud, pilose on keels, tailed at apex; calyx-lobes ciliate; flowers axillary, few; leaves up to 15 cm. long and 6 cm. broad; petioles 5-10 mm. long [1. talbotii](#)
Corolla neither pilose on keels nor tailed at apex; calyx-lobes not ciliate; flowers subumbellate on a short peduncle; leaves up to 12 cm. long; petioles 2-4 mm. long [2. minor](#)

1. *Globulostylis talbotii* *Wernham* in Cat. Talb. 49, t. 9 (1913). *APD acc*

An almost glabrous shrub.

S. Nig.: Oban Talbot 2051!

2. *Globulostylis minor* *Wernham* l.c. 50 (1913). *APD acc*

S. Nig.: Oban Talbot 247!

59. VANGUERIA

Juss.—F.T.A. 3: 146, partly; *Robyns* in Bull. Jard. Bot. Brux. 11: 273 (1928).

- 1 Inflorescence glabrous or nearly so; flowers sessile or subsessile; corolla villous at the throat, tube 3-4 mm. long, lobes ovate, acute; leaves deciduous, ovate-oblong, narrowed at the base, gradually acuminate, 7-15 cm. long, 3.5-7 cm. broad, with 8-12 pairs of lateral nerves, glabrous or finely pubescent; fruit stalked, globose, slightly ribbed, 1.5-2.5 cm. diam., mostly 5-seeded [1. venosa](#)
Inflorescence pilose; flowers pedicellate; corolla long-villous at the throat, tube 3 mm. long, lobes ovate, obtuse, pilose outside; leaves ovate, rounded at the base, rather obtuse at the apex, 3-5 cm. long, 1.5-3 cm. broad, with 5-7 pairs of lateral nerves; fruit globose, subsessile, about 1 cm. diam., slightly pubescent, 5-seeded [2. kerstingii](#)

1. *Vangueria venosa* *Hochst. ex Del.* in Ferret & Galinier Voy. Abyss. 3: 140 (1847); *Robyns* in Bull. Jard. Bot. Brux. 11: 290.

APD: *Synonym of Vangueria madagascariensis* *J.F. Gmel. var. madagascariensis*

Vangueria edulis of F.T.A. 3: 148, excl. var., not of Vahl.

A shrub or small tree glabrous in most parts; flowers greenish in branched cymes usually on the young leafy shoots.

Mali: Kita Duong 489! *Ghana*: Aburi Gardens (cult., fl. & fr. May) Irvine 3036! *N. Nig.*: Sanga River F.R., Jemaa Dist. (May) E. W. Jones 50! *S. Nig.*: Aboh Barter 362! Ida Barter 1250!

Also in *Sudan*, *Ethiopia* and *Uganda*.

2. *Vangueria kerstingii* *Robyns* l.c. 305 (1928). *APD acc*

A shrub with red-brown striate branchlets flaking with age; flowers in short pilose cymes.

Togo Rep.: Basari Kersting A620!

[Probably only a densely pubescent form of *V. venosa*.]

Vangueria sp. A.

A glabrous shrub; fruit globose, about 1 1/2 in. across; flowers not known.

S. L.: Thomas 1378! Mabum (ft. Aug.) Thomas 1645! **Lib.:** Wanau (fr. July) Harley 2041!

60. CRATERISPERMUM

Benth.-F.T.A. 3: 160.

- | | | |
|---|---|--------------------------------|
| 1 | Inflorescences sessile or nearly so in axils: | 2 |
| | Inflorescences pedunculate, markedly supra-axillary: | 3 |
| 2 | Bracts long-aristate up to 8 mm. long; leaves broadly oblong-elliptic, broadly acuminate at apex, cuneate at base, 15-20 cm. long, 6-9 cm. broad, laxly reticulate beneath, with about 7 pairs of lateral nerves | 1. aristatum |
| | Bracts small, about 2 mm. long; leaves elliptic to oblanceolate, shortly acuminate at apex, cuneate at base, 5-8 cm. long, 2-3-5 cm. broad, finely reticulate beneath | 2. sp. A |
| 3 | Stipules early caducous; fruits with a pedicel up to 7 mm. long on the peduncle; leaves oblong or oblong-elliptic, shortly cuneate at base, caudate-acuminate at apex, 8-14 cm. long, 2.5-4.5 cm. broad, finely reticulate on both sides; calyx denticulate | 3. caudatum |
| | Stipules more or less persistent; leaves yellow-green: | 4 |
| 4 | Leaves closely and strongly reticulate beneath, coriaceous, acute or obtuse and very shortly and abruptly acuminate at apex, 10-20 cm. long, 4-9 cm. broad; calyx cupular, truncate; fruits shortly pedicellate 4. laurinum | |
| | Leaves laxly reticulate beneath, hardly coriaceous, distinctly acuminate at apex, cuneate at base, elongate oblong-obovate, 7-15 cm. long, 3-6 cm. broad; calyx denticulate; fruits subsessile | 5. cerinanthum |

1. *Craterispermum aristatum* Wernham in Cat. Talb. 51 (1913). *APD acc*

A glabrous shrub with large leaves; flowers congested in the axils or slightly supra-axillary.

S. Nig.: Oban Talbot 251!

2. *Craterispermum* sp. A. *APD acc*

Probably a shrub, with yellowish leaves; further material required.

Lib.: Greenville, Sinoe (Mar.) Baldwin 11572!

[This may be a depauperate specimen of *C. cerinanthum* Hiern.]

3. *Craterispermum caudatum* Hutch. in Kew Bull. 1920: 23. *APD acc*

Craterispermum montanum of K. Schum. in Engl. Bot. Jahrb. 23: 460, partly (Sc. Elliot 4987), not of Hiern.

Craterispermum gracile A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 116 (1931); Chev. Bot. 332, name only; Aubrév. Fl. For. C. Iv., ed. 2, 3: 310, t. 367.

A small tree about 15 ft. high, with green, glabrous branchlets; flowers white, fruits white, yellow or purple; **understorey tree in forest.**

S. L.: Likuru, Talla Hills (Feb.) Sc. Elliot 4987! Njala (ft. May) Deighton 5763! Faiama (Jan.) Deighton 3870! Dia (fr. Apr.) Deighton 3206! Bandajuma (May) Aylmer 78! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 574! 713! Ganta (fr. May) Harley 1192! **Iv. C.:** Bouroukrou (Jan.) Chev. 17017! Banco F.R. Aubrév. 178! Danané Aubrév. 1105! **Ghana:** Asenanyo F.R. (Feb.) Andoh 4306! Pamu-Berekum F.R. (Sept.) Vigne FH 2500! **S. Nig.:** Akamkpa, Calabar (fr. Mar.) Latilo FHI 40903!

4. *Craterispermum laurinum* (Poir.) Benth. in Fl. Nigrit. 411 (1849); F.T.A. 3: 160; Aubrév. Fl. For. Soud.-Guln. 484; Fl. For. C. Iv., ed. 2, 3: 308, t. 367. *APD acc*

APD: *Synonym of Craterispermum schweinfurthii* Hiern

A glabrous shrub or small tree up to 25 ft. high with yellow-green coriaceous leaves; flowers white; [beside streams](#).

Sen.: "gallery forests" Berhaut 1550. **Port. G.:** Balanasinho, Fulacunda (fr. May) Esp. Santo 2146! **Guin.:** Rio Pongo Heudelot 908! Conakry Maclaud! Iles de Los Pobéguin 1210! Mamou Pobéguin 1557! Timbo Pobéguin 166! **S. L.:** Bagroo R. (Apr.) Mann 808! Mange, Port Loko Dist. (Apr.) Hepper 2605! Njala (Mar.) Deighton 2880! Loma Mts. (Feb.) Jaeger 4207! Gola F.R. (fr. Apr.) Small 576! **Lib.:** Monrovia Whyte! Beiden, Boporo Dist. (Nov.) Baldwin 10272! Zigida, Vonjama Dist. (Oct.) Baldwin 9989! Gbanga (Dec.) Baldwin 10513! Ganta (fl. & fr. Feb.) Harley 470! **Iv. C.:** Mt. Don Aubrév. 1080! **Ghana:** Amedzofe (Feb.) Irvine 179! **N. Nig.:** Jos Plateau (Jan.) Lely P 47! Batten-Poole 258! Kaduna to Zaria (Dec.) Meikle 761!

Also in [Congo](#), [Uganda](#), [Kenya](#), [Tanganyika](#), [Nyasaland](#), [N. & S. Rhodesia](#), [Angola](#), [Mozambique](#) and [Madagascar](#).

5. *Craterispermum cerinanthum* Hiern in F.T.A. 3: 161 (1877). *APD acc*

Craterispermum brachynematum Hiern in F.T.A. 3: 161 (1877).

Craterispermum sp. of Aubrév. Fl. For. C. Iv., ed. 2, 3: 310.

Craterispermum laurinum of Chev. Bot. 332, not of (Poir.) Benth.

Small tree up to 50 ft. high, usually much less and sometimes a shrub; flowers white; [understorey tree in forest, sometimes in open woodland](#).

Iv. C.: Bingerville Jolly 261! 309! Aubrév. 919! Dabou (fl. & fr. Feb.) Chev. 17226! **Ghana:** Aburi (Feb., Nov.) Brown 886! Johnson 292! South Fomang Su F.R. (fl. & fr. Feb.) Vigne FH 1823! Pamuso (May) Darko 868! Sansome, Nsawam (fr. Dec.) Harris! **N. Nig.:** Ankpa to Acharane, Kabba Prov. (Mar.) Okafor FHI 36885! **S. Nig.:** Lagos Barter 2175! Idanre (fr. Jan.) Brenan 8671! Omo (formerly part of Shasha) F.R. (Apr.) Jones & Onochie FHI 17233! 17352! Bikote, Obudu (fr. Dec.) Catterall! **[Br.] Cam.:** Kembong F.R., Mamfe (fr. Feb., Mar.) Onochie FHI 31179! Keay FHI 37554! S. Bakundu F.R., Kumba (Mar.) Binuyo & Daramola FHI 35620! Johann-Albrechtshöhe (= Kumba) Staudt 569! Esu, 5,000 ft. (Feb.) Johnstone 59/31!

Also in [Congo](#).

[Some specimens from S. Nigeria (FHI 17233; 17352; Catterall s.n.) and from [Br.] Cameroons (FHI 35620) show papillose stems when dry and faint venation: they may be distinct.-F.N.H.]

61. MORINDA

Linn.-F.T.A. 3: 191.

- 1 Climbing shrubs; peduncles terminal or terminating short lateral branchlets, never leaf-opposed; flowers 6-7-merous: **2**
- Trees or shrubs, much-branched; peduncles leaf-opposed and often also terminal; flowers mostly 5-merous: **3**
- 2 Peduncles in pairs; corolla-tube elongated, slender, (3-)4-8 cm. long, densely villous or pubescent in the throat; calyx undulate; leaves oblong-elliptic or obovate-elliptic, shortly cuneate at the base, acuminate, 6-12 cm. long, 2-7 cm. broad, glabrous, with 5-6 pairs of lateral nerves; ovary glabrous; fruit turgid (not lobed), 2-3 cm. diam., horned by the persistent calyces [1. longiflora](#)
- Peduncles solitary; corolla-tube short and stout in bud, up to 3 cm. long, glabrous in the throat; calyx-tube truncate, 4 mm. long; leaves elliptic or oblong-elliptic, shortly cuneate at the base, shortly and obtusely acuminate, 6-15 cm. long, 3-8 cm. broad, glabrous, with about 6 pairs of lateral nerves; ovary mostly puberulous; fruit lobulate, 4 cm. diam. [2. morindoides](#)
- 3 Branchlets slender, more or less terete; stipules large and foliaceous, soon falling off; peduncles usually 3 together, elongated and slender; flower-buds slender; leaves broadly elliptic to broadly ovate, more or less acuminate, rounded to broadly cuneate at the base, 8-16 cm. long, 4-8 cm. broad, often dark-purplish when dry, glabrous beneath, with 6-9 pairs of lateral nerves; heads globose [3. lucida](#)
- Branchlets stout, quadrangular; stipules small and persistent; peduncles stout; flower-buds stout; leaves broadly elliptic, triangular at the apex, up to 20 cm. long and 12 cm. broad, glabrous, dark when dry; fruit mostly subturgid, transversely ellipsoid or globose [4. geminata](#)

1. *Morinda longiflora* G. Don Gen. Syst. 3: 545 (1834); F.T.A. 3: 192; Hutch. in Kew Bull. 1916: 9; Aubrév. Fl. For. Soud.-Guin. 485, t. 108, 1-3. *APD acc*

A glabrous climbing shrub; flowers white, fragrant; fruits yellow composed, of connate berries; [in secondary forest](#).

Guin.: Kisosso (July) Pobéguin 793! Macenta (Apr.) Jac.-Fél. 847! **S. L.:** Kessewe (Apr.) Lane-Poole 132! Mano Thomas 9969! Rosino (fl. & fr. Feb.) Deighton 5009! Bweda to Kangama (Apr.) Deighton 3154! Gola F.R. (May) Small 671! **Lib.:** Timbo, Grand Bassa (Mar.) Baldwin 11215! Grand Cess (Mar.) Baldwin 11622! Sanokwele (fr. Sept.) Baldwin 9636! Gbanga (fr. Mar.) Blickenstaff 33! Vonjama (Feb.) Bequaert 85! **iv. C.:** Abouabou Forest (fl. & fr. Jan.) Leeuwenberg 2343! **Ghana:** Kwahu (Apr.) Johnson 667! Benso (July) Andoh FH 5560! **S. Nig.:** Idumuye (Dec.) Thomas 2111! Eket Talbot 3255! Oban Talbot 204! 205! 1667! **F. Po:** Barter 2066! (June) Mann 411! 2341!

Also in **Gabon** and **Congo**.

2. *Morinda morindoides* (Bak.) Milne-Redh. in Kew Bull. 1944: 31 (1947). *APD acc*

Gaertnera morindoides Bak. in Kew Bull. 1892: 83.

Morinda confusa Hutch. l.c. 11, with fig.; F.W.T.A., ed. 1, 2; 119; Aubrév. Fl. For. Soud.-Guin. 485, t. 108, 4.

Morinda longiflora of F.T.A. 3: 192, partly (Mann 810; Barter 3272; T. Vogel 188); of Chev. Bot. 338, not of G. Don.

A glabrous climber; flowers white, fragrant; fruits yellow; in forest.

Port. G.: Guebu to Guileje, Catio (June) Esp. Santo 2082! **Guin.:** N'zo (Dec.) Roberty 16024! Bilima Chev. 14690! **S. L.:** Gegbwema (Nov.) Deighton 437! Bagroo R. (fl. & fr. Apr.) Mann 810! Ninia, Talla Hills (Feb.) Sc. Elliot 4901! Njala (fr. Mar.) Pyne 120! Gola F.R. (fr. Apr.) Small 575! **Lib.:** Monrovia Whyte! Mecca, Boporo Dist. (Nov.) Baldwin 10425! Ganta (fr. Feb.) Baldwin 11017! Tappita (Aug.) Baldwin 9039! **iv. C.:** Sassandra (Dec.) Leeuwenberg 2249! Gonokrom to Techikrom, Dormaa (Dec.) Adams 2974! **Ghana:** Dixcove (fr. Apr.) Chipp 178! Otumi, Kibbi Dist. (Apr.) Andoh FH 5154! Ancobra Junction (fr. Dec.) Irvine 1050! Obuom (Dec.) Vigne FH 1486! Kumasi Cummins 43! **S. Nig.:** Lagos (Jan.) Moloney! Dalz. 1383! Eppah Barter 3272! Ilaro F.R., Egbado Dist. (Dec.) Onochie FHI 32441! Ibadan to Ife (fr. Mar.) Meikle 1268! Akpaka F.R., Onitsha (Feb.) Jones FHI 7435! Oban Talbot 1335! **[Br.] Cam.:** Banga to Victoria (fr. Mar.) Binuyo & Daramola FHI 35600! **F. Po:** T. Vogel 188!

Also in **Cameroun**, **Congo**, **Sudan** and **Angola**.

3. *Morinda lucida* Benth. in Fl. Nigrit. 406 (1849); Hutch. l.c. 12, with fig.; Aubrév. Fl. For. C. Iv., ed. 2, 3: 270, t. 348, and Fl. For. Soud.-Guln. 485; Berhaut Fl. Sén. 104. *APD acc*

Morinda citrifolia of F.T.A. 3: 191, partly; Chev. Bot. 338, partly, not of Linn.

A medium-sized tree with scaly grey bark, short crooked branches and shining foliage; flowers whitish in small heads, fruits green with a white interior; in forest.

Sen.: fide Berhaut l.c. **S. L.:** Musala (Mar.) Deighton 5441! **Lib.:** Tappita (fr. Aug.) Baldwin 9056! **iv. C.:** Bingerville (May) Chev. 20149! Bouaké Aubrév. 118; 834. Agboville Aubrév. 1382! **Ghana:** Axim (Nov.) Chipp 21! Dixcove (fr. Mar.) Morton A478! Dunkwa (Feb.) Vigne FH 214! Achimota (fr. June) Akpabia GC 511! Obuasi (fl. & fr. Apr.) King-Church 871! **Togo Rep.:** Lome Warnecke 177! Sokode (fr. Apr.) Kersting 64! **Dah.:** Gouka, Savalou Chev. 23721! **N. Nig.:** Nupe Barter! Abinsi (May-July) Dalz. 641! Oturkpo to Akwana, Benue Prov. (Feb.) Jones FHI 550! **S. Nig.:** Lagos Moloney! Ibadan (fl. & fr. Mar., fr. Dec.) Meikle 908! Ayewoh FHI 3010! Awka Thomas 8! Degema Talbot 3709! Eket Talbot 3148! 3233! **F. Po:** Barter 2039! T. Vogel 77!

Also in **Cameroun**, **the Congos**, **Sudan**, **Uganda**, **Tanganyika**, **Cabinda** and **Angola**.

4. *Morinda geminata* DC. Prod. 4: 447 (1830); Hutch. l.c. 14, with fig.; Aubrév. Fl. For. C. Iv., ed. 2, 3: 272, t. 249, and Fl. For. Soud.-Guin. 485; Berhaut Fl. Sén. 106. *APD acc*

Morinda citrifolia of F.T.A. 3: 191, partly; Chev. Bot. 330, partly, not of linn.

A small tree 20-30 ft. high, with 4-angled branchlets; flowers white, fragrant; fruits fleshy; in secondary forest and sometimes planted.

Sen.: Caniag, Cayor Döllinger 52! Komboi Heudelot 376! **Gam.:** Hayes 530! Albreda Perrottet 420! **Mali:** Sareya (Feb.) Chev. 464! **Port. G.:** Manooa (fl. & fr. Sept.) Esp. Santo 854! **Guin.:** Kaba Valley (May) Chev. 13186! Kouroussa (Apr.) Pobéguin 693. Kolenté (May) Chillou 1380! **S. L.:** (June) T. Vogel 145! Freetown Dalz. 957! Batkanu (fr. Apr.) Thomas 1! Mano Thomas 10373! Njala (Feb.) Deighton 1062! Makene (fr. Apr.) Deighton 5495! **Lib.:** Dukwia R. (fr. May) Cooper 445! Marshall, Montserrado (fr. Feb.) Baldwin 11049! Ganta (Mar.) Harley 427! **iv. C.:** Danipleu Aubrév. 1156.

62. SCHIZOCOLEA

Bremek. in Hook. Ic. Pl. t. 3482 (1950).

- 1 Shrub; branches slender, hirsute; leaves oblanceolate, 8-12 cm. long, 2.5-4.5 cm. broad, more or less cuneate at base, long-acuminate, midrib hirsute above and beneath; petiole 3-5 mm. long, hirsute; stipules fimbriate above, segments subulate, hirsute, up to 2 cm. long; flowers few in sessile axillary clusters, or solitary; calyx about 8 mm. long, lobes subulate, hirsute; corolla-tube about 2 cm. long, expanded above, sparsely pubescent outside, lobes about 1 cm. long, valvate; filaments 1 mm. long, anthers 4-5 mm. long; style glabrous, 12 mm. long; fruit ovoid, 10-12 mm. long, 6-7 mm. diam., surmounted by persistent calyx, 1-seeded [linderi](#)

Schizocolea linderi (Hutch. & Dalz.) Bremek. l.c. (1950). *APD acc*

Urophyllum linderi Hutch. & Dalz. F.W.T.A., ed. 1, 2: 104 (1931).

Sabicea ? linderi (Hutch. & Dalz.) Bremek. (1940).

A shrub 4-10 ft. high; flowers white, fragrant, fruits red; [understorey shrub in high forest](#).

S. L.: No. 2. River F.R., Freetown (Dec.) Vigne 21! York Pass (Dec.) Deighton 3311! Kambui Hills Lane-Poole 469! Gola Forest (fl. Jan., fr. Apr.) King 10! Deighton 3686! Small 577! **Lib.:** Kakatown Whyte! Dukwai R. (fr. Apr.) Cooper 151! Harbel (Dec.) Bequaert 14! Boporo Dist. (Nov.) Baldwin 10362! Peahtah (Oct.) Linder 1072! **iv. C.:** Nimba Mts. Schnell 5156! Nouba Mts. (ft. Apr.) Chev. 21138! 21167! Man to Danané (Nov.) de Wilde 854! Tiapleu Forest (Nov.) de Wilde 898!

63. LASIANTHUS

Jack-F.T.A. 3: 228. Nom. cons.

- 1 Creeping herb or undershrub rooting at nodes; stems pilose; leaves elliptic to obovate-elliptic, 6-10 cm. long, 2.5-5 cm. broad, cuneate to subcordate at base, shortly acuminate or acute at apex, pilose on both surfaces; petioles 2-3 cm. long, pilose; flowers congested in leaf axils; fruits depressed-globose, 6-10 seeded, about 6 mm. diam. [L. repens](#)

Small erect shrub; stems pilose; leaves long-elliptic to long-obovate-elliptic, 15-20cm. long, 5-9 cm. broad, cuneate at base, shortly and acutely acuminate, midrib more or less pilose on both sides; petioles 2-6 cm. long, pilose; flowers congested in leaf axils; fruits depressed-globose, 8-12 seeded, about 8 mm. diam. [2. batangensis](#)

1. **Lasianthus repens** Hepper in Kew Bull. 16: 332 (1962) (excl. F. Po spec. Melville 629). *APD acc*

Creeping herb with runners and pilose stems; flowers white, fruits at first orange, becoming blue; [in forest](#).

Guin.: Sérédou (fl. & fr. May) Aké Assi! **S. L.:** Monomo, Peninsula (fr. Sept.) Melville & Hooker 627! Nyandehun (Apr.) Deighton 3654! **Lib.:** Ganta (fl. & fr. May) Harley 537! **Ghana:** Kibi to Apapam (Dec.) Morton GC 8166!

Also in **Gabon**, **Ubangi-Shari**, **Congo** and **Cabinda**.

[Since describing this species I have seen several Fernando Po specimens (Guinea 2156, 2157, Boughey 72) which match Melville 629. I do not now regard this as *L. repens* and these specimens, distinct in themselves, are close to *L. mannii* Wernham (see note below)-F.N.H.]

2. **Lasianthus batangensis** K. Schum. in Engl. Bot. Jahrb. 28: 107 (1899), incl. var. *longepetiolata* K. Schum. *APD acc*

?**L. mannii** Wernham in Cat. Talb. 56 (1913).

Lasianthus guineensis A. Chev. Bot. 347, name only.

An erect undershrub 1-5(-10) ft. high, little branched from the base, sometimes ascending, with pilose stems; flowers blue or white, fruits pale blue; [in closed forest](#).

S. L.: Zimi to Gorahun, Gola (fr. Apr.) Deighton 3638! Gola (fr. Dec.) King 96b! Jepihun Smythe 229! **Lib.:** Bumbuna to Moala (fl. & fr. Nov.) Linder 1331! Ba, Mano R. (fr. Dec.) Baldwin. 10698! Zuie, Boporo Dist. (fl. & fr. Nov.) Baldwin 10249! Kulo, Sinoe (fr. Mar.) Baldwin 11428! Tchien (Aug.) Baldwin 7015! **iv. C.:** Abidjan Chev. 15280! 15283! Guidéko Chev. 16384! 16451! Alépé (Mar.) Chev. 17466! Yapó (Sept.) Roberty 12117! **Ghana:** Asamankese F.R. (Sept.) Vigne FH 4255! Opon Mansi F.R. (fr. Oct.) Akpabla 920! Benso (Aug.) Andoh FH 5403! **S. Nig.:** Oban Taltot 266! **[Br.] Cam.:** Lipundu to Banyu, Kumba (fr. July) Olorunfemi FHI 30698!

Extends southwards to Cabinda.

[Talbot 266 (type) and FHI 30698 are referable to *L. mannii*, if this is to be regarded as a distinct species. Detailed study is required of this difficult genus.]

64. GAERTNERA

Lam.-F.T.A. 4, 1: 542. *Nom. cons.*

- 1 Inflorescence a large loosely paniculate cyme; peduncle glabrous; nerves of leaves shortly pilose beneath or almost glabrous; leaves chartaceous, elliptic to oblong, acutely acuminate, more or less cuneate at the base, up to 18 cm. long and 7 cm. broad; calyx about 1 mm. long, bracteole shorter [1. paniculata](#)
- Inflorescence compact or small; peduncle puberulous; nerves of leaves puberulous beneath: [2](#)
- 2 Bracteoles ovate or broadly triangular, not longer than the calyx: [3](#)
- Bracteoles narrowly triangular or lanceolate, longer than the calyx; calyx about 3 mm. long; leaves thin, elliptic to oblong or lanceolate, more or less cuneate, acuminate, up to 12 cm. long and 4.5 cm. broad; inflorescence very compact [4. longevaginalis](#)
- 3 Calyx, with the lobes, 3 mm. long; bracteoles about as long; corolla-tube about 3 mm. wide; leaves chartaceous, oblong, truncate to acute at the base, shortly acuminate, 15-25 cm. long, 7-10 cm. broad, tertiary nerves prominent; inflorescence many flowered, compact [2. cooperi](#)
- Calyx 1.5-2 mm. long; bracteoles not half as long; corolla about 2 mm. wide; leaves thin, oblong to lanceolate, cuneate, long-acuminate, 8-11 cm. long, 2-3 cm. broad; tertiary nerves faint; inflorescence few-flowered, loose [3. liberiensis](#)

1. **Gaertnera paniculata** *Benth.* in *Fl. Nigrit.* 459 (1849); *F.T.A.* 4, 1: 543; *Chev. Bot.* 444, partly; *Petit in Bull. Jard. Bot. Brax.* 29: 42 (1959). *APD acc*

Gaertnera occidentalis *H. Baill.* (1880), not of *F.W.T.A.*, ed. 1, 2: 21.

A shrub or tree 10-20 ft. high with low branches; flowers whitish in rather lax pyramidal panicles; [in forest.](#)

Guin.: Heudelot 888. Macenta (Oct.) Baldwin 9833! Faranna (fr. Mar.) Sc. Elliot 5326! Kouria (Oct.) Caille in *Hb. Chev.* 14794! 14992! **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3860! York (Sept.) Hooker & Melville 613! Mamansu (Feb.) Deighton 4060! Rokupr (Feb.) Deighton 3604! Loma Mts. (Nov., Apr.) Frith 23! Jaeger 597! **Lib.:** Grand Basaa (July) T. Vogel 20! Monrovia (Nov.) Linder 1537! Brewerville (June) Barker 1335! Greenville (fr. Mar.) Baldwin 11554! **Iv. C.:** fide *Chev. l.c.* **Ghana:** Essiama (Feb.) Irvine 2339a! Cudjoe 138! Assin-Yan-Kumasi Cummins 194! Amedzofe (Nov.) Enti FH 6882! Toga Mt. (Nov.) Morton A3580! **S. Nig.:** Lagos Dalz. 1045! Brass Barter 1877! Jamieson R., Sapoba Kennedy 1569! Brenan 8934! Akpaka F.R., Onitsha (Mar.) Duruh FHI 15466! Eket (May) Talbot 3391! Onochie FHI 33168! **[Br.] Cam.:** Bali-Ngomba F.R., Bamenda (fr. Feb.) Daramola FHI 40471! Bum, Bamenda (fr. Apr.) Maitland 1410! Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 1514!

Also in [Cameroun](#), [Gabon](#), [Congo](#) and [N. Rhodesia](#).

2. **Gaertnera cooperi** *Hutch. & M. B. Moss* in *F.W.T.A.*, ed. 1, 2: 21 (1931), *Kew Bull.* 1937: 62, partly (excl. *Chev.* 12420; 12664; 12936). *APD acc*

A shrub or small tree 5-25 ft. high; flowers white, fruits blue; [in moister parts of forest.](#)

Lib.: Dukwai R. (Aug.) Cooper 202! 287! Duport (fl. May, Nov., fr. Nov.) Dinklage 3056! Linder 1487a! Paynesville, Monrovia (Apr.) Bequaert 176! Cape Palmas (May) Cooper 465! Sinoe Whyte! **Iv. C.:** Banco Serv. For. 381! Abouabou, Abidjan to Grand Bassam (fr. Jan.) Leeuwenberg 2366! **Ghana:** Ateiku (May) Vigne FH 1948! Ankobra R., Axim (Mar.) Morton GC 84731

3. **Gaertnera liberiensis** *Petit* in *Bull. Jard. Bot. Brux.* 29: 40 (1959). *APD acc*

Gaertnera salicifolia *Hutch. & J. B. Gillett* in *F.W.T.A.*, ed. 1, 2: 21 (1931); *Kew Bull.* 1937: 62, not of C. H. Wright ex Bak. (1903).

A tree 20 ft. high with reddish bark.

Lib.: Dukwai R. (June) Cooper 277!

4. **Gaertnera longevaginalis** (*Schweinf. ex Hiern*) *Petit* in *Bull. Jard. Bot. Brux.* 29: 45 (1959). *APD acc*

Psychotria longevaginalis *Schweinf. ex Hiern* in *F.T.A.* 3: 201 (1877).

Gaertnera plagiocalyx *K. Schum.* in Schlechter W. Afr. Kautsch.-Exped. 322, name only.

Gaertnera cooperi of *F.W.T.A.*, ed. 1, 2: 21, partly.

Gaertnera paniculata of *Chev. Bot.* 144, partly (*Chev.* 12420; 12664; 12936).

Gaertnera occidentalis of *F.W.T.A.*, ed. 1, 2: 21, not of H. Baill.

A weak shrub, or rarely a small tree, a few feet high; flowers white, fruits blue-purple; [in forest beside streams](#).

Guin.: Ditinn (Apr.) Chev. 12984! Diaguissa Chev. 12420; 12664; 12936. **S. L.:** Bagroo R. (fl. & fr. Apr.) Mann 802! Makali (Feb.) Deighton 4086! Kambui F.R. (May) Lane-Poole 246! Falaba (Apr.) Aylmer 45! Loma Mts. (Sept.) Jaeger 1465! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 758! Maa, Makona R. (fl. & fr. Feb.) Bequaert 55! Mt. Wolagwisi (Mar.) Bequaert 106! Ganta (fr. Oct.) Harley 1035! Balla (Feb.) Barley 19101 **Iv. C.:** Tonkoui (Aug.) Boughey GC 18334!

Also in [Cameroun](#), [Congo](#) and [Sudan](#).

65. CHASSALIA

Comm. ex Poir. in Lam. Encycl. Méth. Bot., Suppl. 2: 450 (1812).

Psychotria of F.T.A. 3: 193, partly (sect. Chasalia).

- 1 Inflorescences subsessile, congested, unbranched except in fruit; leaves glabrous: **2**
 Inflorescences pedunculate, branched and sometimes very lax: **6**
- 2 Corolla 2 cm. long, the tube slightly curved; calyx denticulate; flowers in several congested whorls; leaves elongate-oblongate, about 25 cm. long, 4-6 cm. broad, with about 15 pairs of lateral nerves [1. elongata](#)
 Corolla up to 1 cm. long: **3**
- 3 Climbing shrub; corolla curved [11. zenkeri](#)
 Undershrubs; corolla straight; fruits round: **4**
- 4 Fruiting pedicels thick and fleshy, about 3 mm. diam.; leaves elliptic, rounded to cuneate at base, acuminate, 10-19 cm. long, 4-8 cm. broad, with about 11 pairs of lateral nerves, venation prominent; petioles up to 3 cm. long [2. corallifera](#)
 Fruiting pedicels not thickened; leaves obovate-elliptic, rather long-cuneate at base, acuminate, 8-14 cm. long, 3.5-6 cm. broad, with about 7 pairs of lateral nerves, venation obscure; petioles 1-2 cm. long: **5**
- 5 Stems with a very narrow longitudinal ridge from the stipules on each side [3. subherbacea](#)
 Stems terete [4. subnuda](#)
- 6 Inflorescences minutely tomentose; flowers subsessile: **7**
 Inflorescences glabrous: **10**
- 7 Midrib minutely tomentose beneath, leaves broadly oblanceolate, shortly subcordate at base, abruptly acuminate, 8-31 cm. long, 4-9 cm. broad, with 11-13 pairs of lateral nerves; internodes usually short; inflorescence terminal, with peduncle about 5 cm. long, shortly branched above [5. ischnophylla](#)
 Midrib glabrous beneath: **8**
- 8 Corolla-lobes keeled, tube about 5 mm. long, straight; inflorescences branched spreading panicles, 3-7 cm. diam., with numerous flowers; leaves elliptic to oblong-elliptic, cuneate at base, long-acuminate, 8-14 cm. long, 3.5-8 cm. broad, with about 11 pairs of closely arched lateral nerves [6. cristata](#)
 Corolla-lobes not keeled: **9**
- 9 Fruits spherical, smooth; inflorescences shortly branched, about 2 cm. long, few-flowered [7. kolly](#)
 Fruits ovoid, angular (at least when dry); inflorescences lax and spreading, more or less 6 cm. long and diam. [8. afzelii](#)
- 10 Flowers subsessile; shrubs; corolla keeled: **11**
 Flowers pedicellate; climbers; corolla not keeled: **12**
- 11 Corolla straight, the small lobes keeled; (other characters as above) [6. cristata](#)
 Corolla curved, at least 1 cm. long, expanded above and keeled; inflorescences about 2 cm. long; [young] leaves elliptic, cuneate at base, rather long-acuminate, 6-8 cm. long, 2-3 cm. broad [9. sp. nr. umbraticola](#)
- 12 Pedicels 2-3 mm. long: **13**
 Pedicels 7-13 mm. long; inflorescences lax, about 6 cm. long, few-flowered; corolla sharply curved at base, 1-5 cm. long; leaves elliptic to oblong-elliptic, cuneate to rounded at base, caudate at apex, 8-15 cm. long, 2.5-8 cm. broad [12. cupularis](#)
- 13 Inflorescences lax and spreading panicles about 6 cm. long and diam.; corolla about 9 mm. long, nearly straight; fruits ovoid, angular (when dry); leaves oblong, cuneate at base, long-acuminate, 8-14 cm. long, 3-4.5 cm. broad [10. laxiflora](#)
 Inflorescences 2-3 cm. long, very shortly branched; corolla about 11 mm. long, curved; leaves elliptic, caudate at apex, cuneate at base, 9-17 cm. long, 3-8 cm. broad [11. zenkeri](#)

1. *Chassalia elongata* *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 127 (1931). *APD acc*

A shrub with rather long leaves; flowers yellow with the inflorescence rhachis red-purple tinged.

Lib.: Dukwai R., Monrovia (Oct., Nov.) Cooper 33!

[Rosevear 63/20A from S. Nigeria, has smaller flowers and leaves. It appears to be closely related to this sp. and to *C. simplex* K. Krause (1920) in Cameroun.]

2. *Chassalia corallifera* (*A. Chev. ex De Wild.*) *Hepper* in Kew Bull. 16: 329 (1962). *APD acc*

Psychotria corallifera *A. Chev. ex De Wild.* in Pl. Bequaert. 2: 354 (1924).

An undershrub 1-3 ft. high; flowers white; fruits deep violet on fleshy coral-pink pedicels; **in forest.**

S. L.: Thomas 3857! **Lib.:** Gbanga (fr. Sept.) Linder 566! Zolopla, Sanokwele Dist. (fr. Sept.) Baldwin 9463! Ganta (fr. Sept.) Harley 659! Baldwin 12520! Gletown, Tchien Dist. (fr. July) Baldwin 6916! Monroviatown, Tchien Dist. (fr. Aug.) Baldwin 7095! **Iv. C.:** Montezo to Alépé (fl. & fr. Feb.) Chev. 17368! 17417! 17431! Koléahinou forest (fl. buds Jan.) Aké Assi 3735!

3. *Chassalia subherbacea* (*Hiern*) *Hepper* l.c. 331 (1962). *APD acc*

Psychotria subherbacea *Hiern* in F.T.A. 3: 208 (1877).

P. coralloides *A. Chev. ex De Wild.* l.c. 356 (1924).

An undershrub 1-3 ft. high; flowers white, open in the morning; **on forest floor.**

S. L.: Waterloo to York (fr. Sept.) Melville & Hooker 626! **Iv. C.:** Gouléako (fl. & fr. Jan.) Aké Assi 3737! Yapo (Dec.) Aké Assi 3738! 3739! Taï (Mar.) Leeuwenberg 3020! **Ghana:** Princes Town (fr. Mar.) Morton A361! **S. Nig.:** Omo (formerly part Shasha) F.R. (Apr.) Jones & Onochie FHI 17406! Ross 208! **[Br.] Cam.:** Kembong F.R., Mamfe (Mar.) Onochie FHI 31177! **F. Po:** Mann 1420!

4. *Chassalia subnuda* (*Hiern*) *Hepper* l.c. 331 (1962). *APD acc*

Psychotria subnuda *Hiern* in F.T.A. 3: 209 (1877).

A shrub 4-6 ft. high.

S. Nig.: Cross R., Calabar (fl. & fr. Feb.) Mann 2270!

5. *Chassalia ischnophylla* (*K. Schum.*) *Hepper* l.c. 330 (1962). *APD acc*

Psychotria ischnophylla *K. Schum.* in Engl. Bot. Jahrb. 28: 93 (1899).

A small simple-stemmed shrub, erect or ascending, 1-1 1/2 ft. high; flowers white; fruits black; **in wet forest.**

S. Nig.: Usonigbe F.R., Benin (fr. Oct.) Keay & Onochie FHI 19675! Okomu F.R., Benin (Feb.) Brenan 9089! Eket Talbot! Oban (Mar.) Richards 5181! 5199! Okarara, Calabar (fr. May) Ujor FHI 30837! **[Br.] Cam.:** Korup F.R., Kumba (fr. June) Olorunfemi FHI 30645!

6. *Chassalia cristata* (*Hiern*) *Bremek.* in Bull. Jard. Bot. Brux. 22: 104 (1952). *APD acc*

Psychotria cristata *Hiern* in F.T.A. 3: 205 (1877).

A shrub up to 10 ft. high; flowers white; **in forest.**

S. Nig.: Degema Dist. Talbot 3672! 3743! **[Br.] Cam.:** Cam. Mt.: Buca to Musaka, 4,500 ft. (fr. May) Maitland 706! Buea Deistel 645! Lakom, Bamenda (Apr.) Maitland 1665! Bafut-Ngemba F.R., Bamenda (fr. June) Lightbody FHI 26326! **F. Po:** above Moka, 4,800 ft. (fl. & fr. Sept.) Wrigley 578!

Also in **Congo, Sudan, Uganda, Kenya, Tanganyika** and **Angola.**

7. *Chassalia kolly* (*Schumach.*) *Hepper* in Kew Bull. 16: 330 (1962). *APD acc*

Psychotria kolly *Schumach.* (1827).

P. parviflora *Benth.* (1849).

P. benthamiana *Hiern* in F.T.A. 3: 204 (1877); F.W.T.A., ed. 1, 2: 125.

P. warneckei *K. Schum. & K. Krause* (1907)-F.W.T.A., ed. 1, 2: 125.

P. infundibularis of Chev. Bot. 341, not of Hiern.

A soft-stemmed shrub 3-10 ft. high; flowers white or pink; **in forest**.

Guin.: Macenta (Apr., May) Collenette 6! 18! **S. L.:** Kukuna (Jan.) Sc. Etiott 4713! Makene (Apr.) Deighton 5502! Musaia (Mar.) Deighton 5437! Batkanu (fl. & fr. Apr.) Thomas 54! Binkolo (fr. Aug.) Thomas 1676! **Lib.:** Gbanga (Sept.) Linder 607! Nekaboyu, Vonjama Dist. (fl. & fr. Oct.) Baldwin 9983! Ganta (fr. Sept.) Baldwin 9825! Yratoke (July) Baldwin 6274! St. John R., Baila (May) Harley 1424! **Iv. C.:** Bingerville, Abidjan, Dabou Chev. 15270; 15885; 15361. Accrédiou (fr. Feb.) Chev. 17073. Malamalasso to Daboissué Chev. 17558. Tabou to Bériby Chev. 19992. Béyo (fl. & fr. Jan.) Leeuwenberg 2610! **Ghana:** Nsawam (Oct.) Morton GC 7806! Achimota (fl. & fr. July) Irvine 746! Kakumdu (July) Hall 443! Aburi Scarp (fl. & fr. Jan.) Morton A2844! Kpedsu (fl. & fr. Jan.) Howes 1084! **Togo Rep.:** Lome (fl. Nov., fl. & fr. Aug.) Mildbr. 7485! Warnecke 44! 381! **N. Nig.:** Katsina Allah (Dec.) Dalz. 648! **S. Nig.:** Olokemeji F.R. (Mar.) Hepper 2294! Abeokuta (Jan.) Rowland! Ibadan (fl. & fr. Apr.) Meikle 1403! Ibadan to Abeokuta (Mar.) Schlechter 13029! Okomu F.R., Benin (Jan.) Brenan 8818! **[Br.] Cam.:** Cam. Mt. (Mar., Apr.) Hamblen 144! Vogel Peak, Adamawa (Nov.) Hepper 1455! **F. Po.:** T. Vogel!

8. *Chassalia afzelii* (Hiern) K. Schum. in Engl. Bot. Jahrb. 23: 469 (1897). *APD acc*

Psychotria afzelii Hiern in F.T.A. 3: 205 (1877); Chev. Bot. 339.

Chassalia laxiflora Benth. (1849), partly (Don).

A straggling shrub or tree up to 30 ft. high; flowers white with yellow centre; **in forest**.

Port. G.: Catio (Aug.) Esp. Santo 2177, partly! **Guin.:** Kindia Chev. 13004; 13125. Diaguissa to Timbo Chev. 13447. **S. L.:** Afzelius! Don! Hastings (Sept.) Melville & Hooker 429! No. 2. River F.R. (July) Small 163! Bagroo R. (Apr.) Mann 843! Yonibana (fl. & fr. Nov.) Thomas 4734! Njala (Sept.) Deighton 104 1 **Lib.:** Tubman Bridge (Sept.) Barker 1411! Ganta (fl. & fr. Sept.) Harley 628! Gbau, Sanokwele Dist. (Sept.) Baldwin 9402! **Iv. C.:** Adiopodoumé (fr. Nov.) Leeuwenberg 2095! **Ghana:** Mpameso F.R. (fl. & fr. Dec.) Adams 2941! Assin (Sept.) West-Skinn 53! 139!

9. *Chassalia* sp. nr. *umbraticola* Vatke in Oestr. Bot. Zeitschr. 25: 230 (1875). *APD acc*

A shrub about 3 ft. high; flowers white; **in secondary upland forest**.

[Br.] Cam.: Bamenda-Nkwe (Apr.) Ujor FHI 30027! Bafut-Ngemba F.R. (May) Daramola FHI 41068!

[Very similar to plants widely spread in E. Africa which are named *C. umbraticola* Vatke, *C. discolor* K. Schum. and *C. albiflora* K. Krause. Further work is required to elucidate this complex.]

10. *Chassalia laxiflora* Benth. in Fl. Nigrit. 416 (1849), partly (Ansell). *APD acc*

Psychotria ansellii Hiern in F.T.A. 3: 214 (1877), partly (Ansell).

Scrambling shrub; flowers white or pinkish with yellow throat, and the inflorescence-rhachis often purple.

Lib.: Monrovia Farmar 348! Whyte! Congotown (Mar.) Barker 1224! Ganta (Sept.) Baldwin 9301! Grand Bassa Ansell! **Iv. C.:** Azaguié (Sept.) Chev. 22280! 22281!

11. *Chassalia zenkeri* K. Schum. & K. Krause in Engl. Bot. Jahrb. 39: 565 (1907). *APD acc*

Psychotria ansellii Hiern in F.T.A. 3: 214 (1877), partly (Thomson 105);

Chassalia laxiflora of F.W.T.A., ed. 1, 2: 127, partly (Thomson 106), not of Benth.

A climber; flowers waxy, crimson and yellow; **in forest**.

S. Nig.: Shakwa, Obudu (May) Latilo FHI 30929! Degema Dist. Talbot 3821! Eket Dist. Talbot 3056! Calabar Thomson 105!

Also in **Cameroun**.

12. *Chassalia cupularis* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 127 (1931). *APD acc*

A glabrous climbing shrub; flowers scarlet, yellow inside; **in forest**.

S. Nig.: Oban (fr. Feb.) Talbot 233! Onochie FHI 36256x! Afi River F.R., Ikom (fl. & fr. Dec.) Keay FHI 28253!

Chassalia garrettii K. Schum. & K. Krause in Engl. Bot. Jahrb. 39: 564 (1907).

W. Africa.: without locality (Oct. 1893) Garret.

Apparently close to *C. laxiflora* Benth. Besides the above, several species at present under *Psychotria* may belong to *Chassalia*, e.g. *P. pteropetala* K. Schum.

66. PSYCHOTRIA

Linn.—F.T.A. 3: 193. Nom. cons.

Grumilea Gaertn.—F.T.A. 3: 215; F.W.T.A., ed. 1, 2: 216.

- 1 Bracts and bracteoles conspicuous and persistent; inflorescences either small pilose and congested, or spreading (to p. 194): 2
 Bracts and bracteoles inconspicuous: 19
- 2 Inflorescences more or less globose or congested, subsessile: 3
 Inflorescences more or less pyramidal branched cymes or rarely fairly long-pedunculate clusters: 6
- 3 Ascending undershrub with prostrate rooting stems; flowers very few, apical, calyx-lobes linear; sheathing stipules drawn out into 2 filiform lobes, about 10 mm. long, on each side, pilose; leaves ovate, acute at apex, rounded or subcordate at base, about 6 cm. long and 3 cm. broad, pilose at least beneath [1. brenanii](#)
 Erect undershrubs: 4
- 4 Leaves glabrous or pubescent on the nerves and midrib, lateral nerves about 15, close, lamina oblanceolate to ovate, acuminate, cuneate to rounded at base, 10-17 cm. long, 3-6 cm. broad; stems more or less glabrous but nodes pilose; inflorescence usually 1 globose head (rarely 3 heads on a short common peduncle), 1.5-2 cm. diam.; calyx-lobes linear, pilose on the margins; fruits ellipsoid, 1 cm. long [2. globosa](#)
 Leaves pilose all over the lower surface; lateral nerves 8-10 on each side of midrib: 5
- 5 Petioles (5-)10-17(-40) mm. long, slender, pilose; leaves thinly pilose above, more densely beneath, oblanceolate to ovate, long-cuneate base, 8-17 cm. long, 3.5-6.5 cm. broad; inflorescence globose, solitary, 1-2 cm. diam.; calyx-lobes linear, 3 mm. long, pilose on the margins; fruits ellipsoid, 1 cm. long [3. nigerica](#)
 Petioles 5 mm. long, stout, densely pilose; leaves glabrous above, densely pilose beneath, oblanceolate, caudate at apex, cuneate at base, 7-9 cm. long, 2.5-3 cm. broad; inflorescence congested, 8 mm. diam.; calyx-lobes acute, 1.5 mm. long, densely pilose; fruits spherical, 6 mm. diam. [4. sp. A](#)
- 6 Branchlets tomentose or pubescent all round: 7
 Branchlets glabrous or only with longitudinal stripes of hairs: 12
- 7 Ascending or creeping undershrubs: 8
 Erect small shrubs: 9
- 8 Leaves gradually acutely acuminate, oblong-elliptic about 10 cm. long and 3-4 cm. broad, reddish-brown when dry, rather thin; internodes not very short; inflorescence small with rather small bracts; fruits about 1 cm. diam. when fleshy, drying ribbed and about 5 mm. long [5. reptans](#)
 Leaves rounded to subacute at apex, oblong-elliptic, 5-7 cm. long, 2-3 cm. broad, shortly pubescent on midrib and nerves beneath; internodes short with stipules often overlapping; inflorescence very small on peduncle about 3 cm. long [6. kitsonii](#)
- 9 Midrib pubescent above; stems and peduncles rusty-pilose: 10
 Midrib glabrous above: 11
- 10 Leaves not bullate, with 12-15 nerves on each side of midrib, acuminate, cuneate to rounded at base, 10-12 cm. long, 5-6 cm. broad, rusty-pilose on both sides; inflorescences small, up to 6 cm. long, flowers few, not in distinct heads; calyx-lobes 2-3 mm. long, pilose [7. coeruleo-violacea](#)
 Leaves bullate with about 20 nerves on each side of midrib, acuminate, more or less cuneate at base, 9-13 cm. long, 3.5-7 cm. broad, rusty-pilose beneath; inflorescences up to 13 cm. long, flowers in distinct heads; bracteoles broad, 3-toothed; calyx-lobes about 1 mm. long, pilose [8. rufipilis var. rufipilis](#)
- 11 Leaves bullate, midrib beneath and peduncles rusty-pilose; (see also below) [8a. rufipilis var. konkourensis](#)
 Leaves not bullate; midrib beneath and peduncles pubescent; lamina obovate to obovate-elliptic; broadly acuminate, cuneate at base, 10-20 cm. long, 5-10 cm. broad, with about 20 lateral nerves on each side of midrib conspicuously looped near margin; inflorescences pedunculate and branched, with small heads; fruits ribbed when dry, about 8 mm. long [9. vogeliana](#)
- 12 Midrib above pilose with spreading hairs; leaves bullate, midrib impressed above [8a. rufipilis var. konkourensis](#)
 Midrib above glabrous or with a few hairs: 13
- 13 Leaves not coriaceous; inflorescences lax, reflexed or erect: 14
 Leaves coriaceous; lateral nerves 15-20 on each side of midrib, looped near margin: 17

- 14 Stipules shortly acuminate; inflorescences reflexed later: 15
 Stipules long-acuminate, 1.2-1.5 cm. long:..... 16
- 15 Bracts entire or very slightly toothed, 1-1.5 cm. long; inflorescences lax, flowers few [10. latistipula](#)
 Bracts 3-lobed, 6 mm. long; inflorescences lax with flowers in small tiglit heads [11. subglabra](#)
- 16 Inflorescences reflexed; leaves oblanceolate to obovate, acuminate, cuneate at base, 12-22 cm. long, 5-7 cm. broad, glabrous [12. strictistipula](#)
 Inflorescences not reflexed; leaves elliptic to ovate-elliptic, acuminate, cuneate at base, 7-16 cm. long, 2.5-4 cm. broad, shortly pubescent to glabrescent beneath [13. obscura](#)
- 17 Midrib beneath entirely glabrous, leaves obovate, acuminate, cuneate at base, 12-21 cm. long, 5-8 cm. broad; inflorescences long-pedunculate, peduncle 8-15 cm. long with usually 3 distinct heads at apex, more or less glabrous [14. bidentata](#)
 Midrib beneath minutely or rusty-pubescent:..... 18
- 18 Leaves with midrib minutely pubescent beneath, lamina oblanceolate to obovate, acuminate, cuneate at base, 15-21 cm. long, 6-7 cm. broad; inflorescence pyramidal on a peduncle about 4 cm. long, rather close and not divided into distinct heads [15. maliensis](#)
 Leaves with midrib rusty-pubescent beneath; peduncle up to 10 cm. long; inflorescences formed of a number of distinct small heads [9. vogeliana](#)
- 19 Leaves with numerous bacterial nodules showing as black or pellucid dots (round or sometimes irregular) on the leaves beneath: 20
 Leaves without black dots beneath:..... 32
- 20 Flowers 5-merous:..... 21
 Flowers 4-merous:..... 25
- 21 Peduncles partly flattened and 2-winged; branchlets glabrous; inflorescences very lax, about 12 cm. long; pedicels about 4 mm. long; calyx truncate; stipules deeply lobed into 2 broad twisted and reflexed lobes, nearly glabrous; leaves elliptic, acuminate, cuneate and unequal sided at base, 11-15 cm. long, 4-6 cm. broad, glabrous [16. ceratalabastron](#)
 Peduncles not flattened or winged, filiform; branchlets pubescent; stipules acuminate into 2 subulate lobes; inflorescences 2-3 cm. long, very few-flowered; peduncle and pedicels filiform: 22
- 22 Branchlets with opposite longitudinal stripes of pubescence; leaves obovate-oblanceolate, rather long-acuminate, 5-8 cm. long, 1.5-3 cm. broad, with about 8 pairs of lateral nerves; petiole 5 mm. long, strigose above [17. bifaria](#)
 Branchlets pubescent all round:..... 23
- 23 Corolla-lobes ovate-triangular:..... 24
 Corolla-lobes narrow, horn-like; (for other characters see below) [21. humilis](#)
- 24 Leaves with about 8 pairs of lateral nerves, obovate to obovate-oblong, rather long-acuminate, cuneate at base, 5-10 cm. long, 2-4.5 cm. broad, glabrous; inflorescences very slender 2-6 cm. long, branched, rather few flowered [18. mannii](#)
 Leaves with about 15 pairs of lateral nerves, oblanceolate, acute to shortly acuminate, long-cuneate to a slightly rounded base, 12-23 cm. long, 3.5-8 cm. broad, slightly pubescent; flowers rather clustered at the end of the 3-7 cm. long peduncle [19. konguensis](#)
- 25 Midrib pubescent beneath: 26
 Midrib glabrous beneath:..... 27
- 26 Leaves subcordate to rounded at base, acuminate, oblong-lanceolate, 9-20 cm. long, 3.5-7 cm. broad; erect shrub; corolla with ovate-triangular lobes [20. brachyanthoides](#)
 Leaves cuneate to rounded at base; corolla-lobes narrow and horn-like; (for other characters see below) [21. humilis](#)
- 27 Corolla-lobes narrow and horn-like, very small: 28
 Corolla-lobes ovate-triangular, shrubs of undershrubs : 29
- 28 Leaves acutely acuminate, cuneate at base into slender petiole 1-2 cm. long, lamina elliptic to obovate, 5-7 cm. long, 2-3-5 cm. broad, glabrous; inflorescence 1-5 cm. long with few, rather clustered flowers; undershrub [22. cornuta](#)
 Leaves acute to slightly acuminate, rounded to cuneate at base, ovate-elliptic, 3-6(-10) cm. long, 1.5-3(-6) cm. broad, pubescent or glabrous; inflorescences few-flowered 1(-6) cm. long; more or less herbaceous [21. humilis](#)
- 29 Branchlets pubescent all round; leaves with about 8 nerves on each side of midrib; (for other characters see above) [18. mannii](#)
 Branchlets, inflorescences and leaves glabrous; stipules more or less pubescent; drying brownish; bacterial

- nodules small and in irregular clusters: 30
- 30 Branchlets terete, without longitudinal ridges: 31
- Branchlets with 2 longitudinal ridges; leaves with about 15 lateral nerves on each side of midrib, oblanceolate to oblong-elliptic, 13-20 cm. long, 4.5-9 cm. broad, abruptly and obtusely acuminate, cuneate at base; drying green with bacterial nodules appearing as distinct black dots; inflorescences 3-8 cm. long, well-branched; peduncle shorter than or equal to the flowering part of the inflorescence; corolla 2 mm. long ... [25. leptophylla](#)
- 31 Leaves with about 9 or fewer nerves each side of midrib, oblong-elliptic, 5-12 cm. long, 2.5-4.5 cm. broad, long-acuminate, cuneate at base; inflorescences very lax and few-flowered; peduncle filiform, 2-4 cm. long; corolla 4 mm. long [23. linderi](#)
- Leaves with about 13 nerves on each side of midrib, obovate to oblanceolate, 10-17 cm. long, 3-7 cm. broad, more or less acuminate, cuneate at base; inflorescences 5-9 cm. long, well-branched; peduncle about 3 cm. long, longer than flowering part of inflorescence; corolla 2 mm. long [24. brachyantha](#)
- 32 Midrib beneath with linear black bacterial nodules (several mm. long) at irregular intervals on each side: 33
- Midrib without linear nodules: 36
- 33 Leaf margins strongly undulate, acute at each end, narrowly elliptic-lanceolate, 7-11 cm. long, 1.5-3 cm. broad, with about 7 nerves on each side of midrib; branchlets with 2 conspicuous ridges; stipules deeply divided into 2 reflexed setae 2 mm. long; inflorescences terminal with peduncle 1-2 cm. long, few flowered and rather congested at apex [26. recurva](#)
- Leaf margins not undulate; stems terete; stipules bilobed at apex: 34
- 34 Leaves with 4-5(-7) nerves on each side of midrib, linear-elliptic to lanceolate-elliptic, acute, narrowly cuneate at base, 5-14 cm. long, 1-5 cm. broad; inflorescences pedunculate, branched above, reflexed in fruit . [27. talbotii](#)
- Leaves with 7-11 nerves on each side of midrib; inflorescences branched-paniculate: 35
- 35 Apex of leaves acute or obtuse, not acuminate, lanceolate-elliptic, 4-13 cm. long, 1-4.5 cm. broad; petioles up to 2 cm. long; in savanna [28. huae](#)
- Apex of leaves acuminate, very variable in shape, lanceolate-elliptic to broadly ovate-elliptic, 8-15(-20) cm. long, 2-6(-10) cm. broad; petioles 1-5 cm. long; usually in forest [29. calva](#)
- 36 Endosperm not ruminant: 37
- Endosperm ruminant: 66
- 37 Inflorescences sessile, unbranched, congested: 38
- Inflorescences pedunculate (capitate or branched) : 44
- 38 Ascending undershrub with prostrate rooting stems; (for other characters see above) [1. brenanii](#)
- Shrubs with erect stems: 39
- 39 Calyx-lobes broadly ovate 1-2 mm. long; branchlets without thick soft bark, terete; (for other characters see below) [30. subobliqua](#)
- Calyx-lobes shortly triangular or calyx truncate: 40
- 40 Petioles 2-6 cm. long: 41
- Petioles up to 1 cm. long; leaves elliptic, acuminate, cuneate at base, 7-15 cm. long, 2.5-7 cm. broad; branchlets with thick cracking bark: 43
- 41 Stipules about 15 mm. long, broadly ovate, ferruginous, caducous; calyx truncate; (for other characters see below) [31. dorotheae](#)
- Stipules about 5 mm. long, thick, straw-coloured: 42
- 42 Leaves elliptic, 17-20 cm. long, 8-10 cm. broad, minutely pubescent beneath; petioles up to 6 cm. long; calyx distinctly lobed [32. obanensis](#)
- Leaves oblong-oblanceolate, narrowly cuneate at base, 22-31 cm. long, 4-7.5 cm. broad, glabrous; petioles up to 8 cm. long; calyx obscurely lobed [33. longituba](#)
- 43 Branchlets with 2 longitudinal ridges; leaves glabrous beneath; corolla 4-lobed, about 3 mm. long [34. lophoclada](#)
- Branchlets terete; leaves minutely pubescent beneath; corolla 5-lobed, about 6 mm. long [35. insidens](#)
- 44 Peduncles pilose, pubescent or puberulous: 45
- Peduncles glabrous: 49
- 45 Indumentum of peduncle conspicuously pilose to puberulous; inflorescences capitate: 46
- Indumentum of peduncle very short and dense (lens needed) : 48
- 46 Leaves glabrous beneath, obovate, 10-15 cm. long, 4.5-7 cm. broad; stems glabrous; stipules and peduncles densely pilose with purple-brown hairs; peduncles 2-3 cm. long with a capitate inflorescence at apex; calyx-lobes ovate, 2 mm. long; fruits ellipsoid, 9 mm. long [36. globiceps](#)
- Leaves beneath, stipules and stems puberulous: 47

- 47 Leaves oblanceolate, cuneate at base, 12-19 cm. long, 4.5-7 cm. broad, glabrous above [37. liberica](#)
 Leaves ovate to ovate-elliptic, rounded to broadly cuneate at base, 4-7 cm. long, 2.5-5 cm. broad, puberulous above [38. sp. nr. tarambassica](#)
- 48 Inflorescences capitate; (for other characters see above) [31. dorotheae](#)
 Inflorescences branched; leaves elliptic, 8-14 cm. long, 3-5 cm. broad, nearly glabrous; flowers 4(-5)-merous; indumentum of inflorescences black [39. nigrescens](#)
- 49 Calyx-teeth acute, distinct, ovate, 1-2 mm. long, often reflexed: 50
 Calyx-teeth obtuse, short, or calyx truncate: 51
- 50 Inflorescences branched and paniculate, (1-)3 cm. diam.; branchlets with 2 longitudinal ridges, bark becoming thick, pale yellow and cracking; stipules thick; leaves oblanceolate to elliptic, acutely acuminate, cuneate at base, 7-17 cm. long, 3-5.5 cm. broad [40. sp. nr. abrupta](#)
 Inflorescences capitate, 1 cm. diam. on peduncle up to 3 cm. long; branchlets terete, bark thin; stipules membranaceous; leaves elliptic, acuminate, cuneate at base, 9-13 cm. long, 3-5 cm. broad [30. subobliqua](#)
- 51 Branchlets with thick outer bark, cracking and often breaking off, usually with 2 longitudinal ridges; corolla 5-merous: 52
 Branchlets with thin bark, mainly terete: 53
- 52 Style pubescent; hairs deep in throat of corolla; leaves broadly elliptic, rather long-acuminate, cuneate at base, 5-11 cm. long, 3-6 cm. broad, with 5-6 nerves on each side of midrib [41. abrupta](#)
 Style glabrous; hairs exerted from throat of corolla; leaves oblong-oblanceolate, acuminate, cuneate at base, 8-15 cm. long, 3-4.5 cm. broad, with 7-9 nerves on each side of midrib [42. sciadephora](#)
- 53 Flowers 4-merous: 54
 Flowers 5-merous: 55
- 54 Leaves obovate to oblanceolate, 10-17 cm. long, 3-7 cm. broad, with about 13 nerves on each side of midrib; (for other characters see above) [24. brachyantha](#)
 Leaves linear-lanceolate, 5-8.5 cm. long, 1-2.5 cm. broad, with 8-9 nerves on each side of midrib [43. adafoana](#)
- 55 Branchlets and stipules puberulous; leaves broadly lanceolate, acute, 7-10 cm. long, 2-3 cm. broad, with 6-7 nerves on each side of midrib; inflorescences few-flowered, shortly pedunculate, flowers subsessile [44. albicaulis](#)
 Branchlets and stipules glabrous: 56
- 56 Stipules divided to the base into 2 subulate lobes about 4 mm. long; branchlets longitudinally 2 ridges; leaves oblong to oblong-lanceolate, 3-8 cm. long, 1-3.5 cm. broad, with 4-5 nerves on each side of midrib [45. pleuroneura](#)
 Stipule-lobes not subulate from the base: 57
- 57 Leaves narrowly obovate to elongate-oblanceolate or oblong, cuneate at base: 58
 Leaves broadly ovate, shortly cuneate at base: 60
- 58 Inflorescence-branches small and rather few-flowered, 2-2.5 cm. diam. : 59
 Inflorescences rather large and spreading, 4-8 cm. diam.; corolla-tube 2 mm. diam.; leaves oblong-elliptic, acuminate, cuneate at base, with 10-12 pairs of lateral nerves; petiole 4-6 cm. long [48. malchairei](#)
- 59 Leaves narrowly obovate to elongate-oblanceolate, acutely acuminate, 10-20 cm. long, 3-7 cm. broad, with 12-14 pairs of lateral nerves; petiole 2 cm. long; flowers small and narrow [46. potanthera](#)
 Leaves oblong, shortly cuneate and unequal-sided at the base, 16 cm. long, 4-6 cm. broad, abruptly acuminate, with about 10 pairs of lateral nerves spreading at a right angle; petiole 6-7 cm. long [47. viticoides](#)
- 60 Inflorescences long-pedunculate, peduncle 3-11 cm. long with or without a pair of small leaves at the first branches; leaves broadly elliptic, obtusely pointed at apex, subdecurent on the petiole, 12-16 cm. long, 6-10 cm. broad, glabrous; lateral nerves about 10 pairs; veins conspicuous; corolla 7 mm. long [49. dalzielii](#)
 Inflorescences shortly pedunculate, peduncle about 2 cm. long: 61
- 61 Veins very conspicuous between the 7-11 nerves on each side of midrib: 62
 Veins invisible or nearly so: 64
- 62 Nerves about 7 on each side of midrib, lamina elliptic, very shortly acuminate, 14-18 cm. long, 6-9 cm. broad; inflorescences about 3 cm. long [50. piolampra](#)
 Nerves 10-11 on each side of midrib: 63
- 63 Leaves elliptic, very shortly acuminate, about 25 cm. long and 12 cm. broad, with a very stout midrib ribbed beneath; petiole 4 cm. long; inflorescence nearly sessile; corolla 7 mm. long, densely hairy within the throat [51. arborea](#)
 Leaves obovate-elliptic, broadly acuminate, about 30 cm. long and 14 cm. broad, with a stout smooth midrib beneath; petiole 5 cm. long; inflorescence subsessile, few-flowered; corolla over 1 cm. long, thick, densely

- hairy within the throat [52. *crassicalyx*](#)
- 64** Cymes 6-10 cm. diam. with many spreading branches and numerous flowers; peduncle about 2 cm. long; leaves ovate-elliptic, obtuse at apex, about 30 cm. long and 12 cm. broad, with 12-14 pairs of lateral nerves; petiole 3-4 cm. long; fruits 8 mm. long [53. *limba*](#)
- Cymes 2-3 cm. diam. with few branches and few flowers: **65**
- 65** Lobes of corolla not winged, corolla-tube thick, 5 mm. long; leaves broadly oblong-elliptic, very shortly pointed, very abruptly cuneate at base, 16-25 cm. long, 6-10 cm. broad, with 12-14 pairs of lateral nerves; petiole 1.5-2 cm. long [54. *rowlandii*](#)
- Lobes of corolla winged, corolla-tube slender, 5 mm. long; leaves elliptic, acuminate, cuneate at base, 6-14 cm. long, 3-6 cm. broad, with about 8 pairs of lateral nerves; petiole 1-2 cm. long [55. *pteropetala*](#)
- 66** Inflorescences branched-paniculate: **67**
- Inflorescences clustered on a peduncle or sessile or shortly branched: **73**
- 67** Calyx deeply lobed, lobes 2-3 mm. long, acutely deltoid; corolla about 9 mm. diam., conspicuously hairy in the throat; fruits about 1 cm. long; inflorescences bracteolate; leaves obovate-elliptic, acuminate, subcordate to cuneate at base, 8-14 cm. long, 3-7 cm. broad, with about 11 pairs of lateral nerves; petioles up to 2 cm. long [56. *elongato-sepala*](#)
- Calyx-teeth up to 1 mm. long or obscure: **68**
- 68** Leaves closely reticulate beneath, coriaceous, oblong-elliptic, abruptly and shortly acuminate, more or less rounded at base, about 12 cm. long and 5 cm. broad with about 12 lateral nerves on each side, often drying yellow-green; calyx shortly toothed; stipules membranous, apex irregular and obscurely bilobed, about 1 cm. long and nearly as broad, early caducous [57. *succulenta*](#)
- Leaves laxly reticulate beneath, hardly coriaceous, not drying yellow-green; calyx subtruncate: **69**
- 69** Lateral nerves 8-14 on each side of midrib, strongly looped near margin: **70**
- Lateral nerves 6-7 on each side of midrib, slightly looped near margin, lamina ovate-elliptic, acuminate, cuneate at base, 8-12 cm. long, 3-8 cm. broad; petioles 1-3 cm. long; corolla appearing inflated [62. *djumaensis*](#)
- 70** Inflorescences laxly branched, up to 14 cm. long (including petiole) and 11 cm. broad; corolla-tube about 1.5 mm. diam.; fruits about 3 mm. diam. : **71**
- Inflorescences up to 6 cm. long and broad; corolla-tube 2-3 mm. diam.; leaves broadly elliptic, abruptly acuminate, cuneate at base, 9-13 cm. long, 4.5-7 cm. broad [61. *chalconeura*](#)
- 71** Leaves with 8-11 lateral nerves on each side and ant-holes (dermatia) localised towards the apex, lamina oblong-elliptic, up to 17 cm. long and 7 cm. broad, shiny above and with raised tertiary venation [58. *venosa*](#)
- Leaves with about 15 lateral nerves on each side and ant-holes (dermatia) in many of their axils, lamina obovate to oblong-elliptic, 8-17 cm. long, 4-8 cm. broad, dull above: **72**
- 72** Inflorescences usually glabrous; young branchlets more or less pubescent; leaves drying purplish-brown, usually pubescent [59. *articulata*](#)
- Inflorescences usually puberulous; young branchlets usually glabrous; leaves drying dull brown, usually glabrous [60. *guineensis*](#)
- 73** Inflorescences sessile, densely clustered, terminal; leaves variable in shape from narrowly obovate to suborbicular, obtuse at apex, 10-20 cm. long, 4-14 cm. broad, glabrous; fruits ellipsoid, strongly ribbed, about 1 cm. long and 8 mm. broad, with calyx persistent at apex [63. *psychotrioides*](#)
- Inflorescences pedunculate or shortly branched: **74**
- 74** Midrib pilose or puberulous beneath: **75**
- Midrib glabrous beneath (or sometimes minutely puberulous in No. 66) : **76**
- 75** Midrib pilose beneath; (other characters as above) [56. *elongato-sepala*](#)
- Midrib puberulous beneath; leaves ovate-elliptic, acuminate, cuneate at base, 10-15 cm. long, with about 15 pairs of lateral nerves; branchlets puberulous; inflorescences with several short branches; fruits spherical, 6 mm. diam., smooth [64. *fernandopoensis*](#)
- 76** Calyx subtruncate; leaves ovate-elliptic to obovate, shortly acuminate, cuneate at base, 10-25 cm. long, 4-9 cm. broad; stipules about 3 mm. long, glabrous or slightly pubescent, ant-holes usually absent from nerve axils beneath; petioles 1-2(-3) cm. long; inflorescences shortly branched, sometimes shortly pedunculate, 3-4 cm. diam.; fruits about 1 cm. long, not ribbed [65. *gabonica*](#)
- Calyx shortly 5-lobed; leaves usually with ant-holes in the axils of the nerves beneath [66. *brassii*](#)

APD: Synonym of Psychotria minuta E.M.A. Petit

Geophila pilosa A. Chev. Bot. 346, partly (Chev. 19222 bis), name only.

A creeping herb with wiry hispid stems; flowers white.

IV. C.: Aké Assi 4863! Mid. Sassandra to Mid. Cavally (fr. July) Chev. 19222 bis! **S. Nig.:** Shasha F.R., Ijebu (Mar.) Richards 3219! Okomu F.R., Benin (Dec., Jan.) Brenan 8416! 8621! 8761!

Also in **Cameroun**.

2. *Psychotria globosa* Hiern in F.T.A. 3: 208 (1877). *APD acc*

Psychotria ionantha K. Schum. (1903).

Uragoga hexamera K. Schum. (1899)-F.W.T.A., ed. 1, 2: 128.

Cephaëlis hexamera (K. Schum.) Wernham (1919).

Undershrub 1-3 ft. high, decumbent and rooting at the base; flowers white; **in forest**.

S. Nig.: Okomu F.R. (Nov., Jan., Feb.) Onochie FHI 40298! Brenan 8429! 9063! Oban Talbot! Kwa Falls (Mar.) Brenan 9244! [**Br.**] **Cam.:** Preuss 1159! Amba Bay (Feb.) Mann 1330!

Also in **Cameroun**.

[Mann 1330, the type of this species. is described as a shrub 3 ft. high; all the other specimens cited are decumbent and rooting at the base.]

3. *Psychotria nigerica* Hepper in Kew Bull. 16: 337(1962).

APD: Synonym of Psychotria globosa var. ciliata (Hiern) E.M.A. Petit

Trichostachys talbotii Wernham Cat. Talb. 55 (1913); F.W.T.A., ed. 1, 2: 126, not *Psychotria talbotii* Wernham l.c. 54 (1913).

A more or less simple-stemmed erect undershrub about 2 ft. high; flowers whitish; **in forest**.

S. Nig.: Degema Talbot 3361! Oban (fr. Jan., Apr.) Talbot 1041! 1368! Ejiofor FHI 21885! Onochie & Latilo FHI 36123x! An River F.R., Ogoja (fr. May) Jones & Onochie FHI 14146! [**Br.**] **Cam.:** Etende, 4,000 ft., Cam. Mt. (Apr.) Maitland 1110! Mopanya (Mar.) Kalbreyer 153! Barombi Lake F.R., Kumba (Apr.) Daramola FHI 41008!

Also in **Cameroun**.

4. *Psychotria* sp. A. *APD acc*

A shrub about 4 ft. high with densely yellowish-hairy young stems and leaves; "flowers pinkish", fruits deep red; **in forest**.

S. Nig.: Okarara to New Ndebiji, Calabar (May) Ujor FHI 30850! Oban F.R. (fr. Jan.) Onochie FHI 36083x!

A very distinct species of which more material with flowers is required.

5. *Psychotria reptans* Benth. in Fl. Nigrit. 418 (1849); F.T.A. 3: 211; Schnell in Mém. I.F.A.N. 50: 74, fig. 4. *APD acc*

Myrstiphyllum reptans (Benth.) Hiern (1898).

Psychotria rufipilis of F.W.T.A., ed. 1, 2: 124, partly (Sc. Elliot 5824), not of A. Chev. ex De Wild.

A creeping undershrub up to 3 ft. high; flowers greenish-white, fruit white and fleshy, drying ribbed; **in forest**.

Guin.: Dalaba (fr. Sept.) Schnell 6847! Badabou R. Schnell 7662! Bafing (fr. Oct.) Adam 12650! Kindia to Conakry (May) Schnell 5635! **S. L.:** Sugar Loaf Mt. (Apr.) Sc. Elliot 5824! Leicester (Mar. Apr.) Hepper 2486! Brenan 9617! Rokupr (May) Jordan 263! Musaia (fr. Dec.) Deighton 4476! Njala (May) Deighton 664! Bagroo R. Mann!

Also in **Angola**.

6. *Psychotria kitsonii* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 124 (1931). *APD acc*

Psychotria juglasiana Aké Assi in Bull. Jard. Bot. Brux. 29: 359, t. 5 (1959).

A herb with half-woody stems creeping and rooting; flowers white, fruit red; **in forest**.

Iv. C.: Abengourou (fl. & fr. Aug.) Miège & Aké Assi IA 1927! Amitioro Forest Hallé IA. 4843! Kassa Forest Manganot & Aké Assi IA 4844! **Ghana:** Agboko to Dedesa, Afram Plains (May) Kitson 1129! Mpameso F.R. (fr. Dec.) Adams 2932! **S. Nig.:** Iguobazowa F.R., Benin (fr. Feb.) Onochie FHI 27140! Owam River F.R., Benin (fr. Nov.) Meikle 513!

7. *Psychotria coeruleo-violacea* K. Schum. in Engl. Bot. Jahrb. 33: 363 (1903).

APD: *Synonym of Psychotria ebensis* K. Schum.

Psychotria ciliata De Wild. Pl. Bequaert. 2: 351 (1924).

An undershrub with slender reddish-hairy stems; flowers blue; in forest.

S. Nig.: Okomu F.R., Benin (Feb.) Brenan 9008! 9008a! **[Br.] Cam.:** Preuss 1123! Victoria to Bimbia (Apr.) Maitland 631!

Also in **Gabon**.

Psychotria rufipilis A.Chev. ex De Wild. *APD acc*

8. *Psychotria rufipilis* var. *rufipilis* -Pl. Bequaert. 2: 416 (1924); Chev. Bot. 342, name only; Schnell in Mém. I.F.A.N. 50: 73, photo. 13. *APD acc*

Psychotria nimbana Schnell l.c. 68, photo. 9, figs. 2, 3 (1957), incl. var. *djalonenensis* Schnell l.c. 70, photo. 10, f. *vallicola* Schnell l.c. photo. 11, var. *gaidensis* Schnell l.c. 72, photo. 12.

A shrub 4-10 ft. high, tinged red-brown; flowers white; in forest.

Port. G.: Brene, Bissau (fr. Jan.) Esp. Santo 1708! **Guin.:** Dalaba (fl. Sept., fr. Dec.) Chev. 20332! Schnell 6834! 6951! Fon Massif (fr. Aug.) Schnell 6596! Kounounkan R. (fr. Oct.) Schnell 7618! Nimba Mts. (fr. Aug.) Schnell 6223! **S. L.:** Kumrabai (fr. Dec.) Thomas 6982! Yonibana (fl. & fr. Nov.) Thomas 5063! Njala (July) Deighton 1758 (partly)! 5820! Kenema (fr. Jan.) Thomas 7559! Loma Mts. (Aug., Sept.) Jaeger 1226! 1524! **Lib.:** Mt. Wolagwisi, Pandamai (fr. Mar.) Bequaert 112! Bobei Mt., Sanokwele (fr. Sept.) Baldwin 9614! Ganta (fr. Oct.) Harley 743! Baldwin 9257! **Iv. C.:** Nimba Mts. (fr. Aug.) Boughey GC 18159!

8a. *Psychotria rufipilis* var. *konkoureensis* (Schnell) Hepper in Kew Bull. 16: 337 (1962).

APD: *Synonym of Psychotria rufipilis* De Wild.

Cephaëlis konkoureensis Schnell in Bull. Jard. Bot. Brux. 30:365 (1960), not *C. psychotrioides* Valetton (1913).

Uragoga psychotrioides Schnell in Bull. I.F.A.N. 15: 118, fig. 12 (1953).

Psychotria psychotrioides (Schnell) Schnell in Mém. I.F.A.N. 50: 73 (1957).

Guin.: Konkouré (June) Pobéguin 1628! **S. L.:** Njala (fl. July, fr. Sept.) Deighton 1758 (partly)! 2124! Kamaranka Thomas 486! Samaia (May) Thomas 237! **Lib.:** Kakatown Whyte! Du R. (July) Linder 102! Banga (fr. Oct.) Linder 1214! Dukwia R. (May) Cooper 447! Brewersville (June) Barker 1330!

9. *Psychotria vogeliana* Benth. in Fl. Nigrit. 420 (1849); F.T.A. 3: 210; Chev. Bot. 342, partly; Schnell in Mém. I.F.A.N. 50: 61, photos. 1-5, incl. var. *korhogoensis* Schnell l.c. 62, photo. 2 (1957). *APD acc*

Psychotria multinervis De Wild. Pl. Bequaert. 2: 391 (1924); Schnell l.c. 68.

Psychotria reptans of Chev. Bot. 342, not of Benth.

Cephaëlis cornuta Hiern in F.T.A. 3: 224 (1877).

C. talbotii Wernham (1914).

Psychotria pilifera Hutch. & Dalz. F.W.T.A., ed. 1, 2: 123, partly (excl. descr. and Talbot 234).

A small shrub up to about 6 ft high; flowers cream or greenish; in savanna woodland.

Mali: Soukouroba (fr. May) Chev. 883! **Iv. C.:** Touleleu R. (fr. Aug.) Schnell 6156! Korhogo to Badikaha (June) Manganot! **Ghana:** Asafo to Cape Coast (June) Morton GC 7826! Krepi (Jan.) Johnson 545! Ejura (fr. Aug.) Chipp 765! Sampa (fr. July) Enti FH 6259! Yendi (Apr.) Vigne FH 1703! **N. Nig.:** Mande F.R., Zaria Prov. (June) Keay FHI 25844! Abuja (May) E. W. Jones 141! Jos Plateau (May) Lely P280! Abinsi (May) Dalz. 642! **S. Nig.:** Nun R. (fl. & fr. Sept.) Mann 502! Ubiaja F.R., Benin (Apr.) Umana FHI 29101! Olokemeji F.R. (Apr.) Keay FHI 37001! Onitsha Barter 1253! Eket Talbot 3386! Calabar Robb! **[Br.] Cam.:** Rio del Bey Johnston! Malende to Muyuka, Victoria (Mar.) Brenan 9325! Abonando (Mar.) Rudatis 32!

Also in **Cameroun** and **Congo**.

10. *Psychotria latistipula* *Benth.* in Fl. Nigrit. 419 (1849); F.T.A. 3: 210; F.W.T.A., ed. 1, 2: 123; Chev. Bot. 342; Schnell in Mem. I.F.A.N. 50: 66. *APD acc*

APD: *Synonym of Psychotria subglabra De Wild.*

Psychotria pilifera *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 123 (1931). partly (Talbot 234), not *Cephaëlis talbotii* Wernham.

A slender shrub or small tree; flowers white; *in forest*.

S. Nig.: Olokemeji (Aug.) Jones FHI 5609! Oban Talbot 234! Afi River F.R., Ikom Dist. (Dec.) Keay FHI 28239! Obubra Dist. (Apr.) Jones FHI 7397! **[Br.] Cam.:** Victoria (May) Maitland 721! S Bakundu F.R., Victoria (Apr.) Daramola FHI 29839! **F. Po:** T. Vogel! Barter 1 Mann 40! 1425! Bokoko (fr. Jan.) Guinea 840!

Also in **Cameroun** and **Gabon**.

11. *Psychotria subglabra* *De Wild.* Pl. Bequaert. 2: 426 (1924); Schnell l.c. *APD acc*

Psychotria latistipula of F.W.T.A., ed. 1, 2: 123, partly (Chev. 19216 and syn.), not of Benth.

A shrub with white flowers; *in forest*.

iv. C.: Mid. Cavally to Mid. Sassandra (July) Chev. 19216! Sérédou (May) Ake Assi 2389!

12. *Psychotria strictistipula* *Schnell* in Bull. I.F.A.N. 15: 131, fig. 15 (1953); Mém. I.F.A.N. 50: 67.

APD: *Synonym of Psychotria reptans Benth.*

A small shrub.

Guin.: Nimba Mts. (Apr.) Schnell 5165! **Lib.:** Ba, Boporo Dist. (fr. Dec.) Baldwin 10719!

13. *Psychotria obscura* *Benth.* in Fl. Nigrit. 419 (1849); F.T.A. 3: 212; Hepper in Kew Bull. 16: 467.

APD: *Synonym of Psychotria schweinfurthii Hiern*

Psychotria sodifera *De Wild.* Pl. Bequaert. 2: 421 (1924); Schnell in Mém. I.F.A.N. 50: 74.

Psychotria farmari *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 123 (1931).

Grumilea sodifera *A. Chev.* (1913), name only.

Small shrub up to 4 or 5 ft. high; flowers white, fragrant, fruits red; *in forest and in savanna woodland*.

iv. C.: Toumodi (Aug.) Chev. 22414! Bouaké (Apr.) Leeuwenberg 3292! **Ghana:** Farmar 385! Accra T. Vogel! Odumasi (Dec.) Johnson 513! Cape Coast (Mar.) Hall 339! Asikuma to Anum (Nov.) Morton GC 7934! **N. Nig.:** Shaw 54! Bonu, Niger Prov. (May) E. W. Jones 142! Afaka F.R., Zaria (June) Keay FHI 37079! Sanga River F.R., Jemaa Div. (fl. May, fr. Nov.) E. W. Jones 71! Keay FHI 37221! **S. Nig.:** Owo (Feb.) Brenan 8990! Olokemeji F.R. (fl. Apr., fr. Aug.) Jones FHI 5609! Keay FHI 37002! Idanre Hills (fl. & fr. Oct.) Keay FHI 255171.

Also in **Ubangi-Shari**.

14. *Psychotria bidentata* (*Thunb. ex Roem. & Schult.*) *Hiern* in F.T.A. 3: 209 (1877); Schnell in Mém. I.F.A.N. 50: 67. *APD acc*

Cephaëlis bidentata *Thunb. ex Roem. & Schult.* (1819).

Psychotria garrettii *K. Schum.* (1903).

Uragoga sangalkamensis *Schnell* in Bull. I.F.A.N. 15: 116, fig. 11 (1953).

Cephaëlis sangalkamensis (*Schnell*) *Schnell* in Mém. I.F.A.N. 50: 68 (1957).

Psychotria sangalkamensis (*Schnell*) *Schnell* l.c. (1957).

A small shrub 2-5 ft. high with leathery leaves; flowers white; *in moist sandy soil, sometimes epiphytic on palms*.

Sen.: Sangalkam, Dakar Adam 420; 1619! **Port. G.:** Mato de Amedi, Formosa (Apr.) Esp. Santo 1971! **S. L.:** Smeathmann! Murray Town (May) Deighton 5933! Kent (fr. Aug.) Melville & Hooker 363! Yungeru (fr. Jan.) Thomas 7386! Bendu, Kente Creek (Mar.) Adames 10! **Lib.:** Grand Bassa (July) T. Vogel 40! Dinklage 214! Buchanan (Mar.) Baldwin 11196! Monrovia Whyte! Sinoe Basin Whyte!

15. *Psychotria maliensis* *Schnell* in Mém. I.F.A.N. 50: 76, photo. 14, figs. 5, 6 (1967).

APD: Synonym of Psychotria multinervis De Wild.

A rather robust shrub 6-10 ft. high; flowers white; in forest beside streams.

Guin.: Mali (Sept.) Schnell 7041! 7159! s.n.! Pita (Mar.) Adam 11654!

16. **Psychotria ceratalabastron** *K. Schum.* in Engl. Bot. Jahrb. 33: 362 (1903). *APD acc*

APD: Synonym of Psychotria alatipes Wernham

Psychotria alatipes *Wernham* in Cat. Talb. 53 (1913).

A shrub about 5 ft. high; flowers white; in forest.

S. Nig.: Oban Talbot 241! Eket Talbot! Okarara (May) Ujor FHI 30152! **[Br.] Cam.:** Victoria to Bimbia Preuss 1271. Kebo Conrau 211.

17. **Psychotria bifaria** *Hiern* in F.T.A. 3: 198 (1877). *APD acc*

A shrub 2-3 ft. high; flowers white; in forest.

[Br.] Cam.: Buea, 2,500 ft. (Mar.) Maitland 541! Rio del Rey Johnston! **F. Po:** (June) Mann 419!

Also in **Cameroun**.

18. **Psychotria mannii** *Hiern* in F.T.A. 3: 197 (1877). *APD acc*

APD: Synonym of Psychotria camerunensis E.M.A. Petit

A shrub 2-5 ft. high, branching near the base with a spreading habit; flowers white; in deep shade in forest.

S. Nig.: Okomu F.R., Benin (fl. & fr. Jan.) Brenan 8759! Afi River F.R., Ogoja (fr. May) Jones & Onochie FHI 18743! Oban Talbot 2043! **[Br.] Cam.:** S. Bakundu F.R., Kumba (Jan., Mar.) Daramola FHI 35504! Brenan 9269!

Also in **Gabon**.

19. **Psychotria konguensis** *Hiern* in F.T.A. 3: 200 (1877). *APD acc*

A shrub 2-3 ft. high.

[Br.] Cam.: S. Bakundu F.R., Kumba (fr. Sept.) Akua FHI 15178! Bombe, Kumba (Apr.) Daramola FHI 29811!

Also in **Cameroun**, **Gabon** and **Cabinda**.

20. **Psychotria brachyanthoides** *De Wild.* Pl. Bequaert. 2: 337 (1924). *APD acc*

Psychotria brachyantha of Chev. Bot. 340, not of Hiern.

Shrub or small tree with white flowers.

Iv. C.: Makouguié Chev. 17108! Apouassou to Soubiré (Mar.) Chev. 17801!

21. **Psychotria humilis** *Hiern* in F.T.A. 3: 198 (1877). *APD acc*

APD: Synonym of Psychotria eminiana (Kuntze) E.M.A. Petit var. eminiana

A creeping herb with rooting stems just below the soil and erect leafy shoots up to 1 ft. high, leaves very dark green with a white margin; flowers white, fruits scarlet; in forest.

S. Nig.: Okomu F.R., Benin (Dec.) Brenan 8392! 8417! 8618! Usonigbe F.R., Sapoba (Nov.) Keay FHI 25624! Meikle 629! Oban Talbot 362!

Also in **Gabon**.

[Note: Brenan 8392 & 8518 are ascending and have leaves and inflorescences larger than the others cited; the plants may be pilose or almost glabrous; very near *P. cornuta*.]

22. **Psychotria cornuta** *Hiern* in F.T.A. 3: 198 (1877).

APD: Synonym of Psychotria humilis var. cornuta (Hiern) E.M.A. Petit

An ascending undershrub about 1 ft. high; flowers few and rather congested.

F. Po: Mann 1429!

23. Psychotria linderi Hepper in Kew Bull. 16: 335, fig. 1, 2 (1962). *APD acc*

A shrub about 3 ft. high; flowers white in pendent delicate panicles; **in forest**.

Guin.: Ziam, Macenta (Aug.) Adam 5969! 6054! **S. L.:** Mabonto (fr. July) Deighton 3259! **Lib.:** Gbanga (Sept.) Linder 649! Bobei Mt., Sanokwele (fr. Sept.) Baldwin 9580! Ganta (fr. Dec.) Harley 791! Bilimu (fr. Sept.) Harley 1532!

24. Psychotria brachyantha Hiern in F.T.A. 3: 196 (1877). *APD acc*

APD: Synonym of Psychotria brachyanthoides De Wild.

Psychotria aledjoensis De Wild. l.c. 328 (1924), incl. var. glabra De Wild. l.c. 330 (1924); F.W.T.A., ed. 1, 2: 125.

A shrub about 6 ft. high; flowers greenish-yellow.

Guin.: Yagedou, Boola (Mar.) Chev. 20929! Aledjo (Oct.) Chev. 27047! **Iv. C.:** Amitioro (fr. Nov.) Aké Assi 5452! Banco (July) de Wilde 131! **Ghana:** Banka (Mar.) Vigne FH 1884! L. Bosumtwe (Apr.) Adams 2463! Amentia, Ashanti Irvine 509! **Dah.:** R. Ouémé Le Testu 300! **[Br.] Cam.:** Barombi L. (Mar.) Brenan 9466! Johann-Albrechtshöhe (=Kumba) Staudt 920! **F. Po:** Mann 1423!

25. Psychotria leptophylla Hiern in F.T.A. 3: 200 (1877); Hepper in Kew Bull. 16: 334. *APD acc*

Pavetta ? tenuifolia Benth. (1849), not *Psychotria tenuifolia* Sw. (1788).

Psychotria setacea Hiern in F.T.A. 3: 197 (1877); F.W.T.A., ed. 1, 2: 124.

A shrub 2-8 ft. high; fruits shining red; **in forest**.

S. Nig.: Oban Talbot 2002! 2024! **[Br.] Cam.:** Victoria (Apr.) Maitland 1166! Buea (fl. & fr. Jan., Feb., ft. May) Mann 1191! Dalz. 8208! Dunlap 21! Maitland 704! S. Bakundu F.R., Kumba (Apr.) Daramola FHI 29830! **F. Po:** (fl. & fr. Nov.) T. Vogel 167! Guinea 2618!

Also in **Cameroun**.

26. Psychotria recurva Hiern in F.T.A. 3: 206 (1877). *APD acc*

Psychotria potamogetonoides Wernham (1917).

Psychotria bicarinata Mildbr., name only.

Psychotria talbotii of F.W.T.A., ed. 1, 2: 124, partly (syn. and Talbot 3817), not of Wernham.

A glabrous shrub 4-5 ft. high, the narrow leaves with crinkled margins.

S. Nig.: Degema Talbot 3817! **F. Po:** Mann 1430! Bogogo Mildbr. 6825.

27. Psychotria talbotii Wernham in Cat. Talb. 54 (1913); F.W.T.A., ed. 1, 2: 124, partly (excl. syn. and Talbot 3817); Brenan in Kew Bull. 5: 222. *APD acc*

APD: Synonym of Psychotria calva Hiern

Small shrub 2-5 ft. high, often well-branched; flowers white, fruits and pedicels deep red; **in forest**.

S. Nig.: Idanre, Akure Div. (fl. & fr. Jan., fl. Apr.) Brenan 8641! 8651! 8679! Symington FHI 3360! Oban Talbot 1054! Kwa Falls (Mar., Apr.) Brenan 9244! Ejiofor FHI 21882! Akampa Estate, Calabar (fl. & fr. Mar.) Latilo FHI 41346! **[Br.] Cam.:** Rio de Rey Johnston!

28. Psychotria huae De Wild. Pl. Bequaert. 2: 372 (1924).

APD: Synonym of Psychotria calva Hiern

Psychotria williamsii Hutch & Dalz. F.W.T.A., ed. 1, 2: 124 (1931).

Psychotria kolly of Chev. Bot. 341, partly, not of Schum. & Thonn.

Shrub; flowers white or yellowish, fragrant; **in savanna woodland**.

Guin.: Ditinn to Diaguissa Chev. 12660! 12675! **Ghana:** Johnson 143! Ejura (fl. & fr. Apr.) Williams 228! Ampoti to Adumasia, Afram Plains (May) Kitson! Opro River F.R. (Apr.) Keay FHI 37591! **N. Nig.:** Vom, Jos Plateau Dent Young 123!

29. *Psychotria calva* **Hiern** in F.T.A. 3: 199 (1877); Berhant Fl. Sén. 106. *APD acc*

Psychotria umbellata **Schum. & Thonn.** (1827), not of Vell. (1825).

Pavetta ? laevis **Benth.** (1849), not *Psychotria laevis* DC. (1830).

Grumilea micrantha **Hiern** in F.T.A. 3: 217 (1877); Chev. Bot. 343.

Psychotria micrantha var. *floribunda* **A. Chev.** Bot. 343, name only.

Psychotria floribunda **De Wild.** l.c. 366 (1924).

Psychotria porto-novensis **De Wild.** l.c. 405 (1924).

Psychotria warneckei of F.W.T.A., ed. 1, 2: 125, partly (Chev. 20937), not of K. Schum. & K. Krause.

An erect shrub 2-6 ft. high, or higher when straggling, with leaves very variable in width; flowers whitish, fruits red; **beside streams in forest.**

Sen.: "gallery forests" Berhaut 1670. **Port. G.:** Brene, Bissau (fr. Jan.) Esp. Santo 1694! **Guin.:** Boola to Moribadou (Mar.) Chev. 20937! Fouta Djallon Chev. 12833! Farana (Mar.) Sc. Elliot 5261! **S. L.:** Kundala (fr. Mar.) E. Macdonald 21! Musaia (Apr.) Deighton 5423! Pejehun Thomas 8253! Makump (May) Deighton 1722! Mange (Apr.) Hepper 2617! **Lib.:** Monrovia Whyte! Sinoe Basin Whyte! **Iv. C.:** Tabou to Bériby Chev. 19951! Agniéby Chev. 17200! Sanvi Chev. 17817! Assinie Chev. 17888! **Ghana:** Cape Coast (Mar.) Hall 1064! Aburi (May) Hughes 823! Afram Plains (May) Kitson 1123! Banda, Wenchi Dist. (fr. Dec.) Morton GC 25080! **S. Nig.:** Lagos Barter 2204! 3245! Obu Thomas 493! Sapoba (Feb.) Onochie FHI 31946! Okomu F.R., Benin (Mar.) Brenan 9181! Shasha F.R. (May) Richards 3468! **[Br.] Cam.:** Bafut-Ngemba F.R., Bamenda (June) Lightbody FHI 26327! **F. Po:** T. Vogel 190! Bahia Venus (fr. Dec.) Guinea 238!

[A complex aggregate is included here. *P. hallei* Aké Assi & Bouton in Bull. Jard. Bot. Brux. 30: 393, t. 12 (1960), from Ivory Coast (Aké Assi 4404!) may also belong to the aggregate-F.N.H.]

30. *Psychotria subobliqua* **Hiern** in F.T.A. 3: 206 (1877). *APD acc*

Psychotria refractiloba **K. Schum.** (1899).

Psychotria caduciflora **De Wild.** Pl. Bequaert. 2: 346 (1924).

Psychotria copeensis **De Wild.** l.c. 353 (1924).

Psychotria yabaensis **De Wild.** l.c. 440 (1924).

Psychotria anetoclada of Chev. Bot. 339, (incl. var. *angustifolia*), names only, not of Hiern.

A nearly glabrous shrub a few feet high; flowers pale green or whitish, soon falling off; **in forest.**

Guin.: Boula, Macenta (Apr.) Adam 12040! **Iv. C.:** Tébo, Mid. Cavally (July) Chev. 19412! Anyama (Feb.) Chev. 20098! Mt. Copé, Grabo Dist. (July) Chev. 19677! **Ghana:** Fomena (Apr.) Adams 2490! S. Fomangsu F.R. (Apr.) Adams 2657! Atewa Range F.R. (Jan.) de Wit & Morton A2935! **S. Nig.:** Ikorodu (Mar.) Schlechter 12305! Oban (Mar.) Richards 5185! **[Br.] Cam.:** Victoria (Mar., Apr.) Maitland 701! 1142! **F. Po:** Mann 1421!

Also in **Cameroun**, **S. Tomé** and **Principe**.

31. *Psychotria dorotheae* **Wernham** in Cat. Talb. 53 (1913). *APD acc*

A shrub about 6-12 ft. high; flowers white; fruits red; **in forest.**

Lib.: Du R. (fr. July) Linder 93! Bobei Mt., Sanokwele Dist. (fr. Sept.) Baldwin 9629! **Iv. C.:** Tiapleu (fr. May) Aké Assi! **Ghana:** Princes Town (Mar.) Morton GC 6623! **S. Nig.:** Oban F.R. (Feb.) Onochie & Latilo FHI 36312! Akamkpa, Calabar (fl. & fr. Mar.) Latilo FHI 38096! Oban Talbot 1561!

32. *Psychotria obanensis* **Wernham** in Cat. Talb. 53 (1913).

APD: *Synonym of Chazaliella obanensis (Wernham) E.M.A. Petit & Verdc.*

A shrub with rather large, long-petiolate leaves; flowers densely clustered in 1 to 3 subsessile heads.

S. Nig.: Oban Talbot 244!

33. *Psychotria longituba* **A. Chev. ex De Wild.** Pl. Bequaert. 2: 382 (1924); Chev. Bot. 342; Hepper in Kew Bull. 16: 337 (1962). *APD acc*

Psychotria capitellata **A. Chev. ex De Wild.** l.c. 348 (1924); Chev. Bot. 340, name only, not of DC. (1830), nor Benth. & Hook. f. (1873).

A shrub up to 5 ft. high, with long, rather narrow leaves; fruits red, angular when dry.

Lib.: Kulo (fr. Mar.) Baldwin 11409! Jaurazon (fr. Mar.) Baldwin 11477! **Iv. C.:** Grabo, Cavally (fl. & fr. July) Chev. 19618! 19779! s.n.! Malamalasso (fr. Mar.) Chev. 17541!

34. *Psychotria lophoclada* Hiern in F.T.A. 3: 197 (1877).

APD: Synonym of Chazaliella lophoclada (Hiern) E.M.A. Petit & Verdc.

A stiffly branched glabrous undershrub 1-2 ft. high with pale yellowish branchlets; flowers yellowish, small and crowded in sessile heads, fruits red; **in forest**.

S. L.: Don! Sugar Loaf Mt. (May, Dec., fr. Nov.) Sc. Elliot 3959! Tindall 63! Deighton 5621! **Lib.:** Bobei Mt., Sanokwele (fr. Sept.) Baldwin 9568! Ganta (May) Barley 1174! Bilima (fl. & fr. Feb.) Harley 1775! Gbanga Linder 565 I **Iv. C.:** Béyo (Dec.) Leeuwenberg 2221! Nimba Mts. Schnell 3553!

35. *Psychotria insidens* Hiern in F.T.A. 3: 208 (1877).

APD: Synonym of Chazaliella insidens (Hiern) E.M.A. Petit & Verdc.

Undershrub 1-3 ft. high; flowers white or yellow; **in forest**.

S. Nig.: Omo F.R., Ijebu (Apr.) Onochie FHI 15522! Shasha F.R., Ijebu (Apr.) Ross 204! Oban (Mar.) Richards 5184! **F. Po:** Mann 310!

36. *Psychotria globiceps* K. Schum. in Engl. Bot. Jahrb. 28: 93 (1899). *APD acc*

Psychotria avakubiensis De Wild. Pl. Bequaert. 6: 74 (1932).

A slender shrub 2 ft. high; flowers white; **in forest**.

[Br.] Cam.: Victoria Schlechter 12374! S. Bakundu F.R., Kumba (fr. Jan., Mar.) Binuyo & Daramola FHI 35453! Brenan 9481!

Also in **Cameroun** and **Congo**.

37. *Psychotria liberica* Hepper in Kew Bull. 16: 335, fig. 1, 1 (1962). *APD acc*

An undershrub; **in forest**.

Lib.: Ganta (fl. Sept., fr. Oct.) Harley 710! 1912! Baldwin 12515! Duo (fr. Mar.) Baldwin 11344!

[Note: Aké Assi 3185 (Ivory Coast) and Brenan 9294 ([Br.] Cameroons) are related to this species and to *P. globiceps*, but appear to be distinct from them and from each other-F.N.H.]

38. *Psychotria* sp. nr. *tarambassica* Bremek. in J. Bot. 71: 280 (1933). *APD acc*

A compact shrub about 4 ft. high; flowers whitish; **in upland savanna**.

[Br.] Cam.: Vogel Peak, Adamawa (Dec.) Hepper 1539!

[This specimen lacks bacterial dots on the leaves which are typical of *P. tarambassica* in E. Africa.]

39. *Psychotria nigrescens* De Wild. Pl. Bequaert. 2: 393 (1924).

APD: Synonym of Psychotria albicaulis Scott-Elliot

A shrub about 2 ft. high, with small white flowers.

Guin.: Boola to Moribadou (Mar.) Chev. 20938! 20940! Bérézia (Feb.) Chev. 20777! **S. L.:** Bunumbu to Sembehun, Male R. (Apr.) Deighton 3937! **Lib.:** Gbau (fr. Sept.) Baldwin. 9455! Kitoma (Mar.) Adam 16753! 16764! 16769! **Iv. C.:** Taï (Mar.) Leeuwenberg 3034!

40. *Psychotria* sp. nr. *abrupta* Hiern in F.T.A. 3: 205 (1877). *APD acc*

An undershrub about 1 ft. high, or a shrub up to 15 ft. high; **in moist forest**.

Lib.: Dukwai R. (fl. & fr. July) Cooper 163! 360! Du R. (July) Linder 108! Duo (Mar.) Baldwin 11335!

[These plants belong to a complex of species that appears to be widespread in tropical Africa; further elucidation is necessary.]

41. **Psychotria abrupta** *Hiern* in F.T.A. 3: 205 (1877).

APD: Synonym of Chazaliella abrupta (Hiern) E.M.A. Petit & Verdc.

APD: Synonym of Chazaliella domatiicola (De Wild.) E.M.A. Petit & Verdc.

A small tree or shrub; flowers white; **beside streams in forest.**

Ghana: Adiembra, Ashanti (Feb.) Andoh FH 4287! **[Br.] Cam.:** S. Bakundu F.R., Kumba (Mar.) Brenan 9277!

Also in **Cameroun**, **Kenya**, **Tanganyika**, **N. Rhodesia** and **Mozambique**.

42. **Psychotria sciadephora** *Hiern* in F.T.A. 3: 202 (1877).

APD: Synonym of Chazaliella sciadephora (Hiern) E.M.A. Petit & Verdc.

Psychotria brevistipulata *De Wild.* l.c. 341 (1924).

Psychotria albifaux *K. Schum. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 125 (1931).

A shrub up to 10 ft. high, the leaves and inflorescence turning blackish on drying; flowers whitish or brown in bud; **in forest.**

Guin.: Nzo to Sokonante (Mar.) Chev. 21081! near Mt. Benna Schnell 7671! **S. L.:** Roruks (fr. July) Deighton 4676! Kasewe Hills F.R. (June) Deighton 5827! **Lib.:** Jaurazon (fr. Mar.) Baldwin 11448! Vahon (fr. Nov.) Baldwin 10234! Ganta (fl. Apr., fr. July, Sept.) Harley 913! 1226! **iv. C.:** Tonkoui Mt. (fr. Aug.) Schnell 6335! Sakonanta to Samphea Chev. **Ghana:** Bibiani (Apr.) Darko 865! Mpraeso Scarp (Apr.) Morton A695! **S. Nig.:** Okomu F.R. (Jan.) Brenan. 8784! 8841! Sapoba Kennedy 1773! Usonigbe F.R., Benin (fl. Feb., fr. Sept.) Onochie FHI 27697! 34282! Akure F.R. (fr. Oct., Nov.) Keay FHI 25549! Ejiofor FHI 24608! Ojo to Nyenekosum, Calabar (fr. June) Ujor FHI 27998! **[Br.] Cam.:** Amba Bay (Jan.) Mann 729! Victoria (fr. Oct.) Maitland 741! Banga (Mar.) Brenan 9281! Cam. Mt., 4,000 ft. (Feb.) Mann 1192!

Also in **Cameroun**.

[Note: the specimens from Guinée to Ghana have slightly smaller flowers than true *P. sciadephora* Hiern, and they have been distinguished as *P. brevistipulata* De Wild.-F.N.H.]

43. **Psychotria adrafoana** *K. Schum.* in Engl. Bot. Jahrb. 28: 90 (1899). *APD acc*

APD: Synonym of Psychotria ivorensis De Wild.

Psychotria ivorensis *De Wild.* Pl. Bequaert. 2: 375 (1924).

Psychotria recurva of Chev. Bot. 342, not of Hiern.

A low-branched shrub, nearly glabrous; flowers small, white in small shortly pedunculate cymes.

iv. C.: Abradines, Lower Comoé (Mar.) Chev. 17569! Assinie (Apr.) Chev. 17879! **Ghana:** Adrafo (Nov.) Krause 55.

44. **Psychotria albicaulis** *Sc. Elliot* in J. linn. Soc. 30: 83 (1894). *APD acc*

An undershrub, slightly hairy on the young branchlets; **in forest beside rivers.**

Guin.: Erimakuna to Farana Sc. Elliot 5312! S. L. Musaia to Falaba (Mar.) Sc. Elliot 5124!

45. **Psychotria pleuroneura** *K. Schum.* in Engl. Bot. Jahrb. 33: 368 (1903).

APD: Synonym of Chassalia pleuroneura (K. Schum.) O. Lachenaud

An undershrub; **in forest.**

[Br.] Cam.: Johann-Albrechtshöhe (= Kumba) (Apr.) Staudt 218!

46. **Psychotria potanthera** *Wernham* in Cat. Talb. 54 (1913). *APD acc*

A glabrous shrub with pithy branchlets; flowers narrow and whitish in short lax cymes.

S. Nig.: Oban Talbot 240!

47. **Psychotria viticoides** *Wernham* in Cat. Talb. 54 (1913). *APD acc*

A shrub with rather larger flowers than the last.

S. Nig.: Oban Talbot 2080!

48. **Psychotria malchairei** *De Wild.* Pl. Bequaert. 2: 386 (1924).

APD: Synonym of Psychotria martinetugei Cheek

A shrub 6-8 ft. high; flowers rather large, white; in forest.

Ghana: Burton! **S. Nig.:** Shasha F.R., Ijebu Prov. (Apr., May) Ross 205! 265! Richards 3381! **F. Po:** Moka (Sept.) Melville 658!

Also in **Congo**.

[The W. African specimens have smaller flowers and fewer lateral nerves. The fruits appear to be galled frequently.]

49. **Psychotria dalzielii** *Hutch.* in F.W.T.A., ed. 1, 2: 125 (1931).

APD: Synonym of Psychotria eminiana (Kuntze) E.M.A. Petit var. eminiana

A perennial herb or small shrub; flowers yellow; in savanna woodland.

N. Nig.: Mando F.R., Zaria Prov. (Aug.) Keay FHI 28004! Abinsi (Aug.) Dalz. 643!

50. **Psychotria piolampra** *K. Schum.* in Engl. Bot. Jahrb. 28: 97 (1899). *APD acc*

A glabrous undershrub about 2 ft. high; flowers white with orange calyx; in forest.

[**Br.**] **Cam.:** Johann-Albrechtshöhe (=Kumba) Staudt 738! Mamfe (Mar.) Richards 5223!

51. **Psychotria arborea** *Hiern* in F.T.A. 3: 202 (1877). *APD acc*

A small tree, nearly glabrous with large leaves; flowers white in a short branching terminal cyme.

S. Nig.: Calabar Thomson 106!

52. **Psychotria crassicalyx** *K. Krause* in Engl. Bot. Jahrb. 57: 46 (1921). *APD acc*

Erect shrub with stout branchlets shortly pilose when young; flowers white; in forest.

F. Po: above Basilé, 1,800-2,450 ft. (Nov.) Mildbr. 7124.

(This specimen was seen for ed. 1.)

53. **Psychotria limba** *Sc. Elliot* in J. Linn. Soc. 30: 83 (1894). *APD acc*

A shrub with large leaves; beside streams and in forest.

Guin.: Nimba Mts. (fr. Sept.) Schnell 3666! **S. L.:** Kahreni to Port Loko (Apr.) Sc. Elliot 5815! Mabonto (fr. Oct.) Thomas 3566! Yonibana (fr. Nov.) Thomas 4919! Lumbaraya (fl. & fr. Feb.) Sc. Elliot 4947! Lomaburu, Talla (Feb.) Sc. Elliot 5023! **Lib.:** Bobei Mt., Sanokwele (fr. Sept.) Baldwin 9575!

54. **Psychotria rowlandii** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 124 (1931).

APD: Synonym of Psychotria gabonica Hiern

A nearly glabrous shrub with fairly large leaves and flowers in stoutish terminal cymes. Fruits are required to ascertain whether this species has ruminant endosperm.

S. Nig.: Lagos Rowland! Emege, Brass Dist. (Jan.) Akpata FHI 3943! Omo (formerly part Shasha) F.R. (Mar., Apr.) Jones & Onochie FHI 16083! 17307!

55. *Psychotria pteropetala* *K. Schum.* in Engl. Bot. Jahrb. 33: 369 (1903).

APD: *Synonym of Chassalia pteropetala (K. Schum.) Cheek*

A small shrub.

[*Br.*] *Cam.*: Barombi Preuss 1201! *F. Po.*: Mann 310!

[See note on p. 193 at end of *Chassalia* spp.]

56. *Psychotria elongato-sepala* (*Hiern*) *Petit* in Bull. Jard. Bot. Brux. 33: ined. (1963). *APD acc*

Grumilea elongato-sepala *De Wild.* Pl. Bequaert. 2: 457 (1924).

G. rufo-pilosa *De Wild.* l.c. 478 (1924).

G. glabrifolia *De Wild.* l.c. 460 (1924).

G. puberulosa *De Wild.* l.c. 468 (1924).

Psychotria vogeliana of Chev. Bot. 345, partly, not of Benth.

A climber with pilose branches; flowers greenish-white; fruits pink.

Guin.: Farana Sc. Elliot 5346! 5381! Pela, Nzérékoré (fr. Sept.) Baldwin 13322! *Lib.*: Ganta (Feb., Apr.) Harley 832! 1401! Sanokwele (fr. Sept.) Baldwin 9639! Zeahtown, Tchien Dist. (Aug.) Baldwin 6954! *Iv. C.*: Mt. Nienkué, Cavally (July) Chev. 19442! 19444! Soubré to Yaou (Mar.) Chev. 17697! Mt. Kouan to Danané (Apr.) Chev. 21274! Taï Hallé 518! Alépé (Mar.) Chev.! Yapo (fr. Jan.) Aké Assi 3423! *S. Nig.*: Omo (formerly part of Shasha) F.R. (fl. & fr. Apr.) Jones & Onochie FHI 17363! (not quite typical).

[Note: The plants described as *Grumilea elongato-sepala*, *G. glabrifolia*, *G. puberulosa* and *G. rufopilosa* by De Wildeman are very variable in indumentum and in the shape of the calyx-lobes, but there does not appear to be more than one species involved.-F.N.H.]

57. *Psychotria succulenta* (*Hiern*) *Petit* l.c. (1963). *APD acc*

Grumilea succulenta *Hiern* in F.T.A. 3: 216 (1877); Hepper in Kew Bull. 16: 465 (1963).

A glabrous shrub or small tree up to 30 ft. high, with coriaceous reticulate-veined leaves; flowers white, fruits yellow turning red; **beside upland streams.**

[*Br.*] *Cam.*: Bamenda-Nkwe (Feb.) Daramola FHI 40468! Bansa (fl. & fr. Jan.) Keay FHI 28454 i Lightbody FHI 26296! Ngel Nyaki, Mambila Plateau (fr. Jan.) Latilo & Daramola FHI 34398! Bellel, Mambila Plateau (fl. & fr. Jan.) Hepper 1961!

Also in **Cameroun**, **Sudan**, **Uganda**, **Tanganyika** and **N. Rhodesia**.

58. *Psychotria venosa* (*Hiern*) *Petit* l.c. (1963). *APD acc*

Grumilea venosa *Hiern* in F.T.A. 3: 217 (1877); Chev. Bot. 344; Aubrév. Fl. For. C. Iv., ed. 2, 3: 311, t. 368.

A shrub or small tree with shining foliage; flowers white, in spreading panicle cymes.

S. Nig.: Oban Talbot 235! 2040! *F. Po.*: Mann 31! 254! 1440!

Also in **Cameroun**, **Gabon** and **Congo**.

59. *Psychotria articulata* (*Hiern*) *Petit* l.c. (1963). *APD acc*

Grumilea articulata *Hiern* in F.T.A. 3: 218 (1877).

A shrub or small tree about 20 ft. high with rounded crown and young branchlets sometimes pubescent; flowers white; **in swamp forest.**

S. Nig.: Lagos Moloney! Epe Barter 3259! Okomu F.R., Benin (Jan., Feb.) Brenan 9184!

Also in **Cameroun**.

60. *Psychotria guineensis* *Petit* l.c. (1963). *APD acc*

Grumilea ivorensis *De Wild.* in Bull. Jard. Bot. Brux. 90: 38 (1923), not *Psychotria ivorensis*.

G. venosa of F.W.T.A., ed. 1, 2: 126, partly (Chev. 16315) not of Hiern.

Small tree or shrub up to 25 ft. high; flowers white.

Iv. C.: Assinie (Apr.) Chev. 16315! 17861! Banco Aubrév. 1370! Abidjan (Feb.) Aubrév. 888! **Ghana:** Sekondi to Axim (Feb., Mar.) Irvine 2339b! 2404! **S. Nig.:** Sapoba (Feb.) Onochie FHI 27682! Umudike, Umuahia (June) Oseni FHI 18307! Cross R. Johnston! N. of Calabar (Feb.) Mcleod! **[Br.] Cam.:** Batibo (May) Johnstone!

Also in **Cameroun**.

61. Psychotria chalconeura (K. Schum.) Petit l.c. (1963). *APD acc*

Grumilea chalconeura K. Schum. (1903).

A shrub; in forest.

[Br.] Cam.: Lakom, Bamenda (fl. & fr. May) Maitland 1744!

Also In **Cameroun**.

62. Psychotria djumaensis De Wild. Miss. E. Laurent 1: 349 (1906), not of De Wild. (1907). *APD acc*

APD: Synonym of Chazaliella wildemaniana (T. Durand ex De Wild.) E.M.A. Petit & Verdc.

Grumilea albiflora De Wild. in Bull. Jard. Bot. Brux. 9: 25 (1923); Pl. Bequaert. 2: 450.

Climber on tree; flowers white or yellow; fruits yellow.

S. L.: Bumbuna (fr. Oct.) Thomas 3406! 36731 **Lib.:** Bahtown, Tchien Dist. (Aug.) Baldwin 9014!? Ganta (fl. & fr. May, fr. Sept.) Harley 1178! Baldwin 9317! **N. Nig.:** Thornewill 119!

Also in **Congo**.

[The identity of these specimens with the Congo species is at present tentative.]

63. Psychotria psychotrioides (DC.) Roberty in Bull. I.F.A.N. 16: 62 (1954). *APD acc*

APD: Synonym of Psychotria rufipilis De Wild.

Grumilea psychotrioides DC. (1830)-F.T.A. 3: 216; Chev.Bot. 344; F.W.T.A., ed. 1, 2: 126; Berhaut Fl.Sén.106.

Uragoga tumbaensis De Wild. (1936), French desc.

A glabrous shrub or small tree, 4-20 ft. high with shining leathery leaves; flowers white, fruits red; beside streams in savanna.

Sen.: Itou Perrottet & Leprieur! Niayes Chev. 2012. Sangalkam Berhaut 1032! **Mali:** Sikasso (May) Chev. 798! **Port. G.:** Prabis, Bissau (fr. Feb.) Esp. Santo 1834! Gabu (June) Esp. Santo 2498! **Guin.:** Mali (fr. Sept.) Chev. D! Dalaba to Mamou (fr. Jan.) Chev. 20346! **S. L.:** Sugar Loaf Mt.(fl. May, fr. Nov.) Barter! Deightom 5650! Bagroo R. Mann 871! Sasseni, Scarcies R. (fr. Jan.) Sc. Elliot 4540! Ninia, Talla Hills (Feb.) Sc. Elliot 4873! 4928! Sulimania (Mar.) Sc. Elliot 5349! Loma Mts. (fr. Aug.) Jaeger 1152! **Lib.:** Monrovia (fl. Apr., fr. Aug.) Baldwin 13064! Bequaert 180! Robertsport (fr. Dec.) Baldwin 10954! Garaway (fr. Mar.) Baldwin 11629! Baila (May) Harley 1426! **Iv. C.:** Tabou to Bériby Chev. 19990! Moossou (fr. Sept.) Aké Assi 4650! Zoanlé (May) Chev. 21461 (partly)! Bouaké (Apr.) Leeuwenberg 3294! **Ghana:** Berekum to Techiman (Mar.) Morton GC 8566! Banda, Wenehl Dist. (fr. Dec.) Morton GC 25109! Adams 3131! Fuller Falls, Kintampo Dist. (fr. Nov.) Andoh FH 5414! Yapei (Sept.) Goodall GC 15773! Gambaga (Apr.) Morton GC 8987! **Dah.:** Djougou to Pobégou (June) Chev. 23931! Natitngou Chev. 24197! **N. Nig.:** Birnin Gwari (fr. Feb.) Daggash FHI 31423! Anara F.R., Zaria (Oct.) Keay FHI 5462! 20147b! Jos Plateau (May) Lely P 281! **S. Nig.:** Ibadan (fr. Jan.) Meikle 950! Ibu T. Vogel 24! Onitsha Barter 1235! Eket (May) Onochie FHI 33183! Calabar (Mar.) Latilo FHI 41345! Boshi-Okwangwo F.R., Obudu Dist. (May) Latilo FHI 30946! **[Br.] Cam.:** Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28807!

Also In **Cameroun**, **Ubangi-Shari**, **Chad** and **Sudan**.

64. Psychotria fernandopoensis Petit in Bull. Jard. Bot. Brux. 33: ined. (1963). *APD acc*

Grumilea sphaerocarpa Hiern in F.T.A. 3: 218 (1877); F.W.T.A., ed. 1, 2: 125.

Shrub or small tree 8-15 ft. high; flowers white.

Lib.: Dukwia R. (fr. May) Cooper 410! Ba, Boporo Dist. (Dec.) Baldwin 10718! **Iv. C.:** Niapidou, Sassandra (Jan.) Leeuwenberg 2481! near Béyo, Sassandra (Jan., Feb.) Leeuwenberg 2537! 2823! **F. Po.:** (fl. & fr. Jan.) Mann 223!

[If Mann 223, the type of *P. fernandopoensis*, does not prove to be conspecific with the other specimens, a name will be required for them.]

65. *Psychotria gabonica* Hiern in F.T.A. 3: 201 (1877); Chev. Bot. 341. *APD acc**Grumilea lehmbachii* K. Schum. in Engl. Bot. Jahrb. 28: 101 (1899); F.W.T.A., ed. 1, 2: 126.

A shrub or small tree 6-11 ft. high; flowers whitish; fruits yellow.

S. L.: Yonibana (fr. Oct., Nov.) Thomas 4005! 4782! Njala (Apr., May) Deighton 3132! 3530! **Lib.:** Gbanga (fr. Sept.) Linder 744! Ganta (fl. Mar., fr. Feb., Sept.) Baldwin 12518! Harley 418! **iv. C.:** Agnieby R. Chev. 17085! Sanvi Chev. 17734! **Ghana:** Bompata (Feb.) Vigne FH 1838! Fomang Su F.R. (Apr.) Adams 2650! **S. Nig.:** Epe Barter 3260! Onitsha Barter 1246! Omo (formerly part of Shasha) F.R. (Apr., May) Jones & Onochie FHI 16083! 17288! **[Br.] Cam.:** Cam. Mt., 2,000-4,000 ft. (fl. & fr. Dec.) Mann 2160! Maitland 1217! Keay FHI 28575! S. Bakundu F.R., Kumba (Mar., Apr.) Olorunfemi FHI 30542! Brenan 9454!

Also in **Gabon**.**66. *Psychotria brassii* Hiern** in F.T.A. 3: 204 (1877). *APD acc*Erect shrub about 5 ft. high; flowers whitish; **in forest**.

Ghana: Cape Coast Brass! **S. Nig.:** W. Lagos Rowland! Gambari F.R. (Mar.) Hepper 2275! Ibadan South F.R. (Apr.) Keay FHI 22833! Omo (formerly part of Shasha) F.R. (Mar.) Jones & Onochie FHI 17004! Ross 66! Richards 3394!

***Psychotria epiphytica* Mildbr.** in Wiss. Ergebn. 1910-11, 2: 194, (1922) name only.

An epiphytic shrub (in fruit only)

F. Po: 2,400-3,000 ft. (fr. Aug.) Mildbr. 6433.***Psychotria erythropus* K. Schum.** in Engl. Bot. Jahrb. 28: 92 (1899).

Shrub up to 12 ft. high.

[Br.] Cam.: Cam. Mt., above Buea, 6,000 ft. (fr. Oct.) Preuss 1044.***Psychotria minimicalyx* K. Schum.** in Engl. Bot. Jahrb. 28: 94 (1899).A small shrub 1-2 ft. high, dichotomously branching, brown-red pubescent on the young parts, with small white flowers in small subsessile panicles; **in forest**.**[Br.] Cam.:** Johann-Albrechtshöle (= Kumba) (Feb.) Staudt 206.**67. CEPHAËLIS****Sw.** (1788)-F.T.A. 3: 222; Hepper in Kew Bull. 16: 153 (1962). Nom. cons.*APD:* *Synonym of Psychotria L.***Uragoga Baill.** (1879)-F.W.T.A., ed. 1, 2: 127.

- | | | |
|----------|--|---------------------------------------|
| 1 | Peduncles very long, 40-400 cm. long; ovary 3-4 locular: | 2 |
| | Peduncles up to 15 cm. long or absent; ovary 2-locular: | 3 |
| 2 | Leaves with 9-12 nerves on each side of midrib, broadly obovate, 15-26 cm. long, 8-14 cm. broad, cuneate at base, shortly acuminate or mucronate at apex, glabrous; petioles 2-5 cm. long; stipules ovate, 1-1.5 cm. long, acute, glabrous; inflorescences axillary; peduncle up to 45 cm. long; flowers in 2-3 involucre close heads; involucre bracts glabrous | <i>1. mannii</i> |
| | Leaves with 15-19 (-22) nerves on each side of the midrib, oblong-obovate about 30 cm. long and 11 cm. broad, long-cuneate at base, shortly acuminate, glabrous; petioles 2-3 cm. long; stipules ovate, 2-4 cm. long, bifid, glabrous; peduncle up to 400 cm. long; flowers in 3-5 involucre heads with 1 head sometimes up to 20 cm. beyond the remainder; involucre bracts pubescent | <i>2. densinervia</i> |
| 3 | Inflorescence heads with peduncles (2-) 5 cm. or more long (3. peduncularis aggregate): | 4 |
| | Inflorescence heads sessile or nearly so (peduncle up to 1 cm. long): | 13 |
| 4 | Peduncles pubescent: | 5 |
| | Peduncles glabrous: | 11 |

- 5 Peduncles pubescent all round:6
 Peduncles with hairs in 2 lines on opposite sides:9
- 6 Leaves shortly pubescent beneath, at least on the nerves[3b. peduncularis var. suaveolens](#)
 Leaves glabrous beneath:7
- 7 Calyx-teeth 3-4 mm. long, distinct[3c. peduncularis var. A](#)
 Calyx-teeth 1 mm. long, acute or very short and rather obscure:8
- 8 Calyx-teeth pubescent[3d. peduncularis var. palmatorum](#)
 Calyx-teeth glabrous[3e. peduncularis var. B](#)
- 9 Involucral bracts free or deeply lobed; peduncles solitary (and occasionally 3-headed at apex in No. 3a):10
 Involucral bracts entire; peduncles grouped in 3's[3h. peduncularis var. ivorensis](#)
- 10 Calyx-teeth pubescent[3a. peduncularis var. peduncularis](#)
 Calyx-teeth glabrous[3f. peduncularis var. guineensis](#)
- 11 Involucral bracts free or deeply lobed[3g. peduncularis var. hypsophila](#)
 Involucral bracts entire:12
- 12 Heads in groups of 3 (rarely 2), terminal[3h. peduncularis var. ivorensis](#)
 Heads solitary[3i. peduncularis var. tabouensis](#)
- 13 Involucral bracts more or less free:14
 Involucral bracts united; leaves glabrous (rarely pilose in No. 10) on both sides:17
- 14 Leaves on both sides and stems pilose with reddish hairs; stipules fused, tubular, about 1 cm. long; leaves ovate, 3-5 cm. long, 2-3 cm. broad, with about U nerves on each side of midrib; inflorescences terminal or axillary, enclosed by imbricated bracts about 8 mm. long; calyx-lobes linear, 3 mm. long, pilose; peduncle 1 cm. long [4. manganotii](#)
 Leaves glabrous above, glabrous or shortly tomentose beneath; stipules free:15
- 15 Leaves shortly tomentose on the nerves beneath, ovate-elliptic, 8-11 cm. long, 4-6 cm. broad, with about 13 nerves on each side of midrib looped near margin; petioles up to 1 cm. long; inflorescences subsessile, imbricated bracts broad, about 1 cm. long; calyx-lobes triangular, 1-5 mm. long [5. schnellii](#)
 Leaves glabrous on both sides:16
- 16 Petioles 3-4 mm. long; leaves oblanceolate, cuneate at base, shortly acuminate at apex, 28-35 cm. long, 7-11.5 cm. broad, with 25-30 nerves on each side of midrib looped near margin; inflorescences stout with numerous imbricated bracts 1.5-3 cm. long (head may contain 3 inflorescences) [6. yapoensis](#)
 Petioles about 1 cm. long; leaves obovate to elliptic, cuneate or slightly rounded at base, more or less shortly acuminate at apex, 8-15 cm. long, 3-8 cm. broad, with 11-16 nerves on each side of midrib looped near margin; inflorescences similar to the last but smaller [7. ombrophila](#)
- 17 Involucre 6-15 mm. long, 6-40 mm. diam., not bilobed:18
 Involucre (3-) 4-5 cm. long, 5-8 cm. diam., bilobed; leaves obovate-elliptic rather long-cuneate at base, broadly and shortly acuminate at apex, about 15 cm. long and 7 cm. broad, with about 18 nerves on each side of midrib [10. baurita](#)
- 18 Petioles less than 1 cm. long; leaves obovate-elliptic, 6-8 cm. long, 2.5-3.5 cm. broad, with about 12 nerves on each side of midrib looped near margin; inflorescence sessile, involucre about 6 mm. long; calyx subtruncate [8. abouabouensis](#)
 Petioles 4-5 cm. long; leaves broadly obovate to oblanceolate, 18-26 cm. long, 7-11 cm. broad, with about 20 nerves on each side of midrib looped near margin; inflorescences subsessile, involucre about 1.5 cm. long, 2-4 cm. diam.; calyx distinctly toothed [9. spathacea](#)

1. *Cephaëlis mannii* (Hook f.) Hiern in F.T.A. 3: 226 (1877).

APD: *Synonym of Psychotria camptopus Verdc.*

Camptopus mannii Hook. f. (1869)—K. Krause in Notizbl. Bot. Gart. Berl. No. 68: 40 (=384) (1920).

Uragoga mannii (Hook. f.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 127 (1931); Schnell in Bull. I.F.A.N. 25: 123 (1953).

U. peduncularis of F.W.T.A., ed. 1, 2: 127, partly (syn. *Camptopus mannii* Hook. f.), not of (Salisb.) K. Schum.

A shrub or small tree 6-15 ft. high; flowers white in pendulous heads with red involucre.

S. Nig.: Talbot 154! Calabar Hewan! Obudu, 5,500ft. (Aug.) Stone 76! [**Br.**] **Cam.:** Cam. Mt. Lehmach 21. Deistel 147! 453. Winkler 1262. Dikume Barue to Madie (Jan.) Smith FHI 10230! Nyanga, Kumba (Feb.) Jeme FHI 12003! Bamenda to Nkewe (Apr.) Ujor FHI 30028! **F. Po:** 2,000 ft. Mann 312!

Also in **Cameroun** and **Congo**.

2. **Cephaëlis densinervia** (*K. Krause*) *Hepper* in *Kew Bull.* 16: 153 (1962).

APD: Synonym of Psychotria densinervia (K. Krause) Verdc.

Camptopus densinervius *K. Krause* in *Notizbl. Bot. Gart. Berl.* No. 68: 42 (=386) (1920).

Small tree about 20 ft. high; flowers yellow, clustered at the end of a peduncle 10 ft. or more long which reaches to, or near to, the ground; **in forest**.

[**Br.**] **Cam.:** Mungo Ndaw, near R. Loh, Kumba Div. (Oct.) Dundas FHI 15324!

Also in **Cameroun**.

3. **Cephaëlis peduncularis** *Salisb.* *Parad. Lond.* t. 99 (1808); *F.T.A.* 3: 223; *Hepper* in *Kew Bull.* 16: 154 (1962).

Uragoga peduncularis (*Salisb.*) *K. Schum.* (1891)-*F.W.T.A.*, ed. 1, 2: 127.

? **U. thorbeckei** *K. Krause* (1912), type destroyed.

A shrub about 3 ft. high; flowers white; **in forest**.

Very variable.

Cephaëlis peduncularis *Salisb.*

APD: Synonym of Psychotria peduncularis var. rufonyassana Verdc.

APD: Synonym of Psychotria peduncularis var. nyassana (K. Krause) Verdc.

APD: Synonym of Psychotria peduncularis (Salisb.) Steyerem.

3a. **Cephaëlis peduncularis var. peduncularis** *APD acc*

Cephaëlis debauxii *De Wild.* (1936), name only; *Schnell* in *Bull. I.F.A.N.* 25: 114.

Uragoga guerzeensis *Schnell* l.c. 112 (1953), incl. f. *puberula* *Schnell* and f. *saouroana* *Schnell*.

Cephaëlis guerzeensis (*Schnell*) *Schnell* in *Mém. I.F.A.N.* 50: 57 (1957).

A shrub 2-6 ft. high; flowers white; **in forest**.

Sen.: Kombo country Heudelot 33! **Gam.:** Ingram! **Port. G.:** Fancati (fr. Jan.) d'Orey 115! **Guin.:** Conakry Debeaux! Nimba Mts. (fr. Aug.) *Schnell* 5174! 6595! **S. L.:** Fundombaia (fr. Oct.) Thomas 2880! Rowala (fr. July) Thomas 1097! **Lib.:** Cape Palmas T. Vogel 62! Gbanga (fr. Sept.) Linder 711! **Ghana:** Bunso (Apr.) Mortom A505! Mpraeso (fr. Apr.) Morton A709! **S. Nig.:** Ojogba-Ugun F.R., Ishan Dist. (June) Olorunfemi FHI 38062! Ibadan (Apr.) Meikle 1407! Keay FHI 22839!

Widespread in tropical Africa.

3b. **Cephaëlis peduncularis var. suaveolens** (*Schweinf. ex Hiern*) *Hepper* in *Kew Bull.* 16: 156 (1962).

APD: Synonym of Psychotria peduncularis var. suaveolens (Hiern) Verdc.

Cephaëlis suaveolens *Schweinf. ex Hiern* in *F.T.A.* 3: 224 (1877).

Cephaëlis nimbana (*Schnell*) *Schnell* in *Mém. I.F.A.N.* 50: 57 (1957).

Uragoga lecomtei var. **nimbana** *Schnell* in *Rev. Gén. Bot.* 57: 284 (1950), illegitimate name.

U. nimbana *Schnell* in *Bull. I.F.A.N.* 15: 106 (1953).

A shrub 3-6 ft. high; flowers white, fruits fleshy blue-black or waxy-white; **in forest beside upland streams**.

Guin.: Nimba Mts., 1,600 ft. (Apr., June, Aug.) *Schnell* 2941! 5349! 6224! **Ghana:** Togo Plateau F.R.(Dec.) St. C.-Thomphson 3574! [**Br.**] **Cam.:** Bamenda, 4,000 ft., Lightbody FHI 26317! Vogel Peak, 4,900 ft., Adamawa (fr. Dec.) *Hepper* 1575! 2730!

Also in **Sudan**, **Congo**, **Uganda**, **Tanganyika** and **N. Rhodesia**.

3c. *Cephaëlis peduncularis* var. *A* APD acc

S. Nig.: Oban Talbot 237!

3d. *Cephaëlis peduncularis* var. *palmetorum* (DC.) Hepper l.c. (1962).

APD: Synonym of Psychotria peduncularis var. *palmetorum* (DC.) Verdc.

Morinda palmetorum DC. Prod. 4: 448 (1830).

M. geminata of Aubrév. Fl. For. C. Iv., ed. 2, 3: 272 (as to syn. *M. palmetorum*).

Uragoga nimba Schnell in Bull. I.F.A.N. 15: 106 (1953), partly (Schnell 5349).

Sen.: St. Louis to Cape Verde (Mar.) Döllinger 53! **Port. G.:** Formosa (Apr.) Esp. Santo 1971! **Guin.:** Nimba (Apr.) Schnell 5349! **S. L.:** Freetown (May) Deighton 1182! **Ghana:** Hohoe (Apr.) Morton GC 9183! Axim Irvine 2362! **S. Nig.:** Carpenter 453! **[Br.] Cam.:** Cam. Mt. (Jan.) Dunlap 244!

3e. *Cephaëlis peduncularis* var. *B* APD acc

[Br.] Cam.: Johann-Albrechtshöhe (=Kumba) (June) Staudt 334! Bamenda (fr. Jan.) Daramola FHI 40631! Lakom (May) Maitland 1360! Oku (Jan., Feb.) Keay FHI 28517! Hepper 2008! Nkambe to Binka (Sept.) Savory UCI 382!

3f. *Cephaëlis peduncularis* var. *guineensis* (Schnell) Hepper l.c. 154 (1962).

APD: Synonym of Psychotria peduncularis var. *guineensis* (Schnell) Verdc.

Uragoga peduncularis var. *guineensis* Schnell in Rev. Gén. Bot. 57: 285 (1950).

U. guineensis (Schnell) Schnell in Bull. I.F.A.N. 15: 103 (1953), incl. var. *bindelyensis* Schnell.

Cephaëlis guineensis (Schnell) Schnell in Mém. I.F.A.N. 50: 57 (1957).

Cephaëlis coriacea G. Don (1834).

Cephaëlis bidentata of Benth. in Fl. Nigrit. 421, partly (Don), not of Thunb. ex Roem. & Schult.

Psychotria bidentata of F.T.A. 3: 209, partly (Afzelius).

Port. G.: Buba (fr. Oct.) Esp. Santo 1269! **Guin.:** Nimba Mts. (Apr.) Schnell 5324! 5360! **S. L.:** Afzelius! Don! Bagroo R. Mann! Fwendu to Pujehun (Apr.) Deighton 1608! Bumban (June) Glanville 434! Njala (Apr.) Deighton 4770! Musaia (July) Deighton 4818! **Lib.:** Banga (Oct.) Linder 1221! Tchien (fr. Aug.) Baldwin 7040! Ganta (fl. Mar., fr. Apr.) Harley 419! Taninewa (Mar.) Bequaert 154! Gbanga (Apr.) Konneh 154! **Ghana:** Amentia (Dec.) Vigne FH 1489! Kwahu Prahou (fr. June) Vigne FH 1750! Kumasi Cummins!

Also in **Congo**.

3g. *Cephaëlis peduncularis* var. *hypsochila* (K. Schum. & K. Krause) Hepper l.c. 155 (1962).

APD: Synonym of Psychotria peduncularis var. *hypsochila* (K. Schum. & K. Krause) Verdc.

Psychotria hypsochila K. Schum. & K. Krause (1907).

(?) *Uragoga calathea* K. Schum. & K. Krause (1907).

Psychotria bidentata of Chev. Bot. 340, partly (Chev. 19179), not of (Thunb. ex Roem. & Schult.) Hiern.

Guin.: Macenta (May) Collenette 22! **Lib.:** Kakatown Whyte! Bushrod Isl. (Apr.) Barker 1289! Gbanga (Sept.) Linder 695! **Iv.C:** Mid. Sassandra chev. 19179! B Farmar 435! **N. Nig.:** Abinsi (June) Dalz. 635! **S. Nig.:** Koloishe Mt., 6,000 ft., Obudu (fr. Dec.) Savory & Keay FHI 25097! **[Br.] Cam.:** Victoria to Bimbria (Apr.) Maitland 617! Cam. Mt., above Buea (fl. & fr. Apr., fr. Nov.) Migeod 136! Dundas FHI 15336! Brenan 9548! **F. Po:** Mann 222! Barter! El Pico, 5,000 ft. (fr. Dec.) Boughey 179!

Also in **Cameroun**.

3h. *Cephaëlis peduncularis* var. *ivorensis* (Schnell) Hepper l.c. 156 (1962).

APD: Synonym of Psychotria peduncularis var. *ivorensis* (Schnell) Verdc.

Uragoga ivorensis Schnell in Bull. I.F.A.N. 15:109, fig. 7 (1953), incl. var. *puberula* Schnell.

Cephaëlis ivorensis (Schnell) Schnell in Mém. I.F.A.N. 50: 57, 88 (1957).

Iv. C.: Abidjan (Dec.) Schnell 3942! Agnéby chev. 17184; 17085. Adiopodoumé (Nov.) Leeuwenberg 1935! Béyo (Feb.) Leeuwenberg 2734! **Ghana:** Simpa Vigne FH 2815! Subiri F.R., Benso (fr. Apr.) Andoh FH 5434! **S. Nig.:** Shasha F.R., Ijebu (Mar.) Richards 3223!

3i. **Cephaëlis peduncularis var. tabouensis** (*Schnell*) *Hepper* l.c. 156 (1962).

APD: Synonym of Psychotria peduncularis var. tabouensis (Schnell) Verdc.

Cephaëlis tabouensis *Schnell* in Mém. I.F.A.N. 50: 87 (1957).

Cephaëlis bailleachei *Aké Assi* in Bull. Jard. Bot. Brux. 30: 16, t. 2 (1960).

Lib.: Cape Palmes (July) T. Vogel 9! **iv. C.:** Tabou (Feb.) Manengot & Miége 2236! Ahouabo (Adzopé) (Apr.) Aké Assi 1871!

[*Uragoga thorbeckei* K. Krause (in Engl. Bot. Jahrb. 48: 429 (1912)) appears to belong to the *C. peduncularis* aggregate: type presumably destroyed. [Br.] Cam.: Bamenda Thorbecke 266.]

4. **Cephaëlis mangelotii** *Aké Assi* in Bull. Jard. Bot. Brux. 29: 364, fig. 7 (1959).

APD: Synonym of Psychotria mangelotii (Aké Assi) Verdc.

Geophila rotundifolia A. Chev. Bot. 346, partly (Chev. 19205), name only.

A herb with wiry creeping stems rooting on the forest floor; flowers white.

iv. C.: Tiapleu (fr. Aug.) Mangelot & Aké Assi 4845! Sérédou (fr. May) Aké Assi 2426! Mid. Sassandra to Mid. Cavally (June) Chev. 19205! **Ghana:** Kade (May) Morton A4023!

5. **Cephaëlis schnellii** *Aké Assi* l.c. 362, fig. 6 (1959).

APD: Synonym of Psychotria schnellii (Aké Assi) Verdc.

An undershrub with ascending stems rooting near the lower nodes

iv. C.: Guéhio to Soubre (Dec.) Mangelot, Miége & Aké Assi 4846! Kolehahinou (fr. Jan.) Aké Assi 5378! Adiopodoumé (Mar.) Aké Assi 4848 1

6. **Cephaëlis yapoensis** (*Schnell*) *Schnell* in Mém. I.F.A.N. 50: 57, 91 (1967).

APD: Synonym of Psychotria yapoensis (Schnell) Verdc.

Uragoga yapoensis *Schnell* in Bull. I.F.A.N. 15: 101 (1953).

A shrub up to 5 ft. high.

Lib.: Jabroke, Webo Dist. (July) Baldwin 6435! **iv. C.:** Yapo (Aug., Oct., Dec.) Schnell 3944! 5868! Roberty 15337!

7. **Cephaëlis ombrophila** (*Schnell*) *Schnell* in Mém. I.F.A.N. 50: 57(1957).

APD: Synonym of Psychotria ankasensis J.B. Hall

APD: Synonym of Psychotria ombrophila (Schnell) Verdc.

Uragoga ombrophila *Schnell* in Rev. Gén. Bot. 57: 283, fig. 3 (1950).

An undershrub, about 1 ft. high, with stems creeping and rooting; flowers

Guin.: Nimba Mts. Schnell 3475! 5102! **S. L.:** Gola F.R. (fr. May) Small 84! 694! **Lib.:** Vahun, Kolahun Dist. (fr. Nov.) Baldwin 10210! Ganta (fr. Oct.) Harley 1248! Bobei Mt., Sanokwele Dist. (Sept.) Baldwin 9609! Tchien (Aug.) Baldwin 7016! **Ghana:** Ancobra (bud Dec.) Johnson 976!

8. **Cephaëlis abouabouensis** *Schnell* in Mém. I.F.A.N. 50: 85, fig. 8 (1957).

APD: Synonym of Psychotria abouabouensis (Schnell) Verdc.

An undershrub about 1 ft. high, from a creeping base; flowers white; in deciduous forest.

iv. C.: Abouabou, Abidjan Miége 2248 1

9. **Cephaëlis spathacea** *Hiern* in F.T.A. 3: 225 (1877); Chev. Bot. 347.

APD: Synonym of Psychotria spathacea (Hiern) Verdc.

Uragoga spathacea (Hiern) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 128 (1931).

A shrub with rather large leaves, 3-12 ft. high; flowers white in close heads; [in forest](#).

Lib.: River Cess (Mar.) Baldwin 11299! Sangwin (Mar.) Baldwin 11307! **Iv. C.:** Abidjan Chev. 15338! Fort Binger to Nienokué Mt. Chev. 19506! Grabo, Cavally R. (July) Chev. 19638!

Also in **S. Tomé**.

10. *Cephaëlis biaurita* (Hutch. & Dalz.) Hepper in Kew Bull. 16: 153 (1962).

APD: Synonym of Psychotria biaurita (Hutch. & Dalziel) Verdc.

Uragoga biaurita Hutch. & Dalz. F.W.T.A., ed. 1, 2: 128 (1931).

Psychotria biaurita A. Chev. Bot. 340, name only.

Cephaëlis condensata A. Chev. Bot. 346, name only.

A shrub 1-6 ft. high with rather large leaves; flowers white or bluish, enclosed in a large cup, fruits black on white pedicels; [in forest](#).

Guin.: Lolo to Nzo (Mar.) Chev. 20996! **S. L.:** Masingbe (fr. Jan.) Deighton 4579! Masimo Marmo 27! Njagbela Deighton 5815! Loma Mts. (Sept.) Jaeger 2055! Gola F.R. (Apr.) Deighton 3629! **Lib.:** Bobei Mt., Sanokwele Dist. (Sept.) Baldwin 9566! Wohmen (fr. Oct.) Baldwin 10095! Bilimu (Jan.) Harley 1330! **Iv. C.:** Abouassou to Soubiré Chev. 17743! Danané Chev. 21285! **Ghana:** Axim (Mar.) Irvine 2407! Kwahu Plateau (Apr.) Kitson 1040!

[*C. castaneo-pilosa* Aké Assi (in Bull. Jard. Bot. Brux. 31: 314, t. 2 (1961)) appears to be only a form of this with pilose leaves.]

68. GEOPHILA

D. Don-F.T.A. 3: 220.

- 1 Flowers 1 (-3), subsessile or with a peduncle up to 2 cm. long; calyx-lobes subulate, 2-3 mm. long, often reflexed; corolla 1-5 cm. long; leaves broadly ovate, reniform to suborbicular and deeply cordate at base, 1-5 cm. long, glabrous; petioles 1-5 cm. long, pubescent [1. repens](#)
Flowers several together, subsessile or pedunculate and conspicuously bracteate: **2**
- 2 Inflorescences without conspicuous leafy bracts, subsessile: **3**
Inflorescences subtended by leafy bracts or with a cupular involucre: **5**
- 3 Leaves hirsute (at least on the midrib above), ovate to ovate-oblong, cordate, 2-5 cm. long, 1-4 cm. broad; petiole 0.5-3.5 cm. long, hirsute; stems prostrate, rooting at nodes and internodes; stipules deeply divided .. [2. hirsuta](#)
Leaves glabrous above: **4**
- 4 Leaves shortly and sparingly tomentose on the nerves beneath, ovate, deeply cordate at base, 7-8 cm. long, 3-5 cm. broad; petiole 1-3 cm. long, appressed-pubescent; stems prostrate and ascending; stipules bilobed to base [3. liberica](#)
Leaves usually densely pubescent on the nerves beneath often accentuating the reticulate venation, oblong or obovate to oblanceolate, usually rounded at each end or subcordate at base, 4-10 cm. long, 1.5-4 cm. broad [4. neurodictyon](#)
- 5 Inflorescences subtended by leafy ovate bracts: **6**
Inflorescences surrounded by a cupular involucre about 1 cm. diam., toothed and pubescent on margin; leaves orbicular to ovate, obtuse at apex, cordate to cuneate at base, 4.5-6 (-10) cm. long, 3-6 cm. broad, more or less pubescent on both surfaces; petiole 1-2 (-4) cm. long, pubescent [7. rotundifolia](#)
- 6 Stipules entire; involucre bracts glabrous; flowers without bracteoles; inflorescences long-pedunculate, peduncles 2-7 cm. long, glabrous; leaves ovate-deltoid, deeply cordate at base, subacute at apex, 2-5 cm. long, 1.5-4.5 cm. broad; petioles slender, densely pubescent on the sides towards apex [5. obvallata](#)
Stipules bifid; involucre bracts pubescent; flowers with linear bracteoles; inflorescences usually shortly pedunculate, peduncles up to 3 cm. long, pubescent; leaves ovate, cordate at base, subacute at apex, 3-6 cm. long, 2-5.5 cm. broad; petioles pubescent all round [6. afzelii](#)

1. *Geophila repens* (Linn.) I. M. Johnston in Sargentia 8: 281 (1949); Brenan in Mem. N.Y. Bot. Gard. 8: 453 (1954). *APD acc*

*APD: Synonym of Geophila lancistipula Hiern**Rondeletia repens* Linn. (1759).*Geophila reniformis* D. Don (1825)-F.T.A. 3: 220; Chev. Bot. 346.*Geophila uniflora* Hiern in F.T.A. 3: 221 (1887); F.W.T.A., ed. 1, 2: 128.*Geophila lancistipula* Hiern in F.T.A. 3: 221 (1877); F.W.T.A., ed. 1, 2: 128.*Carinta uniflora* (Hiern) G. Tayl. in Exell Suppl. Cat. S. Tomé 25 (1956).

Creeping prostrate herb; flowers white, fruits scarlet; in forest.

Port. G.: Cacine to Buba, Fulacunda (July) Esp.Santo 2149! **Guin.:** La Kolenté Chillou 941! Friguiagbé (fr. July) Chillou 2106! **S. L.:** Gahun, Nando (fr. Oct.) Deighton 3768! Lengekoro (July) Glanville 269! **Iv. C.:** Bouroukrou Chev. 16558! 16674! Mid. Sassandra to Mid. Cavally Chev. 19221! 19385! **Ghana:** Swedru (fr. Feb.) Dalz. 8287! Mankrong (Apr.) Morton A556! Amentia Irvine 441! Bobiri F.R., Juaso (fl. & fr. Dec.) Foggie FH 5120! Okomfokrom, Togo Plateau (Apr.) Morton GC 9157! **N. Nig.:** Nupe Barter 1240! Sanga River F.R., Zaria (May) E. W. Jones 136! **S. Nig.:** Lagos Punch! Nun R. T. Vogel 57! Brass Barter 60! Okomu F.R. (fl. & fr. Nov.) Brenan 8622! Akure F.R. (fr. Nov.) Keay FHI 25600!

Pan-tropical.

2. *Geophila hirsuta* Benth. in Fl. Nigrit. 422 (1849); F.T.A. 3: 221; Chev. Bot. 345, partly.*APD: Synonym of Hymenocoleus hirsutus (Benth.) Robbr.**Geophila pilosa* A. Chev. Bot. 346, partly, name only.

Creeping, prostrate hairy plant; flowers white, fruits orange coloured; in forest.

Guin.: Kouria Caille in Hb. Chev. 14883! **S. L.:** Kenema Lane-Poole 446! Boama (fr. Apr.) Deighton 3666! Kambui Hills South (fr. Nov.) Small 829! Loma Mts., 2,600 ft. (Aug.) Jaeger 960! **Lib.:** Monrovia (fr. Oct., Nov.) Cooper 41! Du R. (July) Linder 106! Ganta (fl. & fr. July) Harley 1227! Duo (Mar.) Baldwin 11354! Zuie, Boporo Dist. (fr. Nov.) Baldwin 10240! **Iv. C.:** Tai (fr. Aug.) Boughey GC 14971! Bingerville Chev. 15383! Tébo, Cavally Chev. 19379! **Ghana:** Apapam (Aug.) Chipp 557! **Dah.:** Roubé to Sakété (Aug.) Le Testu 18-23! **S. Nig.:** Nun R. T. Vogel 44! Brass Barter! Usonigbe F.R., Benin (fl. & fr. Sept., Nov.) Meikle 568! Keay FHI 25552! 34288! Shasha F.R. (fr. Mar.) Richards 3167! **[Br.] Cam.:** Victoria (fr. Oct.) Mildbr. 10581! 10586!

Also **Cameroun**, **Ubangi-Shari**, **Congo**, **Uganda** and **Tanganyika**.3. *Geophila liberica* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 128 (1931); Chev. Bot. 345, name only.*APD: Synonym of Hymenocoleus libericus (A. Chev. ex Hutch. & Dalziel) Robbr.*

A semi-prostrate herb.

Lib.: Sanokwele (Sept.) Baldwin 9554! **Iv. C.:** Tébo, Cavally Chev. 19382! **Ghana:** Fomena (Apr.) Adams 2522! Siresotinpom (Apr.) Darko 864!

Also in **Cameroun**.4. *Geophila neurodictyon* (K. Schum.) Hepper in Kew Bull. 16: 331 (1992).*APD: Synonym of Hymenocoleus neurodictyon (K. Schum.) Robbr.**Psychotria neurodictyon* K. Schum. in Engl. Bot. Jahrb. 33: 368 (1903).*Geophila fissistipula* K. Krause (1907).*Geophila aurantiaca* A. Chev. Bot. 334, name only.

More or less decumbent herb, or creeping and sending up erect shoots, with softly pubescent steins 6-18 in. high; lower surface of leaves with a prominent network of hairy nerves or almost glabrous; flowers white, fruits orange; on forest floor.

Guin.: Kounoukai valley (fr. Oct.) Schnell 7647! **S. L.:** Kasewe Hills F.R. (June) Deighton 5826! **Lib.:** Bobei Mt. (fr. Sept.) Baldwin 12500! Ganta (Apr.) Harley 1128! Kitomu Harley 1129! **Iv. C.:** Tai (fr. Aug.) Boughey GC 14853! Malamalasso Chev. 17538! Tébo, Mid. Cavally Chev. 19380! **Ghana:** Atewa Range F.R. (fl. Apr., fr. Jan.) Adams 2675! de Wit & Morton A2928! Begoro, Akim (fr. Jan.) Irvine 1174! **S. Nig.:** Omo F.R. (Apr.) Onochie FHI 15520! Okomu F.R., Benin (ft. Dec.) Brenan 8461! Richards 3300! **[Br.] Cam.:** Victoria (Apr.) Schlechter 12364! Mildbr. 10589! Barombi

Preuss 1196! S. Bakundu F.R. (Mar.) Brenan 9286! Binuyo & Daramola FHI 35652! Nkom to Wum, Bamenda (June) Ujor FHI 29264!

Also in **Principe**, **Cameroun** and **Uganda**.

5. **Geophila obvallata** (*Schumach.*) *F. Didr.* in Vidensk. Medd. Naturhist. Foren. Kjöbenh. 1854: 186 (1855); F.T.A. 3: 222; F.W.T.A., ed. 1, 2: 128, partly (excl. syn. *G. afzelli* Hiern); Chev. Bot. 345. *APD acc*

Psychotria obvallata *Schumach.* (1827).

Carinta obvallata (*Schum.*) *G. Tayl.* in Exell Suppl. Cat. S. Tomé 25 (1956).

Geophila afzelii of Chev. Bot. 344, mostly.

Creeping prostrate herb; flowers white, fruits blue; on the forest floor, often around the base of trees.

Port. G.: Bafata (fr. Sept.) Esp. Santo 3372! **Guin.:** Heudelot 602! Friguianbé Chillou 2149! **S. L.:** Kinsita Sc. Elliot 4240! Gorahun (Nov.) Deighton 362! Njala (fl. Aug., fr. Jan.) Dalz. 8045! Loma Mts. (fr. Oct., Jan.) Jaeger 235! 4976! **Lib.:** Ganta (fl. & fr. Aug.) Harley 204! Nyaake, Webo (June) Baldwin 6084! Zule, Boporo Dist. (fr. Nov.) Baldwin 10259! **Iv. C.:** Adiopodoumé (Oct.) Leeuwenberg 1766! **Ghana:** Aquapim Isert! Asamang (fl. & fr. Apr.) Chipp 155! Agogo (Apr.) Irvine 939! Kwahu-Tafo (Apr.) Morton A527! Kumasi Cummins 67! **S. Nig.:** Brass Barter 4! Lagos Millen 6! Okomu F.R. (Dec.) Brenan 8628! Sapoba (fl. & fr. Nov.) Meikle 635! Ujor FHI 23929! Afi River F.R., Ogoja (May) Jones & Onoehie FHI 17820! **[Br.] Cam.:** Binkas, Nkom-Wum F.R. (June) Ujor FHI 29263! **F. Po:** Barter! Mann 173!

Also in **Cameroun**, **Gabon** and **Congo**.

6. **Geophila afzelii** *Hiern* in F.T.A. 3: 221 (1877); Chev. Bot. 344, partly (Chev. 16727); Hepper in Kew Bull. 16: 454 (1963). *APD acc*

Geophila cordiformis *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 128 (1931); Exell Cat. S. Tomé 217; Chev. Bot. 344, name only.

Geophila speciosa *K. Schum.* (1897).

Carinta cordiformis (*A. Chev. ex Hutch. & Dalz.*) *G. Tayl.* in Exell Suppl. Cat. S. Tomé 25 (1956).

Geophila lutea *A. Chev.* Bot. 345, name only.

Geophila obvallata of F.W.T.A., ed. 1, 2: 128, partly (syn., MacGregor 305); of Exell Cat. S. Tomé 217 (Mann), not of (*Schum.*) *F. Didr.*

Geophila flaviflora *Aké Assi* in Bull. Jard. Bot. Brux. 31: 316, t. 3 (1961).

Prostrate hairy herb; flowers white or yellow, soon falling, fruits red; in forest.

Guin.: Nzérékoré (fr. Jan.) Adam 3202! **S. L.:** Afzelius! No. 2 River F.R., Freetown Hepper 2517! Waterloo (fl. & fr. Sept.) Melville & Hooker 489! Lowoma (Oct.) Fisher 76! Rokupr (Feb.) Deighton 3606! Kruto to Sini-Koro (fr. Sept.) Jaeger 1812! **Lib.:** Dukwai R., Monrovia (fr. Oct., Nov.) Cooper 50! Brewersville (June) Barker 1334! Du R. (July) Linder 183! Ganta (fl. & fr. July) Harley 204! Firestone Cavalla, Maryland (fl. & fr. June) Baldwin 6003! **Iv. C.:** Bouroukrou Chev. 16727! Potou L. to R. Mé Chev. 17437! Abidjan (fr. Dec.) Boughey GC 13505! Copé Mt. Chev. 19692! Yapó (fr. Oct.) Roberty 15354! Tai (fl. & fr. Aug.) Boughey GC 14855d! **Ghana:** Subri F.R., Benso (fr. Mar.) Foggie FH 4950! Awato (fr. Dec.) Morton A3619! **S. Nig.:** Lagos MacGregor 305! Kennedy 2697! Akilla, Ijebu (fl. & fr. Nov.) Onochie FHI 8168! Usonigbe F.R., Benin (fl. & fr. Nov.) Meikle 563! Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8493! **[Br.] Cam.:** N. Kembong F.R. (fr. Sept.) Tiku FHI 22188!

Also in **Cameroun**, **Gabon**, **Congo**, **Cabinda** and **Principe**.

7. **Geophila rotundifolia** *A. Chev. ex Hepper* in Kew Bull. 16: 331 (1962). Chev. Bot. 346, partly (Chev. 17789 bis), name only.

APD: *Synonym of Hymenocoleus rotundifolius (A. Chev. ex Hepper) Robbr.*

Geophila hirsuta of F.W.T.A., ed. 1, 2: 128, partly (Chev. 17789 bis) not of Benth.

A prostrate trailing herb with ascending shoots; flowers white, fruits yellow or orange; in forest.

S. L.: Waterloo to York (fr. Sept.) Melville & Hooker 621! **Lib.:** Bilimu (fr. Aug.) Harley 1452! **Iv. C.:** Soubre to Guidéko, Sassandra (May) Chev. 17789 bis! **Ghana:** Kwahu (Mar.) Johnson 659! **S. Nig.:** Shasha F.R., Ijebu-Ode (Apr., May) Tamajong FHI 16764! Richards 33521 3384! **[Br.] Cam.:** S. Bakundu F.R., Kumba (fr. Aug.) Olorunfemi FHI 30717! N. Korup F.R., Kumba (July) Olorunfemi FHI 30690! Nkom-Wum F.R., Bamenda (fr. June) Ujor FHI 29265!

Also in **Cameroun** and **Uganda**.

Hook.f.-F.T.A. 3: 215. Nom. cons.

- 1 Inflorescence spicate, interrupted, about 4 cm. long; leaves narrowly obovate, about 15 cm. long and 6 cm. broad, acutely cuneate at base, midrib glabrous above and beneath, lateral nerves looped, about 7 on each side of midrib [1. interrupta](#)
- Inflorescences capitate, about 2 cm. long; peduncle 1-2 cm. long: **2**
- 2 Midrib pubescent above, more or less appressed-pilose beneath, upper surface of leaves more or less pilose, obovate to shortly oblanceolate, 6-20 cm. long, 4-9 cm. broad, cuneate at base, shortly acuminate, acute or rounded at apex; calyx-teeth acutely deltoid, about 1 mm. long, pilose; fruits ellipsoid, about 4 mm. long, sparsely pilose [2. aurea](#)
- Midrib and lamina glabrous above, densely spreading-pilose beneath, oblanceolate, about 35 cm. long and 12 cm. broad, long-cuneate at base, acuminate; calyx subtruncate, ciliate on margin [3. sp. A](#)

1. **Trichostachys interrupta** *K. Schum.* in Engl. Bot. Jahrb. 33: 360 (1903). *APD acc*

Trichostachys krausiana *Wernham* in Cat. Talb. 55 (1913).

Undershrub or herb with thick decumbent stem; flowers white; **in forest**.

S. Nig.: Oban Talbot 1045! Kwa Falls (Mar.) Brenan 9238! [**Br.**] **Cam.:** Barombi Preuss 466.

2. **Trichostachys aurea** *Hiern* in F.T.A. 3: 227 (1877). *APD acc*

Erect undershrub 1-2 ft. high; flowers purple, fruits blue, on reflexed peduncle; **in forest**.

S. L.: Jala (July) Bunting 65! **Lib.:** Genna Loffa, Kolahun Dist, (fr. Nov.) Baldwin 10077! Soplina, Vonjama Dist. (fr. Nov.) Baldwin 10026a! Boporo (fr. Nov.) Baldwin. 10386! Ganta (May) Harley 534! Sanokwele (fr. Sept.) Baldwin 9560! **Iv. C.:** Adiopodoumé (June) Aké Assi 4344! Yapo (fr. Oct.) Aké Assi 4403! **Ghana:** Puso Puso Ravine (June) Adams 4824! Atewa Range F.R., Pra R. (Mar.) Morton A3872! **S. Nig.:** Sapoba F.R. (June) Onochie FHI 36653! Omo F.R., Ijebu (May) Tamajong & Latilo FHI 16779! Okomu F.R., Benin (fr. Dec.) Brenan 8557! Oluwa F.R., Ondo (July) Onochie FHI 33411! Oban F.R. (fr. Nov.) Onyeagocha FHI 7767! Afi River F.R., Ogoja Prov. (May) Jones & Onochie FHI 17318! [**Br.**] **Cam.:** Bakosi F.R., Kumba (May) Olorunfemi FHI 30590!

Also in **Cameroun** and **Gabon**.

[Note: large-leaved specimens (FHI 33411, FHI 16779) are similar to the type (Zenker 4626, from Cameroun) of *T. zenkeri* De Wild. (1932), which may be only a form of this species-F.N.H.]

3. **Trichostachys sp. A.** *APD acc*

Unbranched undershrub 2 ft. high with greenish stem; flower buds red-purple; **in forest**.

[**Br.**] **Cam.:** S. Bakundu F.R., Banga (Mar.) Brenan 9284! 9284a!

Trichostachys lehmbachii *K. Schum.* in Engl. Bot. Jahrb. 23: 467 (1897).

Erect herb about 25 cm. high; inflorescence sessile, 2.5 cm. diam.; stipules bilobed 2.5 cm. long.

[**Br.**] **Cam.:** Victoria Lehmbach. (Probably destroyed.)

70. PENTANISIA

Harvey-F.T.A. 3: 131.

- 1 Leaves narrowly oblanceolate, acute, 1-2.5 cm. long, glabrous; cymes shortly pedunculate, rather few-flowered; calyx-lobes very unequal; corolla-tube narrow and slender, bright blue, thinly and minutely setulose outside; ovary densely white-setulose, tomentose [schweinfurthii](#)

Pentania schweinfurthii *Hiern* in F.T.A. 3: 131 (1877); Verdcourt in Bull. Jard. Bot. Brux. 22: 254 (1952). *APD acc*

Perennial herb with a tuft of stems 2-12 in. high from a woody rootstock; flowers bright blue; flowering after fires.

N. Nig.: Jos Plateau: Naraguta Hill 29! Kennedy 2914! Jos (Dec.) MacGregor 414! Bokkos (Dec.) Coombe 80! Bukuru Savory UCI 148!

Extends to the **Sudan**.

71. NEOBAUMANNIA

Hutch. & Dalz. F.W.T.A., ed. 1, 2: 132 (1931).

Baumannia K. Schum. (1896), not of DC. (1833).

- 1** Indumentum short and sparse on leaves and stems, more or less appressed on stems above, stems from a woody base, glabrous and subsucculent below; leaves subsessile, ovate to broadly lanceolate, 4-10 cm. long, 2-4 cm. broad, with several oblique nerves, puberulous on the nerves beneath; stipules divided into numerous filiform segments; inflorescences terminal panicles, the flowers congested at the apex of the erect branches; calyx-lobes 4, one narrowly enlarged; corolla 3 mm. long, 4(-5) lobed; fruits dehiscent, the valves caducous *[1. hedyotoidea](#)* var. *[hedyotoidea](#)*

Indumentum abundant and spreading on leaves and stems *[1a. hedyotoidea](#)* var. *[longipila](#)*

Neobaumannia hedyotoidea (K.Schum.) Hutch. & Dalz.

APD: *Synonym of Knoxia hedyotoidea* (K. Schum.) Puff & Robbr.

1. Neobaumannia hedyotoidea var. **hedyotoidea** -F.W.T.A., ed. 1, 2: 132 (1931).

APD: *Synonym of Knoxia hedyotoidea* (K. Schum.) Puff & Robbr.

Baumannia hedyotoidea K. Schum. in Engl. Bot. Jahrb. 23: 455 (1896).

Stems 2-8 ft. high, tinged pink or purple, often numerous, fleshy; flowers blue or purple, enlarged calyx whitish; **on rock outcrops**.

Ghana: Banda, Wenchi Morton GC 25269! Aboma F.R. (Nov.) Vigne FH 3442! Krobo Hill (Oct., Nov.) Rose Innes GC 30870! 31165! Kapjakpe, Hohoe Dist. (Oct.) St. C.-Thompson 1503! Maliato (Nov.) Morton A3538! **Togo Rep.:** Misahöhe Baumann 323. **N. Nig.:** Jos Plateau: Naraguta, 4,000 ft. (Aug.) Lely 528! Amo, 4,100 ft. (Oct.) Hepper 1031!

1a. Neobaumannia hedyotoidea var. **longipila** *Brenan* in Kew Bull. 5: 228 (1950). *APD acc*

A hairy variety.

S. Nig.: Carter's Peak, Idanre Hills (fl. & fr. Oct.) Keay & Onochie FHI 21561! Keay FHI 22586! Akure F.R. (Oct.) Keay FHI 22664! Aponmu F.R., Akure (fr. Nov.) Ajayi FHI 26917!

72. ARGOSTEMMA

Wall.-F.T.A. 3: 44. *APD acc*

- 1** Leaves obliquely elliptic-lanceolate, 2-3.5 cm. long, up to 1.3 cm. broad, pilose with long weak hairs above and on the midrib beneath; flowers from solitary to about 5 in a loose cyme; pedicels pubescent, up to 1.3 cm. long; calyx slightly toothed; corolla divided nearly to the base, lobes oblong-elliptic, 5-6 mm. long; anthers long-exserted, opening by pores *[1. pumilum](#)*

Leaves oblanceolate, subacute, 2-4.5 cm. long, 0.5 cm. broad, slightly pilose beneath; flowers up to 5 in each cyme; pedicels glabrous; calyx undulate; corolla divided almost to the base, lobes broadly lanceolate, 6 mm. long; anthers long-exserted *[2. africanum](#)*

1. Argostemma pumilum *Benn.* Pl. Jav. Rar. 95 (1838); F.T.A. 3: 44, partly (Afzelius spec.). *APD acc*

A small herb, 2-3 in. high; flowers white; **on wet rocks**.

Guin.: Conakry to Kindia Jac.-Fél. 7018! **S. L.:** Afzelius! Sugar Loaf Mt., 2,000 ft. (Nov.) T. S. Jones 285! Bumban, R. Seli (Aug.) Deighton 1308! Kulafaga to Bumbuna (Aug.) Deighton 5155! Kenema Lane-Pools 465! Loma Mts. (Oct.) Jaeger 233! **Lib.:** Kitomu (Sept.) Harley 1601! Sanokwele (Sept.) Baldwin 9503! **Iv. C.:** Nimba Mts. (Aug.) Schnell 6161!

2. *Argostemma africanum* K. Schum. in Engl. Bot. Jahrb. 23: 423 (1896). *APD acc*

A small herb similar to the last.

S. Nig.: Oban Talbot 345! [**Br.**] **Cam.:** Tiko (Oct.) Schlechter 15793!

Also in **Rio Muni**.

73. VIRECTARIA

Bremek. in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 21 (1952).

Virecta of Sm., partly-F.T.A. 3: 47, not of Linn. f.

- 1 Disk composed of two cones; style longer than the exerted stamens; corolla-tube about 10 mm. long, lobes 6 mm. long; calyx-lobes linear, 3-4 mm. long; stems usually densely long-pilose; leaves elliptic to elliptic-lanceolate, acute at apex, narrowly cuneate at base, 1.3-13 cm. long, 7-27 mm. broad, with about 7 pairs of lateral nerves; stipules with 2-3 filiform segments up to 5 mm. long, erect [1. multiflora](#)
- Disk cylindrical, not divided into 2 cones: **2**
- 2 Leaves broadly lanceolate to ovate-lanceolate: **3**
- Leaves narrowly elliptic or oblanceolate, subacute at apex, 3.7-5 cm. long, 6.5-12 cm. broad; stipules narrowly lanceolate, 1-3 mm. long; inflorescences very few-flowered; calyx-lobes lanceolate-oblong, about 1 mm. long; corolla-tube 4-4.5 mm. long, lobes 3-5-4 mm. long; stamens slightly exerted [4. angustifolia](#)
- 3 Erect herbs; stamens conspicuously exerted, style longer than stamens: **4**
- Straggling herb; calyx-lobes subequal, spatulate at apex, 1-6 mm. long; inflorescences very few-flowered; corolla up to 1 cm. long; style shorter than stamens which are shortly exerted; stems pubescent, hairs often in 2 opposite longitudinal lines; leaves ovate-oblong, elliptic or subspathulate, 1-6 cm. long, 6-34 mm. broad; stipules deltoid or bifid, 3 mm. long [3. procumbens](#)
- 4 Calyx-lobes subulate, about 6 mm. long, variable in length in the same flower, pilose; inflorescences many-flowered, dense; corolla 15-20 mm. long; stems densely pubescent; leaves lanceolate to ovate-lanceolate, 2.3-9.5 cm. long, 7-45 mm. broad, with up to 11 pairs of nerves markedly arcuate beneath, pubescent; stipules deltoid 1-2 mm. long or with 2 lanceolate lobes 4-8 mm. long, often reflexed [2. major var. major](#)
- Calyx-lobes often spatulate at apex, very unequal, 3 or 4 nun. long, slightly pilose; inflorescences few-flowered, rather lax; corolla about 10 mm. long; stems pubescent; leaves with about 7 pairs of nerves, sparingly pubescent [2a. major var. spathulata](#)

1. *Virectaria multiflora* (Sm.) *Bremek.* in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 21 (1952); Verdc, in Bull. Jard. Bot. Brux. 23: 40, fig. 5A, etc. *APD acc*

Virecta multiflora Sm. (1817)-F.T.A. 3: 48; F.W.T.A., ed. 1, 2: 130; Chev. Bot. 309; Berbaut Fl. Sen. 77.

Erect herb, a few inches to 2-4 ft. high flowers white or pinkish; **in wet places and rock outcrops.**

Mali: Fantiéla Chev. 745! Badi Berhaut 884; 4700. **Port. G.:** Bijimita (Feb.) Esp. Santo 1770! Gabu (Sept.) Esp. Santo 2785! Abreno (May) Esp. Santo 2006! S. Domingos (Aug.) Esp. Santo 3077! **Guin.:** Conakry (fr. Oct.) Adam 12610! Friguiagbé Chillou 656! Maneah Pobéguin 778! Macenta (Oct.) Baldwin 9831! **S. L.:** Sugar Loaf Mt., 2,400 ft. (Oct.) T. S. Jones 252! Rokupr (Oct.) Jordan 655! Njala (Sept.) Deighton 2126! Pyne 2! Musaia (Sept.) Small 226! **Lib.:** Monrovia (Nov.) Dinklage 3240! Gbanga (Oct.) Daniel! Brewersville (Nov.) Barker 1086! Flumpa, Sanokwele Dist. (Sept.) Baldwin 9338! **Iv. C.:** Mt. Dou, Upper Sassandra Chev. 21488! Manikro to Tiégouakro (Aug.) Chev. 22319! Nimba Mte. (Aug.) Boughey GC 18081! Tonkouli (Dec.) Roberty 15857! **Ghana:** Kumasi (Dec.) Adams 4444! Atwabo Fishlock 63! Bou (fl. & fr. Nov.) Vigne FH 1462! Pepease (Nov.) Irvine 1710! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 86! **S. Nig.:** Idanre Hills (Oct.) Keay & Onochie FHI 20242! Ondo (fl. & fr. Nov.) Onochie FHI 342321 Onitsha Barter 1792! Oban Talbot 282! Eket Talbot 3015!

Also in **Congo** and **Cabinda**.

Virectaria major (K.Schum.) Verdc. *APD acc*2. *Virectaria major* var. *major*-l.c. 42, fig. 5E, etc. (1953). *APD acc*

Virecta major K. Schum. (1895).

Virectaria kaessneri S. Moore (1910).

Tall herb with half-woody lower stems, up to 6 ft. high; flowers with the corolla pink outside, paler or white inside; **in moist upland grassy places.**

N. Nig.: Jos Plateau (June) Lely P385! Vom, 4,000 ft. Dent Young 117! Monguna, 4,700 ft. (June) King FHI 50765! **S. Nig.:** Obudu Plateau, 5,500 ft., Ogoja Prov. (Aug.) Stone 64! [**Br.**] **Cam.:** above Buea, 6,500 ft., Cam. Mt. (Nov.) Migeod 239! Bafut-Ngamba F.R. (Aug.) Ujor FHI 29964! Jakiri, 6,000 ft. (Feb.) Hepper 2067! Ndu, 6,500 ft. Savory UCI 394! Vogel Pk., 4,900 ft., Adamawa (Dec.) Hepper 1573! **F. Po:** Tams & Exell 758! Moka, 4,000 ft. (Dec., Jan.) Guinea 1923! Boughey 33!

Also in **Congo**, **Uganda**, **Tanganyika** and **N. and S. Rhodesia**.

2a. *Virectaria major* var. *spatulata* Verdc. l.c. 46, fig. 5F, etc. (1953). *APD acc*

S. L.: Jigaya (fl. & fr. Sept.) Thomas 2534! 2823! **Lib.:** Ganta (fl. & fr. May) Harley 225! Vonjama (Oct.) Baldwin 9929! **iv. C.:** Tonkoui (Aug.) Boughey GC 18328!

Also in **Congo**.

3. *Virectaria procumbens* (Sm.) Bremek. l.c. 21 (1952); Verdc. l.c. 46, fig. 5B, etc. *APD acc*

***Virecta procumbens* Sm.** (1817)-F.T.A. 3: 48; F.W.T.A., ed. 1, 2: 130; Chev. Bot. 310.

Straggling herb often rooting at nodes, up to 1 ft. high; flowers white: **a weed and in forest.**

Port. G.: Bafata (fl. & fr. June) Esp. Santo 3010! **Guin.:** Friguiagbé (Nov.) Chillou 544! 898! Mamou Schnell 6763! Tossekré, Fouta Djallon Adam 12749! **S. L.:** Freetown (Aug.) Deighton 2070! Bagroo R. Mann 812! Rokupr (Sept.) Jordan 96! Njala (Oct.) Deighton 1405! Loma Mts. (Oct.) Jaeger 222! **Lib.:** Dukwai R., Monrovia (Oct., Nov.) Cooper 6! 18! Kakatown Whyte! Sinkor (fl. & fr. June) Barker 1355! Gletown, Tchien Dist. (July) Baldwin 6747! **iv. C.:** Tai to Tabou (Aug.) Boughey GC 14950! Tonkoui, 3,500 ft. (Aug.) Boughey GC 18328! Malamalasso to Aboissué Chev. 17560! **Ghana:** Begoro, Akim (fr. Apr.) Irvine 1193! Dawa Mate Kole (Dec.) A. S. Thomas D33! Kibbi (fl. & fr. Jan.) Morton Gc 6402! Dutukpene (Mar.) Hepper & Morton A3055! **S. Nig.:** Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8523! 8615! Oban (fl. & fr. Feb.) Talbot 253! Onochie FHI 36306! Stubbs Creek F.R. Eket (fl. & fr. May) Onochie FHI 32091! **F. Po:** Guinea 1095!

Also in **Cameroun**, **Cabinda** and **Congo**.

4. *Virectaria angustifolia* (Hiern) Bremek. l.c. 21 (1952); Verdc. l.c. 47. *APD acc*

***Virecta angustifolia* Hiern** in F.T.A. 3: 48 (1879).

***Virectaria heteromera* K. Schum.** (1896)-F.W.T.A., ed. 1, 2: 130.

***Virectaria heteromera* (K. Schum.) Bremek.** l.c. (1952).

Erect undershrub or half-woody herb nearly 1 ft. high; flowers white; **on rocks in rivers.**

S. Nig.: Kwa R., Oban (fl. Aug., fr. Nov.) Onyeagocha FHI 7766! Maggs 155! [**Br.**] **Cam.:** Bibundi (fr. Nov.) Mildbr. 10659! Korup F.R., Kumba (fl. & fr. June) Olorunfemi FHI 30642!

Also in **Cameroun** and **Gabon**.

[*V. angustifolia* var. *schlechteri* Verdc. l.c. 48 (1953) with oblong-lanceolate leaves, rounded at apex, up to 2.9 cm. long and 5 mm. broad, was collected in the Cameroons "between Mafura and Mundame" (Schlechter 12926), which may be in our area.]

74. KOHAUTIA

***Cham. & Schlecht.*-Bremek.** in Verb. K. Nederl. Akad. Wetensch., Afd., Natuurk., sect. 2, 48: 56 (1952).

Oldenlandia of F.T.A. 3: 51; of F.W.T.A., ed. 1, 2: 130, partly

- 1** Fruiting pedicels (2-) 10-32 mm. long, slightly shorter in flower:**2**
Fruiting pedicels all 1-3 mm. long (if also some flowers with longer pedicels in the inflorescences see Nos. 3 and 4 above):.....**5**
- 2** Corolla-lobes acutely acuminate, linear-subulate, up to 2 mm. broad, corolla-tube about 10 mm. long, glabrous outside; fruits globose, 2.5-3 mm. diam., smooth; leaves linear, 3-5 cm. long, 1-3 mm. broad, glabrous; stems smooth*l. senegalensis*
- Corolla-lobes obtuse, corolla-tube about 5 mm. long; fruits more or less globose:.....**3**
- 3** Corolla-lobes 2-2.5 mm. broad, corolla-tube finely tomentellous outside; fruits 4-5 mm. diam., scabrid; stems

- and leaves finely scabrid; leaves linear, 1.5-3.5 cm. long [2. ubangensis](#)
- Corolla-lobes up to 1 mm. broad, corolla-tube glabrous outside; fruits 2-3 mm. diam.: [4](#)
- 4** Stipules with only two lateral filiform segments adnate to the base of the leaf; leaves linear-subulate, 1-2 mm. broad; stems glabrous; flowers few in laxly branched inflorescences; fruiting pedicels 20-32 mm. long [3. confusa](#)
- Stipules with central filiform segments free from the leaf; leaves linear to linear-lanceolate, 2-5 mm. broad, ciliate; stems shortly pubescent below, glabrous above; flowers numerous; fruiting pedicels 2-17 mm. long [4. virgata](#)
- 5** Fruits ellipsoid, 5-6 mm. long, 3-4 mm. broad, scabrid, surmounted by 4 persistent erect calyx-lobes 4-6 mm. long; corolla-lobes 1-2 mm. broad, inflorescences attenuated; stems shortly scabrid-pubescent; leaves linear-lanceolate, 1-6.5 cm. long, 1-8 mm. broad. [5. coccinea](#)
- Fruits globose, 3 mm. diam., glabrous; calyx-lobes 1 mm. long; corolla-lobes 3-6 mm. broad; inflorescences subcorymbose, congested; stems very finely scabrid; leaves linear, about 5 cm. long and 2 mm. broad [6. grandiflora](#)

1. *Kohautia senegalensis* Cham. & Schlecht. in Linnaea 4: 156 (1829); Bremek. l.c. 92.

APD: Synonym of Kohautia tenuis (Bowdich) Mabb.

Oldenlandia senegalensis (Cham. & Schlecht.) Hiern in F.T.A. 3: 56 (1877); F.W.T.A., ed. 1, 2: 131; Chev. Bot. 312; Berhaut Fl. Sén. 77.

O. confusa Hutch. & Dalz. F.W.T.A., ed. 1, 2: 131 (1931), partly (Schlechter 12978).

Erect, slender branched annual, 1-3 ft. high; flowers dull brownish, white or pink; [beside roads and in cultivated ground](#).

Sen.: Roger! Sédhiou (fl. & fr. Feb.) Chev. 2113a! Niayes Chev. 2011! Walo Perrottet 382! **Gam.:** Brown-Lester N3! Brooks 7! Sounders 7! 105! 106! **Mali:** Timbuktu (Aug.) Hagerup 256! Dioura (Sept.) Davey 112! Koulikoro Chev. 2113b! **Port. G.:** Pirada, Gabú (fl. & fr. Nov.) Esp. Santo 3150! Canguelifá, Gabú (fl. & fr. Oct.) Esp. Santo 2958! **Guin.:** Siguiri Pobéguin 1146. Faranah Chev. 20552! **S. L.:** Talla Hills, 4,000 ft. (fl. & fr. Mar.) Sc. Elliot 5087b! Falaba, 4,000 ft. Sc. Elliot 5168! **Iv. C.:** Baoulé Pobéguin 129! **Ghana:** Achimota (fl. & fr. May) Irvine 1618! Legon Hill (Oct.) Adams 3401! Krobo Plains (Dec.) Johnson 491! Kintampo (fl. & fr. Mar.) Dalz. 31! Navrongo (fl. & fr. Oct.) Vigne FH 4593! **Togo Rep.:** Badja (fr. Mar.) Schlechter 12978! **Dah.:** Zagnanado Chev. 23062! **Niger:** Niamey Hagerup 523! **N. Nig.:** Nupe Barter 956! Minna (fl. & fr. Dec.) Meikle 735! Pankshin MacGregor 427! Sokoto (fl. & fr. Nov.) Moiser 10! **S. Nig.:** Oyo to Ogbomoshó (Oct.) Onochie FHI 35297! Oyo to Ileshin (Feb.) Brenan 8965! **[Br.] Cam.:** Su, 3,500 ft., Bamenda (fl. & fr. May) Maitland 1698! Gurum, Adamawa (Nov.) Hepper 1316! Bama, Dikwa Div. (fl. & fr. Dec.) McClintock 92!

Also in [Cameroun](#), [Ubangi-Shari](#), [Sudan](#), [Ethiopia](#), [Eritrea](#), [Arabia](#) and [Cape Verde Islands](#).

2. *Kohautia ubangensis* Bremek. l.c. 90 (1952).

APD: Synonym of Kohautia confusa (Hutch. & Dalziel) Bremek.

Slender erect herb 1-2 ft. high, with grey scabrid stems; flowers bright scarlet or light mauve; [in cultivated ground](#).

N. Nig.: Kogon Gandu, 3,200 ft., Bauchi Prov. (fl. & fr. Oct.) G. V. Summerhayes 48! **[Br.] Cam.:** Vogel Peak, 1,600 ft., Adamawa (Nov.) Hepper 1410! Gangumi, Gashaka Dist. (fl. & fr. Dec.) Latilo & Daramola FHI 28824!

Also in [Ubangi-Shari](#).

3. *Kohautia confusa* (Hutch. & Dalz.) Bremek. l.c. 89 (1952). *APD acc*

Oldenlandia confusa Hutch. & Dalz. F.W.T.A., ed. 1, 2: 131 (1931), partly; Berhaut Fl. Sén. 77.

O. effusa of F.T.A. 3: 59, partly (Heudelot 220), not of Oliv.

Erect slender-branched herb 1-2 ft. high; flowers dull red or whitish.

Sen.: Galam Heudelot 220! Walo Leprieur! Malème to Hoddar (fr. Nov.) Berhaut 1817! **Mali:** Nyammo to Koulikoro Chev. 2024! **Guin.:** Kouroussa (fl. & fr. Sept.) Pobéguin 436! Port. Guinea frontier Maclaud!

Also in [Tanganyika \(?\)](#) and [Nyasaland](#).

4. *Kohautia virgata* (Willd.) Bremek. l.c. 77 (1952).

APD: Synonym of Cordylostigma virgatum (Willd.) Groeninckx & Dessein

Hedyotis virgata Willd. (1798).

Oldenlandia virgata (Willd.) DC. (1830)-F.T.A. 3: 59; F.W.T.A., ed. 1, 2: 132; Chev. Bot. 313, partly (Chev. 4434).

Herb a few inches to 1 ft. high, usually with numerous erect branches; flowers pink, sometimes white, red or mauve.

Ghana: Achimota Irvine 660! Accra (fl. & fr. Nov.) Morton GC 6114! Shai Plains (fl. & fr. Mar.) Irvine 947! Labadi (Jan.) Adams 372! **Togo Rep.:** Lome Warnecke 174! Talerni Mahout 529. **Dah.:** Cotonou Chev. 4434. **S. Nig.:** Lagos Isl. Dalz. 1048! Attah T. Vogel

Widespread in tropical and S. Africa.

5. *Kohautia coccinea* Royle Ill. Himal. 241, t. 53, fig. 1 (1839); Bremek. l.c. 82. *APD acc*

Oldenlandia abyssinica (Hochst. ex A. Rich.) Hiern in F.T.A. 3: 57 (1877); F.W.T.A., ed. 1, 2: 131.

Slender erect herb a few inches to 1 ft. high, with few branches; flowers few in lax inflorescences, bright scarlet, sometimes pink, mauve or white; **in cultivated ground.**

Sen.: M'Bidgem Hb. Franqueville! **S. Nig.:** Jos Plateau (fl. & fr. Sept.) Lely P730! Vom Dent Young 116! Pankshin (Oct.) Hepper 1119! **[Br.] Cam.:** Bansa (fl. & fr. Oct.) Tamajong FHI 23456!

Widespread in tropical Africa; also in India.

6. *Kohautia grandiflora* DC. Prod. 4: 430 (1830); Bremek. l.c. 88. *APD acc*

Oldenlandia grandiflora (DC.) Hiern in F.T.A. 3: 57 (1877); F.W.T.A., ed. 1, 2: 131; Chev. Bot. 311; Berhaut Fl. Sén. 77.

Slender erect herb 1 ft. or more high; flowers scarlet; **in savanna and as a weed of cultivation.**

Sen.: Roger! Farmar 133! Dagana Leprieur! Dakar (May) Baldwin 5710! **Gam.:** Brown-Lester 64! Dawe 5! **Port. G.:** Buha (Oct.) Esp. Santo 1273! Apilho (fl. & fr. Dec.) Esp. Santo 3726! **Mali:** Bamako (fl. & fr. Jan.) Chev. 202! between Senegal and Niger Bellamy 445; 446! Ouacoro Chev. 81! Tivaouane Chev. 2095! **S. L.:** Purdie! **Ghana:** Zuarungu (Nov.) Darko 446! Tamale Williams 494! Navrongo (Oct.) Vigne FH 4594! **Togo Rep.:** Sokode Kersting A685! **Dah.:** Savé Annet 23. **Niger:** Niamey (Oct.) Hagerup 501! **N. Nig.:** Aguiji, Ilorin Thornton! Nupe Barter 856! Anchau, Zaria (Nov.) Keay FHI 21666! Sokoto Ryan 27! Biu, Bornu (Sept.) Noble 32! **S. Nig.:** Lagos Rowland! Sapoba Kennedy 2873! Shaki, Oyo (fl. & fr. Jan.) Hamblen 113! Oban Talbot 257! **[Br.] Cam.:** Buea Mildbr. 9618. Garbabi to Balli, Gashaka Dist. (fl. & fr. Jan.) Latilo & Daramola FHI 34421!

Also in **Ubangi-Shari**, **Sudan** and **Uganda**.

75. OLDENLANDIA

Linn.-F.T.A. 3: 51, partly; Bremek. in Verb. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 20 (1952).

- 1 Flowers congested in terminal and axillary heads:2
- Flowers not congested, often long-pedicellate, solitary in axils or in terminal and axillary panicles:5
- 2 Leaves elliptic or ovate-elliptic, 3-5-nerved at base, 1.5-2.5 cm. long, 5-13 mm. broad, minutely setulose along midrib above; ovary and calyx-lobes pubescent; prostrate trailing herb1. *goreensis*
- Leaves linear; usually erect, not trailing:3
- 3 Leaves thin, glabrous or slightly scabrid; stipular sheath shortly fimbriate; flowers shortly pedicellate:4
- Leaves thickened, midrib conspicuous beneath, scabrid with short aculeate hairs; stipular sheath long-fimbriate3. *sclerophylla*
- 4 Calyx-lobes 42. *capensis* var. *capensis*
- Calyx-lobes more than 4 and up to 82a. *capensis* var. *pleiosepala*
- 5 Leaves ovate; stems square:6
- Leaves linear to lanceolate;7
- 6 Calyx glabrous; leaves 1.5-3 cm. long, 7-15 mm. broad, with 4-5 pairs of nerves, glabrous; petiole 2-7 mm. long; inflorescences terminal, lax4. *chevalieri*
- Calyx hispid; leaves 2-3 cm. long, 7-17 mm. broad, with much smaller bracteate leaves, setulose above, subglabrous beneath; petiole 2-5 mm. long; flowers axillary and terminal, a few together, shortly pedicellate5.

echinulosa

- 7 Pedicels and/or peduncle about 2 mm. long:8
 Pedicels much longer than 2 mm.:9
- 8 Leaves thin (for other characters see above) [2. capensis var. capensis](#)
 Leaves thickened (for other characters see above) [3. sclerophylla](#)
- 9 Flowers with distinct peduncle, pedicels forming 2(-4)-flowered umbels:10
 Flowers solitary or paniculate:12
- 10 Leaves narrowly linear or filiform, less than 1 mm. broad, 1-4 cm. long; seed testa with straight-walled cells ..[6. linearis](#)
 Leaves linear or linear-lanceolate, 2-7 mm. broad; seed testa with wavy-walled cells:11
- 11 Style glabrous; common herb; corolla about as long as calyx [7. corymbosa](#)
 Style hairy; uncommon herb [12a. caespitosa var. lanceolata](#)
- 12 Capsule 3-3.5 mm. diam., externally with 2 obvious loculi apparent:13
 Capsule 1-2(-2.5) mm. diam., spherical:14
- 13 Leaves narrowly lanceolate, 2-6 cm. long, 2-7 mm. broad; stems square, nearly glabrous, more or less prostrate with long branches; flowers axillary; pedicels 1-1.5 cm. long [8. lancifolia](#)
 Leaves narrowly linear, about 5 cm. long, 1-2 mm. broad; stems subterete scabrid, erect, profusely branched; flowers axillary or more or less paniculate; pedicels 1.5-3 cm. long [10. rhabdina](#)
- 14 Flowers in mainly terminal panicles; corolla-tube about 3 mm. long, lobes 2 mm. long; leaves lanceolate, 2-4.5 cm. long, 6-16 mm. broad, setulose [9. affinis](#)
 Flowers axillary, solitary or paired without a peduncle; corolla 1-2 mm. long:15
- 15 Leaves narrowly linear, 1.5-4 cm. long, 1-2 mm. broad; diffusely branched erect herb, common; seed testa cell-walls straight [11. herbacea](#)
 Leaves oblong, 5-10 mm. long, 1-2 mm. broad; small decumbent or erect herb, rare; seed testa cell-walls wavy [12. caespitosa var. caespitosa](#)

Oldenlandia callitrichoides Griseb.

A West Indian species with slender prostrate stems and orbicular leaves about 2 mm. diam. has been recorded from Njala, Sierra Leone. As it does not belong to *Oldenlandia* in the strict sense (see Bremek. l.c. 269) it has recently been transferred to *Hedyotis* (*H. callitrichoides* (Griseb.) W. H. Lewis in *Rhodora* 63: 222 (1961)).

1. Oldenlandia goreensis (DC.) Summerh. in Kew Bull. 1928: 392; Bremek. l.c. 48: 192; Berhaut Fl. Sén. 78. *APD acc*

Hedyotis goreensis DC. (1830).

Oldenlandia trinervia of F.T.A. 3: 63; of Chev. Bot. 313; not of Retz.

Prostrate herb with slender stems up to 18 in. long, with bright green leaves drying yellowish; flowers white with mauve corolla-lobes, or pink; **in moist, muddy places.**

Sen.: Berhaut 1049; 4737. Kounoum, Cape Verde Perrottet 484! Dakar Boivin 405! **Gam.:** Albreda Leprieur! Kombo country Heudelot 72. **Mali:** Dendéla Chev. 633! Sikasso Chev. 789. **Port. G.:** Antula, Bissau (Jan.) Esp. Santo 1451! **Guin.:** Friguiagbé (Mar.) Chillou 79! Manèa (Feb.) Chillou 2527! **S. L.:** Pendembu (July) Thomas 833! Rokupr (Jan.) Deighton 2952! Hepper 2630! Konta (Aug.) Deighton 1254! Kangahun (May) Deighton 4137! Kabala (Feb.) Deighton 4195! **Iv. C.:** Manikro to Tiégouakro Chev. 22317! **Ghana:** Damongo (Mar.) Morton GC 8718! **Togo Rep.:** Lomé Warnecke 239! **N.Nig.:** Nupe Barter 1241! Jebba (Dec.) Meikle 846! Kontagora Dalz. 215! Vom, 4,000 ft., Jos Plateau Dent Young 114! **[Br.] Cam.:** Wum, 3,500 ft. (Apr.) Maitland 1591! Jakiri, 6,000 ft. (Feb.) Hepper 2063! Ngel Nyaki, 5,500 ft., Mambila Plateau (Jan.) Hepper 1714!

Widespread in tropical Africa also in Madagascar, Comores and Mascarene Islands.

[Warnecke 239, cited above, is the var. *trichocaula* Bremek. l.c. 198 (1952) which is only distinguishable from var. *goreensis* by its hairy stems, leaves and corolla-lobes.]

Oldenlandia capensis Linn.f. APD acc

2. Oldenlandia capensis var. capensis -Suppl. Pl. 127 (1781); F.T.A. 3: 62; Bremek. l.c. 265; Berhaut Fl. Sén. 77. *APD acc*

Oldenlandia sabulosa DC. (1830)-Chev. Bot. 312.

Annual herb 3-4 in. to 1 ft. high; flowers white; on river banks and in wet places.

Sen.: Roger! Senegal R. Perrottet 388! Walo Perrottet 389. Foula Toro Leprieur! Niokolo-Koba Berhaut 1421! **Mali:** San Chev. 1067! Djenné Chev. 1115! Gorinuta, near Dogo (Apr.) Davey 611! **Dah.:** Hétinn to Aguégué Chev. 23309. Save to Agouagon Chev. 23596. **N. Nig.:** Nupe Barter! Mongu, 4,300 ft. (July) Lely 440! Taura (May) Lely 121! Daura (Apr.) Meikle 1360! Sokoto (Mar.) Moiser! **[Br.] Cam.:** Bamenda Maitland!

Widespread in drier regions of Africa, also in S. Europe and Persia.

2a. *Oldenlandia capensis* var. *pleiosepala* Bremek. l.c. 267 (1952). *APD acc*

Port. G.: Bissau (fr. Apr.) Esp. Santo 1538! **Mali:** San Chev. 1079! L. Tengrela, Upper Volta Aké Assi **S. L.:** Port Loko (Apr.) Sc. Elliot 5876! Falaba (Mar.) Sc. Elliot 5169! Bumpe (Apr.) Deighton 5513! **Ghana:** White Volta B. (Mar.) Hepper & Morton, A3156! Yendi (Mar.) Hepper 2372! **Dah.:** Atacora Mts. Chev. 24282! **N. Nig.:** Jebba Isl. (Mar.) Meikle 1290! Mande, Zaria Prov. (June) Keay FHI 25869!

Also in **Algeria, Egypt, Sudan, Ubangi-Shari, Tanganyika, Nyasaland, N. and S. Rhodesia, Angola** and **Congo**.

3. *Oldenlandia sclerophylla* Bremek. l.c. 268 (1952). *APD acc*

Small, branched herb.

Mali: Collin 167! Timbuktu Hagerup 163a! Gao to Berra (Mar.) de Wailly 5008!

4. *Oldenlandia chevalieri* Bremek. l.c. 216 (1952). *APD acc*

Straggling herb with stems 1-1 1/2 ft. high; flowers white; **in forest**.

Lib.: Jaurazon, Sinoe (Mar.) Baldwin 11453! **iv. C.:** Alépé Chev. 17470! Alépé to Potou Lagoon Chev. 17383! Bianco, Abidjan (Dec.) Boughey GC 13516! **Ghana:** Fomena (Apr.) Adams 2502! Adansi Scarp (fl. A fr. Oct.) Hall 1606! Mt. Ejuanema, Kwahu (Dec.) Adams 5133!

5. *Oldenlandia echinulosa* K. Schum. in Engl. Pflanzenw. Ost-Afr. C: 375 (1895); Bremek. l.c. 213. *APD acc*

APD: Synonym of Oldenlandia echinulosa var. *pellucida* (Hiern) Verdc.

Erect herb 3-18 in. high; flowers white; **amongst rocks**.

S. L.: Loma Mts. (fr. Nov.) Jaeger 681! **N. Nig.:** Jos Plateau (Sept.) Lely P 737! Jos (Aug.) Keay FHI 12712! **[Br.] Cam.:** Vogel Peak Hepper 1342!

Also in **Congo, Angola, Rhodesia, Nyasaland** and **Tanganyika**

6. *Oldenlandia linearis* DC. Prod. 4: 425 (1830); Bremek. l.c. 258.

APD: Synonym of Oldenlandia corymbosa var. *linearis* (DC.) Verdc.

Oldenlandia heynei of F.T.A. 3: 59, partly (syn.? *O. linearis* DC.).

A slender erect herb usually a few inches high and often simple; flowers white or pale mauve.

Sen.: St. Louis Perrottet!

Also in **Sudan, Eritrea, Uganda, Kenya, Tanganyika, N. and S. Rhodesia** and **Congo**.

7. *Oldenlandia corymbosa* Linn. Sp. Pl. 119 (1753); F.T.A. 3: 62; Chev. Bot. 311; Bremek. l.c. 254, incl. var. *microcarpa* Bremek. (1952); Berhaut Fl. Sén. 77. *APD acc*

An erect and diffusely branched herb, nearly glabrous, up to 1 ft. or more high; flowers white or mauve; **a weed of cultivation and beside paths**.

Sen.: Berhaut 451. Bondou Heudelot 13! Dakar Thiebaut 188! Goree Talmy 46! **Gam.:** Saunders 114! **Mali:** Oualia Chev. 32! Bafaga Chev. 702! **Guin.:** Kouria Caille in Hb. Chev. 15031! Conakry Madaud 14. **S. L.:** Freetown (fl. & fr. Sept.) Hepper 925! Tisana, Bonthe Isl. (fl. & fr. Nov.) Deighton 2325! Njala (fl. & fr. Oct.) Deighton 1354! Bokupr (fl. & fr. Nov.) Jordan 684! **Lib.:** Zolopla, Sanokwele Dist. (fl. & fr. Sept.) Baldwin 9395! Fishtown Dinklage 2079. **iv. C.:**

Adiopodoumé Leeuwenberg 2337! **Ghana:** Achimota (fl. & fr. Oct.) Morton GC 6007! Krobo Plains (fl. & fr. Dec.) Johnson 492! Legon Hill (fl. & fr. May) Adams 4784! Atwabo Fishlock 7! **Dah.:** Cotonou Debeaux 154! **Niger:** Niamey (fl. & fr. Oct.) Hagerup 505! **N. Nig.:** Ilorin (fl. & fr. Oct.) Adejumo FHI 5746! Anara F.R., Zaria (fl. & fr. Sept.) Olorunfemi FHI 24377! Vom, 3,000-4,500 ft. Dent Young 111! Maiduguri (fl. & fr. Oct.) Noble A5! **S. Nig.:** Ibadan (fl. & fr. Jan.) Meikle 1001! Stirling (fl. & fr. Sept.) T. Vogel 133! Enugu (fl. & fr. Oct.) Jones FHI 6761! Onyadama, Ogoja Prov. (fl. & fr. Apr.) Jones FHI 7398! **[Br.] Cam.:** Victoria Winkler 42a. Gurum, Adamawa (fl. & fr. Nov.) Hepper 1234! **F. Po:** T. Vogel 201! Milne!

Widespread in tropical Africa from **Sudan** to Transvaal and in tropical and subtropical countries throughout the world.

[*O. praetermissa* Bremek. l.c. 253 (1952) has the appearance of *O. corymbosa* Linn. and is said to differ from it in the hairy style and exerted anthers and stigmata. Heterostyly is frequent in Rubiaceae and I doubt whether it is more than a form of *O. corymbosa*. Several specimens are cited under both names by Bremekamp, e.g. Fishlock 7.-F.N.H.]

8. **Oldenlandia lancifolia** (*Schumach.*) *DC.* Prod. 4: 425 (1830); F.T.A. 3: 61; Chev. Bot. 312, partly (excl. Chev. 2116); Bremek. l.c. 230 (1952), incl. var. *grandiflora* Bremek., var. *microcarpa* Bremek., var. *scabridula* Bremek., var. *longipes* Bremek.; Berhaut Fl. Sén. 78. *APD acc*

Hedyotis lancifolia *Schumach.* (1827).

Prostrate or straggling, branched near the base and branches almost simple, 1-2 ft. long; flowers white, sometimes pale pink or mauve; in moist places.

Sen.: Cape Verde Maille. Casamance Perrotet! Tamboukané Chev. 2104. Badi Berhaut 777. **Port. G.:** Bafata (fl. & fr. Oct.) Esp. Santo 3167! **Mali:** Koulikoro Chev. 2022! **S. L.:** Kundita, Talla Sc. Elliot 5045! Kailahun (fl. & fr. Feb.) Deighton 4008! Njala (fl. & fr. July) Deighton 752! Yonibana (fl. & fr. Nov.) Thomas 4700! **Lib.:** Du R. (fl. & fr. Oct., Nov.) Cooper 4! Linda 216! Gbau (fl. & fr. Sept.) Baldwin. 9419! Gbanga (fl. & fr. Aug.) Trout 244! Dubo, Sanokwele (fl. & fr. Sept.) Baldwin 9467! **Iv. C.:** Alangouassou to Mbayakro Chev. 22232! **Ghana:** Anaje, Sekondi (fl. & fr. Oct.) Howes 986! Assuantsi (fl. & fr. Mar.) Irvine 1573! New Tafo (fl. & fr. Sept.) Lovi WACRI 3912! Bimbila (fl. & fr. Mar.) Hepper & Morton A3099! **Togo Rep.:** Mahoux 516. **N. Nig.:** Nupe Barter 1659! 1714! Vom, 4,000 ft. Dent Young 112! **S. Nig.:** Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8627! Idanre, Akure (fl. & fr. Jan.) Brenan & Keay 8660! Ibadan (fr. Mar.) Schlechter 12344! Port Harcourt (fl. & fr. Sept.) Taylor 10! Talbot 226! **[Br.] Cam.:** Buea, 2,500ft. (fl. & fr. Mar.) Maitland 580! Mamfe (fl. & fr. Dec.) Migeod 268! Wum, 3,500 ft. (fl. & fr. Apr., July) Maitland 1592! Ujor FHI 29293! Jakiri, 6,000 ft. (fl. & fr. Feb.) Hepper 2065! Nguroje, 5,000 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 1739! **F. Po:** Moka, 4,000-4,500 ft. (fl. & fr. Jan.) Exell 822a!

Widespread in tropical and S. Africa, introduced into S. America.

9. **Oldenlandia affinis** (*Roem. & Schult.*) *DC.* Prod. 4: 428 (1830); Bremek. l.c. 226. *APD acc*

APD: *Synonym of Oldenlandia affinis subsp. fugax* (Vatke) Verdc.

Hedyotis affinis *Roem. & Schult.* (1818).

Oldenlandia decumbens (*Hochst.*) *Hiern* in F.T.A. 3: 54 (1877); F.W.T.A., ed. 1, 2: 132.

A glabrous decumbent or straggling herb, stems about 2 ft. long, branched; flowers deep blue; amongst grass.

Lib.: Nana Kru (fl. & fr. Mar.) Baldwin 11583! **Iv. C.:** Dabou Chev. 17157! Abidjan Scaëtta 3008! Bingerville Jolly. Adiopodoumé (fl. & fr. Oct.) Roberty 12290! **Ghana:** Princes Town (Feb.) Morton GC 8454! Cape Coast (fr. Oct.) Hall 1138! Anaji, W. Prov. (Apr.) Lloyd 30! Atwabo Fishlock 66! 77! **Togo Rep.:** Lomé Warnecke 261! Noépe Mahout 513. **Dah.:** Agoué Ménager. **S. Nig.:** Lagos Barter 2181! Dalz. 1049! Sobo Plains, Benin (fl. & fr. May) Keay FHI 37030! Onitsha (fl. & fr. Apr.) Killick 109! Calabar (fl. & fr. Mar., May) Brenan 9224! Onochie FHI 32938!

Also in Cameroun, Gabon, Congo, **Angola**, **Uganda**, **Kenya**, **Tanganyika**, Mozambique, S. Rhodesia and Transvaal and eastwards to Malay Peninsula.

10. **Oldenlandia rhabdina** *Bremek.* in Kew Bull. 14: 317 (1960). *APD acc*

An erect herb about 1 ft. high; in cultivated ground.

N. Nig.: Bangwele, Lame Dist. (fl. & fr. Sept.) G. V. Summerhayes 44!

11. **Oldenlandia herbacea** (*Linn.*) *Roxb.* Hort. Bengal 11 (1814); Bremek. l.c. 244, incl. var. *flaccida* Bremek. l.c. 248; Berhaut Fl. Sen. 78. *APD acc*

Hedyotis herbacea *Linn.* (1753).

Oldenlandia heynei G. Don (1834)-F.T.A. 3: 59; Chev. Bot. 311 (incl. var. *djaloni* A. Chev., name only).

Oldenlandia virgata of Chev. Bot. 313, partly (Chev. 18561).

Erect, diffusely branched weed a few inches to 1 ft. high.

Sen.: Berhaut 606. Kounoum Perrottet! Bakel Collins 163! Casamance Trochain 1430! **Gam.:** Pirie 38! Kombo Dawe 4! **Mali:** Bamako Waterlot 1134! Koulikoro Chev. 2116! **Port.G.:** Bissau (fl. & fr. Oct.) Esp. Santo 2590! **Guin.:** Dalaba-Diaguissa Plateau (fl. & fr. Oct.) Chev. 18708! Ditinn to Dalaba Chev. 18561! Kouria Chev. 14990! Dyeke (fl. & fr. Oct.) Baldwin 9663! Nzérékoré (fl. & fr. Oct.) Baldwin 9707! **S. L.:** Freetown (Oct.) Hepper 924! Rokupr (fl. & fr. Mar.) Jordan 656! Njala (fl. & fr. Nov.) Deighton 1497! Kenema Thomas 7918! Musaia (Dec.) Deighton 4518! **Lib.:** Monrovia (fl. & fr. Nov.) Dinklage 3276! Linder 1557! Tappita (fl. & fr. Aug.) Baldwin 9077! Robertsport (fl. & fr. Dec.) Baldwin 10936! Sinkor (fl. & fr. June, Sept.) Barker 1065! 1358! **Iv. C.:** Manikro to Tiégouakro Chev. 22322! Nimba, 1,000 ft. (fl. & fr. Aug.) Boughey! **Ghana:** Accra Don! Kete Krachi to Dutukpene (fl. & fr. Dec.) Adams 4655! Nsawkaw (fl. & fr. Dec.) Adams 3145 4655! Navrongo (fl. & fr. Nov.) Darko 451! **N. Nig.:** Jebba (fl. & fr. Feb.) Meikle 1190! Bida (fl. & fr. Mar.) Meikle 1322! Sokoto Lely 123! Naraguta (fl. & fr. Aug.) Lely 501! Yola (fl. & fr. Jan.) Dalz. 46! **S. Nig.:** Lagos (fl. & fr. May) Dalz. 1374! Stirling (Sept.) T. Vogel 135! Nanka, Awka Dist. (Nov.) Keay FHI 22706! Achalla F.R., Onitsha (Sept.) Onochie FHI 34057! Eket Talbot! **[Br.] Cam.:** Bali, 4,000 ft. (May) Ujor FHI 30368! Migeod 287! Belo, 4,500 ft. (fr. Apr.) Maitland 1707! Gembu, 6,000 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 1807 I near Vogel Peak, Adamawa (fl. & fr. Nov.) Hepper 1377!

Widespread in tropical and S. Africa, also in Cape Verde Islands, Socotra and **Egypt** and in tropical Asia.

Oldenlandia caespitosa (Benth.) Hiern

APD: Synonym of Oldenlandia corymbosa var. *caespitosa* (Benth.) Verdc.

12. **Oldenlandia caespitosa** var. **caespitosa** -in F.T.A. 3: 61 (1877); Bremek. l.c. 262. *APD acc*

Oldenlandia herbacea (?) var. *caespitosa* Benth. (1849).

Oldenlandia parva Trochain in Bull. Mus. Hist. Nat., sér. 2, 4: 604, fig. 1 (1932).

A small herb.

Sen.: Cape Verde Perrottet 387. Ziguinchor Trochain 1536! **Lib.:** Cape Palmas T. Vogel 51! **S. Nig.:** Ikom (fl. & fr. Jan.) Rosevear 10/31! Eket Dist. Talbot!

Also in **Cameroun**, **Congo**, **Angola**, **N. and S. Rhodesia**, **Mozambique**, **Kenya**, **Uganda** and **Tanganyika**.

12a. **Oldenlandia caespitosa** var. **lanceolata** Bremek. l.c. 264 (1952).

APD: Synonym of Oldenlandia corymbosa L. var. *corymbosa*

A straggling herb having the appearance of *O. corymbosa*.

S. Nig.: Aguku Dist. Thomas 1003!

Also in **Cameroun** and **N. Rhodesia**.

76. LELYA

Bremek. in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 181 (1952).

- 1 Perennial herb with decumbent branches about 10 cm. long, shortly pubescent; leaves elliptic-lanceolate or lanceolate, with 2-3 lateral nerves on each side, acute at each end, 5-14 mm. long, 3-5-5 mm. broad, glabrous above, pubescent beneath; flowers in terminal clusters of 2 or 3, or solitary in axils, subsessile; calyx-tube 0-4 mm. long, lobes 4, oblong, about 2 mm. long; corolla-tube about 2 mm. long, lobes 4, 3-5 mm. long; fruit with a thick woody wall and solid conical beak [osteocarpa](#)

Lelya osteocarpa Bremek. l.c. 181 (1952). *APD acc*

A small herb decumbent and forming a small mat; flowers white; **on bare soil, appearing after fires.**

N. Nig.: Jos Plateau (Jan.) Lely P96! P663! Naraguta, 4,000 ft. (May) Lely 249! Heipang (fl. & fr. Apr.) Keay & Wimbush FHI 37612!

Also in **Congo**, **N. Rhodesia** and **Tanganyika**.

77. PENTODON

Hochst.-Bremek. in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 175 (1952).

- 1 Decumbent herb, somewhat fleshy; leaves sessile, linear-lanceolate to lanceolate, rounded to cuneate at base, subacute at apex, 3-6 cm. long, 1-2 cm. broad, glabrous; panicles axillary, 6-17 cm. long; pedicels about 1 cm. long; calyx with very short fine teeth; corolla 2-3 mm. long [pentandrus](#)

Pentodon pentandrus (*Schum. & Thonn.*) *Vatke* in Oest. Bot. Zeit. 25: 231 (1875); Bremek. l.c. 176 (as *P. pentander*). *APD acc*

Hedyotis pentandra *Schum. & Thonn.* (1827).

Oldenlandia macrophylla *DC.* (1830)-*F.T.A.* 3: 63; Chev. Bot. 312; *F.W.T.A.*, ed. 1, 2: 132; *Berhaut Fl. Sén.* 77.

A straggling half-succulent herb, stems often tinged purplish; flowers white, pinkish or blue; in wet, muddy places.

Sen.: Leprieur. *Berhaut* 837. **Gam.:** Kuntaur Ruxton 106! 124! **Port. G.:** Pussubé (June) Esp. Santo 1181! Bafatá (Aug.) Esp. Santo 3280! **Guin.:** Nzérékoré (Oct.) Baldwin 9727! R. Kolenté Chillou 1390! **S. L.:** Kokupr (Mar.) Jordan 18! Bumbuna (Oct.) Thomas 3228! Gbinti (Sept.) Deighton 4850! Pelewahun (May) Deighton 5943! **Lib.:** Gola Bunting! Bushrod Isl. (Apr.) Barker 1288! Nyaake (June) Baldwin. 6198! Du K. (Aug.) Linder 262! **Iv. C.:** Yapo (Oct.) Chev. B22365! Grabo to Taté Chev. 19753. Toumodi to Dimbroko Chev. 22251. **Ghana:** Ancobra Junction (Jan.) Irvine 1052! Pra R. Irvine 435! Owrahi (Sept.) Andoh FH 4552! Kpandu Robertson 36! **Togo Rep.:** Lomé Warnecke 240! **Dah.:** Hétinn to Aguégué Chev. 23309. Savé to Agouagon Chev. 23596. **N. Nig.:** Sokoto (Mar., June) Moiser 86! Dalz. 401! **S. Nig.:** Angiama Barter 91! Ogun F.R., Lagos (Mar.) Hepper 2248! Okeluse F.R. (July) Onochie FHI 33368! Ibadan (Nov.) Meikle 670! **[Br.] Cam.:** Yoke R. (Mar.) Brenan 9326! L. Barombi (Apr.) Daramola FHI 41020!

Widespread in tropical Africa, also in Cape Verde Islands, S. Tomé and **Arabia**.

78. SACOSPERMA

G. Tayl. in Exell, Cat. S. Tomé 218 (1944); Bremek. in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 43 (1952).

- 1 Stipules broadly triangular or ovate, ending in a simple or occasionally bifid awn; inflorescence lax, branched, flowers sessile; calyx-lobes equal, ovate, about 1 mm. long; corolla-tube 5-9 mm. long, lobes 1-2 mm. long, glabrous; leaves ovate to elliptic, acuminate at apex, cuneate at base, 6-10 cm. long, 2-4 cm. broad, subglabrous to pubescent [1. paniculatum](#)

Stipules deeply divided into 2 or 3 filiform awns; inflorescences contracted, with few short branches, flowers sessile; calyx-lobes linear-oblong, 3 mm. long; corolla-tube 5-6 mm. long, lobes 1-2 mm. long, glabrous; leaves ovate-lanceolate, acuminate at apex, cuneate at base, 5-7 cm. long, 2-2.5 cm. broad, nerves pubescent beneath [2. parviflorum](#)

1. **Sacosperma paniculatum** (*Benth.*) *G. Tayl.* in Exell, Cat. S. Tomé 218 (1944); Bremek. l.c. 45, incl. var. *pubescens* Bremek. (1952). *APD acc*

Peltospermum paniculatum *Benth.* (1849).

Oldenlandia peltospermum *Hiern* in *F.T.A.* 3: 53 (1877); *F.W.T.A.*, ed. 1, 2: 132; Chev. Bot. 312; *Berhaut Fl. Sén.* 104.

A slender climbing shrub up to 15 ft. high; flowers red, white or blue; in secondary forest, sometimes beside water.

Sen.: Niokolo-Koba *Berhaut* 1509. **Port. G.:** Brene, Bissau (fr. Feb.) Esp. Santo 1732! Catió (Aug.) Esp. Santo 2177a! **Guin.:** Rio Nunez Heudelot 628! Fouta Djallon Pobéguin 1930! Kouria Caille in Hb. Chev. 14698! **S. L.:** Waterloo (Oct.) Lane-Poole 378! Fundembaia (Oct.) Thomas 2860! Kokupr (Oct.) Jordan 139! Njala (fl. Sept., fr. Oct.) Deighton 2128! 2409! Bintumane (fr. Aug.) Jaeger 1189! **Lib.:** Kakatown Whytel! Gbanga (Sept.) Linder 648! Ganta (Sept.) Harley 629! Gbau Baldwin 9432! **Iv. C.:** Dabou Chev. 15329! Guidéko Chev. 16479! Makougné Chev. 16994! Bériby to Tabou Chev. 20033! **Ghana:** Axim (fr. Feb.) Irvine 2148! Essiama (fr. Oct.) Fishlock 2! Nkroful (fr. Nov.) Vigne FH 1418! **S. Nig.:** Sapoba, Jamieson R. (fl. Nov., fr. June) Kennedy 1798! Ajayi & Odukwe FHI 26942! Onochie FHI 31238! Oban Talbot 242! **[Br.] Cam.:** Buea, 3,000 ft. (fl. & fr. Jan.) Deisted 624! Maitland 240! **F. Po.:** (fl. & fr. Nov.) T. Vogel 74! Barter 2059! Mann 58!

Also in **Ubangi-Shari**, **Cameroun**, **Gabon**, **Cabinda**, **Congo** and **S. Tomé**.

2. *Sacosperma parviflorum* (Benth.) G. Tayl. l.c. 218 (1944); Bremek. l.c. 46. *APD acc*

Pentas parviflora Benth. in Bot. Mag. sub. t. 4086 (1844); F.T.A. 3: 47; F.W.T.A., ed. 1, 2: 129.

Twining shrub in thickets; flowers bluish-purple.

IV. C.: near Béyo, Sassandra (fl. Feb., fr. Dec.) Leeuwenberg 2210! 2736! **Ghana:** Accra T. Vogel! Aburi Scarp (June, Nov.) Johnson 971! 1916! Morton GC 6126! Ajena to Akwamu (June) Adams 4794! **N. Nig.:** Mando F.R., Zaria (July) Keay FHI 25994! Abinsi (fl. & fr. June) Dalz. 632! **S. Nig.:** Lower Enyong F.R., Calabar (May) Onochie FHI 33211! [**Br.**] **Cam.:** Lakom (fl. & fr. May) Maitland 1653!

79. HEKISTOCARPA

Hook. f.-F.T.A. 3: 65.

- 1** Stems pubescent; leaves obovate to broadly oblanceolate, acutely acuminate, acute at the base, 8-14 cm. long, 3-6 cm. broad, appressed-setulose-pubescent on both surfaces; petiole about 1.5 cm. long, setulose; stipules leafy, ovate-lanceolate, up to 1 cm. long; flowers very small; sessile in axillary secund sparsely branched cymes; calyx-teeth shortly subulate; ovary setulose; corolla glabrous, about twice as long as the calyx; anthers included [minutiflora](#)

Hekistocarpa minutiflora* Hook. f. l.c. Pl. t. 1151 (1873); F.T.A. 3: 65. *APD acc

Herb or undershrub 2-5 ft. high, trailing and forming thickets, midrib beneath often purplish; flowers white, calyx purplish; **in forest, often beside water.**

S. Nig.: Omo F.R. (fl. & fr. Feb., Mar.) Jones & Onochie FHI 16996! 17199! Calabar (Feb.) Mann 2314! Oban (May) Ujor FHI 31786! Aboabam, Ikom (Dec.) Keay FHI 281771 [**Br.**] **Cam.:** Preuss 1295! S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35188 I Olorunfemi FHI 30613! Mamfe (Dec.) Baldwin 13824 1

Also in **Cameroun**.

80. THECORCHUS

APD: *Synonym of Oldenlandia L.*

Bremek. in Verb. K. Nederl. Akad. Wetensch., Afd. Natuurk., sect. 2, 48: 54 (1952).

- 1** Annual herb with erect branches or simple, 15-25 cm. high, glabrous and slightly scabrid; stems with 4 slight ribs; leaves linear, 1-3 cm. long, 1.2-3 mm. broad; flowers 1-3 in axils, sessile, becoming shortly pedicellate in fruit; calyx-lobes narrow-triangular, about 1 mm. long, accrescent and becoming foliaceous, about 5 mm. long in fruit; corolla about 2 mm. long, anthers and style included; fruits oblong, about 5 mm. long and 2 mm. broad; ovary with 2 loculi and numerous minute seeds [wauensis](#)

Thecorchus wauensis* (Hiern) Bremek. l.c. 55 (1952), incl. var. *scabrida* Bremek. l.c. *APD acc

Oldenlandia wauensis Hiern in F.T.A. 3: 64 (1877).

O. abyssinica of F.W.T.A., ed. 1, 2: 131, partly (Chev. 23598), not of Hiern.

An erect herb 6-10 in. high; flowers white; **on sandy river banks.**

Sen.: Niokolo Koba (fr. May) Trochain 3477! **Mali:** L. Debo (May) Hagerup 155! Bani R. Chev. 1068! **Guin.:** Dabola (fr. Apr.) Pitot! **IV. C.:** Ouango-Fitini Aké Assi 5332! **Ghana:** Yapei (fl. & fr. Mar.) Adams 3918! White Volta R., near Lumbunga (Apr.) Morton A3895! Tumu (fl. & fr. Mar.) Morton GC 8889! **Dah.:** Savé to Agouagon (fl. & fr. May) Chev. 23598!

Also in **Ubangi-Shari** and **Sudan**.

81. BATOPEDINA

*Verdc., in Bull. Jard. Bot. Brux. 23: 29 (1953). *APD acc**

- 1 Perennial herb; stems simple or branched; leaves ovate to ovate-elliptic, narrow-cuneate at base, acute at apex, 2·2-2·5 cm. long, 6-9 mm. broad, with about 4 pairs of lateral nerves, pubescent on both sides, sessile; flowers axillary, solitary or paired; calyx-lobes unequal, about 1 mm. long with one lobe ovate-lanceolate, 11 mm. long, 2·7 mm. broad, 3-nerved; corolla-tube 1·5-2·2 cm. long, pilose outside, lobes 6·5 mm. long, 1·5 mm. broad; style slightly exserted, stigma bifid, anthers included; capsule ovoid, 5 mm. long [tenuis](#)

Batopedina tenuis (*A. Chev. ex Hutch. & Dalz.*) *Verdc.* in *Bull. Jard. Bot. Brux.* 23: 30 (1953). *APD acc*

Otomeria tenuis *A. Chev ex Hutch. & Dalz.*, *F.W.T.A.*, ed. 1, 2: 129 (1931); *Chev. Bot.* 310, name only.

Stems about 6 in. high from a woody perennial rootstock; flowers white; [in rock crevices](#).

Iv. C.: Sindou (May, Sept.) *Chev.* 866! Jaeger 5202! Bamfora (Aug.) Bouquet. **Ghana:** Jema, Ashanti (Oct.) Collector unknown 2538!

82. PARAPENTAS

Bremek. in *Verb. K. Nederl. Akad. Wetensch., Afd. Natuurk.*, sect. 2, 48: 50 (1952).

- 1 Straggling herb rooting at nodes, pubescence crisped and dense on young parts; leaves ovate to elliptic, 2·7-3·7 cm. long, 1-2 cm. broad, almost glabrous; petiole 2-11 mm. long; stipules with broad bases and 3-6 filiform segments up to 2·5 mm. long; inflorescences axillary, sessile and congested; corolla-tube 5 mm. long, lobes deltoid, about 2 mm. long; stigma bifid; fruits about 3 mm. long, splitting into 4 valves along the septa; seed numerous [setigera](#)

Parapentas setigera (*Hiern*) *Verdc.* in *Bull. Jard. Bot. Brux.* 23: 57 (1953). *APD acc*

Virecta setigera *Hiern* in *F.T.A.* 3: 48 (1877); *F.W.T.A.*, ed. 1, 2: 130.

Parapentas gabonica *Bremek.* l.c. 57 (1952).

A creeping or straggling herb rooting at the nodes and sending up lateral shoots; flowers white; [on the forest floor](#).

Guin.: Heudelot 866! **S. L.:** Bagroo R. (Apr.) Mann 874! Makondi, Njala (Feb.) Deighton 1571! Gbasha (Mar.) Marmo 204! Gola Forest (Nov.) Deighton 372! **Lib.:** Sangwin (Mar.) Baldwin 11313! Tappi (Dec.) Baldwin 70! **Iv. C.:** Kéeta *Chev.* 19372! Sanvi *Chev.* 17778! Tiapleu Aké Assi 5971! **S. Nig.:** Okomu F.R. (Jan.) Brenan 8529! Shasha F.R. (Apr.) Ross 216! 299! Oban Talbot 253! Cross R. North F.R. (Dec.) Keay FHI 28154! Afi River F.R. (May) Jones & Onochie FHI 18612! **F. Po:** Barter 2048! Mann 215!

Also in **Cameroun**, **Gabon**, **Cabinda**, **Congo** and **Nyasaland**.

83. OTOMERIA

Benth.-*F.T.A.* 3: 49; *Verdcourt* in *Bull. Jard. Bot. Brux.* 23: 6 (1953). *Hepper* in *Kew Bull* 14: 253(1960).

Tapinopentas *Bremek.* in *Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk.*, sect. 2, 48: 49 (1960).

- 1 Corolla-tube 15-28 mm. long; corolla red; erect or climbing plants: 2
Corolla-tube 3-5 mm. long; corolla white; inflorescence congested, elongating in fruit; leaves ovate-elliptic or ovate-lanceolate, (0·9-)2-8 cm. long, 4-40 mm. broad; erect or ascending herbs: 3
- 2 Erect herb; leaves rounded at base and very shortly petiolate, lanceolate to ovate-lanceolate, 4-9 cm. long, 1-4 cm. broad, densely pubescent to subglabrous; stems more or less pilose; inflorescence at first capitate, elongating in fruit up to 30 cm. or more long; calyx-lobes unequal, about 2 mm. long, triangular, with one linear-lanceolate lobe about 1 cm. long in fruit; corolla-tube about 1·5 cm. long, dilated above, pubescent outside; fruits turbinate, about 9 mm. long and 6 mm. broad at the top [1. elatior](#)
- Climbing slender shrub; leaves cuneate at base with slender petioles about 1·5 cm. long, elliptic to slightly ovate-elliptic, 3·5-10 cm. long, 1·5-3·5 cm. broad, sub-glabrous; stems glabrous below, shortly pubescent above; inflorescence remaining congested; calyx-lobes foliaceous, unequal, 6-10 mm. long, 2·5-3 mm. broad; corolla-tube 1·8-2·8 cm. long, slender and slightly dilated above, minutely pubescent; fruits oblong, 8-10 mm. long, 3·5-5 mm. broad [2. volubilis](#)
- 3 Inflorescence in fruit 15-34 cm. long, rather stout, simple: 4
Inflorescence in fruit 3-5 cm. long, slender, with 1-3 small branches; fruits ovoid [5. cameronica](#)
- 4 Fruits oblong, about 6 mm. long; calyx-lobes lanceolate [3. guineensis](#)

Fruits obconical about 2mm. long; calyx-lobes broadly ovate *4. sp. A*

1. **Otomeria elatior** (*A. Rich. ex DC.*) *Verdc.* in Bull. Jard. Bot. Brux. 23: 18, fig. 3 A-D (1953). *APD acc*

Sipanea elatior *A. Rich. ex DC.* (1830).

Otomeria dilatata *Hiern* in F.T.A. 3: 50 (1877); F.W.T.A., ed 1, 2: 129; Chev. Bot. 310.

Erect herb, 2-3 ft. high, sparingly branched; flowers scarlet to pink; **in open marshes amongst grass.**

Mali: Sikasso Chev. 789. **Guin.:** Bouhong (June) Pobéguin 736! Férédougouoa B. (July) Collenette 68! Kouria Caille in Hb. Chev. 15026. Irébéléya to Timbo Chev. 18339. Erimakuna (fl. & fr. Mar.) Sc. Elliott 5239! 5392! **S. L.:** Jigayo (fl. & fr. Sept.) Thomas 2503! **Iv. C.:** Marabadiassa to Gottoro (July) Chev. 22027! **Ghana:** Busunu (fl. & fr. May) Vigne FH 3849! Damongo (Mar.) Morton GC 8714! Gambaga (Mar.) Hepper & Morton A3140! **N. Nig.:** Abinsi (June) Dalz. 751! Andaha (fl. & fr. Feb.) Hepburn 137! Nupe Barter 1237! **[Br.] Cam.:** Bamenda (fl. & fr. May) Maitland 1428! Mambila Plateau Chapman 57!

Also in **Cameroun, Congo, Angola, Mozambique, Nyasaland, N. and S. Rhodesia, Tanganyika, Kenya, Uganda** and **Sudan.**

2. **Otomeria volubilis** (*K. Schum.*) *Verdc.* in Kew Bull. 7: 361 (1952); Bull. Jard. Bot. Brux. 23: 26, fig. 3E. *APD acc APD acc APD acc*

Pentas volubilis *K. Schum.* (1897)-F.W.T.A., ed. 1, 2: 129.

Otomeria batesii *Wernham* (1916)-F.W.T.A., ed. 1 2: 129.

A wiry-stemmed twining plant, nearly glabrous; flowers red; **in forest.**

S. Nig.: Degema Talbot 3608! **[Br.] Cam.:** Barombi (Sept.) Preuss 471! Kumba to Ikiliwinda Preuss 393

Also in **Cameroun, Congo** and **Uganda.**

3. **Otomeria guineensis** *Benth.* in Fl. Nigrit. 405 (1849); F.T.A. 3: 49; F.W.T.A., ed. 1,2: 129, partly (T. Vogel 39; Ansell; Linder 1558). *Verdc.* in Bull. Jard. Bot. Brux. 23: 14, fig. 3F, G (excl. A. S. Thomas D140) *APD acc*

Erect, more or less branched herb 1-2 ft. high; flowers white; **in grassy places.**

Lib.: Grand Bassa (fl. & fr. July) T. Vogel 39! Monrovia Farmar 355! White Plains (fl. & fr. June) Barker 1344! R. Sanou McWilliam! Sinoe Basin Whyte! **S. Nig.:** Isuofla, Awka Dist. (fl. & fr. May) Jones FHI 6526! Port Harcourt (fl. Sept., fl. & fr. Mar., June) Brenan 9223! Maitland D! Ideno, Eket Dist. (fl. & fr. May) Onochie FHI 32093!

Also in **Gabon, Congo** and **S. Tomé.**

4. **Otomeria sp. A.** *APD acc*

Otomeria micrantha (?) of *Verdc.* l.c. 12, partly (Jones & Onochie FHI 18993), not of K. Schum.

Herb, more or less erect.

Guin.: Bambaya (fl. & fr. Aug.) Jaeger 859! **S. Nig.:** Afi River F.R., Ogoja (fl. & fr. June) Jones & Onochie FHI 18993!

5. **Otomeria cameronica** (*Bremek.*) *Hepper* in Kew Bull. 14: 253 (1960). *APD acc*

Tapinopentas cameronica *Bremek.* in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk., Sect. 2, 48: 49 (1952).

T. latifolia *Verdc.* in Bull. Jard. Bot. Brux. 23: 60 (1953).

Otomeria guineensis of F.W.T.A., ed. 1, 2: 129, partly Williams 247; Dunlap 140); of *Verdc.* l.c. 14, partly (A. S. Thomas D140).

Creeping herb from a strong rootstock, much-branched and with erect shoots 1-3(-4) ft. high; flowers whitish; **in or near upland forest.**

S. L.: Loma Mts. summit, 6,390 ft. (fl. Aug., fr. Nov.) Jaeger 402! 991! Bakshi 257! **Iv. C.:** Nimba Mts. (Aug.) Boughey 18085! Schnell 1503! Mt. Dou Chev. 21488! **Ghana:** Bompata (May) Chipp FH 442! Sesiamang (Feb.) A. S. Thomas D140! Ijang F.R. (fr. Apr.) Williams 247! Amedzofe (fl. & fr. Apr.) Hall 17581 **Dah.:** Atacora Mts. (June) Villiers! **[Br.] Cam.:** Buea, 3,000 ft. (Jan.) Maitland 277! Dunlap! W1 Bamenda, 6,000 ft. (Jan., Apr.) Maitland 17541 Migeod 354! Bafut-Ngamba F.R., 7,000 ft. (Feb., Apr.) Hepper 2083! Ujor FHI 30020! Kakara, 4,700 ft., Mambila Plateau (Jan.) Hepper 1795! **F. Po:** Moka (Sept.) Boughey 2! Melville 679!

Also in **Cameroun.**

[Note: The Sierra Leone specimens are not quite uniform with the other specimens cited.-F.N.H.]

84. PENTAS

APD: Synonym of Phyllopentas (Verdc.) Kårehed & B. Bremer

Benth.-F.T.A. 3: 45; Verdcourt in Bull. Jard. Bot. Brux. 23: 237 (1953).

- 1 Corolla-tube 35-80 mm. long, pubescent, lobes 6-11 mm. long; inflorescences densely capitate; leaves lanceolate, subsessile, acute, 6-9 cm. long, 2-3 cm. broad, minutely pubescent above and on the 7-8 nerves beneath [1a. *decora* var. *triangularis*](#)
Corolla-tube 4-13 mm. long:2
- 2 Inflorescences densely capitate, 1.3-2.5 cm. diam., sessile and subtended by 2 leafy bracts; corolla-tube about 5 mm. long, finely pubescent; leaves lanceolate, ovate-lanceolate or oblong-lanceolate, subsessile, acute, 4.5-11.5 cm. long, 1.3-2 cm. broad, reticulate beneath [2. *purpurea*](#)
Inflorescences more or less lax, often spreading, not sessile:3
- 3 Corolla-tube 9-13 mm. long; calyx-lobes about 8 mm. long, subequal, subulate; leaves ovate-elliptic, acute, 8-15 cm. long, 3-6.3 cm. broad, nerves ferrugineous beneath; distinctly petiolate [5a. *schimperiana* subsp. *occidentalis*](#)
Corolla-tube 4-5 mm. long; calyx-lobes not subulate, unequal, usually with one lobe extended:4
- 4 Tufted herb appearing after fires; leaves obtuse or subacute at apex, oblong-lanceolate, 2.5-8 cm. long, 4-20 mm. broad, subsessile, with about 6 nerves on each side; calyx-lobes oblong, up to 2.5 mm. long, subequal [4. *arvensis*](#)
Tall half-woody herbs; leaves acuminate or acute, lanceolate, with about 10 nerves on each side:5
- 5 Calyx and corolla outside subglabrous; leaves petiolate, 3-15 cm. long, 1.2-5 cm. broad, with rather thin texture [6a. *pubiflora* subsp. *bamendensis*](#)
Calyx and corolla outside densely and minutely puberulous; leaves sessile, 4-10 cm. long, 1-2.5 cm. broad, with rather thick texture [3. *nervosa*](#)

1. ***Pentas decora* S. Moore** in J. Bot. 48: 219 (1910); Verdc. in Bull. Jard. Bot. Brux. 23: 287 (1953). *APD acc*

- 1a. ***Pentas decora* var. *triangularis* (De Wild.) Verdc.** l.c. 291 (1953). *APD acc*

***Pentas triangularis* De Wild.** (1914).

***Pentas globiflora* Hutch.** in Kew Bull. 1921: 374, fig. 5; F.W.T.A., ed. 1, 2: 129.

Erect herb 1-2 ft. high; flowers white, fragrant; **in upland grassland.**

Guin.: Beyla (June) Jac.-Fél. 966! Bondou (July) Martine 367! Macenta Milo (Aug.) Adam 5901! **N. Nig.:** Jos Plateau (June) Lely P396! Mongu, 4,300 ft. (July) Lely 386! Hoss road (Aug.) Keay FHI 12715! **[Br.] Cam.:** Ninong, Kumba (May) Collier FHI 10111! Bamenda, 5,500 ft. (Apr., May) Ujor PHI 30317! Maitland 1433! Maisamari, Mambila Plateau (June) Chapman 50!

Also in **Cameroun, Congo, Uganda, Kenya** and **Tanganyika**.

2. ***Pentas purpurea* Oliv.** in Trans. Linn. Soc. 29: 83 (1873); F.T.A. 3: 46; Verdc. l.c. 330. *APD acc*

Erect simple herb 1-2 ft. high, from a woody rootstock; flowers mauve; **in upland grassland.**

[Br.] Cam.: Bamenda Prov.: Bum, 4,000 ft. (June) Maitland 1602! Lakom 6,000 ft. (May) Maitland 1371! Bafut-Ngemba F.R., 6,000-7,000 ft. (Feb., Mar.) Hepper 2102! Richards 5303! Vogel Peak, 5,400 ft., Adamawa (fr. Nov.) Hepper 1501!

Also in **Congo, Tanganyika, Mozambique** and **S. Rhodesia**.

[A specimen (Migeod 449) from Bamenda with leaves in whorls of 3 is considered by Verdc. l.c. 334 to be a possible variety of the above, or even a new species. Pitot 1154 bis (in Hb. I.F.A.N.) also has whorled leaves and a laxer, more ciliate inflorescence-F.N.H.]

3. ***Pentas nervosa* Hepper** in Kew Bull. 14: 254 (1960), and in Kew Bull. 16: 457, fig. 2 (1963). *APD acc*

Erect slightly-branched herb about 2 1/2 ft. high, from a woody rootstock; flowers pale mauve; [in upland grassland](#).

[Br.] Cam.: Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1535!

4. **Pentas arvensis** *Hiern* in F.T.A. 3: 47 (1877); Verdc. l.c. 335, fig. 35E, F. *APD acc*

Tufted herb up to 1 ft. high, from perennial rootstock; flowers white or pink; [appearing in upland grassland after fires](#).

N. Nig.: Vom, Jos Plateau (Jan.) Lely P26! Dent Young 120!

Also in [Ubangi-Shari](#), [Sudan](#), [Uganda](#) and [Kenya](#).

5. **Pentas schimperiana** *subsp. schimperiana* -in *Linnaea* 40: 192 (1876); Verdc. l.c. 263.

APD: Synonym of Pentas schimperi (Hochst.) Wieringa subsp. schimperi

5a. **Pentas schimperiana** *subsp. occidentalis* (*Hook f.*) Verdc. l.c. 266 (1953).

APD: Synonym of Pentas schimperi subsp. occidentalis (Hook. f.) Wieringa

Vignaldia occidentalis *Hook. f.* (1864).

Pentas occidentalis (*Hook. f.*) *Benth. & Hook.* ex *Hiern* in P.T.A. 3: 46 (1877).

Half-woody herb 4-7 ft. high; flowers pale pink, fragrant; [in moist places in montane grassland](#).

[Br.] Cam.: Cam. Mt., 4,400-8,500 ft. (Nov.-May) Mann 1227! Maitland 988! Keay FHI 28596! Brenan 9385! Mbakakeka Mt., 6,500 ft. (Jan.) Keay FHI 28389! Kumbo to Oku, 6,500 ft. (fl. & fr. Feb.) Hepper 2007! Ndu (fl. & fr. Jan.) Keay & Russell FHI 28435! F. Po: 8,500 ft. Mann! Pico Guinea 2724! L. Biao (Sept.) Melville 674!

Also in [S. Tomé](#), [Cameroun](#) and [Congo](#).

6. **Pentas pubiflora** *S. Moore* in J. Linn. Soc. 38: 254 (1908); Verdc. l.c. 327. *APD acc*

6a. **Pentas pubiflora** *subsp. bamendensis* Verdc. l.c. 329 (1953).

APD: Synonym of Pentas ledermannii K. Krause

Erect herb with reddish hairs; flowers bluish with white lobes; [at edge of montane forest](#).

S. Nig.: Ikwette, Obudu Div. (fl. & fr. Dec.) Savory & Keay FHI 25231! [Br.] Cam.: Lakom, Bamenda (Apr.-May) Maitland 1422! 1653! 1743! Oku (fl. & fr. Feb.) Hepper 2051!

Besides the above, a form of *P. lanceolata* (Forsk.) Defflers is cultivated in Sierra Leone and Ghana. It is an undershrub with pink flowers; probably native on the Comoros but long cultivated.

85. RICHARDIA

Linn.-F.T.A. 3: 242.

- 1 Herb; stems pubescent to pilose; ovate to obovate, 1-3 cm. long, 7-20 mm. broad, coarsely pubescent on both sides, shortly petiolate or sessile; flowers clustered in terminal heads subtended by leafy sheathing bracts; corolla 4-5-lobed, valvate in bud; stamens 4-5, shortly exserted, inserted in throat of corolla; ovary 3-celled; fruit splitting longitudinally into 3 indehiscent cocci, muricate and pubescent outside, broadly obovoid, 2 mm. long[brasiliensis](#)

Richardia brasiliensis *Gomez* Mem. Ipecac. 31, t. 2 (1801). *APD acc*

Richardia scabra of F.T.A. 3: 242, not of Linn.

A hairy, branched prostrate herb with stems up to a foot long; flowers white; [introduced weed](#).

[Ghana](#): near Achimota (fl. & fr. Apr.) Akpabla 1868! S. Nig.: Apapa, Lagos (fl. & fr. June) Onochie FHI 23303!

Introduced from S. America into many places in Africa and other parts of the tropics and sub-tropics.

86. DIODIA

APD: Synonym of Diodella Small

Linn.-F.T.A. 3: 230.

- 1 Calyx-lobes 2, 3 mm. long in fruit; corolla about 7 mm. long; fruit 2.5 mm. long; leaves ovate to obovate 1.5-3 cm. long, 7-18 mm. broad, with about 4 pairs of lateral nerves, rounded or subacute at apex, cuneate into a short petiole at base, not fleshy, glabrous with scabrid margins above [1. rubricosa](#)
Calyx-lobes 4: **2**
- 2 Leaves without visible lateral nerves (even in dry state), fleshy, linear-lanceolate to ovate-oblong, 2-4 cm. long, 6-9 mm. broad, glabrous, margin ciliate towards base, internodes usually congested or with congested short-shoots arising at more widely spaced nodes of long-shoots; flowers solitary; corolla 1 cm. long; fruits 5-6 mm. long; coastal species [2. vaginalis](#)
Leaves with distinct lateral nerves, not or hardly (in No. 3) fleshy: **3**
- 3 Flowers solitary or subsolitary; fruits 5-6 mm. long, glabrous; leaves lanceolate to elliptic, 2-4 cm. long, 6-15 mm. broad, stiffly acute, margins scabrid, glabrous or scabrid-pubescent on both sides, subsessile; internodes congested or distinct; stems stout; coastal species [3. serrulata](#)
Flowers several together in axillary clusters; fruits 3-4 mm. long, glabrous or pubescent; leaves ovate to ovate-lanceolate, 2.5-5 cm. long, 1-2.5 cm. broad, more or less pubescent beneath and scabrid above, shortly petiolate; internodes long; stems slender; inland species [4. scandens](#)

1. **Diodia rubricosa** *Hiern* in F.T.A. 3: 231 (1877); Chev. Bot. 348, partly. *APD acc*

Diodia scandens of F.W.T.A., ed. 1, 2: 133, partly (Whyte), not of Sw.

A prostrate creeping herb, stems rooting at the nodes, a few inches to 2 ft. long; flowers whitish or pale pink.

S.L.: Afzelius! Yele, Turtle Isl. (fl. & fr. Nov.) Deighton 2301! **Lib.:** Sinkor (fr. June) Barker 1354! Sinoe Basin Whyte! Gletown, Tchien Dist. (fl. & fr. July) Baldwin 6750! **iv. C.:** Bingerville Chev. 16080! Lamé (Oct.) Leeuwenberg 1731! Adiopodoumé (Oct.) Leeuwenberg 1703! **Ghana:** Prah R., Ashanti Irvine 664! Aburl (fl. & fr. Mar., Aug.) Deighton 605! Johnson! Princes Town (Feb.) Morton A1641! **S. Nig.:** Badagry (fl. & fr. Aug.) Onochie FHI 33468! Oron to Eket Talbot!

2. **Diodia vaginalis** *Benth.* in Fl. Nigrit. 424 (1849); F.T.A. 3: 232. *APD acc*

Prostrate herb with fleshy stems and leaves; flowers white or pink; [on the seashore near high-water mark.](#)

S. L.: York Smythe! Lumley (Aug.) Jordan 781! Tisana, Bonthe Isl. (Nov.) Deighton 2352! **Lib.:** Monrovia Baldwin 5828! 10991! Harley 1093! Grand Bassa T. Vogel 68! **Ghana:** Half Assinie (July) Chipp 273! **Togo Rep.:** Schinz! **S. Nig.:** Brass Barter 50! Nun R. T. Vogel 21! Badagry (Aug.) Onochie FHI 33483!

Also in **Cameroun.**

3. **Diodia serrulata** (*P. Beauv.*) *G. Tayl.* in Exell Cat. S. Tomé 220 (1044). *APD acc*

APD: Synonym of Diodia flavescens Hiern

Spermacoce serrulata *P. Beauv.* Fl. Oware 1: 39, t. 23 (1805).

Diodia maritima *Thonning* (1827)-F.T.A. 3: 231; F.W.T.A., ed. 1, 2: 133; Chev. Bot. 347; Berhaut Fl. Sén. 78.

Prostrate herb with stems 1 to several ft. long rooting at nodes, rarely scandent, or somewhat tufted; flowers white; [on the seashore near high-water mark.](#)

Sen.: Farmar 102! Casamance Heudelot 572! Niayès Chev. 2012. Dakar (fr. Jan.) Adam 275! **Port. G.:** Ilha de Pecixe, Canchungo (fr. May) Esp. Santo 2050! Conakry Paroisse 220! **S. L.:** Mahera (fl. & fr. Oct.) Glanville 446! Turtle Isl. (fl. & fr. Nov.) Deighton 2312! Mano Salija (fl. & fr. Nov.) Deighton 277! **Lib.:** Monrovia (fl. & fr. Oct.-Dec.) Linder 1427! Baldwin 10915! Harley 1676! **iv. C.:** Sassandra port Chev. 17924! Petit Bassam Hedin 2532! **Ghana:** Atwabo Fishlock 91! Esiamia (fl. & fr. May) C. J. Taylor FH 5295! Axim (Feb.) Irvine 2311! **Dah.:** Cotonou (fl. & fr. Apr.) Debeaux 164! **S. Nig.:** Oware Beauvois! Lagos MacGregor 359! Dalz. 1380! Nun B. (fl. & fr. Aug.) T. Vogel 2! Mann 465! Stubbs Creek F.R., Eket Dist. (fl. & fr. May) Onochie FHI 32941! **[Br.] Cam.:** Victoria (fl. & fr. Feb.) Maitland 1347!

Also in [Cameroun](#), [Angola](#) and [C. America](#).

4. *Diodia scandens* Sw. Prod. Veg. Ind. Occ. 30 (1788); Berhaut Fl. Sén. 78.

APD: *Synonym of Diodia sarmentosa* Sw.

Diodia breviseta Benth. (1849)-F.T.A. 3: 231; Chev. Bot. 347.

Diodia rubricosa of Chev. Bot. 348, partly, not of Hiern.

Spermacoce pilosa (Schum. & Thonn.) DC. (1830)-F.T.A. 3: 235; F.W.T.A., ed. 1, 2: 135.

(?) *S. palmatorum* DC. (1830)-Hepper in Kew Bull. 14: 257.

Diodia pilosa Schum. & Thonn. (1827).

Straggling herb with slender stems several feet long and scabrid leaves; flowers whitish; [in thickets](#).

Sen.: Niayes Berhaut 1323. Cayor Leprieur! **Fr. Sud.:** Médinani (fr. Feb.) Chev. 507! **Port. G.:** Antula, Bissau (fr. Feb.) Esp. Santo 1474! **Guin.:** Conakry Chev. 12160! **S. L.:** Freetown (June) T. Vogel 107! Magbile (fr. Dec.) Thomas 6300! Yonibana (fr. Nov.) Thomas 5047! Njala (fl. & fr. July) Deighton 723! **Lib.:** Monrovia Whyte! Grand Bassa (fl. & fr. July) T. Vogel 84! Ganta (fr. Aug.) Harley 811! **Iv. C.:** Sanvi Chev. 17819! **Ghana:** Sekondi (fl. & fr. Oct.) Howes 985! Akropong, Akwapim (fl. & fr. Aug.) Irvine 768! Dormaa (fl. & fr. Dec.) Adams 3001! Kpandu Asamany 118! **Dah.:** Cotonou (July) Debeaux 155! **N. Nig.:** Nupe Barter 1722! Tilde Filani, 3,300 ft. Lely 225! Vom, 4,000 ft. Dent Young 124! Abinsi (fr. Mar.) Dalz. 633! **S. Nig.:** Lagos (fl. & fr. May) Dalz. 1381! Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8440! Sapoba (fl. & fr. Nov.) Meikle 591! Milliken Hill, Enugu (fl. & fr. Mar.) Hepper 2214! Oban Talbot 206! **[Br.] Cam.:** Victoria, on 1922 lava (fl. & fr. June) Rosevear 48/37! Bellel, Mambila Plateau (fl. & fr. Jan.) Hepper 1696! **F. Po:** T. Vogel 63! Mann 403!

Widespread in tropical Africa, also in Mascarene Islands, tropical Asia and tropical America.

Diodia arenosa DC. Prod. 4: 564 (1830).

Tentatively referred to that species in Fl. Nigrit. 423 and F.T.A. 3: 231.? S. L.: Don (not traced).

87. BORRERIA

APD: *Synonym of Spermacoce* L.

G.F.W. Mey. Prim. Fl. Esseq. 79 (1818), nom. cons.

Spermacoce of F.T.A. 3: 233, not of Linn.

Octodon Thonn.-F.T.A. 3: 241; F.W.T.A., ed. 1, 2: 135; Hepper in Kew Bull. 14: 260 (1960).

- 1 Stems pilose or densely pubescent (hairs not merely in vertical lines):.....2
Stems glabrous or hairy on the angles (in No. 7 sometimes pilose below the stipular sheath):..... 11
- 2 Leaves with a very thick nerve along the margin, lamina linear, 3-5 cm. long, 4-6 mm. broad, sharply acute at apex, glabrous, lacking visible lateral nerves; stipules pubescent outside, with several filiform segments 6-10 mm. long; flowers in congested terminal or subterminal heads, surrounded by numerous long leaves [1. radiata](#)
Leaves without a thick marginal nerve:.....3
- 3 Corolla very large, 3-5 cm. long, lobes and tube above sparsely pilose; stems densely pilose; leaves lanceolate, 3-9 cm. long, 8-18 mm. broad, with about 6 lateral nerves on each side of and almost parallel to the midrib, deeply impressed above and prominent beneath; scabrid and pubescent, sessile; calyx-lobes about 5 mm. long [14. macrantha](#) var. [macrantha](#)
Corolla up to 1 cm. long:.....4
- 4 Stems narrowly 4-winged, shortly pubescent; leaves ovate to obovate, 3-4.5 cm. long, 1.5-2.5 cm. broad, shortly pubescent on both sides, subsessile; flowers in axillary clusters; calyx-lobes 1 mm. long; corolla 3 mm. long [2. latifolia](#)
Stems terete or 4-angled, not winged:.....5
- 5 Perennial herbs, straggling, or tufted and ascending; corolla 1 cm. long:6
Annual herbs more or less erect:.....8
- 6 Leaves broadly ovate, 2-5 cm. long, 1.5-2.5 cm. broad, with 5-6 pairs of lateral nerves, more or less rounded at base and acuminate at apex, shortly petiolate; stipule segments filiform, 9-11 mm. long; flowers few in axils [17a. princeae](#) var. [pubescens](#)

- Leaves lanceolate or linear-lanceolate:.....7
- 7 Leaves pubescent above not harshly scabrid, lanceolate, 2-6 cm. long, 8-25 mm. broad, with 3-4 pairs of lateral nerves, cuneate at base, acute at apex, shortly petiolate; stipule segments filiform, 5 mm. long; flowers in terminal or subterminal clusters[3. saxicola](#)
- Leaves harshly scabrid above, linear to linear-lanceolate; (for other characters see below)[6. stachydea var. stachydea](#)
- 8 Calyx-lobes about 1 mm. long; flowers numerous in spherical, terminal and axillary heads; corolla 3 mm. long; fruits 1.5-2 mm. long, densely pubescent above; leaves linear 2-5 cm. long, 3-8 mm. long, scabrid above; stems sparsely pilose[4. filiformis](#)
- Calyx-lobes and fruits 2-5 mm. long:.....9
- 9 Leaves pubescent above, not harshly scabrid; (for other characters see above)[3. saxicola](#)
- Leaves harshly scabrid above, linear to linear-lanceolate, 3-9 cm. long, 5-16 mm. broad:10
- 10 Bracteate leaves narrowed at base; fruits 3 mm. long; calyx-lobes 3 mm. long[5. scabra](#)
- Bracteate leaves broadened at base, subtending most flowers of each inflorescence or at least reduced to a broad bract with a short leafy part; inflorescence in fruit very distended; fruits 4-5 mm. long; calyx-lobes 4 mm. long[6. stachydea var. stachydea](#)
- 11 Flowers small and numerous, often in globose heads, with corolla up to 3 mm. long; calyx-lobes 0.5-1 mm. long; fruits 1-3 mm. long:.....12
- Flowers rather few and corolla 4-50 mm. long; calyx-lobes 3-5 mm. long; fruits 2-5 mm. long:21
- 12 Stems square, hairy or ciliate on the angles; stipular sheaths pubescent:13
- Stems obscurely angled, glabrous; stipular sheaths glabrous or scabrid:.....15
- 13 Leaves linear-lanceolate, 3-7 cm. long, 2-15 mm. broad, slightly pubescent on both sides and scabrid above; inflorescences in fruit up to 2 cm. diam.; fruits 2-3 mm. long; filiform bracteoles between flowers few:14
- Leaves ovate to ovate-lanceolate, 1.5-3 cm. long, 5-12 mm. broad, glabrous and smooth on both sides, midrib more or less pubescent beneath; inflorescences in fruit up to 5 mm. diam.; fruits 1 mm. long[8. ocymoides](#)
- 14 Main stem stout; leaves 4-15 mm. broad[7. chaetocephala var. chaetocephala](#)
- Main stem slender; leaves 2-4 mm. broad[7a. chaetocephala var. minor](#)
- 15 Terminal inflorescence globose, 1-1.5 cm. diam., usually with 2 leafy bracts about 1 cm. long reflexed beneath; leaves oblanceolate, 3-5 cm. long, 5-10 mm. broad, glabrous, with faint lateral nerves[9. verticillata](#)
- Terminal inflorescence, if any, overtopped by leafy bracts:16
- 16 Perennial herbs:.....17
- Annual herbs with main stems and lateral branches; usually lowland plants:18
- 17 Inflorescences mainly terminal about 1 cm. diam., hard, with the flowers almost obscured by numerous filiform bracteoles; (for other characters see below)[13. octodon](#)
- Inflorescences numerous, at most nodes, about 7 mm. diam. in fruit, with few bracteoles; fruits glabrous; stems slender, branching near the base, 30-60 cm. long; leaves linear to linear-lanceolate, 1-4 cm. long, 3-10 mm. broad; upland plant[10. natalensis](#)
- 18 Inflorescences with numerous filiform bracteoles between, and the same length as, the flowers:19
- Inflorescences with few bracteoles between, and much shorter than, the flowers; calyx-lobes minute; fruits glabrous, 2 mm. long; leaves linear (3-) 5-9 cm. long, 4-7 mm. broad, glabrous, scabrid above ...[15. paludosa](#)
- 19 Calyx-lobes acute, lanceolate, about 1 mm. long; fruits more or less pubescent at apex, 1 mm. long; leaves linear, 2-4 cm. long, 3-6 mm. broad, glabrous minutely scabrid above[11. pusilla](#)
- Calyx-lobes obtuse, minute:20
- 20 Stipular sheath glabrous; leaves filiform, 4-7 cm. long[12. filifolia](#)
- Stipular sheath pubescent; leaves linear or linear-lanceolate, 6-10 cm. long[13. octodon](#)
- 21 Corolla very large, 4-5 cm. long; whole plant glabrous; leaves lanceolate, 6-8 cm. long, 1.5-2 cm. broad, with scabrid margins; calyx-lobes about 5 mm. long[14a. macrantha var. glabra](#)
- Corolla 4-15 mm. long:22
- 22 Leaves linear-lanceolate; plants glabrous or nearly so:23
- Leaves ovate to ovate-lanceolate, 2-5 cm. long, 1-2 cm. broad, more or less hairy above and on the nerves beneath:24
- 23 Calyx-lobes denticulate or hispid on margins, 3-5 mm. long; fruits 2-3 (-5) mm. long; leaves 4-9 cm. long, 3-10 (-21) mm. broad, scabrid above; bracteate leaves more or less reflexed; corolla 7-15 mm. long .[16. compressa](#)
- Calyx-lobes entire and glabrous, 3 mm. long; fruits 5 mm. long; leaves 3-5.5 cm. long, 3-10 mm. broad, smooth above; bracteate leaves erect, broad at base[6a. stachydea var. phyllocephala](#)

- 24** Stipular sheaths longer than broad, (5-) 7-9 mm. long, with filiform segments rather longer; calyx-lobes 4 mm. long; leaves ovate to ovate-lanceolate, shortly acuminate, slightly scabrid near margins above, with about 6 pairs of lateral nerves deeply impressed above; short petiole adnate to stipular sheath [17. princeae var. princeae](#)

Stipular sheaths broader than long, 2-3 mm. long, obscure when in fruit, with filiform segments about 2 mm. long; calyx-lobes 1.5 mm. long; leaves ovate, long-acuminate, smooth above, with about 5 pairs of lateral nerves hardly impressed above; petiole rather long [18. intricans](#)

1. *Borreria radiata* DC. Prod. 4: 542 (1830); F.W. Andr. Fl. Pl. A.-E. Sud. 2: 427; Berhaut Fl. Sén. 79.

*APD: Synonym of *Spermacoce radiata* (DC.) Hiern*

Spermacoce radiata (DC.) Sieber ex Hiern in F.T.A. 3: 237 (1877); Chev. Bot. 349.

An erect hispid herb half-woody below, stems often reddish-purple, about 1 ft. high; flowers very small, white or mauve, with leaves radiating from the congested terminal heads; [in savanna](#).

Sen.: Heudelot 416! Sieber 8! Berhaut 435. **Gam.:** Hayes 572! Saunders 89! **Mali:** Timbuktu Chev. 1307! Koulikoro Chev. 2117! Ségou Chev. 2811! **Ghana:** Dutukpene (Dec.) Adams 4651! Sandema (Sept.) Hughes FH 5342! **Togo Rep.:** Basari Kersting A668! **N. Nig.:** Nupe Barter 989! Bida to Zungeru (Oct.) Hepper & Keay 954! Katagum Dalz. 166! Sokoto Moiser 83! Naraguta (Sept.) Lely 567! **S. Nig.:** Olokemeji to Iseyin (Nov.) Hamblen 78! Awba Hills F.R., Ibadan (Oct.) Jones FHI 7066! Eruwa to Lanlate (Oct.) Keay & Savory FHI 25294! **[Br.] Cam.:** Gurum, Adamawa Hepper 1290!

Extends east to the [Sudan](#) and [Uganda](#).

2. *Borreria latifolia* (Aubl.) K. Schum. in Mart. Fl. Bras. 6, 6: 61 (1888).

*APD: Synonym of *Spermacoce latifolia* Aubl.*

Spermacoce latifolia Aubl. (1775).

Straggling herb with square slightly winged stems 1-2 ft. long, leaves and stems yellow-green; flowers blue or pink; [introduced weed](#).

S. L.: Newton (fl. & fr. Sept.) Deighton 4879! 6001! **Lib.:** Ganta Harley 2171! Kitoma Adam 16552! **Iv. C.:** Adiopodoumé (fl. & fr. Oct.) Leeuwenberg 1702! **Ghana:** Kumasi (fl. & fr. Sept., Nov.) Darko 346! 473!

A native of tropical S. America.

3. *Borreria saxicola* K. Schum. in Engl. Bot. Jahrb. 28: 112(1899).

*APD: Synonym of *Spermacoce spermacocina* (K. Schum.) Bridson & Puff*

Herb with ascending or hanging, tufted stems 1-2 ft. long; flowers white; [in rock crevices](#).

N. Nig.: Wana, Jos Plateau (Sept.) Hepburn 127! Naraguta (Aug.) Lely 491! Dogon Kurmi, Jemaa (Aug.) Killick 36! Gawu Hills, Niger Prov. (Aug.) Onochie FHI 35929! **[Br.] Cam.:** Bafut-Ngemba F.R., 6,000 ft., Bamenda (Sept., Oct.) Lightbody FHI 26254! 26260! Binka, 6,500 ft., Nkambe Div. (Sept.) Savory UCI 378! Vogel Peak, 4,700 ft., Adamawa (Nov.) Hepper 1349!

Also in [Cameroun](#).

4. *Borreria filiformis* (Hiern) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 135 (1931).

*APD: Synonym of *Spermacoce filiformis* Hiern*

Spermacoce filiformis Hiern in F.T.A. 3: 234 (1877).

Erect annual herb with pilose stems 6-18 in. high, often tinged pink or purple; flowers white; [in crevices of rock out-crops](#).

N. Nig.: Nupe Barter 1720! Gwari Hills, Niger Prov. (Aug.) Onochie FHI 35911! Kufena, Zaria (Aug.) Keay FHI 28020! Naraguta (Aug.) Lely 503! **S. Nig.:** Fashola to Oyo (fr. Oct.) Onochie FHI 34923! Ado Rock, Oyo (Oct.) Keay & Savory FHI 25445!

5. *Borreria scabra* (Schum. & Thonn.) K. Schum. in Pflanzenw. Ost.-Afr. C: 385 (1895).

*APD: Synonym of *Spermacoce senensis* (Klotzsch) Hiern*

*APD: Synonym of *Spermacoce ruelliae* DC.*

Diodia scabra Schum. & Thonn. (1827).

Spermacoce ruelliae DC. (1830)-F.T.A. 3: 238.

Borreria ruelliae (DC.) K. Schum. ex H. Thoms (1909)-F.W.T.A., ed. 1, 2: 135; Chev. Bot. 349; F.W. Andr. Fl. Pl. A.-E. Sud. 2: 428; Berhaut Fl. Sén. 80.

Borreria stachydea of F.W.T.A., ed. 1, 2: 135, partly (Chev. 22285); Chev. Bot. 349 not of (DC.) Hutch. & Dalz.

Erect herb with or without branches, scabrid and coarsely pubescent about 1 ft. high; flowers white, sometimes pink; **a weed**.

Sen.: Berhaut 1137. Galam Heudelot 278! **Mali:** fide Chev. I.c. Dioura (Aug.) Davey 28! **Port. G.:** Gabu (Oct.) Esp. Santo 3494! **Guin.:** Pobéguin 342! Nzérékoré Baldwin 9735! **S. L.:** Freetown (June, Sept.) T. Vogel 72! Hepper 920! Kitchom, R. Scarcies (fr. Dec.) Sc. Elliot 4338! Gberia Fotombu (Sept.) Small 291! Musaia (Sept.) Small 239! **Iv. C.:** Nzi (Aug.) Chev. 22285! Toumodi Boughey GC 18555! Lopou (Dec.) Leeuwenberg 2323! **Ghana:** Accra T. Vogel! Nungua, Accra Plains (fr. June) Ankrah GC 20185! Sunyani (Sept.) Vigne FH 2461! Zuarungu (Sept.) Hughes FH 5336! **Togo Rep.:** Lomé Warnecke 47! **Dah.:** Le Testu 138! Burton! **N. Nig.:** Stirling, Lokoja (fl. & fr. Sept.) T. Vogel 157! Nupe Barter 442! Lemu, Niger Prov. (Oct.) Hepper & Keay 951! Kontagora Dalz. 216! Naraguta (Aug.) Lely 474! **S. Nig.:** Attah (fr. Sept.) T. Vogel 53! Lagos Rowland! Ibadan (Aug.) Newberry 57! Olokemeji F.R. (Aug.) Keay FHI 37149! Obudu (Aug.) Stone 71! [**Br.**] **Cam.:** Bum, Bamenda Div. (May) Maitland 1358! **F. Po:** Moka (Aug.) Melville 404!

Also in **Cameroun**, the **Congoa**, **Sudan**, **Uganda**, **Kenya**, **N. and S. Rhodesia**, **Nyasaland** and **Angola**.

Borreria stachydea (DC.) Hutch. & Dalz.

*APD: Synonym of *Spermacoce stachydea* DC.*

6. *Borreria stachydea* var. *stachydea* -F.W.T.A., ed. 1, 2: 135 (1931); Berhaut Fl. Sén. 80. *APD acc*

Spermacoce stachydea DC. (1830)-F.T.A. 3: 237.

S. leucadea Hochst. ex Hiern in F.T.A. 3: 237 (1877).

Borreria leucadea (Hochst. ex Hiern) K. Schum. (1891)-F.W. Andr. Fl. Pl. A.-E. Sud. 2: 427.

Erect or spreading, hairy herb, about 1 ft. high; flowers mauve; **in savanna**.

Sen.: Bakel (fr. Aug.) Leprieur! Vélor (fr. Apr.) Berhaut 3847! **Gam.:** Yundum (fr. Dec.) Austin 38! **Port. G.:** Antula, Bissau (fr. Oct.) Esp. Santo 2586! **Ghana:** Bole (Nov.) Harris! Gushiago to Pigu (fr. Oct.) Rose Innes GC 30726! Banda, Trans-Volta (fr. Dec.) Adams & Akpabla 4020! Kete-Krachi to Dutukpene (fr. Dec.) Adams 4627! **N. Nig.:** Nupe Barter 948! Share F.R., Ilorin (fr. Jan.) Ujor FHI 30250! Fodama (fr. Dec.) Moiser 261! Jos (fr. Dec.) Coombe 24! [**Br.**] **Cam.:** Gurum, Adamawa (Nov.) Hepper 2897!

Also in **Sudan**.

6a. *Borreria stachydea* var. *phyllocephala* (DC.) Hepper in Kew Bull. 14: 256 (1960).

*APD: Synonym of *Spermacoce stachydea* var. *phyllocephala* (DC.) J.-P. Lebrun & Stork*

Spermacoce phyllocephala DC. Prod. 4: 553 (1830).

Borreria galeopsidis of Berhaut Fl. Sén. 79, not *Spermacoce galeopsidis* DC.

A glabrous variety.

Sen.: Walo country (fr. Sept.) Perrottet! Kouma (Oct.-Dec.) Perrottet (?)! Perrottet & Leprieur (photo)! Senegal R. Bose! Tivaouane (fr. Oct.) Trochain 854!

Borreria chaetocephala (DC.) Hepper

*APD: Synonym of *Spermacoce chaetocephala* DC.*

7. *Borreria chaetocephala* var. *chaetocephala* -in Kew Bull. 14: 256 (1960). *APD acc*

Spermacoce chaetocephala DC. Prod. 4: 554 (1830).

S. hebecarpa var. *major* Schweinf. ex Hiern in F.T.A. 3: 237 (1877).

Borreria stachydea of F.W.T.A., ed. 1, 2: 135, partly (Dalz. 165).

Borreria ruelliae of F.W.T.A., ed. 1, 2: 135, partly (Chev. 24959), not of (DC.) K. Schum.

Borreria compacta of Berhaut Fl. Sén. 79, not of (Hochst.) K. Schum.

An erect annual herb with a rather stout stem, slightly branched, about 1 ft. high; **in savanna**.

Sen.: Tambacounda (fr. Dec.) Adam 17336! Dihone (fr. Apr.) Berhaut 1461! **Mali:** Sansanding (Sept.) Chev. 24959! Ansongo (fr. Sept.) Hagerup 383! **N. Nig.:** Katagum Dalz. 165! Sokoto (Sept.) Dalz. 399!

Also in **Cameroun** and **Sudan**.

7a. **Borreria chaetocephala var. minor** Hepper l.c. (1960).

APD: Synonym of Spermacoce chaetocephala var. minor (Hepper) Puff

Borreria hebecarpa Hochst. ex A. Rich. Tent. Fl. Abyss. 1: 347 (1848); F.T.A. 3: 326; F.W. Andr. Fl. Pl. A.-E. Sud. 2: 427.

A slender erect annual up to 18 in. high; flowers pink.

N. Nig.: Nupe Barter 1259!

Also in **Uganda** and **Sudan**.

8. **Borreria ocymoides (Burm. f.) DC.** Prod. 4: 544 (1830). *APD acc*

Spermacoce ocymoides Burm. f. (1768).

Borreria ramisparsa DC. (1830)-F.T.A. 3: 238; F.W.T.A., ed. 1, 2: 135; Chev. Bot. 349; Berhaut Fl. Sén. 79.

Tardavel ocymoides (Burm. f.) Hiern (1898).

A weak herb, erect or decumbent, 6-9 in. high; flowers very small, white; **wayside weed**.

Sen.: Heudelot 558! Berhaut 1125; 4559. **Guin.:** Conakry (Oct.) Adam 12580! Fouta Djalon (Oct.) Adam 12748! Bilima Chev. 15041! **S. L.:** Freetown (Sept.) Hepper 910! Rokupr (Sept.) Jordan 559! Yonibana (Oct.) Thomas 4271! Njala (Sept.) Pyne 8! **Lib.:** Du R. (Aug.) Linder 222! Brewerville (Sept.) Barker 1432! Ganta (July) Harley 1443! Jabroke (fr. July) Baldwin 6635! **Iv. C.:** Bouroukrou Chev. 16751! Guideko Chev. 19075! **Ghana:** Kpandu Robertson 2! **N. Nig.:** Patti Lokoja T. Vogel 181! Jos Plateau Lely P738! **S. Nig.:** Okomu F.R., Benin (Feb.) Brenan 9155! Idanre (Jan.) Brenan 8738! Sapoba Kennedy 2675! Onitsha Barter 1765! **[Br.] Cam.:** Victoria, 1922 lava flow (fr. Sept.) Ngongi FHI 15089! Mamfe (fr. Dec.) Migeod 275! **F. Po:** El Pico (Dec.) Boughey 186!

Also in **Cameroun**, **Gabon**, **Ubangi-Shari**, **Congo**, **Uganda** and **S. Tomé**.

9. **Borreria verticillata (Linn.) G. F. W. Mey.** Prim. Fl. Esseq. 83 (1818); F.W. Andr. Fl. Pl. A.-E. Sud. 2: 428.

APD: Synonym of Spermacoce verticillata L.

Spermacoce verticillata Linn. (1753).

S. globosa Schum. & Thonn. (1827)-F.T.A. 3: 240; Chev. Bot. 248.

Erect, glabrous branched undershrub or half-woody herb 1-2 ft. high; flowers white in compact spherical heads; **a weed of cultivation and waste places**.

Sen.: Richard-Tol (fr. Jan.) Döllinger! Rosso (Apr.) Popov 2! Dakar (fr. May) Baldwin 5705! St. Yago Isl. Brunner! **Gam.:** Brown-Lester 5! 6! Yundum (Sept.) Wallace 8! **Mali:** San Chev. 1026. Koriensa (July) Lean 51! **Guin.:** Conakry Chev. 12066! Kouria Caille in Hb. Chev. 15094! Kankan to Kouroussa Brossart in Hb. Chev. 15671! **S. L.:** Freetown (Sept.) Hepper 909! Kambia (Dec.) Deighton 880! Mano Thomas 10335! **Lib.:** Monrovia Whyte! Kakatown Whyte! Nyaake, Webo (fr. June) Baldwin 6161! Ganta (July) Harley 1441! **Iv. C.:** Prolo Chev. 19864! **Ghana:** Ada (May) Adams 2733! **Togo Rep.:** Lomé Warnecke 217. **N. Nig.:** Jos (Apr.) Mutch FHI 21867! Kano (fr. May) Ejiofor FHI 26150! Tilde Filani (May) Lely 228! **S. Nig.:** Badagry (Aug.) Onochie FHI 33478! Ibadan (Jan.) Onochie FHI 8184! Port Harcourt (June) Maitland B!

Also in **Gabon**, **S. Tomé**, **Congo**, **Angola**, **Sudan** and **Madagascar**.

10. **Borreria natalensis (Hochst.) K. Schum. ex S. Moore** in J. Linn. Soc. 40: 103 (1911).

APD: Synonym of Spermacoce natalensis Hochst.

Spermacoce natalensis Hochst. (1844).

S. stricta of F.T.A. 3: 236, partly (in syn.), not of Linn. f.

Straggling or more or less erect perennial herb with yellow-green branched stems 1-2 ft. long; flowers white, tinged mauve; wayside weed.

[Br.] Cam.: Bamenda: Bafut-Ngamba F.R., 6,000 ft. Hepper 2143! Onochie FHI 34861! Bambui Pedder 29! Basenako Maitland 1672! Nguroje, Mambila Plateau (Jan.) Hepper 1760!

Widespread in tropical Africa.

11. *Borreria pusilla* (Wall.) DC. Prod. 4: 543 (1830); F.W. Andr. Fl. Pl. A.-E. Sud. 2: 427.

APD: *Synonym of Spermacoce pusilla* Wall.

Spermacoce pusilla Wall. (1820).

S. stricta Linn. f. (1781)-F.T.A. 3: 236; Chev. Bot. 349.

Borreria stricta of F.W.T.A., ed. 1, 2: 135; Berhaut Fl. Sén. 79, not of G. F. W. Mey. (1818).

Borreria hebecarpa of F.W.T.A., ed. 1, 2: 135, partly (Linder 1498), not of Hochst. ex A. Rich.

Small erect herb more or less branched, 6-16 in. high; flowers whitish; in sandy places.

Sen.: Roger! Niokolo-Koha Berhaut 1558. Guin.: Mt. Loura, Fouta Djallon (Sept.) Schnell 7135! S. L.: Lumley (Oct.) Deighton 1788! Bonthe Isl. (Nov.) Deighton 2295! Gberia Fotombu (Oct.) Small 292! 865! Kolahun (Oct.) Glanville 14! Lib.: Duport (Nov.) Linder 1498! N. Nig.: Vom Dent Young 127! S. Nig.: Sobo Plain, Warri Prov. (Sept.) Butler-Cole 23!

Throughout tropical Africa and in tropical Asia.

[A closely related species seems to have been introduced into our area (Freetown Deighton 231; Ibadan Onochie FHI 3316; Victoria Maitland 51). They match unnamed specimens from Zanzibar and E. Tanganyika, and others from India where they are regarded as "*Spermacoce stricta* Linn. f.". The correct name is at present in some doubt-F.N.H.]

12. *Borreria filifolia* (Schum. & Thonn.) K. Schum. in E. & P. Pflanzenfam. 4, 4: 144 (1891).

APD: *Synonym of Spermacoce filifolia* (Schumach. & Thonn.) J.-P. Lebrun & Stork

Octodon filifolium Schum. & Thonn. in Beskr. Guin. Pl. 74 (1827); F.T.A. 3: 241; F.W.T.A., ed. 1, 2: 136; Chev. Bot. 349; F.W. Andr. Fl. Pl. A.-E. Sud. 2: 448.

Erect slender glabrous herb, simple or branched, 1-2 ft. high or sometimes a few inches high; flowers white, the corolla-lobes sometimes purple; amongst grass in moist places.

Sen.: Heudelot 249! Mali: San (fl. & fr. Sept.) Chev. 2114! Ansongo (fl. & fr. Sept.) Hagerup 389! Dioura (Sept.) Davey 85! Bamako (Sept.) Waterlot 1390! Port. G.: Pitche to Burumtuma (July) Esp. Santo 2710! Dandum, Bafata (Sept.) Esp. Santo 3379! Lenquerem, Gabu (Aug.) Esp. Santo 2736! Guin.: Ditinn (fr. Sept.) Schnell 7402! Mamou (Sept.) Schnell 6782! Sambailo (fr. Oct.) Adam 12715! Ghana: Prampram (fl. & fr. Jan.) Robertson 74! Pepease (Nov.) Irvine 1709! Bole to Wa (fl. & fr. Sept.) Rose Innes GC 30180! Kpedsu (fl. & fr. Dec.) Howes 1034! N. Nig.: Lokoja (fl. & fr. Sept.) T. Vogel 118! Bida to Badeggi (fl. & fr. Aug.) Onochie FHI 35413! Anara F.R., Zaria (fl. & fr. Oct.) Hepper 993! Jos Plateau (July) Lely P537! Abinsi (Aug.) Dalz. 640!

Also in Congo?, Sudan and N. and S. Rhodesia.

13. *Borreria octodon* Hepper in Kew Bull. 17: 171 (1963).

APD: *Synonym of Spermacoce octodon* (Hepper) J.-P. Lebrun & Stork

Octodon setosum Hiern in F.T.A. 3: 242 (1877); F.W.T.A., ed. 1, 2: 136; Chev. Bot. 349.

Borreria setosa (Hiern) K. Schum. (1891), not of Mart. & Gal. (1844).

Erect, usually branched, scabrid herb about 2 ft. high; flowers white, sometimes tinged pale mauve; in open sandy savanna.

Sen.: Faracounda to Tambanaba Chev. 2066! Mali: Koumantou (Apr.) Chev. 723! Toukoto Chev. 70!

Port. G.: Piche (Oct.) Esp. Santo 3418! Gabu (Oct.) Esp. Santo 3503! Guin.: Bounalol (Oct.) Adam 12569! Iv. C.: Mt. Orumbo-Boka, Toumodi (Dec.) Boughey GC 14449! Angouakoukro (Aug.) Chev. 22401! Béoumi (Dec.) Lome! N. of Férkéssédougou Leeuwenberg 1986! Ghana: Shai Plains (Jan.) Johnson 527! Attabubu (Nov.) Morton! Menji to Banda (Dec.) Adams 3116! Kpedsu (Dec.) Howes 1036! Bimbila (Mar.) Hepper & Morton A3103! Dah.: Burton! Ouidah to Adjounga (Apr.) Chev. 23470! N. Nig.: Nupe Barter 1258! Bida to Zungeru (Oct.) Hepper & Keay 952! Anara F.R., Zaria (Sept.) Olorunfemi FHI 24367! Jos Plateau Batten-Poole 306! Maifula, Muri Dist. (Nov.) Latilo & Daramola FHI 28712! S.

Nig.: Lagos W. MacGregor 184! 269! Eruwa to Lanlate (Oct.) Savory & Keay FHI 25295! Oyo (fl. & fr. Jan.) Hamblen 130! Enugu (Sept.) Onochie FHI 84113! [**Br.**] **Cam.:** Gurum, Adamawa (Nov.) Hepper 1309!

Borreria macrantha Hepper

APD: Synonym of Spermacoce ivorensis Govaerts

14. **Borreria macrantha** var. **macrantha** -in Kew Bull. 14: 258 (1960). *APD acc*

Straggling, densely pubescent, perennial herb with subsimple stems 2-4 ft. long; flowers white; in upland grassland.

Guin.: Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9780! **S. L.:** Loma Mts. 3,500 ft. (Sept.) Jaeger 1433! Sankan Biriwa massif (fr. Jan.) Cole 128! **Iv. C.:** Nimba Mts. (Aug., Sept.) Boughey GC 18077! 18157! Schnell 1852! Mt. Tonkoui (Oct.) Aké Assi 5972!

14a. **Borreria macrantha** var. **glabra** Hepper l.c. (1960).

APD: Synonym of Spermacoce ivorensis Govaerts

Straggling herb with simple stem 2 1/2 ft. long; flowers white.

Guin.: Nzérékoré, Mt. Koiré (Sept.) Baldwin 13299! Guékédou (July) Adam 5594! **Iv. C.:** Mt. Tonkoui (Oct.) Aké Assi 5973! Villiers!

15. **Borreria paludosa** Hepper l.c. 259 (1960).

APD: Synonym of Spermacoce quadrisulcata (Bremek.) Verdc.

Borreria compressa of F.W.T.A., ed. 1, 2: 135, partly (Barter 1231; Sc. Elliot 5264), not of Hutch. & Dalz.

Spermacoce compressa of Chev. Bot. 348, not of Afzel. ex Hiern.

Erect herb 1-2 ft. high; flowers pink or mauve; in moist places.

Guin.: Timbo to Ditinn (fr. Sept.) Chev. 18470! 18471! Kouria to Ymbo (fr. July) Caille in Hb. Chev. 14617! R. Dantilia (fl. & fr. Mar.) Sc. Elliot 5264! **S. L.:** Kambia (fr. Mar., fl. & fr. May) Jordan 433! 873! **N. Nig.:** Nupe Barter 1231! **S. Nig.:** Afikpo, Ogoja Prov. (fl. & fr. June) Stone 9!

16. **Borreria compressa** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 135 (1931); Hepper in Kew Bull. 14: 258 (1960).

APD: Synonym of Spermacoce hepperana Verdc.

APD: Synonym of Spermacoce quadrisulcata (Bremek.) Verdc.

Spermacoce compressa Afzel. ex Hiern in F.T.A. 3: 235 (1877), not of Wall. ex G. Don (1834).

Borreria velorensis Berhaut Fl. Sén. 78 (1954), French desc. only.

More or less erect herb, glabrous, 1-2 ft. high; flowers white, yellowish or sometimes tinged mauve; in moist places on rock out-crops,

Sen.: Vélor (Oct., fr. Nov.) Berhaut 692! 4057! **Mali:** Diafarabé (Oct.) Davey 372! **Guin.:** Conakry (fr. Oct.) Adam 12599! Kouroussa Pobéguin 440! Filicoundji (Oct.) Adam 12589! Macenta (Oct.) Baldwin 9764! **S. L.:** Afzelius! Hill Station, Freetown (Oct.) Deighton 2151! Wonkifu (Sept.) Jordan 346! Bafodia (Sept.) Small 265! Musaia (Sept.) Small 211! **Lib.:** Vonjama (fl. & fr. Oct.) Baldwin 9860! **Iv. C.:** Mbayakro (fr. Aug.) Chev. 22287! **Ghana:** Ayafie (fr. Dec.) Adams 4689! Attabubu (Nov.) Morton A2734! Damongo (Mar.) Morton GC 8675! Yendi to Kete Krachi (Apr.) Morton GC 9098!

Borreria princeae K.Schum.

APD: Synonym of Spermacoce princeae (K. Schum.) Verdc.

17. **Borreria princeae** var. **princeae** -in Engl. Bot. Jahrb. 34: 341 (1904). *APD acc*

Diodia scandens of F.W.T.A., ed. 1, 2: 133, partly (Johnston 97), not of Sw.

Straggling herb with several subsimple branches about 2 ft. long; flowers whitish; [at the edge of montane forest](#).

N. Nig.: Jos Plateau (Apr.) Lely P224! **S. Nig.:** Obudu Plateau, 5,500 ft. Stone 87! **[Br.] Cam.:** Cam. Mt., 5,000-7,000 ft. (fl. & fr. Feb.-Apr.) Johnston 97! Maitland 1327! Brenan 9552! Bafut-Ngemba F.R., 7,000 ft., Bamenda (Sept., Feb.) Hepper 2107! Ujor FHI 30212! Binka, 6,500 ft., Nkambe Div. (Sept.) Savory UCI 366!

Also in [Congo](#), [Uganda](#), [Kenya](#) and [Tanganyika](#).

17a. *Borreria princeae* var. *pubescens* Hepper in Kew Bull. 14: 259 (1960).

APD: *Synonym of Spermacoce princeae* var. *pubescens* (Hepper) Verdc.

Straggling herb with few branches about 1 ft. long; flowers white; [in montane forest](#).

[Br.] Cam.: Buea, 4,000 ft. (Sept.) Dundas FHI 15316! **F. Po:** Moka, 4,000 ft. (Dec.) Boughey 32! Melville 404!

Also in [Uganda](#), [Kenya](#) and [Tanganyika](#).

18. *Borreria intricans* Hepper l.c. 257 (1960).

APD: *Synonym of Spermacoce intricans* (Hepper) Burkill

Spermacoce phyllocephala of F.T.A. 3: 240, partly (Don), not of DC.

A more or less erect, branched herb about 1 ft. high; flowers white; [in forest](#).

Sen.: Messira (fr. Nov.) Berhaut 572! **Guin.:** Bafing (Oct.) Adam 12655! Soumbalako to Boulivel (fl. & fr. Sept.) Chev. 18644! Nzérékoré (Sept.) Adam 6321! **S. L.:** Don! Sugar Loaf Mt., 1,000 ft. (fl. & fr. Nov.) Deighton 5624! Baiima (fl. & fr. Sept.) Deighton 3054! Yonibana (fr. Oct.) Thomas 4133! Bintumane Peak (fl. & fr. Nov.) Jaeger 539! **Ghana:** Begoro (fr. May) Morton A3664!

Spermacoce galeopsidis DC. Prod. 4: 554 (1830); Hepper in Kew Bull. 14: 256 (1960).

Sen.: Dagana Leprieur & Perrottet.

88. MITRACARPUS

Zucc.-F.T.A. 3: 243.

- 1 A herb; stems puberulous; leaves lanceolate, subacute, 3-6 cm. long, 0.7-1.5 cm. broad, glabrous below, scabrous above or nearly smooth; flowers densely crowded at the nodes within the pectinately divided stipular sheath; calyx-lobes unequal, two oblong and two subulate smaller ones; corolla-tube a little longer than the calyx; bracteoles filiform [scaber](#)

Mitracarpus scaber Zucc. in Schultes Mant. 210, 399 (1827)31; F.T.A. 3: 243; Chev. Bot. 350; Berhaut Fl. Sén. 79.

APD: *Synonym of Mitracarpus hirtus* (L.) DC.

Mitracarpus verticillatus (Schum. & Thonn.) Vatke (1876)-F.W.T.A., ed. 1, 2: 136.

Staurospermum verticillatum Schum. & Thonn. Beskr. Guin. Pl. 73 (1827).31

Annual herb, half-woody at the base, erect, with terete branches, from a few inches to 2 ft. high; flowers white; [a weed](#).

Maur.: Dikel Charles in Hb. Chev. 25486. **Sen.:** St. Louis (fl. & fr. May) Roger! Chev. 3493. Bondou Heudelot 136! M'bidgem Chev. 2096; 3534. Kaolak Kaichinger in Hb. Chev. **Gam.:** Brown-Lester 42! Genieri (fr. Feb.) Fox 43! Kuntaur Ruxton 156! **Mali:** Dioura, Macina (Nov.) Davey 162! Timbuktu (July) Hagerup 211! Kabarah Chev. 1339. **Guin.:** Kouroussa (June) Pobéguin 300! **S. L.:** Freetown (Dec. Deighton 1536! Kambia (Dec.) Deighton 826! Njala (Feb.) Deighton 1063! Falaba (Apr.) Deighton 1650! **Lib.:** Grand Cess (Mar.) Baldwin 11627! **Iv. C.:** Bingerville Chev. 16005. **Ghana:** Prampram (May) Irvine 1433! Kumasi (Sept.) Darko 343! Amedzofe (Oct.) Morton GC 6040! Tamale (Nov.) Williams 410! **Dah.:** Cotonou (Mar.) Debeaux 156! **N. Nig.:** Nupe Barter 1132! Jos Plateau (Jan.) Lely P124! Sokoto Lely 127! Maiduguri (Oct.) Noble A1! **S. Nig.:** Lagos Dawodu 10! Sapoba Kennedy 1779! Ibadan (Nov.) Newberry & Etim 164! **[Br.] Cam.:** Adamawa Prov.: Gangumi (Nov.) Latilo & Daramola FHI 28780! Gurum (Nov.) Hepper 1266!

Also in [Ubangi-Shari](#), [the Congos](#), [Sudan](#), [Uganda](#), [Kenya](#), [Tanganyika](#), [N. Rhodesia](#) and [Cape Verde Islands](#).

89. OTIOPHORA

Zucc. -Verdcourt in J. Linn. Soc. 53: 383 (1950).

- 1 Prostrate perennial herb; stems branched, densely pubescent; stipules small, fimbriate; internodes 5-25 mm. long; leaves ovate, truncate or subcordate at base, obtuse or subacute at apex, 8-15 mm. long, 5-13 mm. broad, nearly glabrous above, long hairs on midrib beneath, sessile; flowers in dense terminal clusters; calyx with 1 (-2) foliaceous elliptic lobe about 4 mm. long and 2 mm. broad, ciliate on margin and beneath, glabrous above; corolla-tube 4 mm. long, lobes 1.5 mm. long, sparsely ciliate; stamens 4-5, exserted; style exserted, stigma bifid; fruits ellipsoid, 2 mm. long, 2-celled; 1 seed in each cell[latifolia var. bamendensis](#)

Otiophora latifolia *Verdc.* in J. Linn. Soc. 53: 406 (1950).

APD: *Synonym of Otiophora villicaulis Mildbr. var. villicaulis*

var. *latifolia* occurs in E. Africa.

Otiophora latifolia var. bamendensis *Verdc.* l.c. 407 (1950).

APD: *Synonym of Otiophora villicaulis Mildbr. var. villicaulis*

Prostrate perennial herb with occasionally-rooting branches about 6 in. long; flowers pink or light mauve; [in rocky montane grassland](#).

[Br.] Cam.: Bamenda, 5,000 ft. (May) Maitland 1515! Nchan, 5,000 ft., Bamenda (May) Maitland 1445! Mayo Daga, Mambila Plateau (July) Chapman 58! Vogel Peak, 4,900 ft., Adamawa (fr. Nov.) Hepper 1511!

90. ANTHOSPERMUM

Linn.-F.T.A. 3: 229. *APD acc*

- 1 Fruits densely and softly tomentose; stems softly tomentellous, stout; leaves narrowly oblanceolate, acute, about 8 mm. long, glabrous; stipules sheathing, divided into several setiform segments, pubescent outside the sheath[1. cameroonense](#)
- Fruits glabrous; stems scabrid-puberulous; leaves oblanceolate, markedly apiculate, about 6 mm. long, slightly scabrid on the margin; stipules divided into 2 segments from a broad sheathing base[2. asperuloides](#)

1. **Anthospermum cameroonense** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 136 (1931).

APD: *Synonym of Anthospermum asperuloides Hook. f.*

Anthospermum asperuloides of F.T.A. 3: 230, partly (Cam. Mt. spec.).

A heathy undershrub 1-4 ft. high; flowers purplish-green; [in montane vegetation](#).

[Br.] Cam.: Cam. Mt., 8,500-12,000 ft. (fl. & fr. Jan., Mar.) Mann 1290! Brenan 9531!

2. **Anthospermum asperuloides** *Hook. f.* in J. Linn. Soc. 6: 11 (1861); F.T.A. 8: 230, partly (excl. Cam. Mt. spec.). *APD acc*

Straggling heathy undershrub about 1 ft. high; flowers creamy; [in montane vegetation](#).

[Br.] Cam.: hut II, 8,100 ft., Cam. Mt. (fl. & fr. Dec., Jan.) Keay FHI 28592! Morton K796! F. Po: summit of Clarence Peak, 9,348 ft. (fr. Dec.) Mann 593!

91. GALIUM

APD: *Synonym of Rubia L.*

Linn.-F.T.A. 3: 244.

- 1 Leaves (and stipules) about 8 in a whorl, acute, linear-ob lanceolate, 10-40 mm. long 2-4 mm. broad, margin with recurved hooks; flowers solitary, axillary; pedicels elongating to 1.5 cm. long, recurved; fruits glabrous or with hooked bristles, black, about 4 mm. diam [1. *simense*](#)

Leaves (and stipules) 4 in a whorl, apiculate, ovate-elliptic, 5-8 mm. long, 3-5 mm. broad, margin and surfaces setulose-pilose; flowers cymose, cymes forming an oblong panicle; pedicels 4-5 mm. long; fruits densely clothed with hooked bristles, greenish, about 1.5 mm. diam. [2. *thunbergianum*](#)

1. ***Galium simense* Fresen. in Mus. Senckenb. 2: 165 (1837). APD acc APD acc**

APD: Synonym of Galium acrophyum Hochst. ex Chiov.

Galium aparine **Linn. var. spurium** *Hiern* in F.T.A. 3: 245 (1877), partly.

Galium spurium of F.W.T.A., ed. 1, 2: 137, not of Linn.

(?) *Galium deistelii* *K. Krause* (1909), type not seen.

Straggling herb with slender stems about 6 ft. long, readily clinging to clothes, skin, etc.; flowers yellowish-green or white, fruits black; [in montane thickets](#).

[Br.] **Cam.:** Cam. Mt., 5,000-9,000 ft. (fr. Nov.-Jan.) Mann 1324! Dunlap 29! Keay FHI 28634! Mt. Mbakakeka summit, 8,000 ft. (fl. & fr. Feb.) Hepper 2168! L. Oku, 7,200 ft. (fr. Jan.) Keay & Lightbody FHI 28489! Kumbo to Oku, 6,000 ft. (fl. & fr. Feb.) Hepper 2002! **F. Po:** 6,000-8,000 ft., Guinea 2887!

Also in [Ethiopia](#).

2. ***Galium thunbergianum* Eckl. & Zeyh. Enum. 369 (1837); Hedberg in Sym. Bot. Upsal. 15, 1: 178, 329 (1957).**

Galium bialbrae *Hiern* in F.T.A. 3: 245 (1877).

Scrambling, erect or ascending herb up to 3 ft. high; flowers yellowish; [in rocky montane grassland](#).

[Br.] **Cam.:** Cam. Mt., 7,000-12,000 ft. (fl. & fr. Nov., Jan., Apr.) Mann 1284! 2001! Maitland 1265! Brenan 9560! **F. Po:** summit of Clarence Peak (Pico de S. Isabel), 9,348 ft. (fl. & fr. Dec., Mar.) Mann 605! Guinea 2813!

Also on other tropical African mountains, and in S. Africa.

DIPSACACEAE

Perennial or annual herbs. Leaves opposite or verticillate, entire or pinnately divided; stipules absent. Flowers hermaphrodite, zygomorphic, often crowded into heads with an involucre of leafy bracts. Calyx epigynous, cupular or divided into pappus-like segments. Corolla gamopetalous, lobes imbricate. Stamens usually 4, rarely 2-3, alternate with the corolla-lobes and inserted usually towards the bottom of the tube; anthers 2-celled, opening lengthwise. Ovary inferior, 1-celled; style slender; ovule solitary, pendulous from the top. Seeds with large straight embryo in scanty endosperm.

- 1 Prickly herb; calyx limb cup-shaped [1. *Dipsacus*](#)
Herb without prickles; calyx with 5 setose teeth [2. *Succisa*](#)

1. DIPSACUS

Linn.-F.T.A. 3: 249.

- 1 A prickly perennial herb; stems stout, hollow, more or less ridged and with recurved prickles; leaves lanceolate, up to 35 cm. long, more or less pubescent above, prickly on the midrib beneath, dentate, lower leaves petiolate, upper leaves sessile and auriculate; inflorescences globose about 4 cm. diam. with acute deflexed involucre bracts about 1.5 cm. long; bracts of the receptacle equal to or exceeding the flowers [pinnatifidus](#)

***Dipsacus pinnatifidus* Steud. ex A. Rich. Tent. Fl. Abyss. 1: 367 (1848); Hedberg in Sym. Bot. Upsal. 15: 183 (1957). APD acc**

APD: Synonym of Dipsacus narcisseanus Lawalrée

A stout erect perennial herb up to 5 ft. high, with prickly stems and midribs; flowers white, in prickly, long-pedunculate heads; **in montane grassland**.

[Br.] Cam.: ridge above L. Oku, 7,700 ft., Bamenda Dist. (Jan.) Keay & Lightbody FHI 28515!

Also in the mountains of eastern Africa.

2. SUCCISA

Haller Hist. Stirp. Helv. 1: 87 (1768).

Scabiosa Linn.-F.T.A. 3: 251, partly; F.W.T.A., ed. 1, 2: 137.

- 1 A perennial herb; stems sparingly leafy, pubescent; leaves lanceolate, subacute, gradually narrowed into the winged petiole, 10-12 cm. long, 2-4 cm. broad, entire, pilose above, glabrous or pilose only on the midrib beneath; flowers in pedunculate heads; bracts narrowly lanceolate, about 1 cm. long, densely setose-pilose; bracts of the receptacle shorter than the flowers; corolla pubescent outside *trichotocephala*

Succisa trichotocephala Baksay in Ann. Mus. Nat. Hungar., n. ser. 2: 249 (1952). *APD acc*

Scabiosa succisa Linn. (1753)-F.T.A. 3: 252; F.W.T.A., ed. 1, 2: 137.

Erect sparingly branched herb up to 4 ft. high from a perennial stock; flowers white or pale mauve; **in montane grassland**.

[Br.] Cam.: Cam. Mt., 6,000-10,500 ft. (Jan.-Mar.) Mann 1309! Dalz. 8326! Dundas FHI 20356! Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1667! above L. Oku, 7,700 ft. (Jan.) Keay FHI 28479! Adam 15874! **Mali:** Kita (Nov.) Jaeger! **Port. G.:** Bissau (Nov.) Esp. Santo 1018! **Guin.:** Farfar 323! Kouria (Nov.) Caille in Hb. Chev. 14848! Soumbalako to Boulivel, Fouta Djallon (Sept.) Chev. 18639! **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3888! Bumbuna (Oct.) Thomas 3224! Njala (Nov.) Deighton 1870! Rokupr (Nov.) Jordan 674! **Lib.:** Suacoco (Jan.) Daniel 86! Gbanga (Sept.) Linder 553! Gletown, Tchian (July) Baldwin 6949! Cape Palmas (June) Hale 103! **Iv. C.:** Adiopodoumé (Dec.) Leeuwenberg 2117! **Ghana:** Aburi (Nov.) Howes 1011! Asuansi (Feb.) Williams 10! Koforidua (Mar.) Johnson 627! Kumasi (Mar.) Irvine 109! Wenchi, Ashanti (Dec.) Adams 3228! Amedzofe (Oct.) Morton GC 6028! **N. Nig.:** Jebba (Dec.) Hagerup 686! **S. Nig.:** Rowland! Olokemeji (Nov.) Obasheki FHI 23833! Ibadan (Oct.) Keay FHI 28103! Oban Talbot 392! [Br.] Cam.: Victoria (Jan., Sept.) Maitland! Boughey X1179! Buea, 3,000 ft. (Jan.) Maitland 278! Likomba (Dec.) Mildbr. 10784! Kumba (Apr.) Hutch. & Metcalfe 162! **F. Po.:** S. Isabel (Dec.) Guinea, 540! Boughey 189! A common tropical weed.

COMPOSITAE

Herbs, shrubs or rarely small trees or climbers. Leaves alternate or opposite, simple or variously divided; stipules absent. Flowers (florets) crowded into heads (capitula) surrounded by an involucre of one or more series of free or connate bracts; sometimes the heads compound with the capitula few- or single-flowered; receptacle paleate, setose, pitted or naked, usually convex, sometimes elongated or concave. Florets of one or two kinds in each capitulum, hermaphrodite, unisexual or neuter, rarely dioecious, the outer ones often ligulate (ray-florets), the inner ones tubular (disk-florets), or all tubular, or all ligulate. Calyx epigynous, reduced to a pappus of persistent or caducous hairs, bristles or scales, or absent. Corolla sympetalous, 4-5-fid (actinomorphic disk-florets), filiform, ligulate or rarely bilabiate (zygomorphic ray-florets). Stamens 5, rarely 4, epipetalous; filaments free; anthers connate into a tube, rarely free, 2-locular, opening lengthwise, often appendaged at the apex and tailed at the base. Ovary inferior, 1-locular, 1-ovuled; style of the hermaphrodite or female florets mostly 2-fid, the style-arms smooth, papillose or hairy, tapered, rounded, deltoid or truncate, with or without a terminal appendage. Ovule erect from the base. Fruit (achene) sessile, sometimes beaked. Seed without endosperm; embryo straight with plano-convex cotyledons.

A highly advanced, easily recognised family with world-wide distribution.

KEY TO THE TRIBES.

- 1 Florets not all ligulate; sap usually clear: **2**
 Florets all ligulate and hermaphrodite; sap usually milky **13. CICHORIEAE**

-
- 2 Florets of two kinds in each capitulum, the outer usually ligulate or filiform and female or neuter, the inner tubular and hermaphrodite, or the capitula unisexual:3
 Florets all of one kind, all tubular and hermaphrodite:13
- 3 Capitula bisexual:4
 Capitula unisexual; leaves deeply pinnately divided; male capitula in a terminal raceme; female capitula axillary, clustered6. [AMBROSIEAE](#)
- 4 Receptacle with paleae subtending the florets:5
 Receptacle without paleae; leaves mostly alternate:8
- 5 Leaves opposite1. [HELIANTHEAE](#)
 Leaves alternate:6
- 6 Anther-base obtuse or shortly mucronate:7
 Anther-base sagittate, tailed; outer florets ligulate5. [INULEAE](#)
- 7 Outer florets ligulate2. [HELIANTHEAE](#)
 Outer florets eligulate4. [ASTEREAE](#)
- 8 Involucral bracts in one main series, sometimes with an outer series of smaller ones at the base (calculus) ...2. [SENECIONEAE](#)
 Involucral bracts in two or more series:9
- 9 Anther-base not tailed:10
 Anther-base tailed or sagittate; style-arms of the hermaphrodite florets club-shaped or obtuse, smooth (see Fig. 255):12
- 10 Involucral bracts in two series; leaves pinnately divided, or small and entire or toothed; style-arms of the hermaphrodite florets truncate or obtuse3. [ANTHEMIDEAE](#)
 Involucral bracts usually in several series:11
- 11 Style-arms of the hermaphrodite florets with a lanceolate or deltoid tip (see Fig. 253); leaves various4. [ASTEREAE](#)
 Style-arms of the hermaphrodite florets narrowly linear, papillose; leaves subentire5. [INULEAE](#)
- 12 Style of both types of floret divided5. [INULEAE](#)
 Style of the sterile florets entire; sap milky; leaf-margin spiny11. [ARCTOTIDEAE](#)
- 13 Leaves opposite:14
 Leaves alternate:17
- 14 Receptacle paleaceous1. [HELIANTHEAE](#)
 Receptacle not paleaceous:15
- 15 Florets yellow10. [HELENIEAE](#)
 Florets not yellow:16
- 16 Style-arms tapering, minutely hairy all over7. [VERNONIEAE](#)
 Style-arms obtuse or clavate, usually glabrous8. [EUPATORIEAE](#)
- 17 Involucral bracts in a single main series2. [SENECIONEAE](#)
 Involucral bracts in 2-several series:18
- 18 Style-arms tapering, minutely hairy all over7. [VERNONIEAE](#)
 Style-arms truncate, obtuse or clavate:19
- 19 Anther-base rounded, not tailed8. [EUPATORIEAE](#)
 Anther-base sagittate, usually tailed at the base:20
- 20 Receptacle naked in simple capitula, or if heads compound capitula with 3 or more florets:21
 Receptacle setose, or if naked capitula 1-flowered in globose compound heads; involucral bracts spinous12. [CYNAREAE](#)
- 21 Style-arms clavate without an apical appendage5. [INULEAE](#)
 Style-arms obtuse or broadened at the tip with a short glandular appendage; anther-base tails very long9. [MUTISIEAE](#)

I.—Tribe **HELIANTHEAE**

- 1 Paleae of the receptacle flat or nearly so, not folded around the achenes:2
 Paleae of the receptacle concave or folded around the achenes:8

- 2 Involucral bracts free, the outer herbaceous, the inner merging into the paleae of the receptacle; leaves simple: **3**
 Inner involucral bracts connate at the base, the outer fewer and usually smaller; leaves mostly divided: **6**
- 3 Achenes of two kinds, the outer flat, pectinate-winged, the inner angular, crowned with 2-3 bristles [1. *Synedrella*](#)
 Achenes all more or less alike, angled: **4**
- 4 Pappus present; low weedy herbs; ligules about 5, white or cream: **5**
 Pappus absent; tall herbs; corolla-tube densely pubescent especially at the base; ligules yellow [4. *Guizotia*](#)
- 5 Pappus paleaceous [2. *Galinsoga*](#)
 Pappus of spreading alternately long and short pennately plumose bristles [3. *Tridax*](#)
- 6 Leaves opposite; erect herbs mostly with conspicuous flower-heads: **7**
 Leaves alternate; pappus absent; low herb with small flower-heads [7. *Chrysanthellum*](#)
- 7 Achenes flat or concavo-convex with or without lateral wings; aristae 2, antrorsely barbellate or smooth, or absent [5. *Coreopsis*](#)
 Achenes angled, several-ribbed, wingless; aristae 2-4, retrorsely barbellate [6. *Bidens*](#)
- 8 Inner involucral bracts not embracing the outermost achenes: **9**
 Inner involucral bracts embracing the fertile ray-achenes: **18**
- 9 Leaves alternate, ovate; flower-heads terminal; involucral bracts leafy; achenes smooth without a pappus [8. *Sclerocarpus*](#)
 Leaves opposite: **10**
- 10 Ligulate florets absent: **11**
 Ligulate florets present: **12**
- 11 Achenes compressed; capitula long-pedunculate, erect; florets white [9. *Spilanthes*](#)
 Achenes 4-angled; capitula very short-pedunculate, at length nodding; florets yellow [10. *Eleutheranthera*](#)
- 12 Pappus forming a small cup or annulus with or without bristles: **13**
 Pappus composed of separate bristles or reduced to teeth, not united into a cup or annulus: **15**
- 13 Ray-florets fertile (with style and stigmas and producing mature achenes); outer achenes more or less triquetrous: **14**
 Ray-florets sterile (although style and stigmas rarely present); all achenes more or less alike, bilaterally convex or obscurely 4-angled [13. *Aspilula*](#)
- 14 Ligules conspicuous, yellow; leaves lobulate; petioles short; capitula long-pedunculate; achenes tuberculate with caducous aristae [11. *Wedelia*](#)
 Ligules small, white; leaves simple; petioles slender; capitula subsessile or shortly pedunculate; achenes minutely transversely rugulose with persistent barbellate aristae [12. *Blainvillea*](#)
- 15 Achenes thick or angular, not compressed: **16**
 Achenes compressed: **17**
- 16 Scales of the receptacle numerous and conspicuous, broad; flower-heads fairly large; stem often grooved and appressed-strigose [14. *Melanthera*](#)
 Scales of the receptacle few and narrow; ray-florets numerous, white, with narrow ligules [15. *Eclipta*](#)
- 17 Achenes winged [16. *Verbesina*](#)
 Achenes often marginate but not winged [9. *Spilanthes*](#)
- 18 Flower-heads axillary, sessile or subsessile: **19**
 Flower-heads paniculate; achenes curved, glabrous; ray-florets uniseriate; involucral bracts glandular [19. *Sigesbeckia*](#)
- 19 Achenes armed with hooked spinules; ray-florets in one series [17. *Acanthospermum*](#)
 Achenes not spinose, with a pappus; ray-florets in several series [18. *Enydra*](#)

II.-Tribe SENECEONEAE

- 1 Involucral bracts connate, the free tips shortly triangular; capitula discoid [20. *Bafutia*](#)
 Involucral bracts free to the base at least in fruit; capitula discoid or radiate: **2**
- 2 Shrubby climbers; leaves rather fleshy, broadly rounded, repand-dentate, with a crooked petiole-base; capitula discoid, heterogamous; florets long-tubular below, campanulate distally [21. *Mikaniopsis*](#)
 Herbs, herbaceous climbers, shrubs or small trees: **3**
- 3 Plants succulent; flowering shoots leafless or with reduced leaves; capitula discoid; calyculus absent but peduncles bracteolate often close to the involucre [22. *Kleinia*](#)

	Plants not or hardly succulent; flowering shoots leafy:	4
4	Style-arms long-tapered, flexuous; capitula discoid	23. Gynura
	Style-arms truncate or obtuse, with or without a terminal appendage:	5
5	Ray-florets absent:	6
	Ray-florets present	26. Senecio
6	Calyculus absent	24. Emilia
	Calyculus present:	7
7	Style-arms with a short or long awl-shaped appendage	25. Crassocephalum
	Style-arms not appendaged	26. Senecio

III.-Tribe ANTHEMIDEAE

1	Capitula heterogamous, discoid, the outer florets female in several series; corolla of the hermaphrodite florets 4-toothed; pappus absent:	2
2	Leaves pinnatifid or pinnatisect; capitula shortly stalked	27. Cotula
	Leaves entire, subentire or toothed; capitula sessile	28. Centipeda

IV.-Tribe ASTEREAE

1	Pappus well-developed, setaceous:	2
	Pappus poorly developed or absent:	6
2	Ligulate florets present though sometimes small:	3
	Ligulate florets absent; herbs:	5
3	Shrubs or climbers	29. Microglossa
	Herbs;	4
4	Ligule narrow, dull yellow or greenish; biennial or perennial herbs	30. Erigeron
	Ligule oblong, bright yellow; annual herb; lower leaves opposite	31. Felicia
5	Style of the hermaphrodite florets 2-lobed; achenes flattened; florets dull or pale yellow	32. Conyza
	Style of the hermaphrodite florets entire or emarginate; achenes terete; florets purplish	33. Adelostigma
6	Receptacle paleaceous, flat; pappus minutely setiform	34. Ceruana
	Receptacle naked, convex to columnar:	7
7	Pappus absent; florets greenish or mauve	35. Dichrocephala
	Pappus present; florets yellow:	8
8	Pappus of a few minutely hooked caducous setae	36. Microtrichia
	Pappus of minute curved subspathaceous teeth	37. Grangea

V.-Tribe c

1	Capitula separate, not crowded into compound heads:	2
	Capitula crowded into globose or hemispherical compound heads:	19
2	Receptacle with paleae subtending the florets; ray-florets ligulate:	3
	Receptacle without paleae:	5
3	Involucre at length subglobose, hard; branches dichotomous, broadly winged; leaves subentire	38. Geigeria
	Involucre hemispherical; branches not winged; leaves crenately toothed or pinnately divided:	4
4	Pappus uniform of scales as long as the ovary; leaves sessile; low undershrub	39. Bubonium
	Pappus usually unequal of jagged short scales with or without intermediate bristles; leaves petiolate; erect or bushy herbs	40. Anisopappus
5	Female (outer) florets ligulate:	6
	Female florets filiform or tubular, or all florets hermaphrodite and tubular:	9
6	Pappus an inconspicuous ring; achenes barrel-shaped, strongly ribbed	41. Mollera
	Pappus of at least the inner series setaceous;	7
7	Outer pappus present:	8
	Outer pappus absent	44. Vicoa
8	Outer pappus very short, paleaceous, connate at the base into a cup	42. Pulicaria
	Outer pappus setaceous	43. Inula

9	Pappus absent; style terete, undivided or minutely emarginate; stem narrowly winged	45. <i>Epaltes</i>
	Pappus present:.....	10
10	Style-arms of the hermaphrodite florets filiform or broadened and rounded at the apex, not truncate:	11
	Style-arms of the hermaphrodite florets truncate; herbs usually with woolly stems and leaves, especially when young; involucre bracts often thin, scarious, hyaline or coloured:	18
11	Shrubs or undershrubs; involucre bracts ovate	46. <i>Pluchea</i>
	Herbs:	12
12	Anther-base tailed:	13
	Anther-base not tailed:	17
13	Outer florets tubular:	14
	Outer florets filiform:	16
14	Pappus uniform, setaceous:	15
	Pappus 2-seriate, the outer short, multifid, the inner longer, plumose; annual herb	47. <i>Pegolettia</i>
15	Perennial herbs	43. <i>Inula</i>
	Annual herb	44. <i>Vicoa</i>
16	Pappus bristles 5-15	48. <i>Porphyrostemma</i>
	Pappus bristles numerous	49. <i>Blumea</i>
17	Pappus bristles 5-10	50. <i>Nicolasia</i>
	Pappus bristles numerous	51. <i>Laggera</i>
18	Plants perennial	52. <i>Helichrysum</i>
	Plants annual	53. <i>Gnaphalium</i>
19	Herbs; achenes subterete or slightly compressed; pappus absent	54. <i>Sphaeranthus</i>
	Scrambling shrub with a thorn at the base of the petiole of each leaf; achenes of the female florets winged; pappus of few stiff bristles	55. <i>Blepharispernum</i>

VI.-Tribe AMBROSIEAE

1	Capitula monoecious, rather small in racemes; female capitula 1-flowered in axillary clusters; bushy aromatic herb	56. <i>Ambrosia</i>
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VII.-Tribe VERNONIEAE

1	Capitula few-flowered in glomerules subtended by leafy bracts; pappus bristly	57. <i>Elephantopus</i>
	Capitula 1- to many-flowered, not tightly clustered:	2
2	Pappus present:.....	3
	Pappus absent:	9
3	Pappus more or less persistent:.....	4
	Pappus early caducous, uniform:	8
4	Pappus cupular or coroniform:	5
	Pappus segments free:	6
5	Flower-heads sessile in the leaf-axils; tubular pappus obscurely toothed	58. <i>Strachium</i>
	Flower-heads small in lax terminal corymbs; pappus coroniform, pectinately toothed	59. <i>Triplotaxis</i>
6	Flower-heads large, solitary, terminal, much-overtopped by the elongated upper leaves; pappus-setae numerous in many series	60. <i>Aedesia</i>
	Flower-heads not much-overtopped by elongated upper leaves; pappus-setae in 2 to few series:.....	7
7	Inner involucre bracts connate; outer pappus of scales, inner pappus of 3-5 longer barbellate bristles; low spreading herb	61. <i>Herderia</i>
	Involucre bracts free; pappus uniform or if outer paleaceous, inner of numerous bristles; erect herbs, shrubs or trees	62. <i>Vernonia</i>
8	Achenes obovate, 4-7-ribbed; leaves mostly opposite or verticillate	63. <i>Erlangea</i>
	Achenes linear-oblong, closely 10-ribbed; leaves alternate	64. <i>Centratherum</i>
9	Achenes broadly truncate at the apex	65. <i>Ethulia</i>
	Achenes rounded at the apex	66. <i>Gutenbergia</i>

VIII.-Tribe EUPATORIEAE

- 1 Pappus-setae numerous; anther-connective produced at the apex:2
 Pappus-setae 5 or fewer; leaves opposite:3
- 2 Herbs or shrubs; involucre bracts several to numerous; leaves opposite or alternate [67. Eupatorium](#)
 Climbers; involucre bracts 4-5 [68. Mikania](#)
- 3 Pappus gland-tipped, adhesive; apex of the anther truncate or minutely apiculate [69. Adenostemma](#)
 Pappus of 5 attenuated scales, not gland-tipped; apex of the anther with an ovate appendage [70. Ageratum](#)

IX.-Tribe MUTISIEAE

- 1 Caulescent branched herbs:2
 Acaulescent scapigerous herb with a solitary capitulum [73. Gerbera](#)
- 2 Involucre bracts about 8-seriate, not pungent-pointed; florets bright red [71. Pleiotaxis](#)
 Involucre bracts in 5-6 series, rigid, pungent-pointed [72. Dicoma](#)

X.-Tribe HELENIEAE

- 1 Capitula homogamous; involucre bracts in few series, rather large; anthers appendaged at the apex, not tailed at the base; style arms obtuse [74. Hypericophyllum](#)

XI.-Tribe ARCTOTIDEAE

- 1 Capitula heterogamous, radiate; involucre bracts connate at the base, spinous; achenes villous; pappus of denticulate obtuse paleae in several rows [75. Berkheya](#)

XII.-Tribe CYNAREAE

- 1 Capitula 1-flowered, crowded into globose heads [76. Echinops](#)
 Capitula many-flowered, not crowded into regular globose heads:2
- 2 Pappus-setae connate into a ring at the base and deciduous together; setae barbellate [77. Carduus](#)
 Pappus-setae more or less connate, persistent, paleaceous at the base, plumose above [78. Atractylis](#)
 Pappus-setae free or absent [79. Centaurea](#)

XIII.-Tribe CICHORIEAE

- 1 Pappus-setae plumose [80. Picris](#)
 Pappus-setae smooth or barbellate:2
- 2 Achenes beaked:3
 Achenes not beaked; pappus mostly white:4
- 3 Achenes compressed, ribbed or smooth, usually reddish or blackish-purple, glabrous, or if terete greyish and minutely tuberculate; pappus white; involucre bracts not setulose [81. Lactuca](#)
 Achenes fusiform, many-ribbed, yellowish-brown, tapered into the beak, finely spiculate; pappus buff; involucre bracts setulose [82. Crepis](#)
- 4 Involucre bracts without or with only narrow scarious margins; achenes oblong-terete or more or less flattened, few or many-ribbed, rough or smooth [83. Sonchus](#)
 Involucre bracts with broad scarious margins; achenes fusiform, few-ribbed, rough [84. Launaea](#)

1. SYNEDRELLA Gaertn.-Benth. & Hook. f. Gen. Pl. 2: 383.

- 1 Stems erect, appressed-pubescent; leaves opposite, ovate, cuneate at base, up to 8 cm. long and 5 cm. broad, finely crenate-serrate, shortly appressed-setulose on both surfaces; petiole winged, bristly-ciliate; flower-heads crowded and subsessile in the leaf axils; involucre bracts herbaceous, broadly oblong-lanceolate, finely nervose, 8-10 mm. long, inner at length glumaceous; ligulate florets 3-5, ligules short; outer achenes flat with pectinate wings, inner 2-3-sided, scabrid, crowned with 2 or 3 aristae [nodiflora](#)

Synedrella nodiflora Gaertn. Fruct. et Sem. Pl. 2: 456, t. 171 (1791); F.T.A. 3: 386, in obs.; Chev. Bot. 372. *APD acc*

Blainvillea gayana of Chev. Bot. 389, partly (Chev. 18639), not of Cass.

A branched, usually annual herb, half-woody below, a few inches to 4 ft. or more high, with narrow oblong clustered flower-heads and small golden-yellow ray-florets.

Sen.: Berhaut 1340. Niokolo (Oct.) Adam 15874! **Mali:** Kita (Nov.) Jaeger! **Port. G.:** Bissau (Nov.) Esp. Santo 1018!
Guin.: Farmar 323! Kouria (Nov.) Caille in Hb. Chev. 14848! Soumbalako to Boulivel, Fouta Djallon (Sept.) Chev. 18639!
S. L.: Leicester Peak (Dec.) Sc. Elliot 3888! Bumbuna (Oct.) Thomas 3224! Njala (Nov.) Deighton 1870! Rokupr (Nov.) Jordan 674! **Lib.:** Suacoco (Jan.) Daniel 86! Gbanga (Sept.) Linder 553! Gletown, Tchian (July) Baldwin 6949! Cape

Palmas (June) Hale 103! **Iv. C.:** Adiopodoumé (Dec.) Leeuwenberg 2117! **Ghana:** Aburi (Nov.) Howes 1011! Asuansi (Feb.) Williams 10! Koforidua (Mar.) Johnson 627! Kumasi (Mar.) Irvine 109! Wenchi, Ashanti (Dec.) Adams 3228! Amedzofe (Oct.) Morton GC 6028! **N. Nig.:** Jebba (Dec.) Hagerup 686! **S. Nig.:** Rowland! Olokemeji (Nov.) Obasheki FHI 23833! Ibadan (Oct.) Keay FHI 28103! Oban Talbot 392! **[Br.] Cam.:** Victoria (Jan., Sept.) Maitland! Boughey X1179! Buea, 3,000 ft. (Jan.) Maitland 278! Likomba (Dec.) Mildbr. 10784! Kumba (Apr.) Hutch. & Metcalfe 162! **F. Po:** S. Isabel (Dec.) Guinea, 540! Boughey 189! A common tropical weed. (See Appendix, p. 421.)

2. GALINSOGA

Ruiz & Pav.-Benth. & Hook. f. Gen. Pl. 2: 390; Adams in J.W. Afr. Sci. Assoc. 3: 113 (1957).

- 1 Stems glabrous or nearly so; peduncle-hairs short, appressed-ascending, mixed with shortly stalked spreading glands; leaves ovate, subentire; receptacle-scales trifid; achene-paleae about as long as the body of the achene, longer than the corolla of the disk florets [1. *parviflora*](#)

Stems and peduncles hispid with long spreading hairs and long-stalked glands; leaves broadly ovate, serrate-crenate; receptacle-scales simple or shortly laciniate; achene-paleae about half the length of the body of the achene, shorter than the corolla of the disk florets [2. *ciliata*](#)

1. *Galinsoga parviflora* Cav. Icon. 3: 41, t. 281 (1794). *APD acc*

An annual **weed** up to 18 in. high with white ray and yellow disk florets in rather small heads.

[Br.] Cam.: Cam. Mt., 3,200-6,000 ft. (Jan., Mar., Apr.) Dunlap 119! Brenan 9587! Boughey GC 7031! Bamenda, 5,000 ft. (Jan., Mar.) Migeod 291! Morton K66!

Native of S. America and introduced into several localities in tropical Africa, mainly at medium elevations, in, for example, **Sudan**, Congo and S. Tomé.

2. *Galinsoga ciliata* (Raf.) Blake in Rhodora 24: 35 (1922); Lousley in Watsonia 1: 240 (1950).

APD: *Synonym of Galinsoga quadriradiata Ruiz & Pav.*

Adventina ciliata Raf. (1836).

An annual **weed** like the last up to about 1 ft. high and distinctly more hairy.

[Br.] Cam.: Cam. Mt., 3,000-7,500 ft. (Nov.-Apr.) Dunlap 118! Migeod 9! Dalz. 8228! Maitland 309! Brenan 9263! Akpala GC 10495! Morton GC 7094! Bambui, Bamenda, 6,300 ft. (Dec.) Adams GC 11208! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1653!

Native of S. America.

3. TRIDAX

Linn.-Benth. & Hook. f. Gen. Pl. 2: 392.

- 1 Annual (or perennial when mown) hispid herb with trailing stems branching low from a tap root, sometimes rooting from the lower nodes; leaves opposite, up to 7 cm. long and 3 cm. broad, ovate-rhomboid, coarsely serrate-dentate, soft, cuneate at the base to a slender petiole 1-2 cm. long; flowering branches ascending; capitula solitary on slender peduncles up to 20 cm. long; involucre bracts in 2 series, 3-5 mm. long, the outer broadly ovate, the inner oblong, apiculate, green, shortly setulose; receptacle-scales glumaceous, linear, striate, acutely apiculate, glabrous except at the tip, persistent; ligulate florets female (4-)5(-7) in each head, limb about 5 mm. long and 4 mm. broad, usually 3-dentate, spreading horizontally, with the style-arms rolled in the mouth of the slender pubescent corolla tube; disk florets tubular, hermaphrodite, the tube linear, 5 mm. long with 5 slightly spreading pubescent lobes; achenes grey-silky, 2 mm. long; pappus-setae slightly longer of about 20 alternately long and short pennately plumose bristles, at length spreading [procumbens](#)

Tridax procumbens Linn. Sp. Pl. 900 (1753); Hutch. in Kew Bull. 1921: 381; Trochain Mém. I.F.A.N. 2: 385 (1940); Berhaut Fl. Sén. 70. *APD acc*

A low herb with weak trailing branches and long-stalked flower-heads about 1/2 in. long; ray-florets cream-coloured, drying yellow; disk-florets yellow, often tinged reddish; **common in waste places throughout the area, but apparently of quite recent introduction.**

Sen.: Hann (Oct.) Roberty 15039! **S. L.:** Freetown (Sept., Oct.) Deighton 2144! Hepper 917! Njala (June) Deighton 6071! Roruks (July) Deighton 2505! **Iv. C.:** Adiopodoumé (Oct.) Leeuwenberg 1753! **Ghana:** Achimota (Oct.) Irvine 818! Accra (May) Irvine 1444! Kumasi (June) Vigne FH 3051! Wench, Ashanti (Dec.) Adams 3277! Lawra (Apr.) Adams 4141! Takoradi (Apr.) Brenan 9614! **N. Nig.:** Zungeru (Sept.) Dalz. 204! Fodama (Dec.) Moiser 204! Kano (Dec.) Hagerup 631! Samara, Zaria (May) Baldwin 12008! Jos Plateau (Feb.) Lely P137! **S. Nig.:** Olokemeji (Apr.) W. D. MacGregor 288! Obaseki FHI 23825! Lagos (Dec.) Dalz. 1164! Yaba (Nov.) Meikle 501! Port Harcourt Maitland! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1228! Gwoza, 3,500 ft., Dikwa (Jan.) McClintock 145!

Native to central America, now spread to many warm countries.

4. GUIZOTIA

Cass.-F.T.A. 3: 384. Nom. cons.

- 1 Outer involucre bracts linear to lanceolate, usually longer than the inner and leafy; stems, upper surfaces of leaves, peduncles and involucre bracts mostly scabrid-setulose; leaves opposite, lanceolate, 6-18 cm. long, 2-5 cm. broad, serrate-crenate, sessile, auriculate, sometimes perfoliate; ray-florets with a broad several-nerved limb; corolla-tube densely pubescent especially at base; achenes glabrous, quadrangular [1. *scabra*](#)
- Outer involucre bracts ovate or broadly lanceolate, hardly longer than the inner, not leafy; stems glabrescent; leaves minutely scabrid above with prominent veins beneath, serrulate to subentire; peduncles and involucre bracts pubescent; (other characters as above) [2. *abyssinica*](#)

1. *Guizotia scabra* (Vis.) Chiov. in Ann. Ist. Bot. Roma 8: 184 (1904). *APD acc*

Veslingia scabra Vis. (1840).

Guizotia schultzei Hochst. ex Sch. Bip. (1848)-F.T.A. 3: 385; F.W.T.A., ed. 1, 2: 141.

An erect harshly pubescent soft-wooded herb 1-6 ft. high with bright yellow florets in numerous heads 1 in. or more across; ligules of ray-florets 3-4-fid at the tip.

N. Nig.: Jos Plateau (Jan., July, Sept., Oct.) Lely 413! P113! P704! Summerhayes 49! Jos (Sept., Dec.) Lely 589! Hepper 1160! Monod 9665! Birnin Gwari (Mar.) Meikle 1382! Kontagora (Nov.) Dalz. 194! Kurmin Damisa (Nov.) Keay FHI 21539! Kaduna (Nov.) Keay FHI 28124! **S. Nig.:** Ikwette, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25234! **[Br.] Cam.:** Bamenda, 3,600-7,500 ft. (Dec., Jan.) Migeod 379! Boughey GC 10412! 10774! 11110! Adams GC 11097! 11285! Wum (Dec., Apr.) Boughey GC 11571! Morton K294! Kumbo (Nov.) Egbuta FHI 3772! Ndu, 6,400 ft. (Jan.) Keay & Russell FHI 28440! Vogel Peak, 3,800 ft., Adamawa (Nov.) Hepper 1339!

Extends to **Sudan**, **Ethiopia**, Eritrea, Congo, **Uganda**, **Kenya**, **Tanganyika**, N. Rhodesia and Nyasaland.

2. *Guizotia abyssinica* (Linn. f.) Cass. in Dict. Sci. Nat. 59: 248 (1829); F.T.A. 3: 384; Adams in J. W. Afr. Sci. Assoc. 3: 114 (1957). *APD acc*

Polymnia abyssinica Linn. f. (1781).

A nearly glabrous shrubby herb up to about 4 ft. high with numerous heads of bright yellow flowers 1-1 1/2 in. across.

[Br.] Cam.: Gashaka, Adamawa (Dec.) Latilo & Daramola FHI 28966!

From **Ethiopia** to Nyasaland sporadically, and also in India and as a casual in Europe.

5. COREOPSIS

Linn.-F.T.A. 3: 387; Sherff in Publ. Field Mus. 11: 6 (1936).

- 1 Achenes with at least some outer ones in each capitulum broadly and distinctly winged; annual herbs: [2](#)
- Achenes not or very narrowly or indistinctly winged: [3](#)
- 2 Leaves typically 3-partite, segments linear, serrate with mucronate teeth; outer involucre bracts linear, inner

- broadly lanceolate, acuminate, with scarious margins; winged achenes suborbicular about 12 mm. long and 8 mm. broad; capitula up to 7 cm. diam [1. borianiana](#)
- Leaves typically simple, elliptic-lanceolate, coarsely toothed or rarely 3-lobed, irregularly serrate-crenate; capitula as above but smaller; winged achenes oblong or scutelliform, 6-7 mm. long, 3-5 mm. broad [2. barteri](#)
- 3** Aristae present: **4**
- Aristae absent; achenes convex with a marked midrib on the inner surface, glabrous, black, 2.5-3.5 mm. long, 1.5 mm. broad, not ciliate; leaves up to about 5 cm. long, with short oblong apiculate segments 2-3 mm. broad; annual herb [7. occidentalis](#)
- 4** Involucral bracts broadly lanceolate in 2-3 series, about 1.5 cm. long and up to 8 mm. broad; ligules 1 cm. or more broad; achenes flat, oblong, antorsely scabrid on both surfaces, stiffly ciliate on the margin, with 2 short divergent aristae smooth or sparingly antorsely barbellate [3. asperata](#)
- Involucral bracts not as above, smaller: **5**
- 5** Segments of leaves linear, very long, remotely serrate, rarely as much as 5 mm. broad; outer involucral bracts linear, as long as or longer than the inner; inner involucral bracts ovate-lanceolate, 5 mm. long, glabrous; achenes 3 mm. long, scabrid; perennial herb [4. camporum](#)
- Segments of leaves ovate, serrately cut, 1 cm. or more broad; achenes 3-6 mm. long: **6**
- 6** Ligules about 2 cm. long, conspicuous; capitulum in flower 3.5-4 cm. diam.; achenes glabrous except for ciliate wing-margin: **7**
- Ligules 7-8 mm. long; capitulum in flower not exceeding 2 cm. diam.; achenes pubescent [6. setigera](#)
- 7** Stems and leaves glabrous [5. monticola var. monticola](#)
- Stems, leaves and outer involucral bracts pilose [5a. monticola var. pilosa](#)
- 1. Coreopsis borianiana** Sch. Bip. in Verh. Zool.-Bot. Ges. Wien 18: 684 (1868); Sherff in Publ. Field Mus. 11: 394.

APD: Synonym of Bidens borianiana (Sch. Bip. ex Schweinf. & Asch.) Cufod.

Coreopsis guineensis Oliv. & Hiern in F.T.A. 3: 390 (1877); Chev. Bot. 372, partly (excl. specimens from Guinée and Sierra Leone); F.W.T.A., ed. 1, 2: 143, partly (excl. syn.C. camporum Hutch. & Lely 383); Berhaut Fl. Sén. 11, 70, 85.

Coreopsis togensis Sherff in Bot. Gaz. 76: 87 (1923).

A nearly glabrous erect branched annual herb up to about 6 ft. high with golden-yellow flower-heads 2-3 in. across.

Sen.: Niokolo (Oct.) Adam 15875! **Gam.:** Saunders 109! **Mali:** Tiguiberri (Jan.) Chev. 293! Koulikora (Apr.) Chev. 2083! San (Sept.) Chev. 2084! Bandiagara to Mopti, Macina (Sept.) Chev. 24949! Kita Massif (Sept.) Jaeger! **Port. G.:** Pitche to Palama (Oct.) Esp. Santo 3487! Sonaco (Nov.) Esp. Santo 3587! **iv. C.:** Bouakrou to Alangouassou, Baoulé-Nord (July) Chev. 22228! **Ghana:** Tamale (Nov.) Williams 387! Ejura (Nov.-Jan.) Darko 748! Morton GC 9536! A1528! A2559! Ho (Nov., Dec.) A. S. Thomas K8! Plumtre 29! Morton A2296! Kete Krachi to Dutukpene (Dec.) Adams 4629! Paga Vigne 4592! **Togo Rep.:** fide Sherff l.c. **Dah.:** Agouagon (May) Chev. 23493! **N. Nig.:** Nupe Barter 933! Zungeru (Oct.) Dalz. 192! Abinsi (Nov.) Dalz. 652! Nabardo (Sept.) Lely 616! Osi, Ilorin (Dec.) Ajayi FHI 19299! Tula, Bauchi, 3,300 ft. (Nov.) Summerhayes 77! **S. Nig.:** Rowland! (Oct.) Foster 136! Lagos MacGregor 283! Abeokuta (Nov.) Irving! **[Br.] Cam.:** Bama, Dikwa Div. (Jan., Nov.) McClintock 3! 138!

Also in **Ubangi-Shari** and **Sudan**.

2. Coreopsis barteri Oliv. & Hiern in F.T.A. 3: 390 (1877); Sherff in Publ. Field Mus. 11: 372.

APD: Synonym of Bidens barteri (Oliv. & Hiern) T.G.J. Rayner

Coreopsis badia Sherff in Bot. Gaz. 76: 90 (1923).

An erect glabrous branched annual herb up to 3 ft. high with simple serrate upper leaves and golden-yellow flower-heads 1-2 in. across; a weed of fields and grasslands in savanna.

Ghana: Zuarungu (Dec.) Adams & Akpabla GC 4270! Navrongo (Dec.) Adams & Akpabla GC 4347! Bawku (Dec.) Morton A1352! **Togo Rep.:** fide Sherff l.c. **N. Nig.:** Borgu Barter 870! Biu, Bornu (Sept.) Noble 33! Naraguta (Aug., Sept.) Lely 43! Keay FHI 12732! Jos (Mar.) Hill 12! Batten-Poole 357! Buruku, Zaria (Aug.) Barry 116! Kufena Rock, Zaria (Aug.) Keay FHI 28019! **S. Nig.:** Baikie! Lagos Rowland! **[Br.] Cam.:** Kishong, Bamenda, 6,700 ft. (Jan.) Keay & Russell FHI 28447! Ndop to Kumbo (Dec.) Boughey GC 11162! 11170!

3. Coreopsis asperata Hutch. & Dalz. F.W.T.A., ed. 1, 2: 143 (1931); Sherff in Bot. Gaz. 93: 219.

APD: Synonym of Bidens asperata (Hutch. & Dalziel) Sherff

Bidens asperata (Hutch. & Dalz.) Sherff l.c. 220 (1932); Sherff in Publ. Field Mus. 16: 548, t. 139 (1937).

Coreopsis guineensis of Chev. Bot. 372, partly (Chev. 20554; 20568), not of Oliv. & Hiern.

A perennial herb up to about 10 ft. high with thick ribbed stems and deep yellow flower-heads 3 in. across; **in hill grassland and open savanna woodland.**

Guin.: Sambadougou to Boria, Faranna (Jan.) Chev. 20554! Beyla (Oct.) Jac.-Fél. 2031! **S. L.:** Glanville 384! Source of R. Niger, Sorémoudou (Jan.) Chev. 20568! **Iv. C.:** Gouékouma, Toura, Upper Sassandra (May) Chev. 21675! **Ghana:** Dutukpene 600-1,600 ft. (Dec.) Adams 4543! Morton! Shiare (Apr.) Hall!

4. **Coreopsis camporum** Hutch. in Kew Bull. 1921: 381; Sherff in Publ. Field Mus. 11: 367.

APD: Synonym of Bidens camporum (Hutch.) Mesfin

Coreopsis guineensis of F.W.T.A., ed. 1, 2: 143, partly (Lely 383), not of Oliv. & Hiern.

A perennial herb with several stems 2-4 ft. high from a woody stock; ray-florets bright golden-yellow in heads about 1 in. across; **in hill grassland.**

S. L.: Bintumane Peak, 6,000 ft. (May, Aug.) Deighton 5095! Jaeger 516! 1243! **N. Nig.:** Guduma, near Minna (Oct.) Hepper 959! Vom Dent Young 153! Hephama to Ropp (July) Lely 383! 449! Jos Plateau (July, Aug.) Lely P516! P632! **[Br.] Cam.:** Bambulue, Bamenda, 6,000-7,000 ft. (Sept.) Savory 470! Bambili (Aug.) Ujor FHI 29966! Kumbo (Dec.) Boughey GC 17397! Bamenda to Ndog, 5,000-6,300 ft. (Dec.) Adams GC 11238! 11275! Boughey GC 10843! 11182b!

Also in **Cameroun.**

Coreopsis monticola (Hook. f.) Oliv. & Hiern

APD: Synonym of Bidens mannii T.G.J. Rayner

5. **Coreopsis monticola** var. **monticola** in F.T.A. 3: 390 (1877); Sherff in Publ. Field Mus. 11: 372. *APD acc*

Verbesina monticola Hook. f. (1864).

A shrubby almost glabrous herb 3 ft. or more high; young stems and leaves reddish; ray-florets pale yellow; heads 2-3 in. across in flower; **in mountain grassland**

[Br.] Cam.: Cam. Mt., 5,000-9,000 ft. (Nov.-Jan., Apr.) Mann 1219! 1922! Johnston 26! Maitland 1191! Brenan 9558! Boughey GC 12511!

6. **Coreopsis monticola** var. **pilosa** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 143 (1931); Sherff l.c. 373.

APD: Synonym of Bidens mannii T.G.J. Rayner

[Br.] Cam.: Cam. Mt., 7,000-10,000 ft. (Nov., Jan., Apr.) Migeod 211! Dunlap 204! Maitland 450! Irvine 1452! Morton GC 7074! Kumbo (Oct.) Tamajong FHI 23493! Mba Kokeka Mt., 6,500 ft. (Jan.) Keay FHI 28390! Bafut-Ngamba F.R. (Aug.) Ujor FHI 29975! Santa Mt. (Dec.) Boughey GC 11027!

[Note: Intermediates between vars. *monticola* and *pilosa* are represented by the following specimens: -Bamenda, 7,000 ft. (Feb., Mar.) Migeod 489! Morton K139! These have slightly smaller capitula and the young parts only are pubescent-C. D. A.]

6. **Coreopsis setigera** Sch. Bip. in Walp. Rep. 6: 163 (1846).

APD: Synonym of Bidens setigera (Sch. Bip. ex Walp.) Sherff subsp. setigera

Bidens setigera (Sch. Bip.) Sherff in Bot. Gaz. 90: 390 (1930); Publ. Field Mus. 16: 627, t. 188.

An annual herb 2-3 ft. high with yellow flowers about 3/4 in. across; growing on rocks.

N. Nig.: Jos Plateau (Sept.) Lely P736!

Also in **Ethiopia.**

[Note: The West African plant is generally puberulous; Ethiopian plants are almost glabrous.]

7. *Coreopsis occidentalis* (Hutch. & Dalz.) C.D. Adams in J.W. Afr. Sci. Assoc. 6: 149 (1961).

APD: *Synonym of Bidens occidentalis* (Hutch. & Dalziel) Mesfin

Microlecanium occidentale Hutch. & Dalz. F.W.T.A., ed. 1, 2: 143 (1931), partly (Chev. 18296).

An erect annual herb up to about 1 ft. high with yellow flower-heads 1 in. across; in hill grassland.

Guin.: Irébéléya to Timbo, 2,000 ft. (Sept.) Chev. 18296! Mali (Sept.) Schnell 7060! [Br.] Cam.: Bafut-Ngamba F.R., 5,000-6,000 ft. (Oct.-Nov.) Lightbody FHI 26275!

6. BIDENS

Linn.-F.T.A. 3: 392; Sherff in Publ. Field Mus. 16 (1937).

- 1 Ray-florets present:2
Ray-florets absent; leaves pinnatifid, mostly alternate; inner involucre bracts 3, 8-9 mm. long; outer 2 or 3, 1.5-2.5 mm. long; achenes narrow, slightly compressed, 8-9 mm. long, pilose, biaristate4. *minuta*
- 2 Outer involucre bracts ovate to lanceolate or linear, shorter than the inner:.....3
Outer involucre bracts linear-spathulate, up to 2 cm. long, much longer than the inner; leaves bipinnatifid, thinly pilose; leaflet-margin deeply serrate; peduncle with a single bracteole below the involucre, similar to an outer involucre bract3. *bitemata*
- 3 Ligules yellow, often rather short and few; leaves bipinnatisect, usually pubescent at least towards the base of the petiole; leaflet-margin crenate-serrate; peduncle ebracteate1. *bipinnata*
Ligules white, usually conspicuous; leaves pinnate (rarely simple), glabrescent; leaflet-margin regularly serrate2. *pilosa*

1. *Bidens bipinnata* Linn. Sp. Pl. 832 (1753); F.T.A. 3: 393; Chev. Bot. 373, partly (Guinée specimens); Sherff in Publ. Field Mus. 16: 366, t. 89. APD acc

APD: *Synonym of Cosmos bipinnatus* Cav.

An erect, sometimes bushy annual herb 1-4 ft. high, nearly glabrous or pubescent on the stems and leaves when young; ray-florets yellow, few or rarely absent.

Guin.: fide Chev. l.c. S. L.: Musaia (Dec.) Deighton 4508! Ghana: Nwereme, Ashanti (Dec.) Adams 5268! Sunyani (Dec.) Adams 5351! N. Nig.: Neill's Valley, Naraguta (June) Lely 267! Kadaura Lely 600! Kachia to Kaduna (Dec.) Meikle 316!

Widespread in warm countries.

2. *Bidens pilosa* Linn. Sp. Pl. 832 (1753); F.T.A. 3: 392; Chev. Bot. 373; Sherff l.c. 412, t. 99 & 102; Berhaut Fl. Sén. 11, 27, 48; Schnell in Ic. Pl. Afr. I.F.A.N. 5: t. 99. APD acc

Bidens abortiva Schum. & Thonn. (1827).

An erect annual herb with yellow disk-florets and white ray-florets; fruits strongly adherent; a common weed of disturbed ground.

Sen.: fide Berhaut l.c. Mali: Kita Massif (Oct.) Jaeger! Port. G.: Brandao to Fulacunda (Oct.) Esp. Santo 2208! Gabu (Oct.) Esp. Santo 3553! Guin.: (July) Collenette 72! Diaguissa (Apr.) Chev. 12681 bis! Kouria (Oct.) Caille in Hb. Chev. 14716! Mali (Dec.) Schnell 2410! S. L.: (June) T. Vogel 71! 113! Freetown (Aug.) Burbridge 518! Deighton 72! Leicester Peak (Dec.) Sc. Elliot 3972! Pendembu (July) Thomas 850! Loma Mts. (Nov.) Jaeger 2035! Lib.: Monrovia (May) Barker 1317! Nyaake, Webo (June) Baldwin 6162! Gletown, Tchien (July) Baldwin 6781! Ganta (May, Sept.) Harley! Iv. C.: Bouroukrou (Jan.) Chev. 17021! Tonkoui (Aug.) Boughey GC 18329! Nimba Mts. Schnell 2929! Ghana: Aburi (Oct.) Brown 405! Morton GC 7872! Kpedsu (Dec.) Howes 1038! Mampong, Ashanti (Sept.) Rattray 27! Rose Innes GC 30137! Wenchi (Dec.) Adams 3250! Niger: Aïr De Miré & Gillet MN2/10-11. N. Nig.: Naraguta Lely 42! 46! Mongu (July) Lely 396! Jos Plateau (Feb.) Lely P167! Vom Dent Young 154! S. Nig.: T. Vogel! Lagos Millen 142! Ibadan (July, Oct., Dec.) Ahmed & Chizea FHI 20003! Newberry 109! 127! Sobo Plains, Benin (Mar.) Jones FHI 6294! Calabar (May) Holland 47! [Br.] Cam.: Cam. Mt., 3,200-7,500 ft. (Jan., Mar., Apr.) Dunlap 76! Boughey GC 7038! Morton GC 7078! Bamenda (Dec., Jan., Apr.) Migeod 314! Ujor FHI 30072! Boughey GC 10395! F. Po: (Dec.) Mann 68! S. Isabel (Dec.) Boughey GC 17372! Moka, 4,000 ft. (Dec.) Boughey 197! Musola Guinea 1077.

Widespread in the tropics.

3. **Bidens biternata** (Lour.) Merrill & Sherff in Bot. Gaz. 88: 293 (1929); Sherff in Publ. Field Mus. 16: 388, t. 99. *Coreopsis biternata* Lour. (1780). *B. bipinnata* of Chev. Bot. 373, partly (Chev. 21959), not of Linn. *APD acc*

An annual weedy herb with yellow flowers.

Iv. C.: R. Béré to Dialokoro, Mankono (June) Chev. 21959! **Ghana:** Cape Coast (Nov.) Morgan GC 17363! **N. Nig.:** Naraguta (June) Lely 276!

A tropical weed, also reported from **Ethiopia** and from **Sudan** to **Angola**.

4. **Bidens minuta** De Miré & Gillet in J. Agric. Trop. 3: 703, fig. 3 (1956).

APD: *Synonym of Glossocardia bosvallia* (L. f.) DC.

A therophyte only a few inches high with rayless flower-heads nearly 1/2 in. long.

Niger: Mt. Baguesane, Aïr, 4,000 ft. (Nov.) De Miré & Gillet MN3-30.

7. CHRYSANTHELLUM

Rich.-F.T.A. 3: 394.

- 1 A low herb with branches radiating from the stem-base; leaves alternate, deeply pinnatisect, up to about 5 cm. long including the subamplexicaul petiole, segments oblong-lanceolate, subacute, apiculate; flower-heads small, numerous, pedunculate; involucre bracts 1-2-seriate, about 4 mm. long, obtuse, with scarious margins; ligulate florets usually 8-12 with very short ligules; receptacle-scales linear, persistent; achenes compressed, oblong, mostly winged with a thick straw-coloured slightly hairy margin, emarginate or truncate at the apex *americanum*

Chrysanthellum americanum (Linn.) Vatke in Abh. Nat. Brem. 9: 122 (1885); F.W.T.A., ed. 1, 2: 608; Berhaut Fl. Sén. 173.

APD: *Synonym of Chrysanthellum indicum var. afroamericanum*

Anthemis americana Linn. (1753).

Chrysanthellum procumbens Pers. (1807)-F.T.A. 3: 395; Chev. Bot. 373; F.W.T.A., ed. 1, 2: 143.

A faintly aromatic branching annual herb, usually less than 1 ft. high. with yellow disk-florets and paler very small rays; a common weed of roadsides and waste places.

Sen.: fide Berhaut l.c. Niokolo-Koba (Oct.) Adam 15583! **Gam.:** Hayes 575! **Mali:** Bamako (Jan., Nov.) Chev. 199! Jaeger! **S. L.:** Kabala (July) Glanville 265! Musaia (Oct., Dec.) Deighton 4460! Thomas 2641! **Iv. C.:** N. of Bouaké; (Nov.) Leeuwenberg 2069! **Ghana:** Senchi (June) Morton GC 7244! Boughey GC 13021! Agogo, Ashanti (May) Irvine 592! Williams 272! Dedoro-Tankara F.R., Navrongo (June) Andoh 5906! Zuarungu (Sept.) Hughes FH 5330! Ho to Amedzofe (Nov.) Morton A2291! **Dah.:** Burton! **Niger:** Aïr, Gal (Aug.) De Miré & Gillet in Hb. Bouillon. **N. Nig.:** Quorrah (R. Niger) (Sept.) T. Vogel 192! Nupe Barter 1298! Kontagora (Nov.) Dalz. 209! Lokoja Parsons 8! Sokoto Lely 125! **S. Nig.:** Lagos (Apr.) MacGregor 92! Dalz. 1351! Ibadan to Abeokuta (Mar.) Schlechter 12349! Ibadan (Oct.) Newberry & Etim 143! Batun, Obudu (Aug.) Stone 62!

A common tropical weed, but apparently not often found near the sea in W. Africa

8. SCLEROCARPUS

Jacq. f.-F.T.A. 3: 373.

- 1 An erect branched annual herb with ribbed stems; leaves alternate or rarely opposite, ovate, acute, abruptly narrowed at base, 7-12 cm. long, 3-5-6 cm. broad, crenate-serrate except at base, scabrid-setulose above, pilose beneath, petiole slender; flower-heads terminal, sessile, subsessile or pedunculate with leafy bracts below; paleae of the receptacle large, boat-shaped, ribbed, enveloping the fertile florets; ray-florets usually 3, small, sterile; achenes smooth without a pappus *africanus*

Sclerocarpus africanus *Jacq. ex Murr.* Syst. Veg., ed. 14, 783 (1784); F.T.A. 3: 374; Chev. Bot. 369; Berhaut Fl. Sén. 68. *APD acc*

A weedy annual herb 1-4 ft. high, more or less roughly pubescent, with mostly alternate leaves and yellow florets in heads 1/2-2/3 in. across.

Sen.: Niokolo-Koba (Oct.) Adam 15753! **Mali:** Boré (Aug.) Demange 32/1957! **Lib.:** Cape Palmas (July) Ansell! **Ghana:** Thonning! Kpeve Westwood! Akuse to Kpong (Oct.) Morton A26! Yendi (Dec.) Adams & Akcabla GC 4069! Morton A1411! **Dah.:** Le Testu 41! Zagnanado (Feb.) Chev. 23079! **N. Nig.:** Nupe Barter 1294! Sokoto Lely 129! Panyan, 4,500 ft. (July) Lely 438! Abinsi (Feb.) Dalz. 657! R. Niger (Dec.) Hagerup 736! **S. Nig.:** Lagos Rowland! Abeokuta Millen 92! Ogwashi (Nov.) Thomas 2044!

9. SPILANTHES

APD: Synonym of Acmella Rich.

Jacq. Enum. Pl. Carib. 8 (1760); F.T.A. 3: 383 (as of Linn.); Adams in Webbia 12: 325 (1956).

- 1 Ligulate florets absent; disk-florets white; achenes ribbed, biaristate, 2-8-3 mm. long; capitula up to 1 cm. long and 9 mm. broad on long stout peduncles; leaves oblong-ovate, subentire, up to 5 cm. long and 2 cm. broad. [1. *costata*](#)
Ligulate florets present; disk-florets yellow or orange; achenes unribbed, 1-8-2 mm. long:2
- 2 Stem suberect, rooting only from the lower nodes; leaves lanceolate; peduncles elongated, slender, exceeding the upper leaves; capitula ovoid, about 6 mm. long; achenes ciliate on the margins, shortly biaristate. [2. *uliginosa*](#)
Stem creeping, rooting from the nodes; leaves ovate; achenes not ciliate, scarcely aristate:3
- 3 Peduncles shorter than the leaves; ligules not or hardly exceeding the involucre; leaves subentire or remotely and shallowly serrate-dentate, up to 4 cm. long including the petiole; glabrescent; achenes sparsely pubescent along distinct margins [3. *filicaulis*](#)
Peduncles about twice as long as the leaves; ligules usually exceeding the involucre; leaves distinctly serrate-dentate, up to 8 cm. long including the petiole, sparsely pubescent; achenes almost glabrous, without thickened margins. [4. *africana*](#)

1. *Spilanthes costata* *Benth.* in Fl. Nigrit. 436 (1849); Adams in Webbia 12: 329. *APD acc*

Spilanthes acmella of Chev. Bot. 372, partly (Chev. 20051), not of Murr.

Spilanthes acmella of F.W.T.A., ed. 1, 2: 147, partly (T. Vogel 41), not of Linn.

A glabrescent fleshy decumbent herb with greenish-white disk-florets; mostly near the sea.

Lib.: Cape Palmas (July) T. Vogel 41! **Iv. C.:** Tabou, Cavally basin (Aug.) Chev. 20051! Adiopodoumé (July) Boughey GC 14575! **Ghana:** Cape Coast (July) T. Vogel 34! Half Assini (Feb.) Morton A1633!

2. *Spilanthes uliginosa* *Sw.* Prod. 110 (1788); Adams l.c. 328.

APD: Synonym of Acmella uliginosa (Sw.) Cass.

Spilanthes acmella of Chev. Bot. 372, partly (Chev. 2082; 12140), not of Murr.

Spilanthes acmella of F.W.T.A., ed. 1, 2: 146, partly (Sc. Elliot 3881; Barter; Whyte), not of Linn.

An annual herb a few inches to nearly 1 ft. high with erect branches; disk-florets yellow and ray-florets pale yellow or white; **in swampy or low-lying ground.**

Sen.: Mangacounda, Casamance (Jan.) Chev. 2082! Santamba (Oct.) Monod 8530! **Port. G.:** Bafata (Nov.) Esp. Santo 2833! **Guin.:** Conakry (Feb., Apr.) Maclaud! Chev. 12140! Martine 57! **S. L.:** (May) Barter! Leicester Peak (Dec.) Sc. Elliot 3891! Mayoso (Aug.) Thomas 1393! Makene (Apr.) Deighton 5497! Rokupr (Nov.) Jordan 683! Kruto (Sept.) Jaeger 1780! **Lib.:** Kakatown Whyte! Ganta Harley! Jabrocca, Grand Cape Mount Co. (Dec.) Baldwin 10867! Queentown (Dec.) Adam 16263! **Iv. C.:** Azaguié (Dec.) Giovannetti 390! **Ghana:** Aiyinasi, W. Region (Dec.) Rose Innes GC 30320!

In the **West Indies** and also reported from **Tanganyika**.

3. *Spilanthes filicaulis* (*Schum. & Thonn.*) *C. D. Adams* in Webbia 12: 326 (1956).

APD: Synonym of Acmella caulirhiza Delile

Eclipta filicaulis Schum. & Thonn. Beskr. Guin. Pl. 390 (1827).

Spilanthus acmella of Chev. Bot. 372, partly (Chev. 19330), not of Murr.

Spilanthus acmella of F.W.T.A., ed. 1, 2: 146, partly (Millen 196; Foster 345; Lely 233), not of Linn.

A creeping herb with flower-heads on short ascending peduncles; disk-florets orange, ray-florets yellow.

Guin.: Kissidougou (June) Martine 314! **Lib.:** Gletown, Webo (July) Baldwin 6767! **Iv. C.:** Kéeta, Middle Cavally (July) Chev. 19330! Nimba Mts. (Apr.) Schnell 5334! Man (July) Kerharo- Bouquet 630! **Ghana:** Akwapim Thonning 227! Aburi (Mar., May) Johnson 145! Deighton 616! Winneba Plains (Apr.) Morton A2022! Amentia, Ashanti (Apr.) Irvine 511! Vane, Trans-Volta Togo (Nov.) Morton GC 9379! **N. Nig.:** Tilde Filani, 3,300 ft. (May) Lely 233! Jos Plateau Lely 859! **S. Nig.:** (Sept.) Foster 345! Lagos Millen 196! Okomu F.R., Benin (Feb.) Brenan 9154! Sapoba (Sept.) Onochie FHI 34279! Oban Talbot 974! **[Br.] Cam.:** Cam. Mt., Buea, 3,200-3,800 ft. (Mar., Dec.) Boughey GC 7036! Adams GC 11809! Mamfe (Mar.) Onochie FHI 30888! Bamenda, 5,000 ft. (Feb.) Migeod 498! Gembu, 5,300 ft., Mambila Plateau (Jan.) Hepper 1812! Serti, Adamawa (Dec.) Latilo & Daramola FHI 28954! Vogel Peak, 1,200 ft., Adamawa (Nov.) Hepper 1434! **F. Po:** Basilé (Dec.) Boughey GC 10971! Moka, 3,500-4,000 ft. (Dec.) Boughey 77!

Also in **S. Tomé** and **Principe**.

4. *Spilanthus africana* DC. Prod. 5: 623 (1836).

APD: Synonym of Acmella caulirhiza Delile

APD: Synonym of Spilanthus mauritiana (A. Rich. ex Pers.) DC.

Like the last but more hairy and more robust with the flower-heads on longer peduncles.

[Br.] Cam.: Cam. Mt., 4,400 ft. (Apr.) Maitland 1130! Bafut-Ngamba F.R., Bamenda (Jan., Feb.) Keay & Lightbody FHI 28369! Hepper 2098! Lakom, 6,000 ft. (Apr.) Maitland 1655! Ndu, 5,900 ft. (Feb.) Hepper & Charter 1947!

Extending to Natal.

10. ELEUTHERANTHERA

Poit. ex Bosc-Lawalrée in Bull. Jard. Bot. Brux. 17: 55 (1943).

- 1 An erect branched annual herb; stems ribbed, pubescent; leaves opposite, ovate, 3-5(-10) cm. long, 1-2(-4) cm. broad, narrowed to a slender petiole about 5 mm. long, serrate-crenate, obtusely pointed, thinly pilose on both surfaces, minutely glandular; capitula on slender axillary peduncles hardly exceeding 1 cm. in length; outer involucre bracts 6-8 mm. long, longer than the inner, oblong and rounded at apex; ray-florets almost always absent; disk-florets 4-5-merous; receptacle-scales persistent, ciliate; achenes 4-angled, tuberculate, glabrescent, without pappus [ruderalis](#)

Eleutheranthera ruderalis (Sw.) Sch. Bip. in Bot. Zeit. 24: 165 (1866); Meikle in Kew Bull. 8: 118 (1953). *APD acc*

Melampodium? *rudera* Sw. (1806).

Eleutheranthera ovata Poit. ex Steud. (1840)-Berhaut Fl. Sén. 68.

A weedy, thinly hispid annual herb up to about 2 ft. high with small golden-yellow shortly stalked axillary flower-heads nodding in fruit; **in wet areas mostly near the sea; flowering more frequently during the rains.**

Sen.: Ouassadou Berhaut 1267. **Guin.:** Conakry (Apr.) Martine 52! Moussaya (Nov.) Schnell 2091! Gangan (Apr.) Adam 11942! **S. L.:** Thomas 8293! 9885! 10438! Freetown (July, Aug., Sept.) Deighton 2020: Hepper 911! Melville & Hooker 104! Roruks (July) Deighton 3257! **Lib.:** Delafosse (see note below). Monrovia (May, June) Barker 1318! Baldwin 5882! Cape Palmas (Apr.) Todd 37! Siatown (Dec.) Adam 16365! **Ghana:** Axim (Mar., Apr., June, Dec.) Morton GC 6574! A419! 2223! 2458! Cape Coast (Aug.) Hall 572! Dunkwa (Feb.) Whiting 12! **S. Nig.:** Lagos (July) Dalz. 1352! **[Br.] Cam.:** Victoria (Sept.) Boughey X1199! X1294! **F. Po:** S. Isabel (Jan.) Boughey GC 10972!

In the American, Asian and Australasian tropics, and apparently now spreading in Africa.

[Note: According to Berhaut (in litt.) the collection by Delafosse, which I have not seen, was made in 1897 and is probably the earliest record for this species in our area-C. D. A.].

11. WEDELIA

Jacq.-Adams in Webbia 12: 229 (1956). Nom. cons.

- 1 Stems procumbent, rooting at the nodes; leaves opposite, about 4 cm. long and 3 cm. broad, trilobed, broadly cuneate in the lower half, lobes broadly triangular, dentate, sparingly setulose on the nerves; petiole up to 5 mm. long, sparingly setulose; flower-heads axillary, solitary on long peduncles; involucre bracts leafy, sparingly setulose; ray-florets spreading, fertile; achenes irregularly ovoid, warted, minutely puberulous in the upper part, with short early-caducous aristae *trilobata*

Wedelia trilobata (Linn.) Hitchc. in Rep. Missouri Bot. Gard. 4: 99 (1893).

APD: Synonym of Sphagneticola trilobata (L.) Pruski

Silphium trilobatum Linn. (1759).

Wedelia carnosa Pers. (1807).

A prostrate weedy herb with yellow flower-heads up to 1 in. across.

Guin.: Conakry (? Apr.) Martine 55! **S. L.:** Freetown (May, Sept.) Deighton 1186! Hepper 912! Makump (Aug.) Deighton 1380! Njala, introduced from Freetown (June) Deighton 6070!

Introduced from tropical America.

[Note: No other species of *Wedelia* is known to occur in W. Africa (see *Aspilia africana*); those listed in F.T.A. 3: 376-377 for other parts of Africa may, when revised, prove to belong also to *Aspilia* or other genera-C. D. A.]

12. BLAINVILLEA

Cass.-F.T.A. 3: 374; Adams in *Webbia* 12: 229 (1956).

- 1 An erect hirsute annual herb with striate angular stems and branches; leaves opposite or alternate above, broadly ovate, acuminate, very shortly cuneate and 3-nerved at base, 5-12 cm. long, 3-6 cm. broad, thin, shortly pilose on the nerves and veins, shallowly crenate-serrate; petiole slender, pilose; flower-heads pedunculate at the ends of the shoots, or axillary; peduncles variable, up to 4 cm. long; capitula oblong in flower, hemispherical in fruit, about 1 cm. long; outer involucre bracts lanceolate, acute, thin, striate-hairy outside, inner glabrous; ligules of outer female florets about 1 mm. long, white; achenes blackish, sharply angled, the outer 3-angled with 3 persistent but fragile barbellate aristae, the inner 2- or 3-angled, longer than the outer, with 2 aristae, all transversely rugulose, truncate at apex *gayana*

Blainvillea gayana Cass. in Dict. Sci. Nat. 47: 90 (1827); F.T.A. 3: 375; Chev. Bot. 369 partly (Chev. 24864); Berhaut Fl. Sén. 69, 70. *APD acc*

An erect hairy annual 1-3 ft. high with white flower-heads about 1/2 in. long; a weed of open ground in semi-arid regions.

Sen.: Heudelot 248! M'Bidjem Perrottet 50! Dakar Vermoesen 1013! Kaolak (Sept.) Berhaut 411 bis! Ngazobil Berthollet 23! Niokolo-Koba (Oct.) Adam 15798! **Gam.:** Albreda Perrottet. **Mali:** Macina (Sept.) Chev. 24864! Labézanga Hagerup 449! Bore (Sept.) Demange 38/1959! **Niger:** Niamey (Oct.) Hagerup 511! **N. Nig.:** Katagum Dalz. 168!

Also in **Cape Verde Islands**, **Ethiopia** and **Arabia**.

13. ASPILIA

Thouars-F.T.A. 3: 378; Adams in *Webbia* 12: 230 (1956). *APD acc*

- 1 Ligules of the ray-florets yellow (cream to orange): 2
Ligules of the ray-florets white, violet or purple: 15

-
- 2 Ray-florets pale yellow or cream:3
 Ray-florets yellow to orange:5
- 3 Ligules pale sulphur-yellow; densely hispid erect herbs of mostly perennial habit; receptacle-scales appendaged and hairy at apex; achene-aristae absent:.....4
 Ligules cream; sparsely setulose straggling-branched annual herb; receptacle-scales obtuse, glabrous; achene-aristae very short and inconspicuous[11. *helianthoides*](#)
- 4 Capitula mostly involucre by the upper leaves; stem-leaves lanceolate; achenes not more than 5 mm. long; appendage of the receptacle-scale not exceeding 1.5 mm. long[1. *rudis* subsp. *rudis*](#)
 Capitula distinctly pedunculate; stem-leaves ovate; achenes 6 mm. or more long; appendage of the receptacle-scale up to 4 mm. long[1a. *rudis* subsp. *fontinaloides*](#)
- 5 Leaves ovate to lanceolate with a pair of distinct lateral nerves arising near the base:6
 Leaves linear to linear- or elliptic-lanceolate, without a pair of distinct lateral veins arising near the base; annual herbs:..... 11
- 6 Leaves sessile or subsessile:7
 Leaves petiolate; peduncles 4-10 cm. long; involucre bracts erect or spreading, as long as or longer than the disk-florets; indumentum of short whitish appressed or spreading hairs:.....8
- 7 Capitula distinctly pedunculate; leaves ovate to ovate-lanceolate, acuminate; involucre bracts recurved at apex; indumentum coarse [2. *spenceriana*](#)
 Capitula subsessile or shortly pedunculate; leaves lanceolate, acute; involucre bracts erect, acute; indumentum very fine with copious short appressed hairs [3. *chevalieri*](#)
- 8 Leaves ovate to ovate-lanceolate:9
 Leaves lanceolate; hairs on peduncles spreading[4d. *africana* var. *guineensis*](#)
- 9 Hairs on peduncles spreading; rudimentary styles in ray-florets few or absent:..... 10
 Hairs on peduncles appressed-ascending; rudimentary styles usually present in most of the ray-florets[4c. *africana* var. *ambigua*](#)
- 10 Capitula 2 cm. or more in diam. (in flower); ray-florets 10 or more; leaves up to about 10 cm. long and 5 cm. broad[4a. *africana* var. *africana*](#)
 Capitula about 1.5 cm. diam.; ray-florets 5-6; leaves up to 6 cm. long and 2 cm. broad, mostly much smaller [4b. *africana* var. *minor*](#)
- 11 Receptacle-scales shortly spiculate or triangular-tipped; central disk-florets fertile; outer involucre bracts as long as the ray-florets or longer; leaves subsessile:..... 12
 Receptacle-scales (at least of the disk-florets) with a terminal appendage 1.5-3 mm. long; central disk-florets mostly sterile; outer involucre bracts rarely exceeding the rays:..... 13
- 12 Leaves narrowly oblong-lanceolate; low much-branched herb; internodes 3-4 cm. long; peduncles 1.5-6 cm. long [5. *bracteosa*](#)
 Leaves linear-lanceolate to linear; tall straggling herb; internodes up to about 15 cm. long; peduncles up to 10 cm. long [6. *paludosa*](#)
- 13 Outer involucre bracts mostly longer than the inner, acute or triangular-tipped: 14
 Outer involucre bracts shorter than the inner, obtuse; leaves tapered to a rather broad base, subsessile; pappus-aristae very short, curved; stems hispid[9. *angustifolia*](#)
- 14 Leaves tapered to the base; pappus-aristae 2(-3), up to 1.5 mm. long, unequal; stems and leaves scabrid with short appressed hairs [7. *mortonii*](#)
 Leaves abruptly narrowed at the base; pappus-aristae very short or absent; stems and leaves hispid, the hairs on the midrib below spreading [8. *linearifolia*](#)
- 15 Capitula more or less clustered and sessile; leaves linear-lanceolate, often pandurate towards the base; stems rough with spreading curved hairs: 16
 Capitula pedunculate: 17
- 16 Ray-florets purple[10. *kotschy* var. *kotschy*](#)
 Ray-florets white[10a. *kotschy* var. *alba*](#)
- 17 Involucre bracts in 2-4 rows, the outer mostly as long as or longer than the inner, with pointed tips; leaves ovate to ovate-lanceolate or rarely lanceolate: 18
 Involucre bracts in 4-5 rows, the outer much shorter than the inner, with spatulate obtuse or rounded tips; leaves lanceolate to linear-lanceolate; peduncles slender with appressed hairs [12. *bussei*](#)
- 18 Flower-heads large, 2 cm. or more in diam.; leaves ovate, 5-12 cm. long, 1.5-4.5 cm. broad, shortly petiolate, more or less rounded at base, acute at apex, coarsely serrate with a thick texture; stems often purplish, with stiff rather sparse spreading or ascending hairs; peduncles up to 9 cm. long, with spreading hairs; pappus-aristae

very short or absent; ligules about 8, white or cream [11a. *helianthoides* subsp. *helianthoides*](#)

Flower-heads less than 1.5 cm. diam.; leaves ovate to lanceolate, acute, remotely serrate or subentire; peduncles short or long, with numerous spreading or ascending hairs; pappus-aristae short or long or rarely absent; ligules 5-8, white, violet or purplish: **19**

- 19** Leaves ovate to ovate-lanceolate, remotely serrate or subentire, of thin texture; peduncles short; pappus-aristae 2, unequal, rarely absent; outer involucral bracts acute: **20**

Leaves lanceolate to linear-lanceolate, remotely serrate, of firm texture; peduncles variable in length, with ascending hairs; pappus-aristae 1.5-2 mm. long, more or less persistent; outer involucral bracts slender, linear, obtuse [11d. *helianthoides* subsp. *papposa*](#)

- 20** Hairs on peduncles spreading; pappus-aristae very short and caducous, or absent; leaves distinctly petiolate, cuneate at base [11b. *helianthoides* subsp. *ciliata*](#)

Hairs on peduncles more or less ascending; pappus-aristae up to 2.5 mm. long, unequal, more or less persistent; leaves shortly petiolate [11c. *helianthoides* subsp. *prieuriana*](#)

Aspilia rudis Oliv. & Hiern

- 1. *Aspilia rudis* subsp. *rudis***-in F.T.A. 3: 380 (1877); Chev. Bot. 371, partly; F.W.T.A., ed. 1, 2: 145 (excl. syn.; Chev. 27174; Irvine 887); Adams in Webbia 12: 233. *APD acc*

A coarse erect, often perennial hispid herb about 3 ft. high, with pale yellow or almost white flowers; **in savanna grassland or woodland.**

Mali: Baguineda, Bamako (Aug.) Roberty 2580! **Guin.:** Yagadou (Mar.) Chev. 20932! **Ghana:** Banda Hills F.R., Ashanti (Dec.) Morton GC 25186! **N. Nig.:** Nupe Barter 1292! Biu, 2,500 ft., Bornu (Aug.) Noble 3! Yola (July) Dalz. 30! Abinsi (Oct.) Dalz. 653! Benue R. Talbot!

Also in **Principe**.

- 1a. *Aspilia rudis* subsp. *fontinaloides*** *C. D. Adams* in Webbia 12: 233 (1956). *APD acc*

Aspilia rudis of Chev. Bot. 371, partly (Chev. 23992).

A robust erect coarsely hispid herb up to 4 ft. high with pale yellow flowers; leaves rather broad and sometimes in whorls of 3 or 4; **in savanna.**

Guin.: Kinkou (June) Adam 14671! **Ghana:** Afram Plains (May) Morton GC 7250! Nsawkaw, Ashanti (fr. Dec.) Adams 3153! Aframso, Ashanti (July) Darko 919! Ejura Scarp (Dec.) Morton GC 9599! **Dah.:** Kouandé, Atacora Mts. (June) Chev. 23992!

- 2. *Aspilia spenceriana* Muschl.** in Engl. Bot. Jahrb. 50, Suppl.: 334 (1914); Adams l.c. 234.

APD: *Synonym of Aspilia rudis* Oliv. & Hiern subsp. *rudis*

Aspilia baoulensis A. Chev. Bot. 370, name only.

Aspilia rudis of F.W.T.A., ed. 1, 2: 145, partly (Chev. 22174), not of Oliv. & Hiern.

Aspilia helianthoides of Chev. Bot. 370, partly (Chev. 24496), not of Oliv. & Hiern.

An erect herb with stalked heads nodding in fruit, with the outer involucral bracts recurved; florets pale yellow; **in savanna.**

Iv. C.: Kangoroma Mt. (July) Chev. 22174! **Ghana:** Kete Krachi Graf Zech 92. Kpeve Westwood GC 5578! Ejura Scarp (Dec.) Morton A2564! **Niger:** Diapaga to Fada, Gourma (July) Chev. 24496!

- 3. *Aspilia chevalieri* O. Hoffm. & Muschl.** in Mém. Soc. Bot. Fr. 2, 8: 115 (1910); Chev. Bot. 370; Adams l.c. 234 (excl. Roberty 2968). *APD acc*

An erect yellow-flowered herb up to 2 ft. high; stems and leaves covered with a fine whitish indumentum.

Mali: Bamako (Jan.) Chev. 202 bis! Nyamina to Koulikoro (Oct.) Chev. 2027! **Guin.:** Farana (Mar.) Sc. Elliot 5371! **S. L.:** Buyabuya, Scarcies (Feb.) Sc. Elliot 4268! Loma Mts., 4,000 ft. (Nov.) Jaeger 480!

- 4. *Aspilia africana* (Pers.) C. D. Adams** l.c. 236 (1956). *APD acc*

Wedelia africana Pers. (1807)-F.T.A. 3: 376; F.W.T.A., ed. 1, 2: 145.

Aspilia latifolia Oliv. & Hiern in F.T.A. 3: 379 (1877); Chev. Bot. 371; F.W.T.A., ed. 1, 2: 145; Berhaut Fl. Sén. 70.

A weed widespread in Africa usually with deep yellow flowers; very variable and separable into at least the following varieties: -

4a. *Aspilia africana* (Pers.) C.D. Adams var. *africana* APD acc

Aspilia helianthoides of Chev. Bot. 370, partly (Chev. 16076).

A spreading herb or scrambling shrub up to 6 ft. high,

Sen.: Adam 6022. **Gam.:** Genieri-Kaiaaf (July) Fox 162! **Guin.:** Nzo Mt. (Mar.) Chev. 21031! Dyeke (July) Baldwin 9658! Beyla (Oct.) Jac.-Fél. 2047! **S. L.:** Winwood Reade! Leicester Peak (Dec.) Sc. Elliot 3893! Newton (June) Deighton 5546! Musaia (Sept.) Small 236! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 70! Loma Mts. (Sept., Nov.) Jaeger 534! 1587! **Lib.:** Bunting! Suacoco Okeke 9! Ganta (May) Harley! **Iv. C.:** Bingerville (Dec.) Chev. 16076! Man (Aug.) Boughey GC 18416! **Ghana:** Accra (Aug.) T. Vogel 26! Asuansi (Feb.) Williams 7! Kumasi (July) Chipp 537! Banka Irvine 478! Amedzofe (Nov.) Morton GC 9426! **N. Nig.:** Baikie! Lokoja (Sept.) Parsons 4! Abinsi (Oct.) Dalz. 658! **S. Nig.:** Lagos Moloney! Millen! Ibadan (Jan., Oct.) Meikle 994! Keay & Jones FHI 13738! Akure F.R. (Oct.) Keay FHI 25464! Calabar (Feb.) Mann 2325! Kalbreyer 210! **[Br.] Cam.:** Bamenda, 5,000 ft. (Jan.) Migeod 317! 430! Nkambe, Bamenda (Sept.) Ujor FHI 30228!

4b. *Aspilia africana* var. *minor* C. D. Adams l.c. 237 (1956).

APD: *Synonym of Aspilia africana* (Pers.) C. D. Adams subsp. *africana*

Aspilia helianthoides of Chev. Bot. 370, partly (Chev. 18783).

A small bushy herb; at higher altitudes.

Guin.: Dalaba Plateau, Fouta Djallon, 3,000-4,000 ft. (Oct.) Chev. 18783! Timbi-Madina (Mar.) Adam 11705! **[Br.] Cam.:** Wum, Bamenda (Dec.) Boughey GC 11565! 11567! Ndop, 3,600 ft. (Dec.) Boughey GC 11099!

4c. *Aspilia africana* var. *ambigua* C. D. Adams l.c. 238 (1956).

APD: *Synonym of Aspilia africana* (Pers.) C. D. Adams subsp. *africana*

Wedelia africana of F.W.T.A., ed. 1, 2: 145, partly (Johnston 5; Chipp 622; Lely 60; Carpenter).

A weed of cleared ground in drier forest country; ligules golden-yellow.

Guin.: Bafing (Oct.) Adam 12651! Timbo (Oct.) Jac.-Fél. 1915! **S. L.:** Kortright Hill (Mar.) Johnston 5! Wallia, Scarcies Sc. Elliot 4268! Makumri (June) Thomas 540! Gberia Fotumbu (Sept.) Small 287! **Ghana:** Senya Beraku (May) Morton GC 9215! Abetifi (Dec.) Adams 1926! Dukwesein, Agogo (Dec.) Chipp 622! Dzodze (Oct.) A. S. Thomas K3! **N. Nig.:** Liruwen-Kano Hills Carpenter! Birnin Gwari, Zaria (June) Keay FHI 25842! Naraguta Lely 60! Jos Batten-Poole 358! Bula, Bauchi (June) Summerhayes 5! **S. Nig.:** Olokemeji Foster 301! Ibadan (Feb.) Keay & Meikle 1136!

4d. *Aspilia africana* var. *guineensis* (O. Hoffm. & Muschl.) C. D. Adams l.c. 238 (1956).

APD: *Synonym of Aspilia africana* (Pers.) C. D. Adams subsp. *africana*

Aspilia guineensis O. Hoffm. & Muschl. (1910)-Chev. Bot. 370.

Aspilia latifolia of F.W.T.A., ed. 1, 2: 145, partly (Chev. 14622; 14650; 18244).

A perennial herb with narrow leaves; ligules yellow.

Guin.: Kouria to Longuery (Aug.) Caille in Hb. Chev. 14622! 14650! Kouria to Irébéléya (Sept.) Chev. 18244!

5. *Aspilia bracteosa* C.D. Adams l.c. (1956).

APD: *Synonym of Aspilia ciliata* (Schumach.) Wild

A bushy annual herb up to 2 ft. high with yellow flowers about 3/4 in. across.

Ghana: Yendi (Dec.) Morton A1475!

6. *Aspilia paludosa* Berhaut in Bull. Soc. Bot. Fr. 101: 375 (1954); Fl. Sén. 69, 71; Adams l.c. 239. APD acc

A branched annual herb up to 4 ft. high with pale yellow florets; in low-lying ground in savanna.

Sen.: Tambacounda (Sept.-Oct.) Berhaut 1271! Bambousaie (Sept.) Berhaut 3274! 4047. **Mali:** Kokry, Macina (Nov.) Roberty 2968! **Ghana:** Bimbila (Dec.) Morton A1422! Tamale (Oct.) Baldwin 13557b! Pong-Tamale (Dec.) Morton GC 8930! **N. Nig.:** (May) Thornewill 180!

7. *Aspilia mortonii* C.D. Adams l.c. 240 (1956).

APD: *Synonym of Aspilia angustifolia Oliv. & Hiern*

A straggling annual herb up to 6 ft. or more high, with slender branches and orange-yellow flowers; in low-lying savanna.

Ghana: Damongo, Gonja (Mar., July, Sept., Dec.) Morton GC 8747! 9963! 25028! Adams 3969! Andoh 5214! Rose Innes GC 30188! Kwahu Tafo (Apr., Dec.) Morton A662! Adams 4919!

8. *Aspilia linearifolia* Oliv. & Hiern in F.T.A. 3: 380 (1877); Adams l.c. 240.

APD: *Synonym of Aspilia angustifolia Oliv. & Hiern*

An erect bushy herb up to 6 ft. high with harshly hispid stems and leaves; flower-heads golden-yellow, up to 1 1/2 in. across.

Ghana: Burbulakofe, Wurupong (Sept.) Adams 1848! Adidome to Ho (May) Morton A2059! A2061! Yeji (Nov.) Morton A2705! **N. Nig.:**? Lokoja Baikie!

9. *Aspilia angustifolia* Oliv. & Hiern in F.T.A. 3: 380 (1877); Adams l.c. 241. *APD acc*

An annual herb up to 6 ft. high with orange-yellow flowers about 1 in. across; in wet places in savanna.

Ghana: Kpandai (Dec.) Adams & Akpabla GC 4029! Bimbila (Dec.) Irvine 2718! Kete Krachi (Jan., May, Dec.) Morton GC 6295! 7165! A1516! Yabrasu to Kintampo (Dec.) Morton A1189! Ejura to Atebubu (Nov.) Morton A2752! **N. Nig.:** Nupe Barter 1007! 1185! Kontagora (Nov.) Dalz. 195! **S. Nig.:** Ado Rock, Oyo (Oct.) Savory & Keay FHI 25349! Ibadan (Oct.) Keay & Jones FHI 13777!

Aspilia kotschy (Sch. Bip.) Oliv. *APD acc*

10. *Aspilia kotschy* var. *kotschy* in Trans. Linn. Soc. 29: 98 (1873); F.T.A. 3: 381; Adams l.c. 241; Berhaut Fl. Sén. 70. *APD acc*

Dipterotheca kotschy Sch. Bip. (1842).

Aspilia kotschyana of Chev. Bot. 371.

An erect hispid herb up to 4 ft. high with clustered purple or brownish-red flowers.

Sen.: Diohine Berhaut 2269! **Mali:** San (Sept.) Chev. 2081! Ségou (Jan., Nov.) Roberty 2737! 3174! **N. Nig.:** Attah (Sept.) T. Vogel! Aboh Barter 338! Zungeru (Aug.) Dalz. 198! Fodama (Dec.) Moiser 164! Jos Plateau (Aug.) Lely P557! Bornu Parsons! [**Br.**] **Cam.:** Gurum, Adamawa (Nov.) Hepper 1288!

Extends from Sudan through E. Africa to Angola.

10a. *Aspilia kotschy* var. *alba* Berhaut in Bull. Soc. Bot. Fr. 101: 375 (1954); Fl. Sén. 70. *APD acc*

Aspilia sp. aff. *kotschyana* of Chev. Bot. 371.

A herb similar to the last, with white flowers.

Sen.: Bargny Berhaut 1726; 4778. **Mali:** Yatenga-Nord (Aug.) Chev. 24805! **N. Nig.:** Katagum (Sept.) Dalz. 167!

11. *Aspilia helianthoides* (Schum. & Thonn.) Oliv. & Hiern in F.T.A. 3: 381 (1877); Chev. Bot. 370, partly; Berhaut Fl. Sén. 69, 70. *APD acc*

Coronocarpus helianthoides Schum. & Thonn. (1827).

Annual herbs with white or cream-coloured ligulate florets, sometimes turning purplish on drying; widespread and variable.

The following subspecies occur in our area.

11a. *Aspilia helianthoides* subsp. *helianthoides*-Adams l.c. 244. *APD acc*

A robust herb with white or cream ligules; **in savanna and hill grassland**.

Guin.: Bambaya, Upper Niger (Oct.) Jaeger 4! Kouroussa Brossart in Hb. Chev. 15701! **S. L.:** Yalamba (Jan.) Jaeger 3949!
Ghana: Thonning! Accra (Aug.) T. Vogel 27! Menji to Sampa, Ashanti (Dec.) Morton A2612! Togo Plateau F.R. (Oct.)
 Boughey GC 14391! Hohoe (Apr.) Morton GC 9160! **S. Nig.:** Lagos Phillips 9! Newi Kitson!

11b. *Aspilia helianthoides* subsp. *ciliata* (Schumach.) C.D. Adams l.c. 245 (1956).

APD: Synonym of Aspilia ciliata (Schumach.) Wild

Verbesina ciliata Schumach. (1827)

Aspilia smithiana Oliv. & Hiern in F.T.A. 3: 380 (1877); F.W.T.A., ed. 1, 2: 145.

Blainvillea prieuriana of F.W.T.A., ed. 1, 2: 144, partly (Foster 317), not of DC.

A bushy weed herb, with flower-heads about 3/4 in. across and white or purple-tinged ligules.

Sen.: Niokolo (Oct.) Adam 15656! **Iv. C.:** Techikrom (Dec.) Adams 2980! **Ghana:** Thonning! Accra Don 23! Achimota (June) Irvine 704! Accra Plains (Oct.) Baldwin 13417! Kpandu (Sept.) Adams 1786! Yeji Anderson 36! **Togo Rep.:** Büttner 124! Atikpui (Apr.) Schlechter 12983! Lomé Warnecke 256! **Dah.:** Burton! **N. Nig.:** Quorrah (= Niger) (Sept.) T. Vogel 20! Aboh Barter 370! Nupe Barter 1293! Abinsi (Aug.) Dalz. 660! R. Benue Talbot! **S. Nig.:** Olokemeji Foster 317! Abeokuta (Sept.) Odukwe FHI 33914! Oyo (Oct.) Onochie FHI 34914!

Also in **Congo** and **Angola**.

11c. *Aspilia helianthoides* subsp. *prieuriana* (DC.) C.D. Adams l.c. 246 (1956).

APD: Synonym of Aspilia ciliata (Schumach.) Wild

Blainvillea prieuriana DC. (1836)-F.W.T.A., ed. 1, 2: 144, partly (Thomas 7279; Hayes 580).

Aspilia helianthoides of Chev. Bot. 370, partly (Brossart in Hb. Chev. 15674, and var. minor, Chev. 207).

An annual weed like the last; **in more inland localities**.

Sen.: Kaolak (Oct.) Berhaut 2276! **Cam.:** Hayes 580! Albreda Perrottet! **Mali:** Bamako (Jan.) Chev. 207! Yatenga-Nord, Ouahigouya to Koro (Aug.) Chev. 24805 bis. Kita (Oct.) Jaeger 23! **Port. G.:** Bissau (Oct.-Nov.) Esp. Santo 1031! **Guin.:** Kouroussa Pobéguin 468! Kankan Brossart in Hb. Chev. 15674! **S. L.:** Yungeru (Jan.) Thomas 7279! Rosino (Feb.) Jordan 8! Batkanu (Jan.) Deighton 2838! Rokupr (Jan., Apr., Oct.) Deighton 2951! 4575! Jordan 132! **Ghana:** Bagabaga to Tamale (Nov.) Darko 536! Bame Pass (Dec.) Adams 4486! Dutukpene (Dec.) Adams 4538!

11d. *Aspilia helianthoides* subsp. *papposa* (O. Hoffm. & Muschl.) C.D. Adams l.c. 247 (1956).

APD: Synonym of Aspilia ciliata (Schumach.) Wild

Aspilia helianthoides var. *papposa* O. Hoffm. & Muschl. (1914).

Blainvillea prieuriana of F.W.T.A., ed. 1, 2: 144, partly (Sc. Elliot 4593; Hayes 573), not of DC.

An uncommon herb of **grassland**.

Gam.: Hayes 573! **Mali:** Kita Massif (Sept.) Jaeger! **S. L.:** Kora, Scarcies R. (Feb.) Sc. Elliot 4593! **Togo Rep.:** Bassari Kersting 127. **N. Nig.:** Naraguta (Aug.) Lely 507! Keay FHI 20099! Jos (July, Oct.) Lely P531! 812! Batten-Poole 138! 160!

12. *Aspilia bussei* O. Hoffm. & Muschl. in Engl. Bot. Jahrb. 50: 341 (1914). *APD acc*

Aspilia angustifolia A. Chev. Bot. 370, name only, not of Oliv. & Hiern.

Aspilia kitsonii S. Moore in J. Bot. 65: 14 (1927).

Blainvillea prieuriana of F.W.T.A., ed. 1, 2: 144, partly (Chev. 23557), not of DC.

A slender-branched straggling herb of **savanna grassland** with flower-heads about 1/2-3/4 in. across; ligules white or pale purple, rarely lemon-yellow.

Iv. C.: Lowe! Toumodi (Dec.) Boughey GC 14448! Séguéla (Aug.) Boughey GC 18453! Asakra (Aug.) Boughey GC 18620! **Ghana:** Ejura (Mar., Apr., Aug.) Williams 230! Andoh 5043! Darko 553! Tamale (Dec.) Morton GC 6223! Kumawu, Ashanti Chipp 465! **Togo Rep.:** Madse Busse 3502. **Dah.:** Agouagon to Savé (May) Chev. 23557!

14. MELANTHERA*Rohr*-F.T.A. 3: 381.

- 1** Scales of the receptacle elongated into long stiff barbellate setae, the outer ones pectinate-ciliate; leaves petiolate, ovate-triangular, 4·5-7 cm. long, about 3 cm. broad, pilose on both surfaces; peduncles slender; involucre bracts lanceolate, hispid-setulose outside [1. gambica](#)
- Scales of the receptacle rather abruptly acuminate or triangular at apex: **2**
- 2** Leaves petiolate: **3**
- Leaves sessile or subsessile: **6**
- 3** Stems, petioles and veins of the leaves beneath densely fulvous-pilose with matted hairs 3-4 mm. long; leaves broadly ovate, truncate-subcordate, crenate-dentate, acuminate, up to 15 cm. long and 10 cm. broad; capitula 1·5-2 cm. broad; involucre bracts lanceolate, 1 cm. long, shortly setose outside with bulbous-based hairs; achenes obovate, glabrous with 2 unequal caducous bristles [2. felicis](#)
- Stems, petioles and leaf-veins shortly hispid to minutely scabrid-setulose: **4**
- 4** Receptacle-scales acutely long-acuminate; leaves acute or acuminate at apex: **5**
- Receptacle-scales triangular at apex; leaves oblong to ovate-elliptic, shortly cuneate at base, not acuminate, 4-8 cm. long, 2-4 cm. broad, closely scabrid-setulose on both surfaces, prominently 3-nerved above the base; petiole 0·5-1·5 cm. long; capitula rather numerous; involucre bracts densely setulose with short appressed whitish hairs; achenes quadrangular; pappus of few caducous bristles [5. elliptica](#)
- 5** Leaf-bases abruptly and broadly cuneate; lamina 8-15 cm. long, 3-10 cm. broad, rhomboid, coarsely dentate in the upper half; petiole about 1·5 cm. long; achenes obovate, glabrous, minutely rugulose; pappus of 1 or 2 very short caducous bristles [3. rhombifolia](#)
- Leaf-bases various, usually truncate to subcordate but rarely rounded and shortly cuneate or subhastate, margin crenate-serrate to subentire; petiole slender 2-4 cm. long; capitula rather few on long slender peduncles; achenes broad at apex, pitted, coronate, quadrangular or slightly flattened; pappus of several short caducous bristles [4. scandens](#)
- 6** Leaves oblong-lanceolate, rounded at base, 6-8 cm. long, 1·5-2·5 cm. broad, scabrid-setulose on both surfaces, shortly crenate-serrate; involucre bracts in 2-3 series, ovate, obtuse, not exceeding 6 mm. long, in heads about 1 cm. diam. in fruit; achenes oblong-obovate, bilateral, rounded above, glabrous, with few minute caducous bristles [6. abyssinica](#)
- Leaves linear, tapered to base, 4-10 cm. long, 0·5-1 cm. broad, minutely scabridulous on both surfaces, subentire; involucre bracts in 2 series, ovate-lanceolate, acuminate, 1-1·5 cm. long, 3-5 mm. broad, in heads 2-2·5 cm. broad in fruit on rather long peduncles; achenes as above but sparsely pubescent [7. elegans](#)

1. Melanthera gambica *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 146 (1931); Berhaut Fl. Sén. 70. *APD acc*

A hispid slender-stemmed perennial herb 1-2 ft. high, often branching near the ground; flower-heads 3/4-1 in. across; ligules yellow; pappus-bristles early caducous.

Sen.: Kaolak (Aug.) Berhaut 2143! Niokolo (Oct.) Adam 15546! **Gam.:** Hayes 586! Kuntaur Ruxton 50! Genieri (July) Fox 142! **Port. G.:** Pirada, Gabu (June) Esp. Santo 3032!

Also in **Mauritania**.

2. Melanthera felicis *C.D. Adams* in J.W. Afr. Sci. Assoc. ined. (1963). *APD acc*

A robust herb with a thick deeply grooved very hairy stem up to 5 ft. high; florets yellow in heads about 3/4 in. across.

Guin.: Faranah (Oct.) Jac.-Fél. 1868!

3. Melanthera rhombifolia *O. Hoffm. & Muschl.* in Mém. Soc. Bot. Fr. 2, 8: 117 (1910); Chev. Bot. 372. *APD acc*

Melanthera elliptica of F.W.T.A., ed. 1, 2: 146, partly (Chev. 999), not of O. Hoffm.

An erect perennial herb 1-2 ft. high with much-branched stems; leaves rather large, finely scabrid, sharply serrate; flower-heads up to 1 in. across with bright orange-yellow rays.

Mali: Tiédiana (June) Chev. 999! Kita Massif (July) Jaeger 1! 3! **Iv. C.:** Tonkoui (Dec.) Roberty 15827! **Ghana:** Han to Lawra (May) Morton GC 7601! Gambaga Scarp (Apr., Sept.) Morton GC 9003! Hall 740! **N. Nig.:** Mando F.R., Birnin Gwari, Zaria (June) Keay FHI 25825! 25840!

4. **Melanthera scandens** (*Schum. & Thonn.*) *Roberty* in Bull. I.F.A.N. 16: 68 (Jan. 1954); *Brenan* in Mem. N.Y. Bot. Gard. 8: 480 (Feb. 1954). *APD acc*

Buphthalmum scandens *Schum. & Thonn.* (1827).

Melanthera brownei (*DC.*) *Sch. Bip.* (1844)-F.T.A. 3: 382; Chev. Bot. 371; F.W.T.A., ed. 1, 2: 146, partly (excl. syn. *M. djalensis*); Trochain Mém. I.F.A.N. 2: 378; Guinea in Ann. Jard. Bot. Madrid 10: 304, t. 331.

Lipotriche brownei *DC.* (1836).

A branched scabrid herb usually scrambling or scandent with rather broad leaves and orange radiate flower-heads about 1 in. across.

Sen.: fide Trochain l.c. **Guin.:** Kouroussa (July) Pobéguin 329! Kouria (Oct.) Caille in Hb. Chev. 15024! Source of R. Niger (Oct.) Jaeger 99! Bafing (Oct.) Adam 12654! **S. L.:** Njala (July) Deighton 762! Jigaya (Sept.) Thomas 2505! Musaia (Dec.) Deighton 4556! **Lib.:** Nyaake, Webo (June) Baldwin 6188! Flumpa, Sanokwele (Sept.) Baldwin 9350! Ganta (Sept.) Harley! **Iv. C.:** Bingerville Chev. 15405! Middle Cavally Basin (July) Chev. 19396! Nzo (July) Schnell 1515. Oroumba-Boka Mt. (Aug.) Boughey GO 18578! **Ghana:** Thonning! Nsuaem, Oda (Oct.) Fishlock 54! Asin-Yan-Kumasi Cummins 244! Cape Coast (July) T. Vogel 42! Aburi (Nov.) Howes 1014! Wenchi, Ashanti (Dec.) Adams 3240! Kete Krachi to R. Oti (Dec.) Morton GC 6431! **N. Nig.:** Nupe Barter 1297! **S. Nig.:** Lagos (Oct.) Dalz. 1169! Abeokuta Irving! Ibo country (Aug.) T. Vogel 19! Akure F.R., Ondo (Oct.) Keay FHI 25486! Oban Talbot 389! 986! [**Br.**] **Cam.:** Rio del Rey Johnston! Cam. Mt., 3,000-6,500 ft. (Sept., Nov.-Jan., Mar.) Dunlap 86! Mildbr. 10752! Maitland 217! Migeod 229! Brenan 9580! Boughey GC 6755! Lus, Nkambe Div. (Feb.) Hepper 1867! Kwagiri-Gangumi, Adamawa (Dec.) Latilo & Daramola FHI 28783! **F. Po.:** (Oct., Dec.) T. Vogel 42! Mann 59! Monod 10485! Moka, 4,000 ft. (Dec.) Boughey 52! fide Guinea l.c.

Widespread in tropical Africa.

5. **Melanthera elliptica** *O. Hoffm.* in Engl. Bot. Jahrb. 24: 474 (1898); F.W.T.A., ed. 1, 2: 146, partly (excl. syn. *M. rhombifolia* and Chev. 999). *APD acc*

Melanthera chevalieri *O. Hoffm. & Muschl.* (1910).

An erect perennial bushy herb 2-4 ft. high with numerous yellow flower-heads 3/4-1 in. across; **in savanna.**

Mali: Kita Massif (Oct.) Jaeger 30! **Ghana:** Akuse (May, Oct., Nov.) Morton, A28! 2204! 2373! Kete Krachi to R. Oti (May) Morton GC 7283! Jasikan (Apr.) Darko 252! Banda (Dec.) Adams & Akpabla GC 4011! Gambaga (Sept.) Hall 780! **Togo Rep.:** Büttner 34. **N. Nig.:** Zaria (Feb.) Dalz. 361! Anara F.R., Zaria (May) Keay FHI 25785! Birnin Gwari, Zaria (June) Keay FHI 25822! Hephama to Ropp, 4,600 ft., Jos Plateau (July) Lely 379! Biu, 2,500 ft., Bornu (Aug.) Noble 5! [**Br.**] **Cam.:** Vogel Peak. 3,600 ft., Adamawa (Nov.) Hepper 1401!

Also in **Ubangi-Shari.**

6. **Melanthera abyssinica** (*Sch. Bip.*) *Oliv. & Hiern* in F.T.A. 3: 382 (1877). *APD acc*

Wuerschmittia abyssinica *Sch. Bip.* (1846).

Melanthera djalensis *A. Chev.* Bot. 372, name only.

Melanthera sokodensis *Muschl. ex Hutch. & Dalz.* F.W.T.A., ed., 1, 2: 146.

A perennial scabrid herb with erect conspicuously grooved stems (at least when dry); flower-heads about 1 in. across with orange-yellow rays; **in mountain grassland.**

Guin.: Dalaba-Diaguissa Plateau, 3,000-4,000 ft. (Sept., Oct.) Chev. 18699! 18829! Mt. Loura (Sept.) Schnell 7100! **S. L.:** Bintumane Peak (Loma Mts.), 5,000 ft. (Jan., Sept.) T.S. Jones 94! Jaeger 1987! Sereleu to Kouka, Loma Mts. (Sept.) Jaeger 1588! 1703! **Togo Rep.:** Sokode (Oct.) Schroeder 73!

Also in **Sudan** and **Ethiopia.**

7. **Melanthera elegans** *C.D. Adams* l.c. ined. (1963.)

APD: *Synonym of Aspilia elegans* (*C. D. Adams*) *J.-P. Lebrun & Stork*

A many-grooved slender-stemmed perennial herb 2-3 ft. high from a rhizome or decumbent base; leaves pale green, narrow; ray-florets rich yellow in heads about 1 1/2 in. across; on outcropping rocks.

Guin.: Tossékéré (Oct.) Adam 12728! Labé (June) Adam 14765!

15. ECLIPTA

Linn.-F.T.A. 3: 373. Nom. cons.

- 1** A herb covered all over with short scabrid appressed hairs; leaves opposite, lanceolate or narrowly ovate-lanceolate, subacute, shortly narrowed at base, 4-10 cm. long, 1-3 cm. broad, distantly serrate, 3-nerved from well above the base; flower-heads axillary and terminal, about 1 cm. diam.; peduncle slender, 1-7 cm. long; involucre bracts few, imbricate, ovate-orbicular; ray-florets numerous, very small, white; achenes dentate at apex, finely tuberculate *prostrata*

Eclipta prostrata (Linn.) Linn. Mant. Pl. Alt. 286 (1771). *APD acc*

Verbesina prostrata Linn. (1753).

Eclipta alba (Linn.) Hassk. (1848)-F.T.A. 3: 373; Chev. Bot. 369; F.W.T.A., ed. 1, 2: 146; Schnell in Ic. Pl. Afr. I.F.A.N. 1: t. 18; Berhaut Fl. Sén. 69.

A decumbent or erect annual herb up to 2 ft. or more high, with rough leaves and stems and white flower-heads about 1/3 in. across; whole plant blackening on drying; **a common tropical weed especially in damp places.**

Sen.: Richard Tol (Jan.) Döllinger! Dakar (Jan., May) Chev. 2085! Baldwin, 5717! **Gam.:** Saunders 4! Kuntaur Ruxton 17! **Mali:** Timbuktu (July) Chev. 1262! Kabarah (Aug.) Chev. 1342! Kobala, Bamako (July) Roberty 2453! Ouasagouna (Sept.) Hagerup 433! **Guin.:** Heudelot 786! Kouroussa Brossart in Hb. Chev. 15636! **S. L.:** Sumbuya (Apr.) Deighton 1694! Njala (May) Deighton 2519! Musaia (Dec.) Deighton 4468! Makuma (Sept.) Jordan 921! **Lib.:** Kakatown Whyte! Ganta (May) Harley! Harbel (July) Baldwin 6649! Gletown, Tchien (July) Baldwin 6780! **Iv. C.:** Bingerville (Dec.) Chev. 16073! **Ghana:** Shai Plains (Jan.) Johnson 570! Keta (Mar.) Morton GC 6535! Asamankese (Aug.) Howes 941! Amentia, Ashanti Irvine 467! Tumu (May) Morton GC 7575! **Dah.:** Aguégué, Porto Novo (Mar.) Chev. 23321! **Togo Rep.:** Lomé Warnecke 256a! **Niger:** Kolo (Nov.) Vaillant 838! **N. Nig.:** Nupe Barter 865! Jebba (Mar.) Meikle 1285! Sokoto (Nov.) Moiser 36! Jira (May) Lely 128! Jos Plateau (Feb.) Lely P147! Abinsi (July) Dalz. 6621 **S. Nig.:** Attah (Sept.) T. Vogel 68! Nun R. (Aug., Sept.) T. Vogel 29! Mann 4701 Lagos W. Mac Gregor 133! Ibadan (Feb., Mar.) Brenan 8953! Meikle 1262! Onitsha (May) Onochie FHI 7200! Oban Talbot 393! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1262!

Common throughout the tropics.

16. VERBESINA

Linn.-Benth & Hook. f. Gen. Pl. 2: 379.

- 1** Stems pubescent; leaves ovate-triangular, petiolate, about 7 cm. long, dentate, whitish beneath with short appressed hairs; flower-heads about 4 cm. diam. on long peduncles; involucre bracts linear, 1 cm. long; ligules deeply lobed at apex; achenes obovate, pilose, with a broad white wing; pappus-bristles 2, smooth *encelioides*

Verbesina encelioides (Cav.) A. Gray in Bot. Calif. I: 350 (1876); Berhaut Fl. Sén. 167. *APD acc*

Ximenesia encelioides Cav. Ic. 2: 60, t. 178 (1793); F.T.A. 3: 383.

An annual herb with yellow flower-heads; **probably escaped from cultivation.**

Sen.: Perrottet. Etesse!

Introduced from tropical America; also in the **Sudan.**

17. ACANTHOSPERMUM

Schrank-Benth. & Hook. f. Gen. Pl. 2: 349. APD acc

- 1** Leaves petiolate; achenes obliquely elliptic, about 8-ribbed, sulcate, with lateral hooked spinules only *1. brasilum*
Leaves sessile or the lower shortly petiolate; achenes triangular with numerous lateral hooked spinules and two large straight or hooked erect apical spines *2. hispidum*

1. **Acanthospermum brasiliun** *Schrank* Pl. Rar. Hort. Monac. 2: 63 (1822).

APD: Synonym of Acanthospermum australe (Loefl.) Kuntze

An erect annual weed, about 1 ft. high, with yellow flowers.

Ghana: Cape Coast (July) Morgan GC 17335!

Also in tropical America

2. **Acanthospermum hispidum** *DC.* Prod. 5: 522 (1836); Berhaut Fl. Sén. 68. *APD acc*

Acanthospermum humile of Chev. Bot. 388, not of DC.

A bushy annual weed about 12-18 in. high with small sessile flower-heads; florets pale greenish-yellow; achenes 5-10, spreading widely in fruit.

Sen.: Kaolak Chev. 47! Dakar (May) Baldwin 5730! **Gam.:** Kudang (Jan.) Dalz. 8121! **Mali:** Saninkoura, Ségou (Aug., Oct., Nov.) Roberty 56! 448! 2867! Kabala, Bamako (July) Roberty 2446! **Port. G.:** Bissau Esp. Santo 846! **Guin.:** Conakry Debeaux 310! **S. L.:** Freetown (Dec.) Deighton 476! Kumrabai (Dec.) Thomas 7029! **Lib.:** Monrovia (Nov.) Linder 1525! Ganta (Sept.) Baldwin 9295! **Iv. C.:** Garango Prost! Bingerville (Dec.) Chev. 16077! Nzo (Oct.) Schnell 3860. **Ghana:** Achimota (June) Irvine 692! Wench, Ashanti (Dec.) Adams 3253! Tumu (May) Morton GC 7587! **Niger:** Niamey (Dec.) Hagerup 543! **N. Nig.:** Jos (Dec.) Coombe 2! Kano (Aug.) Barry 104! **S. Nig.:** Lagos (Aug.) Dalz. 1413!

Native of tropical America and now widely spread.

18. **ENYDRA**

Lour.-F.T.A. 3: 372.

- 1 Stems elongated, rooting in the lower part, glabrous; leaves opposite, sessile, linear or linear-lanceolate, 5-12 cm. long, up to 2 cm. broad, subauriculate at base, entire or distantly serrate, finely puberulous and minutely glandular beneath; flower-heads few, axillary, sessile, about 1 cm. diam.; involucre bracts 3-4, broad, leafy; receptacle with ribbed paleae closely sheathing the florets; achenes oblong, without a pappus *fluctuans*

Enydra fluctuans *Lour.* Fl. Cochinch. 511 (1790); F.T.A. 3: 372; Berhaut Fl. Sén. 73, 89, 92. *APD acc*

APD: Synonym of Enydra radicans (Willd.) Lack

A perennial spreading herb of swampy ground, especially in coastal areas; florets white or yellowish-white in sessile heads 1/4-1/2 in. across.

Sen.: fide Berhaut l.c. **Ghana:** Adabraka, Accra (July) Irvine 739! Prampram (Jan.) Robertson 72! Accra Plains (Jan., Dec.) Morton GC 6323! Adams 3615! Sekondi to Axim (Mar.) Irvine 2403! **S. Nig.:** Calabar (Feb.) Mann 2320! **F. Po:** (June, Nov.) T. Vogel 218! Barter! Mann 428!

Widespread in the tropics.

19. **SIGESBECKIA**

Linn.-F.T.A. 3: 371.

- 1 Outer involucre bracts usually 5, very narrowly elongate-spathulate, 0.5-1 cm. long, with numerous stalked glands; leaves opposite, the lower with a long, winged petiole, lamina triangular-rhomboid, up to 12 cm. long and 5 cm. broad, crenate-dentate, thinly hispid on both surfaces, the undersurfaces with shining sessile glands; ray-florets few with very short deeply divided ligules; disk-florets with corolla 1.5 mm. long, broadly campanulate in the upper half; achenes almost enclosed by the adherent-glandular receptacle-scales, curved-pyriform, striate and minutely transversely rugulose, glabrous; pappus absent *1. orientalis*

Outer involucre bracts ovate to oblong, 3-4 mm. long with occasionally a few sessile glands but without stalked glands; leaves as above but remotely serrate and with a few sessile glands below or glands lacking; florets and achenes as above; receptacle-scales glabrous or with a few sessile glands *2. abyssinica*

1. **Sigesbeckia orientalis** *Linn.* Sp. Pl. 900 (1753); F.T.A. 3: 372. *APD acc*

An erect branched annual glandular herb about 3 ft. high with minute yellow ray- and disk-florets in heads 1/2 in. across, including the spreading outer involucre; [a weed](#).

[Br.] Cam.: Bamenda, 4,000-5,800 ft. (Apr.-June) Maitland 1390! Morton K280!

Throughout tropical Africa on higher ground and generally in tropical and subtropical regions.

2. *Sigesbeckia abyssinica* (Sch. Bip.) Oliv. & Hiern in F.T.A. 3: 372 (1877); Robyns Fl. Sperm. Pare. Nat. Alb. 2: 519, t. 47.

APD: *Synonym of Micractis bojeri* DC.

Limnogenetion abyssinicum Sch. Bip. (1846).

A diffusely branched herb like the last but much less glandular in all its parts; florets yellow in heads 1/4 in. broad; [in damp mountain grassland](#).

[Br.] Cam.: Mba Kokeka Mt., 7,400 ft., Bamenda (Jan.) Keay & Lightbody FHI 28395!

Also in [Congo](#), [Ethiopia](#), [Kenya](#), [Uganda](#), [Tanganyika](#) and [Nyasaland](#).

20. BAFUTIA

C. D. Adams in Kew Bull. 15: 439 (1962). *APD acc*

- Slender-branched erect glabrous herb; leaves mostly basal or on the lower part of the stem, linear-oblongate, narrowed to the half-amplexicaul base, up to 5 cm. long and 1 cm. broad; flower-heads numerous, solitary at the ends of slender peduncles, 1-2 cm. long; involucre campanulate about 4 mm. long with 8 short triangular teeth minutely puberulous at the tips; florets all hermaphrodite, about 20, with slender exerted corollas; achenes about 2 mm. long shallowly ribbed or smooth; pappus of five or six short minutely plumose caducous setae [tenuicaulis](#)

Bafutia tenuicaulis C.D. Adams l.c., fig. 1 (1962). *APD acc*

An annual herb up to about 1 ft. high with pinkish-purple florets in numerous flower-heads less than 1/4 in. long, forming a diffuse corymb; [in mountain grassland](#).

[Br.] Cam.: Bafut-Ngemba F.R., 5,000-6,000 ft., Bamenda (Sept.-Nov.) Lightbody FHI 26264! Ujor FHI 30216!

21. MIKANIOPSIS

Milne-Redhead in Exell Suppl. Cat. S. Tomé 27 (1956).

- Involucral bracts of the inner series about 8, 5-6 mm. long, obtusely narrowed at apex, rounded dorsally, much exceeded by the florets and pappus in flower; capitula in rounded clusters in axillary branched inflorescences 15-25 cm. long; stems greyish-woolly-tomentose; leaves rounded to openly cordate at base, acuminate, repand-dentate, up to about 10 cm. long and 8 cm. broad [1. paniculata](#)
- Involucral bracts of the inner series about 12, about 1 cm. long, long-acute, flat, slightly exceeded by the florets and hardly by the pappus in flower; stems glabrescent, striate: [2](#)
- Inflorescences slender, 10-15 cm. long, with long-pedunculate capitula irregularly scattered along the glabrescent axis; leaves rather fleshy, shortly petiolate, rounded at the base, shallowly repand-dentate, acuminate, up to 6 cm. long and 5 cm. broad [2. tedliei](#)
- Inflorescences congested, up to about 8 cm. long with capitula more or less contiguous on short lateral branches; axis and branches grey-pubescent; leaves thick and [3. maitlandii](#)

1. *Mikaniopsis paniculata* Milne-Redhead in Exell Suppl. Cat. S. Tomé 28, fig. 1 (1956). *APD acc*

APD: *Synonym of Mikaniopsis usambarensis* (Muschl.) Milne-Redh.

APD: *Synonym of Mikaniopsis troupinii* Lisowski

A shrubby climber to about 20 ft. with numerous pale yellow flowers.

S. Nig.: Ikwette Plateau, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25238!

Also in **S. Tomé**.

2. **Mikaniopsis tedliei** (*Oliv. & Hiern*) *C.D. Adams* in J.W. Afr. Sci. Assoc. 6: 153 (1961). *APD acc*

APD: Synonym of Mikaniopsis usambarensis (Muschl.) Milne-Redh.

Senecio tedliei *Oliv. & Hiern* in F.T.A. 3: 420 (1877).

Gynura tedliei (*Oliv. & Hiern*) *S. Moore ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 608 (1936).

A shrubby climber like the last.

Ghana: Tedlie! Hemang, Pra R. (Sept.) Chipp 572! Pra Suhein F.R. Morton A3681! [**Br.**] **Cam.:** Cam. Mt.: Litoka, 3,000-4,000 ft. (Apr.) Maitland 1122! 1311! Mann's Springs, 7,400 ft. (Dec.) Boughey GC 10590! Morton K870!

3. **Mikaniopsis maitlandii** *C.D. Adams* in J.W. Afr. Sci. Assoc. 6: 152 (1961). *APD acc*

A shrubby climber with purplish stems, glossy leaves and dull yellow florets in clustered flower-heads about 1/2 in. long.

[**Br.**] **Cam.:** Cam. Mt.: Ukele, 7,300-7,600 ft. (Feb.) Maitland 1001! Mann's Springs, 7,400 ft. (Mar.) Brenan 9513!

22. KLEINIA

Mill. Gard. Dict. Abridg., ed. 4 (1754).

- 1 Capitula 1-3, rarely more numerous, up to 4 cm. broad; inflorescence subscapose, terminating an erect leafy or bracteate stem from a tuberous rootstock; leaves towards the base of the flowering shoot or on a separate shoot, obovate-lanceolate, long-tapered to a sessile base, dentate or denticulate in the upper half or subentire, 8-15 cm. long, 3-5(-8) cm. broad, glabrous, apiculate; involucre bracts 12-16, about 2 cm. long and up to 0.5 cm. broad with scarious margins; whole plant glabrous except for a minute tuft of hairs at the tip of each involucre bract; bracteoles lanceolate; achenes glabrous or sparsely pubescent; pappus-setae up to about 2 cm. long, smooth or minutely plumose, white or pale buff [1. abyssinica](#)

Capitula 20 or more, oblong, less than 1 cm. broad, shortly pedunculate in rounded umbelliform clusters at the ends of short leafless branches; peduncles about 1 cm. long, with small subulate bracteoles not forming a distinct calyculus; leaves (when present) rhomboid-elliptic, obtuse, up to about 10 cm. long and 5 cm. broad, long-cuneate at base into a petiole; involucre bracts about 10, up to 1.5 cm. long, oblong-lanceolate with narrow scarious margins and a minute tuft of hairs at the tip; achenes ribbed, glabrous; pappus-setae minutely barbellate, white; a succulent shrub with deciduous leaves [2. cliffordiana](#)

1. **Kleinia abyssinica** (*A. Rich.*) *A. Berger* in Monatsschr. Kakt. 15: 11 (1905). *APD acc*

Notonia abyssinica *A. Rich.* (1848)- F.T.A. 3: 407.

N. dalzielii *Hutch.* in F.W.T.A., ed. 1, 2: 149 (1931).

A glaucous succulent herb with erect stems up to 18 in. high from a tuberous rootstock; florets deep purplish-red in a few large heads with pale involucre.

Guin.: Mali (June) Adam 14449! **N. Nig.:** Gimi, Katagum (Feb.) Dalz. 351! **S. Nig.:** Igboho, Oyo (Feb.) Keay FHI 23438! 23448!

Also in **Ubangi-Shari**, **Sudan**, **Ethiopia**, **Uganda**, **Kenya** and **Tanganyika**.

2. **Kleinia cliffordiana** (*Hutch.*) *C.D. Adams* in J.W. Afr. Sci. Assoc. 6: 150 (1961). *APD acc*

Senecio cliffordianus *Hutch.* in Kew Bull. 1921: 250; F.W.T.A., ed. 1, 2: 151.

A glaucous succulent shrub up to 8 ft. high, leafless at flowering time, with numerous clustered flower-heads about 3/4 in. long in terminal umbelliform corymbs; involucre pale green; florets white; amongst rocks.

Mali: Summit of Ouari Tondo, near Hombori Jaeger 5482! Guimel, Douentza (fl. & fr. Oct.) Jaeger 5518! **N. Nig.:** Zaria to Kaduna (Dec.) Meikle 836! Jos Plateau (Jan., Nov.) Lely P103! Hill 14! Batten-Poole 104! Vom Dent Young 161! Naraguta (Dec.) Coombe 30! Ropp to Mongu (Apr.) Morton K405!

23. GYNURA

Cass.-F.T.A. 3: 401, partly. *Nom. cons.*

- 1 Climbing robust herb with striate glabrescent stems; leaves elliptic, acute, shortly cuneate at base, shortly petiolate, 4-10 cm. long, 2-5 cm. broad, subentire or remotely toothed, with about 5 pairs of lateral nerves, thinly pubescent; inflorescences of few capitula on short lateral branches; capitula with several narrow calycular bracts; involucre bracts about 15, glabrous or nearly so, 1-5 cm. long *1. sarmentosa*

Erect or straggling herb with pubescent grooved stems; leaves lanceolate to obovate in plan, the lower broadly petiolate, the upper sessile, coarsely dentate to deeply pinnatifid, up to about 15 cm. long and 7 cm. broad, the segments remotely toothed, crisped-pubescent on both surfaces; capitula several in a terminal corymbose inflorescence, each with several calycular bracts; involucre bracts 12-14, pubescent, 1-1.3 cm. long, with broad scarious margins *2. miniata*

1. *Gynura sarmentosa* (Blume) DC. *Prod.* 6: 298 (1838).

APD: Synonym of Gynura procumbens (Lour.) Merr.

Cacalia sarmentosa Blume (1826).

Gynura buntingii S. Moore (1916).

Senecio baoulensis A. Chev. in *Mém. Soc. Bot. Fr.* 2, 8: 260 (1917); Chev. Bot. 375, not *Crassocephalum baoulense* (A. Chev.) Milne-Redhead (1951).

A wide-spreading robust glabrous herbaceous climber with rather fleshy leaves; leaves often purple beneath on young plants; florets greenish-yellow in heads 3/4 in. long; pappus white; **in forest margins and thickets.**

S. L.: Freetown (Oct.) Deighton 240! **Lib.:** Begwai (Sept.) Bunting 122! Zinkor (Apr.) Dinklaga 3035! Duport (Oct.) Barker 1438! Diebla, Webo (July) Baldwin 6368! Grand Bassa (Mar.) Baldwin 11236! **iv. C.:** Toumodi, Baoulé-Sud (Aug.) Chev. 22395! **Ghana:** Akwapim (Oct.) Johnson 823! Aburi Scarp, 1,000 ft. (Nov.) Adams 1914! Volta River F.R. (Nov.) Morton GC 6071! Ajena (Nov.) Morton GC 9456! **S. Nig.:** Lagos (July) Dalz. 1410! Olokemeji F.R. (July) Keay FHI 22414!

Also in tropical Asia, from where it has possibly been introduced into our area.

2. *Gynura miniata* Welw. *Apont.* 586 (1858); *F.T.A.* 3: 403; Adams in *J.W. Afr. Sci. Assoc.* 3: 114 (1957).

APD: Synonym of Gynura pseudochina (L.) DC.

Crassocephalum miniatum (Welw.) Hiern (1898).

Gynura amplexicaulis of F.W.T.A., ed. 1, 2: 148, partly, (Dalz. 656, Migeod 481), not of Oliv. & Hiern Note 1.

(?) *Gynura* sp. Bally in *J.E. Afr. & Uganda Nat. Hist. Soc.* 18: 124, t. 20, fig. 4 (1945) Note 2.

A perennial rather succulent herb with straggling leafy stems 2-4 ft. high from a mass of hard tubers; stems and leaves pale green, crisped-pubescent; leaves very variable, the lowest usually being deeply pinnatifid, but the upper often only toothed; florets orange-brown or rarely yellow in rather broad heads up to 3/4 in. long; **in rocky hill grassland or planted near villages for medicinal purposes.**

Guin.: Mali, 5,000 ft. (June) Adam 14500! Note 2 **S. L.:** Bintumane Peak, 6,400 ft. (Jan., Aug.) T. S. Jones 103! Jaeger 982! **N. Nig.:** Abinsi (June) Dalz. 656! Kakangi, Zaria (July) Keay FHI 25947! **[Br.] Cam.:** Bamenda Dist., 5,000-6,000 ft. (Feb.-May) Maitland 1416! Migeod 481! Ejiofor FHI 30079! Ujor FHI 30095! Morton K193! Hepper 2066! Mambila Plateau, 4,800 ft., Adamawa (Jan.) Hepper 1801!

Also recorded from **Kenya**, **Tanganyika** and **Angola**.

[Note 1: The type of *G. amplexicaulis* Oliv. & Hiern (Schweinfurth 3770 from Sudan) superficially resembles *Crassocephalum picridifolium* (DC.) S. Moore, but has the style-arms of *Gynura*-C. D. A.]

[Note 2: Adam 14500 and the plant described by Bally (Coryndon Museum 6799) have yellow florets and more divided leaves than is typical of this species-C. D. A.J.]

24. EMILIA

Cass.-F.T.A. 3: 405.

- 1 Upper leaves ovate, minutely pubescent beneath; involuclral bracts distinctly shorter than the florets:2
 Upper leaves lanceolate, sparsely setulose beneath; involuclral bracts nearly as long as the florets, about 8; florets
 mauve, rarely white [3. *sonchifolia*](#)
- 2 Leaves repand-dentate; involuclral bracts about 15; florets orange-yellow [1. *coccinea*](#)
 Leaves dentate; involuclral bracts about 10; florets pale yellow; styles pink [2. *praetermissa*](#)

1. *Emilia coccinea* (Sims) G. Don in Sweet Hort. Brit., ed. 3, 382 (1839). *APD acc*

APD: *Synonym of Emilia lisowskiana C. Jeffrey*

Cacalia coccinea Sims (1802).

Emilia sagittata DC. (1838)-F.T.A. 3: 405; Chev. Bot. 374; F.W.T.A., ed. 1, 2: 149.

A straggling glaucous sparingly pubescent herb with weak stems up to about 3 ft. long; leaves often purple beneath; florets deep yellow in long-stalked heads about 1/2 in. long; [a weed along roadsides and in clearings in forest country.](#)

Guin.: Labé (Mar.) Chev. 12366! Nzérékoré to Macenta (Oct.) Baldwin 9745! Macenta, 2,000-2,500 ft. (Oct.) Baldwin. 9841! Gangan (Apr.) Adam 11927! Nimba Mts. (Sept.) Schnell 3532! **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3852! Picket Hill, 2,800 ft. (Nov.) T. S. Jones 212! Kenema (Oct.) Deighton 5227! Da-Oulen, 5,000 ft., Loma Mts. (Aug.) Jaeger 1349! Makoni (Apr.) Marmo 217! **Lib.:** Monrovia Whyte! Dukwai R., Monrovia (Aug., Oct.-Nov.) Cooper 8! Linder 224! Brewerville (Sept.) Barker 1431! Ganta (May, Oct.) Harley! Nimba Mts. (Dec.) Adam 16476! **Iv. C.:** Grabo, Cavally Basin (July) Chev. 19612! Tonkoui Mt. (Aug., Sept.) Schnell 1718! Boughey GC 18338! Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18050! 18080! Téké (Dec.) Giovannetti 310! **Ghana:** Aburi (Feb., June) Johnson 1101! Williams 299! Axim (Feb.) Irvine 2199! Tarkwa (Dec.) Andoh FH 5445! Mampong, Ashanti (Dec.) Mortom GC 9651! Amedzofe (July, Oct., Nov.) Kwami 80! Morton GC 6027! 9427! Boughey GC 13038! **Dah.:** Sakété (Jan.) Chev. 22808! **N. Nig.:** Lokoja (Oct.) Parsons 99! Abinsi (Feb.) Dalz. 664! **S. Nig.:** Lagos (Mar.) Dalz. 1163! Hagerup 835! Idanre Hills (Oct.) Keay FHI 25506! 25507! Okomu F.R., Benin (Feb., Mar.) Akpabla 1119! Brenan 9150! Sapoba (Nov.) Meikle 584! Abeokuta Irving 79! **[Br.] Cam.:** Cam. Mt., Buea, 3,000-5,000 ft. (Nov., Jan., Mar.) Preuss 1156! Dunlap 96! Migeod 57! Boughey GO 7015! Amba Bay (Jan.) Mann 731! Bamenda Dist., 3,600-6,000 ft. (Jan., Mar., Apr., July, Dec.) Migeod 320! Maitland 1756! Ujor FHI 30470! Boughey GC 11139! Morton K31! Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1542! **F. Po:** Moka, 4,000 ft. (Dec.) Boughey 22! Monod 10490!

Also in [Sudan](#).

[As at present construed this species has scarlet-flowered forms in central Africa and Asia, and crimson-flowered forms in the New World tropics as well as the yellow-flowered West African plants. Some of these forms are known to be diploid, others tetraploid (cf. Baldwin in Bull. Torr. Bot. Club 76: 346 (1949)). Similarly with *Emilia sonchifolia* the smaller mauve-flowered plants of West Africa and America are diploid, while larger red-flowered plants of eastern Asia are tetraploid.-C. D. A.]

2. *Emilia praetermissa* Milne-Redhead in Kew Bull. 5: 375 (1951). *APD acc*

An erect herb 2-3 ft. high with pale flesh-coloured florets in heads about 1/2 in. long; [in clearings in forest.](#)

S. L.: Freetown (Apr., May, Oct.) King 182! Deighton 1188! Tindall 15! Wellington (Feb.) Deighton 4984! Mt. Horton, 1,800 ft. (Jan.) T. S. Jones 299! Hastings (Sept.) Melville & Hooker 431! Rokupr (June) Jordan 448! **Iv. C.:** Lamé (Nov.) Leeuwenberg 1904! **Ghana:** Kanawirebo Hill, 1,700 ft., Awaso, Sefwi (Dec.) Adams 2078! Dunkwa (Dec.) Morton, A3607! **S. Nig.:** Lagos (Apr., Nov.) Baldwin 11981! Meikle 502! Ibadan (Dec.) Keay FHI 25595! Sapoba (Nov.) Meikle 621! Keay FHI 28065! Enugu (Mar.) Hepper 2222! Port Harcourt (Jan.) Gregory 74! Calabar (Nov.) Baldwin 13754!

3. *Emilia sonchifolia* (Linn.) DC. Prod. 6: 302 (1838); F.T.A. 3: 405; Chev. Bot. 374; Berhaut Fl. Sén. 171. *APD acc*

Cacalia sonchifolia Linn. (1753).

A bushy annual herb usually about 1 ft. high with rather glaucous sparingly pubescent stems and leaves; florets mauve or rarely creamy-white in narrow erect heads nearly

Sen.: fide Berhaut l.c. **Guin.:** Conakry (Feb.) Chev. 12167! **S. L.:** Freetown (May) Deighton 1189! Njala (Sept.) Deighton 2080! Musaia (Apr.) Deighton 5380! **Iv. C.:** Lamé (Nov.) Leeuwenberg 1906! **Ghana:** Achimota (Mar., May, Oct.) Irvine 400! Akpabla 27! Morton. A1571! Bantrosi (Nov.) Morion GC 7898! Axim to Sekondi (May) Cudjoe 132! Koforidua (June, fl. white) Baker in Hb. Morton A2237! Asuansi (Feb.) Williams 3! **S. Nig.:** Lagos (Oct.) Dalz. 1165! Enugu (Oct.) Jones FHI 6171! **F. Po:** S. Isabel (Dec.) Guinea 196. A common tropical weed.

Senecio tenuicaulis *Muschl.* in Engl. Bot. Jahrb. 43: 60 (1909).

A slender glabrous herb about 1 ft. high with a single terminal flower-head; pappus white.

? **Togo Rep.:** Büttner 458. Type specimen destroyed.

25. CRASSOCEPHALUM

Moench-S. Moore in J. Bot. 50: 209 (1912).

Gynura of F.T.A. 3: 401, and of F.W.T.A., ed. 1, 2: 147, partly, not of Cass.

Senecio of F.T.A. 3: 408, and of F.W.T.A., ed 1, 2: 148, partly, not of Linn.

- 1 Corolla yellow, orange or brownish-red: 2
Corolla purple, pink, mauve, blue or rarely white; more or less erect annual herbs: 9
- 2 Flower-heads small, up to about 1 cm. long, numerous in panicles; involucre bracts glabrous; florets pale yellow: 3
Flower-heads usually exceeding 1 cm. in length; erect or straggling herbs: 4
- 3 Small tree; leaves closely serrate, up to 40 cm. long and 10 cm. broad, pubescent on the nerves beneath; achenes pubescent [1. mannii](#)
Climber; leaves more or less triangular, subhastate and sometimes with a pair of lateral segments, long-petiolate, 5-8 cm. long, 3-5 cm. broad, repand-dentate, glabrous; achenes glabrous [2. biafrae](#)
- 4 Capitula several to numerous: 5
Capitula solitary on long peduncles: 7
- 5 Leaves ovate in plan, pinnatifid and sharply dentate; capitula rather numerous; erect herbs: 6
Leaves lanceolate, subentire, shallowly repand-dentate, the upper sessile and mostly broadly auriculate; capitula few on peduncles up to 15 cm. long; straggling or erect herbs; florets golden-yellow; involucre bracts 11-12 mm. long [5. picridifolium](#)
- 6 Florets brownish-red; involucre bracts 9-10 mm. long; style-arm appendages distinct [3. crepidioides](#)
Florets yellow; involucre bracts 7-8 mm. long; style-arm appendages very short [4. montuosum](#)
- 7 Heads up to 2 cm. broad; involucre bracts 7-5-9 mm. long, pubescent; leaves coarsely dentate with rounded stipuliform auricles at the base: 8
Heads about 2-5 cm. broad; involucre bracts 10-12 mm. long, glabrescent; leaves finely serrate without basal stipuliform auricles [8. bougheyianum](#)
- 8 Leaves ovate-elliptic, cuneate down to point of attachment; involucre shortly pubescent [6. gracile](#)
Leaves broadly ovate, rounded to truncate or subcordate at base; involucre densely setulose-pubescent [7. vitellinum](#)
- 9 Flower-heads up to about 1 cm. long: 10
Flower-heads 1-5 cm. or more long: 12
- 10 Capitula several on short peduncles: 11
Capitula solitary; leaves oblanceolate, cuneate, dentate, glabrous [11. libericum](#)
- 11 Leaves linear, shallowly repand-dentate; involucre bracts 4-6 mm. long; stems slender, erect, sparingly branched; style-arm appendages distinct [9. guineense](#)
Leaves pinnately lobed; involucre bracts 7-9 mm. long; stems much-branched; style-arm appendages very short [10. bauchiense](#)
- 12 Capitula solitary on long peduncles; leaves mostly subentire, dentate [12. rubens](#)
Capitula several on long or short peduncles; at least the upper leaves distinctly pinnatifid or deeply toothed:.. 13
- 13 Peduncles up to 8 cm. long; flower-heads rarely clustered; upper leaves doubly dentate, pinnatifid with 2-4 pairs of segments; lower leaves subentire [13. sarcobasis](#)
Peduncles up to 2 cm. long; flower-heads mostly clustered; leaves usually pinnatifid with 4 or more pairs of

segments:..... 14

- 14 Leaves linear-lanceolate in plan with numerous linear segments not cut down to the midrib and smaller towards the apex; involucre bracts densely setulose [14. baoulense](#)

Leaves ovate to obovate in plan with 4-5 pairs of large oblanceolate or elliptic segments cut down nearly to the midrib and larger towards the apex, and with smaller paired linear lobes towards the base; involucre bracts sparsely setulose [15. togoense](#)

1. *Crassocephalum mannii* (Hook. f.) Milne-Redhead in Kew Bull. 5: 377 (1951).

APD: *Synonym of Solanecio mannii* (Hook. f.) C. Jeffrey

Senecio mannii Hook. f. (1882)-F.T.A. 3: 418; F.W.T.A., ed. 1, 2: 151.

A shrub or soft-wooded tree up to about 25 ft. high, nearly glabrous, with yellow florets in dense panicles of heads 1/4-1/3 in. long; **usually in clearings in mountain forest; sometimes planted as fences.**

S. Nig.: Enugu (cult.) Tamajong FHI 26840! [**Br.**] **Cam.:** Cam. Mt., 3,500-8,000 ft. (Dec.-Apr.) Mann 1935! Maitland 236! 985! Dalz. 8226! Hutch. & Metcalfe 73! Brenan 9511! Bamenda, 6,500 ft. (Apr.) Morton K227! Bafut-Ngemba F.R., 5,200 ft. (Jan.) Lightbody FHI 26279! Migeod 374! L. Oku, 7,000 ft., Bamenda (Jan.) Keay FHI 28486! Nkambe, 6,000 ft. (Feb.) Hepper 1900! Mandaga, 6,000 ft. Adamawa (cult. Jan.) Latilo & Daramola FHI 34353! **F. Po:** 6,000 ft. (Dec., Feb.) Mann 282! Boughey 115! Pico Serrano, Moka, 6,000 ft. (Jan.) Guinea. 2045!

[*C. multicorymbosum* (Klatt) S. Moore, which is very closely allied if indeed distinct (see Milne-Redhead l.c.), occurs in Sudan, E. Africa, Congo and Angola.]

2. *Crassocephalum biafrae* (Oliv. & Hiern) S. Moore in J. Bot. 50: 211 (1912).

APD: *Synonym of Solanecio biafrae* (Oliv. & Hiern) C. Jeffrey

Senecio biafrae Oliv. & Hiern in F.T.A. 3: 420; F.W.T.A., ed. 1, 2: 151.

S. gabonicus of Chev. Bot. 375, not of Oliv. & Hiern.

A glabrous climbing herb with numerous pale yellow flower-heads about 1/2 in. long in rounded pedunculate clusters; **along roadsides and in secondary forest in hilly forest country.**

Guin.: Bilima (Dec.) Caille in Hb. Chev. 14880! **S. L.:** Mt. Gonkwi, Talla Hills (Feb.) Sc. Elliot 4837! Njala (cult. Apr.) Deighton 2995! Koindu (cult. Feb.) Deighton 3508! **Ghana:** Aburi (Jan.-Feb.) Johnson 961! Akpabla 93! Morton GC 6337! Tafo (Nov.) Robertson 48! Begoro (Feb.) Morton A1848! Abetifi (Jan.) Irvine 1677! **Dah.:** Sakété to Pedjilé, Porto Novo (Feb.) Chev. 22913! **S. Nig.:** Lagos Moloney! Ebute Metta (Jan.) Millen 96! Ibadan (Apr.) Meikle 1406! Shasha F.R. (Mar.) Jones & Onochie FHI 17033! Oban Talbot 1549! [**Br.**] **Cam.:** Victoria (Mar.) Maitland 504! Cam. Mt., 7,000 ft. (Jan.) Mann 1325! L. Bambulue, Bamenda, 5,500 ft. (Jan.) Keay FHI 28349! **F. Po:** Boughey GC 17406! S. Isabel (Jan.) Guinea 782. Musola (Jan.) Guinea 1275.

Also in **S. Tomé.**

3. *Crassocephalum crepidioides* (Benth.) S. Moore in J. Bot. 50: 211 (1912). APD acc

Gynura crepidioides Benth. (1849)-F.T.A. 3: 403; Chev. Bot. 374; F.W.T.A., ed. 1, 2: 148, partly (excl. Mann 51; Dunlap 87; Maitland 268; 477; Millen 51).

A stout erect herb up to about 3 ft. high with bright brownish-red florets in heads 1/3-1/2 in. long; **a weed of farms and waste places.**

Guin.: Heudelot 785! Sérédou (Apr.) Adam 11987! **S. L.:** Njala (Feb.) Deighton 1871! Makump (Sept.) Glanville 410! Kaballa (Sept.) Thomas 2168! Musaia (Mar.) Deighton 5374! Loma Mts. (Sept., Nov.) Jaeger 569! 1994! **Lib.:** Dukwai R. (Oct.-Nov.) Cooper 1! Brewerville (Sept.) Barker 1430! Toroke, Webo (July) Baldwin 6733! Robertsfield (July) Baldwin 6657! Ganta (Sept.) Harley! **Iv. C.:** Makou-gule (Jan.) Chev. 16993! **Ghana:** Assuansi (Mar.) Irvine 1563! Anyinam (Dec.) Dalz. 103! Mampong, Ashanti. (Dec.) Thorold 47! Wenchi (Dec.) Adams 3239! Zolo-Kpuita, Trans-Volta Togo (Nov.) Morton GC 9366! Legon Hill (Oct.) Adams 3387! **N. Nig.:** Jos Plateau (July) Lely P390! Kwakwi, Zaria (Aug.) Keay FHI 20157! **S. Nig.:** Lagos Moloney! Idanre F.R., Ondo (July) Onochie FHI 33377! Usonigbe F.R., Benin (Nov.) Meikle 580! Onitsha Barter 1809! Calabar (Jan.) Holland 19! Ikette Plateau, 5,500 ft., Obudu (Aug.) Stone 56! [**Br.**] **Cam.:** Amba Bay (Apr.) Hutch. & Metcalfe 133! Cam. Mt. 3,000 ft. (Jan.) Dunlap 150! Bamenda, 6,000 ft. (Jan.) Migeod 439! Wum (Dec.) Boughey GC 10947! 11374! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1683! **F. Po:** (Nov.) T. Vogel 139! Mioko, 5,000 ft. (Dec.) Boughey 1521

In tropical Africa generally and in **S. Tomé** and the **Mascarene Islands.**

4. **Crassocephalum montuosum** (*S. Moore*) *Milne-Redhead* in Kew Bull. 5: 376 (1951); Adams in J.W. Afr. Sci. Assoc. 1: 27(1954). *APD acc*

Senecio montuosus *S. Moore* in J. Linn. Soc. 35: 354(1902).

Gynura crepidioides of F.W.T.A. ed. 1, 2: 148, partly (Mann 51; Dunlap 87; Maitland 268; 477).

An erect much-branched herb up to about 4 ft. high with yellow florets in numerous heads usually less than 1/2 in. long; a weed of clearings in hilly districts.

[Br.] Cam.: Rio del Rey Johnston! Cam. Mt., 3,000-6,000 ft. (Nov., Jan., Mar.) Maitland 268! 3001 477! Migeod 188! Dunlap 87! Mann's Springs (Dec.) Boughey GC 10733! Adams GC 11723! Mamfe to Bamenda (Jan.) Keay FHI 28545! Bamenda (Mar., Aug.) Morton K80! Maitland! Savory UCI 319! Bali-Ngemba F. R., (May) Ujor FHI 30332! F. Po: Mann, 51! Monod 10473! 10474! Monte Balea (Dec.) Guinea 396! Moka, 4,000-6,000 ft. (Dec-Jan.) Boughey 12! Exell 805! Pico de S. Isabel (Dec.) Boughey 10804a!

Also in Sudan, Congo and S. Tomé.

5. **Crassocephalum picridifolium** (*DC.*) *S. Moore* in J. Bot. 50: 212 (1912). *APD acc*

Senecio picridifolius *DC.* (1838)-F.T.A. 3: 413; Chev. Bot. 375, partly (Chev. 222, 635).

Gynura amplexicaulis of F.W.T.A., ed. 1, 2: 148, partly (excl. Dalz. 656; Migeod 481), not of Oliv. & Hiern (see note 1 under *Gynura miniata*).

G. gracilis of F.W.T.A., ed. 1, 2: 148, partly (Chev. 222; 635), not of Hutch. & Dalz.

A scrambling or erect herb up to 2 ft. high in damp open ground, with usually several flower-heads over 1/2 in. long; florets golden-yellow.

Gam.: Brown-Lester 40! Mali: Sicoro (Jan.) Chev. 222! Dendéla (Mar.) Chev. 635! Port.G.: Brene, Bissau (Jan.) Esp. Santo 1697! S. L.: (July) Glanville 264! Falaba (Mar.) Sc. Elliot 5143! Kaballa (Sept.) Thomas 2198! N. Nig.: Sokoto (Sept.) Dalz. 406! Matyoro (Oct.) Thornewill 130! Vom (Jan.) Dent Young 157! Bokkos, 4,000 ft. (Dec.) Coombe 76! Maiduguri Kennedy 2949! F. Po: summit of the Peak, 9,200 ft. (Dec., Feb.) Boughey GC 10839! Guinea 2738.

Also in Mauritania and extending to Sudan, Congo and Angola.

[This species has a strong superficial resemblance to *Gynura amplexicaulis* Oliv. & Hiern, in which the style-arms are uniformly tapered.]

6. **Crassocephalum gracile** (*Hook.f.*) *Milne-Redhead ex Guinea* in Anal. Jard. Bot. Madrid 10,1: 307 (1951). *APD acc*

Gynura vitellina var. *gracilis* *Hook.f.* in J. Linn. Soc. 7: 202 (1864).

G. gracilis *Hook.f. ex Hutch. & Dalz.* F.W.T.A., ed 1, 2: 147, 148, (1931) partly (excl. Chev. 222; 635).

Senecio picridifolius of Chev. Bot. 375, partly, not of DC.

An erect or straggling herb up to 3 ft. high with orange-yellow florets in heads 1/2-3/4 in. across; leaves sessile, narrowed to the base; in mountain grassland.

Guin.: fide Chev. l.c. Timbi-Madina (Mar.) Adam 11702! Timbi (June) Adam 14652! [Br.] Cam.: Cam. Mt., 6,000-9,000 ft. (Dec., Jan., Apr., May) Mann 1317! Johnston 35! Maitland 650! 847! 955! Morton GC 6945! Litoka, 4,500 ft. (Apr.) Maitland 1073! Mann's Springs, 7,200-8,700 ft. (Dec., Mar.) Boughey GC 10608! 12583! A628b! Brenan 9374! F. Po: Musola (Jan.) Guinea 1369!

7. **Crassocephalum vitellinum** (*Benth.*) *S. Moore* in J. Bot. 50: 212 (1912). *APD acc*

Gynura vitellina *Benth.* (1849)-F.T.A. 3: 402; F.W.T.A., ed. 1, 2: 148, partly (T. Vogel 188; Mann 38; Barter; Maitland 307; Migeod 455).

A weak straggling herb 2-3 ft. high with deep yellow to orange florets in heads 1/2-3/4 in. across; in grassy clearings in mountain areas.

S. Nig.: Koloishe Mt., 5,000 ft., Obudu (Dec.) Savory & Keay FHI 25068! Ikvette Plateau, 5,200 ft., Obudu (Dec.) Savory & Keay FHI 25237! [Br.] Cam.: Cam. Mt., 3,000-4,000 ft. (Nov.-Mar.) Akpabla GC 10494! Boughey GC 7017! Maitland 307! Mildbr. 10213! Migeod 58! Bamenda, 5,000 ft. (Feb.) Migeod 455! Bamenda to Santa (Mar.) Morton K36! Bamenda to Bambui (Jan.) Keay FHI 28332! Nkambe, 6,000 ft. (Feb.) Hepper 1891! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1663! F. Po: T. Vogel 188! 198! Barter! Mann 38! Moka, 4,000 ft. (Dec.) Boughey 23!

Generally distributed in the mountains of tropical Africa.

8. **Crassocephalum bougheyianum** *C.D. Adams* in J.W. Afr. Sci. Assoc. 3: 111 (1957). *APD acc*

Gynura vitellina of F.T.A. 3: 402; F.W.T.A., ed. 1, 2: 148, partly (Mann 610; 1931; Dunlap 33; 85; Maitland 478; Migeod 234; Mildbraed 10807), not of Benth. (1849).

Crassocephalum vitellinum of Guinea in Anal. Jard. Bot. Madrid. 10: 305 (1951), not of (Benth.) S. Moore.

A straggling herb up to 8 ft. or more high with glabrescent stems and involucre bracts, and yellow florets in heads 1 in. across; **in grassy clearings in upper margins of mountain forest.**

[Br.] Cam.: Cam. Mt., 5,000-7,000 ft. (Nov.-Jan.) Mann 1931! Dunlap 33! 85! Irvine 1461a! Musake, 5,000-6,000 ft. (Nov., Dec., Mar., Apr.) Migeod 234! Mildbr. 10807! Maitland 478! Hutch. S Metcalfe 17! Thorold 36! Mann's Springs, 6,000-7,500 ft. (Dec., Mar., Apr.) Adams GC 11729! Boughey GC 11646! Brenan 9514! Morton GC 7079! **F. Po:** Pico de S. Isabel, 8,500 ft. (Dec., Mar.) Mann 610! Guinea 2884; 2885!

9. *Crassocephalum guineense* C.D. Adams in J. W. Afr. Sci. Assoc. ined. (1963). *APD acc*

Lactuca tenerrima of Chev. Bot. 379, partly (Chev. 18291; 18449), not of Pourret (1788).

Emilia guineensis of F.W.T.A., ed. 1, 2: 149, partly (Chev. 18291; 18448), not of Hutch. & Dalz. (1931).

Senecio perrottetii of F.W.T.A., ed. 1, 2: 161, partly (Thomas 3090; Deighton 1252; 1253), not of DC. (1838).

A slender erect annual herb 1-2 ft. high with reddish-purple, blue, mauve, pink or white florets in heads about 1/4 in. long; **in grassy places on rock-outcrops.**

Guin.: Fouta Djallon, 3,000-4,000 ft. (Sept., Oct.) Chev. 18291! 18449! 18559! 18820! Boumalol (Oct.) Adam 12670! Mt. Bilima, 3,000 ft., Mamou (Sept.) Jac.-Fél. 1830! **S. L.:** Bumban, 1,000 ft. (Aug.) Deighton 1252! 1253! Kanya, 1,350 ft. (Oct.) Thomas 3090! Bumbuna to Farangbaia (Sept.) Deighton 6148! Sasa, Tonko Limba (Sept.) Jordan 334a! 33461 Loma Mts., 5,000 ft. (Sept.) Jaeger 1704!

10. *Crassocephalum bauchiense* (Hutch.) Milne-Redhead in Kew Bull. 5: 376 (1951). *APD acc*

Gynura bauchiensis Hutch. F.W.T.A. ed. 1, 2: 608 (1936).

G. caerulea Hutch. & Dalz. F.W.T.A., ed. 1, 2: 147, 148 (1931), not *G. caerulea* of O. Hoffm. (1893).

An erect bushy annual herb about 1 ft. high with bright blue florets in numerous heads 1/3 in. long; **in rough open ground.**

N. Nig.: Vom, 3,000-4,500 ft. Dent Young 158! Jos Plateau Batten-Poole 165! **[Br.] Cam.:** Bambui, Bamenda, 6,300 ft. (Dec.) Adams GC 11239!

11. *Crassocephalum libericum* S. Moore in J. Bot. 54: 282 (1916). *APD acc*

Gynura liberica (S. Moore) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 148 (1931).

A prostrate nearly glabrous herb with ascending slender branches, shortly petiolate leaves and pink florets in heads 1/3 in. long.

Lib.: Begwai (Oct.) Bunting 142!

[This obscure plant may be merely a depauperate form of *C. rubens*-C. D. A.]

12. *Crassocephalum rubens* (Juss. ex Jacq.) S. Moore in J. Bot. 50: 212 (1912). *APD acc*

Senecio rubens Juss. ex Jacq. (1777).

S. cernuus Linn. f. (1781).

Cacalia uniflora Schum. & Thonn. (1827).

Gynura cernua Benth. (1849)-F.T.A. 3: 402; Chev. Bot. 374, partly (excl. Chev. 22399); F.W.T.A., ed. 1, 2: 148.

An erect branched herb with heads 1/2-2/3 in. long on rather long peduncles drooping in flower, erect in fruit; florets usually bright purple, but occasionally white, pink or blue; **a common weed of disturbed ground.**

Mali: Guéla fide Chev. l.c. **Guin.:** Diomandou (Apr.) Adam 12070! Macenta, 2,000-2,500 ft. (Oct.) Baldwin, 9762! **S. L.:** Leicester Peak (Dec.) Sc. Elliot 3879! Kasokora (Aug.) Deighton 1257! Bonthe (Nov.) Adames 107! Kabala (Dec.) Deighton 4513! Loma Mts. (Sept.) Jaeger 1554! 1764! **Lib.:** Buchanan (Nov.) Adam 16052! 16440! **Iv. C.:** Toumodi to Nzakro, Baoulé-Sud (Aug.) Chev. 22421 (partly)! Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18064! 18066! **Ghana:** Aburi (Nov.) Brown 786! Johnson 784! Legon Hill (Oct.) Adams 3449! Techiman, Ashanti (Dec.) Adams & Akpabla GC 4479! Banda, Ashanti (Dec.) Morton GC 25213! 25216 (white fl.)! Damongo (Mar.) Morton. GC 8715! **Togo Rep.:** Lomé Warnecke 296! **N. Nig.:** Abinsi Dalz. 665! Kontagora (Nov.) Dalz. 207! Jos Plateau (Jan.) Lely P32! Anara F.R., Zaria (Nov.) Keay FHI 28121! **S. Nig.:** T. Vogel! Lagos (Dec.) Dalz. 1160! Ibadan Jyew-berry 84! Ikewette Plateau, 5,500 ft., Obudu (Aug.) Stone 41! **[Br.] Cam.:** Bamenda, 4,500-6,000 ft. (Jan, Mar., Apr.) Migeod 447! Maitland 1466! Morton K77!

Bafut-Ngamba F.R., 5,000-6,000 ft. (Aug., Oct.-Nov.) Lightbody FHI 26269! Tamajong FHI 26892! Bambui, 6,300 ft. (Dec.) Boughey GC 10421! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1682! 1681!

Widespread in warm countries.

13. *Crassocephalum sarcobasis* (Boj. ex DC.) S. Moore in J. Bot. 50: 211 (1912).

APD: Synonym of *Crassocephalum rubens* var. *sarcobasis* (DC.) C. Jeffrey & Beentje

Senecio sarcobasis Boj. ex DC. (1838).

An annual herb about 1 ft. high with mauve to deep pink or magenta florets; **in hilly districts**.

N. Nig.: Vom Dent Young 156! **[Br.] Cam.:** Lakom, Bamenda, 6,000 ft. (Apr.) Maitland 1482! Belo, Bamenda, 4,500 ft. (Apr.) Maitland 1769! Kishong, 6,700 ft. (Jan.) Keay & Russell FHI 28446! Bambui, 6,300 ft. (Dec.) Boughey GC 10420! Santa, 5,700 ft. (Mar.) Morton K103!

Throughout tropical Africa and in **Madagascar**.

[This species comes near to *C. rubens* in the W. African area, but the heads are always smaller, more numerous and, according to Milne-Redhead, do not nod in flower or fruit. This last character may also serve to distinguish this species from *C. crepidioides*, with which it has been united (e.g. Robyns, 1947)-C.D.A.].

14. *Crassocephalum baoulense* (Hutch. & Dalz.) Milne-Redhead in Kew Bull. 5: 377 (1951); Adams in J.W. Afr. Sci. Assoc. 2: 62 (1956). *APD acc*

Gynura baoulensis Hutch. & Dalz. F.W.T.A., ed. 1, 2: 148 (1931).

G. cernua of Chev. Bot. 374, partly (Chev. 22399), not of Benth.

An annual herb 2-3 ft. high with pilose stems; florets bright purple; **in low-lying savanna grassland**.

Iv. C.: Toumodi to Dimbokro, Baoulé-Sud (Aug.) Chev. B22259! Touminiané to Angouakoukrou (Aug.) Chev. 22399! **Ghana:** Afram Plains (Jan.) Irvine 612! Opro F.R., Ashanti (Jan.) Andoh FH 2403! Nwereme, Ashanti (May, Dec.) Irvine 2476! Gillett 24! Ejura (Nov.-Jan.) Vigne FH 3470! Morton GC 9492! A1522! Sampa, Ashanti (Dec.) Morton A2624!

15. *Crassocephalum togoense* C.D. Adams in J.W. Afr. Sci. Assoc. 1: 27 (1954). *APD acc*

Gynura crepidioides of F.W.T.A., ed. 1, 2: 148, partly (Millen 51).

An erect annual herb 2-3 ft. high; florets mauve; **in savanna**.

Ghana: Amedzofe (Nov.) Morton GC 9428! 9429! A2299! **N. Nig.:** Kogigiri, Jos, 4,100 ft. (Oct.) Hepper 1055! **S. Nig.:** Lagos Millen 51! Olokemeji F.R. (Aug., Oct.) Keay FHI 25387! Hepper 934! Ibadan (Oct.) Keay FHI 25435! Ilora junction, Oyo (Sept.) Keay FHI 28035!

26. SENECIO

Linn.-F.T.A. 3: 408.

- | | | |
|----------|--|-----------------------|
| 1 | Annual herbs; capitula cymose-corymbose, rather small; florets yellow; | 2 |
| | Perennial herbs; ray-florets mostly present: | 4 |
| 2 | Ray-florets absent; leaves linear, subentire, 2-6 cm. long; involucre campanulate, calyculate, 3-4 mm. long, glabrous, on peduncles up to 1 cm. long; stems and leaves glabrous; achenes minutely setulose on the ribs, glabrescent; achene-setae conspicuously zig-zag and barbellate, caducous | 1. schimperi |
| | Ray-florets present; achenes shortly pubescent on the ribs; involucre 5-6 mm. long: | 3 |
| 3 | Calculus absent; capitula oblong on slender peduncles; leaves spatulate, repanddentate, slightly setulose, up to 4 cm. long | 2. abyssinicus |
| | Calculus present; capitula campanulate, more or less clustered on peduncles up to 1 cm. long; leaves lanceolate, pinnatifid or irregularly lobed, up to 10 cm. long and 3 cm. broad, glabrous | 3. perrottetii |
| 4 | Leaves entire, sessile, glabrous or glabrescent: | 5 |
| | Leaves toothed or lobed: | 6 |
| 5 | Capitula solitary on naked peduncles 10-15 cm. long; leaves linear-lanceolate, narrowed to base, 2-4 cm. long, up to 8 mm. broad, at first thinly villous, glabrescent, with 3-5 ascending nerves; involucre bracts 1-5 cm. long; achenes pubescent | 4. baberka |

Capitula several, corymbose, calyculate; leaves ovate to obovate, rounded at base, up to 8 cm. long and 1-3 cm. broad, glabrous, with pinnate nerves; involuoral bracts 8-10 mm. long; achenes glabrous [6. ruwenzoriensis](#)

- 6 Stem-leaves broad and auriculate at base; involuclal bracts 1 cm. long, woolly or pubescent; capitula numerous, corymbose; achenes glabrous: [7](#)

Stem-leaves at most narrowly rounded at base, sessile; lower leaves oblanceolate, stalked; achenes pubescent: [8](#)

- 7 Leaves oblong, up to 15 cm. long and 4 cm. broad, coarsely and doubly dentate or lobulate, obtuse, apiculate, pubescent beneath [6. clarenceanus](#)

Leaves broadly oblanceolate, up to 20 cm. long and 6 cm. broad, closely denticulate, with numerous faint lateral nerves, acuminate, woolly-tomentose with white hairs beneath or rarely glabrescent [7. burtonii](#)

- 8 Leaf-margins regularly minutely denticulate; stems and involuclal bracts glabrous or nearly so; capitula few, with involuclres 10-12 mm. long [8. lelyi](#)

Leaf-margins irregularly and coarsely crenate-dentate, remotely denticulate; stems and involuclal bracts pubescent; capitula numerous with involuclres 7-9 mm. long [9. hochstetteri](#)

1. **Senecio schimperi** *Sch.Bip. ex A. Rich.* Tent. Fl. Abyss. 1: 435 (1848); F.T.A. 3: 412. *APD acc*

APD: Synonym of Emilia guineensis Hutch. & Dalziel

Lactuca tenerrima of Chev. Bot. 379, partly (Chev. 14702; 18458), not of Pourret.

Emilia guineensis *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 149, partly (Chev. 14702; 18458).

A slender annual herb with yellow tubular florets in heads less than 1/4 in. broad.

Guin.: Bouria (Nov.) Caille in Hb. Chev. 14702! Timbo to Ditinn (Sept.) Chev. 18458! Mt. Loursa, 3,000 ft., Dabola (Sept.) Jaeger 4913! Dalaba (Sept.) Schnell 6838! Madina Tossékéré, 3,500 ft. (Oct.) Adam 12531!

Also in **Ethiopia**, **Eritrea** and **Congo**.

2. **Senecio abyssinicus** *Sch.Bip. ex A. Rich.* l.c. 438 (1848); F.T.A. 3: 410.

APD: Synonym of Emilia abyssinica (Sch. Bip. ex A. Rich.) C. Jeffrey var. abyssinica

An annual herb a few inches to 18 in. high with striate glabrous or sparsely pilose stems, and yellow ray- and disk-florets in narrow heads 1/4 in. long.

N. Nig.: Ilorin (Dec.) Clarke 26a! Keay FHI 37293! Jos Plateau (Jan., Oct.) Lely P31! Batten-Poole 109! Jog (Oct.) Hepper 1003! Naraguta Lely 32! Vom Dent Young 159! **S. Nig.:** Lagos Dodd 433! Ogun R. Millen 121! **[Br.] Cam.:** Bamenda, 5,000 ft. (Jan.) Migeod 293! Kumbo (June, Dec.) Boughey GC 17486! Gregory 131! Lus, Nkambe Div. (Feb.) Hepper 1862!

Widespread in central and east tropical Africa.

3. **Senecio perrottetii** *DC.* Prod. 6: 343 (1838); F.T.A. 8: 412; F.W.T.A., ed. 1, 2: 151, partly (excl. records from Sierra Leone); Berhaut Fl. Sen. 171. *APD acc*

An annual herb with glabrous leafy stems 1-2 ft. high; ray- and disk-florets yellow in campanulate flower-heads about 1/4 in. long; [along sandy riverbanks and as a weed of cultivation in northerly districts.](#)

Sen.: (Jan.) Perrottet! Roger! Adam! Richard Tol (Feb., May) Döllinger 65! Roberty 16842! **Mali:** Fafa rapids, Gao (Mar.) De Wailly 5357! Fetodie, near Dogo (Jan.) Davey 078!

4. **Senecio baberka** *Hutch.* in Kew Bull. 1913: 180.

APD: Synonym of Emilia baberka (Hutch.) C. Jeffrey

Senecio fallax *Mattf.* (1924).

Stems leafy, from a few inches to about 1 ft. high, [appearing after grass fires](#) from a perennial woody stock; florets bright yellow in solitary heads 1/2-2/3 in. long.

N. Nig.: Jos Plateau (Dec., Jan.) Lely P37! Ropp (Dec.) Coombe 53! Miango to Jos (Dec.) Coombe 92! Naraguta Lely 59! Jos (Mar., Apr.) Hill 13! Mortom K356! Vom, 4,000 ft. (Feb., Apr.) Dent Young 160! McClintock 208! Morton, K396! Zaria (Feb., Mar.) Dalz. 390! Milne-Redhead 5041! Anara F.R., Zaria (Nov.) Keay FHI 21683! Birnin Gwari (Feb.) Daggash FHI 31417!

Also in [Cameroun](#) and [Sudan](#).

5. *Senecio ruwenzoriensis* *S. Moore* in J. Linn. Soc. 35: 355 (1902). *APD acc*

Senecio thorbeckei *Mattf.* (1924).

A perennial herb with rather fleshy glaucous stems and leaves, 1-2 ft. high, drying black; ray- and disk-florets yellow in heads 1/3 in. long; [in montane grassland](#).

[**Br.**] **Cam.:** Bamenda Dist., 6,000-7,500 ft. (Dec., Feb., Mar-May) Maitland 1367! Ujor FHI 30012! Adams GC 11206! Morton. K23! Bafut-Ngemba F.R. Ujor FHI 30098! Onochie FHI 34867! Richards 5329! Hepper 2157!

Also in [Congo](#), [Uganda](#), [Kenya](#) and [Tanganyika](#).

6. *Senecio clarenceanus* *Hook. f.* in J. Linn. Soc. 6:14 (1862); F.T.A. 3: 418.

APD: *Synonym of Senecio purpureus L.*

An erect or low bushy perennial herb from a few inches to about 5 ft. high with ribbed steins and reddish-purple, mauve or pink florets in numerous flower-heads 1/3 in. long; [in montane grassland](#).

[**Br.**] **Cam.:** Cam. Mt., 7,600 ft. to the summit (Dec.-Apr.) Mann 1237! 1923! Deistel 561! Dundas FHI 13913! Maitland 815! 972! 1284! Keay FHI 28690! Irvine 1464! Boughey GC 12501! Morton GC 6900! **F. Po:** Summit of the peak (Feb., Mar.) Mann 609! Guinea 2758!

Also in [Congo](#).

7. *Senecio burtonii* *Hook. f.* in J. Linn. Soc. 7: 202 (1864); F.T.A. 3: 416. *APD acc*

A robust herb up to about 4 ft. high with grooved stems and leathery leaves; stems usually greyish-white and leaves variably so beneath; flower-heads numerous about 1/2 in. long with conspicuous yellow rays; [in montane grassland](#).

[**Br.**] **Cam.:** Cam. Mt., 7,000-12,000 ft. (Nov.-Apr.) Mann 1246! 1929! Deistel 613! Maitland 844! 920! Brenan 9386! Keay FHI 28629! Irvine 1471! Boughey GC 10656! Morton GC 6862! Bamenda Dist 6,000-8,500 ft. (Dec., Jan., Mar., Apr., June) Maitland 1396! 1722! Keay FHI 28406! Boughey GC 11039! Morton K140!

8. *Senecio lelyi* *Hutch.* in Kew Bull. 1921: 382; F.W.T.A., ed. 1, 2: 151, partly (Lely 356). *APD acc*

Senecio graciliserra *Mattf.* (1924).

An erect almost glabrous perennial herb with slender grooved stems up to about 2 ft. high from a woody stock; ray-florets yellow in rather few heads 1/2-2/3. long.

Ghana: Kyilinga, 2,000 ft., Trans-Volta Togo (Apr.) Hall 1451! **N. Nig.:** Jos Plateau (May) Lely P278! Hephram to Ropp, 4,600 ft. (July) Lely 356! Fusa Jarawa, 3,200 ft. (June) Summerhayes 61! [**Br.**] **Cam.:** Bamenda Dist., 5,000 ft. (Mar.-May) Maitland 1431! 1544! Morton K146!

Also in [Cameroun](#).

[Note: *S. lygodes* Hiern is very near to *S. lelyi*, but has glabrous achenes and a tendency for the stem-leaf bases to be decurrent; it occurs in Sudan, Congo, Rhodesia, Nyasaland and Angola-C. D. A.]

9. *Senecio hochstetteri* *Sch.Bip. ex A. Rich.* Tent. Fl. Abyss. 1: 435 (1848); F.T.A. 3: 414. *APD acc*

Senecio lelyi of F.W.T.A. ed. 1, 2: 151, partly (Lely 364; P89; Migeod 364; 479), not of Hutch.

An erect, pubescent perennial herb like the last with more numerous flower-heads 1/4-1/3 in. long and pale yellow or white ray-florets.

Guin.: Kinkon (June) Adam 14673! **N. Nig.:** Jos Plateau (Aug.) Lely P565! Naraguta (Jan.) Lely P89! Hephram to Ropp (July) Lely 364! [**Br.**] **Cam.:** Bamenda Dist., 5,000-6,000 ft. (Feb.-May) Migeod 364! 479! Maitland 1481! Ujor FHI 30315! Coombe 218! Morton K53! 265! Hepper 2113! Mambila Plateau, 4,900 ft., Adamawa (Jan.) Hepper 1796 1 Also in Ethiopia, Congo, Kenya, Uganda and Tanganyika.

De Miré and Gillet report *S. wronopifolius* Desf. from Air, Niger (J. Agric. Trop. 3: 710 (1956)).

27. COTULA*Linn.-F.T.A. 3: 397*

- 1 A small herb with woolly or sparsely hairy stems and leaves, the latter deeply pinnately divided, acute; flower-heads very small and numerous, shortly stalked, 4-5 mm. diam.; involucre bracts 2-seriate, oblong, with thin scarious margins; achenes narrowly winged; receptacle nearly flat and prominently tuberculate after the fall of the flowers [anthemoides](#)

Cotula anthemoides *Linn. Sp. Pl. 891 (1753); F.T.A. 3: 397; Berhaut Fl. Sén. 171. APD acc*

A spreading or prostrate herb with branches a few inches long, with small spherical yellow flower-heads scarcely 1/4 in. diam.

Sen.: Perrottet. fide Berhaut l.c.

Common in the warmer parts of the Old World.

28. CENTIPEDA*Lour. Fl. Cochinch. 492 (1790); Benth. & Hook. f. Gen. Pl. 2: 430.*

- 1 An annual herb with numerous spreading prostrate slender leafy branches; leaves alternate, obovate-oblong, 5-12 mm. long, subentire or with few teeth; capitula globose, solitary, axillary, subsessile, 3-5 mm. broad; involucre bracts in two series, spreading in fruit; receptacle naked; achenes 4-angled, the angles with simple hairs [minima](#)

Centipeda minima (*Linn.*) *A. Br. & Aschers. Ind. Sem. Hort. Berol. 1867, App. 6 (1868); Merrill in Trans. Amer. Phil. Soc., n. ser. 241: 392 (1935). APD acc*

Artemisia minima *Linn. (1753).*

A low weedy herb with small yellow flower-heads.

Lib.: Robertsfield (Aug. 1960) Aké Assi 5542!

This is the first record for West Africa of a common Asian plant; also reported from Australia, Pacific islands and Madagascar.

29. MICROGLOSSA*DC.-F.T.A. 3: 308.*

- 1 Petioles distinct, 1 cm. or more long; leaves ovate to broadly lanceolate: **2**
 Petioles not exceeding 5 mm. long, or leaves sessile; leaves narrowly elliptic to linear-oblongate, acute or shortly acuminate; achenes pubescent: **4**
- 2 Leaves ovate, rounded or broadly cuneate at base, acutely acuminate, 6-10 cm. long, 3-5 cm. broad, more or less pubescent on both surfaces, glabrescent above; achenes ribbed, pubescent; pappus pale or reddish: **3**
 Leaves lanceolate, cuneate at base, long-tailed-acuminate, entire, 5-8 cm. long, 1.5-2.5 cm. broad, thinly puberulous on the nerves beneath; inflorescence laxly branched [3. caudata](#)
- 3 Flower-heads densely crowded in terminal corymbs; leaves coarsely serrate-dentate [1. densiflora](#)
 Flower-heads in laxly branched terminal corymbs; leaves entire or nearly so [2. pyrifolia](#)
- 4 Outer involucre bracts ovate; leaves glabrous or nearly so, with long-subulate tips, 5-8 cm. long, 1.5-2.5 cm. broad, very thin; flower-heads rather few, terminal or terminating short lateral branches: **5**
 Outer involucre bracts linear; leaves pubescent beneath, acute, lanceolate, narrowed to the base, sessile, shallowly serrate-dentate, 5-8 cm. long, 1-1.5 cm. broad, scabrid above; flower-heads pedunculate, numerous in a terminal corymbose inflorescence [5. angolensis](#)
- 5 Leaves rather abruptly narrowed at the base, entire or subentire; branchlets glabrescent [4a. afzelii var. afzelii](#)
 Leaves tapered to a slender petiole, serrate in at least the upper half; branchlets puberulous [4b. afzelii var. serratifolia](#)

1. *Microglossa densiflora* Hook. f. in J. Linn. Soc. 7: 200(1864); F.T.A. 3: 308; Guinea In Anal. Jard. Bot. Madrid 10: 313 (1951). *APD acc*

A climbing shrub up to 25 ft. high with white ligulate and yellow disk florets In heads 1/6 in. long densely clustered in rounded terminal corymbs.

[Br.] Cam.: Cam. Mt., 3,000-9,000 ft. (Dec.-Mar.) Mann 1320! 1327! 1915! Kalbreyer 123! Dunlap 201! Maitland 244! 503! 513! Keay FHI 28641! Boughey GC 6809! Morton GC 7100! Bamenda, 6,500 ft. (Jan., Apr.) Keay FHI 28337! Morton K230! Bafut-Ngamba F.R. (Feb.) Lightbody FHI 26299! **F. Po:** Musola to Moka (Jan.) Guinea 1922.

Also in **Congo**.

[Note: This species is only really distinct from *M. pyrifolia* at the stations of higher altitude listed above. In the following localities, plants with densely clustered heads but otherwise intermediate between *M. densiflora* and *M. pyrifolia*, occur: - Port. G.: Pessubé, Bissau (Mar.) Esp. Santo 1496! S. Nig.: Ibadan North F.R. (Feb.) Ejiofor FHI 19805! Ilora, Oyo (Jan.) Keay FHI 25645! [Br.] Cam.: Cam. Mt., 4,400 ft. (Apr.) Maitland 1080! -C. D. A.]

2. *Microglossa pyrifolia* (Lam.) O. Ktze. Rev. Gen. Pl. 1: 353 (1891). *APD acc*

Conyza pyrifolia Lam. (1786).

Microglossa volubilis DC. (1836)-F.T.A. 3: 309; Chev. Bot. 362; F.W.T.A., ed. 1, 2: 152.

Pluchea subumbellata Klatt (1873).

Conyza heudelotii Oliv. & Hiern in F.T.A. 3: 317 (1877); F.W.T.A., ed. 1, 2: 154.

An erect or straggling shrub up to 10 ft. or more high with more or less pubescent stems and leaves; florets pale yellow or white in numerous small heads.

Sen.: YOUNI-Fogny, Casamance (Feb.) Chev. 2057! **Port. G.:** Bissalanca, Bissau (Jan.) Esp. Santo 1667! Mato de Amedi, Formosa (Apr.) Esp. Santo 1968! **Guin.:** Heudelot 609! Bambaya, Upper Niger (Jan.) Jaeger 3860! Pofodara (Mar.) Adam 11596! **S. L.:** Sugar Loaf Mt., 2,500 ft. (Oct.) Tindall 18! Freetown (Jan.) Dalz. 991! Magbema (May) Jordan 443! Kukuna (Jan.) Sc. Elliot 4715! Loma Mts. (Jan.) Jaeger 4160! **Lib.:** Kakatown Whyte! Dukwia R. (May) Cooper 449! Vonjama (Oct.) Baldwin 9921! Gondolahun, Kolahun (Nov.) Baldwin, 10109! Duo, Sinoe (Mar.) Baldwin 11361! **iv. C.:** Farmar 376! Bouroukrou (Jan.) Chev. 17003 bis! Sassandra Port (May) Chev. 17918! Orimbo-Boka Mt., Toumodi (Dec.) Boughey GC 14432! **Ghana:** Aburi Scarp (Sept., Oct.) Johnson 468! Adams 1783! Morton GC 9286! Dixcove to Busua (Mar.) Morton A280! Accra (Aug.) T. Vogel! Wenchi, Ashanti (Dec.) Adams 3246! Amedzofe (Feb., Oct.) Morton GC 6038! 8401! **Togo Rep.:** Baumann 425! Lomé Warnecke 418! **Dah.:** Sakété to Pedjilé, Porto-Novo (Feb.) Chev. 22890! **N. Nig.:** Ilorin (Dec.) Ajayi FHI 19268! Mongu, 4,300 ft. (July) Lely 397! Naraguta (Nov.) Lely 710! Jemaa, 2,500 ft. (Feb.) McClintock 181! Shere Hills, 4,000 ft. (Dec.) Coombe 107! **S. Nig.:** Lagos (Jan.) Dalz. 1161! Ibadan (Dec.) Meikle 856! 868! Shasha F.R., (Apr.) Jones & Onochie FHI 17260! Calabar (Aug.) Holland 69! Oban Talbot! **[Br.] Cam.:** Cam. Mt., Buea, 3,000-3,480 ft. (Mar.) Boughey GC 7026! Maitland 503a! Lakom, Bamenda, 6,000 ft. (Apr.) Maitland 1583! Bafut-Ngamba F.R. (Feb.) Tiku FHI 22160! Hepper 2192! Mambila Plateau, 5,200ft., Adamawa, Hepper 1833! **F. Po:** (Oct.) T. Vogel 16a! 41! Moka (Feb.) Guinea 2271.

Widespread in tropical Asia and Africa and also in **S. Tomé**.

3. *Microglossa caudata* O. Hoffm. & Muschl. in Mém. Soc. Bot. Fr. 2, 8: 113 (1910); Chev. Bot. 362. *APD acc*

A shrub with pubescent stems, peduncles and undersurfaces of leaves; inflorescence paniculate; pappus pinkish.

Guin.: Bowali to Kouria (July) Caille in Hb. Chev. 15069!

4. *Microglossa afzelii* O. Hoffm. in Engl. Bot. Jahrb. 24: 469 (1898); Chev. Bot. 362. *APD acc*

Microglossa sessilifolia of F.T.A. 3: 309, not of DC.

4a. *Microglossa afzelii* var. *afzelii* *APD acc*

A scrambling shrub 12-16 ft. high with the young branchlets and peduncles thinly pubescent; flower-heads about 1/3 in. across with conspicuous white ligules to the outer florets; **in thickets and fringing forest**.

Guin.: Kaba R. to Upper Mamou (Aug.) Chev. 12762! Bafing R., Mau to Touba (July) Collenettes 54! Gangan (Apr.) Adam 11931! **S. L.:** Duunia, Talla (Feb.) Sc. Elliot 4818! Kafogo (Apr.) Sc. Elliot 5491! Kenema (Apr.) Lane-Poole 223! Moyamba (Feb., Mar.) Deighton 1921! Smythe 54! Kangahun (Apr.) Deighton 6043! **Lib.:** Gbanga (Jan., Aug., Sept., Dec.)

Daniel 82! Linder 376! OKeke 11! Baldwin 10520! Browntown, Tchien (Aug.) Baldwin 7077! Ganta (May) Harley! **Iv. C.:** Guidéko, Middle Sassandra (May) Chev. 16468! Zaranou (Mar.) Chev. 17642! Nimba Mts. (May) Schnell 1362! **Ghana:** Aburi (Mar., May, Sept., Oct.) Adams 123! Johnson 467! Howes 1183! Morton GC 9278! Elmina Plains (Mar.) Morton A1880! Agogo, 1,400 ft., Ashanti (Apr., Dec.) Deakin 5! Adams 2550! Ahinsa, Ashanti (Jan.) Darko 507! Amedzofe, 2,500 ft. (Feb., Mar., Nov.) Irvine 157! Morton GC 9410! Williams 104! **Togo Rep.:** Misahöhe (Mar.) Baumann 445! **S. Nig.:** Ado Ekiti, Ondo Hoskyns-Abrahall FHI 20434! Oban Talbot 1671! **[Br.] Cam.:** Bamenda, 6,000ft. (Jan.) Migeod 411!

Also in **Sudan**.

4b. *Microglossa afzelii* var. *serratifolia* C.D. Adams in J.W. Afr. Sci. Assoc. 3: 116 (1957). *APD acc*

A slender-branched scrambling shrub with greenish-yellow flowers in heads about 1/4 in. across; **in secondary growth**.

Lib.: Nyandamolahun (Feb.) Bequaert 77! Tappita (Aug.) Baldwin 9075! **Ghana:** Aburi Scarp (Jan.) Morton GC 6338!

5. *Microglossa angolensis* Oliv. & Hiern in F.T.A. 3: 309 (1877).

APD: Synonym of Conyza pyrrhopappa Sch. Bip. ex A. Rich.

APD: Synonym of Conyza vernonioides (Sch. Bip. ex A. Rich.) Wild

An erect undershrub 2-4 ft high with pale yellow or greenish-yellow florets in numerous stalked heads about 1/4 in. broad, clustered at the ends of leafy branches; **along streams and forest margins in hilly districts**.

N. Nig.: Jos Plateau (May) Lely P270! Bukuru to Hephram, 4,800 ft. (July) Lely 347! Sho (Nov.) Keay FHI 21448! Jos (Apr.) Savory UC1 109! Batten-Poole 210! 360! Morton K414! **[Br.] Cam.:** Bamenda Dist., 4,500-6,500 ft. (Dec., Jan., Mar., June) Maitland 1685! Migeod 300! Boughey GC 11406! Adams GC 11341! Morton K38! Hepper 2189! Vogel Peak, 4,800 ft., Adamawa (Nov.) Hepper 1358!

[Note: This species is almost indistinguishable from *Conyza pyrrhopappa* Sch. Bip. ex A. Rich. (1848), which seems only to differ in having shorter ligules to the outer florets. If taken together, the distribution extends from Ethiopia through Uganda and Congo to Angola-C. D. A.]

30. ERIGERON

Linn.-F.T.A. 3: 307; B.L. Burtt in Kew Bull. 3: 371 (1949).

- 1** Leaves linear, up to 5 mm. broad, the upper filiform; pappus pinkish-red; achenes pubescent *1. bonariensis*
 Leaves linear-lanceolate to oblanceolate, usually 1 cm. or more broad; pappus buff; achenes minutely pubescent, glabrescent *2. floribundus*

1. *Erigeron bonariensis* Linn. Sp. Pl. 863 (1753); Burtt in Kew Bull. 3: 371.

APD: Synonym of Conyza bonariensis (L.) Cronquist

***Erigeron sumatrensis* Retz. (1789).**

***Erigeron linifolius* Willd. (1804)-F.T.A. 3: 308.**

***Conyza bonariensis* (Linn.) Cronquist in Bull. Torr. Bot. Club 70: 632 (1943).**

An erect herb up to 18 in. high; **in waste ground**.

Iv. C.: Adiopodoumé (Oct.) Leeuwenberg 1762! **Ghana:** Abetifi, 2,000 ft. (Jan., July) Irvine 1697! Akpabla 157!

Also in **S. Tomé, Principe** and **E. Africa**.

2. *Erigeron floribundus* (H.B. & K.) Sch. Bip. in Bull Soc. Bot. Fr. 12: 81 (1865).

APD: Synonym of Conyza bonariensis (L.) Cronquist

APD: Synonym of Conyza albida Spreng.

Conyza floribunda H.B. & K. (1820).

A herb up to about 6 ft. high; florets dull yellow in heads about 1/4 in. across; a weed of roadsides and cultivation in mountainous regions and lowland areas transitional between forest and savanna.

Guin.: Timbi Madina (Mar.) Adam 11698! Nzérékoré (Oct.) Baldwin 9724! **S. L.:** Njala (June) Deighton 730! Dia (Apr.) Deighton 3158! Musaia (Apr.) Deighton 5385! **Lib.:** Gbanga (Sept.) Linder 816! Ganta (May) Harley! Jabroke, Webo (July) Baldwin 6428! **Iv. C.:** Yapo Forest, near Abidjan (July) Boughey GC 14577! Adiopodoumé (Oct.) Roberty 15322! Bianco Forest (Aug.) Boughey GC 13502! Gonokrom to Techikrom (Dec.) Adams 2979! **Ghana:** Techiman, Ashanti (Dec.) Adams & Akpabla GC 4499! Kumasi (Oct.) Lovi WACRI 3933! Agogo, Ashanti, 1,400 ft. (Apr.) Adams 2607! Amedzofe (Nov.) Morton GC 9423! Elmina (Mar.) Morton A1878! **S. Nig.:** Owo (Nov.) Meikle & Keay 504! Akure F.R., Ondo (Oct.) Keay FHI 25459! Afi River F.R., Ogoja (June) Jones & Onochie FHI 18980! **[Br.] Cam.:** Cam. Mt., 3,400-9,000 ft. (Mar.-Apr.) Boughey GC 7016! Morton GC 6879! 7078! Buea (Jan., June) Maitland 40! FHI 10335! Bambui, Bamenda, 6,300 ft. (Dec.) Boughey GC 10396! Mambila Plateau, 4,500 ft., Adamawa (Jan.) Hepper 1830! **F. Po:** Musola (Jan.) Guinea 1384.

Widespread in warm countries.

31. FELICIA

Cass. in Bull. Sci. Soc. Philom. Paris 1818: 165; Dict. Sci. Nat. 16: 314. Nom. cons.

- 1 Stems erect, branched, leafy; leaves opposite below, alternate above, linear-lanceolate, 1-5 cm. long, 2-5 mm. broad; stems and leaves thinly pubescent; peduncles slender 2-7 cm. long; involuoral bracts in 3 series the outer shorter, the inner up to 7 mm. long, linear, with a narrow dark median nerve and broad scarious margins, abruptly acuminate, mucronate, glabrescent; receptacle papillose, 4-5 mm. diam.; outer florets shortly ligulate, inner filiform, minutely 5-lobed; style-arms tapered; achenes 1 mm. long, elliptic, flattened, minutely puberulous, greyish-buff; pappus-setae slender, white, caducous [homochroma](#)

Felicia homochroma S. Moore in J. Bot. 59; 229 (1921).

APD: *Synonym of Felicia boehmii* O. Hoffm.

A slender erect annual herb 1/2 ft. high; short ray- and disk-florets bright yellow in slender-stalked heads about 1/2 in. across.

N. Nig.: Naraguta F.R., Jos (Nov.) Keay FHI 37207! **[Br.] Cam.:** Vogel Peak 3,800 ft., Adamawa (Nov.) Hepper 1429!

Also in **Congo**, **Tanganyika**, **Nyasaland** and **N. Rhodesia**.

Felicia richardii Vatke is reported by De Miré and Gillet from Air, Niger (J. Agric. Trop. 3: 707 (1956)).

32. CONYZA

Less.-F.T-A. 3: 311. Nom. cons.

- 1 Herbs or undershrubs, erect or scandent, usually 1 m. or more high; capitula numerous (more than 20) on slender peduncles in terminal branched inflorescences; stems leafy; leaves distinctly serrate or serrulate but not divided: 2
- Herbs rarely reaching 1 m. high, often scapose or tufted from a short stock: 4
- 2 Stems and leaves glabrous; lower stem-leaves petiolate, elliptic, serrate, upper sessile subauriculate linear-lanceolate, serrulate; involuclral bracts oblong, acute, 3-4 mm. long, glabrous; peduncles slender; achenes glabrous. [L. persicifolia](#)
- Stems and leaves pubescent; upper stem-leaves gradually narrowed to a clasping base; involuclral bracts lanceolate, thinly pubescent in the mid-line; achenes minutely puberulous: 3
- 3 Capitula about 5 mm. diam. in flower; scrambling or weakly erect herb; leaf-base auricled; stem and leaves thinly pubescent; leaves glabrescent above, shortly setulose on the veins beneath [2. steudelii](#)
- Capitula 6-8 mm. diam. in flower; erect robust herb; leaf-bases not auricled; stem densely setulose-pubescent [3. gigantea](#)
- 4 Leaves pinnately divided; leaves and stems villous-pilose; involuclral bracts linear, slender; annual herbs: 5
- Leaves entire or subentire, often serrate but not divided; stems and leaves more or less pubescent, rarely glabrescent; mostly perennial herbs: 6

- 5 Uppermost stem-leaves subentire, linear; inflorescence spreading [4. *aegyptiaca* var. *aegyptiaca*](#)
 Uppermost stem-leaves pinnatifid, divided into narrow lobes; inflorescence contracted [4a. *aegyptiaca* var. *lineariloba*](#)
- 6 Stems usually 5-30 cm. high; leaves mostly in a basal rosette, broadly oblanceolate, serrate; capitula about 1 cm. diam., clustered at the apex of an almost leafless scape [5. *subscaposa*](#)
 Stems usually 30-60 cm. high; leaves scattered along the flowering stems, linear to linear-oblanceolate: [7](#)
- 7 Flower-heads 6-12 mm. diam.; stem-leaves more than 3 cm. long; stems more leafy below than above: [8](#)
 Flower-heads 6 mm. or less diam.; stem-leaves less than 3 cm. long; stems leafy only in the upper part at flowering time: [10](#)
- 8 Capitula in a dense terminal cluster; outer involucre bracts obtuse, purplish [6. *clarenceana*](#)
 Capitula borne on branches in the axils of the upper leaves: [9](#)
- 9 Involucre bracts purplish, acute; flower-heads 9-12 mm. diam.; stems sparsely setulose, glabrescent; leaf-margins at first ciliate [7. *theodori*](#)
 Involucre bracts green, obtuse; flower-heads 6-8 mm. diam.; stems appressed-pilose [8. *gouanii*](#)
- 10 Capitula numerous, 3-4 mm. diam. in rounded clusters; leaves oblanceolate, toothed near apex, about 2 cm. long and 4-5 mm. broad; stem indistinctly striate when dry; pubescent [9. *stricta*](#)
 Capitula few, 5-6 mm. diam.; leaves linear, about 2 mm. broad; stem deeply grooved when dry, glabrescent [10. *spartioides*](#)

1. *Conyza persicifolia* (Benth.) Oliv. & Hiern in F.T.A. 3: 312 (1877); Chev. Bot. 363.

APD: Synonym of *Conyza attenuata* DC.

Erigeron persicaefolius Benth. (1849).

Eschenbachia persicifolia (Benth.) Exell Cat. S. Tomé 224 (1944).

An erect glabrous annual herb 2-6 ft. high; lower leaves stalked; upper leaves clasping the stem but hardly auricled.; flower-heads small and numerous with pale yellow florets; **a weedy plant of open ground.**

Guin.: fide Chev. l.c. **S. L.:** Koflu (Jan.) Sc. Elliot 4610! Kurusu (Apr.) Sc. Elliot 5649! **Iv. C.:** Droupleu to Zouanlé, Upper Sassandra (May) Chev. 21453! Gouréni to Gouekouma, Upper Sassandra (May) Chev. 21650! **Ghana:** Tarkwa (Sept.) Dalz. 107! **N. Nig.:** Naraguta Lely 45! Kennedy 2953! Vom, 4,000 ft. (Feb., Apr.) Dent Young 147! McClintock 201! Morton K328! 340! Katagum Dalz. 368! Tilde Fllani, 3,300 ft. (May) Lely 234! **S. Nig.:** Abeokuta Irving 80! Lagos Millen 128! Afi River F.R., 2,500 ft., Ogoja (June) Jones & Onochie FHI 18801! **[Br.] Cam.:** Buea, 3,500 ft. (Feb., June, Nov.) Dalz. 8188! Maitland 43! Migeod 62! Widekum, 2,000 ft. (Jan.) Keay FHI 28327! Bamenda, 5,000 ft. (June) Maitland 1612! Mambila Plateau, 5,200 ft., Adamawa (Jan.) Hepper 1832! **F. Po.:** Musola (Nov.) Guinea 1080! Moka (Feb.) Guinea 2269.

Widespread in tropical Africa and in **S. Tomé**.

2. *Conyza steudelii* Sch.Bip. ex A. Rich. Tent. Fl. Abyss. 1: 388(1848); F.T.A. 3: 313. *APD acc*

Conyza volkensii of Adams in J.W. Afr. Sci. Assoc. 1: 26 (1954), not of O. Hoffm.

An erect or scandent much-branched shrubby herb 3-6 ft. high with thin pale green leaves; flower-heads with green involucre bracts and pale yellow florets; **at the margins of montane woodland.**

[Br.] Cam.: Cam. Mt., 8,000-9,000 ft. (Jan., Mar., Apr.) Keay FHI 28632! Brenan & Onochie 9545! Morton GC 6875!

Also in the **upland regions of Ethiopia, Congo, Kenya, Uganda** and **Tanganyika**.

3. *Conyza gigantea* O. Hoffm. in Engl. Pflanzenw. Ost-Afr. C: 408 (1895). *APD acc*

An erect robust bushy herb 5 ft. or more high with hispid stems and yellow florets in heads clustered at the ends of leafy branches; **in montane grassland and woodland margins.**

S. L.: Loma Mts., 4,500 ft. (Feb., Nov.) Jaeger 371! 462! 4194! 4269! Bintumane Peak, 6,390 ft. (Jan.) T. S Jones 104!

Also in the **mountains of Uganda** and **Tanganyika**.

[The W. African plants are slightly smaller in all their parts than specimens so named from E. African localities, but the type (Volkens 1141) has the smaller leaves of the W. African specimens. Plants with glabrous stems have been determined as the closely related *C. montigena* S. Moore (1908), but the type of this species (Wollaston s.n.) has a pubescent stem-C. D. A.].

Conyza aegyptiaca* (Linn.) Ait.APD: Synonym of Erigeron aegyptiacus L.*

4. ***Conyza aegyptiaca* var. *aegyptiaca***-Hort. Kew. 3: 183 (1789); F.T.A. 3: 314; Chev. Bot. 363; Berhaut Fl. Sén. 172. *APD acc*

Erigeron aegyptiacus Linn. (1767).

An annual or biennial herb from a few inches to 3 ft. high with numerous pinnately lobed leaves; flower-heads about 1/2 in. diam. in terminal clusters, opening widely and exposing masses of silky pappi in fruit; florets dull yellow; **a weed of cultivated, ground and waste places outside the forest areas.**

Sen.: Richard! (Jan.) Roger! Bandia (June) Berhaut 5297! **Mali:** Koba (Mar.) Chev. 609! Koldry (Apr.) Roberty 3597! **Port. G.:** Cumura, Bissau (Apr.) Esp. Santo 2383! **Guin.:** Yagadou (Mar.) Chev. 20931! Mamou (Apr.) Adam 11870! Kindia (May) Jac.-Fél. 1614! **S. L.:** Sulimania (Mar.) Sc. Elliot 5286! Kamalo (May) Thomas 386! Musala (Feb., Apr., Dec.) Deighton 4263! 4555! 5384! **Ghana:** Williams 495! Salaga Krause! Nwereme, Ashanti (May, Dec.) Inrvine 2492! Morton A2635! Techiman, Ashanti (Dec.) Adams & Akpabla GC 4518! Damongo (Mar.) Morton GC 8717! Kete Krachi to Oti R. (May) Morton GC 7162! **Dah.:** Konbongou, Atacora Mts. (June) Chev. 24156! **N. Nig.:** Vom Dent Young 148! Naraguta (Nov.) Lely 717! Bauchi, 2,200 ft. (Jan., May) Lely 170! Baradau, 3,000 ft. (May) Lely 92! Kaduna to Zaria (May) Keay FHI 25756! Abinsi (June) Dalz. 654! **[Br.] Cam.:** Wum Crater L., Bamenda (Apr.) Morton K297! Mapeo, 3,000 ft., Alantika Mts. (Dec.) Hepper 2791!

- 4a. ***Conyza aegyptiaca* var. *lineariloba* (DC.) O. Hoffm.** in Bol. Soc. Brot. 13: 23 (1896); Chev. Bot. 363.

*APD: Synonym of Conyza aegyptiaca (L.) Aiton**Conyza lineariloba* DC. (1836).

An annual herb like the last but more slender with narrower inflorescences and leaves.

Guin.: Kouria to Ymbo (July) Chev. 15017! Timbi (June) Adam 14678! **S. L.:** Rowala (July) Thomas 1130! **N. Nig.:** Bokkos, 4,000 ft., Plateau Prov. (Dec.) Coombe 65! **[Br.] Cam.:** Bamenda, 5,000-7,000 ft. (Feb., Apr., May) Maitland 1447! Morton K216! Bafut-Ngemba F.R. (Feb., Apr.) Hepper 2697! Morton K252!

Also in **Congo** and **Angola**.

5. ***Conyza subscaposa* O. Hoffm.** in Engl. Bot. Jahrb. 20: 225 (1894); Robyns Fl. Sperm. Parc. Nat. Alb. 2: 469, t. 44. *APD acc*

Conyza hochstetteri of Adams in J.W. Afr. Sci. Assoc. 1: 26 (1954), not of Sch. Bip.

A perennial herb with a basal rosette of stiff leaves and a weak flowering shoot from a few inches to 1 ft. high; florets dull yellow; involuclral bracts often purplish; **in montane grassland.**

[Br.] Cam.: Cam. Mt., in grassland up to the summit (Dec.-May) Maitland 675! 1100! Bumpus FHI 12812! Dundas FHI 20361! Keay FHI 28623! Brenan 9503! 9528! 9573! Bougney GC 6805! 12683! Bamenda, 6,000-7,500 ft. (Dec., Mar.) Richards 5306! Adams GC 11310! Boughey GC 10880! 11414! Maisamari, 5,300 ft., Mambila Plateau (Jan.) Hepper 1734!

Also in **Ethiopia**, **Sudan**, **Congo**, **Kenya**, **Uganda**, **Tanganyika** and **Rhodesia**.

6. ***Conyza clarenceana* (Hook. f.) Oliv. & Hiern** in F.T.A. 3: 316 (1877). *APD acc*

Vernonia clarenceana Hook. f. (1862).

An erect slightly branched sparsely pubescent perennial herb with sterna up to 2 ft. high, narrow clasping leaves and a terminal cluster of flower-heads; florets yellow; involuclral bracts rich purple.

F. Po: Clarence Peak, 8,500 ft. (Dec.) Mann 599! Guinea 2898. Boughey GC 17383! Pico Serrano (Dec., Jan.) Guinea 1969! Monod 10480!

7. ***Conyza theodori* R.E. Fries** in Acta Hort. Berg. 9: 122, t. 1, fig. 1 (1928).

APD: Synonym of Conyza clarenceana (Hook. f.) Oliv. & Hiern

A perennial herb with reddish stems 12-18 in. high; flower-heads in small clusters in a branched terminal inflorescence; florets yellow; involucre bracts long-pointed, purplish; **in upland grasslands**.

[Br.] Cam.: Cam. Mt., 4,400 ft. (Apr.) Maitland 1098a! Lakom, 6,000 ft. (Apr.-May) Maitland 1378! 1480! 1493! Kumbo, 5,000 ft. (Feb.) Hepper 2698!

Also in **Ethiopia**, **Congo** and **Kenya**.

8. **Conyza gouanii** (Linn.) Willd. Sp. Pl., ed. 4, 3: 1928 (1803); F.T.A. 3: 316 (incl. syn. *C. gnaphalioides* Sch. Bip. (1848), but not of H.B.K. (1820)).

APD: *Synonym of Erigeron gouanii* L.

Erigeron gouani Linn. (1771).

A perennial herb like the last with shorter greenish involucre bracts forming smaller heads; stems often purple; **in upland grasslands**.

S. Nig.: Ata R., Obudu (Dec.) Keay & Savory FHI 25011! [Br.] Cam.: Cam. Mt., 4,000 ft. (Apr.) Maitland 1098! Bamenda, 6,000 ft. (Mar.) Morton K16! Bamenda to Ndop, 5,000-5,400 ft. (Dec.) Adams GC 11279! Boughey GC 10454! 11372! Bambui, Bamenda, 6,500 ft. (Dec.) Boughey GC 10846!1

Also in **Canary Islands**, **Ethiopia**, **Tanganyika** and **Rhodesia**.

9. **Conyza stricta** Willd. Sp. Pl., ed. 4, 3: 1922 (1803); F.T.A. 3: 318.

APD: *Synonym of Erigeron trilobus* (Decne.) Boiss.

An annual herb 1-3 ft. high often with several ascending branches from the main stem, white-pubescent with hooked hairs; flower-heads about 1/6 in. across; florets yellow; pappus deciduous in one piece.

Guin.: Mali Peak, 5,000 ft. (Jan.) Chev.! Mt. Loura, 5,000 ft. (June) Adam 14515! N. Nig.: Jos Plateau Lely 860! Gindiri, 3,500 ft., Jos Plateau (Oct.) Hepper 1102!

Throughout tropical Africa.

10. **Conyza spartioides** O. Hoffm. in Engl. Bot. Jahrb. 20: 224 (1894).

APD: *Synonym of Nidorella spartioides* (O. Hoffm.) Cronquist

Nidorella spartioides (O. Hoffm.) Cronquist in Bull. Jard. Bot. Brux. 22: 310 (1952).

N. stricta O. Hoffm. (1901).

A perennial herb 1-2 ft. high with slender flexuous, sometimes almost leafless, branches from a woody stock; flower-heads rather few in terminal clusters; florets yellow; involucre bracts green.

[Br.] Cam.: Fang, Bamenda, 3,000-5,000 ft. (Apr.) Maitland 1472! Bafut-Ngamba F.R., 7,200 ft. (Feb., Mar.) Hepper 2119! Morton K41! Santa Mt., 8,500 ft., Bamenda (Apr.) Morton K313!

Also in **Kenya**, **Uganda**, **Tanganyika**, **Angola** and **Rhodesia**.

33. ADELOSTIGMA

Steetz-F.T.A. 3: 320. APD acc

- 1 Erect annual, sparingly branched in the upper part; stems thinly pilose, glabrescent; leaves linear in outline, deeply pinnately partite, up to about 5 cm. long, with linear segments about 5 mm. long, glabrescent; flower-heads terminal, surrounded closely by the upper leaves, 1.5-2 cm. diam.; involucre bracts about 3-seriate, linear, about 1 cm. long, silky-pubescent; outer florets with a filiform corolla, inner narrowly campanulate; achenes pubescent; pappus-bristles smooth, pale buff [senegalense](#)

Adelostigma senegalense Benth. in Hook. Ic. Pl. 12: t. 1144 (1873); F.T.A. 3: 320: Chev. Bot. 364. APD acc

An erect annual herb a few inches to 18 in. or more high with soft, thick whitish roots and slightly angled sterna; florets mauve or bluish-purple in thistle-like heads; **in damp grassy flats.**

Guin.: Fouta Djallon Heudelot 677! Timbo to Ditinn (Sept.) Chev. 18462! 18513! Bouria (Sov.) Chev. 14963! Bilima (Sept.) Chev. 15039! Mali (Sept.) Schnell 7057! Timbi Adam 12846! **S. L.:** Waterloo (Jan., Aug.) Lane-Poole 408! Melville & Hooker 323! Freetown (Oct.) Johnston, 19! Kanya (Oct.) Thomas 2959! Wellington (Nov.) Deighton 866! Wonkifu (Oct.) Jordan 931! No. 2 River, Colony (Nov.) T. S. Jones 374!

34. CERUANA

Forsk.-F.T.A. 3: 304.

- 1 Branchlets pilose; leaves obovate-oblongate, narrowly auriculate at base, coarsely crenate in the broader part of the lamina, 4-6 cm. long, about 1.5 cm. broad, thinly pilose on both sides; flower-heads very shortly pedunculate, campanulate, 6-8 mm. long; outer involucre bracts leafy, inner dry and chaffy; outer florets female, narrowly tubular, with a rudimentary ligule; receptacle paleaceous; achenes slightly angular, glabrous, crowned with a minute setiform pappus [*pratensis*](#)

Ceruana pratensis *Forsk.* Fl. Aegypt.-Arab. LXXIV (1775); F.T.A. 3: 305; Chev. Bot. 362; Berhaut Fl. Sén. 172. *APD acc*

An erect branched half-woody annual herb 1-2 ft. high, with dull yellow or greenish-yellow florets in leafy-bracteate heads; **in drying marshy ground and on river banks.**

Sen.: Richard Tol (May) Döllinger! **Gam.:** Hayes 548! **Mali:** Djenné (June) Chev. 1116! Kolby, Macina (July) Roberty 2554! **Guin.:** R. Niger, Kouroussa (Apr.) Adam 12169! **Ghana:** Red Volta R., Bolgatanga to Bawku (Apr.) Morton GC 8932! 8952! **N. Nig.:** Nupe Barter 1128! R. Benue, Yola (May) Dalz. 35!

35. DICHROCEPHALA

L'Hérit. ex DC.-F.T.A. 3: 302.

- 1 Flower-heads subsolitary, 6-8 mm. diam., rather few on elongated bracteate peduncles; stems scabrid or glabrescent; leaves broadly auriculate at base, coarsely dentate or pinnately lobulate, the lower leaves spatulate, up to 10 cm. long and 3 cm. broad, more or less scabrid-setulose above, pilose on the midrib beneath [*1. chrysanthemifolia*](#)
- Flower-heads numerous in panicles, 3-4 mm. diam. on peduncles up to about 5 mm. long; stems more or less scabrid; leaves petiolate, not auriculate, pinnately partite, the terminal lobe usually broadly ovate, serrate, setulose-pilose on both surfaces [*2. integrifolia*](#)

1. **Dichrocephala chrysanthemifolia** (*Blume*) *DC.* in Guill. Arch. Bot. 2: 518 (1833); F.T.A. 3: 303. *APD acc*

Cotula chrysanthemifolia *Blume* (1826).

An aromatic erect or straggling branched herb 1-3 ft. or more high with more or less pubescent stems and leaves, and spherical red-purple to mauve flower-heads; **in montane grasslands.**

[**Br.**] **Cam.:** Cam. Mt., 7,000-10,500 ft. (Nov.-Apr.) Mann 1267! 1927! Mildbr. 10850! Maitland 907! 973! 1278! Dalz. 8321! Keay FHI 28601! Morton K538! Boughey GC 12647! Mbakokeka Mt., 7,400 ft., Bafut-Ngemba F.R. (Dec., Feb.) Hepper 2130! Bambui Mt. (Dec.) Boughey GC 10759! Bamenda (Dec.) Boughey GC 11413! **F. Po:** summit of the Peak, 9,000 ft. (Dec., Mar.) Mann 606! Guinea 2847!

Throughout tropical Africa, mostly on high ground, and in Asia and Madagascar.

[The larger more glabrous forms are probably shade plants.]

2. **Dichrocephala integrifolia** (*Linn. f.*) *O. Ktze.* Rev. Gen. Pl. 1: 333 (1891). *APD acc*

Hippia integrifolia *Linn. f.* (1781).

Cotula bicolor *Roth* (1800).

Dichrocephala latifolia *DC.* (1833)-F.T.A. 3: 303; Chev. Bot. 361.

Dichrocephala bicolor (*Roth*) *Schlechtend.* (1852)-F.W.T.A., ed. 1, 2: 155.

An erect branched annual herb 1-3 ft. or more high, with scabrid angular sterna and roughly pubescent leaves; the flower-heads have an involucre of green bracts with whitish tips, and greenish-yellow central florets, the outer florets may be mauve; **a weed of high ground.**

Guin.: Ditinn Fall, Fouta Djallon (Sept.) Chev. 18535! Labé (Mar.) Adam 11534! **Iv. C.:** Soucourala to Sanrou, Upper Sassandra (May) Chev. 21586! **Ghana:** Amedzofe, 2,000 ft. (Apr.) Morton A1997! **N. Nig.:** Hephram to Ropp, 4,600 ft. (July) Lely 368! Werram R., Jos (Aug.) Keay FHI 12722! **S. Nig.:** Obudu Plateau, 5,500 ft. (Aug.) Stone 50! **[Br.] Cam.:** Cam. Mt., 3,000-8,000 ft. (Nov.-Jan., Mar.) Mann 1268! 1926! Migeod 111! Boughey GC 10703! Morton GC 6705! Bamenda Dist. (Mar., June, Dec.) Maitland 1388! Adams GC 11309! Boughey GC 10949! Morton K35! Ntim, Nkambe Div. (Feb.) Hepper 1860! Mambila Plateau, 5,600 ft., Adamawa (Jan.) Hepper 1736! **F. Po:** refuge on the Peak, 6,000 ft. (Dec.) Boughey GC 17419!

Widespread in tropical and subtropical Africa and also in Asia and southern Europe.

36. MICROTRICHIA

DC.-F.T.A. 3: 302.

- 1 A small annual herb; leaves obovate, rounded at apex, narrowly cuneate at base, the lowermost long-petiolate, up to 6 cm. long and 2 cm. broad, coarsely crenate, thinly and minutely pubescent; flower-heads in terminal subsessile clusters, 3-4 mm. diam.; involucre bracts in 2-3 rows, oblanceolate or linear, slightly pubescent; outer florets female, tubular; inner florets hermaphrodite; achenes pubescent, subterete; pappus of a few denticulate caducous bristles [*perrottetii*](#)

Microtrichia perrottetii DC. Prod. 5: 366 (1836); F.T.A. 3: 302; Chev. Bot. 361; Berhaut Fl. Sén. 174, 176, 294.

APD: *Synonym of Grangea ceruanoides Cass.*

A diffuse or tufted herb from a few inches to over 1 ft. high with the odour of Artemisia, flower-heads 1/8-3/16 in. broad; florets yellow; **in damp sandy places in savanna areas.**

Sen.: Ouassadou Berhaut 1691. **Mali:** fide Chev. l.c. **Port. G.:** Antula, Bissau (Feb.) Esp. Santo 1473! **Guin.:** Heudelot 859! Timbi-Madina Apr.) Adam 11817! Kankan Adam 12135! **S. L.:** Port Loko Sc. Elliot 5858! Njala (May) Deighton 640! Waima (June) Deighton 5334! Yonibana (June) Deighton 5848! Kasanko (May) Adames 227! **Iv. C.:** between the banks of Bandama R. and Marabadiassa R., Mankono (July) Chev. 22002! **Ghana:** White Volta R., Yapei (Mar.) Morton GC 8767! Tumu (Apr.) Morton GC 8887! Volta R., Kete Krachi (May) Morton GC 7293! **Dah.:** Gouka to Banté, Savalou (May) Chev. 23734! Kouandé to Konkobiri, Atacora Mts. (June) Chev. 24281! **N. Nig.:** Aboh Barter 181! Abinsi (July) Dalz. 651! Anara F.R., Zaria (May) Keay FHI 19193! Birnin Gwari, Zaria (June) Keay FHI 25867!

37. GRANGEA

Adans.-F.T.A. 3: 304.

- 1 Prostrate herb or shrub, clothed everywhere with long white hairs; leaves variably pinnately divided, often nearly to the midrib, sessile, up to 5-7 cm. long, segments oblong, subacute; flower-heads depressed-globose, up to 1 cm. diam. on short peduncles; involucre bracts about 3-seriate, obovate-elliptic, 3-4 mm. long, glandular; outer florets female, in 1 or more series; florets persistent; achenes subterete, scabrid, with very short curved pappus-bristles [*maderaspatana*](#)

Grangea maderaspatana (Linn.) Poir. in Lam. Encycl. Méth. Bot., Suppl. 2: 825 (1812); F.T.A. 3: 304; Chev. Bot. 361; Hagerup in Biol. Medd. 9, 4: 55; Berhaut Fl. Sén. 172. **APD acc**

Artemisia maderaspatana Linn. (1753).

A hairy annual or perennial herb or shrub with prostrate branches from a woody root, odorous; florets yellow; **in damp places.**

Sen.: Döllinger! fide Chev. & Berhaut l.c. Dakar (May) Baldwin 5701! **Mali:** Badumbé (Dec.) Chev. 51! Bandiagara to Mopti (Sept.) Chev. 24928! Timbuktu (July) Hagerup 148! 159! R. Niger, Macina (May) Lean 16! Diafarabé to Koumbé (May) Lean 25! **Port. G.:** Antula, Bissau (June) Esp. Santo 1512! Peluba, Bissau (Jan.) Esp. Santo 1707! **Ghana:** Kakundu,

Cape Coast (Mar.) Hall 1301! **N. Nig.:** Nupe Barter 1200! Katagum Dalz. 174! Gashua, Bornu (June) Onochie FHI 23366! Maiduguri (June) Ujor FHI 21931! Dapchi, Bornu (Nov.) Noble A16! [**Br.**] **Cam.:** Bama, Dikwa Div. (Jan.) McClintock 174!

Widely spread through tropical Africa and Asia.

38. GEIGERIA

Griessel.-F.T.A. 3: 367; Merxmüller in Mitt. Bot. Staatss. Munchen 1, 7: 239 (1953).

- 1 An erect divaricately branched glabrous annual herb with broadly winged stems; leaves opposite, sessile and decurrent, oval-oblong, subacute, mucronate, entire or minutely denticulate, 2-8 cm. long, 0.5-2.5 cm. broad, glandular; flower-heads campanulate, about 0.5 cm. long, sessile in the forks of branches, 10-12-flowered; involucre bracts rigid in a few series, oval-oblong, spine-tipped, thinly puberulous, glandular; receptacle with numerous slender setaceous paleae; ray-florets in a single series, ligulate; disk-florets tubular; scales of pappus aristate, hyaline [alata](#)

Geigeria alata (DC.) Oliv. & Hiern in F.T.A. 3: 368 (1877); F.W. Andr. FL. Pl. Sudan 3: 31, fig. 5. *APD acc*

Diplostemma alatum DC. (1838).

A herb up to about 1 ft. high with a 3-winged stem; leaves of two sorts occur at each node, two with decurrent bases and one without; flower-heads about 1/6 in. long with the tips of the outer involucre bracts spreading and leafy; florets yellow; [a weed of semi-desert.](#)

Mali: Niamey-Niama, near Boré (Nov.) Demange 33/1957! **Niger:** Air De Miré & Gillet. Zinder (Dec.) Vaillant 792! Kolo Vaillant 864!

Also in **Mauritania, Cameroun, Sudan, Egypt, Somaliland, Arabia, Ethiopia, Eritrea, Kenya, Angola** and **S.W. Africa.**

39. BUBONIUM

APD: Synonym of Asteriscus Mill.

Hill Veg. Syst. 2: 74 (1761).

- 1 Shrubby up to 50 cm. high; branches rigid, whitish, thinly velvety; leaves pinnately lobed or toothed, up to 5 cm. long, sessile, amplexicaul, viscid-pubescent; involucre rounded, terminal and subsessile in the branch-axils, the outer bracts foliaceous, mucronate or apiculate, the inner ovate, puberulous; receptacle with palea; ray-florets short, 2-3-toothed, yellow; disk-florets tubular, acutely 5-lobed; achenes costate, hairy on the ribs, the outer somewhat compressed, the inner terete; pappus-scales scarious, dissected at the apex, equalling the ovary [graveolens](#)

Bubonium graveolens (Forsk.) Maire in Bull. Soc. Hist. Nat. Afr. Nord. 27: 233 (1936); De Miré & Gillet in J. Agric. Trop. 3: 706.

APD: Synonym of Asteriscus graveolens (Forssk.) Less.

Buphthalmum graveolens Forsk. (1775).

Odontospermum graveolens (Forsk.) Sch. Bip. (1844)-F.T.A. 3: 370.

A tough bushy herb up to about 18 in. high with yellow florets in heads 1/3-1/2 in. across.

Niger: Air fide De Miré & Gillet l.c.

Extends from Mauritania through **Sudan** to **Egypt** and **Arabia.**

40. ANISOPAPPUS

Hook. & Arn.-F.T.A. 3: 369. APD acc

- 1 Pappus a single row of jagged scales; leaves ovate to triangular-lanceolate, truncate or subcordate at base, crenate, 4-7 cm. long, 2-3 cm. broad, slightly scabrid above, puberulous beneath; petiole slender, up to 2 cm. long; flower-heads several, usually 4-8, rarely 1; involucre bracts about 3-seriate, up to 8 mm. long, scabridulous; exerted ligules longer than the involucre [1. africanus](#)
- Pappus a row of jagged scales with intermediate bristles: **2**
- 2 Intermediate pappus-bristles about twice as long as the jagged scales; leaves very variable from shortly triangular to lanceolate, crenate and often distinctly lobed towards the base, cuneate to cordate, up to 8 cm. long and 2-5 cm. broad, slightly scabrid; petiole slender; flower-heads 1-6, usually 4 or 5; involucre bracts grey-puberulous outside; exerted ligules about equal to the involucre [2. dalzielii](#)
- Intermediate pappus-bristles about equal in length to the jagged scales; leaves ovate to suborbicular, up to 3 cm. long and broad, cordate with a blunt tip and rounded basal lobes, densely scabridulous above, puberulous beneath; petiole 0.5-1 cm. long; flower-heads 1-4; involucre bracts densely puberulous, green, the lower recurved; exerted ligules exceeding the involucre [3. suborbicularis](#)

1. *Anisopappus africanus* (Hook. f.) Oliv. & Hiern in F.T.A. 3: 369 (1877).

APD: Synonym of Anisopappus chinensis subsp. africanus (Hook. f.) S. Ortiz & Paiva

Telekia africana Hook. f. (1864).

A robust herb up to 4 ft. high with striate pubescent pithy stems and yellow flower-heads about 1 in. across; [in savanna woodland or montane grassland](#).

Ghana: Ejura, Ashanti (Dec.-Jan.) Morton GC 9529! A1529! Techiman to Nkoranza (Dec.) Morton A1154! **S. Nig.:** Mt. Koloishe, 5,000-5,400 ft., Ogoja (Aug.) Stone 49! **[Br.] Cam.:** Cam. Mt., 4,800-9,000 ft. (Sept., Nov.-Feb., Apr.) Mann 1313! 1920! Irvine 1468! Dalz. 8317! Brenan 9384! Boughey A445! GC 6845! Keay FHI 28639! Bamenda to Ndop, 4,800 ft. (Dec.) Adams GC 11257!

Throughout tropical Africa.

2. *Anisopappus dalzielii* Hutch. F.W.T.A., ed. 1, 2: 156 (1931).

APD: Synonym of Anisopappus chinensis Hook. & Arn. subsp. chinensis

Anisopappus africanus of Chev. Bot. 368, not of Oliv. & Hiern.

Anisopappus chinensis of Chev. Bot. 368, not of Hook. & Arn.

An erect perennial herb 1-3 ft. high with yellow ray-arid disk-florets in few heads; [in rough open grassland or savanna woodland](#).

Mali: Tabacco (Oct.) Chev. 2075! **Guin.:** Kouria (Dec.) Chev. 14821! Timbo to Ditinn (Sept.) Chev. 18453! 18512! Kaoulendougou, Nzo (Mar.) Chev. 21054! Mali, 5,000 ft. (Sept.) Schnell 7059! 7226! Madina Tossékéré (Oct.) Adam 12558! **S. L.:** Glanville 377! Bintumane Peak, 5,000 ft. (Jan., Oct.) T. S. Jones 115! Jaeger 308! Yalamba (Jan.) Jaeger 3962! **Ghana:** Nwereme, Ashanti (Dec.) Morton A2634! Dutukpene (Dec.) Adams 4549! Amedzofe (Nov.) Morton GC 9432! A2305! **N. Nig.:** Kontagora (Oct.) Dalz. 196! Anara F.R., Zaria (Oct.) Keay FHI 5479! Kwakwi, Zaria (Nov.) Onochie & Keay FHI 21739! Jos Plateau (Oct.) Lely P823! Amo, Jos Plateau (Oct.) Hepper 2894! **S. Nig.:** Unya, 2,500 ft., Ogoja, (Dec.) Savory & Keay FHI 25019! **[Br.] Cam.:** Madaki, Adamawa (Dec.) Latilo & Daramola FHI 28834! Vogel Peak, 4,300 ft., Adamawa (Nov.) Hepper 1345!

Also in [Uganda](#) and **N. Rhodesia**.

3. *Anisopappus suborbicularis* Hutch. & B. L. Burtt in Rev. Zool. & Bot. Afr. 23: 41 (1932).

APD: Synonym of Anisopappus chinensis var. buchwaldii

Anisopappus africanus of F.W.T.A., ed. 1, 2: 156, partly (Migeod 453).

A straggling or erect bushy herb up to 3 ft. high with bright yellow flowers; [in montane grassland](#).

[Br.] Cam.: Bamenda, 6,000 ft. (Jan.) Migeod 453! Nchan, Bamenda, 5,000 ft. (June) Maitland 1741! Kumbo to Oku, 6,000 ft. (Feb.) Hepper 2006! Mambila Plateau, 4,900 ft., Adamawa (Jan.) Hepper 1709!

Also in [Congo](#).

41. MOLLERA

APD: Synonym of Calostephane Benth.

O. Hoffm. in E. & P. Pflanzenfam. 4, 5: 205 (1890); Bol. Soc. Brot. 10: 174 (1892).

- 1 Stem narrowly winged from the decurrent leaf-bases; lower leaves opposite, upper alternate, oblanceolate, 1-3.5 cm. long, 3-6 mm. broad, remotely serrate-crenate towards the apex, minutely scabrid; peduncles setulose 1-2 cm. long; involucre bracts in 2 series, narrowly ovate, acuminate, scabridulous, 3-4 mm. long, the tips reflexed at maturity; outer ligulate florets prominent with the tube exerted from the involucre, 2-3-toothed; achenes barrel-shaped, strongly 8-10-ribbed, minutely glandular between the ribs; pappus a minute inconspicuous ring [angolensis](#)

Mollera angolensis *O. Hoffm.* l.c. (1890).

APD: Synonym of Calostephane angolensis (O. Hoffm.) Anderb.

Mollera punctulata *Hiern* Cat. Welw. 1: 569 (1898).

An annual herb up to about 1 ft. high with yellow ray- and disk-florets in heads 1/4-1/2 in. diam.; a weed of fields and open ground.

N. Nig.: Jos Plateau (Aug.) Lely P588! Bukuru to Hephram, 4,300 ft. (July) Lely 346! Ropp to Mongu (Apr.) Morton K363! Anara F.R., Zaria (Oct.) Keay FHI 20142! Naraguta racecourse (Nov.) Keay FHI 37205!

Also in [Angola](#).

42. PULICARIA

Gaertn.-F.T.A. 3: 363.

- 1 Involucral bracts in 4-5 rows; capitula numerous; achenes dark brown, oblong, sulcate, glabrous; pappus 2-seriate, outer of short scales, inner of 10-12 slender setae, plumose towards the tips, the two series caducous together; leaves rather small, oblong, with usually strongly crisped involute margins [1. crispa](#)
- Involucral bracts in 2-3 rows; capitula usually rather few; achenes pale buff, smooth, shallowly grooved, glabrescent; pappus 2-seriate, outer of short scales, inner of 12-15 slender setae, minutely barbellate along their entire length and slightly broader towards the tips, the inner series caducous, the outer persistent; leaves oblanceolate, sinuate-margined, usually flat [2. undulata](#)

1. **Pulicaria crispa** (*Forsk.*) *Oliv.* in Trans. Linn. Soc. 29: 96 (1873); *F.T.A.* 3: 366; Chev. Bot. 366; Hagerup in Biol. Medd. 9, 4: 57; Berhaut Fl. Sén. 172; F. W. Andr. Fl. Pl. Sudan 3: 46, fig. 8.

APD: Synonym of Pulicaria undulata (L.) C.A. Mey. subsp. undulata

Aster crispus *Forsk.* (1775).

An annual herb with decumbent branches spreading and ascending to 1 or 2 ft. high; stems and leaves silvery, but sometimes glabrescent; flower-heads 1/4-1/2 in. across with light yellow ray and disk florets; an aromatic weed of fields and arid country.

Sen.: Richard Tol (Feb.) Roberty 16858! **Mali:** Bamako (Jan.) Chev. 197! Timbuktu (July) Hagerup 168! Bendofo, Kita (July) Jaeger 6! **Ghana:** Zuarungu (Nov.) Akpabla 428! Yendi (Dec.) Adams & Akpabla GC 4067! Burufo, Lawra (Dec.) Adams & Akpabla GC 4443! Kaleo, Wa (Apr.) Adams 4009! **Dah.:** Djougou (June) Chev. 23903! **Niger:** Zinder (Nov.) Hagerup 598! **N. Nig.:** Borgu Barter 798! Kontagora (Jan., Nov.) Dalz. 201! Meikle 1036! Kano (Oct.) Keay FHI 21136! Bichikki (Sept.) Lely 630! Jengre, 3,000 ft., Zaria (Dec.) Coombe 84! **[Br.] Cam.:** Bama, Dikwa Dist. (Dec.) McClintock 51!

Also in [Mauritania](#), [Egypt](#), [Sudan](#), [Ethiopia](#) and [Arabia](#).

2. **Pulicaria undulata** (*Linn.*) *C.A. Mey.* Verzeichn. Pfl. 79 (1831); *F.T.A.* 3: 365. *APD acc*

APD: Synonym of Pulicaria incisa (Lam.) DC. subsp. incisa

Inula undulata Linn. (1767).

Pulicaria undulata var. *alveolosa* (Batt. & Trab.) Maire-Berhaut Fl. Sén. 176; De Miré & Gillet in J. Agric. Trop. 3: 709.

An **aromatic weedy herb** like the last, but generally smaller and more silky-hairy; flower-heads 1/4-1/2 in. across; florets yellow.

Sen.: fide Berhaut l.c. **Mali:** Toguère de Banguita (Jan.) Davey 12! Niondjé (Jan.) Davey 212! Fenadjé (Jan.) Davey 254! **Ghana:** Tongo (Dec.) Adams & Akpabla GC 4313! Zuarungu (Apr.) Morton GC 8915! **Niger:** Air fide De Miré & Gillet l.c. **N. Nig.:** Fodama (Nov., Dec.) Moiser 186! 214! 230! 238! Katagum Dalz. 314! Yola (Jan.) Dalz. 34! Areje, Bornu (Dec.) Elliott 152! Kalkala, L. Chad Golding 52! **[Br.] Cam.:** Belel, Adamawa (Jan.) Hepper 1632!

Also in **Mauritania**, **Egypt**, **Sudan** and **Arabia**.

[De Miré and Gillet in J. Agric. Trop. 3: 709, 710 (1956) report *P. arabica* C-oss. subsp. *inuloides* Maire and *P. volkonskyana* Maire from Air, Niger.)

43. INULA

Linn.-F.T.A. 3: 357.

- 1 Flower-heads numerous, up to 1 cm. long; stems closely ribbed, becoming nearly glabrous; radical leaves elongate-lanceolate:.....**2**
 Flower-heads 2-5 or rarely solitary, up to 5 cm. diam.; stems densely clothed with silky hairs; radical leaves broadly oblong, dentate, up to 30 cm. long and 15 cm. broad, scabrid above, densely silky-villous beneath, with petioles up to 20 cm. long; upper stem-leaves sessile, amplexicaul; involucre bracts 6-7-seriate, the outer silky-pubescent**3. klingii**
- 2 Capitula crowded into rather broad corymbs; peduncles slender, 1 cm. long; involucre bracts about 4-seriate, lanceolate, pubescent, nearly 1 cm. long; stem-leaves sessile, ovate-lanceolate, mucronate, auriculate at base, up to 25 cm. long and 8 cm. broad, pilose-pustulate above, woolly beneath, denticulate**1. mannii**
 Capitula in tight terminal clusters; peduncles with gland-tipped hairs; involucre bracts about 3-seriate, linear, up to 0.5 cm. long; stem-leaves rather small, scabrid above, scabridulous on the veins beneath, otherwise glabrous, shallowly dentate**2. subscaposa**

1. *Inula mannii* (Hook. f.) Oliv. & Hiern in F.T.A. 3: 358 (1877). *APD acc*

Vernonia? mannii Hook. f. (1884).

A stout soft-stemmed herb 2-10 ft. high, with rather large leaves pale-tomentose beneath and campanulate flower-heads nearly 1/2 in. long in dense corymbs; florets yellow.

[Br.] Cam.: Cam. Mt., 6,700-7,500 ft. (Dec.-Feb.) Mann. 1314! 1933! Maitland 975! 1004! Bamenda, 7,400-8,200 ft. (Dec.) Boughey GC 10771! 11008!

Also in **Ethiopia** and **Congo**.

2. *Inula subscaposa* S. Moore in J. Linn. Soc. 35: 341 (1902). *APD acc*

An erect perennial herb with slender stems 3-4 ft. high arising from a silky-hairy stock; ray- and disk-florets yellow in flower-heads about 1/3 in. long.

[Br.] Cam.: Bamenda Dist., 4,000-6,000 ft. (May-June) Maitland 1451! 1457! 1683! 1684! Gembu, 5,000 ft., Mambila Plateau, Adamawa (Jan.) Hepper 1819!

Also in **Rhodesia** and **Nyasaland**.

3. *Inula klingii* O. Hoffm. in Engl. Bot. Jahrb. 24: 472 (1898). *APD acc*

A perennial herb with an erect stout stem 1-6 ft. high; inner involucre bracts dull yellow; disk-florets yellow.

Guin.: Mali, 4,500 ft. (Sept.) Schnell 7096! Pita (Oct.) Jac.-Fél. 1965! Adam 12546! **Togo Rep.:** Bismarckburg Kling 153! **N. Nig.:** Jagindi, Jemaa Div. (Nov.) Keay & Onochie FHI 21715! Naraguta, 4,000 ft. (Oct.) Hepper 1010! **[Br.] Cam.:** Wum crater lake, Bamenda (Apr.) Morton K295!

Also in [Congo](#) and [Angola](#).

[This species is very near to *I. shirensis* Oliv. (1882). *I. klingii* is described as rayless; *I. shirensis* as rayed. Further field observations are needed to establish the variability of this character-C. D. A.]

44. VICOA

Cass.-F.T.A. 3: 361.

- 1 Stem leafy, sparsely pubescent, glabrescent, brownish when dry; leaves linear-lanceolate, sessile, auriculate, acute, 5-8 cm. long, 0.8-1.5 cm. broad, denticulate, scabridulous on both surfaces; flower-heads at the ends of long branches; peduncles slender; involucre bracts 3-4-seriate, linear, acute, up to 7 mm. long, glandular outside; florets all tubular (outer ligulate in Asian species); achenes very small, pubescent at least in the upper part; pappus-bristles few, almost smooth, white [leptoclada](#)

Vicoa leptoclada (*Webb*) *Dandy* in F.W. Andr. Fl. Pl. Sudan 3: 62 (1956).

APD: *Synonym of Pentanema indicum* (L.) Y. Ling

Inula leptoclada *Webb* (1849).

Vicoa indica of F.W.T.A., ed. 1, 2: 608 and of *Berhaut* Fl. Sén. 172, not of DC.

Inula indica of Chev. Bot. 366, not of Linn.

Vicoa auriculata of F.T.A. 3: 362 and of F.W.T.A., ed. 1, 2: 157, not of Cass.

An erect annual herb 1-4 ft. high; leaves dark green above, paler beneath; florets yellow; a weed of cultivated ground and open places mostly outside the high-forest areas.

Sen.: Thiès (Dec.) Chev. 2033! Kaolak (Nov.) *Berhaut* 1169! **Gam.:** Boteler! Brown-Lester 21! Kudang (Jan.) Dalz. 8032! Genieri (Feb.) Fox 45! **Mali:** Koulouba (Nov.) Jaeger 19! Diona, Boré (Oct.) Demange 36/1957! **Port. G.:** Bafatá (Dec.) Esp. Santo 2857! **Guin.:** Faranna to Tindo (Jan.) Chev. 20476! Erimakuna (Mar.) Sc. Elliot 5253! **S. L.:** Musaia (Feb.) Deighton 4157! **Ghana:** Achimota (June, Oct., Nov.) Irvine 743! 1511! Milne-Redhead 5173! Accra Plains (Oct.) Baldwin 13434! Lumbunga, Tamale (Dec.) Morton GC 6236! Bolgatanga to Bawku (Apr.) Morton GC 8946! **Dah.:** Massé to Kétou (Feb.) Chev. 22994! **Niger:** Maradi (Dec.) Vaillant 856! **N. Nig.:** Nupe Barter 855! Ilorin (Jan.) Ejiofor FHI 19823! 30239! Kontagora (Nov.) Dalz. 200! Jos Plateau (Feb.) Lely P145! Kano (Dec.) Hagerup 638! Biu, Bornu, 2,500 ft. (Nov.) Noble 37! **S. Nig.:** Lagos Phillips 59! Ogurude (Jan.) Holland 265! Oluwatedo, Oyo (Jan.) Keay FHI 25636! **[Br.] Cam.:** Bama, Dikwa Div. (Dec.) McClintock 95! Vogel Peak, 2,100 ft., Adamawa (Nov.) Hepper 1304!

Widespread in tropical Africa.

45. EPALTES

Cass.-F.T.A. 3: 331.

- 1 A small much-branched herb with a narrowly winged stem and alternate lanceolate leaves 2-4 cm. long and about 6(-10) mm. broad, remotely and shortly serrate, scabridulous; capitula 3-4 mm. long in flower, campanulate, on peduncles not exceeding 5 mm. long in terminal umbelliform clusters; involucre bracts in several series, ovate, acuminate, pubescent; outer florets female, inner hermaphrodite, all tubular; achenes oblong; pappus absent [alata](#)

Epaltes alata (*Sond.*) *Steetz* in *Peters Reise Mossamb. Bot.* 452 (1864).

APD: *Synonym of Litogyne gariepina* (DC.) *Anderb.*

Ethulia alata *Sond.* (1850).

A bushy herb usually about 1 ft. high with mauve florets in small clustered flower-heads.

Mali: Boré (Aug., Nov.) Demange 35! **Niger:** Zinder (Oct.) Hagerup 582! Dakoro (Dec.) Vaillant 854!

Also in [Sudan](#), [Ubangi-Shari](#), [Tanganyika](#), [Rhodesia](#), [Nyasaland](#) and [S.W. Africa](#).

46. PLUCHEA

Cass.-F.T.A. 3: 327.

- 1 Leaves oblong to oblong-ovate, sessile and auriculate at base and sometimes decurrent on the stem with toothed wings, rounded at apex, 4-7 cm. long, 1.5-3 cm. broad, repanddentate, rather densely pubescent and minutely glandular; flower-heads several in a spreading terminal corymb; involucre bracts about 5-seriate, ovate to lanceolate, thinly pubescent, straw-coloured [1. ovalis](#)

Leaves lanceolate to elliptic-ob lanceolate, sessile but not auriculate at base, not decurrent, obtuse, apiculate, entire, 4-5 cm. long, up to 1 cm. broad, prominently nerved, softly appressed-tomentellous; flower-heads crowded on short terminal branches, shortly pedunculate; involucre bracts about 5-seriate, ovate-rounded, pubescent, purplish [2. lanceolata](#)

1. **Pluchea ovalis** (*Pers.*) *DC.* *Prod.* 5: 450 (1836); *F.T.A. 3: 328*; *Fl. Sperm. Parc Nat. Alb. 2: 483, t. 45*; *Berhaut Fl. Sén. 146, 170. APD acc*

Baccharis ovalis Pers. (1807).

Pluchea dioscoridis of Chev. *Bot.* 365, not of *DC.*

An aromatic glandular shrub 4-5 ft. high with pale grey-green stems and leaves; florets yellowish-white or pale mauve in heads 1/4 in. broad.

Sen.: Sieber 61! M'Bidjem (Dec.) Chev. 2037! Dakar (Jan.) Hagerup 771! **Mali:** Cotaga, Niger R. (July) Chev. 1159! Timbuktu (July) Chev. **Ghana:** Achimota (May, Nov., Dec.) Milne-Redhead 5088! Akpabla 1804! Morton A2834! Ada (June) Morton GC 9262! Weija (Nov.) Morton A63! **Togo Rep.:** Lomé Warnecke 223! 312!

Also in **Mauritania**, **Sudan**, **Congo**, **Kenya**, **Uganda**, **Tanganyika**, **Angola** and the **Cape Verde Islands**.

2. **Pluchea lanceolata** (*DC.*) *Oliv. & Hiern* in *F.T.A. 3: 329* (1877); *Berhaut Pl. Sén. 204. APD acc*

APD: *Synonym of Pluchea lanceolata (DC.) C.B. Clarke*

Berthelotia lanceolata DC. (1836).

A small shrub covered with a fine grey indumentum with clusters of flower-heads about 1/4 in. broad at the tips of striate leafy twigs; florets pink.

Sen.: Perrottet! Heudelot 400! Fann rocks, Dakar (Feb.) Adam 11087! Toumba (July) Chev. 4082!

47. PEGOLETTIA

Cass.-F.T.A. 3: 360.

- 1 Stems pubescent, ribbed; leaves linear, 1-3 cm. long, up to 5 mm. broad, entire or slightly toothed, densely crisped-setulose, glandular-punctate on both surfaces; flower-heads numerous, terminal on bracteate branches 4-7 cm. long, 4-6 mm. broad in flower and up to 1 cm. broad in fruit, campanulate with 2-seriate pubescent involucre bracts 1 cm. long, the outer linear, the inner lanceolate; florets all tubular; achenes closely ribbed, thinly pubescent, 5 mm. long; pappus 2-seriate, the outer short, multifid, the inner longer plumose [senegalensis](#)

- Pegolettia senegalensis** *Cass.* *Dict. Sci. Nat.* 38: 232 (1826); *F.T.A. 3: 361*; *Berhaut Fl. Sén. 204. APD acc*

A branched aromatic annual herb, woody below, up to about 1 ft. high with yellow florets turning purplish, in heads 1/2 in. long.

Sen.: Roger 86! Sor Isl. Brunner 187! **Niger:** Aïr De Miré & Gillet. **N. Nig.:** Kuka (Feb.) E. Vogel 60! Kalkala, Bornu, Golding 68!

Extends in northerly latitudes from Mauritania eastwards to central **Sudan**, **Arabia** and western India; also in **Angola** and the drier parts of south tropical Africa.

48. PORPHYROSTEMMA

Grant ex Benth.-F.T.A. 3: 367.

- 1 An annual herb; stems appressed-pilose; leaves sessile, linear, up to 12 cm. long and 1 cm. broad, thinly hispid, glabrescent; capitula corymbose, few, shortly pedunculate, about 2 cm. diam.; involucre rounded at base, with numerous linear, very acute shortly pilose bracts up to 1.5 cm. long in about 4 series; peduncles villous; corolla-limb pubescent; achenes thinly pubescent; pappus-bristles 10-15, uniform, barbellate [chevalieri](#)

Porphyrostemma chevalieri (*O. Hoffm.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 158 (1931); Berhaut Fl. Sén. 204. *APD acc*

Porphyrostemma grantii var. **chevalieri** *O. Hoffm.* in Mém. Soc. Bot. Fr. 2, 8: 41 (1908); Chev. Bot. 367.

A herb from a few inches to 2 ft. high with pink florets in solitary flower-heads 3/4-1 in. across, terminal on the branches; **a weed of sandy soil in arid districts.**

Sen.: Sinédone (Jan.) Chev. 2091! Kaolak (Oct.) Berhaut 3374! **Port. G.:** Bissoram (Oct.) Esp. Santo 2409! Suzana (Nov.) Esp. Santo 3680! **Ghana:** Navrongo (Nov.) Akpabla 387! Burufo, near Lawra (Dec.) Adams & Akvabla GC 4445! **N. Nig.:** Sokoto Lely 144! Jos Plateau (Oct.-Dec.) Lely P840! Keay FHI 21024! Coombe 70! Yola (Nov.) Hepper 1193!

Also in **N. Rhodesia**.

[Except by the greater number of pappus-bristles this species is hardly to be distinguished from *P. grantii* Benth. ex Oliv. and *P. cuanzense* O. Hoffm., which together extend the range to Tanganyika and Angola-C. D. A.].

49. BLUMEA

DC.-F.T.A. 3: 322. Nom. cons.

- 1 Leaf-bases decurrent forming wings on the stem: **2**
 Leaf-bases not decurrent; stems without wings: **4**
- 2 Stem-wings entire, long; whole plant densely whitish tomentose; leaves entire, linear [1. gariepina](#)
 Stem-wings short, interrupted, stipuliform; leaves dentate or lobed: **3**
- 3 Peduncles 2-3 cm. long; inflorescence spreading; glandular hairs long-stalked, few or absent; glands colourless or yellow; stems often violet-tinged [2. aurita](#) var. [aurita](#)
 Peduncles 1-1.5 cm. long; inflorescence compact; glandular hairs short-stalked, numerous; glands brown; stems always green [2a. aurita](#) var. [foliolosa](#)
- 4 Capitula about 1 cm. diam. on peduncles 1-1.5 cm. long; branches of the inflorescence with numerous bracts: **5**
 Capitula about 0.5 cm. diam.; peduncles mostly short; inflorescences dense with capitula clustered; leaves not divided, denticulate; florets pink to pale purple: **6**
- 5 Leaves dentate; inflorescence compact; florets pink or mauve [2a. aurita](#) var. [foliolosa](#)
 Leaves deeply divided, doubly dentate with acutely pointed mucronate lobes, thin; inflorescence diffuse; florets yellow or orange-yellow [3. laciniata](#)
- 6 Lower leaves long-petiolate; capitula on slender peduncles; glands few, pale; leaves glabrescent [4. mollis](#)
 Lower leaves narrowed to the base but not distinctly petiolate; capitula subsessile in terminal and lateral bracteate clusters; glands numerous, long-stalked, brown; leaves and stems densely villous [5. perrottetiana](#)

1. **Blumea gariepina** *DC.* Prod. 5: 448 (1836); De Miré & Gillet in J. Agric. Trop. 3: 706.

APD: *Synonym of Laggera decurrens (Vahl) Hepper & J.R.I. Wood*

A densely silky bushy herb or undershrub about 2 ft. high, with stalked flower-heads about 1/3 in. long.

Niger: Air vide De Miré & Gillet l.c.

Also in **Sudan** and south tropical Africa.

Blumea aurita (*Linn. f.*) *DC.*

APD: *Synonym of Pseudoconyza viscosa (Mill.) D'Arcy*

2. **Blumea aurita** var. **aurita** in Wight Contrib. Bot. Ind. 16 (1834); *DC.* Prod. 5: 449; *F.T.A. 3: 322*; Chev. Bot. 364. *APD acc*

Conyza aurita Linn. f. (1781).

C. senegalensis Willd. (1803)-F.T.A. 3: 314, partly (Don), excluding var. β .

An erect glandular aromatic densely silky-hairy herb 2-3 ft. high forming a basal rosette of leaves at first; inflorescence spreading; florets vary from greenish-yellow or white to pale mauve or pink; **a common weed in drier areas.**

Sen.: Dakar (Apr., May) Jaeger! Baldwin 5703! Bandia (Feb.) Berhaut 5349! **Gam.:** Don! **Mali:** Bamako (Jan.) Chev. 194! Dogo (Apr.) Davey 571! 572! **Guin.:** Kouroussa (Dec.) Pobéguin 609! **S. L.:** Freetown (June) Deighton 2704! Sasseni (Jan.) Sc. Elliot 4395! Kambia (Dec.) Deighton 815! Musaia (Feb.) Deighton 4226! **Ghana:** Thonning 351! Achimota (June) Irvine 711! Sekodumase Kitson! Wenchi (Dec.) Adams 3242! Pong Tamale (Dec.) Morton GC 9869! Kete Krachi to Dutukpene (Dec.) Adams 4638! **Togo Rep.:** Lomé Warnecke 274! **Dah.:** Ouidah Isert! **N. Nig.:** Nupe Baikie! Oke Opin, Ilorin (Dec.) Ajayi FHI 19266! Sokoto Dalz. 413! Fodama (Dec.) Moiser 165! Jos Plateau (Jan.) Lely P138! **S. Nig.:** Abeokuta (Jan.) Rowland! Awka Thomas 22!

Widespread in warm countries.

2a. *Blumea aurita* var. *foliolosa* (DC.) C.D. Adams in J.W. Afr. Sci. Assoc. 6: 149 (1961).

APD: *Synonym of Pseudoconyza viscosa* (Mill.) D'Arcy

Blumea guineensis var. *foliolosa* DC. Prod. 5: 449 (1836).

Conyza senegalensis of F.T.A. 3: 314; of F.W.T.A., ed. 1, 2: 154, partly (Sieber 42).

Blumea lacera of Chev. Bot. 864, partly (Chev. 13225), not of DC.

Blumea guineensis of Berhaut Fl. Sén. 171, not of DC.

A green-stemmed densely glandular aromatic herb.

Sen.: Perrottet! Sieber 42! (May) Berhaut 820! Dakar (May) Baldwin 5744! Mbao (June) Berhaut 5265! Bandia (Feb.) Berhaut 5348! **Port. G.:** Pessubé, Bissau (Mar.) Esp. Santo 1505! Tor, Bissau (Feb.) Esp. Santo 1781! **Guin.:** Kindia (Mar.) Chev. 13225!

3. *Blumea laciniata* (Roxb.) DC. Prod. 5: 436 (1836). *APD acc*

Conyza laciniata Roxb. Fl. Ind. 3: 427 (1832).

C. senegalensis of F.W.T.A., ed. 1, 2: 154, partly (Sc. Elliot 4956), not of Willd.

A slender annual weed 2-3 ft. high with yellow or orange-yellow florets in long-stalked heads.

Sen.: Niokolo-Koba (Jan.) Berhaut 1552! Kayar Adam 12207! **S. L.:** Likuru, Talla (Feb.) Sc. Elliot 4956! Wara Wara, Yagala (Jan.) King 185b! **Ghana:** Red Volta R., Bolgatanga to Bawku (Apr.) Morton GC 8934! **N. Nig.:** Birnin Gwari (Apr.) Meikle 1377!

Also in **India** and eastern Asia.

4. *Blumea mollis* (D. Don) Merrill in Philipp. J. Sci. 5: 395 (1910).

APD: *Synonym of Blumea axillaris* (Lam.) DC.

Blumea lacera of F.T.A. 3: 322, partly.

A slender weed up to 3 ft. high with many small capitula in terminal inflorescences; basal and lower stem-leaves long-stalked; florets mauve or pale purple; **in low-lying ground.**

Sen.: Heudelot 10! Sangalkam (June) Berhaut 4770! **Gam.:** Kombo country Heudelot! **Guin.:** Rio Nunez Heudelot 670! Sala Falls (Apr.) Adam 11776! **S. L.:** Kamaranka (Feb.) Deighton 4043! Musaia (Feb.) Deighton 4204! **Ghana:** Legon (Jan., Oct., Dec.) Boughey GC 4646! Baker! Mortan A3640! **S. Nig.:** Ogurude (Jan.) Holland 269!

Scattered through the Old World tropics from India to **Ethiopia**, Madagascar and **Angola**.

5. *Blumea perrottetiana* DC. Prod. 5: 443 (1836). *APD acc APD acc*

APD: *Synonym of Blumea axillaris* (Lam.) DC.

Blumea lacera of F.T.A. 3: 322, partly; of F.W.T.A., ed. 1, 2: 158 partly; of Chev. Bot. 364, partly (Chev. 128), not of DC.

Pluchea odorata of Berhaut Fl. Sén. 266, not of Cass.

An erect, densely velvety aromatic herb up to 4 ft. high; florets pale pink to reddish-purple in numerous clustered flower-heads.

Sen.: Leprieur! Perrottet. Kayar (Apr.) Berhaut 1381! Niokolo-Koba (Jan.) Berhaut 4684! Sangalkam Adam 9409! **Gam.:** Pirie 44! **Mali:** Tabacco (Jan.) Chev. 128! **Port. G.:** Brene, Bissau (Jan.) Esp. Santo 1721! **Guin.:** Heudelot 677 bis! **S. L.:** Laya (Jan.) Sc. Elliot 4484! Wara Wara, Yagala (Jan.) King 184b! Rosino (Feb.) Deighton 4976! Rokupr (Mar.) Jordan 420! Musaia (Feb., Mar.) Deighton 4156! 5394! **Lib.:** Kakatown Whyte! **Ghana:** Winneba Plains (Mar.) Morton A1856! Menji, Ashanti (Dec.) Adams 3112! Morton A2611! Wench, Ashanti (Dec.) Adams 3236! near Sorri Lake, Damongo (Dec.) Morton GC 25023! **Togo Rep.:** Baumann 420! **N. Nig.:** Nupe Barter 1164! Sokoto (Nov., July) Moiser 44! Dalz. 404! Jos Plateau (Jan.) Lely P76! Vom (Apr.) Morton K400! Alagbade F.R., Ilorin (Feb.) Ejiofor FHI 19816! **[Br.] Cam.:** Lakom, Bamenda, 5,500 ft. (May) Maitland 1439! Metschum R., Bamenda, 2,100 ft. (Jan.) Keay & Russell FHI 28526! Nkambe, 4,000 ft. (Feb.) Hepper 1912! Gwoza, 3,000 ft., Dikwa Div. (Jan.) McClintock 143!

Throughout tropical Africa.

[Small, often perennial, forms of this species are found in upland pastures, for example King 184b and Hepper 1912, cited above. These may be separable as *B. dregeanoides* Sch. Bip. or *B. solidaginoides* (Poir.) DC.]

50. NICOLASIA

S. Moore in J. Bot. 38: 458 (1900); Merxmüller in Mitt. Bot. Staatss. München, 2, 11, 1 (1954).

- 1 An erect herb with spreading branches, 20-50 cm. high; stem and leaves with scattered glandular hairs; leaves linear-oblongate, entire, decurrent at the base into a narrow stem-wing, the midrib prominent on both surfaces; capitula with the outer florets female, the inner hermaphrodite, all tubular, 10-15 mm. long; involucre bracts imbricate in several series, narrow, the inner more or less scarious, the outer shorter; peduncles slender; receptacle naked; style arms 2, linear, mostly distinct but sometimes appressed; anther-base shortly lobed, not tailed; achenes slightly flattened; pappus-setae 5-10, stiff [stenoptera](#)

Nicolasia stenoptera (*O. Hoffm.*) Merxm. l.c. 9/10: 402 (1964). *APD acc*

Laggera stenoptera *O. Hoffm.* in Bull. Herb. Boiss. 1: 76 (1893).

An annual herb with pinkish-white florets in red-tinged involucre; **by streams in rocky hill country.**

[Br.] Cam.: Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1554! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1650!

Also in **S.W. Africa** and **S. Rhodesia**.

51. LAGGERA

Sch. Bip. ex Benth.-F.T.A. 3: 323.

- 1 Stem-wings toothed, at least in the upper part; inflorescence paniculate, spreading or contracted; capitula numerous on short or long slender peduncles [1. pterodonta](#)
Stem-wings entire: **2**
- 2 Capitula few, usually less than 12; perennial herbs with shoots arising from a woody stock: **3**
Capitula numerous, usually more than 20 in a spreading paniculate inflorescence; annual or short-lived perennial herbs, rarely woody at base; flower-heads up to 1.5 cm. diam., but usually smaller: **4**
- 3 Flower-heads sessile or subsessile, terminal or axillary, 2-3 cm. diam [2. braunii](#)
Flower-heads borne at the ends of short winged branches, about 1.5 cm. diam.; involucre bracts uniformly puberulous, the outer reflexed [3. oloptera](#)
- 4 Stem-leaves linear or narrowly oblong-elliptic, up to 20 cm. long; inflorescence-leaves linear; leaves sparsely pubescent or glabrous beneath, scabrid above; veins prominent; stem-wings 4-6 mm. broad, scabrid; peduncles up to 3 cm. long; capitula 1-1.5 cm. diam.; middle involucre bracts pubescent in the mid-line and towards the apex outside; stems often reddish [4. heudelotii](#)
Stem-leaves broadly oblong to elliptic, rarely exceeding 15 cm. in length; inflorescence-leaves oblong to elliptic; leaves pubescent to tomentose beneath: **5**
- 5 Capitula 1 cm. or more diam.; robust herbs: **6**
Capitula 5-7 mm. diam.; nodding slender herb; leaves oblong, rounded at apex, whitish-puberulous with conspicuously articulated crisped hairs and yellow glands beneath, hairs and glands fewer above; stem-wings

about 3 mm. broad; peduncles slender, not exceeding 1.5 cm. long; involucre bracts in about 3 series, the outer reflexed [6. gracilis](#)

- 6 Leaves in the inflorescence elliptic-lanceolate; stem-leaves broadly oblong-elliptic, obtuse; stem and undersurface of leaves puberulous; venation clearly visible; stem-wings about 3 mm. broad; involucre bracts puberulous; whole plant aromatic [5. alata var. alata](#)

Leaves in the inflorescence elliptic; stem-leaves broadly elliptic; stem and under-surface of leaves densely tomentose with crisped yellowish-brown hairs, with the venation scarcely visible; stem-wings 5-6 mm. broad; involucre bracts woolly-tomentose [5a. alata var. montana](#)

1. **Laggera pterodonta** (DC.) Sch. Bip. ex Oliv. in Trans. Linn. Soc. 29: 94 (1873); F.T.A. 3: 324; Chev. Bot. 365.

APD: *Synonym of Blumea crispata* (Vahl) Merxm. var. *crispata*

Blumea pterodonta DC. (1834).

Laggera appendiculata of Adams in J. W. Afr. Sci. Assoc. 3: 115, not of Robyns (1943).

A strongly aromatic glandular weedy herb up to 5 ft. high with purple or greenish florets in numerous flower-heads about 1/2 in. long.

Sen.: Sinédone, Casamance (Jan.) Chev. 2039. **S.L.:** Kabala (Dec.) Deighton 4514! Rokupr (Feb.) Jordan 390! Magbema (Jan.) Jordan 763! Scarcies R., Wallia (Jan.) Sc. Elliot 4458! **Ghana:** Ejura Scarp (Dec.) Morton A2561! Wenchi, Ashanti (Dec.) Adams 3231! Kete Krachi to Atebubu (Dec.) Adams 4616! Kpedsu (Jan.) Howes 1123! **N. Nig.:** Pankshin (Dec.) MacGregor 416! Naraguta (Nov.) Lely 708! Vom Dent Young 149! **S. Nig.:** Sonkwala, Ogoja, 5,000-5,400 ft. (Dec.) Savory & Keay FHI 25091! **[Br.] Cam.:** Cam. Mt., Mann's Springs, 7,500 ft. (Dec.) Boughey GC 10597! Bamenda, 4,500 ft. (Mar., May) Maitland 1695! Morton K124! Ndop to Bamenda (Dec.) Boughey GC 11371! Vogel Peak, Adamawa (Nov.) Hepper 2879!

Throughout tropical Africa and Asia.

2. **Laggera braunii** Vatke in Linnaea 39: 486(1875); F.T.A. 3: 326.

APD: *Synonym of Blumea braunii* (Vatke) J.-P. Lebrun & Stork

An erect perennial herb 2-3 ft. high with large reddish-purple sessile flower-heads; in hill grassland.

N. Nig.: Naraguta, 4,000 ft. (Dec.) Coombe 32! **[Br.] Cam.:** Bamenda to Ndop, 5,000ft. (Dec.) Adams GC 11270!

Also in **Ethiopia**.

3. **Laggera oloptera** (DC.) C.D. Adams in J.W. Afr. Sci. Assoc. 6: 152 (1961).

APD: *Synonym of Blumea oloptera* DC.

Blumea oloptera DC. Prod. 5: 448 (1836).

Laggera oblonga Oliv. & Hiern in F.T.A. 3: 327 (1877); F.W.T.A., ed. 1, 2: 158; Berhaut Fl. Sen. 170.

Laggera macrorrhiza O. Hoffm. & Muschl. (1910)-Chev. Bot. 365.

A perennial herb of grassland with shoots 1-2 ft. high branching near the base from a woody stock; flower-heads about 3/4 in. long on short peduncles, rather few and not clustered, with white, pink or purple florets.

Sen.: fide Berhaut l.c. **Gam.:** Goaal, near Gambia R.. (Mar.) Perrottet! **Mali:** Médinani (Feb.) Chev. 504! **S. L.:** Scarcies R., Buyabuya (Feb.) Sc. Elliot 4545! **Ghana:** Achimota (Apr., May) Irvine 1766! Morton A1982! Legon Hill (Nov.) Adams 3549! Wenchi, Ashanti (Dec.) Adams 3264! Zuarungu (Dec.) Akpabla 409! Burufu (Dec.) Adams & Akpabla GC 4418! 4430! **N. Nig.:** Kafanchan (May) Jones FHI 14105! Kontagora (Nov.) Dalz. 205! Naraguta Lely 54! Jos Plateau (Feb.) Lely P162! Abinsi (Oct.) Dalz. 666!

Also in **Sudan**, **Congo** and **Angola**.

4. **Laggera heudelotii** C.D. Adams in J.W. Afr. Sci. Assoc. 6: 151(1961).

APD: *Synonym of Blumea heudelotii* (C. D. Adams) Lisowski

Laggera alata of F.W.T.A., ed. 1, 2: 158, partly (Heudelot 639; Barter 1287; Sc. Elliot 4044).

An erect herb 3-6 ft. high with linear, sparsely pubescent strongly veined leaves; stem often reddish; florets pale purple in heads about 2/3 in. long.

Sen.: Heudelot 37! **Guin.:** Heudelot 639! Bambaya (Oct.) Jaeger 2129! **S. L.:** Wilberforce (Dec.) Sc. Elliot 4044! Musaia (Dec.) Deighton 4418! Mange, Bure (Dec.) Jordan 729! **iv. C.:** Tchumkrou to Akakoumoékrou, Ano (Dec.) Chev. 22929! **Ghana:** Kintampo, Ashanti (Dec.) Morton A1164! 1180! 2588! Wenchì, Ashanti (Dec.) Adams 3245! Zolo-Kputa (Nov.) Morton GC 9368! **N. Nig.:** Nupe Barter 1287! **S. Nig.:** Lagos W. D. MacBregor 178! Ibadan (Aug.) Tamajony FHI 19511! Abeokuta (Jan.) Keay FHI 21154! **[Br.] Cam.:** Bamenda, 5,000 ft. (Jan.) Migeod 324!

Also in **Angola**.

Laggera alata (*D. Don.*) *Sch.Bip. ex Oliv.*

APD: *Synonym of Blumea crispata* (Vahl) *Merxm. var. crispata*

5. **Laggera alata var. alata**-in Trans. Linn. Soc. 29: 94 (1873); F.T.A. 3: 326 (excl. syn. *Blumea oloptera* DC.); Chev. Bot. 364. *APD acc*

Erigeron alatus *D. Don* (1825).

A strongly aromatic erect weedy herb up to 10 ft. high with broad obtuse round-sided leaves; florets usually mauve in numerous heads about 1/2 in. long.

Guin.: Dalaba (Apr.) Caille in Hb. Chev. 18138! Mali (Dec.) Jac.-Fél. 633! **S. L.:** Sugar Loaf Mt., 2,000 ft. (Dec.) Sc. Elliot 3971! **Lib.:** Mpaka Fossa Mt., Kolahun (Jan.) Bequaert 33! **iv. C.:** Bouroukrou (Jan.) Chev. 17020! Gonokrom to Techikrom (Dec.) Adams 2976! **Ghana:** Aburi Hills (Feb.) Brown 933! Breppaw (Jan.) A. S. Thomas D97! New Tafo (Dec.) Lovi WACRI 3974! Pamu, Ashanti (May) Irvine 2506! Dormaa-Ahenkro (Dec.) Adams 3036! Sakogu, Gambaga Scarp (Dec.) Adams & Akpabla GC 4241! **N. Nig.:** (Nov.) Lely 693! **S. Nig.:** Lagos Rowland! Oban Talbot! **[Br.] Cam.:** Buea, 3,000 ft. (Dec.-Feb.) Dunlap 160! Maitland 126! 204! Bamenda (Mar.) Morton K124! Bamenda to Ndop, 5,400 ft. (Dec.) Boughey GC 10455! 10456! Vogel Peak, 4,000 ft., Adamawa (Nov.) Hepper 1532!

5a. **Laggera alata var. montana** *C.D. Adams* in J. W. Afr. Sci. Assoc. 6: 150 (1961).

APD: *Synonym of Blumea crispata var. montana* (*C. D. Adams*) *J.-P. Lebrun & Stork*

Laggera alata of F.W.T.A., ed. 1, 2: 158, partly (Mann 1269, 1914; Dunlap 196).

An erect tomentose herb up to 6 ft. high with a spreading inflorescence of heads about 1/2 in. long; florets variable in colour from greenish-white to reddish-brown.

[Br.] Cam.: Cam. Mt., 5,000-8,000 ft. (Dec.-Feb., Apr.) Dunlap 196! Hutch. & Metcalfe 26! Keay FHI 28642! Irvine 1466! Mann. 1269! 1914! Maitland 304! Mann's Springs, 7,600 ft. (Mar., Apr.) Brenan 9382! Morton GC 6787! 6798! Bamenda, 5,000-7,000 ft. (Dec.-Feb.) Migeod 303! 486! Boughey GC 10746! Bafut-Ngemba F.R., 7,000 ft. (Feb.) Hepper 2185! Tiku FHI 22165! **F. Po:** Pico Serrano (Jan.) Guinea 1975. Moka (Dec.) Monod 10498!

6. **Laggera gracilis** (*O. Hoffm. & Muschl.*) *C.D. Adams* in J. W. Afr. Sci. assoc. 6: 151 (1961).

APD: *Synonym of Blumea adamsii* *J.-P. Lebrun & Stork*

Blumea alata var. gracilis *O. Hoffm. & Muschl.* In Mém. Soc. Bot. Fr. 2, 8c: 113 (1910).

A graceful erect herb 4-5 ft. high with slender branches and peduncles; florets pink in numerous small heads; although glandular, apparently not aromatic.

Guin.: Bambaya (Oct.) Jaeger 829! **S. L.:** Musaia (Dec.) Deighton 4479! **Ghana:** Kintampo, Ashanti (Dec.) Morton A1165! 1194! Banda, Ashanti (Dec.) Morton A1103! **N. Nig.:** Jos, 4,000 ft. (Dec.) Coombe 41 **[Br.] Cam.:** Vogel Peak, Adamawa, (Nov.) Hepper 1399!

Also in **Ubangi-Shari**.

52. HELICHRYSUM

Mill. corr. Pers. Syn. 2: 414 (1807). *Nom. cons.*

- 1 Plant leafy at flowering time:2
 Plant leafless at flowering time, except for two or three reduced leaves on the densely woolly stems, the latter from a rhizome; leaves when present basal, spatulate-elliptic or almost orbicular up to 20 cm. long and 7 cm. broad, mucronate, hairy on both surfaces; petioles slender, up to 10 cm. long; flower-heads 7-10 mm. long and 5-6 mm. broad, several in a terminal cluster; involucre bracts oblong-elliptic, tinged reddish [13. mechowianum](#)
- 2 Leaves small, 1-2 cm. long, at least in the upper part of the plant, linear-oblong to lanceolate, densely tomentose on both surfaces; flower-heads small in rounded clusters:3
 Leaves larger, various, not ericoid:4
- 3 Involucre bracts golden-brown fading to buff, blunt, membranous with frayed margins; capitula about 2 mm. long and 1 mm. broad in flower; leaves woolly-tomentose, often with recurved margins, ericoid ... [1. cymosum](#)
 Involucre bracts silvery-white, subacute, imbricate, glumaceous, entire; capitula 4-5 mm. long and 2 mm. broad; leaves smooth, the margins not recurved but whole leaf folded lengthwise at least when dry [2. glumaceum](#)
- 4 Upper part of shoot leafy with usually several distinct inflorescence branches; basal leaves mostly withered or absent at time of flowering;5
 Upper part of shoot usually simple with few leaves or leafless; basal leaves petiolate; flower-heads up to 4 mm. broad, numerous and tightly clustered in a subglobose very shortly branched terminal inflorescence: 11
- 5 Involucre bracts silvery-white or pinkish, broadly ovate, subacute:6
 Involucre bracts bright lemon-yellow or buff coloured:7
- 6 Flower-heads 1.5-2 cm. broad; leaves numerous, clustered on the stem, lanceolate to ovate-lanceolate, acutely acuminate, up to 12 cm. long and 3 cm. broad, scabrid above, woolly-tomentose beneath [3. mannii](#)
 Flower-heads about 1 cm. broad; leaves few, spread along the stem, obovate to obovate-lanceolate, obtuse, up to 8 cm. long and 2.5 cm. broad, yellowish-woolly-tomentose on both surfaces [4a. antunesii var. latifolium](#)
- 7 Involucre bracts bright lemon-yellow:8
 Involucre bracts buff, acute or acuminate, membranous; flower-heads more or less campanulate, about 3.5 mm. broad; leaves flat, linear-lanceolate; stem not winged [\[see Gnaphalium undulatum\]](#)
- 8 Leaves ovate-lanceolate, broadly subauriculate at base, 6-12 cm. long, 2.5-4 cm. broad, acute, densely woolly-tomentose on both surfaces; leaves on inflorescence branches broad, numerous; flower-heads 2-2.5 cm. across [5. cameroonense](#)
 Leaves linear to linear-lanceolate, less than 2 cm. broad, scabridulous or glabrescent above:9
- 9 Stems not winged; flower-heads 1-1.5 cm. broad; leaves narrowly lanceolate, acutely acuminate, sessile-auriculate, up to 12 cm. long, glabrescent above; leaves on inflorescence branches several, conspicuous [6. foetidum](#)
 Stems narrowly winged; leaves scabridulous above; leaves on inflorescence branches narrow, few or absent: 10
- 10 Capitula 6-7 mm. broad [7. biafranum](#)
 Capitula 1-2.5 mm. broad [8. odoratissimum](#)
- 11 Flower-heads oblong, 4-5 mm. long and 2.5-3 mm. broad; involucre bracts shiny-brown; leaves persistently white-tomentose beneath [9. globosum](#)
 Flower-heads more or less rounded in bud, up to 4 mm. long: 12
- 12 Involucre bracts pale dull yellow, white or white and tinged with purple; leaves persistently greyish-tomentose beneath; stem-leaves acuminate: 13
 Involucre bracts bright rich yellow; at least the lowest leaves glabrescent on both surfaces; stem-leaves acute [12a. nudifolium var. leiopodium](#)
- 13 Stem-leaves woolly above, sessile; lower leaves more or less cordate, acuminate, long-petiolate; involucre bracts acute, dull silvery-white or yellowish, at length spreading [10. albiflorum](#)
 Stem-leaves glabrescent above, very long-pointed, 1/2-amplexicaul; lower leaves with 3-5 conspicuous veins beneath; outer involucre bracts tinged reddish [11. rhodolepis](#)

1. *Helichrysum cymosum* (Linn.) Less. Syn. Gen. Comp. 302 (1832); F.T.A. 3: 353.

APD: *Synonym of Helichrysum forskahlii* (J.F. Gmel.) Hilliard & B.L. Burt var. *forskahlii*

Gnaphalium cymosum Linn. (1763)

Helichrysum cymosum subsp. *fruticosum* Hedberg in Symb. Bot. Upsal. 15, 1: 203, 339 (1957).

Helichrysum fruticosum Vatke (1875)-Moeser in Engl. Bot. Jahrb. 44: 257; F.W.T.A., ed. 1,2: 159; F. W. Andr. Fl. Pl.Sudan 3: 36.

An erect perennial aromatic herb or undershrub, usually woody at the base, from a few inches to 4 ft. high, thinly woolly; with very numerous small golden-brown flower-heads; very variable in leaf-size and spacing and in the shape of capitulum; in montane grassland.

[Br.] Cam.: Cam. Mt., 7,000 ft. to summit (Nov.-Apr.) Mann 1287! 1930! Mildbr. 10835! 10847! Dalz. 8322! Maitland 945! 1000! 1241! Migeod 156! Boughey GC 6969! Morton GC 6870! 7062! Keay FHI 28595! Bamenda Dist., 5,500-8,000 ft. (Feb.) Migeod 341! Savory 398! Morton K99! 206! Adams GC 11094! 11209! Bafut-Ngemba F.R. (Sept., Jan., Feb.) Hepper 2096! Keay & Lightbody FHI 28388! Ejiofor FHI 29381! **F. Po:** summit of the Peak (Dec., Mar.) Mann 284 (partly)! Boughey GC 10981! Guinea 2895.

Also in **Ethiopia**, **Sudan**, **Uganda**, **Kenya**, **Tanganyika**. **Congo**, **Angola** and **Arabia**.

[An extreme form with widely spaced larger leaves, longer more straggling stems and rather larger flower-heads, which may be a plant of shady habitats, is represented by Brenan 9543 and Boughey GC 10644 from Cameroon Mt., Migeod 442 from Bamenda and Hepper 2815 from Mambila Plateau.]

2. *Helichrysum glumaceum* DC. Prod. 6: 197 (1838). *APD acc*

Achyrocline glumacea (DC.) Oliv. & Hiern in F.T.A. 3: 340 (1877), partly; F.W.T.A., ed. 1, 2: 169; Berhaut Fl. Sén. 205.

A. luzuloides of Chev. Bot. 366, not of Vatke.

An annual or perennial bushy herb from a few inches to about 1 ft. high with small whitish-tomentose leaves; flower-heads narrow, pointed, silvery-white; on littoral dunes.

Sen.: Dakar (Jan., Oct.) Chev. 2045! Adam 9176!

Also in **Mauritania**, **Ethiopia**, **Eritrea**, **Socotra**, **Kenya** and **Tanganyika**.

3. *Helichrysum mannii* Hook. f. in J. Linn. Soc. 6: 12 (1862). *APD acc*

A stout herb 1-2 ft. high with a pithy stem, crowded sessile half-amplexicaul leaves, and several clustered silvery-white flower-heads 3/4 in. across; florets cream-coloured to pale yellow.

[Br.] Cam.: Cam. Mt., in grasslands from 8,000 ft. to the summit and in the crater Up (Nov.-Jan., Mar., Apr.) Mann 1937! Johnston 51! Kingsley Dundas FHI 20362! Migeod 194! Maitland 1285! Boughey GC 6989! 12641! **F. Po:** Summit of Clarence Peak (Dec.) Mann 615!

4. *Helichrysum antunesii* Volken & O. Hoffm. in Engl. Bot. Jahrb. 32: 149 (1902).

APD: *Synonym of Helichrysum quartinianum A. Rich.*

4a. *Helichrysum antunesii* var. *latifolium* C.D. Adams in J.W. Afr. Sci. Assoc. 2: 63 (1956).

APD: *Synonym of Helichrysum quartinianum A. Rich.*

A perennial herb with densely yellowish-woolly leaves and stems 2-3 ft. high; flower-heads about 1/3 in. across in several terminal corymbose clusters, pinkish when dry; **in montane grassland**.

[Br.] Cam.: Nchan, Bamenda, 5,000 ft. (May-June) Maitland 1446! 1516! 1709 bis! Bamungo, Bamenda (May) Ujor FHI 30303!

Also in **Angola**.

5. *Helichrysum cameroonense* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 159 (1931). *APD acc*

An aromatic, glandular-viscid stout-stemmed herb up to 4 ft. high with lemon-yellow flower-heads 3/4-1 in. across, florets darker than the involucre bracts.

[Br.] Cam.: Cam. Mt., in grasslands up to about 13,000 ft. (Dec.-Feb., Apr.) Mann 1306! 1932! Mildbr. 10852! Dalz. 8307! Dundas FHI 13917! Hutch. & Metcalfe 59! Maitland 986! Keay FHI 28627! Plumptre 244! Boughey GC 6923! Bafut-Ngemba F.R., 5,000-6,000 ft. (Dec.) Tamajong FHI 22209! Bambul, 7,400 ft. (Dec.) Boughey GC 10770! L. Oku, 7,800 ft. (Jan.) Keay & Lightbody FHI 28511!

6. *Helichrysum foetidum* (Linn.) Moench Meth. Pl. 575 (1794); F.T.A. 3: 352, partly (excl. syn. B. mannii). *APD acc*

Gnaphalium foetidum Linn. (1763).

An erect aromatic branched herb with a pithy stem up to about 5 ft. high; leaves narrow, whitish beneath; flower-heads bright yellow, about 1/2 in. across.

S. Nig.: Calabar Hewan! Koloishe Mt., 6,000 ft., Ogoja (Dec.) Savory & Keay FHI 25095! Ikvette, Ogoja (Dec.) Savory & Keay FHI 25235! **[Br.] Cam.:** Cam. Mt., 5,000-10,000 ft. (Dec.-Apr.) Mann 1916! Dunlap 194! Dalz. 8308! Maitland 251! 969! Keay FHI 28635, 28643! Brenan 9575! Boughey GC 6810! Bamenda Dist., 5,400-8,200 ft. (Dec., Jan., Mar., Apr.) Migeod 336! Adams GC 11329! Boughey GC 10563! Morton K79! Bambul (Dec.) Maitland 1465! Kumbo to Oku, 6,000 ft. (Jan.) Hepper 1993! **F. Po:** Clarence Peak Mann 281! Pico Serrano (Jan.) Guinea 1995.

Also in **Ethiopia**, **Sudan**, **Congo** and **S. Tomé**.

7. **Helichrysum biafranum** *Hook.f.* in J. Linn. Soc. 7: 202(1862); F.T.A. 3: 351. *APD acc*

An erect slender branched herb up to 10 ft. high with narrowly winged stems and numerous bright yellow flower-heads about 1/4 in. broad.

[Br.] Cam.: Cam. Mt., in ravine above Buea, and at edge of forest near Mann's Springs, 7,000 ft. (Dec.) Mann 1934 (partly)! Boughey GC 12656!

8. **Helichrysum odoratissimum** (*Linn.*) *Less.* Syn. Gen. Comp. 301 (1832); Moeser in Engl. Bot. Jahrb. 44: 242 (1910); Hedberg in Symb. Bot. Upsal. 15, 1: 201, 338 (1957). *APD acc*

APD: Synonym of Helichrysum stenopterum DC.

Gnaphalium odoratissimum *Linn.* (1763).

Achyroclim hochstetteri *Sch. Bip. ex A. Rich.* (1848)-F.T.A. 3: 339; F.W.T.A., ed. 1, 2: 159.

A perennial herb with slender white-woolly erect or straggling winged branches 1-5 ft. high; flower-heads pale golden-yellow, very small and numerous in terminal corymbs.

S. Nig.: Ikvette, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25228! **[Br.] Cam.:** Cam. Mt., 5,000-9,000 ft. (Dec.-May) Mann 1228! 1934 (partly)! Dalz. 8323! Maitland 660! 9221 970! Brenan 9387! Thorold CM 24! Keay FHI 29631! Boughey GC 11553! Morton GC 6869! Bamenda, 5,000-8,200 ft. (Dec., Jan., Mar.) Migeod 331! Boughey GC 11557! Morton K120! Adams 1516! Mba Kokeka Mt., 7,400 ft. (Jan.) Keay i Lightbody FHI 28394! Kumbo (Feb.) Hepper 1974! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1676! **F. Po:** Clarence Peak, 8,500 ft. (Dec.) Mann 607!

Extends from **Ethiopia** through **Sudan** and **Uganda** to Congo, **Angola** and Transvaal.

9. **Helichrysum globosum** *Sch.Bip. ex A. Rich.* Tent. Fl. Abyss. 1: 425 (1848); F.T.A. 3: 364. *APD acc*

A whitish-tomentose perennial herb a few inches to 1 ft. or more high with stiff leaves mostly in a basal rosette; inflorescence scapose, probably elongating during flowering, with numerous pale brown clustered flower-heads and pale yellow florets; **in montane grassland.**

[Br.] Cam.: Cam. Mt., 5,000-10,000 ft. (Nov.-Jan., Mar.) Mann 1912! Johnston 82! Maitland 482! Brenan 9504! 9574! Boughey GC 6806! 12526! Bamenda, 5,000ft. (Jan., June) Migeod 294! Maitland 1613! Ngel Nyaki, 6,400 ft., Mambila Plateau (Jan.) Hepper 1721! **F. Po:** summit of the Peak Mann 284 (partly)! Pico Serrano (Jan.) Guinea 1974! Moka (Dec., Jan.) Guinea 2188. Monod 10499!

Also in **Congo**, **Rhodesia** and **Angola**.

10. **Helichrysum albiflorum** *Moeser* in Engl. Bot. Jahrb. 44: 269 (1910).

APD: Synonym of Helichrysum nudifolium var. oxyphyllum (DC.) Beentje

An erect perennial herb 2-3 ft. high with the stems and the leaves on both surfaces pale greyish-tomentose; flower-heads numerous, about 1/8 in. broad, tightly clustered in a dense terminal corymb, pale silvery-yellow or white.

S. Nig.: Obudu Plateau, 5,500 ft., Ogoja (Aug.) Stone 48! **[Br.] Cam.:** Bamenda Dist., 5,400-7,500 ft. (Dec., Jan., Mar., Apr.) Boughey GC 10467! 11156! 11431! Morton K125! 207! Jakiri (Jan.) Keay FHI 28430! Mayo Binka, 4,000 ft., Nkambe (Feb.) Hepper 1884!

Also in **Congo**, **Uganda** and **Tanganyika**.

11. **Helichrysum rhodolepis** *Bak.* in Kew Bull. 1898: 150.

APD: Synonym of Helichrysum nudifolium var. oxyphyllum (DC.) Beentje

An erect perennial herb with simple whitish-tomentose stems 2-3 ft. high; flower-heads numerous in a dense terminal cluster, about 1/8 in. broad, with the inner involucre bracts silvery and the outer reddish; florets cream-coloured.

[Br.] Cam.: Kuk, 4,000 ft., Bamenda (Apr.) Maitland 1701! Ndop to Kumbo (Dec.) Boughey GC 11167! Crater L., Wum (Apr.) Morton K291!

Also in Cameroun, Sudan, Congo, Uganda, Kenya, Tanganyika and Nyasaland.

12. *Helichrysum nudifolium* (Linn.) Less. Syn. Gen. Comp. 299 (1832). *APD acc*

Gnaphalium nudifolium Linn. (1753).

12a. *Helichrysum nudifolium* var. *leiopodium* (DC.) Moeser l.c. 266 (1910).

APD: Synonym of Helichrysum nudifolium (L.) Less. var. *nudifolium*

Helichrysum leiopodium DC. (1838).

A perennial herb with a rosette of long-stalked strongly veined leaves, variably tomentose below, glabrescent above; flower-heads bright yellow in a dense terminal corymb; in montane grassland.

S. L.: Bintumane Peak, 5,000-6,000 ft. (Jan., May) Glanville 470! Deighton 5094! Loma Mta. (Feb.) Jaeger 4191! [Br.] Cam.: Bamenda Dist., 5,000 ft. Migeod 478! Morton K55! Lakom (Apr.) Maitland 1483! Bansa (Jan.) Keay FHI 28456! Bafut-Ngamba F.R. (Dec., Feb., Apr.) Ujor FHI 30008! Hepper 2156! Boughey GC 11450! Maisamari, 5,000 ft., Mambila Plateau (Jan.) Hepper 2800!

Also in Ethiopia, Congo and extending to Nyasaland and S. Africa.

13. *Helichrysum mechowianum* Klatt in Ann. Nat. Hofmus. Wien 7: 101 (1892). *APD acc*

APD: Synonym of Helichrysum congolanum Schltr. & O. Hoffm.

Helichrysum hoepfnerianum Vatke (1896).

Helichrysum congolanum Schltr. & O. Hoffm. (1903).

A perennial herb with flowering scapes often branched at or below ground level, 3-8 in high, appearing before the leaves; leaves in a rosette; flower-heads about 1/3 in. long, numerous in a dense terminal cyme, rich yellow, often tinged red; in grassland, flowering after fires.

Togo Rep.: Agome (Mar.) Schlechter 12960! N. Nig.: Jos Plateau (Jan.) Lely P21! Jos (Mar.) Hill 11! Vom Dent Young 151! [Br.] Cam.: Ndop to Kumbo (Dec.) Boughey 11160! Kakara, 4,700 ft., Mambila Plateau (Jan.) Hepper 1782!

Also in Cabinda, Congo, Tanganyika, Rhodesia and Angola.

53. GNAPHALIUM

Linn.-F.T.A. 3: 341.

- | | | |
|---|--|--------------------------------|
| 1 | Involucre spreading widely in fruit exposing the receptacle; annual herbs: | 2 |
| | Involucre campanulate in fruit; perennial herb; capitula about 3.5 mm. broad with acute or acuminate buff-coloured involucre bracts; leaves linear-lanceolate, about 6 cm. long, glabrescent above, absent from the lower parts of the shoot at flowering time | 3. undulatum |
| 2 | Capitula in rounded clusters, mostly at the ends of upper branches; receptacle 1.5 mm. diam.; stem usually erect, but occasionally branched low down and spreading from the base; lower leaves spatulate; upper leaves linear-oblongate, up to 8 cm. long | 1. luteo-album |
| | Capitula in elongated clusters at the ends of terminal and numerous lateral ascending branches; receptacle 1 mm diam.; whole plant usually less than 10 cm. high with decumbent branches spreading radially; rosette and stem-leaves spatulate, 2-3 cm. long | 2. indicum |

1. *Gnaphalium luteo-album* Linn. Sp. Pl. 851 (1753); F.T.A. 3: 343; Chev. Bot. 366; Berhaut Fl. Sén. 205.

APD: Synonym of Pseudognaphalium luteoalbum (L.) Hilliard & B.L. Burt

APD: Synonym of Laphangium luteoalbum (L.) Tzvelev

A herb of variable habit, usually annual, with erect or straggling grey-green cottony stems up to 2 ft. high; florets pale dull yellow, involucre bracts silvery, in heads about 1/6 in. across, diffuse or tightly clustered; **in sandy waste places, especially by streams and on riverbanks, or as a weed of farms in hilly districts, or in periodically burnt grassland** (where the plants are often larger and tend to a perennial habit).

Sen.: Dakar (June) Adam 12229! **Mali:** Toguéré de Saredina (May) Davey 95! Dogo (Apr.) Davey 580! Gao (Feb.) de Wailly 5337! **Guin.:** Kaba to Upper Mamou (May) Chev. 13266! Macenta (Mar.) Jac.-Fél. 1593! Kankan (Apr.) Adam 12150! **Ghana:** White Volta R., near Bawku (Apr.) Morton GC 8951! **N. Nig.:** Sokoto (Jan.-Feb.) Dalz. 408! 409! 410! Vom (Apr.) Dent Young 150! Morton. K327! Kano (Mar.) Onyeagocha FHI 7639! Onwudinjoh FHI 22361! Aboh Barter 194! Birnin Gwari (Mar.) Meikle 1334!

[Br.] Cam.: Cam. Mt., Buea, 3,000-3,500 ft. (Nov., Feb.-Apr.) Dalz. 8229! Migeod 110! Maitland 513! Morton K471! Brenan & Jones 9584! Mamfe (Jan.) Lobe Babute FHI 12979! Bamenda Dist., 5,800-6,600 ft. (Dec., Mar., Apr.) Boughey GC 10875! Adams GC 11224! Morton K284! Bama, Dikwa Dist. (Jan.) McClintock 176! **F. Po.:** (Jan.) Guinea 2189. Moka L. (Dec.) Boughey!

Widespread in warm countries.

2. *Gnaphalium indicum* Linn. Sp. Pl. 852 (1753); Chev. Bot. 366.

APD: Synonym of Helichrysum herniarioides DC.

APD: Synonym of Gnaphalium polycaulon Pers.

Gnaphalium niliacum Spreng. (1826)-F.T.A. 3: 344; F.W.T.A., ed. 1,2: 161; Berhaut Fl. Sén. 205.

Gnaphalium spatulatum Lam. (1797)-Berhaut Fl. Sén. 205.

A small spreading herb with numerous silvery-woolly flower-heads crowded in spike-like clusters; florets pale yellow; **on river-sand and in waste places in northern districts.**

Sen.: Perrottet! Roger 34! Niokolo-Koba (Jan.) Roberty 16659! **Mali:** Petal (Feb.) Davey 431! Sangara (Jan.) Chev. 264!

[Br.] Cam.: Bama, Dikwa Dist. (Jan.) McClintock 165!

Widespread in the Old World tropics.

3. *Gnaphalium undulatum* Linn. Sp. Pl. 852 (1753).

APD: Synonym of Pseudognaphalium oligandrum (DC.) Hilliard & B.L. Burt

APD: Synonym of Pseudognaphalium oligandrum (DC.) Hilliard & B.L. Burt

APD: Synonym of Pseudognaphalium undulatum (L.) Hilliard & B.L. Burt

Helichrysum steudelii Sch. Bip. ex A. Rich. (1848).

Gnaphalium steudelii Sch. Bip. ex Hochst. (1841).

A perennial herb with woolly-tomentose glabrescent shoots up to 15 in. high, rather woody at the base; florets dull yellow; **in hill grassland.**

[Br.] Cam.: Santa Mt., 8,500 ft., Bamenda (Apr.) Morton K312! Bamenda to Ndop, 5,000 ft. (Dec.) Adams GC 11283! Nguroje to Kakara, 5,400 ft., Mambila Plateau (Jan.) Hepper 1761!

Also in **Ethiopia, Uganda, Tanganyika, Nyasaland, Rhodesia, Natal** and **Madagascar**. [In the southern localities this species is apparently normally annual.]

54. SPHAERANTHUS

Linn.-F.T.A. 3: 332; Robyns in Kew Bull. 1924: 177-199; Ross-Craig in Hook. Ic. Pl., ser. 5, 6: 1 (1954).

- 1 Stems not winged; common involucre not visible; leaves oblong, mostly about 2 cm. long and 1 cm. broad, auriculate, subentire, densely pilose; heads about 1 cm. diam. [1. *flexuosus*](#)
- Stems winged; leaves decurrent: **2**
- 2 Common involucre conspicuous; stem-wings entire or nearly so; leaves subentire: **3**
- Common involucre not visible; stem-wings sharply toothed; receptacle orbicular; heads 9-13 mm. diam.; leaves linear to oblong-ob lanceolate, subulate-mucronate, up to 10 cm. long and 2 cm. broad, with sharply subulate marginal teeth, woolly [4. *senegalensis*](#)
- 3 Receptacle more or less flat; common bracts enclosing more than half of the inflorescence, broadly obovate, sharply acuminate, pubescent, with a strong midrib; heads 6-8 mm. broad; leaves about 4 cm. long, minutely scabrid and sparsely glandular [2. *angustifolius*](#)
- Receptacle subspherical; common bracts enclosing less than half of the inflorescence, broadly obovate, mucronate, puberulous, without a strong midrib; heads about 10 mm. broad; leaves up to 8 cm. long, glabrescent, punctate-glandular on both surfaces [3. *talbotii*](#)

1. *Sphaeranthus flexuosus* O. Hoffm. in Ann. Mus. Congo, sér. 4, p. x (1903); Ross-Craig in Hook. Ic. Pl., ser. 5, 6: 34, t. 3505B. *APD acc*

Sphaeranthus brounae Robyns (1924)-F.W.T.A., ed. 1, 2: 162.

A much-branched softly tomentose annual herb; flowers purple, in heads 1/4-1/3 in. across.

N. Nig.: Jos Plateau (Jan.) Lely P136! Gajibo, Bornu (Nov.) H. B. Johnston. N99! [**Br.**] **Cam.:** Gwoza, 1,100 ft., Dikwa Div. (Dec.) McClintock 56!

Also In **Sudan** and **Congo**.

2. *Sphaeranthus angustifolius* DC. Prod. 5: 370 (1836); Ross-Craig l.c. 56, t. 3513A. *APD acc*

APD: *Synonym of Sphaeranthus randii* S. Moore var. *randii*

Sphaeranthus nubicus Sch. Bip. ex Oliv. & Hiern in F.T.A. 3: 335 (1877); F.W.T.A., ed. 1, 2: 161.

Sphaeranthus lelyi Robyns (1924).

A glandular-pubescent, erect or diffuse annual herb 1-2 ft. high; flowers pale red in heads about 1/3 in. across.

Sen.: Casamance Perrottet 26. **Mali:** west of Agades Brodie! **Ghana:** White Volta R., Bawku to Bolga-tanga (Apr., Dec.) Morton GC 8961! A1354! **N. Nig.:** Kuka E. Vogel 39! Sokoto Lely 149! **Niger:** Maradi (Dec.) Vaillant 865!

Also in **Sudan**.

3. *Sphaeranthus talbotii* S. Moore in Macleod Chiefs & Cities Centr. Afr. 303 (1912), and in Cat. Talb. 56 (1913); Ross-Crais l.c. 65, t. 3516B.

APD: *Synonym of Sphaeranthus steetzii* Oliv. & Hiern

An annual herb 1-3 ft. high with glabrous, whitish stems; flowers purple in depressed-globose heads about 1/3 in. across.

N. Nig.: Dapchi to Damaturu (Nov.) Noble A19! Bornu (fr. June) Onochie FHI 23380! Birnin Kudu, Kano (Nov.) Onwudinjoh FHI 24022!

Also in **Cameroun**, **Sudan**, **Tanganyika** and **Nyasaland**.

4. *Sphaeranthus senegalensis* DC. Prod. 5: 370 (1836); Ross-Craig l.c. 25, t. 3502B; Berhaut Fl. Sén. 170. *APD acc*

APD: *Synonym of Sphaeranthus angolensis* O. Hoffm.

Sphaeranthus hirtus of F.T.A. 3: 334; Holl. 3: 384; Chev. Bot. 365, not of Willd.

Sphaeranthus lecomteanus O. Hoffm. & Muschl. (1910)-Chev. Bot. 365.

A branched annual herb 1-3 ft. high or half-decumbent; softly whitish-hairy; flower-heads reddish-purple about 1/3-1/2 in. across.

Sen.: Perrottet! Roger! Brunner 113! Farmar 130! Labgehar (Feb.) Roberty 16791! Dakar (May) Baldwin 5702! **Gam.:** Brown- Lester N2! S8! Ozanne! Pirie 31! Basse (Mar.) Told 11! Genieri (Feb.) Fox 55! **Mali:** Sienso, near San (June) Chev. 1042! Bamako (Apr.) Hagerup 26! Koussilé (Mar.) Roberty 17017! **Guin.:** Heudelot 771! **Ghana:** Dedoro-Tankara, near Navrongo (Dec.) Adams & Akpabla GC 4349! Burufo, near Lawra (Dec.) Adams & Akpabla GC 4420! **Dah.:** Poisson! **N. Nig.:** Kano (Nov.) Hagerup 623! Kontagora (Nov.) Datz. 189! Kaduna (Dec.) Meikle 745! Jengre, 3,000 ft., Zaria (Dec.) Coombe 85!

Also in **Mozambique**, **N. Rhodesia** and tropical Asia.

[Note: Morton GC 8796 from Lumbunga, Tamale, Ghana, bears a close resemblance to *S. gazaensis* Bremek., but it may be merely a regrowth on recently burnt-over ground from persistent stocks of *S. senegalensis*-C. D. A.]

55. BLEPHARISPERMUM

Wight ex DC. in *Wight Contrib. Bot. Ind.* 11 (1834); F.T.A. 3: 335.

- 1 A scrambling shrub with finely striate rusty-pubescent branchlets and a persistent deflexed thorn below the insertion of each leaf; leaves alternate, up to about 8 cm. long and 4 cm. broad, ovate to elliptic-lanceolate, rounded or broadly cuneate at base and slightly unequal-sided, acuminate, minutely apiculate, subentire, with about 5 pairs of lateral pubescent nerves; petiole slender, about 1 cm. long; flower-heads compound in a spherical cluster, terminating short, stiff lateral branches; each floret enclosed in a scale, the outer female with 4 corolla-lobes, and a large style with thick tongue-shaped style arms, the inner hermaphrodite or male with 5 corolla-lobes and a style with a minutely bifid apex; achene (formed by outer florets) flat, winged, obcordate-emarginate, ciliate, with about 6 unequal ascending-barbellate pappus-bristles in the sinus[*spinulosum*](#)

Blepharispermum spinulosum *Oliv. & Hiern* in F.T.A. 3: 335 (1877). *APD acc*

A scrambling deciduous shrub with persistent climbing-accessory thorns at the nodes; flowers greenish-white in spherical heads 1/2-3/4 in. across, sweet-scented in thickets of secondary forest.

IV. C.: Morénou, Eterokrou to Tchumkrou (Dec.) Chev. 22517! **Ghana:** Aburi scarp (fl. Nov.-Dec., fr. Feb.) Morton GC 6132! A1610! Adams 1917! Afram R., Mankrong (Apr.) Morton A723!

Also In **Congo** and **Angola**.

56. AMBROSIA

Linn.-F.T.A. 3: 370. *APD acc*

- 1 An annual or short-lived herb; stems pilose with whitish hairs; leaves petiolate, deeply bipinnately divided with lobulate segments, up to about 12 cm. long, softly pubescent; flower-heads unisexual; male involucre cup-shaped with the bracts united and crenately lobed, about 5 mm. diam., in a terminal raceme; male florets with a corolla; female capitula 1-flowered in axillary clusters, the involucre angular in fruit with 4-6 horns; female floret without a corolla; achene obovoid, smooth, without a pappus[*maritima*](#)

Ambrosia maritima *Linn. Sp. Pl.* 988 (1763); F.T.A. 3: 370; Berhaut *Fl. Sén.* 27, 48. *APD acc*

Ambrosia senegalensis *DC.* (1836)-P.T.A. 3: 371; Chev. *Bot.* 368; Trochain *Mem. I.F.A.N.* 2: 364 (1940).

An erect, branched aromatic herb 1-4 ft. high, often woody below and sometimes almost shrubby, with striate stems, more or less hoary; flower-heads small, greenish-yellow forming rather dense spikes; flowering during the rains.

Sen.: Perrottet! **Mali:** San (June) Chev. 1023! Djenné (June) Chev. 1114! Kabarah (Aug.) Chev. 1540! Timbuktu Hagerup 198a! **Ghana:** White Volta R., near Bawku (June) Hepper & Morton A3159! T. M. Harris! **N. Nig.:** Borgu-Barter 837! Bornu E. Vogel 87! Fodama (Nov.) Moiser 205! 244! Jebba (June) Meikle 1280! Onochie FHI 18674! Maiduguri (June) Ujor FHI 21939!

Distributed from the Mediterranean region through **Sudan**, eastern and S. Africa to the Mascarene Islands; also **Principe** and **S. Tomé**. *Vahl* (1792).

An erect branched stiff herb 1-2 ft. or more high, more or less pilose, with small white or mauve florets in narrow oblong heads forming spikes; a weed.

Guin.: Farmar! Gangan (Apr.) Adam 11920! Bambaya, Upper Niger (Jan.) Jaeger 3861! **S. L.:** Freetown (Feb.) Johnston, 61! Leicester Peak (Dec.) Sc. Elliot 3863! Mt. Aureol (Dec.) Dalz. 945! Bo (Jan.) Thomas 7410! Njala (Feb.) Deighton 1925! **Lib.:** Dimeï (Feb.) Barker 1216!

A native of tropical America, introduced into our area and Asia.

2. **Elephantopus mollis** *Kunth* Nov. Gen. & Sp. Pl. 4: 26 (1820); Philipson in J. Bot. 76: 303-304 (1938). *APD acc*

Elephantopus scaber of F.T.A. 3: 299, partly; of Chev. Bot. 359; of F.W.T.A., ed. 1, 2: 170; of Berhaut Fl. Sén. 204, not of Linn.

An erect branched coarsely hairy perennial herb with wrinkled leaves; usually 2-4 ft. high, but exceptionally up to 8 ft.; florets small, white, in bracteate heads up to 3/4 in. across; **in open grassy places in woodlands, savanna, fringing forest, and sometimes cultivated land.**

Sen.: fide Berhaut l.c. **Mali:** Tabacco (Oct.) Chev. 2817! **Guin.:** Heudelot 674! Kouroussa (Oct.) Pobéguin 572! Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9752! **S. L.:** Winwood Reade! Leicester Peak (Dec.) Sc. Elliot 3880! Kanya (Oct.) Thomas 3056! Kent Deighton. 3302! Sefadu (Nov.) Deighton 4663! **Lib.:** Gbanga (Oct.) Linder 1196! Tawata, Boporo (Nov.) Baldwin 10308! Cess R. (Mar.) Baldwin 11232! **Ghana:** Chirano to Afao, Sefwi (Dec.) Adams 1994! Aduamoa, Kwahu (Dec.) Morton A2434! Techiman, Ashanti (Dec.) Adams & Akpabla GC 4491! Amedzofe (Nov.) Morton. GC 9411! Dutukpene (Dec.) Adams 4547! **N. Nig.:** Damisa, Madaki (Nov.) Keay S Onochie FHI 21716! Jos Plateau (Oct.) Lely P837! **S. Nig.:** Okuni, Cross R. (Jan.) Holland 169! Calabar (May) Ujor FHI 30158! Oban Talbot! **[Br.] Cam.:** Cam. Mt., Buea, 3,000-3,400 ft. (Jan., Mar., June, Dec.) Dunlap 106! Maitland 61! 128! 249! Boughey GC 7014! Victoria (Jan.) Winkler 676! Kumba (Jan., Mar.) Ejiofor FHI 29301! Binuyo & Daramola FHI 35463! Vogel Peak, Adamawa (Nov.) Hepper 1443! **F. Po:** (Jan., June) Mann 225! Barter!

Extends to **Sudan** and **Angola**, and also in S. Tomé and Príncipe; a tropical American plant also introduced into Asia.

3. **Elephantopus senegalensis** (*Klatt*) *Oliv. & Hiern* in F.T.A. 3: 299 (1877); Chev. Bot. 359; Berhaut Fl. Sén. 204. *APD acc*

Synchodendron senegalense *Klatt* (1873).

An erect perennial herb 1-2 ft. high with hairy striate stems; leaves long, narrow and rather wrinkled; flower-heads in a terminal cluster 1-1 1/2 in. across; **in rocky savanna grassland or woodland, uncommon.**

Sen.: Niokolo-Koba Berhaut 1589! **Guin.:** Heudelot 646! Sambadougou, Faranna (Jan.) Chev. 20545! Fouta Djallon, 5,000 ft. (Sept.) Schnell 7168! **S. L.:** Musaia (Oct.) Thomas 2659! **Ghana:** Banda, Ashanti (Dec.) Morton GC 25148! Nwereme, Ashanti (Dec.) Morton. A2637! Adibu Goodall GC 16590! Amedzofe (Nov.) Morton A2298! **N. Nig.:** Jos Plateau Batten-Poole 176! **S. Nig.:** Lagos W. D. MacGregor 158!

Also in **Angola**.

58. STRUCHIUM

P. Br. Hist. Jamaic. 312, t. 34 (1756).

Sparganophorus *Crantz* (1766)-F.T.A. 3: 262.

- 1 Stems thinly pubescent; leaves obovate-oblancheolate, acute, narrowed into the winged petiole, 7-15 cm. long, 2.5-6 cm. broad, crenate-serrate, minutely gland-dotted and slightly pubescent beneath; flower-heads sessile, clustered in the leaf axils, 5-7 mm. broad; involucre bracts in several rows, ovate, very acute, pilose, about 5 mm. long; achenes 3-5-angled, glabrous, glandular, crowned by a short tubular obscurely toothed cartilaginous pappus [sparganophora](#)

Struchium sparganophora (*Linn.*) *O. Ktze.* Rev. Gen. Pl. 1: 366 (1891). *APD acc*

Ethulia sparganophora *Linn.* (1763).

Sparganophorus vaillantii *Crantz* (1766)-F.T.A. 3: 262; Chev. Bot. 350; F.W.T.A., ed. 1, 2: 171; Berhaut Fl. Sén. 175.

Struchium africanum *P. Beauv.* Fl. Oware 1: 81, t. 48 (1806).

An erect or decumbent half-succulent herb 1-4 ft. high, with white, mauve or pink florets; **in damp places.**

Sen.: Casamance (Jan.) Chev. 2055. **Mali:** Négala (Jan.) Chev. 164. **Port. G.:** Pessubé, Bissau (Mar.) Esp. Santo 1498! **Guin.:** Heudelot 656! **S. L.:** Mofari, Digisinn (Jan.) Sc. Elliot 4405! Tombo (Jan.) Deighton 958! Kambia, Magbema (Dec.) Jordan 760! Port Loko (Oct.) Tindall 45! Ronietta (Nov.) Thomas 5341! **Lib.:** Gletown, Tchien (July) Baldwin 6802! Genna Tanyehun, Grand Cape Mount Co. (Dec.) Baldwin 10767! Tappita (Aug.) Baldwin 9085! **Iv. C.:** Orumbo-Boka Mt., Toumodi (Dec.) Boughey GC 14443! **Ghana:** Accra (Oct.) Brown 383! Kukurantumi, Akim (Mar.) Johnson 602! Begoro (Jan.) Irvine 1164! Pokoase (Apr.) Irvine 1593! Nsawkaw, Ashanti (Dec.) Adams 3175! Kpandu Robertson 39! **Togo Rep.:** Lomé Warnecke 412! **Dah.:** Porto-Novo (Mar.) Chev. 23310! **S. Nig.:** Ogun R., Abeokuta Barter 3341! Okomu F.R., Benin (Dec.) Brenan & Jones 8584! Ibadan (Jan.) Coombe 120! Ijebu (Oct.) Tamajong FHI 20269! Oban Talbot 399! (Br.) **Cam.:** Preuss 1351! Victoria (Feb.) Maitland 358! Tiko (Feb.) Maitland 977! **F. Po:** (June) Barter! Mann 408! Ureka (Feb.) Guinea 2369.

Throughout tropical Africa and also in S. Tomé, Principe, the Mascarene Islands, S.E. Asia and tropical America.

59. TRIPLLOTAXIS

Hutch. in Kew Bull. 1914: 355.

- 1 Stems herbaceous, slender, puberulous; leaves shortly petiolate, ovate or ovate-lanceolate, acute or subacute, 2-6 cm. long, 1-3 cm. broad, serrate-crenulate to sub-entire, crispate-puberulous especially on the nerves; flower-heads very small in lax divaricately branched corymbs; peduncles slender 5-15 mm. long, shortly pubescent; involucre bracts 3-seriate, free, pubescent; achenes turgid, sparingly pilose; pappus cupular, pectinately toothed [stellulifera](#)

Triplotaxis stellulifera (Benth.) Hutch. in Kew Bull. 1914: 356 (1914).

APD: *Synonym of Vernonia stellulifera* (Benth.) C. Jeffrey

Herderia stellulifera Benth. (1849)-F.T.A. 3: 298; Chev. Bot. 358.

An erect or decumbent annual herb 1-2 ft. high with mauve or rarely white florets in flower-heads less than 1/4 in. long; a weed of pathsides and clearings in forest areas.

Guin.: Boula (Apr.) Adam 12065! **S. L.:** Heddle's Farm, Freetown (Dec.) Sc. Elliot 3933! Kenema (Nov.) Deighton 396! Njala (June) Deighton 3235! Rowala (July) Thomas 1144! Rokupr (Sept.) Jordan 315! **Lib.:** Du R. (July) Linder 127! Ganta (May) Harley! Gbawia, Webo (July) Baldwin 6716! Gletown, Tchien (July) Baldwin 67381! Tawata, Boporo (Nov.) Baldwin 10309! **Iv. C.:** fide Chev. l.c. Adiopodoumé (July) Boughey GC 14523! Abidjan (Dec.) Boughey GC 13516! Guitry (Dec.) Boughey GC 13550! Guiglo (Aug.) Boughey GC 14795! **Ghana:** Princes Town (Mar.) Morton A350! Amentia, Ashanti Irvine 533! Abetifi, 2,000 ft. (Jan.) Irvine 1660! Enchi (Dec.) Adams 2218! Amedzofe, Trans-Volta Togo (Nov.) Morton GC 9422! **S. Nig.:** Ishagama (Mar.) Schlechter 12309! Sapoba (Apr., June) Onyeagocha FHI 7141! Ejiofor FHI 32013! Ubiaja F.R., Benin (Aug.) Onochie FHI 33257! Okomu F.R., Benin (Jan., Feb.) Brenan 8776! 9151! **[Br.] Cam.:** Rio del Rey Johnston! Tiko (Feb.) Maitland! Buea, 3,000-3,600 ft. (Mar., Apr., June, Nov., Dec.) Maitland 34! Migeod 99! Hutch. & Metcalfe 125! Akpabla GC 10493! Path to Mann's Springs (Dec.) Adams GC 11798! Ndop, 3,600 ft., Bamenda (Dec.) Boughey GC 11125! **F. Po:** (June, Dec.) Barter! T. Vogel 265! Boughey GC 10976b! S. Isabel (Dec.) Guinea 549! Musola (Jan.) Guinea 1316.

Also in **Uganda** and through Gabon and Congo to **Angola**; and in **Principe** and **S. Tomé**. See Appendix, p. 421.)

60. AEDESIA

O. Hoffm. in E. & P. Pflanzenfam. Nachtr. 1: 321 (1897), and in Engl. Bot. Jahrb. 24: 467 (1898). *APD acc*

- 1 Leaves lanceolate, rather abruptly acute, about 15 cm. long and 2.5 cm. broad at base, serrulate, glabrous, with about 15 pairs of lateral nerves; flower-head about 5 cm. diam., solitary, closely surrounded and over-topped by the upper leaves; involucre bracts 1-2-seriate, linear-spathulate, 3-4 cm. long, glabrous; achenes ribbed, pubescent; pappus buff, 2.5-3 cm. long [1. glabra](#)
- Leaves very similar to above but much narrower and elongated to a very narrow apex; flower-heads about 3 cm. diam. [2. baumannii](#)

1. **Aedesia glabra** (Klatt) O. Hoffm. in Engl. Bot. Jahrb. 24: 468 (1898); Chev. Bot. 381; Berhaut Fl. Sén. 170. *APD acc*

Bojeria glabra Klatt (1873).

Aedesia latifolia A. Chev. Bot. 381, name only.

A perennial herb with erect simple stems 1-2 ft. high from a stout knotted rootstock; florets purple; in damp grassland.

Sen.: Tombana, Casamance (Feb.) Chev. 3538! **Guin.:** Kouria to Ymbo (July) Chev. 14613 bis! Tonfili to Tagania, Faranna (Jan.) Chev. 20399! **S. L.:** Gonkwi Mt., Talla Plateau (Feb.) Sc. Elliot 4985! Kumrabai (Sept.) Glanville 442! Musaia (Sept.) Deighton 4893! Kakama (Aug.) Adames 197! Loma Mts. (Sept.) Jaeger 2015! **Iv. C.:** Siana to Nandala, Mankono (June) Chev. 21858! Keoulenta (July) Schnell 1542. **N. Nig.:** Vom Dent Young 143!

Also in Cameroun and Congo.

2. *Aedesia baumannii* O. Hoffm. l.c. (1898); Chev. Bot. 380.

APD: *Synonym of Aedesia glabra* (Klatt) O. Hoffm.

An erect perennial herb about 1 ft. high; florets deep reddish-purple or (?) yellow in a solitary terminal head much overtopped by the involucre; in savanna grassland.

Mali: fide Chev. l.c. **iv.c.:** Dotou (May) Chev. 21765! Languira, Baoulé-Nord (July) Chev. 22202! **Ghana:** Salaga Easmon! Yeji Anderson 49! Bosomoa F.R. (June) Vigne FH 3056! Banda, Ashanti (Dec.) Morton GC 25081! Burufu, Lawra (Dec.) Adams & Akpabla GC 4429! Yendi (July) Akpabla GC 17347! **N. Nig.:** Borgu Barter 713! Yola (July) Dalz. 28! Naraguta (July) Lely 253! Kogigiri, 4,100 ft., Jos (Oct.) Hepper 1062! **S. Nig.:** Lagos W. MacGregor 174!

Also in Cameroun.

61. HERDERIA

Cass.-F.T.A. 3: 297, partly (excl. H. stellulifera).

- 1 Stems numerous, procumbent or ascending, variably woolly-pubescent; leaves spatulate-obovate, narrowed to base, rounded or subtruncate at apex and there sparingly dentate, 1-3(-4) cm. long, 5-15 mm. broad, thinly pubescent or villous when young, glandular beneath; flower-heads broadly campanulate, about 6 mm. long and broad; outer involucre bracts leafy, oblanceolate, inner connate to above the middle; florets all tubular; achenes 4-angled, glabrous; pappus-setae in two rows, the outer scale-like, the inner 3-5, longer and barbellate *truncata*

Herderia truncata Cass. Dict. Sci. Nat. 60: 599 (1830); F.T.A. 3: 298; Hutch. in Kew Bull. 1914: 354, with fig.; Chev. Bot. 358; Berhaut Fl. Sén. 173, 198. *APD acc*

Herderia truncata var. *chevalieri* O. Hoffm. (1908)-Chev. Bot. 359.

Vernonia yatesii S. Moore (1914).

A spreading annual herb, woody at the base; florets reddish-purple to mauve; in damp sandy places.

Sen.: fide Berhaut l.c. **Gam.:** Hayes 541! **Mali:** Sébi (July) Chev. 1165! Guguber Hagerup 318! Koriensa (July) Lean 54! **Port. G.:** Boé, Vehetche (June) Esp. Santo 2933! **Guin.:** Kankan Adam 12136! **S. L.:** Batkanu (Jan.) Glanville 151! Pujehun (Apr.) Deighton 1654! Makeni (May) Deighton 4141! Mange, Bure (May) Jordan 868! **Iv. C.:** fide Chev. l.c. **Ghana:** Yeji Anderson 28! Babile, near Lawra (Oct.) Hinds 5001! Yendi (Dec.) Adams & Akpabla GC 4085! Akuse to Kpong (June) Irvine 1778! Tefle (Jan., May) Morton GC 8313! A2069! **N. Nig.:** Aboh Barter 308! Abinsi (May) Dalz. 661! Yola (May) Dalz. 37!

A variety (var. *villosa* DC. Prod. 5: 14 (1836); Berhaut Fl. Sén. 174, 204) with the leaves densely villous with appressed hairs, has been recorded from Senegal (Perrottet).

62. VERNONIA

Schreb.-F.T.A. 3: 266. Nom. cons.

- 1 Trees, shrubs or woody climbers: 2
Herbs or undershrubs: 26
2 Involucre bracts with coloured or whitish appendages; capitula 1.5-3 cm. or more diam.; achenes often black

- and ribbed; pappus-setae more or less uniform, usually deciduous and buff in colour; leaves often toothed; erect shrubs or small trees: **3**
- Involucral bracts not appendaged: **12**
- 3** Leaves sessile: **4**
- Leaves petiolate: **6**
- 4** Leaves narrowed to base without auricles; pappus persistent with the outer setae shorter; achenes minutely pubescent [1. kotschyana](#)
- Leaves auricled; pappus caducous, more or less uniform; achenes glabrous: **5**
- 5** Capitula 3-4 cm. diam.; leaves up to 30 cm. long and 10 cm. broad, thinly pubescent beneath; branches shortly velvety [2. calvoana var. calvoana](#)
- Capitula 1-2 cm. diam.; leaves up to 15 cm. long and 7 cm. broad, densely pubescent beneath; branches thinly tomentose [2a. calvoana var. microcephala](#)
- 6** Capitula large, 3 cm. or more diam. in flower; pappus caducous: **7**
- Capitula smaller, hardly exceeding 2.5 cm. diam. in flower: **9**
- 7** Leaves thinly pubescent beneath; achenes glabrous; pappus uniform; lamina cordate-auriculate at junction with petiole [3. insignis](#)
- Leaves woolly-tomentose beneath; achenes pubescent; outer pappus very short: **8**
- 8** Involucral bracts softly tomentellous outside, linear; leaves rather small, irregularly dentate [4. stenostegia](#)
- Involucral bracts puberulous, lanceolate; leaves up to 20 cm. long and 6 cm. broad, serrate [5. tenoreana](#)
- 9** Lamina tapered to base; leaf-margin serrate: **10**
- Lamina broadly rounded at base; leaf-margin coarsely dentate; leaves tomentose beneath, puberulous only above; middle involucral bracts acute; achenes pubescent or minutely puberulous; pappus-setae of variable length, the outer shorter [8. iodocalyx](#)
- 10** Middle involucral bracts obtuse or rounded: **11**
- Middle involucral bracts acute; leaves thinly tomentose beneath; lamina-base broadly cordate at the junction with the petiole; achenes minutely puberulous [7a. leucocalyx var. acuta](#)
- 11** Leaves tomentose beneath; lamina-base decurrent on the petiole; achenes glabrous or nearly so [6. mokaensis](#)
- Leaves pubescent and glandular beneath; lamina-base very narrowly cordate at the junction with the petiole; achenes sparsely pubescent [7. leucocalyx var. leucocalyx](#)
- 12** Capitula about 2 cm. long, sessile or nearly so, each subtended by a tomentose foliaceous bract; involucral bracts lanceolate, acute; leaves very large, sessile, fimbriately lobed near base, undulate-margined, densely tomentose beneath; achenes glabrous; pappus uniform; a tree [9. frondosa](#)
- Capitula with involucre hardly exceeding 1 cm. in length, without foliaceous bracts; involucral bracts more or less ovate or oblong: **13**
- 13** Climbers or scramblers: **14**
- Erect shrubs or small trees: **16**
- 14** Leaves ovate, acutely acuminate; involucral bracts coloured; florets purple: **15**
- Leaves broadly ovate, rounded at apex, entire; petiole slender, about 1 cm. long, leaving a peg on the stem after leaf-fall; achenes glandular, glabrous or nearly so; involucral bracts green; florets white, 10-11 in each capitulum [12. andohii](#)
- 15** Inner involucral bracts not exceeding 5 mm. in length, more or less narrowed to the tip; outer pappus-setae very short, distinctly fimbriate, scale-like and spreading at maturity. [10. biafrae](#)
- Inner involucral bracts 6-7 mm. long, broadly rounded at the tip; outer pappus-setae very little broader than the inner and hardly scale-like; leaves often sinuate-margined [11. tufnelliae](#)
- 16** Leaves petiolate: **17**
- Leaves sessile, the lamina continuous with stem-clasping auricles; capitula mostly sessile along the inflorescence branches or clustered at their tips; achenes pubescent: **24**
- 17** Pappus 2-seriate, the outer setae shorter; florets mauve or white: **18**
- Pappus more or less uniform; florets white; **23**
- 18** Achenes pubescent; leaf-margin serrate: **19**
- Achenes glabrous; involucre up to 6 mm. long: **21**
- 19** Petiole auricled at base; capitula with a single floret [13. auriculifera](#)
- Petiole not auricled at base; florets several to each capitulum; leaves up to 30 cm. long and 10 cm. broad, softly pubescent when young, glabrescent; **20**

- 20 Leaves long-cuneate to base; florets 3-5 in each capitulum [14. myriantha](#)
 Leaves abruptly narrowed to the petiole; florets about 7 in each capitulum [15. ampla](#)
- 21 Branches of inflorescence short, flexuous, ascending, bearing capitula in dense rounded clusters; leaves abruptly narrowed to base, acute at apex, puberulous only on the veins beneath [16. thomsoniana](#)
 Branches of inflorescence spreading laterally with capitula distinctly separated, or not in large clusters; leaves cuneate, densely pubescent beneath: 22
- 22 Lateral branches of inflorescence hardly exceeding 8 cm. in length; capitula on peduncles over 5 mm. long or also a few clustered at the tips of branches; leaves oblanceolate, up to 15 cm. long and 5 cm. broad, entire, obtuse [17. doniana](#)
 Lateral branches of inflorescence wide-spreading, 15 cm. or more long; capitula subsessile or on peduncles not exceeding 5 mm. in length; leaves very large, sinuate-margined [18. conferta](#)
- 23 Lamina rather abruptly narrowed to base, entire, undulate; achenes glabrous, shallowly 10-ribbed, densely glandular between the ribs [19. colorata](#)
 Lamina long-cuneate to base, remotely toothed, flat; achenes pubescent [20. amygdalina](#)
- 24 Inflorescence subumbellate with numerous small capitula clustered at branch-tips; florets 3; involucre bracts 3-seriate, glumaceous, glabrescent; outer pappus-setae shorter and more or less united at base [21. subuligera](#)
 Inflorescence paniculate; involucre bracts 4-5-seriate, puberulous; pappus-setae uniform: 25
- 25 Florets 5-8; involucre about 5 mm. long; inner involucre bracts mostly obtusely rounded at apex without broad hyaline margins [22. theophrastifolia](#)
 Florets about 10; involucre about 7 mm. long; inner involucre bracts mostly acute at apex, with broad hyaline margins [23. richardiana](#)
- 26 Flower-heads appearing before or separately from the leaves; stem arising from a perennial stock: 27
 Flower-heads accompanying the leaves: 29
- 27 Apex of stock at most whitish-tomentose and scaly with reduced leaves; roots fusiform, fleshy; involucre bracts greyish-green, 4-5-seriate, thinly woolly outside, up to 1.3 cm. long, rounded at apex; leaves lanceolate, variable in size up to 15 cm. long and 6 cm. broad, serrulate, pustulate-scabrid above, densely tomentose beneath; pappus-bristles flat, the outer shorter; achenes strongly ribbed, pubescent and glandular ... [51. pumila](#)
 Apex of stock densely brownish-woolly; roots fibrous; involucre bracts purplish, slightly pubescent outside; leaves (when present) elongate-oblanceolate, 20 cm. or more long, 5-6 cm. broad, petiolate, minutely denticulate or repand-dentate, with numerous lateral nerves; pappus with the outer bristles successively shorter but not much broader or flatter than the inner; achenes pubescent: 28
- 28 Capitula solitary or tightly clustered on very short peduncles arising directly from the stock; involucre bracts linear-lanceolate, up to 1.5 cm. long, the inner with long-acute crisped apex; leaves softly pubescent beneath [24. chthonocephala](#)
 Capitula several, long-pedunculate in a branched almost leafless inflorescence; involucre bracts orbicular to oblong and rounded at apex, less than 1 cm. long; leaves puberulous beneath [25. subaphylla](#)
- 51..... Achenes pubescent at least on the angles: 52
- 29 Capitula solitary or subsolitary, terminal on simple leafy or leafless scapes; achenes pubescent: 30
 Capitula several to numerous in branched inflorescences: 36
- 30 Head subsessile, closely surrounded and overtopped by 5 or 6 of the uppermost leaves [26. chapmanii](#)
 Head distinctly pedunculate: 31
- 31 Leaves mostly in a basal rosette, oblanceolate, up to 12 cm. long and 4 cm. broad, tomentose when young; apex of the stock brown-woolly: 32
 Leaves mostly on the subaerial shoot: 33
- 32 Involucre bracts 2-3-seriate, ovate, acuminate, up to 1.5 cm. long and 7-8 mm. broad, purplish; peduncle terete; achenes 3-4 mm. long, ribbed; outer pappus of short fimbriate scales, the inner shortly plumose [27. acrocephala](#)
 Involucre bracts 3-4-seriate, lanceolate, acute, up to 2 cm. long and 4 mm. broad, not purplish; peduncle ribbed; pappus uniform, the outer setae shorter [28. gerberiformis](#)
- 33 Capitulum 3-5-5 cm. diam.; involucre bracts 4-5-seriate, lanceolate or narrowly oblong: 34
 Capitulum up to about 2 cm. diam.; involucre bracts 2-3-seriate, broadly ovate, purplish; leaves elliptic, up to 4 cm. long and 1.5 cm. broad, finely serrate; pappus as in No. 30 [31. jaegeri](#)
- 34 Leaves densely tomentose beneath [52c. guineensis var. procera](#)
 Leaves glabrous or puberulous beneath: 35
- 35 Leaves oblong-obovate, rounded at apex, up to 20 cm. long and 7 cm. broad, obscurely denticulate, glabrous; involucre bracts glabrous, long-apiculate; outer pappus shorter and slightly broader than the inner [29.](#)

macrocyaneus

- Leaves elliptic, acute, up to 6 cm. long and 2 cm. broad, serrate, puberulous; outer pappus of slender setae, shorter than inner; inner pappus-setae distinctly broadened and fimbriate towards apex [30. nimbaensis](#)
- 36** Innermost involucre bracts very long and tinged crimson on the inner surface, about twice as long as the pappus and achene; outer involucre bracts spreading down the peduncle; stems woolly at base; leaves obovate or obovate-lanceolate, cuneate at base, up to 15 cm. long and 7 cm. broad, denticulate, thick, harshly scabrid on both surfaces; achenes densely tomentose [32. nigritiana](#)
- Innermost involucre bracts not much longer than the others or the pappus, not coloured: **37**
- 37** Flower-heads sessile subtended by broad leafy bracts; leaves scabrid on both surfaces, glandular-punctate beneath, linear-lanceolate to elliptic, acute, entire or nearly so, up to 18 cm. long and 4 cm. broad; achenes villous: **38**
- Flower-heads not closely subtended by leafy bracts: **39**
- 38** Capitula exceeding 1 cm. diam., widely campanulate, few; involucre bracts sharply apiculate, arachnoid-pubescent [33. purpurea var. purpurea](#)
- Capitula smaller, rounded at the base; leafy bracts rather small; involucre bracts tomentose . [33a. purpurea var. schnellii](#)
- 39** Capitula sessile on elongated spike-like inflorescence branches; involucre tomentose but occasionally glabrescent, about 1 cm. long; leaves oblong or elliptic, apiculate, 5-15 cm. long, 2.5-6 cm. broad, scabrid above, woolly-tomentose beneath, nervose; outer pappus of very short setae; achenes pubescent [34. camporum](#)
- Capitula corymbose or paniculate: **40**
- 40** Outermost involucre bracts linear-filiform; pappus uniform; achenes pubescent: **41**
- Outermost involucre bracts not linear-filiform, rather short: **43**
- 41** Outer bracts nearly as long as the intermediate ones, slender; leaves narrowly lanceolate, up to 2 cm. broad, distantly serrate [35. pauciflora](#)
- Outer bracts rather short; leaves elliptic, up to 18 cm. long and 6 cm. broad, serrate or dentate; involucre up to 2 cm. long: **42**
- 42** Stems glabrescent or setulose; peduncles glabrescent except at the extreme apex; leaves elliptic-lanceolate, up to 10 cm. long and 2.5 cm. broad, abruptly narrowed into a very short petiole, sharply but not deeply serrate, harshly crisped-setulose on the veins beneath, rigid [36a. glabra var. occidentalis](#)
- Stems pubescent; peduncles dark-brownish pubescent; leaves elliptic, up to 18 cm. long and 6 cm. broad, long-cuneate to a short petiole, remotely and shallowly dentate, setulose on the midrib and veins beneath, minutely glandular and sparsely pubescent on the lamina, flaccid; capitula usually few [36b. glabra var. hillii](#)
- 43** Leaves linear to linear-lanceolate, up to 5 mm. broad; achenes pubescent; pappus whitish or buff: **44**
- Leaves more than 5 mm. broad: **47**
- 44** Leaves linear-acicular with recurved margins; flower-heads campanulate, 1-1.5 cm. long; involucre bracts acute, villous: **45**
- Leaves linear-lanceolate with numerous gland-pits beneath, 1-3 cm. long, more or less flat; achenes uniformly pubescent; pappus 2-seriate, inner setae shortly plumose; flower-heads up to 1 cm. long: **46**
- 45** Pappus 2-seriate, the outer of short scales, the inner shortly plumose; leaves 1-3 cm. long, scabrid-setulose; achenes 5-6-ribbed, pubescent on the ribs, glandular between; annual herb [37. perrottetii](#)
- Pappus more or less uniform, the outer setae shorter but not broader than the inner; leaves 1-1.5 cm. long, pubescent; perennial herb [38. bauchiensis](#)
- 46** Outer pappus of very short scales; capitula rather few on slender peduncles 1-2 cm. long; involucre bracts lanceolate, acute, keeled with a distinct median nerve; leaves glabrescent beneath; annual herb [39a. poskeana var. elegantissima](#)
- Outer pappus of short setae; capitula numerous on peduncles up to 4 cm. long; involucre bracts oblanceolate, obtuse or triangular-tipped, 3-nerved; leaves crisped-pubescent beneath; perennial herb [40. plumbaginifolia](#)
- 47** Pappus purple-tipped; leaves broadly oblanceolate, acute, 6-7 cm. long, 2-2.5 cm. broad, serrate at least in the upper half, glabrous, coarsely reticulate-veined; involucre bracts broadly linear-lanceolate, villous; capitula densely corymbose; achenes silky; outer pappus inconspicuous [41. djalensis](#)
- Pappus white, yellow, buff or brown: **48**
- 48** Capitula elongate-ovoid or turbinate, distinctly longer than broad, with involucre bracts in many series; shrubby plants with numerous upper stem-leaves and a leafy inflorescence; leaves narrowly elliptic to lanceolate, 4-8 cm. long; pappus 2-seriate; achenes pubescent: **49**
- Capitula not much longer than broad: **50**
- 49** Involucre bracts rounded and villous at apex, the outer ovate to orbicular, glumaceous below; leaves lanceolate with inrolled margins, densely gland-pitted and pubescent beneath; inner pappus-setae plumose, pale buff . [42. ocephala](#)

- Involucral bracts acute, tomentose especially near the margins, glabrescent, purplish-brown; leaves elliptic to oblanceolate, 4-6 cm. long, 1-2 cm. broad, rigidly leathery, closely reticulate-veined, shiny, glabrous, minutely gland-dotted beneath, flat; inner pappus-setae almost smooth, outer with a scale-like base, brown [43. saussureoides](#)
- 50** Outer pappus of short scales distinctly broader than the inner bristles; achenes 4(-5)-angled, often glandular between the ribs (to p. 274) : **51**
- Outer pappus of bristles shorter but not broader than the inner, or if broader at base produced into a simple bristle, or pappus uniform: **57**
- Achenes glabrous or glabrescent, glandular between the angles; perennial herbs: **54**
- 52** Achenes uniformly pilose; outer pappus-scales rather narrow, setaceous, stiff; capitula 2-3 cm. diam.; involucral bracts 4-6-seriate, acutely setose-acuminate, villous; leaves sessile, lanceolate, 5-6 cm. long and about 1 cm. broad, thinly scabrid-pubescent; perennial herb [44. philipsoniana](#)
- Achenes pubescent only on the angles, glandular between: **53**
- 53** Capitula 10-15 mm. broad, more or less clustered at the ends of spreading leafy branches; stem leafy at flowering time; upper leaves stem-clasping, oblanceolate, serrate; annual herb [45. ambigua](#)
- Capitula 5-8 mm. broad, densely clustered at the ends of long erect almost leafless branches; leaves at flowering time in a sub-basal rosette; seasonal 'biennial' herb [46. bambilorensis](#)
- 54** Capitula mostly shortly stalked: **55**
- Capitula mostly sessile, spread along the upper sides of unequally divaricate inflorescence-branches: **56**
- 55** Flower-heads 5-8 mm. broad, numerous in a compact terminal corymb; upper stem leafy; leaves shortly petiolate, elliptic-lanceolate, acute, or obtuse, 3-7 cm. long, 1-2 cm. broad, pubescent and minutely glandular beneath, scabrid above [47. blumeoides](#)
- Flower-heads 10-15 Tmm. broad, 4 to 12 in a terminal corymb, or sometimes in a single tight cluster; upper stem subscapose with a few sessile leaves; leaves rhomboid-elliptic, up to about 10 cm. long and 4 cm. broad, crisped-pubescent, minutely glandular and venose beneath, scabridulous above, margin crenate-denticulate [48. klingii](#)
- 56** Flower-heads 1.5-2 cm. broad; upper leaves sessile, 1/2-amplexicaul, densely tomentose beneath, glabrescent above [49. bamendae](#)
- Flower-heads 1-1.5 cm. broad; upper leaves rounded at base but not amplexicaul, densely pubescent beneath, scabrid above [50. rugosifolia](#)
- 57** Leaves woolly- or silky-tomentose beneath; achenes pubescent: **58**
- Leaves at most rather densely pubescent beneath; herbs or undershrubs: **63**
- 58** Leaves coarsely toothed, lanceolate to narrowly obovate, up to 15 cm. long and 5 cm. broad, white- or buff-woolly beneath; achenes ribbed; pappus-bristles flat, uniform, scarcely barbellate: **59**
- Leaves entire or minutely toothed; involucral bracts with dark tips; outer pappus mostly of shorter bristles; perennial herbs: **61**
- 59** Capitula numerous in a branched corymb (1-)1.5-2.5 cm. broad in flower: **60**
- Capitula very few or solitary, terminal on long simple branches, 3-6 cm. broad in flower [52c. guineensis var. procera](#)
- 60** Appendage to the involucral bracts blunt, smoothly obtuse or ragged [52a. guineensis var. guineensis](#)
- Appendage to the involucral bracts acute, coloured, papery [52b. guineensis var. cameroonica](#)
- 61** Leaves sessile and rounded at base, ovate-lanceolate, 3-6 cm. long, 1-1.5 cm. broad; capitula 7-8 mm. long on leafy branches [53. nestor](#)
- Leaves narrow at base: **62**
- 62** Inflorescence a broad panicle; capitula sessile along spreading branches, about 6-8 mm. long; involucral bracts pubescent outside; leaves broadly lanceolate; achenes 4-ribbed [54. cistifolia](#)
- Inflorescence a small corymb; capitula 5-8 mm. diam.; involucral bracts appressed-silky; leaves lanceolate, mucronate, 2-10 cm. long, 1-2 cm. broad, distinctly veined and uniformly densely silky beneath, thinly silky and glabrescent above; pappus more or less uniform [55. smithiana](#)
- 63** Leaves mostly basal, oblanceolate, up to 25 cm. long and 4 cm. broad; involucral bracts obtuse in heads 1-1.5 cm. broad [25. subaphylla](#)
- Leaves not mostly basal: **64**
- 64** Achenes glabrous, glabrescent or glandular only: **65**
- Achenes pubescent or tomentose; pappus 2-seriate, the outer bristles shorter but not broader than the inner: ... **66**
- 65** Leaves sessile, rounded and clasping at base, lanceolate, up to 8(-12) cm. long and 2(-2.5) cm. broad, very shallowly dentate, apiculate, minutely glandular-punctate beneath; involucral bracts thinly pubescent, glabrescent; outer pappus-setae about 1/3 the length of the inner, broadened into a scale-like base; achenes 1.5

mm. long, rounded on one side, smooth, hardly angled [56. migeodii](#)

Leaves petiolate, narrowed to base, obovate to oblanceolate, rigidly leathery, up to 10 cm. long and 3 cm. broad, remotely serrulate, closely reticulate, sparsely glandular-punctate beneath, rusty-pubescent when young, glabrescent; capitula very small with about 5 florets, less than 1 cm. long and 5 mm. broad; involucre bracts obtuse; pappus uniform; achenes 3 mm. long, strongly 8-10-ribbed, glandular; woody undershrub [57. glaberrima](#)

- 66** Involucre bracts long-tapered, acute; capitula about 5 mm. broad in flower; leaves broadly ovate, obtuse, crenate-dentate, abruptly narrowed to the petiole [58. cinerea](#)

Involucre bracts abruptly triangular-tipped or obtuse, apiculate: **67**

- 67** Capitula about 1 cm. broad in flower, pedunculate in broad corymbs; stem simple or sparingly branched, striate, thinly pubescent; leaves ovate-rhomboid, up to 8 cm. long and 2 cm. broad, very acute, mucronate, remotely serrate-dentate, tapered at the base to a short petiole, thinly pubescent and gland-dotted beneath, scabridulous above [59. undulata](#)

Capitula 5-8 mm. broad in flower, subsessile or pedunculate in a divaricately branched inflorescence; stem woody, profusely and shortly branched, terete, minutely but densely white-tomentose; leaves obovate to oblanceolate, 1-2 cm. long, 5-10 mm. broad, rounded at apex, tapered at base, subentire, minutely puberulous, glabrescent, gland-dotted beneath [60. cinerascens](#)

- 1. *Vernonia kotschyana* Sch. Bip. in Walp. Rep. 2: 947 (1843); F.T.A. 3: 380; Chev. Bot. 355; Berhaut Fl. Sén. 176.**

APD: Synonym of Vernonia adoensis var. kotschyana (Sch. Bip. ex Walp.) G. V. Pope

A shrub with erect, pithy, striate, sparsely pubescent stems 2-5 ft. high; florets pale mauve in heads 1-1 1/2 in. across.

Sen.: fide Chev. l.c. **Mali:** fide Chev. l.c. **N. Nig.:** Kano (Dec.) Hagerup 641! Sokoto Lely 151! Katagum (Sept.) Dalz. 173! Mongu, 4,300 ft. (July) Lely 385! **[Br.] Cam.:** Gurum, Vogel Peak, Adamawa (Nov) Hepper 1318!

Extends through Cameroun and Ubangi-Shari to **Ethiopia**.

***Vernonia calvoana* (Hook. f.) Hook. f.**

- 2. *Vernonia calvoana* var. *calvoana* in Bot. Mag. 94: t. 5698 (1868); F.T.A. 3: 293; Adams in J.W. Afr. Sci. Assoc. 3: 117. *APD acc***

***Stengelia calvoana* Hook. f. (1864).**

A shrub up to about 15 ft. high with ribbed velvety pithy branches and rather large sessile leaves; florets purple to pale mauve in heads nearly 2 in. across which have white appendages to the middle and inner involucre bracts; **in clearings in montane forest.**

[Br.] Cam.: Cam. Mt., 2,500-7,000 ft. (Nov.-Feb.) Mann 1238! Dalz. 8325! Dunlap 112! Maitland 124! 242! Migeod 38! 49! Steele 5! Moyuko, 2,000 ft. (Apr.) Hutch. & Metcalfe 84!

- 2a. *Vernonia calvoana* var. *microcephala* C. D. Adams l.c. 118 (1957). *APD acc***

A shrub 2-6 ft. high; flower-heads up to 1 in. across; florets mauve; **in sheltered places in montane grassland.**

[Br.] Cam.: Sagbo, 5,400 ft., Bamenda to Ndop (Dec.) Boughey GO 104441 Nkambe to Misage, 6,000-7,000 ft. (Sept.) Lightbody FHI 26259! Mambila Plateau, 4,600-6,000 ft., Adamawa (Jan.) Hepper 1671! Latilo & Daramola FHI 28998!

[A variety intermediate between *V. calvoana* var. *calvoana* and var. *microcephala*, occurring in Kenya and Uganda, has been described (Adams l.c. 118). Low regrowth from the stem-bases, and presumably also young plants of *V. calvoana* in W. Africa, may have small leaves lacking basal auricles, which therefore, appear to be petiolate rather than sessile-C. D. A.].

- 3. *Vernonia insignis* (Hook. f.) Oliv. & Hiern in F.T.A. 3: 292 (1877).**

APD: Synonym of Vernonia calvoana (Hook. f.) Hook. f. var. calvoana

***Stengelia insignis* Hook. f. (1864).**

A shrub or small tree 15-20 ft. high with flower-heads about 2 in. across; florets pale purple to mauve; **in clearings in montane forest.**

[Br.] Cam.: Cam. Mt., 3,000-8,250 ft. (Sept., Dec.-Feb., Apr.) Mann 1925! Maitland 1027! Keay FHI 28647! Adams GC 11725! Boughey A502b! GC 17461! Irvine 1465! Morton GC 7102!

4. **Vernonia stenostegia** (Stapf) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 166 (1931). *APD acc*

Candidea stenostegia Stapf in Bot. Mag. 149: t. 8981 (1923).

A shrub 2-6 ft. high, sometimes leafless below; flower-heads 1-1 1/2 in. across with linear, velvety involucre bracts; florets pale bluish-purple.

N. Nig.: Nassarawa Robins! Vom (Apr., Dec.) Dent Young 136! Morion K334! Jos, 4,000 ft. (Feb., Mar., Dec.) Hill 10! Batten-Poole 211! Coombe 15! Lely P160 Pankshin (Dec.) W. D. MacGregor 418!

5. **Vernonia tenoreana** Oliv. in Trans. Linn. Soc. 29: 92 (1873); F.T.A. 3: 290. *APD acc*

Vernonia lasiolepis O. Hoffm. (1898)-Chev. Bot. 355.

An erect shrub up to 6 ft. high with flower-heads 1-1 1/2 in. across; florets cream-coloured.

Sen.: fide F.T.A. l.c. Port. G.: R. Buba (Dec., Jan.) Esp. Santo 2335! d'Orey 214! Chitole (Dec., Feb.) Esp. Santo 2882! 3170! Bambadinca, Bafata (Dec.) Esp. Santo 3833! Guin.: Timbo (Oct.) Jac.-Fél. 1911! Dah.: Ouidah Isert! Porto-Novo (Jan.) Chev. 22786! N. Nig.: Tama, 2,800 ft., Bauchi Prov. (Aug.) Summerhayes 34! Makurdi (Mar.) Morton! S. Nig.: Lagos (Mar.) Millen 129! Abeokuta Millen 94! Ibadan (Jan., July-Sept.) Chev. 14062! Newberry 65! Jones FHI 14831! Tamajong FHI 19512! Abo Barter 368! Idogun Rowland!

Also in Cameroun.

6. **Vernonia mokaensis** Mildbr. & Mattf. in Engl. Bot. Jahrb. 59, Beibl. 133: 5 (1924); Guinea in Anal. Inst. Bot. Cav. 10, 1: 319 (fig.), 320.

APD: Synonym of Vernonia calvoana var. mokaensis (Mildbr. & Mattf.) C. Jeffrey

A shrub or small tree up to 12 ft. high with serrate leaves narrowed to both ends; flower-heads up to about 1 in. across with purple florets.

F. Po: Moka, scrub and grassland, 4,000-4,500 ft. (Sept.-Nov., Dec. without fl.) Mildbr. 7077. Tessman 2807. Boughey 26! Wrigley & Melville 678! Finca Puente, Musola (Jan.) Guinea 1638!

Vernonia leucocalyx O. Hoffm.

7. **Vernonia leucocalyx** var. **leucocalyx** in Engl. Bot. Jahrb. 30: 422 (1901).

APD: Synonym of Vernonia calvoana var. microcephala C. D. Adams

A shrub 6-9 ft. high with elliptic, acute, long-cuneate leaves; flower-heads about 1 in. across with broad white involucre bract appendages and blue florets; in upland, grassland.

S. Nig.: Mt. Koloishe, 5,000 ft., Obudu (Dec.) Savory & Keay FHI 250691 [Br.] Cam.: Batibo to Bali, Bamenda (Jan., May) Keay FHI 28331! Ujor FHI 30380!

Also in Tanganyika.

7a. **Vernonia leucocalyx** var. **acuta** C. D. Adams in J.W. Afr. Sci. Assoc. 3: 120 (1957).

APD: Synonym of Vernonia calvoana var. acuta (C. D. Adams) C. Jeffrey

An erect shrub 9-12 ft. high; flower-heads 1/2-1 in. broad with acutely appendaged white involucre bracts and purple florets; in the open margins of montane forest.

[Br.] Cam.: Bamenda, 6,000-8,200 ft. (Dec.-Jan., Apr.-June): Lakom Maitland 1485! Bambui Boughey GC 10776! Santa Boughey GC 11036! Bafut-Ngemba F.R. Keay & Lightbody FHI 28366!

8. **Vernonia iodocalyx** O. Hoffm. in Engl. Pflanzenw. Ost-Afr. C: 403 (1895).

APD: Synonym of Vernonia lasiopus var. iodocalyx (O. Hoffm.) C. Jeffrey

An erect shrub with coarsely dentate petiolate leaves; flower-heads under 1 in. broad, distinctly stalked but clustered at the ends of velvety branches, with white-appendaged acute involucre bracts; florets exserted, purple fading to mauve.

Guin.: Mali, 5,000 ft., Fouta Djallon (Sept., Oct.) Schnell 7169! Jac.-Fél. 1997!

Also in **E. Africa**.

9. **Vernonia frondosa** Oliv. & Hiern in F.T.A. 8: 294 (1877). *APD acc*

APD: *Synonym of Vernonia titanophylla Brenan*

Vernonia aff. frondosa of Schnell in Mém. I.F.A.N. 22: 512 (1952).

A little-branched shrub or small tree 15-20 ft. high and 1 ft. girth; leaves sessile, up to 3 ft. long and 1 1/2 ft. broad, crowded near the top of the stem; flower-heads sessile or subsessile, about 1 in. across, in clusters along the branches of a panicle 2-3 ft. broad; florets with purple lobes and white tubes; **forest clearings**.

Iv. C.: Nimba Mts., 3,000 ft. (Dec., Apr.) Adam 16464! Schnell 5189. **S. Nig.:** Ondo Sankey 9! Kennedy 1979! 2078! Epe Barter 3294! Calabar to Oban (Jan.) Onochie & Okafor FHI 36000x! Omo F. R., Ijebu (Dec.) Onochie FHI 36593! **[Br.]**

Cam.: R. Kindong F.R., Kumba (Jan.) Binuyo & Daramola FHI 35072!

Also in **Cameroun**.

10. **Vernonia biafrae** Oliv. & Hiern in F.T.A. 3: 270 (1877); F.W.T.A., ed. 1, 2: 168, partly (excl. Migeod 381; Mildbr. 10800). *APD acc*

Vernonia senecioides A. Chev. in Mém. Soc. Bot. Fr. 28: 259 (1917); Chev. Bot. 357.

A climbing or scrambling shrub with ribbed puberulous branches, and copious panicles of purple campanulate flower-heads 1/4 in. wide.

Guin.: Tonfili, Faranna (Jan.) Chev. 20436! **S. L.:** Njala (Feb.) Deighton 2441! Makali (Feb.) Deighton 4057! **Ghana:** Aburi Hills (Mar.) Johnson 622! Mt. Toga, 2,000 ft., Togo Plateau Morton A3832! **S. Nig.:** Sonkwala, 2,500 ft., Ogoja, (Dec.) Savory & Keay FHI 25021! **[Br.] Cam.:** Cam. Mt., 2,000-4,500 ft. (Nov.-Apr.) Dalz. 8187! Dundas FHI 20390! Maitland 294! Mann 1296! Migeod 63! Lehmbach 135! Schlechter 12849! Morton K465! **F. Po:** Musola to Moka (Jan.) Guinea 1284! Moka, 4,000 ft. (Dec.) Boughey 5!

Also in **Congo**.

11. **Vernonia tufnelliae** S. Moore in J. Bot. 46: 292 (1908).

APD: *Synonym of Vernonia biafrae Oliv. & Hiern*

Vernonia biafrae of F.W.T.A., ed. 1, 2: 168, partly (Migeod 381; Mildbr. 10800), not of Oliv. & Hiern.

A scandent shrub like the last with slightly larger more brightly coloured flower-heads and coarsely toothed or sinuate-margined leaves; at **the margins of montane forest**.

[Br.] Cam.: Cam. Mt., 3,000 ft. (Dec.) Mildbr. 10800! Bangwa, Mamfe (Jan.) Lobe Babute Cam 21/37! Bamenda, 6,000-7,500 ft. (Sept., Dec., Jan.) Adams GC 11325! Keay & Lightbody FHI 28355! Migeod 381! Kumbo (Feb.) Hepper 1968! Binka, Nkambe Div. Savory UCI 365!

Also in **Rio Muni, Congo, Uganda** and **Tanganyika**.

12. **Vernonia andohii** C.D. Adams in J. W. Afr. Sci. Assoc. 3: 115 (1957). *APD acc*

Microglossa volubilis var. **laxiflora** A. Chev. Bot. 363, name only.

A scrambling shrub up to 30 ft. high **in open forest**; florets white in numerous shortly stalked heads less than 1/2 in. long.

Iv. C.: Bouroukrou (Dec.-Jan.) Chev. 16804! **Ghana:** Asuansi (Jan.) Fishlock 20! Abetifi, 2,000 ft., Kwahu (Jan.) Irvine 1672! Pepease, 2,000 ft. (Jan.) Irvine 1827! Mt. Ejuanema, Kwahu (Dec.) Adams 5138! Akropong, Akwapim (Jan.) Irvine 2619! Obuasi, Ashanti (Feb.) Andoh FH 4137!

13. *Vernonia auriculifera* *Hiern* in Cat. Welw. 1: 539 (1898).

APD: Synonym of Gymnanthemum auriculiferum (Hiern) Isawumi

Vernonia uniflora *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 169 (1931).

A shrub or small tree 6-15 ft. high with broad corymbs of minute mauve flowers; in open grassland or at the margin of forest in mountainous country.

[Br.] Cam.: Bamenda, 6,000-7,500 ft. (Dec., Jan., Mar., Apr.) Boughey GC 11421! Migeod 356! Maitland 1629! Morton K47! Johnston FHI 10438! Bafut-Ngemba F.R. (Jan.) Tiku FHI 22234! Bamenda to Ndop, 5,000 ft. (Dec.) Adams GC 11093! Ndu (Feb.) Hepper 1945!

Also in Congo, Uganda, Kenya and Angola.

14. *Vernonia myriantha* *Hook. f.* in J. linn. Soc. 7: 198 (1864); F.T.A. 3: 297; F.W.T.A., ed. 1, 2: 169 (excl. Chev. 20330, 20689 and Migeod 484). *APD acc*

A shrub or small soft-wooded tree 10-20 ft. high with numerous small heads of white florets in dense terminal corymbose panicles.

[Br.] Cam.: Cam. Mt., 5,000-6,000 ft. (Dec.-Mar.) Mann 1913! 1936! Dalz. 8195! Dunlap 80! Keay FHI 28646! Dundas FHI 13907! Maitland 256! 516! 954! 1227! Adams GC 11763! F. Po: 4,000-5,000 ft. (Dec.) Mann 622!

15. *Vernonia ampla* *O. Hoffm.* in Engl. Bot. Jahrb. 30: 423 (1901); Adams in J. W. Afr. Sci. Assoc. 2: 64 (1956).

APD: Synonym of Vernonia myriantha Hook. f.

Vernonia conferta of Chev. Bot. 353, partly (Chev. 20330; 20689), not of Benth.

Vernonia myriantha of F.W.T.A., ed. 1, 2: 169, partly (Chev. 20330, 20689); of Aubrév. Fl. For. C. Iv., ed. 2, 3: 313, not of Hook. f.

A shrub or small tree 15-20 ft. high with mauve florets in numerous flower-heads each about 1/2 in. long; in clearings of upland forest.

Guin.: Dalaba Plateau, 3,600 ft. (Dec.) Chev. 20330! Soundia, Kissi (Feb.) Chev. 20689! Timbi-Madina (fr. Mar.) Adam 11637 bis! S. L.: Duunia, Talla (Feb.) Sc. Elliot 4833! Moria, Scarcies (Feb.) Sc. Elliot 4839! Loma Mts. (Jan.) Jaeger 4122!

Also in Ethiopia and south to Transvaal and Zululand.

16. *Vernonia thomsoniana* *Oliv. & Hiern* in Trans. Linn. Soc. 29: 91 (1873); F.T.A. 3: 295. *APD acc*

Vernonia amygdalina of Chev. Bot. 352, partly (Chev. 20398).

Vernonia pobeguini *Aubrév.* Fl. For. Soud.-Guin. 487, t. 109, fig. 3 (1950), French descr. only.

A shrub up to about 10 ft. high with numerous flower-heads 1/4 in. long densely packed in rounded terminal clusters; florets mauve; in upland savanna.

Guin.: Timbo (Jan.) Pobéguin 52! 1431! Dalaba to Pitou (Dec.) Pobéguin Tonfili, Faranna (Feb.) Chev. 20398! [Br.] Cam.: R. Metschum, Bafut, 3,000 ft., Bamenda (Jan.) Keay FHI 28521!

Extends through Cameroun and Congo to Sudan, east tropical Africa and Angola.

17. *Vernonia doniana* *DC.* Prod. 5: 23 (1836); F.T.A. 3: 295. *APD acc*

A shrub 6 ft. high, rusty-pubescent on the branchlets and inflorescence, with small campanulate-turbinate flower-heads 1/4 in. across in short racemes or pedunculate clusters; florets? purple.

S. L.: Don! Leicester Peak Miss Turner! Freetown (Aug.) Burbridge 522! Lib.: Bilimu (Jan.) Harley 1350!

18. *Vernonia conferta* *Benth.* in Fl. Nigrit. 427 (1849); F.T.A. 3: 294; Chev. Bot. 353, partly (excl. Chev. 20330; 20689); Aubrév. Fl. For. C. Iv., ed. 2, 3: 314, t. 369.

APD: Synonym of Vernonia doniana DC.

A tree with a slender stem up to 25 or 30 ft. high, pale rusty-tomentose on branchlets and inflorescence, with large distinctly petiolate sinuate-margined leaves crowded near the ends of the branches; florets white or pale mauve in numerous small flower-heads forming a very large terminal erect panicle; **in secondary forest**.

Guin.: Korodou (Feb.) Chev. 20725! **S. L.:** Don! Kukuna, Scarcies (Jan.) Sc. Elliot 4501! Njala (Feb., Mar.) Deighton 1070! Aylmer 571! **Lib.:** Cape Palmas (May) Huntting 7! Palilah, Gbanga (Feb.) Baldwin 11037! **Iv. C.:** Abidjan Aubrév. 866! Morénou (Dec.) Chev. 22483! **Ghana:** Aburi (Dec.) Johnson 882! Bunso (Sept.) Scholes 336! Ankobra Junction (Feb.) Kitson 1027! Sunyani, Ashanti (Jan.) Chipp 75! Kumasi (Feb.) Irvine 99! Togo Plateau F.R. (Feb.) Beveridge FH 2926! **Togo Rep.:** Baumann 432! **S. Nig.:** Epe (Feb.) Milleu 168! Idumuje (Jan.) Thomas 2152! Oban Talbot 398! 1498! **[Br.] Cam.:** Johann-Albrechtshöhe Zenker & Staudt 559! Buea, 2,500-3,000 ft. (Dec., Jan.) Maitland 190! 368! Pete-Mutoko, Kumba (Feb.) Binuyo & Daramola FHI 35559! **F. Po:** Mann 255! Musola to Moka (Jan.) Guinea 1023.

Extends through central Africa to **Uganda** and **Angola**.

19. **Vernonia colorata (Willd.) Drake** in Bull. Soc. Bot. Fr. 46: 230 (1899); Hist. Pl. Madag. Atlas t. 466; Aubrév. Fl. For. C. Iv., ed. 2, 3: 313, and Fl. For. Soud.-Guin. 488, t. 109, 1; Berhaut Fl. Sén. 141.
APD acc

Eupatorium coloratum Willd. (1803).

Vernonia senegalensis Less. (1829)-F.T.A. 3: 283; Chev. Bot. 357, partly (excl. Chev. 15105).

A shrub or small tree up to about 15 ft. high, with soft pale rusty-tomentose branchlets and white sweet-scented florets in heads about 1/3 in. broad; inflorescence a broadly rounded corymbose panicle; pappus cream, later becoming tawny; **common in derived savanna**.

Sen.: Michelin! Richard 168! "N'doute T. Vigne" (Dec.) Chev. 2034! **Gam.:** Ingram! Brown-Lester 73! Georgetown (Jan.) Dalz. 8034! **Mali:** Tabacco (Jan.) Chev. 133. Diafarabe (Jan.) Davey 402! **Port. G.:** Pessubé, Bissau (Dec.) Esp. Santo 1084! **Guin.:** Timbo (Jan.) Pobéguin 97! **S. L.:** Kambia (Dec.) Sc. Elliot 4201! Musaia (Dec.) Deighton 4548! Salama (Dec.) Deighton 5284! Bantoro (Nov.) Koroma 5! Wara Wara (Jan.) King 191b! **Lib.:** (Jan.) Dinklage 3359! **Iv. C.:** Agboville Aubrév. 637! **Ghana:** Keta Thonning 131! Cape Coast (Jan.) Vigne FH 947! Achimota (Feb., Apr.) Irvine 147! Milne-Redhead 5089! Dutukpene, near Kete Krachi (Dec.) Adams 4542! Han to Wa (Mar.) Kitson A15! **Togo Rep.:** Lomé Warnecke 29! **Dah.:** Kétou, Zagnanado (Feb.) Chev. 23022. **N. Nig.:** Ilorin (Jan.) Meikle 1007! Nupe Barter 810! Jebba (Dec.) Hagerup 755! Zungeru to Kagura (Oct.) Hepper 982! Jos Plateau Batten-Poole 208! **S. Nig.:** Olokemeji (Dec.) Jones FHI 4873! **[Br.] Cam.:** Gwoza, 3,500 ft., Dikwa Div. (Jan.) McClintock 148! Mapeo, Alantika Mts., 3,200 ft. (Dec.) Hepper 1604!

Throughout central and south tropical Africa.

[This is a variable species; the leaves of many plants, particularly from the drier and more northerly localities, have more acute tips and the undersurfaces much less woolly with the secondary and tertiary veins clearly visible; in these plants the middle and outer involucral bracts may be mucronate or acuminate, rather than rounded, with the tips slightly reflexed; there is also variation in the number and distribution of glands on the involucral bracts.-C. D. A.].

20. **Vernonia amygdalina Del.** Cent. Pl. Afr. 41 (1826); F.T.A. 3: 284; Chev. Bot. 352, partly (excl. Chev. 20398); Aubrév. Fl. For. C. Iv., ed. 2, 3: 313, and Fl. For. Soud-Guin. 488, t. 109, fig. 2.

APD: Synonym of Gymnanthemum amygdalinum (Delile) Sch. Bip. ex Walp.

Vernonia senegalensis of Chev. Bot. 357, partly (Chev. 15105), not of Less.

A shrub or small tree 6-15 ft. high with striate, pubescent branchlets becoming glabrous; florets sweet-scented, white, in heads 1/4 in. broad; pappus buff or reddish; common and **often planted**.

Mali: fide Aubrév. (1950) l.c. **Guin.:** Kouria (Jan.) Caille in Hb. Chev. 15105! Timbi-Madina (Mar.) Adam 11643 bis! **S. L.:** Sc. Elliot 5753! Njala (Jan.) Deighton 2448! Freetown (Mar.) Kirk 40! Yiraia (Jan.) Glanville 483! **Lib.:** Owensgrove, Grand Bassa (Mar.) Baldwin 11101! **Iv. C.:** fide Chev. l.c. **Ghana:** Dunkwa (Aug.) Sampeney 712! Achimota Irvine 46a! Ayafie, near Kete Krachi (Dec.) Adams 4708! Amedzofe (Feb.) Dokosi in Hb. Adams 4747! Morton A2687! Bole to Bamboi (Dec.) Morton GC 25116! **Dah.:** fide Chev. l.c. **N. Nig.:** Nupe Barter 1172! Wawa, Borgu Barter 722! Sokoto Lely 138! Jos Plateau (Dec., Jan.) Lely P3! W. D. MacGregor 397! Coombe 16! Abuja (Jan.) Savory 140! **S. Nig.:** Ibadan (Jan.) Newberry 29! Abeokuta (Feb.) Irving 68! Olokemeji F.R. (Apr.) Ross R149! Enugu Smith 39! Oji R. (Feb.) Todd 230! Oban Talbot! **[Br.] Cam.:** Victoria (June) Maitland 53! Cam. Mt., 3,000 ft. (Jan.) Dunlap 125! Maitland 316! Mamfe (Jan.) Maitland 1165! Ntim, 4,400 ft., Nkambe Div. (Feb.) Hepper 1858! Gashaka, Adamawa (Dec.) Latilo & Daramola FHI 28786! **F. Po:** T. Vogel 257! (Dec.) Mann 28! S. Isabel (Dec., Feb.) Dalz. 8175! Boughey GC 10974! Musola to Moka (Jan.) Guinea 1302.

Throughout tropical Africa from **Ethiopia** and **Sudan** to Rhodesia, **Angola**, S. Tomé and Annobon.

21. **Vernonia subuligera** *O. Hoffm.* in Engl. Pflanzenw. Ost-Afr. C: 403 (1895).

APD: Synonym of Vernonia myriantha Hook. f.

Vernonia myriantha of F.W.T.A., ed. 1, 2: 169, partly (Migeod 484), not of Hook. f.

A shrub about 12 ft. high with flower-heads in dense rounded clusters; florets bluish-mauve.

[Br.] **Cam.:** Bamenda, 5,500-7,000 ft. (Jan., Feb.) Keay & Lightbody FHI 28353! Migeod 484! Bafut-Ngemba F.R., 6,500 ft. (Jan.) Tiku FHI 22235!

Also in **Uganda** and **Tanganyika**.

22. **Vernonia theophrastifolia** *Schweinf. ex Oliv. & Hiern* in F.T.A. 3: 294 (1877). *APD acc*

A shrub or small tree up to 15 ft. high with sessile auriculate oblanceolate leaves and small sessile or subsessile flower-heads in a divaricately branched inflorescence; florets reddish-purple.

[Br.] **Cam.:** Lekitaba, Mambila Plateau, Adamawa (Jan.) Latilo & Daramola FHI 34376!

23. **Vernonia richardiana** (*O. Ktze.*) *P.-Sermolli* in Webbia 7: 340 (1950).

APD: Synonym of Vernonia theophrastifolia Schweinf. ex Oliv. & Hiern

Cacalia richardiana *O. Ktze.* (1891).

Vernonia seretii *De Wild.* in Ann. Mus. Congo, ser. 5, 2: 207 (1907); Adams in J.W. Afr. Sci. Assoc. 2: 66 (1956).

Vernonia myriocephala *A. Rich.* (1848)-F.T.A. 3: 296, not of DC. (1836).

A shrub 6-10 ft. high, unbranched below, with sessile undulate-margined leaves; flower-heads subsessile in divaricately branched panicles; florets bluish-purple to mauve.

Ghana: Amedzofe Hill, 2,300 ft. (Feb., Apr.) Morton GC 8410! A1999! A2690! **N. Nig.:** Jos Plateau Batten-Poole 212! Kurra Falls, Jos (Dec.) Savory 119! Naraguta, 4,000 ft. (Dec.) Coombe 41! Ropp (Dec.) W. D. MacGregor FHI 10503!

[Br.] **Cam.:** Mayo Selbe, Gashaka Dist., Adamawa (Jan.) Hepper 1634!

Also in **Ethiopia**, **Sudan** and across central Africa to Congo.

24. **Vernonia chthonocephala** *O. Hoffm.* in Bol. Soc. Brot. 13: 17 (1896). *APD acc*

A dwarf perennial herb with flower-heads about 1 in. across, having purplish involucre bracts, usually appearing near the ground after grass burning and separately from the leaves; leaves oblanceolate, up to about 8 in. long; florets purple.

Togo Rep.: Bismarckburg Büttner 379. **N. Nig.:** Vom, 3,000-4,500 ft. (Jan.) Dent Young 133! Jos (Dec.) Monod! [Br.]

Cam.: Kakara, 4,900 ft., Mambila Plateau (Jan.) Hepper 1775!

Also in **Sudan**, **Uganda**, **Kenya**, **Congo**, **Nyasaland** and **Angola**.

25. **Vernonia subaphylla** *Bak.* in Kew Bull. 1895: 290. *APD acc*

APD: Synonym of Vernonia subaphylla Baker

A perennial herb with few round-based flower-heads, about 1/2 in. across, terminal on the branches of an almost leafless stem about 2 ft. high, arising from a densely woolly stock; florets reddish-purple; **in upland grassland, flowering usually after burning.**

[Br.] **Cam.:** Nchan, Bamenda, 5,000 ft. (Apr.) Maitland 1471! Bambui, 3,500-4,000 ft. (Apr.) Maitland 1715! Bamenda (leaf & fl. Mar.) Morton, K123! Ndop to Kumbo (Dec.) Boughey GC 11151! Ngong, Wum Div. (Feb.) Hepper 2837!

Also in **Congo**.

26. **Vernonia chapmanii** *C.D. Adams* in J.W. Afr. Sci. Assoc. ined. (1963). *APD acc*

A perennial herb with leafy stems about 1 ft. high arising from a woody stock; florets purple in terminal solitary heads partly hidden by the uppermost leaves.

[Br.] Cam.: between Chabbel Zanche and Kan Iyaka, 5,500 ft., Mambila Plateau (July) Chapman 42!

27. *Vernonia acrocephala* Klatt in Ann. Nat. Hofmus. Wien 7: 100 (1892). *APD acc*

A perennial herb 2-8 in. high with single or rarely double-headed scapes arising from a basal rosette of leaves; involucre of rather few broad acuminate purplish bracts about 1/3 in. long; florets pale purple; in montane grassland.

[Br.] Cam.: Bamenda, 5,000 ft. (Mar., Apr., June) Maitland 1417! 1549! Morton K118! Onochie FHI 34876! Bafut-Ngemba F.R., 7,200 ft. (Feb.) Hepper 2181!

Also in Cameroun and Angola.

28. *Vernonia gerberiformis* Oliv. & Hiern in F.T.A. 3: 285 (1877).

APD: Synonym of Linzia gerberiformis (Oliv. & Hiern) H. Rob.

An acaulescent herb with a basal rosette of oblanceolate leaves and a solitary-headed scape arising from a densely woolly perennial stock; scape 1-5 in. long in flower, longer in fruit; florets purplish-blue.

N. Nig.: Jos Plateau: Bokkos, 4,000 ft. (Dec.) Coombe 73! N. of Ropp (Apr.) Morton K377!

Extends through Sudan and Congo to Uganda, Kenya and Tanganyika and south to Angola.

29. *Vernonia macrocyanus* O. Hoffm. in Bol. Soc. Brot. 13: 20 (1897).

APD: Synonym of Linzia gerberiformis subsp. macrocyanus (O. Hoffm.) Isawumi

Vernonia primulina of Chev. Bot. 356, and of F.W.T.A., ed. 1, 2: 166, not of O. Hoffm.

A perennial herb with smooth ribbed simple or sparingly branched stems 1-2 ft. high in clumps from a fleshy rhizome and large solitary flower-heads 1 1/2-2 in. across with rich blue or purple florets; in burnt savanna.

Mali: Bougouni (Apr.) Chev. 681. N. Nig.: Sokoto (Sept.) Ryan 2! Naraguta (Nov.) Lely 695! Ropp, 4,000 ft. (Dec.) Coombe 47! Zaria (Feb.-Mar.) Bunny & Ryan 31! Dalz. 363! Onyeagocha FHI 7642! [Br.] Cam.: Belel, N. Adamawa (Jan.) Hepper 1629!

Also in Uganda, Tanganyika and Angola.

30. *Vernonia nimbaensis* C.D. Adams in J. W. Afr. Sci. Assoc. ined. (1963). *APD acc*

A perennial herb with erect usually branched, striate puberulous stems 1 ft. or more high; leaves sessile, serrate, prominently reticulate-veined; involucre solitary and terminal to the main stem on a stout peduncle, up to 1 1/2 in. across in fruit; in montane grassland.

Guin.: Nzo Mt., 4,000-4,500 ft. (fr. Mar.) Chev. 21009! 21023! ridges of Nimba Mts. (fr. Apr.) Schnell 925! S. L.: Loma Mts. (sterile Aug.) Jaeger 1086!

31. *Vernonia jaegeri* C.D. Adams in l.c. ined. (1963). *APD acc*

A perennial herb up to about 9 in. high with a leafy stem arising from a woody stock; heads solitary or few, about 3/4 in. across.

S. L.: savanna at about 5,600 ft., Loma Mts. (fr. Feb.) Jaeger 4242!

32. *Vernonia nigritiana* Oliv. & Hiern in F.T.A. 3: 288 (1877); Chev. Bot. 355; Berhaut Fl. Sén. 177 (as *V. nigritana*).

APD: Synonym of Linzia nigritiana (Oliv. & Hiern) Isawumi

Vernonia baoulensis A. Chev. Bot. 352, name only.

An erect, branched herb or undershrub with annual regrowth of pithy stems 1-2 ft. or more high arising from a perennial stock; leaves harshly scabrid; inner involucre bracts coloured bright red on the inner surface, spreading in heads up to 2 in. across; **in savanna**.

Sen.: Kaolak Kaichinger 78! Berhaut 610! **Gam.:** Saunders 69! Brown-Lester 60! (July) Brooks 15! Niambai Forest (Oct.) Frith 131! **Mali:** Ouacoro (Dec.) Chev. 2063! **Port. G.:** Canguelifé to Pitche, Gabu (Sept.) Esp. Santo 2778! Geba to Mato de Cao, Bafatá (Sept.) Esp. Santo 3353! Pitche to Rio Bidigor, Gabu (Oct.) Esp. Santo 3397! Pitche (Oct.) Esp. Santo 3430! **Guin.:** Fouta Djallon Maclaud 272! Doune to Timbo (Dec.) Caille in Hb. Chev. 14636! **S. L.:** Lomaburu, N. Tambakka (Feb.) Sc. Elliot 5034! Warantamba (Oct.) Small 354! Kноксба (Oct.) Small 445! Musaia (Dec.) Deighton 4470! Loma Mts. (Sept.) Jaeger 2016! **Iv. C.:** Bouaké to Langouassou (July) Chev. 22147! Askara (Aug.) Boughey GC 18640! Orumbo Boka Mt., near Toumodi (Dec.) Boughey GC 14447! **Ghana:** Afram Plains (Dec., Jan.) Irvine 623! 628! Ejura, Ashanti (Nov., Dec.) Vigne FH 3453! Deakin 99! Morton GC 9579! Paga (Sept.) Vigne FH 4582! Kete Krachi to Dutukpene (Dec.) Adams 4627! Amedzofe Hill (Feb.) Morton GC 8416! Ho (Dec.) Plumptre 24! **N. Nig.:** Nupe Barter 753! Niger Baikie 19! Kontagora (Nov.) Dalz. 208! Zungeru (Oct.) Elliott 13! Share F.R., Ilorin (Jan.) Ujor FHI 31613! **S. Nig.:** Abeokuta Irving! Ishoka (Oct.) Unwin 157! **[Br.] Cam.:** Gashaka, Adamawa (Dec.) Latilo & Daramola FHI 28930! Gurum, near Vogel Peak, Adamawa, (Nov.) Hepper 1299!

Vernonia purpurea Sch. Bip.

33. **Vernonia purpurea var. purpurea** in Walp. Rep. 2: 946 (1843); F.T.A. 3: 281; Chev. Bot. 357; Berhaut Fl. Sén. 177, 204. *APD acc*

A stiff erect scabrid perennial herb with a ribbed stem; stems simple or branched above, a few inches to 4 ft. high; florets purple or reddish-purple in heads up to 1 in. across.

Sen.: Niokolo (Oct.) Adam 15556! 15766! **Mali:** fide Chev. l.c. **Port. G.:** Gabu (Sept.) Esp. Santo 2769! **Guin.:** Kindia (Oct.) Jac.-Fél. 1858! Pita (Oct.) Jac.-Fél. 2026! Fon Massif (Aug.) Jaeger 4857! **Iv. C.:** fide Chev. l.c. **Ghana:** Pong Tamale (Nov.) Akpabla 373! Yeji Anderson 27! Damongo (July, Dec.) Andoh 5199! Morton GC 25003! 25040! Gambaga Scarp (Dec.) Adams & Atkabila GC 4247! Kete Krachi to Atebubu (Dec.) Adams 4608! **N. Nig.:** Nupe Barter 1288! Hepham to Ropp (July) Lely 375! 376! Ropp, 4,600 ft. Ldy 452! Vom, 4,000 ft. (Oct.) Dent Young 142! Hepper 1158! Jos (Aug., Dec.) Batten- Poole 380! Coombe 104! Keay FHI 12720! Naraguta F.R. (Aug.) Keay FHI 20062! **S. Nig.:** Obudu, Ogoja (Aug.) Stone 81! **[Br.] Cam.:** Bamenda Dist., 5,000-8,200 ft. (Feb., Apr.-June, Sept., Dec.) Maitland 1454! 1456! 1768! Ujor FHI 30210! Boughey GC 11042! Adams GC 11317! Morton K264! Hepper 2103!

Extends to **Sudan, Congo, Uganda** and **Mozambique**.

- 33a. **Vernonia purpurea var. schnellii C.D. Adams** in J. W. Afr. Sci. Assoc. 3: 121 (1957).

APD: Synonym of Vernonia purpurea Sch. Bip.

? **V. purpurea forma polycephala O. Hoffm.** of Chev. Bot. 357.

A perennial herb of **montane grassland**, like the last but with smaller more numerous heads and less conspicuous leafy bracts; florets mauve.

Guin.: Mali, Fouta Djallon (Sept., Oct.) Schnell 7200! Jac.-Fél. 1996! Kouria (Sept.) Chev. 14769! **S. L.:** Musaia (Sept.) Deighton 4874! **Iv. C.:** fide Chev. l.c.

34. **Vernonia camporum A. Chev.** in Mém. Soc. Bot. Fr. 2, 8e: 259 (1917); Chev. Bot. 353.

APD: Synonym of Vernoniastrum camporum (A. Chev.) Isawumi

An erect woody herb up to 7 ft. high with a terete softly pale-pubescent little-branched stem; undersurface of leaves and inflorescence tomentose; inflorescence much-branched with numerous sessile narrowly turbinate flower-heads crowded in long spikes; florets purple; **in savanna**.

Sen.: Niokolo-Koba (Oct.) Adam 15702! **Guin.:** Kouroussa (Jan.) Pobéguin 630! Farako to Tagania (Jan.) Chev. 20408! **S. L.:** Falaba (Mar.) Sc. Elliot 5222! Musaia (Feb., Dec.) Deighton 4224! 4455! **Ghana:** Dukwesien, near Agogo, Ashanti (Dec.) Chipp 620! Ejura, Ashanti (Nov.-Dec.) Vigne FH 3464! Morton GC 9474! A2563! Banda Hills (Dec.) Adams 3135! Morton GC 25136! Jeketi to Ajena (Feb.) Morton GC 8531! Sakogu, Gambaga Scarp (Dec.) Adams & Akpabla GC 4248! **N. Nig.:** Nupe Barter 809! Ilorin (Dec., Jan.) Ajayi FHI 19263! Ejiofor & Ujor FHI 30242! Bonu, Niger Prov. (June) E. W. Jones 220! **[Br.] Cam.:** Serti, Adamawa (Dec.) Latilo & Daramola FHI 28958!

35. **Vernonia pauciflora (Willd.) Less.** in Linnaea 4: 292 (1829); F.T.A. 3: 283; Chev. Bot. 356; Berhaut

Fl. Sén. 177.

APD: Synonym of Vernonia galamensis (Cass.) Less. var. galamensis

Conyza pauciflora Willd. (1803).

An erect annual herb up to about 4 ft. high with striate, pubescent stems; florets bluish-mauve or rarely white in heads 3/4-1 in. across.

Sen.: Roger 123! Niokolo-Koba (Oct.) Adam 15873! **Gam.:** Kombo Dawe 3! Kudang (Jan.) Dalz. 8036! Genieri (Feb.) Fox 46! **Mali:** Goundam (Oct.) Chev. 2080. Lébézénga (Nov.) Hagerup 436! Kita Massif (Sept.) Jaeger! Boré (Sept.) Demange 34/1957. **Port. G.:** Farim (Nov.) Esp. Santo 2411! Bafata (Nov.) Esp. Santo 2832! Bissura to Mansaba (Dec.) Esp. Santo 3743! **Guin.:** Mangata (Jan.) Chev. 20420! Kouroussa (Nov.) Pobéguin 599! Dantilia (Mar.) Sc. Elliot 5291! **Ghana:** Yendi (Apr., Dec.) Adams & Akpabla GC 4082! Morton GC 9082! Sakogu, Gambaga Scarp (Dec.) Adams & Akpabla GC 4238! White Volta R. (Dec.) Adams & Akpabla GC 4291! **Dah.:** Burton! **Niger:** Zinder (Nov.) Hagerup 612! Aïr De Miré & Gillet. **N. Nig.:** Borgu Barter 870! Nupe Baikie! Sokoto Lely 124! Katagum (Dec.) Elliott 166! Anchau, Zaria (Nov.) Keay FHI 21667! **S. Nig.:** Oyo (Jan.) Keay FHI 25643! Lagos (Aug.) Phillips 57! [**Br.**] **Cam.:** Bama, Dikwa Div. (Jan.) McClintock 10!

Extends through Ubangi-Shari to **Sudan**, **Ethiopia**, Eritrea and east tropical Africa.

36. *Vernonia glabra* (Steetz) Vatke in Oestr. Bot. Zeitschr. 27: 194 (1877); F.T.A. 3: 286; Adams in J. W. Afr. Sci. Assoc. 3: 118 (1957).

APD: Synonym of Linzia gerberiformis (Oliv. & Hiern) H. Rob.

Linzia glabra Steetz (1863).

A widespread species in tropical Africa

Two varieties occur in our area.

36a. *Vernonia glabra* var. *occidentalis* C.D. Adams l.c. 119 (1957).

APD: Synonym of Linzia ituriensis var. occidentalis (C. D. Adams) Isawumi

An erect herb 2-4 ft. high with blue florets; a weed of disturbed ground in hilly districts.

N. Nig.: Jos (Nov.-Jan., Apr.) Lely P87! Monod! Savory UCI 137! Naraguta LeLy 696! Vom Dent Young 135! Morton K341! [**Br.**] **Cam.:** Nchan, 5,000 ft., Bamenda (Apr.) Maitland 1476! Bafut-Ngemba F.R., 6,500 ft. (Jan., Mar.) Tiku FHI 22237! Onochie FHI 34855! Ndop, 3,600 ft. (Dec.) Boughey GC 11100! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1672!

36b. *Vernonia glabra* var. *hillii* (Hutch. & Dalz.) C.D. Adams l.c. (1957).

APD: Synonym of Linzia ituriensis (Muschl.) H. Rob.

Vernonia hillii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 168 (1931).

A coarse erect herb up to 5 ft. high with blue florets.

[**Br.**] **Cam.:** Cam. Mt., 2,000-4,000 ft. (Nov.-Jan.) Hill! Mildbr. 10799! Maitland 234! Migeod 61! Dalz. 8225! Akpabla GC 10519! Keay FHI 28651!

37. *Vernonia perrottetii* Sch. Bip. in Walp. Rep. 2: 947 (1843); F.T.A. 3: 272; Chev. Bot. 356; Berhaut Fl. Sén. 203. *APD acc*

An erect much-branched annual herb 1-2 ft. or more high, with bright magenta florets in heads 1/2-3/4 in. across, solitary at the ends of the branches; in fields.

Sen.: fide Chev. and Berhaut l.c. **Gam.:** Bathurst (Jan.) Irvine 2796! Kudang (Jan.) Dalz. 8031! Genieri (Feb.) Fox 26! **Mali:** Oualia (Dec.) Chev. 38! Kita (Nov.) Jaeger! Dioura (Nov.) Davey 161! **Port. G.:** Pussube, Bissau (fl. & fr. Dec.) Esp. Santo 1085. **Guin.:** Dalaba to Mamou (Jan.) Chev. 20353! **S. L.:** Wallia (Feb.) Sc. Elliot 4263! Musaia (Apr.) Deighton 5466! Bumban (Feb.) Glanville 164! **Ghana:** Zuarungu (Nov.) Akpabla 411! Nalerigu (Dec.) Adams & Akpabla GC 4212! Tumu (Mar.) Morton GC 8846! Gambaga (Apr., May) Morton GC 7352! 8982! **Dah.:** Burton! **Niger:** Zinder (Dec.) Vaillant 872! **N. Nig.:** Kontagora (Nov.) Dalz. 191! Kano (Dec.) Hagerup 637! Jos, 4,000 ft. (Dec., Jan., Apr.) Lely P35!

Morton K355! Coombe 5! Ropp (July) Lely 448! Bornu (Nov.) Elliott 125! Maiduguri (Oct.) Noble A12! **S. Nig.:** Lagos Rowland! Agulu, Awka (Nov.) Keay FHI 21523! **[Br.] Cam.:** Bama, Dikwa Div. (Nov.) McClintock 1!

Extends to **Sudan**, **Uganda**, Nyasaland, Rhodesia and **Angola**.

38. **Vernonia bauchiensis** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 168 (1931). *APD acc*

A perennial, slightly pubescent herb with stems about 6 in. high from a woody base; florets purple in heads 1/2 in. long, solitary at the ends of the branches.

N. Nig.: Jos Plateau (Jan.) Lely P86!

39. **Vernonia poskeana** *Vatke & Hildebrandt* in Oestr. Bot. Zeitschr. 25: 324 (1875); F.T.A. 3: 274; Berhaut Fl. Sén. 176. *APD acc APD acc*

39a. **Vernonia poskeana var. elegantissima** (*Hutch. & Dalz.*) *C.D. Adams* in J.W. Afr. Sci. Assoc. 3: 121 (1957).

APD: Synonym of Vernonia elegantissima Hutch. & Dalziel

Vernonia elegantissima *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 167 (1931).

A slender erect slightly branched annual herb, usually about 1 ft. high; florets purple, mauve or white in heads about 1/3 in. long, fairly numerous on slender stalks.

Sen.: Niokolo-Koba (Jan.) Berhaut 1553! **Ghana:** Dutukpene Scarp, 1,600 ft. (Dec.) Adams 4527! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 36! Anara F.R., Zaria (Oct.) Keay FHI 5498! Igabi, Zaria (Nov.) Keay FHI 28112! Jos (Oct.) Lely P824! Hepper 1006!

Other varieties and forms occur in Congo, Angola and E. Africa.

40. **Vernonia plumbaginifolia** *Fenzl ex Oliv. & Hiern* in F.T.A. 3: 279 (1877); Chev. Bot. 356, partly (Chev. 525; 560). *APD acc*

Stems herbaceous slender striate thinly pubescent, 1/2-2 ft. high from a perennial woody stock; florets bright purple in subcampanulate heads 1/4-1/2 in. across.

Mali: Banfara (Mar.) Chev. 525! Bambanatoumba (Mar.) Chev. 560! **N. Nig.:** Birnin Gwari (Mar.) Meikle 1343!

Also in **Sudan**.

41. **Vernonia djalonensis** *A.Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 167 (1931); Chev. Bot. 354, name only. *APD acc*

An erect robust perennial soft-stemmed undershrub, branched above, with crowded leaves and broadly turbinate flower-heads 3/4 in. across when open; florets blue- or reddish-purple; middle and inner involucre bracts densely whitish- or yellow-woolly except at the tips, which are deep purple.

Guin.: Fouta Djallon (Mar., Aug.-Oct.); Diaguissa to Boulivel Chev. 18043! Timbo to Ditinn Chev. 18394! Dalaba Plateau, 3,000-4,000 ft. Chev. 18568! Jac.-Fél. 2063! 7065! Adam 12666! Mali Schnell 7228!

42. **Vernonia oocephala** *Bak.* in Kew Bull. 1895: 68.

APD: Synonym of Vernonia stenocephala Oliv.

An erect undershrub 1-4 ft. high, almost unbranched or branched from near the base, with whitish florets in numerous crowded straw-coloured heads about 1/2 in. long.

N. Nig.: Jos Plateau Lely 250! Naraguta (May) Lely 67! Shere Hills (Dec.) Savory 128! Jos (bud Nov., fl. Dec.) Onochie FHI 21743! Coombe 3! Morton K350! Kaduna to Zaria (Dec.) Meikle 764! Zaria to Wazeta (Feb.) Dalz. 367! **[Br.] Cam.:** Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1534!

Also in **Congo**, **Tanganyika**, **Nyasaland**, **Rhodesia** and **Angola**.

43. **Vernonia saussureoides** *Hutch.* in Kew Bull. 1921: 378, fig. 6.

APD: Synonym of Vernonia infundibularis Oliv. & Hiern

A perennial herb with erect glabrous pithy stems 2-3 ft. high arising several together from a woody stock; florets rich blue in top-shaped heads 1/2-3/4 in. long; **in hill grassland**.

N. Nig.: Jos (Apr., June, July) Lely P236! Batten-Pools 117! Naraguta Lely 286! Ropp to Mongu Morton K364! Mongu F.R., Pankshin Keay & King FHI 37087! **[Br.] Cam.:** Bamenda to Bambui, 4,500 ft. (June) Mailland 1611! Nkom-Wum F.R. (July) Ujor FHI 30466! Kumbo (Dec.) Boughey GC 17477! Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 2782!

44. **Vernonia philipsoniana Lawalrée** in Inst. Sci. Nat. Belg. Expl. Hydrobiol. L. Tang. 4: 59 (1955).

APD: Synonym of Vernonia musofensis var. miamensis (S. Moore) G. V. Pope

Vernonia lappoides O. Hoffm. (1897), not of Bak. (1873).

Vernonia hoffmanniana Hutch. & Dalz. F.W.T.A., ed. 1, 2: 167, not of S. Moore (1900).

A perennial herb woody at the base; stems ribbed and loosely hairy, mostly simple or sparingly branched below the inflorescence; florets mauve or purple in rather few flower-heads about 1 in. across.

N. Nig.: Jos Plateau: Ropp, 4,600 ft. (July) Lely 453! Vom Dent Young 132!

Extends through Cameroun, Congo, Nyasaland and Rhodesia to **Angola**.

45. **Vernonia ambigua Kotschy & Peyr.** Pl. Tinn. 35, t. 17B (1867); F.T.A. 3: 272; Chev. Bot. 352; F.W.T.A., ed. 1, 2: 167, partly (excl. syns. *V. klingii* and *V. courtetii* and Chev. specimens); Berhaut Fl. Sén. 172. *APD acc*

Vernonia benthamiana of Chev. Bot. 353, not of Oliv. & Hiern.

An erect coarse annual 1/2-2 ft. high with ribbed pubescent stems; florets magenta or mauve in heads 1/2 in. across.

Sen.: fide Berhaut l.c. Badi (Oct.) Adam 15826! **Mali:** Dendela (Mar.) Chev. 634! **Port. G.:** Pessube, Bissau (Nov.) Esp. Santo 1056! Antula, Bissau (Nov.) Esp. Santo 2621! Ticoe to Sare Bacar (Nov.) Esp. Santo 3616! **Guin.:** Labé (Mar.) Adam 11535! **S. L.:** Berria (Mar.) Sc. Elliot 5410! Masasa (Oct.) Glanville! Mabasike (Dec.) Deighton 5715! **Iv. C.:** Mankono (June) Chev. 21936! **Ghana:** Yendi (Dec.) Adams & Akpabla GC 4075! Tamale (Nov., Dec.) Adams & Akpabla GC 4176! Darko 433! Morton GC 9925! Damongo (Dec.) Morton GC 9945! 9996! 25058! Gambaga (Apr.) Morton GC 9053! Daboya ferry (Dec.) Morton GC 6194! **N. Nig.:** Nupe Barter 824! 942! Kontagora (Oct.) Dalz. 199! Kabama, Zaria (Nov.) Sule FHI 7016! Ilorin (Jan., Mar.) Ejiofor FHI 19843! 30238! Jos (Oct., Dec.) Hepper 1024! Coombe 103! **S. Nig.:** Lagos (Nov., Dec.) Onochie FHI 34657! Dalz. 1162! **[Br.] Cam.:** Gurum, near Vogel Peak, Adamawa (Nov.) Hepper 1267! Bama, Dikwa Div. (Dec.) McClintock 105!

Extending through the drier parts of tropical Africa to **Sudan** and **Angola**.

[The first-formed flower-heads have more numerous series of involucre bracts than those formed later on the same plants.]

46. **Vernonia bambilorensis Berhaut** in Mém. Soc. Bot. Fr. 1953-54: 7 (1954); Fl. Sén. 172. *APD acc*

An erect biennial herb with an ascending-branched almost leafless stem 15-30 in. high; leaves mostly in a basal rosette; flower-heads clustered, about 1/4 in. broad with purple florets.

Sen.: Bambilor (Mar.-May, Sept.-Oct.) Berhaut 434; 2942; 3200; 3220! Sangalkam (May) Berhaut 5229!

47. **Vernonia blumeoides Hook. f.** in J. Linn. Soc. 7: 198 (1864); F.T.A. 3: 281; Guinea in Anal. Inst. Bot. Cav. 10, 1: 322. *APD acc*

An erect little-branched pithy-stemmed undershrub 2-4 ft. high with shortly pubescent striate stems and mauve to reddish-purple florets in heads 1/4-1/3 in. broad in dense terminal corymbs.

N. Nig.: Vom, 4,000 ft. (Oct.) Hepper 1155! **S. Nig.:** Sonkwala, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25230! Koloishe, 4,000 ft., Ogoja (Dec.) Savory & Keay FHI 25053! **[Br.] Cam.:** Cam. Mt., 4,000-9,000 ft. (Nov.-Jan., Mar.-May) Mann 241! 1921! Maitland 305! 828! 971! Mildbr. 10830! Brenan 9399! Keay FHI 28638! Boughey GC 6812! Morton GC 6786! K600! Bamenda to Ndop, 4,000-5,400 ft. (Dec.) Adams 1524! GC 11268! Boughey GC 10462a! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1642! Vogel Peak, 3,500 ft., Adamawa (Nov.) Hepper 1485!

48. **Vernonia klingii** *O. Hoffm. & Muschl.* in Mém. Soc. Bot. fr. 2, 8c: 112 (1910); Chev. Bot. 355; Adams in J.W. Afr. Sci. Assoc. 2: 56 (1956).

APD: Synonym of Vernoniastrum klingii (O. Hoffm. & Muschl.) Isawumi

Vernonia ambigua of F.W.T.A., ed. 1, 2: 167, partly (Chev. 20895), not of Kotschy & Peyr.

Vernonia conyzoides *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 168 (1931), not of DC. (1834).

Vernonia thomasii *Hutch.* (1936).

Stems herbaceous, striate, pubescent with whitish curled hairs, 1-3 ft. high from a perennial woody stock; florets purple in heads 1/3-1/2 in. across; **in grassy hill savanna.**

Guin.: Kaba to Upper Mamou (Apr.) Chev. 12758! Diédédou to Nionssomoridou (Feb.) Chev. 20851! Boula (Apr.) Adam 12042! Dalaba (May) Roberty 1932! Kindia (June) Jac.-Fél. 1775! **S. L.:** Falaba (Mar.) Sc. Elliot 5223! Bafodeya (Apr.) Sc. Elliot 5684! Makumri (June) Thomas 646! Kabala (Feb.) Deighton 4247! Bintumane Peak, 6,000 ft. (May, Sept.) Jaeger 1990! Deighton 5096! **Iv. C.:** Gouékan-gouiné to Droupleu, Upper Sassandra (May) Chev. 21451! **Ghana:** Banda ravine, Ashanti Morton A3279! Shiare, 2,500 ft., Trans Volta Togo (Apr.) Hall 1410! **Dah.:** Birni to Nioro, Atacora Mts. (June) Chev. 23966!

49. **Vernonia bamendae** *C.D. Adams* in J.W. Afr. Sci. Assoc. 3: 116 (1957). *APD acc*

A robust herb up to 5 ft. high with a brownish-tomentose ribbed stem and broad sessile leaves; inflorescence spreading with flower-heads 3/4 in. broad sessile or subsessile along the upper sides of the branches; florets purple.

[Br.] Cam.: Bamenda, 5,000-8,200 ft. (Dec.-Jan., May-June): Basenako Maitland 1455! Lakom Maitland 1514! Mba Kokeka Mt. Keay FHI 28410! Santa Mt. Boughey GC 11013!

50. **Vernonia rugosifolia** *De Wild.* in Bull. Jard. Bot. Brax. 5: 89 (1915).

APD: Synonym of Vernonia turbinata Oliv. & Hiern

An erect herb of **grassland** 2-3 ft. high with numerous shortly stalked flower-heads about 1/3 in. long spread along the branches of a compact inflorescence: florets purple.

Guin.: Mali (Jan.) Roberty 16570! **N. Nig.:** Zaria Kennedy 2899! **[Br.] Cam.:** Bambui, 6,300 ft., Bamenda (Dec.) Boughey GC 10411! Nchan, 5,000 ft., Bamenda (June) Maitland 1457!

51. **Vernonia pumila** *Kotschy & Peyr.* Pl. Tinn. 37, t. 17A (1867); F.T.A. 3: 292; Chev. Bot. 357; Berhaut Fl. Sén. 4, 174, 185. *APD acc*

A perennial herb with pale-pubescent flowering stems from a few inches to 2 ft. high, appearing before the leaves from a woody stock with thickened spindle-shaped roots; florets reddish or bluish-purple fading to white in heads 3/4-1 in across; stamens white; **on bare sandy or stony ground in savanna.**

Sen.: Niokolo-Koba Berhaut 1503. **Mali:** Sarankoro (Feb.) Chev. 863. **Guin.:** Chillou 16! Ditinn to Labé (Apr.) Chev. 12896! **Dah.:** Atacora Mts., 1,700 ft. (June) Chev. 24064! **N. Nig.:** Ilorin Rowland! Zungeru (Jan.) Elliott 26! Kontagora (Jan.) Dalz. 190! Minna (Dec., Jan.) Meikle 690! Keay FHI 37325! Zaria (Feb.) Dalz. 386! Vom (Jan.) Dent Young 139! **S. Nig.:** Oyo (Jan., Feb.) Keay FHI 14770! Brenan 8967!

52. **Vernonia guineensis** *Benth.* in Fl. Nigrit. 427 (1849); F.T.A. 3: 285; Chev. Bot. 354; Adams in J.W. Afr. Sci. Assoc. 6: 153 (1961). *APD acc*

APD: Synonym of Vernonia incompta S. Moore

A widespread species with the following varieties in our area.

- 52a. **Vernonia guineensis** *Benth. var. guineensis* *APD acc*

Vernonia firma *Oliv. & Hiern* in F.T.A. 3: 290 (1877).

A herb with strong erect stems arising from a perennial stock having numerous thick fusiform roots; florets bluish-purple fading to pink or mauve in heads 1/2-1 in. across, generally smaller towards the western end of the range; **in savanna.**

Mali: fide Chev. l.c. **Guin.:** Timbo, Fouta Djallon (Mar.) Chev. 12431! Labé (Apr.) Adam 11763! Beyla (Feb.) Jac.-Fél. 1546! **S. L.:** Batkanu (Feb.) Glanville 168! Rowala (July) Thomas 1126! Mambolo (Jan.) Deighton 979! Musaia (Apr.) Deighton 5388! Kamaro to Baleo (Aug.) Jaeger 902! **Iv. C.:** Bouaké, Baoulé-Nord (July) Chev. 22106! Asakra (Aug.) Boughey GC 18621! **Ghana:** Salaga Krause! Afram Plains (Mar.) Johnson 715! Tamale (Mar., Dec.) Adams & Akpabla GC 4168! Morton GC 8778! Ejura Scarp (Mar.) Adams 2453! Amedzofe Hill (Feb., Apr.) Moritn GC 6513! A2008! **Togo Rep.:** Baumann 92! Agome (Mar.) Schlechter 12964! **N. Nig.:** Jos Plateau (Jan.) Lely P88! Naraguta, 4,000 ft. (May) Lely 242! Shere Hills, 4,000 ft. (Dec.) Coombe 106! Jenre, Zaria (Dec.) Coombe. 83!

52b. *Vernonia guineensis* var. *cameroonica* C.D. Adams l.c. 154 (1961). *APD acc*

An erect herb with densely grey- or brownish-pubescent stems 1-5 ft. high; florets purple fading to pale mauve in heads about 3/4 in. across with the tips of the involucre bracts papery and acute, coloured mauve or pink fading to brown.

[**Br. Cam.:** Bamenda, 5,000-6,000 ft. (Jan., Mar., Apr., June) Migeod 295! Maitland 1389 Ujor FHI 30038! Richards 5294! Hdop, 3,600 ft. (Dec.) Adams GC 11064! Ndop to Kumbo (Dec.) Boughey GC 11166! Gashaka, Adamawa (Feb.) Latilo & Daramola FHI 34467!

52c. *Vernonia guineensis* var. *procera* (O. Hoffm.) C.D. Adams l.c. 154 (1961).

APD: Synonym of Vernonia procera O. Hoffm.

***Vernonia procera* O. Hoffm.** in Mém. Soc. Bot. Fr. 2, 8: 39 (1908); Chev. Bot. 357.

Flower-heads solitary, about 2. in. across with mauve florets turning white: leaves often yellowish-tomentose beneath at least when dry.

Dah.: Ady, near Savé (May) Chev. 23569. **N. Nig.:** Jos Plateau (Mar., Apr., Sept., Nov.) Lely P179! Kennedy FHI 11882! Morton K345! Naraguta Lely 70! 721! Abinsi (Feb.) Dalz. 659! Bonu, Niger Prov. (June) E. W. Jones 157! Onochie FHI 18700! **S. Nig.:** Olokemeji Foster 280! Upper Ogun F.R., Oyo (Feb.) Keay FHI 22508!

Also in **Cameroun** and **Ubangi-Shari**.

[Dalz. 659 and Keay FHI 22508 are somewhat intermediate between this and var. *guineensis*.]

53. *Vernonia nestor* S. Moore in J. Linn. Soc. 35: 317 (1902).

APD: Synonym of Vernoniastrum nestor (S. Moore) H. Rob.

***Vernonia chariensis* O. Hoffm.** (1908).

A perennial herb with stiff stems 1-2 ft. high branched only at the top; leaves densely crowded and rather small, these and the stems densely clothed with long silky hairs; florets mauve in numerous heads 1/3 in. long in rounded clusters in a broad corymb.

Guin.: Boumalol, Fouta Djallon (Oct.) Adam 12568! **N. Nig.:** Kontagora (Nov.) Dalz. 202! Jos, 4,000 ft. (Dec.) Lely P796! Coombe 26! Monod 9688! Vom Dent Young 141! Maiduguri Kennedy 2989! [**Br. Cam.:** Bamenda, 4,500-5,000 ft. (Jan., Apr.) Migeod 301! Maitland 15682! Nchan (June) Maitland! Bamenda to Ndop, 5,000 ft. (Dec.) Adams GC 11271!

54. *Vernonia cistifolia* O. Hoffm. in Engl. Pflanzenw. Ost-Afr. C: 404 (1895).

APD: Synonym of Vernonia karaguensis Oliv.

A shortly pubescent undershrub up to 6 ft. high with red-purple florets in heads 1/4-1/3 in. long, in cymes forming a panicle about 1 ft. long.

N. Nig.: Jos (Oct.) Lely P801! Naraguta (Nov.) Keay FHI 21026!

Also in **Congo** and **E. Africa**.

55. *Vernonia smithiana* Less. in Linnaea 6: 638 (1831); F.T.A. 3: 276; Chev. Bot. 358.

APD: Synonym of Gutenbergia kassneri S. Moore var. kassneri

APD: Synonym of Vernonia natalensis Sch. Bip.

APD: Synonym of Hilliardia smithiana (Less.) H. Rob.

A perennial herb with erect slender pale-silky stems 1-3 ft. high from a woody stock; florets pinkish- or reddish-purple in hemispherical heads about 1/4 in. across, crowded in small dense terminal corymbs; [in hill grassland](#).

Mali: Morigueya (Feb.) Chev. 434! **Guin.:** Timbikounda to Farakoro (Jan.) Chev. 20626! Diédédou to Nionssomoridou (Feb.) Chev. 20850! **[Br.] Cam.:** Bamenda Dist., 5,000-7,400 ft. (Feb.-May, Dec.) Maitland 1370! 1755! Ujor FHI 30004! Onochie FHI 34857! Hepper 2153! Adams GC 11216! Boughey GC 10786! Morton K9! K56! Gembu, 4,600 ft., Mambila Plateau (Jan.) Hepper 1837!

Also in [Congo](#), [Sudan](#) and through E. Africa to [Angola](#).

56. Vernonia migeodii S. Moore in J. Linn. Soc. 35: 319 (1902).

APD: Synonym of Vernoniastrum migeodii (S. Moore) Isawumi

Vernonia courtetii O. Hoffm. & Muschl. (1910)-Chev. Bot. 354.

Vernonia plumbaginifolia of Chev. Bot. 356, partly (Chev. 24083), not of Fenzl.

Vernonia ambigua of F.W.T.A., ed. 1, 2: 167, partly (Chev. 23676; 24083), not of Kotschy & Peyr.

A perennial herb with several erect striate sparsely pubescent stems from a woody stock, 2-4 ft. high; leaves sessile, rounded at the base, minutely glandular-punctate beneath; florets purple in heads about 1/2 in. long, with the outer involucre bracts much shorter than the inner.

Ghana: Yendi (Apr.) Akpabla 514! Dutukpene (Jan.) Akpabla 1806! **Dah.:** Agouagon to Savalou (May) Chev. 23676! Toukountouna to Tanguéta (June) Chev. 24083! **N. Nig.:** Lokoja (Oct.) Dalz. 32! Anara F.R., Zaria (May) Keay FHI 22952! Igabi, Zaria (May) Keay FHI 25768! R. Benue Talbot! **S. Nig.:** Lagos Phillips 50! Awka Thomas 33! Obu Thomas 367! 428! Ogbomosho Rowland! Onitsha to Enugu (Mar.) Morton K5! Ikom (May) Jones FHI 10484! **[Br.] Cam.:** Kentu, Bamenda (June) Maitland 1574!

Also in [Ubangi-Shari](#).

57. Vernonia glaberrima Welw. ex O. Hoffm. in Bol. Soc. Brot. 13: 15 (1896); Chev. Bot. 354. *APD acc*

An erect slender-branched undershrub 1-6 ft. high, scabrid-pubescent only on the younger parts, soon glabrous; leaves finely reticulate-veined; florets white or pale pink in numerous heads 1/4 in. long; [in open hillside grass-land](#).

Guin.: Kaba Valley (May) Chev. 13237! **S. L.:** Falaba (Mar.) Sc. Elliot 5152! Burbridge 543! 554! Musaia (Apr., Aug.) Deighton 4352! 5417! **Iv. C.:** Zoanlé, Upper Sassandra (May) Chev. 21493! **Ghana:** Togo Plateau F.R. (Oct.) St. C. Thompson 1523! Amedzofe (Feb., Apr.) Morton GC 6517! A2011! 2684! **Dah.:** Pobégou to Birni, Atacora Mts. (June) Chev. 23953! **N. Nig.:** Samaru, Zaria (May) Keay FHI 25731! Birnin Gwari (Mar.) Meikle 1341! Auchang (Feb.) Dalz. 346! Naraguta Lely 65! 75! Jos (Apr.) Morton K346! **[Br.] Cam.:** Bamenda, 3,000-6,000 ft. (Mar.-June, Dec.) Maitland 1402! 1540! 1696! Boughey GC 11098! Morton K197!

Also in [Angola](#).

58. Vernonia cinerea (Linn.) Less. in Linnaea 4: 291 (1829); F.T.A. 3: 275; Chev. Bot. 353; F.W.T.A., ed. 1, 2: 168 (excl. syn. *V. undulata*); Berhaut Fl. Sén. 176, 204. *APD acc*

Conyza cinerea Linn. (1753).

An erect branched herb 1-3 ft. or rarely more high with shortly pubescent striate stems and mauve or reddish-purple florets in numerous heads about 1/4 in. broad; [a common weed of farms, roadsides and waste places](#).

Sen.: Roger! M'Bidgem Hb. Franqueville 56! Niombato (Nov.) Berhaut 670! **Mali:** Kara (Dec.) Davey 180! Fenadjé (Jan.) Davey 256! **Port. G.:** Pessubé, Bissau (Nov.) Esp. Santo 1058! **Guin.:** Labé (Apr.) Adam 11790! **S. L.:** (June) T. Vogel, 108! Kumbagwe (Sept.) Thomas 2095! Kambia (Dec.) Deighton 854! Njala (Sept.) Deighton 2118! Musaia (Apr.) Deighton 5379! Newton (Apr.) Deighton 5923! **Lib.:** Monrovia (Sept.) Baldwin 9213a! Buchanan (Nov.) Adam 16054! **Iv. C.:** Mankono (Aug.) Boughey GC 18497! **Ghana:** Accra (Oct.) Brown 306! Elmina (Oct.) Andoh 5074! Jasikan (Dec.) Box 251! Ejura, Ashanti (Aug.) Andoh 5054! Lawra (Apr.) Adams 4130! **Togo Rep.:** Lomé Warnecke 233! **Dah.:** fide Chev. l.c. **N. Nig.:** Kennedy 1768! Nupe Barter 1081! Lokoja (Sept.) Parsons 3! **S. Nig.:** Aguku Thomas 582! Lagos (Oct.) Dalz. 1166! Ibadan (Aug.) Newberry 58! **[Br.] Cam.:** Victoria (Apr.) Morton GC 7130!

Widespread in tropical countries.

[A diffusely branched form of this species with abnormally small capitula is represented by Kennedy 1768 listed above. Deighton 5923 and Baldwin 9213a are similar but the divergence from normal is less exaggerated.]

59. *Vernonia undulata* Oliv. & Hiern in F.T.A. 3: 276 (1877); Chev. Bot. 358. *APD acc*

APD: Synonym of Vernonia golungensis Welw. ex Mendonça

A perennial herb with erect leafy stems up to 4 ft. high from a woody stock; leaves smaller towards the stem-base; florets magenta in distinctly stalked heads 1/3 in. long; **in grassland**.

Guin.: Nzo (Mar.) Chev. 21050! 21055! **S. L.:** Burbridge 538! Musaia (Apr.) Deighton 5443! **Ghana:** Kpandu Robertson 109! Amedzofe (Feb., Apr., Nov.) Morton GC 6511! 9425! A2010! **N. Nig.:** Kaduna (Dec.) Meikle 791! Jos Plateau (Jan.) Lely 10! 80! Vom (Apr.) Morton K336! Samaru, Zaria (July) Keay FHI 25924! Kwakuti, Niger (Dec.) Keay FHI 37310! **[Br.] Cam.:** Nchan, Bamenda, 5,000 ft. Maitland 1682! Cheddar Gorge, 6,000 ft., Bamenda (Mar.) Morton K196 Wum crater lake (Apr.) Morton K292! Gembu, 4,600 ft. Mambila Plateau (Jan.) Hepper 1838!

Also in **Sudan**, **Congo**, **Uganda** and **Angola**.

60. *Vernonia cinerascens* Sch. Bip. in Schweinf. Beitr. Fl. Aethiop. 162 (1867); F.T.A. 3: 275; De Miré & Gillet in J. Agric. Trop. 3: 711. *APD acc*

A shrub 1-3 ft. high with whitish-pubescent glandular stems and leaves; florets deep reddish-purple in stalked heads scarcely 1/4 in. broad.

Sen.: Niokolo (June) Adam 14230! **Niger:** central and southern Aïr, among rocks and talus in mountains above 5,000 ft. vide De Miré & Gillet l.c.

Extends through **Sudan** to the Red Sea, **Ethiopia** and northwestern India, and also in **Angola** and S.W. Africa.

63. ERLANGEA

Sch. Bip.-F.T.A. 3: 265, not of F.W.T.A., ed. 1, 2: 170.

- 1** Involucres 1-1.3 cm. broad on velvety-tomentose peduncles 1.5 cm. or more long, few and hardly contiguous; involucre bracts ovate, acuminate with spreading tips; leaves opposite, verticillate or alternate, shortly petiolate, ovate to lanceolate, up to 12 cm. long and 3 cm. broad, serrate, with 8-12 pairs of ascending lateral nerves *l. fruticosa*

Involucres 5-8 mm. broad on peduncles 1-5 mm. long, numerous and tightly clustered in broad cymes at the ends of slender pubescent branches; involucre bracts ovate with erect acute tips and broad scarious margins; leaves opposite or alternate, petiolate, blade elliptic, up to 15 cm. long and 6 cm. broad, serrate-dentate, with 10-14 pairs of curved-ascending lateral nerves *2. schimperi*

1. *Erlangea fruticosa* C.D. Adams in J.W. Afr. Sci. Assoc. ined. (1963). *APD acc*

A shrub up to about 8 ft. high with velvety striate branchlets scarred with the bases of old leaves; flower-heads about 1/2 in. across, rather few in flat terminal corymbs; florets purple or mauve.

Guin.: Mt. Benna, Kindia (fl. & fr. Nov.) Jac.-Fél. 2123! Madina Tossékéré (fr. Oct., fr. Mar.) Adam 11680! 12532! **S. L.:** Loma Mts. (fr. Nov.) Jaeger 489!

2. *Erlangea schimperi* (Oliv. & Hiern ex Benth.) S. Moore in J. Linn. Soc. 35: 313 (1902).

APD: Synonym of Bothriocline schimperi Oliv. & Hiern ex Benth.

***Bothriocline schimperi* Oliv. & Hiern ex Benth.** in Hook. Ic. Pl. t. 1133 (1873); F.T.A. 3: 266.

Erect and shrubby up to about 4 ft. high with white, pale blue or mauve florets in clustered heads 1/4 in. across.

S. L.: Bintumane Peak (Nov.) Jaeger 363! **S. Nig.:** Ikwette Plateau, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25220! **[Br.] Cam.:** Bamenda Dist. (Dec., Jan., Mar.) Keay FHI 28330! Boughey GC 11123! Morton K150!

Also in **E. Africa**.

64. CENTRATHERUM

Cass. in Bull. Sci. Soc. Philom. Paris 1817: 31; Dict. Sci. Nat. 7: 383 (1817). *APD acc*

- 1 Stems densely villous, glabrescent; leaves alternate narrowly oblanceolate, acute, up to 8 cm. long and 1.5 cm. broad, thinly setulose above, woolly-tomentose beneath, sharply serrulate; flower-heads few in a loose terminal corymb, shortly pedunculate, 1-1.5 cm. diam.; involucre bracts very numerous, subulate-filiform, very acute, up to 1 cm. long, pubescent, the outermost sometimes leafy or the flower-head closely subtended by a single linear leafy bract; florets all tubular; achenes glabrous, closely 10-ribbed; pappus caducous, subplumose towards base..... *I. angustifolium*

Centratherum angustifolium (*Benth.*) *C.D. Adams* in J.W. Afr. Sci. Assoc. 6: 149 (1961)

APD: Synonym of Kinghamia angustifolia (*Benth.*) *C. Jeffrey*

Gymnanthemum angustifolium *Benth.* (1849).

Vernonia benthamiana *Oliv. & Hiern* in F.T.A. 3: 282 (1877).

Erlangea angustifolia (*Benth.*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 170 (1931).

An erect simple or slightly branched annual herb with fairly stout striate stems 1-2 ft. high; florets pale mauve or pink to bluish-purple in subglobose flower-heads about 1/2 in. across.

Guin.: Dalaba-Diaguiss Plateau (Oct.) Chev. 18765! 18793! Jac.-Fél 2019! Kindia (Nov.) Jac.-Fél. 2073! Sandomoli Mt. (Sept.) Schnell 7314! Madina Tossékéré (Oct.) Adam 12517! 12562! **S. L.:** Barter! Makene (Oct.) Glanville 6! Bumban (Aug., Sept.) Thomas 2009! Deighton 1219! Njala (Sept.) Deighton 3443! Loma Mts. (Nov.) Jaeger 623! 640! 664! Mayumba (Dec.) King 13b! **Iv. C.:** Danané to Mt. Goula, Dyolas country (Apr.) Chev. 21234! **N. Nig.:** Hepburn!

65. ETHULIA

Linn. f.-F.T.A. 3: 262.

- 1 Stems ribbed, shortly pubescent; leaves oblanceolate to obovate-oblanceolate, acute, 6-10 cm. long, 1-3.5 cm. broad, serrate, shortly pubescent and glandular beneath, with conspicuous parallel lateral veins; petiole narrowly winged; flower-heads discoid, very small, in lax corymbose terminal cymes; involucre bracts in about 3 rows, up to 2.5 mm. long, obovate, thinly pilose; achenes 4-5-ribbed; pappus a cartilaginous undulate ring..... *I. conyzoides*

Ethulia conyzoides *Linn. f.* Decas Prima Pl. Rar. 1, t. 1 (1762); T.T.A. 3: 262; Chev. Bot. 351; Berhaut Fl. Sén. 176. *APD acc*

An erect branched aromatic herb 2-4 ft. high, with numerous small flower-heads with pink, mauve or rarely white florets; **usually in wet grassland or by rivers.**

Sen.: Perottet! Berhaut 1067; 4269. **Gam.:** Pirie 33! Georgetown (Jan.) Dalz. 8035! **Mali:** Sikasso (May) Chev. 786! Dio (Nov.) Jaeger 7! **Port. G.:** Bafata (Feb., Oct., Dec.) Esp. Santo 2673! 2799! 3799! Gabu (Nov.) Esp. Santo 3579! **Guin.:** Kouroussa Pobéguin 457! Nzérékoré (Oct.) Baldwin 9733! Dantilia (Mar.) Sc. Elliot 5273! **S. L.:** Pendembu (July) Thomas 763! Yonibana (June) Deighton 5844 Rokupr (Sept.) Jordan 351! Musaia (Feb.) Deighton 4208! **Lib.:** Du R. (Aug.) Linder 243! Ganta (May, Dec.) Harley! Barker 1127! **Iv. C.:** Prolo (Aug.) Chev. 1986. Tiassalé, Bandama R. (Dec.) Leeuwenberg 2135! **Ghana:** Nwereme, Ashanti (May) Irvine 2472! Akuse to Kpong (Oct.) Morton A27! White Volta R., Bolgatanga to Bawku (Apr.) Morton GC 8954! Oti R., near Kete Krachi (May) Morton GC 7285! **Dah.:** Djougou (June) Chev. 23897. **N. Nig.:** Nupe Barter 1291! Aboh Barter 76! Kontagora (Nov.) Dalz. 193! Katagum Dalz. 170! Sokoto (Nov.), Dec.) Moiser 177! 222! Ropp, 4,000 ft. (Dec.) Coombe 59! **S. Nig.:** Lagos (Mar.) Akpabla 1085! Ibadan (Apr.) Keay & Jones FHI 19439! Meikle 1411! Eket Talbot! Calabar (Apr.) Akpata 3929! **[Br.] Cam.:** N. Korup F.R., Kumba (July) Olorunfemi FHI 30696! Bali, Bamenda (May) Ujor FHI 30385! Bama, 1,000 ft., Dikwa Dist. (Nov.) McClintock 28!

In tropical and extra-tropical Africa including S. Tomé, and Asia and the Mascarene Islands.

66. GUTENBERGIA

Sch. Bip.-F.T.A. 3: 263.

- 1 Flower-heads about 5 mm. diam., numerous; involucre bracts in 3-4 series, acute, loosely pubescent outside; leaves sessile, auricled at base, linear-lanceolate, 4-6 cm. long, up to 1 cm. broad, discolorous, thinly pubescent above, white-tomentose beneath; achenes 1.5 mm. long, about 8-ribbed, glabrous; corolla 3.5 mm. long [1. rueppellii](#)
 Flower-heads 1 cm. or more diam., few or solitary: **2**
- 2 Capitula several, pedunculate; involucre bracts in 6 or more series, acutely acuminate or mucronate; leaves subsessile, oblong-lanceolate; corolla 6-8 mm. long; achenes 2-2.5 mm. long, 10-ribbed, glabrous: **3**
 Capitula solitary, sessile, 2.5-3 cm. diam., closely surrounded by clustered leaves; stem-leaves small, linear-lanceolate [4. foliosa](#)
- 3 Middle involucre bracts acuminate, pubescent; capitula about 1 cm. diam.; leaves mostly narrowed to base or shortly rounded, thinly greyish-pilose beneath [2. nigritana](#)
 Middle involucre bracts subtruncate-mucronate, glabrescent; capitula 2-2.5 cm. diam.; leaves mostly broadly rounded at base, usually white woolly pilose beneath [3. macrocephala](#)

1. **Gutenbergia rueppellii** *Sch. Bip.* in Gedenkb. 4 Jubelf. Buchdr. 120, t. 4 (1840); F.T.A. 3: 263. *APD acc*

Ethulia rueppellii (*Sch. Bip.*) *Hochst. ex A. Rich.* (1848).

An erect much-branched annual herb 1-2 ft. high with the leaves whitish beneath; florets reddish-purple or white in heads about 1/4 in. across; [a local weed of waysides and open land.](#)

N. Nig.: Jos Plateau (Sept.) Lely P696a! Naraguta, common (July, Nov.) Lely 464! 711!

Also in [Sudan](#), [Ethiopia](#), [Eritrea](#), [Uganda](#) and [Kenya](#).

2. **Gutenbergia nigritana** (*Benth.*) *Oliv. & Hiern* in F.T.A. 3: 264 (1877) (incl. var. *scabra* *Oliv. & Hiern*).

APD: Synonym of Kinghamia nigritana (*Benth.*) *C. Jeffrey*

Oiospermum nigritanum *Benth.* (1849).

Gutenbergia macrocephala of Chev. Bot. 351, not of *Oliv. & Hiern*.

An erect herb, 1-4 ft. high with puberulous striate branches, wrinkled leaves and mauve to reddish-purple florets in heads 1/4 in. across; [in open grassland.](#)

Guin.: Manankoro to Boola, Beyla (Mar., Apr.) Chev. 20904! Adam 12064! Nzérékoré (Oct.) Jac.-Fél. 2045! Timbo (Oct.) Jac.-Fél. 1872! 2084! Bafing (Oct.) Adam 12656! Nimba Mts. (Apr., Sept.) Schnell 1873! 3582! **S. L.:** Glanville 371! Betagya (Oct.) Small 493! Falaba (Nov.) Miszewski 18! Musaia (Dec.) Deighton 4437! **Ghana:** Wanki, Ashanti (June) Chipp 485! Pepease, 2,000 ft., Kwahu (July, Nov.) Irvine 1715! Akpabla 179! Adamsu, Ashanti (Dec.) Adams 3085! Amedzofé Hill (May) Morton GC 6512! Kpandu Fessi (July) Asamany 84! **N. Nig.:** Kontagora (June, Dec.) Dalz. 206! 667! Kaduna (Dec.) Meikle 770! Giwa, Zaria (June) Keay FHI 25906! Naraguta Lely 52! Vom, 4,000 ft. (Feb., Apr., Oct.) McClintock 196! Morton K380! Hepper 2876! **S. Nig.:** Niger (Sept.) T. Vogel 172! Lagos W. MacGregor 286! 291! Abeokuta (July) Irving 30! Chizea FHI 7871! Aboh Barter 435! Yoruba country Barter 1296! Oke-Iho, Oyo (July) Savory UCI 258!

3. **Gutenbergia macrocephala** *Oliv. & Hiern* in F.T.A. 3: 264 (1877), not of Chev. Bot. 351.

APD: Synonym of Kinghamia macrocephala (*Oliv. & Hiern*) *C. Jeffrey*

A robust herb up to about 4 ft. high with leaves usually wrinkled; flower-heads at least 1 in. across, florets bright purple; [in grassy places.](#)

Iv. C.: Tchumkrou to Akakoumoëkrou, Ano (Dec.) Chev. 22541! **Ghana:** Bame Pass (Oct.) Morton GC 9314! Mampong, Ashanti (July) Darko 686! Kukuramoa, Nsawkaw to Wenchi (Dec.) Adams 3182! Nyankpala (Dec.) Adams & Akpabla GC 4189! Vane (Nov.) Morton GC 9349! **S. Nig.:** Lagos Millen 62! Lagos to Abeokuta (July) Savory UCI 185! Abeokuta Irving!

[Both this species and *G. nigritana* are very variable in respect of leaf-margin, which may be serrated or entire, and the shape of the leaf-base, which may be broad or narrow. The density of the tomentum on the undersurface of the leaf in *G. macrocephala* is also variable, and there is a great range of shape between the inner and outer involucre bracts-C. D. A.]

4. **Gutenbergia foliosa** *O. Hoffm.* in Engl. Bot. Jahrb. 24: 462 (1897).

APD: Synonym of Kinghamia foliosa (O. Hoffm.) C. Jeffrey

A simple-stemmed herb up to 4 ft. high with scabrid crowded narrow leaves, woolly-tomentose beneath.

Togo Rep.: Misahöhe, Angomé Tongbe (July) Baumann 34.

[Baumann 34 was seen for the first edition, but the specimen presumably was destroyed in Berlin; apparently no further gatherings have been made—C. D. A.]

67. EUPATORIUM

Linn.—F.T.A. 3: 300.

- 1 Shrubby scrambler with pithy, finely striate branches; leaves opposite, ovate, grossly dentate to subentire, cuneate at base, acute, 3-10 cm. long, 2-6 cm. broad, with a pair of curved lateral veins arising above the base, densely gland-dotted and puberulous beneath; petiole slender, about 1 cm. long; flower-heads pedunculate in spreading inflorescences at the ends of short stiff lateral branches; involucre oblong-turbinate, 1 cm. long; involucre bracts numerous, strongly nerved, imbricate, the outer shorter; achenes ribbed with cartilaginous margins, glabrous or nearly so; pappus-setae buff, in a single series, barbellate, about 6 mm. long [1. odoratum](#)
Erect herbs:.....2
- 2 Stem-leaves mostly alternate, sessile or shortly petiolate, ovate to narrowly lanceolate, subacute, 5-7 cm. long, up to 3 cm. broad (frequently much smaller and narrower), gland-dotted beneath; shoots several usually arising from a woody perennial stock; stems, leaves and inflorescence curly-pubescent; flower-heads crowded in a terminal inflorescence, few-flowered; involucre bracts few, oblong, about 6 mm. long, membranous on the margins, not nerved; achenes sulcate, pubescent; pappus as above2. [africanum](#)
Stem-leaves mostly opposite; annual herbs with a single main glabrous or glabrescent stem:.....3
- 3 Leaves elliptic-lanceolate, tapered to and distinctly 3-veined at base; flower-heads up to 1 cm. broad; involucre bracts linear, acute3. [triplinerve](#)
Leaves ovate-rhomboid, abruptly narrowed to a slender petiole 1-3 cm. long, 3-veined, the lateral pair of veins submarginal at base; flower-heads up to 5 mm. broad; involucre bracts 2-seriate, linear-oblong, 3-4 mm. long, equalling or exceeding the florets, glabrous, glumaceous; achenes blackish, sulcate; pappus-setae very fine, about 20, spreading, white4. [microstemon](#)

1. *Eupatorium odoratum* Linn. Syst. Nat., ed. 10, 2: 1205 (1759).

APD: Synonym of Chromolaena odorata (L.) R. M. King & H. Rob.

A diffuse shrub with angular pubescent branched stems up to about 8 ft. high; florets white, mauve or pale blue in heads arranged in sub-umbellate inflorescences at the ends of short branches; **a rank-scented weed.**

S. Nig.: Ubiaja, Benin (Apr.) Daramola FHI 31258! Udi, Enugu pitwood plantations (June, Nov.) Jones FHI 18804! Keay & Mallam FHI 22721! mile 34 Enugu to Abakaliki (Feb.) Hepper 2237!

Native of Central and tropical S. America; also in S. E. Asia; spreading rapidly in our area.

2. *Eupatorium africanum* Oliv. & Hiern in F.T.A. 3: 301 (1877); Chev. Bot. 360; Robyns Fl. Sperm. Parc. Nat. Alb. 2: 457, t. 43.

APD: Synonym of Stomatanthes africanus (Oliv. & Hiern) R. M. King & H. Rob.

Vernonia humilis C. H. Wright (1897).

V. malosana Bak. (1898).

A herb or undershrub with usually several erect curled-pubescent stems 6 in. to 3 ft. high arising from a perennial woody stock; florets cream to greyish-mauve, rather few in numerous small heads clustered at the branch-tips; **in grassland, mostly in hilly districts.**

Guin.: Fassakoudou to Késséridou (Feb.) Chev. 20809! Kindia (Dec.) Jac.-Fél. 2199! Boula to Baizia (? Apr.) Adam 12057! Mali (June, Sept.) Schnell 7109! Adam 14451! **S. L.:** near Falaba (Mar.) Sc. Elliot 5148! Musaia to Sinkunia (Apr.) Deighton 5420! **iv. C.:** Nimba Mts., 2,500-5,000 ft. (Apr., Aug.) Schnell 926! Boughey GC 18048! **Ghana:** Kintampo (Mar.) Dalz. 41! Trumeso, near Wenchi (Mar., Dec.) Adams 2873! Morton GC 8557! Kpandu (Apr.) Asamany 164!

Amedzofe Hill (Mar., Apr.) Morton GC 6502! A2001! **N. Nig.:** Zaria (Feb.) Dalz. 403! Mando F.R., Zaria (June) Keay FHI 25836! Vom Dent Young 145! Sho (Nov.) Keay FHI 22523! Zaranda Mt., 5,800 ft. (May) Lely 191! **S. Nig.:** Upper Ogun F.R., Oyo (Mar.) Keay FHI 21021! [**Br.**] **Cam.:** Bamenda Dist., 4,500-8,000 ft. (Jan.-June) Migeod 328! 450! 493! Maitland 1412! 1492! Ujor FHI 30040! Morton K126! Nkambe, 6,100 ft. (Feb.) Hepper 1888! 2129! Kakara, 4,900 ft., Mambila Plateau (Jan.) Hepper 2818! Gashaka, Adamawa (Feb.) Latilo & Daramola FHI 34462!

Throughout tropical Africa; the only indigenous species.

3. **Eupatorium triplinerve** *Vahl* Symb. Bot. 3: 97 (1794). *APD acc*

A herb 2-3 ft. high with almost glabrous stems and leaves; florets mauve in rather few heads about 1/3 in. broad; **a weed**.

Dah.: Abomey (Feb.) Chev. 28174!

Widely spread in the tropics of Asia and America and also in the Mascarene Islands.

4. **Eupatorium microstemon** *Cass.* in Dict. Sci. Nat. 25: 432 (1822).

APD: *Synonym of Fleischmannia microstemon (Cass.) R. M. King & H. Rob.*

Eupatorium guadalupense *Spreng.* (1826).

An erect annual herb, branched above, 1-3 ft. high with terete striate glabrescent stems; florets pale mauve to white in small numerous more or less clustered heads on long branches; **a common weed of farms and roadsides in forest areas, at least in Ghana.**

iv. C.: teste Mangenot. **Ghana:** Bosuso (May) Adams 1760! Asiakwa (Nov.) Boughey GC 13125! Techiman to Ejura (Dec.) Morton GC 9561! Wenchu to Chiraa (Dec.) Adams 3198! Aburi to Nsawam (Oct.) Morton A3440! Pramkese (Jan.) De Wit & Morton A2957! New Tafo (Oct.) Lovi WACRI 8926! Dunkwa (Feb.) Whiting 14!

Also in **Central America, Mexico** and the **West Indies** and almost certainly introduced in our area.

[The first gathering of this weed was apparently made as recently as May 1953; it should be sought in other parts of the area of this Flora—C. D. A.]

68. MIKANIA

Willd.—F.T.A. 3: 301. Nom. cons.

- 1 Leaves coarsely crenate-dentate to subentire, ovate-triangular, acuminate, cordate to rounded-truncate at base, 5-10 cm. long, up to 8 cm. broad; involucre bracts variable in length up to 8 mm.; achenes black, 3 mm. long, mostly cartilaginous-ribbed on the angles, glandular; pappus-setae minutely barbellate, often pinkish, up to 5 mm. long:2

Leaves 3-5(-7)-lobed, up to about 5 cm. long and 4 cm. broad; lobes oblong-lanceolate, mucronate; leaves openly cordate; involucre bracts about 4 mm. long; achenes black, 2-2.5 mm. long, angled but margins not cartilaginous, eglandular, minutely transversely rugulose; pappus-setae barbellate, buff, less than 2 mm. long 2. carteri

- 2 Capitula mostly sessile or shortly stalked in tightly rounded clusters; involucre bracts about 6 mm. long1. cordata var. cordata

Capitula on stalks 5-15 mm. long in an open panicle; involucre bracts 7-8 mm. long 1a. cordata var. chevalieri

Mikania cordata (*Burm. f.*) *B.L. Robinson APD acc*

1. **Mikania cordata var. cordata**—in Contrib. Gray Herb. 104: 65 (1934). *APD acc*

Eupatorium cordatum *Burm. f.* (1768).

Mikania chenopodifolia *Willd.* (1803).

Mikania scandens of F.T.A. 3: 301; Chev. Bot. 361; F.W.T.A. ed. 1, 2: 172, not of Willd.

Scrambling up to 25 ft. or more **in old farms and clearings**; florets white or rarely bluish in numerous small few-flowered clustered heads.

Sen.: Sedhiou, Casamance (Feb.) Chev. 2038 bis! **Gam.:** Hayes 557! **Port. G.:** Pessube, Bissau (Oct.) Esp. Santo 982! **Guin.:** Heudelot 610! Farmar 267! Kouria (Oct.) Caille in Hb. Chev. 14914! **S. L.:** Don! Sugar loaf Mt. (Dec.) Sc. Elliot 3865! Mt. Horton, 1,500 ft. (Jan.) T. S. Jones 297! Pujehun (Dec.) Deighton 255! Kitchom (Jan.) Deighton 961! Bintumane

Peak, 5,400 ft. (Jan., Nov.) T. S. Jones 139! 156! Jaeger 532! **Lib.:** Kakatown Whyte! Gbanga (Sept.) Linder 751! Monrovia (June, Nov.) Baldwin 5876! Dinklage 3266! Genna Tanyehun (Dec.) Baldwin 10772! Dukwai R. (Oct.-Nov.) Cooper 40! Nimba Mts. (Dec.) Adam 16463! **iv. C.:** Bingerville Chev. 15458! Nimba Mts., 5,000 ft. (Feb.) Schnell 446. **Ghana:** Ewisa, near Saltpond (Aug.) Chipp 567! Aburi (Apr.) Brown, 322! Asin-Nyankumasi Cummins 220! Wenchi, Ashanti (Dec.) Adams 3249! Togo Plateau F.R. (Sept.) St. Clair Thompson, 1479! **Togo Rep.:** Baumann 452! Lomé Warnecke 407! **N. Nig.:** Nupe Barter 186! Sokoto (June) Dalz. 550! Naraguta (June) Lely 321! Jebba Hagerup 754! Vom Dent Young 146! **S. Nig.:** Abeokuta Irving! Nun R. (Aug.) T. Vogel 22! Lagos (Dec.) Dalz. 1168! Ibadan (Nov., Dec.) Umana FHI 26757! Fakunle FHI 27671! Ujor FHI 29397! Oban Talbot 395! **[Br.] Cam.:** Cam. Mt., up to 7,000 ft. (Nov.-Feb.) Mann 1326! 1924! Preuss 1097! Mildbr. 10809! Johann-Albrechtshöhe Staudt 554! Bamenda, 5,000 ft. (Jan.) Migeod 322! Oku L., Bamenda (Jan.) Keay & Lightbody FHI 28670! Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 1568! Ngel Nyaki, 5,400 ft., Mambila Plateau (Jan.) Hepper 1715! **F. Po.:** (June, Dec.) T. Vogel 16b! Barter! Mann 33! 7,000 ft. Mann 283! Monte Balea, 1,800 ft. (Dec.) Guinea 468! Moka, 4,000 ft. (Dec.) Boughey 6!

Widespread in the Old World tropics.

1a. **Mikania cordata** var. **chevalieri** C.D. Adams in J.W. Afr. Sci. Assoc. ined. (1963).

APD: *Synonym of Mikania chevalieri* (C. D. Adams) W. C. Holmes & McDaniel

Mikania laxa A. Chev. Bot. 360, name only, not of DC.

S. L.: Jigaya (Nov.) Thomas 2839! Bumbuna (Oct.) Thomas 3937! **Lib.:** Gbanga (Sept.) Linder 448! Flumpa, Sanokwele (Sept.) Baldwin 9364! **iv. C.:** Mbasso to Abongoua (Dec.) Chev. 22651! **S. Nig.:** Lagos (Oct.) Moloney! Sapoba, Benin (Sept., Nov.) Jones FHI 4981! Meikle & Keay 524! Onochie FHI 34275! Nun R. (Sept.) Mann 496!

Extending probably into Congo and **Angola**.

This plant differs from typical *M. cordata* in having a more open inflorescence with slightly larger capitula; the stems and undersurface of the leaves are often purplish and the whole plant is usually glabrous.

2. **Mikania carteri** Bak. in Kew Bull. 1895: 106; Robinson l.c. 67. **APD acc**

Mikania scandens Willd. var. **laciniata** Hutch. & Dalz. F.W.T.A., ed. 1, 2: 172.

Mikania tropaeolifolia O. Hoffm. (1898).

A scrambling herb with rather small divided leaves; involucre green; florets white with purple styles.

S. Nig.: Lagos Rowland! Idanre Hills, Ondo (Oct.) Keay & Onochie FHI 20241! Okelifi Hill, Ondo (Nov.) Onochie FHI 34344! Ado Rock, Oyo (Sept., Oct.) Savory & Keay FHI 25450! Keay FHI 37182! Onitsha (Oct.) Onochie FHI 34126! Okafor FHI 35871!

Also in **Cameroun**.

This species closely resembles *M. corydalifolia* Griseb. (1863) from Cuba.

69. ADENOSTEMMA

J.R. & G. Forst.-F.T.A. 3: 299. **APD acc**

- 1 Achenes smooth; leaves long-petiolate, ovate to ovate-rhomboid, cuneate and sub-entire towards the base, 8-15 cm. long, 3-7 cm. broad, glabrous or nearly so beneath, prominently trinerved from above the base, rather sharply serrate-dentate; flower-heads numerous, 6-8 mm. long; achenes with a club-like pappus [1. mauritianum](#)
Achenes closely warted; pappus as above: **2**
- 2 Leaves ovate, abruptly narrowed at base into the long petiole, crenate or coarsely serrate, 5-12 cm. long, 3-6 cm. broad, subscabrid on the nerves beneath; flower-heads small and numerous [2. perrottetii](#)
Leaves oblong-lanceolate to linear, subsessile or shortly petiolate, shallowly serrate, up to 12 cm. long and 1-3 cm. broad, glabrous; flower-heads large and few [3. caffrum](#)

1. **Adenostemma mauritianum** DC. Prod. 5: 110 (1836). **APD acc**

Adenostemma viscosum of F.T.A. 3: 300, partly, not of J.R. & G. Forst.

An erect usually branched herb 2-4 ft. high, with rather rough stems and white florets in small heads in loose dichotomous terminal panicles.

S. Nig.: Eket Talbot 3371! [**Br.**] **Cam.:** Cam. Mt., 2,500-7,500 ft. (Nov.-Apr.) Mann 1218! 1958! Dalz. 8338! Dunlap 84! Maitland 481! Migeod 42! 129! Hutch. & Metcalfe 8! Adams 1643! Oku, 6,500 ft., Bamenda Dist. (Feb.) Hepper 2047! **F. Po:** 4,000-8,000 ft. (Dec.) Mann 575! Boughey 183!

2. **Adenostemma perrottetii** DC. l.c. 110 (1836); F.T.A. 3! 300, in syn.; Berhaut Fl. Sén. 69.

APD: *Synonym of Adenostemma viscosum J.R. Forst. & G. Forst.*

Adenostemma viscosum of Chev. Bot. 359, partly, not of J.R. & G. Forst.

Adenostemma mauritanum of F.W.T.A., ed. 1, 2: 172, partly (Liberian record), not of DC.

Siegesbeckia abyssinica of Stapf in Johnston Lib. 615, not of Oliv. & Hiern.

A weak-stemmed annual weed of damp shady places, 1-3 ft. high; florets white or pale mauve.

Sen.: Niokolo-Koba (Oct.) Adam 15796! **Mali:** Gaibala Spring, Kita Massif (Oct.) Jaeger! **Port. G.:** Safim, Bissau (Jan.) Esp. Santo 1657! Brene, Bissau (Jan.) Esp. Santo 1692! **Guin.:** Kouria to Ymbo (Nov.) Chec. 14725! **S. L.:** Freetown (Oct.) Deighton 2133! Mabonto (Oct.) Thomas 3637! Kenema (Nov.) Deighton 448! Njala (Nov.) Deighton 1785! Gbinti (Jan.) Deighton 5895! **Lib.:** Bumbumi-Moala (Nov.) Linder 1332! Kakatown Whyte! Dukwia R. (Oct.-Nov.) Cooper 2! Du R. (Aug.) Linder 291! Suacoco, Gbanga (Apr.) Konneh 156! Jabrocca, Webo (July) Baldwin 6681! **Iv. C.:** Tébo, Middle Cavally (July) Chev. 19395! Orumbo Mt., Toumodi (Dec.) Boughey GC 14442! **Ghana:** Brenase, Akim (Apr.) Irvine 554! S. Fomangsu F.R. (Apr.) Adams 2658! Ofinso (Nov.) Darko 642! Vane, Amedzofe (Nov.) Morton GC 9381! Dutukpene (Dec.) Adams 4532! **N. Nig.:** Jos Plateau (Sept.) Lely P750! **S. Nig.:** Aboh Barter 1289! Lagos W. MacGregor 303! Akure F.R., Ondo (Aug., Oct.) Jones FHI 20701! Keay FHI 25530! [**Br.**] **Cam.:** Cam. Mt., Buea, 5,000 ft. (Jan.) Maitland 225! Ndop, Bamenda, 3,600 ft. (Dec.) Boughey GC 11113! Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 1577! **F. Po:** Venus Bay (Dec.) Guinea 328! Moka, 3,500-4,000 ft. (Dec.) Boughey 79!

Also **Sudan, Eritrea, Uganda, Tanganyika** and **S. Tomé**.

3. **Adenostemma cafferum** DC. l.c. 112 (1836). *APD acc*

Adenostemma viscosum of F.T.A. 3: 299, partly; of Chev. Bot. 359, partly; of F.W.T.A., ed. 1, 2: 172; not of J.R. & G. Forst.

A very variable erect or decumbent herb up to about 2 ft. high with white florets in rather few large heads.

Mali: Tabacco (Jan.) Chev. 127! **Guin.:** Konkouré to Timbo (Mar.) Chev. 12503! Ditinn to Dalaba (Mar. Chev. 18085! Pita (Dec.) Jac.-Fél. 673! **S. L.:** Banda Karfaia to Sivi-Kozo (Feb.) jaeger 4307! Farangbaya Tonkolili Crisp C! G! **Ghana:** Techiman (Dec.) Adams & Akpabla GC 4486! Wenchu (Dec.) Adams 3193!

Dah.: Guilimèro to Quétécou (June) Chev. 24256! **N. Nig.:** Jos Plateau (Aug.) Lely P676! Naraguta (Nov.) Lely 707! **S. Nig.:** Koloishe Mt., 5,000 ft., Obudu (Dec.) Keay & Savory FHI 25133! 25248! [**Br.**] **Cam.:** Vogel Peak, 1,200-4,000 ft., Adamawa (Dec.) Hepper 1533! 2770!

Also in **Sudan, Congo** and extending to southern Africa.

[Plants of wet places in the western part of the range tend to be smaller, decumbent and have linear leaves, possibly divided when submerged.]

70. AGERATUM

Linn.-F.T.A. 3: 300. APD acc

- 1 A softly hispid herb with opposite leaves; petioles slender 1-3 cm. long, blades ovate up to 6 cm. long and 4 cm. broad; flower-heads in compact terminal cymose inflorescences; involucre bracts in about 3 rows, oblong, shortly pointed, strongly 2-nerved, glabrous or with a few setose hairs; achenes sharply 4-angled, black when mature, sparsely pubescent, glabrescent; pappus of 5(-6) spreading fimbriate scales each terminating in a barbellate hair..... [*l. conyzoides*](#)

Ageratum conyzoides Linn. Sp. Pl. 839 (1753); F.T.A. 3: 300; Chev. Bot. 360. *APD acc*

A faintly aromatic erect or procumbent annual herb 1-3 ft. high with mauve florets in heads about 1/4 in. long; a common weed.

Sen.: (Jan.) Roger! Dakar (Jan.) Chev. 2043! Cape Verde (Dec.) Berhaut 725! **Gam.:** Genieri (Feb.) Fox 59! Basse (Mar.) Todd 12! **Mali:** Badumbé (Dec.) Chev. 52! **Guin.:** (Apr.) Bouery 21! Kouroussa (July) Pobéguin 325! **S. L.:** Winwood Reade! Don! (June) T. Vogel 298! Picket Hill, 2,300 ft. (Nov.) T.S. Jones 198! Musaia (Apr.) Deighton 5460! Loma Mts.

(Sept.) Jaeger 1955! **Lib.:** Whyte! Dukwia R. (Oct.-Nov.) Cooper 24! Monrovia (July) Linder 11! Ganta (Sept.) Harley! **Iv. C.:** Adiopodoumé (July) Boughey GC 14576! Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18082! **Ghana:** Cape Coast (July) T. Vogel 43! Amuni, Ashanti (Dec.) Chipp 45! Kumawu (Sept.) Whiting 4! Tamale (Dec.) Adams & Akpabla GC 4171! 4172! Amedzofe (Oct.) Morton GC 6041! **N. Nig.:** Borgu Barter 1030! Sokoto (Nov.) Lely 133! Moiser 69! Fodama (Dec.) Moiser 155! Jos Plateau Batten-Poole 368! **S. Nig.:** Lagos (Aug.) Dalz. 1409! Ibadan (Jan.) Newberry 17! Calabar (Jan.) Holland 20! Obudu Plateau, 5,000 ft. (Aug.) Stone 49! **[Br.] Cam.:** Buea, 3,000-6,000 ft. (Jan., Apr., June) Dunlap 74! Hutch. & Metcalfe 119! Maitland 43! 293! Bamenda, 5,000 ft. (Jan.) Migeod 427! **F. Po.:** (Oct.) T. Vogel 17! Monte Balea (Dec.) Guinea 463!

Widespread through the tropics and subtropics.

Ageratum houstonianum Mill. (1768).

With long-pointed linear-lanceolate shortly hispid involucre bracts and white or bluish-purple florets in larger more round-based heads is reported from Mali (Roberty 1035! 1036! cult.) and from Buea (teste Morton,? escape from cultivation).

A native of Mexico.

71. PLEIOTAXIS

Steetz-F.T.A. 3: 440.

- 1 Stems and lower surfaces of the leaves woolly-tomentose; leaves broadly lanceolate, acutely acuminate, acute at base, 10-15 cm. long, 2-4 cm. broad, denticulate with about 10-15 pairs of parallel lateral nerves; petiole about 1-5 cm. long, encircling the stem; flower-heads narrowly campanulate, about 4 mm. long, the innermost broadly lanceolate and 2 cm. long, with a broad darkened grooved midrib; achenes pubescent; pappus straw-coloured, 1-5 cm. long [newtonii](#)

Pleiotaxis newtonii O. Hoffm. in Engl. Bot. Jahrb. 15: 537 (1893); Chev. Bot. 377; Berhaut Fl. Sén. 175, 203. *APD acc*

APD: Synonym of Pleiotaxis chlorolepis C. Jeffrey

An erect perennial herb with striate stems up to 4 or 5 ft. high and leaves softly whitish-tomentose beneath; florets bright red; [in savanna](#).

Sen.: Niokolo-Koba Berhaut 1536; 4631. **Port. G.:** Gabu (Oct., Nov.) Esp. Santo 2773! 2951! 2963! Souaco to Bafatá (Nov.) Esp. Santo 3595! **Guin.:** Kouroussa (July) Pobéguin 328! Irébéléya to Timbo, 1,800-2,150 ft. (Sept.) Chev. 183411 Mamou to Irébéléya (Sept.) Chev. 18616! Siguiri (Nov.) Jac.-Fél. 513! Dabola (Sept.) Jaeger 4907!

Also in [Angola](#).

72. DICOMA

Cass.-F.T.A. 3: 442; C. F. Wilson in Kew Bull. 1923: 377.

- 1 Outer pappus of barbellate bristles, inner of lanceolate 1-nerved membranous scales; achenes long-villous; leaves oblanceolate to linear, 1.5-6 cm. long, less than 1 cm. broad, white-woolly tomentose on both surfaces but paler beneath, mucronate, minutely and sharply serrate; flower-heads sessile or subsessile, numerous, mostly axillary; involucre bracts about 5-seriate, up to 1.5 cm. long, terminating in a long sharp bristle from a lanceolate base, the outer woolly [1. tomentosa](#)
- Outer and inner pappus of plumose bristles; achenes densely silky-villous; leaves oblanceolate to elliptic, 6-12 cm. long and 1-2 cm. broad; stems and leaves beneath at first silky, glabrescent; flower-heads subsessile, terminal or axillary, few; involucre bracts about 6-seriate, up to about 3 cm. long, narrowly lanceolate with a bristle tip, glabrous [2. sessiliflora](#)

1. **Dicoma tomentosa** Cass. in Bull. Sci. Soc. Philom. Paris 1818: 47; F.T.A. 3: 443; Wilson in Kew Bull. 1923: 377; Chev. Bot. 377; Berhaut Fl. Sén. 200; De Miré & Gillet in J. Agric. Trop. 3: 706. *APD acc*

An annual weedy herb, usually branched from a woody base, up to 2 ft. high, with cottony stems and leaves and greenish-white to pale pink florets in spinose heads 1/2 in. or more long; **in dry fields**.

Sen.: (June) Leprieur! Mt. Rolland (Dec.) Berhaut 738! **Mali:** Sicoro (Jan.) Chev. 221a! Kita (Oct.) Jaeger 5! **Iv. C.:** Poisson! **Ghana:** Zuarungu (Apr., Nov., Dec.) Akpabla 396! Adams & Akpabla GC 4262! Morton GC 8925! Nandom to Lambusie (Apr.) Adams 4108! **Dah.:** Adjara, near Porto-Novo (Jan.) Chev. 22755! **Niger:** Ansogo (Sept.) Hagerup 396! Aïr vide De Miré & Gillet l.c. **N. Nig.:** Borgu Barter 1299! Kuka, Bornu (Jan.) E. Vogel 30! Sokoto Lely 111! Auchang (Feb.) Dalz. 171! Gaya, Kano (July) Daggash FHI 22378!

2. **Dicoma sessiliflora** Harv. in Fl. Capensis 3: 518 (1865); F.T.A. 3: 444; Wilson l.c. 386; Berhaut Fl. Sén. 198, 204.

APD: *Synonym of Macledium poggei (O. Hoffm.) S. Ortíz*

APD: *Synonym of Macledium kirkii (Harv.) S. Ortíz subsp. kirkii*

APD: *Synonym of Macledium sessiliflorum (Harv.) S. Ortíz*

A perennial herb with pithy stems from a few inches to 4 ft. high from a woody stock; florets yellowish in heads 1-1/2 in. long; the leave often tinged wine-red; **in stony or rocky places in savanna**.

Sen.: fide Berhaut l.c. **Ghana:** Burufo, near Lawra (Dec.) Adams & Akpabla GC 4462! Damongo Scarp, Gonja (Dec.) Morton GC 10000! Wa (July) Adams GC 17421! **N. Nig.:** Borgu Barter 717! Abinsi (Oct.) Dalz. 663! Naraguta (Nov.) Lely 701! Anara F.R., Zaria (Nov.) Keay FHI 22703! Share to Ilorin (Jan.) Ejiofor & Ujor FHI 30245! Ejiofor FHI 30804!

73. GERBERA

Linn. ex Cass. in Bull. Sci. Soc. Philom. Paris 1817: 34; F.T.A. 3: 445; Brenan in Mem. N.Y. Bot. Gard. 8: 488 (1954); Taxon 9: 160 (1960).Nom. cons.

- 1 An acaulescent perennial herb with a silky-tomentose stock; leaves elliptic, rounded at the apex, narrowed into a slender petiole, 5-20 cm. long, 2-6 cm. broad, entire or denticulate, sparingly pilose above, softly pilose beneath; flower-heads solitary on a tomentose peduncle up to 30 cm. long; peduncle thickened towards the apex and lengthening further in fruit; involucre bracts linear, 1.5-2 cm. long, shaggy outside, glabrous and shiny-black within; ray-florets tubular, about 2 cm. long, variable in colour; disk-florets shorter, usually white; achenes spreading at maturity, long-beaked, setulose; pappus of numerous smooth pinkish-buff spreading setae[*piloselloides*](#)

Gerbera piloselloides (Linn.) Cass. in Dict. Sci. Nat. 18: 461 (1820); F.T.A. 3: 445; Chev. Bot. 377.

APD acc

Arnica piloselloides Linn. (1760).

A perennial herb with solitary flower-heads on leafless peduncles 6-18 in. high, arising from a rosette of leaves; outer florets pale crimson to greenish-yellow; **in hill grassland**.

Guin.: Diaguissa (Apr.) Chev. 12944! **Ghana:** Amedzofe Dokosi! **[Br.] Cam.:** Bamenda Dist., 4,500-6,500 ft. (Dec., Jan., Mar., Apr., June) Maitland 1470! 1710! Migeod 365! Boughey GC 10886! Morton. K60! 96! 242! Hepper 2110! 2838! Gembu to Likitaba, Mambila Plateau (June) Chapman 48!

From Eritrea and **Ethiopia** in high grassland through east and central Africa to **Angola**, S.W. Africa and Transvaal, and also in Madagascar.

74. HYPERICOPHYLLUM

Steetz in Peters Reise Mossamb. Bot. 49, t. 50 (1863).

Jaumea of F.T.A. 3: 395, not of Pers.

- 1 Stems several from a woody rhizome, slightly setulose but soon glabrous, ribbed; leaves lanceolate to ovate-elliptic, obtuse at apex, more or less rounded at base, 5-8 cm. long, 1.5-4 cm. broad, faintly gland-dotted, reticulate on both sides, opposite, sessile, more or less scale-like below; flower-heads solitary or subsolitary,

about 2.5 cm. diam.; peduncle up to 15 cm. long; involucre bracts 2-3-seriate, broadly ovate-lanceolate, acutely acuminate, about 2 cm. long, glabrous; florets all tubular; achenes pubescent; pappus in a single series with golden-buff, densely and shortly plumose setae 1-1.3 cm. long [multicaule](#)

Hypericophyllum multicaule *Hutch.* in Kew Bull. 1907: 50. *APD acc*

An erect perennial herb with several stiff pale green stems, pinkish at the base, up to 2 ft. high, arising from a woody rhizome; leaves bright green, rather fleshy and glossy; involucre pale green; florets greenish-white in heads 1 in. long; **flowering after grass burning.**

S. L.: Loma Mts. (sterile, Aug.) Jaeger 1085! **iv. C.:** Koualé to Kouroukoro (May) Chev. 21756! **N. Nig.:** Kontagora (Jan.) Dalz. 52! Meikle 1058! Birnin Gwari, Zaria (May) Keay FHI 25807! Jos Plateau (Feb.) Lely P79!

75. **BERKHEYA**

Ehrh.-F.T.A. 3: 428. *Nom. cons.* *APD acc*

- 1 Stems erect, ribbed, with crisped hairs; leaves linear-oblong, up to about 15 cm. long, sparsely and minutely scabrid-pubescent above, white-woolly tomentose beneath, with an acute spinescent apex and numerous spine-tipped teeth on the margin, sessile, auriculate and amplexicaul; flower-heads several, pedunculate, 5-7 cm. diam.; involucre bracts margined with long spines, longer than the disk-florets; ligules of ray-florets linear; pappus-scales oblanceolate, serrulate [spekeana](#)

Berkheya spekeana *Oliv.* in Trans. Linn. Soc. 29: 100, t. 66 (1873); F.T.A. 3: 429. *APD acc*

A leafy thistle-like herb up to 4 or even 6 ft. high, with yellow florets in heads nearly 3 in. across and milky latex; **in montane grassland.**

[Br.] Cam.: Bamenda, 5,000-7,500 ft. (Jan., Mar., June, Aug.) Migeod 380! Morton K29! Savory UCI 286! Njinikom (June) Maitland 1718! Jakiri (Feb.) Hepper 2081! Banja, Bamenda to Nkwa (Aug.) Ujor FHI 29955! Shwai, Bansa (Dec.) Egbuta FHI 3776!

Also in **Congo, Sudan, Kenya, Uganda** and **Tanganyika.**

[The West African plants have the upper leaf surface more sparsely appressed-setulose than the central and eastern African forms.]

76. **ECHINOPS**

Linn.-F.T.A. 3: 430.

- 1 Leaves very small, not exceeding 3 cm. long, usually 1.5-2 cm. long, shortly pinnately toothed; compound heads 3-5 cm. diam.: **2**
 Leaves much larger than above, usually white-woolly-tomentose beneath: **3**
- 2 Stem-wings continuous between the nodes from the decurrent leaf-bases; stems and leaves beneath thinly cottony when young, glabrescent; involucre bracts subentire, rhomboid-elliptic [1. gracilis](#)
 Stems winged only for a short distance in two lines below each leaf; whole plant glabrous; involucre bracts lanceolate to rhomboid-elliptic, serrulate in the upper half [2. guineensis](#)
- 3 Stem-leaves not divided, entire or at most dentate: **4**
 Stem-leaves divided, lanceolate to ovate or elliptic in plan, with segments spine-tipped: **6**
- 4 Leaves smooth and glabrous above; stem smooth; leaves linear, shortly auriculate, more or less distinctly dentate, 10-25 cm. long, 0.5-2(-3) cm. broad (incl. the spine-tipped teeth); heads terminal on rather short peduncles, 5-6 cm. broad [3. longifolius](#)
 Leaves densely setose above; stem setulose, deeply grooved; leaves lanceolate to oblong-elliptic, more or less rounded at base, sessile, entire; heads terminal, 4-5 cm. broad, those on lateral branches smaller; **5**
- 5 Lamina up to about 12 cm. long and 2 cm. broad, acutely acuminate [4. mildbraedii](#)
 Lamina 8-10 cm. long and 3-3.5 cm. broad, shortly acute [5. lanceolatus](#)
- 6 Outer involucre bracts of some of the partial capitula developed into hard spines up to 3 cm. long, projecting beyond the spherical head which is about 6 cm. diam. in flower; stems grooved, woolly-tomentose, very thinly

setulose; leaves woolly-tomentose on both surfaces, also scabrid above, dentate-pinnatifid, with marginal and terminal spines 1 cm. or more long; partial heads about 2.5 cm. long with numerous buff setae 1.5 cm. long arising near the base; involucre bracts minutely ciliate on the shoulders of the broader basal portion below a spinose apex [6. spinosissimus](#)

Outer involucre bracts uniform, not developed into long spines; stems grooved, setose; leaves woolly-tomentose beneath; heads 6-12 cm. diam.: [7](#)

- [7](#) Leaves ovate in plan, doubly dentate in deeply pinnatifid segments, sessile, amplexicaul and auriculate, thinly tomentose and scabridulous above; partial heads (capitula) up to 4 cm. long with the basal setae buff about 1 cm. long; involucre bracts pectinate-ciliate, smoothly tapered at apex [7. amplexicaulis](#)

Leaves obovate in plan, the lower nearly entire, the upper deeply pinnatisect, shortly stalked, the bases of the petioles half-amplexicaul but not auriculate, shortly and densely setose above and on the veins beneath; partial heads (capitula) 1.5-3 cm. long with the basal setae buff 3-7 mm. long; involucre bracts expanded at apex into a spinulose tuft [8a. giganteus var. lelyi](#)

1. *Echinops gracilis* O. Hoffm. in Mém. Soc. Bot. Fr. 2, 8: 42 (1908). *APD acc*

A bushy perennial herb or undershrub usually about 2-3 ft., but sometimes up to 6 ft. high; stem woody below; florets pale mauve or fading white in sessile or shortly stalked spherical heads about 2 in. across; [in hill grassland](#).

N. Nig.: Jos Plateau (Apr.) Lely P219! Vom, 4,000 ft. (Feb.) Dent Young! McClintock 213! Bokkos (Dec.) Coombe 62! **[Br.] Cam.:** Bamenda Dist., 4,800-6,300 ft. (Dec., Jan., Mar., Apr.) Maitland 1539! Migeod 298! Onochie FHI 34841! Boughey GC 10403! Adams GC 11352! Morton K121! Gembu, Mambila Plateau, 5,300 ft. (Jan.) Hepper 1844! Latilo & Daramola FHI 34363! Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1531!

Also in [Cameroun](#), [Ubangi-Shari](#), [Sudan](#), [Congo](#) and [Uganda](#).

2. *Echinops guineensis* C.D. Adams in J.W. Afr. Sci. Assoc. 3: 111 (1957). *APD acc*

Echinops elegans Hutch. & Dalz. F.W.T.A., ed. 1, 2: 177 (1931), not of Bertol. (1853).

Echinops gracilis of Chev. Bot. 375, not of O. Hoffm.

A glabrous shrubby perennial herb with short spiny leaves and spherical compound heads 1-1 1/2 in. across.

Guin.: Beyla to Sadougou (Mar.) Chev. 20871! Beyla (Mar., Aug.) Jaeger 4890! Chev. 20864! **Iv. C.:** Toura country, Upper Sassandra (May) Chev. 21703!

3. *Echinops longifolius* A. Rich. Tent. Fl. Abyss. 1: 452, t. 61 (1848); F.T.A. 3: 431; Chev. Bot. 375. *APD acc*

Echinops otarus Mattf. (1924).

Echinops bathrophyllus Mattf. (1924).

A perennial herb 1-3 ft. high with long narrow regularly spinose-margined leaves closely whitish-tomentose beneath; florets pale blue fading to mauve or white in spherical compound heads about 2 in. across; [in savanna](#).

Mali: Sikasso (fr. Sept.) Adam 15094! **Guin.:** Kouroussa (July) Pobéguin 318! Mt. Loursa, near Dabola (Sept.) Jaeger 4897! **Ghana:** Amansare, Ashanti (July) Chipp 523! Yeji (Aug.) Anderson 48! Vigne FH 3368! Damongo, Gonja (July, Dec.) Andoh 5198! Morton GC 9999! 25038! Yendi (May) Akpabla 580! Kete Krachi (Dec.) Adams 4513! 4552! Sakogu, Gambaga (Dec.) Adams & Akpabla GC 4251! **Dah.:** Cabolé to Bassila, Savalou (May) Chev. 23802! **N. Nig.:** Jos Plateau (June, Nov.) Lely P325! Keay FHI 21021! Ropp Hills, 4,000 ft. (Dec.) Coombe, 51! Gindiri (Oct.) Hepper 1150! Kilba country (July) Dalz. 29! Bornu (July, Aug.) Parsons! Daggash FHI 24862! **S. Nig.:** Lagos W. MacGregor 152! **[Br.] Cam.:** Vogel Peak area, Adamawa (Nov.) Hepper 1286!

Also in [Cameroun](#), [Ubangi-Shari](#), [Sudan](#), [Ethiopia](#), [Uganda](#), [Kenya](#) and [Tanganyika](#).

4. *Echinops mildbraedii* Mattf. in Engl. Bot. Jahrb. 59, Beibl. 133: 49 (1924). *APD acc*

A much-branched herb with stout stems 2-3 ft. high from a woody stock; florets blue or white in spherical heads up to 2 in. across; [in open grassland](#).

[Br.] Cam.: Ndop to Kumbo, Bamenda Dist. (Dec.) Boughey GC 4701!

Also in [Cameroun](#).

5. *Echinops lanceolatus* Mattf. l.c. 51 (1924).*APD: Synonym of Echinops mildbraedii Mattf.*

A perennial herb very similar to and perhaps not distinct from the last.

[Br.] Cam.: Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1549!Also in **Cameroun**.**6. *Echinops spinosissimus* Turra Farset. Nov. Gen. 13 (1765). *APD acc****APD: Synonym of Echinops pappii Chiov.***Echinops spinosus** Linn. (1767)-F.T.A. 3: 341.An erect branched herb up to 5 ft. high with pinnatifid spiny leaves; stems tomentose, glabrescent; florets white and involucre bracts green in spherical spiny heads up to 4 in. across; **a weed of waste ground in dry open country.****Mali:** Karseni (Apr.) Davey 264! Niafounké (Feb.) Davey 467! **[Br.] Cam.:** Bama, 1,000 ft., Dikwa Div. (Jan.) McClintock 177!Also in **Sudan** and **Ethiopia**.**7. *Echinops amplexicaulis* Oliv. in Trans. Linn. Soc. 29: 101, t. 67 (1873); F.T.A. 3: 431. *APD acc***

A stout herb 6-8 ft. high with the stems and midribs of the leaves smooth or very sparingly setulose; corollas and anthers deep crimson in spherical heads 3-5 in. across.

[Br.] Cam.: Mambila Plateau, 5,600 ft., Adamawa (Jan.) Hepper 1750!Also in **Ethiopia**, **Sudan**, **Congo**, **Kenya**, **Uganda** and **Tanganyika**.**8. *Echinops giganteus* A. Rich. Tent. Fl. Abyss. 1: 449 (1848); F.T.A. 3: 342. *APD acc*****Echinops velutinus** O. Hoffm. (1901).

A stout herb with large compound heads and densely setulose stems and leaves recorded from Sudan and Tanganyika.

8a. *Echinops giganteus* var. *lelyi* (C. D. Adams) C. D. Adams in J.W. Afr. Sci. Assoc. ined. (1963)*APD: Synonym of Echinops giganteus A. Rich.***Echinops velutinus** var. *lelyi* C. D. Adams 3: 113 (1957).An erect branched herb 2-5 ft. high with white flowers in spherical heads up to about 3 in. across; stems and midribs of leaves beneath setulose; **in rough open country and cultivated land.****N. Nig.:** Jos Plateau (Aug.) Lely P671! Batten-Poole 374! Vom, 4,000 ft. (Dec.) Coombe 105! **[Br.] Cam.:** Bamenda (May) Ujor FHI 30365! Vogel Peak, 3,500 ft., Adamawa (Dec.) Hepper 1525!**77. CARDUUS****Linn.-F.T.A. 3: 433.**

- 1 Stem erect, simple or branched, striate, with spinous wings; leaves elliptic or lanceolate, pinnately divided into ovate or lanceolate segments; segments dentate, with the teeth and apex spine-tipped; flower-heads clustered in dense cymes 3-5 cm. diam.; involucre bracts up to 5 mm. long terminating in a long spreading spine; receptacle densely setose; achenes glabrous; pappus setae scabrid, united at base, finally caducous [nyassanus](#)

Carduus nyassanus (S. Moore) R. E. Fries in Acta Hort. Berg. 8: 25 (1925). *APD acc***Carduus leptacanthus Fresen. var. nyassana** S. Moore in J. Linn. Soc. 37: 326 (1906).

A perennial herb of [damp montane grassland](#), up to 4 ft. high; florets white.

[Br.] Cam.: Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1649! Kumbo to Oku, 7,000 ft., Bamenda (leaf Feb.) Hepper 2719! Nguoroje, 5,600 ft., Mambila Plateau (leaf Jan.) Hepper 2820!

Also in [Uganda](#), [Ethiopia](#), [Congo](#), [Tanganyika](#) and [Nyasaland](#).

78. ATRACTYLIS

Linn.-Benth. & Hook. f. Gen. Pl. 2: 465. APD acc

- 1 A very prickly herb; stems slightly pubescent; leaves linear-lanceolate, about 2.5 cm. long, divided into pungent points, woolly when young; flower-heads 1.5 cm. long, long, sessile, terminal, surrounded by the upper leaves; inner involucre bracts with membranous margins, thinly pubescent outside; achenes silky-villous; pappus plumose [aristata](#)

Atractylis aristata Battandier in Bull. Soc. Bot. Fr. 49: 291 (1903); De Miré & Gillet in J. Agric. Trop. 3: 703. *APD acc*

A herb with very prickly leaves and yellow flower-heads.

[Niger](#): Air vide De Miré & Gillet l.c.

Also in [Mauritania](#), [Central Sahara](#) and [Algeria](#).

79. CENTAUREA

Linn.-F.T.A. 3: 436; Philipson in J. Bot. 77: 227 (1939).

- 1 Stems winged by the decurrent leaves; leaves linear-lanceolate, acute, 7-9 cm. long, about 1 cm. broad, thinly woolly-pubescent, entire or nearly so with leaf and wing-margins finely setulose; involucre bracts pectinate with several fine bristles, at first erect, later reflexed, the innermost with spatulate toothed tips; achenes glabrous, with a short pappus [1. nigerica](#)
- Stems not winged: **2**
- 2 Bristles of the involucre bracts short; leaves linear to oblong, up to 12 cm. long, 0.5-2 cm. broad, thinly pubescent, glabrescent, scabrid; flower-heads usually near the ground; achenes glabrous with a short pappus [2. praecox](#)
- Bristles of the involucre bracts long, spinescent, straw-coloured; stem-leaves ovate, lanceolate or oblanceolate, semi-amplexicaul, toothed or pinnately lobed, scabrid; flower-heads borne at the ends of the branches: **3**
- 3 Achenes with a well-developed pappus; spinules of the involucre bracts 3-5 on each side; stem-leaves up to 5 cm. long [3. senegalensis](#)
- Achenes without a pappus (the receptacle in Centaurea is setaceous, and when dissecting heads these hairs may be mistaken for deciduous pappus); spinules of the involucre bracts 1-3 on each side; stem-leaves up to 10 cm. long [4. perrottetii](#)

1. *Centaurea nigerica Hutch.* in Kew Bull. 1921: 383, fig. 7. *APD acc*

An erect perennial herb 2-3 ft. high, sparingly branched above, slightly woolly, with globose-campanulate flower-heads about 1 in. long; florets pale purple to rose.

[Guin.](#): Bara, Fouta Djallon (Sept.) Schnell 7321! Labé (June) Adam 14763! [N. Nig.](#): Jos Keay FHI 20177! Naraguta Lely 252! Pankshin W. D. MacGregor 426! Ropp to Pankshin, 4,000 ft. Coombe 48! Amo, 4,100 ft. (Oct.) Hepper 1028! Federe-Fobur, Jarawa Summerhayes 12!

2. *Centaurea praecox Oliv. & Hiern* in F.T.A. 3: 438 (1877); Chev. Bot. 376. *APD acc*

Centaurea rhizocephala Oliv. & Hiern in F.T.A. 3: 438 (1877); F.W.T.A., ed. 1, 2: 176, not of Trautv. (1873).

Centaurea atakorensis A. Chev. Bot. 376, name only.

An erect branched herb 1-2 ft. high from a perennial woody stock; florets reddish-purple or rose-pink the outer fading first to pale mauve, in prickly heads 3/4-1 in. long, usually appearing close to the ground, the leafy shoots elongating later; leaves very variable in breadth.

Mali: Kéméné (Mar.) Chev. 655! Kita massif (July) Jaeger! **Ghana:** Yendi (Apr., Dec.) Williams 164! Akpabla 416! Adams & Akpabla GC 4058! Salaga Krause! Bole to Sikiri (Mar.) Todd 310! Yeji Anderson. 46! Tumu (Apr., May, Dec.) Vigne FH 3781! Morton GC 7525! Adams & Akpabla GC 4362! Kintampo, Ashanti (Mar.) Dalz. 11! **Dah.:** Djougou (June) Chev. 23892! Djougou to Pobégou (June) Chev. 23930! **Niger:** Diapaga to Fada (July) Chev. 24497! **N. Nig.:** Jebba (Jan.) Meikle 1105! Sokoto (Dec.) Lely 116! Dalz. 405! Anara F.R., Zaria (Nov.) Keay FHI 21682! Nassarawa (Mar.) Hepburn 15! Naraguta, 4,000 ft. (Dec.) Lely 58! Coombe 12! **S. Nig.:** Yoruba country Barter 1223!

3. **Centaurea senegalensis** DC. Prod. 6: 598 (1838); F.T.A. 3: 437; Chev. Bot. 376; Hagerup in Biol. Medd. 9, 4: 55; Schnell in Ic. Pl. Afr. I.F.A.N. t. 37; Berhaut Fl. Sén. 170. *APD acc*

An annual or chamaephytic branched scabrid herb, erect 1-2 ft. high or prostrate; stem-leaves semi-amplexicaul, up to 2 in. long, the basal leaves of early growth larger; florets purple or mauve in spiny heads about 3/4 in. broad terminating leafy branches.

Sen.: Leprieur! Roger! Berhaut 1295. **Mali:** Timbuktu (June, July) Chev. 1258! Hagerup 118! **N. Nig.:** Kuka, Bornu (Jan.) E. Vogel 17! Nguru, Bornu (June) Onochie & Ibrahim FHI 28346! **[Br.] Cam.:** Bama, Dikwa Div. (Nov.) McClintock 5!

4. **Centaurea perrottetii** DC. l.c. (1838); Arènes in Bull. I.F.A.N. 14: 32, t. 1-3; Schnell in Ic. Pl. Afr. I.F.A.N. t. 38; Berhaut Fl. Sén. 169. *APD acc*

Centaurea calcitrapa of F.T.A. 3: 437 and of Chev. Bot. 376, not of Linn.

Centaurea alexandrina of F.W.T.A., ed. 1, 2: 176, not of Del.

A herb like the last up to 18 in. high, with rather smaller heads and larger leaves; florets purple.

Sen.: Perrottet! Dakar (May, Sept.-Nov.) Chev. 33834! 33997! Farmar 146a! Baldwin 5711! **Gam.:** Sukuko (Jan.) Dalz. 8033! Bathurst (Jan., July) Irvine 2793! Deighton 5583! Cape St. Mary (Mar.) Todd 24! Fajara (fl. & fr. Jan.) Wallace AXA! **Mali:** Bamako (Jan.) Chev. 193! Kita (Oct.) Jaeger 22! Dioura (Mar.) Davey 260! **Port. G.:** Suzana (Aug.) Esp. Santo 3067! **Niger:** Niamey (Oct.) Hagerup 493! Tanout (Aug.) Barry 88! **N. Nig.:** Kuka, Bornu (Feb.) E. Vogel 51! Katagum (Sept.) Dalz. 176! Fodama (Nov.) Moiser 228! Maiduguri (June) Ujor FHI 21923! Kano (Mar., Dec.) Bally 7! Meikle 801! **[Br.] Cam.:** Bama, 1,000 ft., Dikwa Div. (Jan.) McClintock 156!

80. PICRIS

Linn.-F.T.A. 3: 447.

- 1 Perennial acaulescent herb with a strong tap-root; leaves mostly radical, linear-ob lanceolate, repand-dentate with mucronate teeth, up to 20 cm. long and 2 cm. broad, setose with forked-tipped hairs on both surfaces and on the margin; flower-heads 1-3 on long peduncles, the scapes usually with a few oblanceolate leaves; involucre bracts unequal up to 1.5 cm. long, pointed, sparingly setose outside, spreading widely in fruit; achenes 5 mm. long, shortly beaked, scabrid on the ribs; pappus-setae buff, rigid, plumose or the outer shorter and simple
..... *humilis*

- Picris humilis** DC. Prod. 7: 130 (1838); F.T.A. 3: 447, in obs.; Berhaut Fl. Sén. 173. *APD acc*

Flowering stems erect from a firm stock, 6-30 in. high, with yellow or white latex; florets yellow in oblong heads 2/3 in. long; often appearing after grass fires.

Sen.: Senegal R. Berhaut 1395. **Mali:** San (Feb.) Roberty 3386! **N. Nig.:** N. of Zaria (Feb.) Dalz. 392! Naraguta, 4,000 ft. (May, June, Dec.) Lely 24! 341! Coombe 44! Kennedy FHI 1198! Jos (Apr., Aug.) Keay FHI 12714! Morton K351! Monod! Vom Dent Young 163! Gindiri, 3,500 ft. (Oct.) Hepper 1133!

81. LACTUCA

Linn.-F.T.A. 3: 450.

- 1 Scandent herbs; inflorescences axillary and terminal, broadly paniculate:.....2
Erect herbs; inflorescence terminal, spreading or contracted:3
2 Stems, peduncles and bracts pilose with gland-tipped hairs; leaves lyrate-pinnatifid with a broadly winged rachis, with usually one pair of lanceolate lateral lobes and a terminal triangular or ovate-deltoid lamina, up to 7 cm. long, repand-denticulate; flower-heads up to 1.5 cm. long; achenes with a long slender beak, flattened with

- several wing-like ribs [1. glandulifera var. glandulifera](#)
- Stems, peduncles and bracts glabrous or nearly so, eglandular, otherwise as above [1a. glandulifera var. calva](#)
- 3** Achenes with a single median rib on each flat side; flower-heads 1 cm. or more long: **4**
- Achenes several-ribbed, narrowed to a slender beak; stems or peduncles glabrous or glabrescent: **5**
- 4** Stem-leaves linear or linear-lanceolate with acutely downward-pointed auricles, simple or runcinate-pinnatifid, very acute, margin entire or irregularly denticulate, up to 20 cm. long and 1.5 cm. broad; stems glabrous, smooth; achenes narrowed into a long beak, without a conspicuously thickened margin; pappus usually bright yellow at base [2. capensis](#)
- Stem-leaves broadly oblanceolate with more or less rounded auricles, shallowly dentate, remotely denticulate; stems setose, glabrescent; achenes with a very short beak and conspicuously thickened margins [3. schweinfurthii](#)
- 5** Beak distinct; body of achene rather flat, reddish; stems sparingly setose: **6**
- Beak short, indistinct, body of achene fusiform, grey; stems glabrous: **7**
- 6** Involucres 6-8 mm. long; stem-leaves numerous, lanceolate, shallowly dentate, denticulate, with rounded auricles [4. schulzeana](#)
- Involucres 1-1.2 cm. long; stem-leaves very few and small, exauriculate; basal leaves absent at flowering time; involucre bracts curled at apex, purplish [5. tuberosa](#)
- 7** Inner involucre bracts 5-6, two to three times as long as the outer ones; leaves mostly deltoid-pinnatifid; panicle much-branched; florets deep yellow [6. taraxacifolia](#)
- Inner involucre bracts 7-8; leaves dentate, sinuate or subentire, denticulate; panicle elongated with few ascending branches; florets pale yellow [7. intybacea](#)

1. *Lactuca glandulifera* Hook. f. *APD acc*

1. *Lactuca glandulifera* var. *glandulifera* - in J. Linn. Soc. 7: 203 (1864); F.T.A. 3: 454; Stebbins in Bull. Jard. Bot. Brux. 14: 350. *APD acc*

A herb with straggling green or purplish stems up to about 4 ft. high with gland-tipped hairs; florets yellow.

S. L.: Loma Mts. (Feb.) Jaeger 4278! [**Br.**] **Cam.:** Cam. Mt., 5,000-8,000 ft. (Dec., Feb., Mar.) Mann 1240! 1917! Maitland 1316! Brenan 9534! L. Bambalue, Bamenda (Mar.) Morton K73! Mambila Plateau, 5,400 ft., Adamawa (Jan.) Hepper 1730! **F. Po:** Musola to Moka (Jan.) Guinea 1903; 1905.

Also in **Ethiopia**, **Congo**, **Uganda**, **Kenya** and **Tanganyika**.

1a. *Lactuca glandulifera* var. *calva* (R. E. Fries) Robyns Fl. Sperm. Parc Nat. Alb. 2: 606 (1947).

APD: *Synonym of Lactuca glandulifera* Hook. f.

Lactuca glandulifera forma *calva* R. E. Fries (1928).

Lactuca dunlapii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 177 (1931).

Like the last, but with the peduncles and involucre bracts at most minutely setulose without gland-tipped hairs.

[**Br.**] **Cam.:** Cam. Mt., 5,000-9,000 ft. (Dec., Jan.) Dunlap 47! Mildbr. 10814! Maitland 226! Boughey GC 17256!

Also in **Congo**, **Uganda**, **Kenya**, **Tanganyika** and **Nyasaland**.

[The distinction of these two varieties is not wholly satisfactory. The following may be regarded as intermediates: -Bamenda Dist.: Mbakokeke Mt., 6,300 ft. (Jan.) Keay & Lightbody FHI 28387! Bafut-Ngamba F.R., 7,000 ft. (Feb.) Hepper 2195! Bambui, 6,000 ft. (Dec.) Boughey GC 10877! Kumbo to Oku, 6,000 ft. (Feb.) Hepper 2014!]

2. *Lactuca capensis* Thunb. Prod. Fl. Cap. 2: 139 (1800); F.T.A. 3: 452; Chev. Bot. 378.

APD: *Synonym of Lactuca inermis* Forssk.

Lactuca holophylla Bak. (1895).

Lactuca sassandrensis A. Chev. Bot. 378, name only

Very variable perennial herbs from a few inches to over 5 ft. high from a robust woody stock.

Mali: fide Chev. l.c. **Guin.:** fide Chev. l.c. Mali, 4,800 ft. (June) Adam 14464! Dantilia (Mar.) Sc. Elliot 5303! **S. L.:** Musaia (Feb.) Deighton 4234! Kangahun (Apr., May) Deighton 3525! 6045! Yalamba (Jan.) Jaeger 3954! **iv. C.:** Gouékouma, Upper Sassandra (May) Chev. 21651! 21667! **Ghana:** Kpong (June) Irvine 1775! Kintampo (Mar.) Dalz. 39! Wenchi, Ashanti (Dec.) Adams 3316! Gambaga (May) Morton GC 7368! Yendi (Dec.) Adams & Akpabla GC 4068! Amedzofe Hills (Nov.) Morton GC 9430! **Dah.:** Zagnanado (Feb.) Chev. 23071! Tchitopa to Koussi, Allada (Feb.) Chev. 23229! **N. Nig.:** Kontagora (Jan.) Meikle 1039! Naraguta, 4,000 ft. (June) Lely 338! Jos (Nov.) Keay & Onochie FHI 21746! Vom (Jan., Apr.) Dent Young 164! Morton K412! **S. Nig.:** Lagos Rowland! Olokemeji F.R. (Mar.) Keay FHI 25699! Sonkwala, 4,000 ft., Ogoja (Dec.) Savory & Keay FHI 25030! **[Br.] Cam.:** Cam. Mt., 5000 ft. to summit (Nov.-Apr.) Mann 1300! 1928! Mildbr. 10839! Dalz. 8313! Maitland 932! 1256! Keay FHI 28584! Boughey GC 6984! Brenan 9379! Bamenda Dist., 4,000-6,500 ft. (Dec., Jan., Mar., Apr.) Migeod 296! 407! Maitland 1543! 1673! Nkambe, 5,800 ft. (Feb.) Hepper 1934! Mambila Plateau, 4,700 ft., Adamawa (Jan.) Hepper 1686! **F. Po:** summit of the peak (Mar.) Guinea 2786.

Widespread in tropical and subtropical Africa and also in the Mascarene Islands.

[The small high-mountain forms are branched rosette plants with blue flowers; the plants of medium altitudes have numerous basal leaves, few scape leaves, and the flowers are usually blue or mauve; the tallest plants of lowland localities usually lack basal leaves at flowering time, the leaves are glabrous or rarely setulose, the leaf-margins are entire or rarely minutely denticulate and the flowers are deep rich purple or rarely yellow. In view of the wide distribution of *L. capensis* in tropical and south Africa, it is not considered appropriate formally to establish any subdivisions of the species, for the purpose of this Flora, on the basis of the West African material only. -C. D. A.]

3. *Lactuca schweinfurthii* Oliv. & Hiern in F.T.A. 3: 452 (1877). *APD acc*

APD: *Synonym of Lactuca inermis Forssk.*

A perennial herb erect hispid-setulose stems up to about 6 ft. high; inflorescence spreading with numerous flower-heads about 1/2 in. long; florets mauve or yellow.

[Br.] Cam.: Fonfuka, 3,000 ft., Bamenda (June) Maitland 1396!

Also in **Cameroun**, **Sudan**, **Congo**, **Tanganyika** and **Angola**.

4. *Lactuca schulzeana* Büttner in Verh. Bot. Verein Brandenburg 31: 72 (1889). *APD acc*

An erect herb up to about 6 ft. high with yellow or white florets in rather small heads in a wide diffuse panicle.

[Br.] Cam.: Lakom, 6,000 ft., Bamenda (Apr.) Maitland 1479! Bum to Nchan, 5,000 ft., Bamenda (May) Maitland 1749!

Also in **Congo**, **Uganda** and **Angola**.

5. *Lactuca tuberosa* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 261 (1917); Chev. Bot. 379. *APD acc APD acc*

APD: *Synonym of Lagarosiphon muscoides Harv.*

APD: *Synonym of Lactuca praevia C. D. Adams*

A herb with erect shoots about 1 ft. high from a massive perennial stock; leaves mostly basal but absent at flowering time; inflorescences rather narrow with erect flower-heads; florets pale blue or white.

Guin.: Laya-Santo, Faranna (Jan.) Chev. 20485! **[Br.] Cam.:** Nguroje to Kakara, Mambila Plateau, 5,400 ft., Adamawa (Jan.) Hepper 1764!

6. *Lactuca taraxacifolia* (Willd.) Schum. ex Hornemann De Ind. Pl. Guin 17 (1819); Schum. & Thonn. Beskr. Guin. Pl. 380 (1827); F.T.A. 3: 451; Chev. Bot. 378; F.W.T.A., ed. 1, 2: 197; Berhaut Fl. Sén. 171.

APD: *Synonym of Launaea taraxacifolia (Willd.) Amin ex C. Jeffrey*

Sonchus taraxacifolius Willd. (1803).

A weedy herb with erect stems 2-4 ft. high arising after the formation of a basal rosette of leaves from an underground branching and proliferating rhizome; sap milky; florets yellow.

Sen.: Richard Tol (Jan.) Perrottet 2! Roger! Dakar (Apr.) Chev. 15803! **S. L.:** Freetown (Dec.) Hagerup 766! Deighton 1533! **Iv. C.:** Ouodé to Gouréni, Upper Sassandra (May) Chev. 21628! **Ghana:** Aburi T. W. Brown 402! Legon Hill (Oct.) Adams 3374! Achimota (June) Irvine 734! Morton A1564! Koforidua (Nov.) Dalz. 104! Dawa (May) Howes 911! **Dah.:** Sakété, Porto-Novo (Jan.) Chev. 22809! Zagnanado (Feb.) Chev. 23086! **Niger:** Air De Miré & Gillet. **N. Nig.:** Katagum Dalz. 169! Sokoto Lely 120! Kouka, Bornu (Mar.) E. Vogel 47! Kalkala, near L. Chad Golding 59! **S. Nig.:** Dodd 379! Lagos (Aug.) Rowland! Phillips 3! Millen 133! Ijaye Barter 3414! Ibadan (Nov., Dec., Feb.) Gwynn 86! Newberry 128! Meikle 917! Latilo FHI 13647!

Also in **Sudan** and **Ethiopia**.

[This species behaves in habitat and location as a casual or introduced weed. There is, however, at present no further evidence to suggest or confirm its presence or origin outside tropical Africa.]

7. *Lactuca intybacea* Jacq. Ic. Pl. Rar. 1: 16, c. 162 (1781).

APD: Synonym of *Launaea intybacea* (Jacq.) Beauverd

Lactuca goraeensis (Lam.) Sch. Bip. (1842)-F.T.A. 3: 452; F.W.T.A., ed. 1, 2: 177, partly (excl. syn. *L. tuberosa* A. Chev. and Rowland, Millen 133, Dodd. 379); Trochain Mém. I.F.A.N. 2: 376; Berhaut Fl. Sén. 171.

Sonchus goraeensis Lam. (1792).

Launaea goraeensis (Lam.) O. Hoffm. (1893)-Chev. Bot. 380.

An annual herb with erect stems up to 6 ft. high from a taproot; florets pale lemon-yellow; leaves yellowish-green, glossy.

Sen.: Dakar (Jan.) Chev. 2045. fide Trochain l.c. **Ghana:** Ada road Morton A2183! **Niger:** Air De Miré & Gillet. **N. Nig.:** (Nov.) Noble A27!

Thinly scattered through the Old and New World tropics in semi-arid regions.

82. CREPIS

APD: Synonym of *Youngia* Cass.

Linn.-F.T.A. 3: 448; Babcock in Univ. Calif. Publ. 22 (1947).

- 1 Scape leafy; inner involucre bracts lanceolate, acute, pubescent within, 1-nerved in the outer midline, not changing at maturity, ultimately reflexed; achenes 8-10 mm. long, fusiform, 10-ribbed, finely setulose; pappus buff, 5 mm. long [*L. cameroonica*](#)

Scape bracteate; inner involucre bracts lanceolate, obtuse, glabrous within, becoming carinate dorsally and spongy-thickened at the base in mature heads; achenes about 7 mm. long; pappus pale buff or white, 6 mm. long [*2a. newii* subsp. *kundensis*](#)

1. *Crepis cameroonica* Babc. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 178 (1931); Babcock l.c. 346, fig. 63.

APD: Synonym of *Crepis newii* subsp. *oliveriana* (Kuntze) C. Jeffrey & Beentje

Crepis hookeriana Oliv. & Hiern in F.T.A. 3: 450 (1877), not of Ball (?) (1873) or of C. B. Clarke (?) (1876).

Anisorhamphus hypochaeroides Hook. f. (1864), not of DC. (1838).

A perennial herb with loosely hairy stems 6 to 20 in. high arising in a basal rosette of pale green leaves from a thick stock; florets bright yellow; involucre bracts green with blackish hairs, forming heads about 3/4 in. broad.

[**Br.**] **Cam.:** Cam. Mt., common from 7,000 ft. to near summit (Nov.-Apr.) Mann 1318! 1918! Maitland 848! 888! 1002! 1243! Migeod 199! Dundas FHI 20360! Keay FHI 28608! Brenan 9559! Morton GC 6903! Boughey GC 12665!

2. *Crepis newii* Oliv. & Hiern in F.T.A. 3: 449 (1877); Babcock l.c. 369. *APD acc*

2a. *Crepis newii* subsp. *kundensis* (Babc.) Babc. l.c. 374, fig. 77 (1947).

APD: Synonym of Crepis hypochaeridea (DC.) Thell.

Crepis bumbensis subsp. *kundensis* Bab. in Bull. Jard. Bot. Brux. 15: 300 (1937).

A perennial herb with a branched scape 1-2 ft. high from a rosette of leaves; florets yellow in heads 1/3 in. broad; latex white; **in open hill pasture.**

[Br.] Cam.: Bamenda Dist., 4,500-7,500 ft. (Dec., Jan., Mar., Apr.) Maitland 1469! 1481a! 1678! Migeod 443! Keay FHI 28384! Morton K98! Adams GC 11212! Boughey GC 11433! Hepper 2115! 2713! Binka, Nkambe (Oct.) Hepper 1887! Maisamari, 4,700 ft., Mambila Plateau (Jan.) Hepper 1688!

The range of *C. newii*, including the several subspecies of Babcock, extends to **Tanganyika** and **Angola**.

Davey 493 (Mali: Diafarabé) has a rosette with a few small lobulate, sparsely setulose leaves on a short scape 6 in. high and yellow florets in an involucre of sparsely setulose scarious-margined bracts. This plant may be *C. juvenalis* F. Schulz (in Flora 23: 719 (1840)), a native of western N. Africa also recorded from the Atlantic Islands, and from Europe as an alien.

83. SONCHUS

Linn.-F.T.A. 3: 457.

- 1 Flowering stems leafy:2
Flowering stems leafless; leaves when present in a basal rosette, obovate to oblanceolate, rounded at apex, 6-20 cm. long, 2-8 cm. broad, denticulate or rarely smooth-margined; achenes oblong, ribbed, smooth, glabrous; pappus white:8
- 2 Leaves distinctly auriculate; bracteoles on peduncles absent, those subtending inflorescence-branches linear-subulate like miniature leaves; base of involucre more or less woolly-pubescent, at least when young:3
Leaves shortly or not auriculate; bracteoles on peduncles and at inflorescence-branches ovate to ovate-lanceolate, small, more or less clasping; base of involucre glabrous, glandular or thinly pubescent, not woolly:6
- 3 Leaves obovate to oblanceolate in plan, 10-20 cm. long, coarsely and irregularly lobed, sharply triangular-denticulate; involucre glabrescent; annual weedy herbs:4
Leaves linear to linear-lanceolate, up to 40 cm. long, entire or sparsely runcinate-pinnatifid, minutely denticulate, long-acute, tailed-auriculate; peduncles and bases of the involucre persistently buff or whitish woolly-pubescent; achenes oblong, 4-8-ribbed, minutely transversely rugulose; tall annual or perennial hollow-stemmed herbs of hill grassland:5
- 4 Achenes smooth, about 10-ribbed, winged, flat, elliptic, rounded at both ends; leaf-base auricles more or less rounded [1. asper](#)
Achenes rugulose, grooved, not winged, obovate, narrowed to the base; leaf-base auricles more or less pointed [2. oleraceus](#)
- 5 Outer involucral bracts densely setose, especially in the midline or at base and apex with ascending bronze-coloured hairs [3. angustissimus](#)
Outer involucral bracts glabrous or with a very few minute setae at apex [4. schweinfurthii](#)
- 6 Leaves linear-lanceolate, mostly basal, runcinate-pinnatifid and coarsely dentate, shortly auriculate at base, the lower 10-12 cm. long; achenes pubescent or glabrous, 4- or many-ribbed in the same capitulum .. [5. chevalieri](#)
Leaves linear to linear-oblanceolate, mostly cauline, simple or nearly so, entire or remotely denticulate, not distinctly auriculate at base:7
- 7 Stems spreading horizontally; leaves 5-10 cm. long, 4-7 mm. broad, obtuse, apiculate; achenes as above; pappus pale buff [6. brunneri](#)
Stems erect; leaves up to 15 cm. long and 1 cm. broad, acute; achenes 10-12-ribbed, [7. exauriculatus](#)
- 8 Stems dwarf, hardly exceeding 10 cm. in length, from a massive tuberous rootstock; involucre 1-1.5 cm. long, on bracteate peduncles up to 1 cm. long, contiguous in a bunched inflorescence:9
Stems 25-50(-75) cm. long from a stout taproot; inflorescence divaricately branched into a spreading panicle; involucre narrowly oblong, 1.5-2 cm. long on peduncles up to 3 cm. long, each with a single minute bracteole or ebracteolate [10. rarifolius](#)
- 9 Inner involucral bracts ovate to lanceolate, successively longer from outside to inside, twisted at apex; stem-apex and bracteoles within densely clothed with long matted buff hairs; bracteoles linear [8. ledermannii](#)
Inner involucral bracts linear, distinct from and about four times longer than the outer without intermediates, more or less flat; stem-apex and bracteoles within glabrous or thinly pubescent; bracteoles ovate [9. elliotianus](#)

1. *Sonchus asper* (Linn.) Hill Herb. Brit. 1: 47 (1769). *APD acc*

Sonchus oleraceus var. *asper* Linn. (1753)-F.T.A. 3: 457; Hiern in Cat. Welw. 1: 622.

A coarse erect or decumbent herb 1-3 ft. high with sharply toothed undulate leaves, pale green beneath and glossy above; florets yellow; a casual weed.

[Br.] Cam.: Cam. Mt., Upper Farm, Buea, 3,300 ft. (Mar., Apr.) Boughey GC 7032! Brenan & Jones 9582!

A casual weed; cosmopolitan.

2. *Sonchus oleraceus* Linn. Sp. Pl. 794 (1753); F.T.A. 3: 457; Chev. Bot. 379; Berhaut Fl. Sén. 171. *APD acc*

A coarse erect annual herb 1-3 ft. high with a milky sap and occasionally with glandular hairs on stems and peduncles; florets yellow; a weed.

Sen.: fide Berhaut l.c. Mali: Kankan (Mar.) Chev. 564! Timbuktu (Aug.) Hagerup 248! Guin.: Mali (Jan.) Roberty 16551! N. Nig.: Jos, 4,100 ft. (fr. Oct.) Hepper 1027! [Br.] Cam.: Bamenda, 5,000 ft. (Feb.) Migeod 457! F. Po: estate of Marcelino Puente (Jan.) Guinea 1736; 1737.

A cosmopolitan weed.

3. *Sonchus angustissimus* Hook. f. in J. Linn. Soc. 7: 203 (1864); F.T.A. 3: 458. *APD acc*

An erect herb 2-10 ft. high with glabrous striate hollow stems and campanulate flower-heads 3/4 in. long with pale yellow florets.

S. Nig.: Ikvette, 5,200 ft., Ogoja (Dec.) Savory & Keay FHI 25261! [Br.] Cam.: Cam. Mt., 5,000-9,500 ft. (Nov.-May) Mann 1311! 1919! Dunlap 200! Deistel 616! Mildbr. 10843! Brenan & Onochie 9390! Bamenda Dist., 6,000-8,200 ft. (Jan., Feb., Apr., May) Migeod 342! 491! Maitland 1750! Morton K255! Boughey GC 11044!

Also in Sudan, Uganda, Kenya, Tanganyika and S. Rhodesia.

4. *Sonchus schweinfurthii* Oliv. & Hiern in F.T.A. 3: 458 (1877). *APD acc*

An erect herb like the last, 3-6 ft. high, with white latex; ligules of florets yellow within, pinkish outside.

[Br.] Cam.: Bamenda, 3,600-5,000 ft. (Dec., Jan., Mar., Apr.) Migeod 366! Keay FHI 28416! Ujor FHI 30053! Boughey GC 11108! Morton K39! Kumbo, 5,500 ft. (Feb.) Hepper 1988! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1656!

Also in Ubangi-Shari, Congo, Sudan, Kenya, Uganda, Tanganyika, Nyasaland, N. Rhodesia and Angola.

5. *Sonchus chevalieri* (O. Hoffm. & Muschl.) Dandy in F. W. Andr. Fl. Pl. Sudan 3: 51 (1956).

APD: Synonym of Launaea brunneri (Webb) Amin ex Boulos

Launaea chevalieri O. Hoffm. & Muschl. (1910)-Chev. Bot. 380.

Sonchus prenanthoides Oliv. & Hiern in F.T.A. 3: 459 (1877); F.W.T.A., ed. 1, 2: 178, not of Bieb. (1808).

Launaea integrifolia Hagerup (1930).

A pale-stemmed diffusely branched annual or perennial herb up to about 2 ft. high, woody at the base, with a rosette or dentate leaves; florets with pale yellow ligules often reddish outside.

Sen.: Rufisque (Dec.) Chev. 2051! Nianing (Feb.) Berhaut 5350! Mali: Timbuktu (July) Chev. 1259! Hagerup 134! Selingourou (Feb.) Davey 26! Ghana: Gambaga (Dec.) Adams & Akpabla GC 4224! Tongo Hills, Zuarungu (Apr.) Morton GC 8926! Niger: Fada to Koupéla, Gourma (July) Chev. 24534! N. Nig.: Kouka, Bornu (Feb.) E. Vogel 45! Sokoto (Feb.) Dalz. 411! Kano (Dec.) Hagerup 661!

Also in Mauritania, Sudan, Ethiopia, Kenya and Tanganyika.

6. *Sonchus brunneri* (Webb) Oliv. & Hiern in F.T.A. 3: 459 (1877); F.W.T.A., ed. 1, 2: 178; Berhaut Fl. Sén. 4, 198.

APD: Synonym of Launaea brunneri (Webb) Amin ex Boulos

Rhabdotheca brunneri Webb in Fl. Nigrit. 147 (1849).

Sonchus bipontini of Chev. Bot. 379, not of Aschers.

A bushy spreading stiff-branched herb of littoral sands about 8-12 in. high at most; ligules white, pale yellow at the base and tinged pink outside.

Sen.: Sôr Isl. Brunner 26! Dakar (Jan.) Chev. 2046! Kayar (Mar.) Berhaut 5661!

Also in **Mauritania**.

7. **Sonchus exauriculatus** (*Oliv. & Hiern*) *O. Hoffm.* in Engl. Pflanzenw. Ost-Afr. C: 421 (1895).

APD: Synonym of Launaea cornuta (Hochst. ex Oliv. & Hiern) C. Jeffrey

Sonchus bipontini var. *exauriculatus* *Oliv. & Hiern* in F.T.A. 3: 459 (1877).

An erect perennial herb with glaucous stems up to about 4 ft. high; ligules of florets pale yellow, reddish outside.

[Br.] Cam.: Gurum, Vogel Peak area, Adamawa (Dec.) Hepper 1598! From Sudan and Somaliland to Congo, Nyasaland and Zanzibar.

8. **Sonchus ledermannii** *R. E. Fries* in Act. Hort. Berg. 8: 118 (1925).

APD: Synonym of Lactuca lasiorhiza (O. Hoffm.) C. Jeffrey

A perennial herb with a thick taproot yielding white latex; the leaves appear separately from the tufted inflorescences which are about 2 in. high with yellow florets in purplish involucre; ligules reddish outside.

[Br.] Cam.: Ngel Nyaki, 5,400 ft., Mambila Plateau (Jan.) Hepper 2878! Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 2877!

Also in **Cameroun**, **Tanganyika** and **N. Rhodesia**.

9. **Sonchus elliotianus** *Hiern* in Cat. Welw. 1: 623 (1898); Chev. Bot. 379.

APD: Synonym of Launaea nana (Baker) Chiov.

Sonchus nanus *O. Hoffm.* (1895), not of Sond. (1865).

Lactuca nana *Bak.* (1895).

A perennial herb with leafless flowering shoots a few inches high from a thick laticiferous rhizome; florets yellow, often tinged reddish.

Guin.: Diaguissa (Apr.) Chev. 12910! Timbikounda, Faranna (Jan.) Chev. 20604! **S. L.:** Sc. Elliot 5010! York (May) Deighton 5530! Makene (Jan.) Deighton 3590! Kabala (Feb.) Deighton 4245! Bintumane Peak, Loma Mts. (Sept.) Jaeger 1998! **Iv. C.:** fide Chev. l.c. **Ghana:** Kintampo (fl. & leaves Mar.) Dalz. 40! Abafuo (Feb.) Vigne FH 1808! Tumu (May) Morton GC 7563! Legon Hill (Feb., May, Nov.) Morton A2168! Adams 3554! 3750! **Togo Rep.:** Misahöhe (Mar.) Baumann 131. **Dah.:** Zagnanado (Feb.) Chev. 23058! **N. Nig.:** Abinsi (fl. & leaves Oct.) Dalz. 665! Vom, 3,000-4,500 ft. (Apr.) Dent Young 165! Morton K383! **S. Nig.:** Ibadan (Feb., Mar.) Meikle 115! Keay FHI 25698! Ogbomosho to Igbetti (Mar.) Hamblar 133! **[Br.] Cam.:** Jua, 3,500 ft., Bamenda (Apr.) Maitland 1589! Bambui, 6,300 ft. (Dec.) Adams GC 11245! Kumbo to Oku, 6,000 ft. (Feb.) Hepper 2013! Ngel Nyaki, 5,400 ft., Mambila Plateau (Jan.) Hepper 1732! Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 1591!

Also in **Congo**, **Sudan**, **Uganda**, **Kenya**, **Tanganyika**, **Nyasaland**, **Rhodesia**, **Mozambique**, **Transvaal** and **Angola**.

[Keay FHI 28413 from Mbakokeka Mt., Bamenda is intermediate between *S. ledermannii* and *S. elliotianus*.]

10. **Sonchus rarifolius** *Oliv. & Hiern* in F.T.A. 3: 460 (1877); Chev. Bot. 380; R. E. Fries l.c. 113, t. 3, fig. 1-2.

APD: Synonym of Launaea rarifolia (Oliv. & Hiern) Boulos

Lactuca stenocephala *Bak.* (1895).

An erect stiff-branched herb, the flowering stems leafless, 1-2 1/2 ft. high from a laticiferous perennial stock; involucre narrow 1/2-3/4 in. long with yellow florets, reddish outside.

Mali: Dougoura (Feb.) Chev. 339! **Guin.:** fide Chev. l.c. **S. L.:** Musaia (Mar.) Sc. Elliot 5115! Loma Mts. (Feb.) Jaeger 4263! **Iv. C.:** Zoanlé, Upper Sassandra (May) Chev. 21491! Alangouassou to Mbayakro, Baoulé-Nord (Aug.) Chev. 22214! **Ghana:** Wenchi, Ashanti Dec.) Adams 3247! Amedzofe Hill (Apr., May) Morton A2009! GC 7246! **N. Nig.:** Nupe Barter 1224! Giwa, Zaria (May) Keay FHI 25805! **S. Nig.:** Ilorin Rowland! Iseyin, Oyo (Feb.) Brenan 8966! Igboho, Oyo (Feb.) Keay FHI 23447! Bansara, Abakaliki to Ikom (Mar.) Morton K1! **[Br.] Cam.:** Bamenda Dist., 5,000 ft. (fl. Mar., leaves Dec.) Maitland 1615! Boughey GC 11368! Morton K49! Lus, 2,500 ft., Nkambe (Feb.) Hepper 1863! Maisamari, 4,700 ft., Mambila Plateau (Jan.) Hepper 1687!

Also in **Congo**, **Uganda**, **Rhodesia**, **Angola**, **Transvaal** and **Madagascar**.

84. LAUNAEA

Cass.-F.T.A. 3: 460.

- 1 Involucral bracts with distinct broad hyaline margins; involucre cylindrical; leaves mostly basal, coarsely dentate and denticulate with sharp whitish cartilaginous teeth; outer achenes wrinkled, muricate, few or several-ribbed; bracteoles on peduncles very few or absent [nudicaulis](#)

Launaea nudicaulis (Linn.) Hook. f. in Fl. Brit. Ind. 3: 416 (1881); Muschl. Man. Fl. Egypt 2: 1059.
APD acc

Chondrilla nudicaulis Linn. (1771)-De Miré & Gillet in J. Agric. Trop. 3: 708 (1956).

A rosette herb with a branched, scapose inflorescence up to about 1 ft. high; ligules of florets yellow within, crimson outside.

Niger: Air vide De Miré & Gillet l.c.

Also in **Cape Verde Islands**, **Mauritania**, **Tibesti**, through N. Africa and **Egypt** to **Arabia** and India, and in **S. W. Africa**.

GENTIANACEAE

Annual or perennial herbs. Leaves opposite, often connate at the base; stipules absent. Flowers hermaphrodite, actinomorphic or rarely zygomorphic. Calyx tubular or of separate sepals, imbricate. Corolla contorted. Stamens the same number as the corolla-lobes and alternating with them, inserted on the corolla; anthers 2-celled, opening lengthwise. Disk present or absent. Ovary superior, mostly 1-celled with 2 parietal placentas, sometimes 2-celled with the placentas adnate to the septa; style simple. Ovules often numerous. Fruit usually a capsule. Seeds with copious endosperm and small embryo.

Mainly in temperate and subtropical regions, abundant in the mountains of the northern hemisphere.

Recognised by the herbaceous habit, opposite exstipulate leaves, gamopetalous corolla, the stamens the same number as and alternate with the corolla-lobes, and the superior ovary with usually parietal placentas.

- 1 Leaves well developed, green:2
Leaves rudimentary, membranous; flowers solitary, terminal; stamens included in the corolla-tube; calyx-lobes subulate [13. Voyria](#)
- 2 Flowers solitary in both leaf axils all along the stems; calyx-tube ribbed [1. Neurotheca](#)
Flowers in axillary or terminal cymes or clusters:3
- 3 Flowers in terminal dichotomous cymes:4
Flowers in dense axillary clusters all along the stem or in dense terminal clusters or heads:9
- 4 Ovary 2-celled:5
Ovary 1-celled with parietal or sometimes intrusive placentas:6
- 5 Corolla blue [2. Exacum](#)
Corolla white or yellow [3. Sebaea](#)
- 6 Anthers all fertile:7
Anthers not all (usually only one) fertile; corolla-lobes without nectaries [7. Canscora](#)
- 7 Corolla-lobes with 1-2 fringed nectaries near their base [4. Swertia](#)
Corolla-lobes without nectaries near their base:8

-
- 8 Calyx shortly 4-lobed; anthers straight; corolla yellow [5. *Schultesia*](#)
 Calyx deeply 5-lobes; anthers twisted; corolla pink [6. *Centaurium*](#)
- 9 Anthers exserted from the corolla-tube: 10
 Anthers not exserted; flowers 5-merous [12. *Enicostema*](#)
- 10 Flowers 4-merous: 11
 Flowers 3-merous [11. *Pycnosphaera*](#)
- 11 Anthers not all (usually only one) fertile; corolla white [8. *Schinziella*](#)
 Anthers all fertile; corolla blue or mauve: 12
- 12 Stigma 2-lobed, throat of corolla with a fringe of hairs [9. *Dialoniella*](#)
 Stigma simple, throat of corolla without a fringe of hairs [10. *Faroa*](#)
-

1. NEUROTHECA

Salisb.-F.T.A. 4, 1: 559.

- 1 Calyx-tube as long as or shorter than the teeth, unequally 10-12-ribbed, lobes subulate-lanceolate; leaves oblanceolate, 1-2.5 cm. long, narrowed to the base; flowers small and inconspicuous [1. *longidens*](#)
 Calyx-tube longer than the teeth, regularly 8-ribbed; lobes about 1/3 as long as the tube, triangular-lanceolate, very acute; leaves up to 2.5 cm. long; flowers numerous and conspicuous [2. *loeselioides*](#)

1. *Neurotheca longidens* N.E. Br. in F.T.A. 4, 1: 560 (1904).

APD: *Synonym of Congolanthus longidens* (N.E. Br.) A. Raynal

A prostrate or suberect herb with slender angular branches up to 12 in. long, glabrous, with small white or pale lilac flowers solitary in the leaf axils.

S. Nig.: Lagos (Nov.) Dalz. 1240! (Apr., July) A. P. D. Jones FHI 19409! Moloney!

Also in the **Congo** and **Uganda**.

2. *Neurotheca loeselioides* (Spruce ex Prog.) Baill. Hist. 10: 138 (1888); F.T.A. 4, 1: 560; Chev. Bot. 446 (incl. var. *grandiflora* Knobl.). *APD acc*

Octopleura loeselioides Spruce ex Prog. in Mart. Fl. Bras. 4, 1: 212 (1865).

Neurotheca robusta Hua (1906)-Chev. Bot. 446.

Neurotheca rupicola Hua (1906).

Erect, usually branched herb with slender angular stems up to 18 in. high, with blue or violet flowers 1/3-1/2 in. long solitary in the leaf axils.

Sen.: Niayes (Feb.) Chev. 2830! Casamance (Feb.) Chev. 2827. **Mali:** Koulikoro (Oct.) Chev. 2828. **Port. G.:** Suxana to Bulol (Nov.) Esp. Santo 3719! **Guin.:** Conakry (Oct.) Adam 12613! Kouria (Oct.) Chev. 14921. Boulivel to Dalaba (Sept.) Chev. Mt. Benna (Oct.) Jac.-Fél. 7156! Koba (Nov.) Jac.-Fél. 7202! Macenta (Oct.) Baldwin 9792! **S. L.:** Newton (Nov.) Deighton 1487! Waterloo (Aug.) Melville & Hooker 281! Rokupr (Nov.) Jordan 155! Sefadu (Nov.) Deighton 4662! Gberta Fotumbu (Oct.) Small 417! Topan (Oct.) Deighton 5036! **Lib.:** Paynesville (Oct.) Harley 1689! Monrovia (Nov.) Linder! Kolahun (Nov.) Baldwin 10090! Grand Cape Mount (Dec.) Baldwin 10908! Duport (Oct.) Barker 1449! **Iv. C.:** Akabilékrou to Etérokrou (Dec.) Chev. 22520. **Ghana:** Kwahu Tafo (Dec.) T. M. Harris! Atwabo (Feb.) Irvine 2297! Kintampo (Nov.) Morton A3818! Senchi (May) Morton 7236! Sampa (Apr.) Morton 3258! Mampong (Oct.) Rose Innes GC 31167! **N. Nig.:** Lokoja (Oct.) Dalz. 122! Guduma, Minna (Oct.) Hepper 970! Zaria (Sept.) Olorunfemi FHI 24391! Dogon Kurmi, Jemaa Dist. (Aug.) Killick 26! Jos Batten-Poole! Naraguta (Sept.) Lely 530! **S. Nig.:** Lagos (Oct.) Dalz. 1239! Akure F.R., Ondo (Nov.) Latilo & Olorunfemi FHI 24414! Onitsha Barter 1761! Agulu Enu, Awka Dist. (Nov.) Keay FHI 21531! Ukpok-Nzagba, Onitsha Prov. (Oct.) Okafor FHI 35873! **[Br.] Cam.:** Mamfe (Dec.) Morton K677! **F. Po:** (Feb.) Moore!

Also in **Uganda**.

2. EXACUM

Linn.-F.T.A. 4, 1: 545.

- 1 A slender annual up to 75 cm. high, simple or branched above; leaves linear to lanceolate-ovate, acute, up to 6 cm. long, 3-5-nerved; flowers in terminal cymes; pedicels up to 1.4 cm. long; sepals ovate, 4 mm. long, broadly winged on the keel; corolla campanulate, tube 3 mm. long, the lobes shorter than the tube; anthers exserted; capsule globose, 4 mm. diam [quinquenervium](#)

Exacum quinquenervium *Griseb.* Gen. et Sp. Gent. 112 (1838); *F.T.A.* 4, 1: 546; Chev. Bot. 445.

APD: Synonym of Exacum oldenlandioides (S. Moore) Klack.

Erect herb of wet places with pale blue flowers.

Sen.: Casamance (Jan.) Chev. 2843. **Port. G.:** Bafata to Salinho Esp. Santo 3823! **Guin.:** Kankan Chev. 15681. Tossékéré (Oct.) Adam 12752! **S. L.:** Mateboi (Nov.) Jordan 837! Musaia (Dec.) Deighton 5700! **Ghana:** Achimota (Sept.) Milne-Redhead 5133! Accra to Winneba (Oct.) Cudjoe! **N. Nig.:** Kano (Dec.) Hagerup 664! Abo Barter 140! **S. Nig.:** Lagos Rowland! Apapa (Oct.) Dalz. 1254! Aguku Thomas 1057! Enugu (Aug.) Olorunfemi FHI 34198! **[Br.] Cam.:** Vogel Peak, Adamawa (Nov.) Hepper 1436!

Widespread in tropical Africa and Madagascar.

3. SEBAEA

R. Br.-F.T.A. 4, 1: 546.

- 1 Stamens inserted in the corolla sinuses, exserted; leaves orbicular, up to 1.5 cm. diam.; flowers shortly pedicellate, numerous, in dense terminal cymes:2
Stamens inserted in the corolla-tube, included; leaves lanceolate to elliptic; flowers very long-pedicellate in lax terminal cymes or more or less solitary;3
- 2 Corolla about 6 mm. long [1. brachyphylla](#)
Corolla about 12 mm. long [2. longicaulis](#)
- 3 Corolla-tube 2-3 times as long as the calyx, lobes 10-15 mm. long, white; leaves lanceolate [3. teuszii](#)
Corolla-tube about equal to the calyx, lobes cream or pale yellow:4
- 4 Leaves lanceolate; plant up to 20 cm. high:5
Leaves elliptic; plant 5-10 cm. high; corolla about 8 mm. long, lobes about 1.5 mm. long [6. pumila](#)
- 5 Corolla more than 2 cm. long, lobes 5-10 mm. long; leaves up to 3 cm. long [4. grandis](#)
Corolla 1-1.5 cm. long, lobes 2.5-5 mm. long; leaves up to 1.5 cm. long [5. luteo-alba](#)

1. **Sebaea brachyphylla** *Griseb.* Gen. et Sp. Gent. 170 (1838). *APD acc*

Sebaea multinodis *N. E. Br.* in *F.T.A.* 4, 1: 548 (1904); *F.W.T.A.*, ed. 1, 2: 182.

Erect herb of wet places up to 60 cm. high; flowers bright yellow.

[Br.] Cam.: Cam. Mt., 8,000-9,800 ft. (Nov., Jan., Mar.) Brenan 9522a! Migeod 158! Steele 39! Kumbo, 5,500 ft. (Feb.) Hepper 1969! Mambila Plateau, 4,900 ft. (Jan.) Hepper 1787! **F. Po:** Moka, 4,900 ft. (Dec.) Boughey 153! Clarence Peak (Pico de S. Isabel), 8,300-9,000 ft. (Mar., Dec.) Mann 598! Guinea 2921!

Widespread in the mountains of tropical Africa.

2. **Sebaea longicaulis** *Schinz* in Bull. Herb. Boiss. 2: 219 (1894). *APD acc*

Sebaea oreophila *Gilg* (1901)-*F.T.A.* 4, 1: 547.

Very similar to the above but with much larger flowers.

[Br.] Cam.: Kumbo to Oku, 6,000 ft., Bamenda Div. (Feb.) Hepper 2809!

Widespread in the mountains of tropical Africa and extending into S. Africa.

3. **Sebaea teuszii** (*Schinz*) *P. Tayl.* in Taxon 12: ined. (1963). *APD acc*

Belmontia teuszii Schinz in Viertelj. Nat. Gesells. Zurich 36: 335 (1891); F.T.A. 4, 1: 554.

Exochaenium teuszii (Schinz) Schinz (1906).

Belmontia chevalieri des Abbayes & Schnell in Bull. Soc. Bot. Fr. 96: 204 (1950).

Herb of **wet places** with white flowers.

Guin.: Conakry (Oct.) Schnell 7720! Mt. Benna (Oct.) Jac.-Fél. 7159! Schnell 2135! Dalaba, 4,200 ft. (Nov.) des Abbayes!

S. L.: Bumban (Oct.) Deighton 3273!

Also in **E. and S. tropical Africa**.

4. *Sebaea grandis* (E. Mey.) Steud. Nom., ed. 2, 2: 550 (1841). *APD acc*

Belmontia grandis E. Mey. (1836)-F.T.A. 4, 1: 553.

Exochaenium grande (E. Mey.) Griseb. (1845).

Herb with pale yellow flowers.

N. Nig.: Kagoro Hilla, Zaria Prov. (Aug.) Killick 20! Naraguta (July) Lely 463! Abinsi (Sept.) Dalz. 724! **[Br.] Cam.:** Bamenda (June) Maitland 1790!

Also in **E. and S. tropical Africa** and **S. Africa**.

5. *Sebaea luteo-alba* (A. Chev.) P. Tayl. in Taxon 12: ined. (1963). *APD acc*

Belmontia luteo-album A. Chev. in Journ. de Bot. 1909: 119 (1909); Chev. Bot. 445; F.W.T.A., ed. 1,2: 183.

Similar to the above but with smaller flowers.

Guin.: Kouria to Irébéléya (Sept.) Chev. 18239. Timbo to Ditinn (Sept.) Chev. 18425. Ditinn to Dalaba (Sept.) Chev. 18556! Dalaba (Sept.) Chev. 20206. Schnell 6811! **S. L.:** Loma Mts. (Nov.) Jaeger 574!

6. *Sebaea pumila* (Bak.) Schinz in Bull. Herb. Boiss., sér. 2, 6: 731 (1906). *APD acc*

Belmontia pumila Bak. in Kew Bull. 1894: 25; F.T.A. 4, 1: 552; F.W.T.A., ed. 1, 2: 183.

Exochaenium pumilum (Bak.) A. W. Hill (1908).

Minute herb of **wet places**.

N. Nig.: Nupe Barter 1680! Naraguta (Aug.) Lely 452! Abinsi (Sept.) Dalz. 788!

4. SWERTIA

Linn.-F.T.A. 4, 1: 570.

- | | |
|---|---|
| 1 | Leaves ovate to orbicular, up to 2.5 cm. long and 1.5 cm. wide; sepals oblanceolate to obovate-spathulate, 3-6 mm. long; corolla 0.8-1.3 cm. long; capsule about as long as the corolla 1. abyssinica |
| | Leaves linear-lanceolate to elliptic; sepals lanceolate to narrowly lanceolate: 2 |
| 2 | Annual; leaves linear-lanceolate to narrowly elliptic, 1-3 cm. long; corolla-lobes narrowly lanceolate, 0.5-1 cm. long, up to 3 mm. broad, acute; cymes rather lax, elongated 2. mannii |
| | Perennial; leaves narrowly lanceolate to elliptic, acute, 1.5-5 cm. long; corolla-lobes oblong-obovate, 1-1.3 cm. long, up to 5 mm. broad; cymes congested, corymbiform 3. quartiniana |

1. *Swertia abyssinica* Hochst. in Flora 1844: 28 (1844); F.T.A. 4, 1: 578. *APD acc*

Swertia clarenceana Hook. f. (1861)-F.T.A. 4, 1: 578; F.W.T.A., ed. 1, 2: 183.

Swertia subalpina N. E. Br. in F.T.A. 4, 1: (1904); F.W.T.A., ed. 1, 2: 183.

Swertia dissimilis N. E. Br. in F.T.A. 4, 1: 579 (1904); F.W.T.A., ed. 1, 2: 183.

Erect, often much-branched herb up to 18 ins. high, with numerous white flowers.

[Br.] Cam.: Cam. Mt., 6,000-10,000 ft. (Nov.-Jan.) Mann 1216! 1994! Mildbr. 10880! L. Oku, 7,800 ft., Bamenda Div. (Jan.) Keay & Lightbody FHI 28495! **F. Po:** Clarence Peak, 8,500 ft. (Dec.) Mann. 596!

Also in **Ethiopia** and **E. Africa**.

2. *Swertia mannii* Hook. f. in J. Linn. Soc. 7: 206 (1864); F.T.A. 4, 1: 581. *APD acc*

Erect, slender annual with numerous small white flowers.

Guin.: Madina (Oct.) Adam 12529! Dalaba, 4,000 ft. (Oct.) des Abbayes 683! Yambéring (Sept.) Schnell 7014! **S. L.:** Bintumane, 5,400 ft. (Jan.) T. S. Jones 85! **N. Nig.:** Vom, 3,000-4,500 ft. Dent Young! Jos, 4,000-5,000 ft. Saunders! [**Br.**] **Cam.:** Cam. Mt., 7,000-8,000 ft. (May, Nov.) Mann 2000! Maitland 642! Bafut-Ngemba F.R., 5,000-6,000 ft., Bamenda (Sept.) Lightbody FHI 26253! Nkambe, 6,500 ft. (Sept.) Savory UCI 374!

3. *Swertia quartiniana* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 56 (1851); F.T.A. 4, 1: 574. *APD acc*

Simple or sparsely branched perennial from 6 in. to 2 ft. high, with mauve flowers.

[**Br.**] **Cam.:** Bafut-Ngemba F.R., 6,500 ft., Bamenda (Feb., May) Keay FHI 37921! Hepper 2084! Likitaba to Gembu, 5,500 ft., Mambila Plateau (June) Chapman 76!

Also in **Ethiopia**, **E. and S. tropical Africa**.

5. SCHULTESIA

Mart.-F.T.A. 4, 1: 559. Nom. cons.

- 1 Erect annual up to 50 cm. high; stems 4-angled; leaves sessile, ovate-lanceolate to narrowly oblong, 1.5-4 cm. long, thin, glabrous; flowers large, 1.5-2 cm. diam., few, cymose; pedicels ascending; calyx 1.5 cm. long; segments subulate-acuminate, broadly winged and reticulate, dry; corolla-tube longer than the calyx, lobes broadly obovate; capsule enclosed in the persistent calyx *stenophylla* var. *latifolia*

Schultesia stenophylla Mart. Nov. Gen. et Sp. 2: 106, t. 182 (1826). *APD acc*

An American species with the following variety in tropical Africa.

Schultesia stenophylla var. *latifolia* Mart. ex Prog. Fl. Bras. 6: 203 (1865); F.T.A. 4, 1: 559; Chev. Bot. 446. *APD acc*

Erect, simple or branched herb of **wet places**, with yellow flowers 3/4-1 in. long.

Sen.: Heudelot 551! Niomoum (Jan.) Chev. 2821! 2823! Samandiny (Feb.) Chev. 2822. **Gam.:** Brown-Lester 39! **Port. G.:** Bissau (Nov.) Esp. Santo 1750! Sedengal to S. Domingos (Nov.) Esp. Santo 3666! **Guin.:** Koba (Nov.) Jac.-Fél. 7215! **S. L.:** Aberdeen (Nov.) Small 796! Lumley (Aug.) Melville & Hooker 252! Batbai (Jan.) Deighton 3551! Totenbana (Mar.) Adames 157! Konta (Mar.) Jordan 409!

6. CENTAURIUM

Hill Brit. Herb. 62 (1756). *Erythraea* Borck. (1796)-F.T.A. 4, 1: 556.

- 1 Erect branched annual up to 12 cm. high; leaves narrowly lanceolate-oblong, acute, up to 3 cm. long, 3-5-nerved; flowers in terminal cymes; pedicels 2-5 mm. long; sepals linear-lanceolate, about 6 mm. long; corolla-tube slender, about 8 mm. long, lobes about half as long as the tube, narrowly ovate; stamens inserted at the top of the tube, anthers twisted; capsule cylindrical, about 7 mm. long *pulchellum*

Centaurium pulchellum (Sw.) E.H. L. Krause in Sturm, Fl. Deutsch., ed. 2, 10: 14 (1903). *APD acc*

APD: *Synonym of Centaurium mairei Zeltner*

APD: *Synonym of Centaurium pulchellum* (Sw.) Druce

Gentiana pulchella Sw. (1783).

Erythraea ramosissima (Vill.) Pers. (1805)-F.T.A. 4, 1: 556.

Herb of damp depressions among sand dunes; flowers bright pink.

Sen.: Kayan (July) Raynal 7162! **Niger:** Bilma Le Coeur 19!

Widespread to the Mediterranean region.

7. CANSCORA*Lam.-F.T.A. 4, 1: 557.*

- 1** Calyx about 1 cm. long, tube swollen towards the base, teeth 4, short, ovate-lanceolate; corolla half as long again as the calyx; leaves lanceolate, acute, 1.5-3 cm. long, 3-5-nerved from the base, glabrous; flowers few in leafy cymes; pedicels stout, winged [1. *decussata*](#)

Calyx about 5 mm. long, tube narrow scarcely swollen towards the base, teeth 4, very short, subulate; corolla a little longer than the calyx; leaves elliptic or ovate-elliptic, acute, 1-4 cm. long, 3-5-nerved from the base, glabrous; flowers very numerous in leafy cymes; pedicels filiform, not winged [2. *diffusa*](#)

- 1. *Canscora decussata* (Roxb.) Roem. & Schult.** Syst. Mant. 3: 229 (1827); F.T.A. 4, 1: 557; Chev. Bot. 445.

APD: Synonym of Canscora alata (Roth ex Roem. & Schult.) Wall.

***Pladera decussata* Roxb.** Fl. Ind. 1: 418 (1820).

Erect, much branched herb up to 1 ft. high, with small white flowers.

Sen.: Sedhiou to Tambanaba (Feb.) Chev. 2851. **Port. G.:** Bafata (Dec.) Esp. Santo 2842! **S. L.:** Kamaranka (Feb.) Deighton 4042! Musaia (Dec.) Deighton 4462! **Ghana:** Krachi (Oct.) Morton A 3727! Sunyani (Sept.) Vigne FH 2464! **Togo Rep.:** Lomé Warnecke 298! **N. Nig.:** Anara F.R., Zaria (Sept.) Olorunfemi FHI 24393! Dogon Kurmi, Jemaa Dist. (Sept.) Killick 64! Jos Plateau (Oct.) Lely 803! **S. Nig.:** Oyo (Nov.) Savory & Keay FHI 25300! Owo Burton 1! Ogurude, Ogoja Prov. (Jan.) Holland 266! **[Br.] Cam.:** Vogel Peak, Adamawa (Nov.) Hepper 1387!

Throughout tropical Africa, Madagascar, also in tropical Asia and Australia.

- 2. *Canscora diffusa* (Vahl) R.Br. ex Roem. & Schult.** Syst. 3: 301 (1820); F.T.A. 4, 1: 558; Chev. Bot. *APD acc*

***Gentiana diffusa* Vahl** Symb. 3: 47 (1794).

Erect herb up to 2 ft. high with a much-branched many-flowered inflorescence; flowers white or lilac.

Sen.: Heudelot 170! **Port. G.:** Boé, Danduru (Jan.) Esp. Santo 2365! **Mali:** Badumbe (Dec.) Chev. 62! **Guin.:** Sambadougou, Faranna (Jan.) Chev. 20533! **S. L.:** York (Dec.) Deighton 3307! Makump (Jan.) Glanville 149! Kambia (Dec.) Deighton 5690! Musaia (Feb.) Deighton 4277! **Lib.:** Ganta (Jan.) Harley 1333! **Ghana:** Krachi (Nov.) Morton 4076! Bongo (Nov.) Morton 3798! Kamba, Lawra (Nov.) T. M. Harris! **N. Nig.:** Minna (Dec.) Meikle 699! Dogon Kurmi, Jemaa Dist. (Nov.) Keay FHI 37252! Kaduna (Nov.) Keay FHI 28114! Kontagora (Nov.) Dalz. 57! Jos Plateau (Oct.) Lely 836! **S. Nig.:** Bebi, Obudu Div. (Dec.) Savory & Keay FHI 25010! **[Br.] Cam.:** Vogel Peak, Adamawa (Nov.) Hepper 1334!

Throughout tropical Africa, also in tropical Asia and Australia.

8. SCHINZIELLA*Gilg-F.T.A. 4, 1: 557.*

- 1** Erect perennial herb 30-60 cm. high, stems simple or very sparsely branched from the base, 4-angled, broadly winged; leaves sessile, the lowermost elliptic, up to 1.5 cm. long, those above narrowly lanceolate, much reduced; flowers sessile or subsessile in compact terminal heads; calyx 4 mm. long, lobes acuminate about equal to the tube; corolla about 6 mm. long, lobes acute, about equal to the tube [tetragona](#)

- Schinziella tetragona* (Schinz) Gilg** in E. & P. Pflanzenfam. 4, 2: 74 (1892); F.T.A. 4, 1: 557. *APD acc*

***Canscora tetragona* Schinz.** in Viertelj. Nat. Gessells. Zurich 37: 388 (1891).

Herb of wet places; flowers white rapidly turning brown.

Guin.: Ditinn, 2,600 ft. (Nov.) des Abbayes 882!

Also to Congo and E. and S. tropical Africa.

9. DJALONIELLA*P. Tayl. in Taxon 12: ined. (1963). APD acc*

- 1 Dwarf annual up to 6 cm. high, stem simple or sparsely branched, 4-angled, very narrowly winged; leaves lanceolate to linear-lanceolate acute or acuminate, up to 2 cm. long; flowers in congested terminal leafy cymes; calyx about 3 mm. long, sepals linear-lanceolate; corolla 6 mm. long, lobes narrowly lanceolate, acuminate, shorter than the tube [ypsilostyla](#)

Djaloniella ypsilostyla *P. Tayl. in l.c. (1963). APD acc**Swertia caerulea* *A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 183 (1912); Chev. Bot. 446; F.W.T.A., ed. 1, 2: 183, not of Royle (1835).*Small herb of [wet places](#), flowers blue.**Guin.:** Dalaba, Diaguissa Plateau, 3,200-4,300 ft. (Oct.) Chev. 18759! Schnell 7375!**10. FAROA***Welw.-F.T.A. 4, 1: 565.*

- 1 A small annual 2-10 cm. high; stems simple or sparsely branched, 4-angled, distinctly winged; leaves elliptic to lanceolate, 1.5-3.5 mm. long, membranous, shortly petiolate; flowers pedicellate in axillary and terminal clusters; calyx 2.5 mm. long, lobes ovate, acute, longer than the tube; corolla slightly longer than the calyx, lobes lanceolate, acute, shorter than the tube [pusilla](#)

Faroa pusilla *Bak. in Kew Bull. 1894: 26 (1894); F.T.A. 4, 1: 568. APD acc*Herb of [damp places](#), flowers white or pale mauve.**Ghana:** Gambaga (Sept.) Hall 748! **N. Nig.:** Nupe Barter 1008! 1710! Lokoja (Nov.) Dalz. 41! Guduma, Minna (Oct.) Hepper 957! **[Br.] Cam.:** Maifula, Adamawa (Nov.) Latilo & Daramola FHI 28706!Also in [Sudan](#).**11. PYCNOSPHERA***Gilg—F.T.A. 4, 1: 564.*

- 1 Erect perennial herb up to 1 m. high, usually unbranched; stems terete, leaves sessile, narrowly oblanceolate to linear-lanceolate, up to 5 cm. long; flowers in dense bracteate, corymbosely arranged heads; bracts obovate, shortly acuminate; sepals 3, lateral pair lanceolate, carinate, 2.5 mm. long, dorsal sepal minute; corolla 5 mm. long, lobes ovate-oblong, acute, shorter than the tube; anthers apiculate, stigma bifid [buchananii](#)

Pycnosphaera buchananii (*Bak.*) *N. E. Br. in F.T.A. 4, 1: 565 (1904). APD acc**Faroa buchananii* *Bak. in Kew Bull. 1894: 26.*Herb of [wet places](#); flowers mauve.**Guin.:** Ditinn (Nov.) des Abbayes 881! Timbo (Oct.) Jac.-Fél. 1895! Diélela Pobéguin.Also in the [Congo \(Katanga\)](#), E. and S. tropical Africa.**12. ENICOSTEMA***Blume—F.T.A. 4, 1: 563. Nom. cons.*

- 1 A glabrous herb; leaves sessile, linear to narrowly oblong-lanceolate, acute to obtuse, up to 8 cm. long; flowers in axillary clusters all along the stem, sessile; calyx-tube 2 mm. long, lobes ovate-lanceolate to linear-lanceolate, acuminate, 2 mm. long with spreading tips, margins submembranous; corolla-tube 5 mm. long, lobes about 3

mm. long; capsule oblong [hyssopifolium](#)

Enicostema hyssopifolium (Willd.) Verdoorn in Bothalia 7: 462 (1961).

APD: *Synonym of Enicostema axillare* (Lam.) A. Raynal subsp. *axillare*

Exacum hyssopifolium Willd. Sp. 1: 640 (1798).

Enicostema littorale Blume (1826)—F.T.A. 4, 1: 563; F.W.T.A., ed. 1, 2: 184.

Herb with angled or narrowly winged stems and small green and white flowers.

Gam.: Brown-Lester.

Throughout tropical Africa, S. Africa and tropical Asia.

13. VOYRIA

Aubl.—F.T.A. 4, 1: 569.

- 1 Stems erect, slightly flexuose, up to 6 cm. long, bearing about 3 pairs of very small rudimentary membranous leaves; flower terminal, solitary; calyx about 7 mm. long, lobes linear-lanceolate, setaceous at the apex; corolla-tube 2 cm. long, lobes 5, shortly spatulate-orbicular; anthers included in the corolla-tube; capsule elliptic, membranous [platypetala](#)

Voyria platypetala Bak. in Kew Bull. 1894: 26 (1894); F.T.A. 4, 1: 570.

APD: *Synonym of Voyria primuloides* Baker

A tiny pallid saprophytic herb of forest floors.

Lib.: Bobei Mt. (Sept.) Baldwin 9587! **Ghana:** (Dec.) Vigne FH 3217! **S. Nig.:** Nun R. Mann 514!

MENYANTHACEAE

Aquatic or marsh, herbs. Leaves alternate, entire or 3-foliolate, sometimes orbicular and peltate. Flowers hermaphrodite, actinomorphic. Corolla-lobes valvate or induplicate-valvate, margins on inside sometimes fimbriate. Stamens inserted towards the base of the tube or between the lobes; anthers 2-celled, sagittate or versatile. Ovary superior 1-celled, with 2 parietal placentas. Style 1, bifid at the apex. Ovules few to numerous. Fruit a 4 or 2-valved capsule, or fleshy and indehiscent. Seeds with copious endosperm and small embryo.

Mainly in the temperate regions of both hemispheres.

Formerly included in Gentianaceae but differing in the aquatic habit, alternate leaves and valvate aestivation.

NYMPHOIDES

Hill Brit. Herb. 77 (1756).

Limnanthemum Gmel. (1770)—F.T.A. 4, 1: 583.

- 1 Leaves simple, ovate-orbicular, deeply cordate at the base, 1-20 cm. long, glabrous, entire; petiole 1-2 cm. long; flowers fasciculate, usually numerous, variable in size; pedicels 3-6 cm. long; sepals ovate-lanceolate; corolla campanulate, 5-6-lobed, fimbriate; stamens 5-6; fruits indehiscent; seeds lenticular, smooth or more or less tuberculate, the margin sometimes carinate [indica](#)

Nymphoides indica (Linn.) O. Ktze. Rev. Gen. 2: 429 (1891). APD acc

APD: *Synonym of Nymphoides humilis* A. Raynal

APD: *Synonym of Nymphoides brevipedicellata* (Vatke) A. Raynal

APD: Synonym of Nymphoides ezannoi Berhaut

APD: Synonym of Nymphoides thunbergiana (Griseb.) Kuntze

APD: Synonym of Nymphoides guineensis A. Raynal

APD: Synonym of Nymphoides rautanenii (N.E. Br.) A. Raynal

APD: Synonym of Nymphoides forbesiana (Griseb.) Kuntze

Menyanthes indica Linn. (1753).

Villarsia senegalensis G. Don (1837).

Limnanthemum indicum (Linn.) Griseb. (1839).

L. niloticum Kotschy & Peyr. (1867)—F.T.A. 4, 1: 585.

L. senegalense (G. Don) N. E. Br. in F.T.A. 4, 1: 586 (1904); Chev. Bot. 447; F.W.T.A., ed. 1, 2: 184.

Aquatic plant with rounded leaves floating on the surface and emergent clusters of white or yellow flowers.

Sen.: Richard Toll (Dec., Jan.) Roger! Leprieur! Séléki, Casamance Chev. 2824; 2825. **Gam.:** Pirie! Kuntaur (July) Ruxton 28! **Port. G.:** Mansoa (Feb.) Esp. Santo 2381! Bafata (Dec.) Esp. Santo 3756! **Mali:** Gao (Nov.) de Wailly 4898! Fafa (Mar.) de Wailly 5353! Ansongo (Sept.) Hagerup 422! **Guin.:** Koba (Nov.) Jac.-Fél. 7209! Dalaba (Mar.) Langdale-Brown 2636! **S. L.:** Kambia (Nov.) Adames 199! Rhombe (Mar.) Adames 143! Mange (Dec.) Jordan 720! Sherbro Isl. (July) T. S. Jones 165! **Iv. C.:** Ouellé (Sept.) des Abbayes 1130! **Ghana:** Sesiamang (Feb.) A. S. Thomas D147! Bimbila (Jan.) Akpabla 1864! **N. Nig.:** Nupe Barter 1329! Katagum Dalz. 197! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan 8595!

Widespread in Old World tropics.

PRIMULACEAE

Annual or perennial herbs or rarely shrubs; stems erect or procumbent and rooting at the nodes. Leaves mostly basal, rarely cauline, alternate, opposite or verticillate, simple or lobate, often dentate; stipules absent. Flowers solitary to paniculate, actinomorphic, hermaphrodite. Calyx persistent, often leafy. Corolla hypocrateriform, campanulate or tubular, lobes 5, imbricate. Stamens inserted on the corolla, the same number as and opposite to the lobes. Ovary superior, rarely semi-inferior, 1-celled with a free basal placenta and numerous, or very rarely few ovules. Fruit a capsule, many-seeded or very rarely 1-seeded. Seeds angular with a small straight embryo in copious endosperm.

Mostly in the mountainous parts of the north temperate zone, rare in the Southern Hemisphere.

Recognised at once amongst the Gamopetalae by the united petals with the stamens inserted opposite to them and the peculiar placentation. *Ardisiandra* is endemic to the mountains of west and east tropical Africa.

- | | | |
|---|---|---------------------------------------|
| 1 | Ovary superior:..... | 2 |
| | Ovary half inferior; capsule valvate; leaves glabrous, entire | 4. <i>Samolus</i> |
| 2 | Leaves entire, glabrous:..... | 3 |
| | Leaves lobate-dentate pubescent | 3. <i>Ardisiandra</i> |
| 3 | Capsule circumscissile | 1. <i>Anagallis</i> |
| | Capsule valvate | 2. <i>Lysimachia</i> |

1. ANAGALLIS

Linn.-F.T.A. 3: 490; Pax & Knuth in Engl. Pflanzenr. 4, 237, Primulac.: 321 (1905); P. Taylor in Kew Bull. 10: 321 (1955) and 13: 133 (1958). *APD acc*

- | | | |
|---|---|------------------------------------|
| 1 | Corolla bright blue or red, fringed with glands; leaves always opposite; fruiting pedicel strongly recurved; corolla not persistent | 1. <i>arvensis</i> |
| | Corolla white or pink, not fringed with glands; leaves alternate (sometimes the lowermost subopposite); fruiting pedicel erect; corolla persistent: | 2 |
| 2 | Flowers pedicellate, usually 5-merous, corolla as long as or longer than the calyx: | 3 |

- Flowers sessile, usually 4-merous, corolla shorter than the calyx [4. minima](#)
- 3** Plant branched above or simple; flowers in terminal racemes occupying the upper half of the stem or branches; leaves sessile, narrowly elliptic to broadly ovate, base cuneate to subtruncate, apex acute; corolla equal in length to or exceeding the calyx; filaments filiform; seeds 0.3-0.45 mm. long: **4**
- Plant branched from the base or simple; flowers axillary almost to the base of the stem; leaves petiolate, obovate-spathulate, apex rounded or acute; corolla shorter than the calyx; filaments dilated and flattened; seeds 0.45-0.6 mm. long [3. djalensis](#)
- 4** Filaments glabrous [2a. pumila var. pumila](#)
- Filaments bearded [2b. pumila var. barbata](#)

1. *Anagallis arvensis* Linn. Sp. Pl. 148 (1753); F.T.A. 3: 490; Pax & Knuth l.c. 323.

APD: Synonym of Lysimachia arvensis (L.) U. Manns & Anderb.

Stems erect or ascending winged; [a weed of cultivation](#).

N. Nig.: Bornu Oudney!

Native of W. Europe and the Mediterranean region now widespread as a weed in both hemispheres.

2. *Anagallis pumila* Sw. Prod. Veg. Ind. Occ. 1: 40 (1788).

APD: Synonym of Lysimachia tenella L.

2a. *Anagallis pumila* var. *pumila*-P. Taylor in Kew Bull. 10: 343 (1955).

APD: Synonym of Lysimachia tenella L.

Erect annual herb to 1 ft. high; flowers white, corolla persisting and becoming reddish-brown in fruit; [in damp places](#).

Guin.: Kouloundala (Jan.) Chev. 20384! **Ghana:** Elmina (Oct.) Hall 852! **N. Nig.:** Lokoja (Nov.) Dalz. 52! Jos Plateau (Sept.) Lely P728! Anara F.R., Zaria Prov. (Sept.) Olorunfemi FHI 24394! **S. Nig.:** Olokemeji F.R., Ibadan Prov. (Aug.) Keay FHI 37167! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1313!

Widespread throughout the tropics.

2b. *Anagallis pumila* var. *barbata* P. Tayl. l.c. 345 (1955).

APD: Synonym of Lysimachia barbata (P. Taylor) U. Manns & Anderb.

Erect annual herb to 18 in. high; flowers white; [in damp places](#).

Mali: Kita (Sept.) Jaeger! **N. Nig.:** Borgu Barter 784! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1250!

Throughout tropical Africa.

3. *Anagallis djalensis* A. Chev. in Journ. de Bot., sér. 2, 22: 115 (1909); Chev. Bot. 384.

APD: Synonym of Lysimachia djalensis (A. Chev.) U. Manns & Anderb.

Anagallis pumila var. *djalensis* (A. Chev.) P. Tayl. l.c. 346 (1955).

Erect annual herb to 6 in.; flowers white; [in damp places, usually at high altitudes](#).

Guin.: Fouta Djalon (Sept.-Oct.) Chev. 18668! 18876! 20193! Adam 12584! **[Br.] Cam.:** Bamenda (Dec.) Daramola FHI 40564! Gembu, Mambila Plateau (Jan.) Hepper 1810!

Throughout tropical Africa.

4. *Anagallis minima* (L.) E. H. L. Krause in Sturm. Fl. Deutsch. ed. 2, 9: 251 (1901); P. Tayl. l.c. 347 (1955).

APD: Synonym of Lysimachia minima (L.) U. Manns & Anderb.

Centunculus minimus Linn. Sp. Pl. 116 (1753).

Minute annual herb to about 2 in.; flowers white or pink; in damp places at high altitudes.

[Br.] Cam.: Cam. Mt., Mann's Spring, 9,500 ft. (fl. & fr. Dec.) Morton K867!

Also in Ethiopia, India, N., C. & S. America and Europe.

2. LYSIMACHIA

Linn.-F.T.A. 3: 489; Pax & Knuth in Engl. Pflanzenr. 4, 237, Primulac.: 256 (1905); P. Taylor in Kew Bull. 13: 142 (1958).

- 1 A perennial herb with numerous fibrous roots and erect or decumbent stems; leaves elliptic, entire, petiolate, with numerous black punctate glands; flowers numerous in terminal racemes, shortly pedicellate; calyx segments oblong, obtuse, about 3 mm. long; corolla about as long as calyx; fruit globose, about 3 mm. in diam.; style persistent, about 1 mm. long [ruhmeriana](#)

Lysimachia ruhmeriana Vatke in Linnea 40: 204 (1876); F.T.A. 3: 489; Pax & Knuth l.c. 292. *APD acc*

A branched herb to 4 ft. high; flowers white or pink; in grassland.

[Br.] Cam.: Bamenda (fl. & fr. Apr., May) Ujor FHI 30383! Maitland 1406!

Throughout tropical and southern Africa and Madagascar.

3. ARDISIANDRA

Hook. f.-F.T.A. 3: 488; Pax & Knuth in Engl. Pflanzenr. 4, 237, Primulac.: 222 (1905); P. Taylor in Kew Bull. 13: 146 (1958). *APD acc*

- 1 A creeping pubescent herb; stems rooting at the nodes; leaves suborbicular, cordate at base, deeply lobed, the lobes coarsely toothed; petiole as long as or longer than lamina; flowers in few-flowered extra-axillary corymbs or racemes; pedicels up to 1 cm. long; calyx-segments broadly ovate-lanceolate, somewhat accrescent; corolla campanulate, slightly longer than the calyx; capsule globose, dehiscent by 5 valves [sibthorpioides](#)

Ardisiandra sibthorpioides Hook. f. in J. Linn. Soc. 7: 205 (1864); F.T.A. 3: 488; Pax & Knuth l.c. 222. *APD acc*

Stems slender, up to 2 ft. long; flowers white; in montane forest.

[Br.] Cam.: Cam. Mt., 3,500-7,600 ft. (fl. & fr. Dec., Feb., fr. Aug.) Mann 2022! Rosevear Cam. 101/37! Maitland 1323! Schlechter 12846! Bafut-Ngemba F.R., 7,000 ft., Bamenda (fr. Feb.) Hepper 2863! F. Po: 6,500-7,500 ft. (fi. & fr. Mar., Sept.) Mann 1458! Wrigley & Melville 584!

Also in mountains of eastern Africa.

4. SAMOLUS

Linn.-F.T.A. 3: 490; Pax & Knuth in Engl. Pflanzenr. 4, 237, Primulac.: 336 (1905).

- 1 Herb with erect stems; leaves obovate-spathulate, rounded at apex, entire, up to 8 cm long and 3 cm. broad, the basal ones often forming a rosette; flowers in slender terminal racemes; pedicels up to 1.5 cm. long, with a bract in the middle; calyx campanulate, 3-4 mm. long, 5-toothed; corolla campanulate, slightly longer than the calyx, 5-lobed [valerandi](#)

Samolus valerandi Linn. Sp. Pl. 1: 171 (1753); F.T.A. 3: 490; Pax & Knuth l.c. 337. *APD acc*

A glabrous herb 1-3 ft. high, with small white flowers; in damp places.

N. Nig.: Bornu Denham & Clapperton.

Also in many other parts of tropical Africa and widespread throughout the world.

PLUMBAGINACEAE

Herbs, undershrubs or climbers. Leaves in a basal rosette or alternate; stipules absent. Flowers hermaphrodite, actinomorphic, often in unilateral inflorescences or subumbellate; bracts often sheathing, dry and membranous. Calyx often ribbed, mostly membranous between the ribs. Corolla gamopetalous, lobes imbricate, mostly persistent. Stamens 5, opposite the corolla-lobes; anthers 2-celled, opening lengthwise. Disk absent. Ovary superior 1-celled; styles 5, free or connate. Ovule 1, pendulous from a basal funicle. Fruit various. Seed with or without endosperm, and with a straight embryo.

Mainly halophytes; numerous around the Mediterranean; some highly decorative species.

PLUMBAGO

Linn.-F.T.A. 3: 486. APD acc

Perennial herbs or shrubby and occasionally climbing; leaves alternate; calyx tubular with stalked glands; flowers racemose.

- 1 A climbing undershrub; branches ribbed, glabrous; leaves ovate or ovate-lanceolate, acute, shortly cuneate at the base, 6-10 cm. long, 3-6 cm. broad, glabrous; petiole amplexicaul at the base; racemes mostly branched; calyx about 1 cm. long, clothed with stiff stalked glands; corolla longer than the calyx; capsule membranous, included in the persistent calyx [zeylanica](#)

Plumbago zeylanica *Linn. Sp. Pl.* 151 (1753); *F.T.A. 3: 486*; *Chev. Bot.* 383; van Steenis in *Fl. Males.*, ser. 1, 4: 109 (1949). *APD acc*

Climbing shrub about 3 ft. high, viscid above; flowers white, 3/4 in. long; [in thickets and near villages.](#)

Sen.: Heudelot 98! Tivaouane (Dec.) Chev. 2835! Séléki, Casamance Chev. 2833. **Guin.:** Beyla to Manankoro Chev. 20891. **S.L.:** Regent (Aug.) Deighton 2048! Hastings (Aug.) Melville & Hooker 449! Yunguru (Jan.) Thomas 7153! Njala (Oct.) Deighton 1772! **Lib.:** Ganta (May) Harley! Gouréni, Upper Sassandra Chev. 21646. **Ghana:** Aburi Scarp (Jan.) Morton. GC 6341! Akropong, Akwapim (Aug.) Irvine 779! Abokobi (Oct.) Vigne FH 4262! **Togo Rep.:** Lomé Warnecke 210! **N. Nig.:** Kabba road (Oct.) Parsons L91! Nupe Barter 289! Katagum Dalz. 315! **S. Nig.:** Lagos (Dec.) Dalz. 1276! Idumuye (Dec.) Thomas 2128! Calabar (Feb.) Mann 2318! Oban Talbot! **[Br.] Cam.:** Cam. Mt., 2,400 ft. (Apr.) Maitland 1113! **F. Po:** T. Vogel 108! Widely spread in the tropics.

Plumbago capensis *Thunb.*

It has blue flowers and stalked glands only on the upper part of the calyx.

Is cultivated in gardens.

PLANTAGINACEAE

Herbs. Leaves all radical or alternate or opposite, simple, sometimes much reduced. Flowers usually hermaphrodite, spicate, actinomorphic. Calyx herbaceous. Corolla gamopetalous, scarious, 3-4-lobed, lobes imbricate. Stamens usually 4, inserted on the corolla-tube and alternate with the lobes or hypogynous; anthers 2-celled, opening lengthwise. Ovary superior, 1-4-celled; style simple. Ovules 1 or more in each cell, axile or basal. Fruit a circumscissile capsule or nut. Seeds peltately attached, with fleshy endosperm and straight or curved embryo.

A small family represented in our area by one very distinct species.

PLANTAGO

Linn.-F.T.A. 5: 504.

Herbs with usually radical leaves and long-pedunculate spikes of small flowers; stamens usually 4; anthers versatile; fruit a circumscissile capsule.

- 1 A perennial herb with numerous roots; leaves all radical, very long-petiolate, ovate-orbicular in outline, widely cordate at the base, coarsely crenately lobed, about 9 cm. diam., with 3 principal nerves and several spreading side nerves, slightly pubescent on the nerves beneath, gradually narrowed into the petiole; spikes long-pedunculate, about 2 cm. long in flower, soon lengthening and slender [palmata](#)

Plantago palmata *Hook. f.* in J. Linn Soc. 6: 19 (1861); F.T.A. 5: 504; Pilger in Engl. Pflanzenr. 4, 269, Plantaginac.: 77 (1937). *APD acc*

Sessile herb with a tuft of long-petiolate leaves; flowers green; in montane grassland.

[Br.] Cam.: Cam. Mt., 4,400-7,000 ft. (fl. & fr. Dec., Apr.) Mann 1962! Maitland 1129! F. Po: Clarence Peak, 8,000 ft. (Dec.) Mann. 611!

Also on the mountains of E. Africa, from Ethiopia to Lake Nyasa.

SPHENOCLEACEAE

Annual herbs. Stems erect or decumbent, with aerenchymous tissue at the base. Leaves spirally arranged, simple, entire, exstipulate. Inflorescences terminal, densely spicate, acropetal. Flowers subtended by a bract and two bracteoles, bisexual, regular. Calyx-tube adnate to the ovary, lobes 5. Corolla campanulate-urceolate, perigynous, lobes 5, imbricate. Stamens 5, epipetalous, alternating with corolla-lobes; filaments short; anthers rounded, 2-locular, dehiscing longitudinally. Ovary semi-inferior, 2-locular; style short, stigma capitate. Fruit a capsule, circumscissile, seeds numerous, minute.

A monogeneric family with one pantropical species and one species endemic to our area.

Separable from Campanulaceae by the circumscissile capsule and imbricate corolla lobes on the regular flowers.

SPHENOCLEA

Gaertn.-F.T.A. 3: 480. Nom. cons.

- 1 Leaves lanceolate, more or less acute, up to 10 cm. long and 3 cm. broad, entire, glabrous; petiole up to 1.3 cm. long; spikes terminal, cylindric, up to 7 cm. long, about 1 cm. diam.; calyx-lobes ovate-rounded, imbricate; corolla divided nearly to the base, as long as the calyx, white; anthers 5, subsessile, suborbicular; style very short; stigma shortly bifid; capsule depressed-globose, dehiscing transversely [l. zeylanica](#)
- Leaves obovate-elliptic, sessile, rounded at the apex, 2-4 cm. long, 1-2 cm. broad; spikes very short, oblong; corolla twice as long as the calyx-lobes, pink; filaments as long as the anthers [2. dalzielii](#)

1. **Sphenoclea zeylanica** *Gaertn.* Fruct. 1: 113, t. 24, fig. 5 (1788); F.T.A. 3: 481; Chev. Bot. 382; Berhaut Fl. Sén. 197; Airy Shaw in Fl. Males., ser. 1, 4: 27. *APD acc*

Phytolacca octandra of F.T.A. 6, 1: 98 (Rowland), not of Linn.

An erect glabrous herb with spongy stems 1-4 ft. high; flowers greenish-white in congested spikes; in rice-fields, beside rivers and open swamps, often gregarious in tidal creeks.

Sen.: Farmar 118! Berhaut 577; 3975. Gam.: Kuntaur Ruxton 115! Mali: Gao (fl. & fr. Sept.) Hagerup 353! Port. G.: Brene, Bissau (Jan.) Esp. Santo 1681! S. L.: Freetown Sc. Elliot 5924! Tombo (fl. & fr. Jan.) Deighton 965! Gbabai (fl. & fr. Feb.) Glanville 253! Rokupr (Feb.) Jordan 770! Iv. C.: Mankono Chev. 21937. Kondroko to Touminiané, Toumodi Chev. 22380. Ghana: Accra (fl. & fr. July) Irvine 681! Achimota (Nov.) Irvine 1519! Shai Plains (fl. & fr. May) Irvine 2677! Kepetchu (Mar.) Hepper & Morton A3034! Niger: Bentia to Ansongo (fl. & fr. Sept.) Hagerup 416! N. Nig.: Nupe Barter 1715! Sokoto (fl. & fr. July) Dalz. 383! Kano (fl. & fr. Dec.) Hagerup 672! Gombe Lely 663! S. Nig.: Lagos Rowland! Ejiofor FHI 32050! Ibadan (fl. & fr. Dec., Jan.) Ujor FHI 23944! Meikle 995! Onitsha (May) Onochie FHI 7518! [Br.] Cam.: Gurum, Adamawa Div. (fl. & fr. Nov.) Hepper 1261! Bama, Dikwa Dist. (fl. & fr. Dec.) McClintock 84!

In the tropics generally.

2. **Sphenoclea dalzielii** *N. E. Br.* in Kew Bull. 1912: 277; Berhaut Fl. Sén. 194, fig. 20, 5. *APD acc*

Straggling herb with spongy stems; flowers pink; [on mud beside pools](#).

Sen.: Tambacounda Berhaut 1649; 3262. **Gam.:** Bansang, Macarthy Div. Duke 7! **N. Nig.:** Katagum Dist. Dalz. 201!

Also in [Ubangi-Shari](#).

CAMPANULACEAE

Herbs to small trees, nearly always with milky juice. Leaves alternate, rarely opposite, simple; stipules absent. Flowers hermaphrodite, actinomorphic. Calyx-tube adnate to the ovary, 3-10-lobed. Corolla gamopetalous, tubular or campanulate, lobes valvate. Stamens as many as the corolla-lobes and alternate with them, inserted towards the base of the corolla or the disk; anthers free, 2-celled, opening lengthwise. Ovary inferior or rarely superior, 2-10-celled, with axile placentas. Ovules mostly numerous. Fruit capsular or baccate.

A widely distributed family, in Africa mainly confined to the south.

The absence of stipules distinguishes it from the herbaceous Rubiaceae.

- | | | |
|---|--|---|
| 1 | Corolla-lobes short and broad; fruits obconic or long and narrow | 1. <i>Wahlenbergia</i> |
| | Corolla deeply divided into narrow lobes; fruits always shortly obconic: | 2 |
| 2 | Stigma capitate or slightly bilobed; style not swollen towards apex | 2. <i>Cephalostigma</i> |
| | Stigma shortly but distinctly 2-3 lobed; style swollen towards apex | 3. <i>Lightfootia</i> |

1. WAHLENBERGIA

Schrad. ex Roth-F.T.A. 3: 477; von Brehmer in Engl. Bot. Jahrb. 53: 9 (1915). Nom. cons.

- | | | |
|---|---|---|
| 1 | Mature capsules 2-4 mm. long, obconic; ovary (at time of flowering) 1-5 mm. long: | 2 |
| | Mature capsules 8-15 mm. long: | 3 |
| 2 | Corolla about 10 mm. long; calyx-lobes triangular-subulate, about 3 mm. long; flowers few on long pedicels; montane perennial | 1. <i>arguta</i> |
| | Corolla 1-2 mm. long; calyx-lobes linear, 1-2 mm. long; flowers very few on short pedicels; lowland annual .. | 2. <i>campanuloides</i> |
| 3 | Leaves linear, about 5-6 cm. long, glabrous or pubescent, with a thick cartilaginous crenulate margin; flowers several in a long-pedunculate cyme; capsule campanulate-obconic, glabrous, 8-10 mm. long; lowland annual .. | 3. <i>riparia</i> |
| | Leaves lanceolate, about 1 cm. long, sparingly setose-pilose, with a cartilaginous minutely crenulate margin; flowers very few on long pedicels; capsule subcylindric, about 1-5 cm. long, with several ribs; montane perennial | 4. <i>mannii</i> |

1. **Wahlenbergia arguta** Hook. f. in J. Linn. Soc. 6: 15 (1861); von Brehmer in Engl. Bot. Jahrb. 53: 99 (1915), incl. var. *parvilocula* v. Brehm.

APD: *Synonym of Wahlenbergia krebsii subsp. arguta* (Hook. f.) Thulin

A herb with slender straggling stems about 1 ft. high from a perennial root-stock; flowers whitish or pale mauve with blue veins; [in montane grassland](#).

[Br.] **Cam.:** Cam. Mt., 7,000-12,000 ft. (fl. & fr. Nov.-Feb.) Mann 1943! 1944! Dalz. 8314! Keay FHI 28588! Maitland 1250! Bafut-Ngamba F.R., Bamenda (fl. & fr. Jan., Feb.) Hepper 2086! Daramola FHI 40633! near L. Oku (fl. & fr. Jan.) Keay & Lightbody FHI 28469! **F. Po:** Clarence Peak (Pico de S. Isabel), 8,500 ft. (fl. & fr. Dec., Mar.) Mann 601! Guinea 2712!

Also in [Cameroun](#).

2. **Wahlenbergia campanuloides** (Del.) Vatke in Linnaea 38: 700 (1874). *APD acc*

Cervicina campanuloides Del. Fl. Egypte 7, t. 5, 2 (1812).

Wahlenbergia cervicina A. DC. Monogr. Campanulac. 156 (1830); Prod. 7: 440 (1839); von Brehmer l.c. 130; F.W.T.A., ed. 1, 2: 190.

Small herb, branched from near the base, about 2 in. high; flowers white.

Sen.: Leprieur!

Also in **Egypt** and **S.W. Africa**.

3. **Wahlenbergia riparia** A. DC. Monogr. Campanulac. 146 (1830); von Brehmer l.c. 110; Chev. Bot. 382; Berhaut Fl. Sén. 174.

APD: Synonym of Wahlenbergia lobelioides subsp. riparia (A. DC.) Thulin

Wahlenbergia humilis A. DC. (1830).

Erect simple or branched annual herb, pilose in the lower parts, 1-2 ft. high; flowers blue or violet; **in cultivated, moist ground and beside rivers in savanna.**

Sen.: Roger 46! Berhaut 917. Leprieur & Perrottet. Lelièvre. **Port. G.:** Pessubé, Bissau (fl. & fr. Mar.) Esp. Santo 2243!

Mali: Faramana (fl. & fr. June) Chev. 971! **N. Nig.:** Nupe Barter 1202! Birnin Gwari (fl. & fr. Mar.) Meikle 1333!

Takwara, 3,200 ft. (fl. & fr. May) Lely 108! Naraguta F.R. (fl. & fr. Aug.) Keay FHI 20057! Vom (fl. & fr. Nov.) Dent Young 168! Abinsi (fl. & fr. Oct.) Dalz. 702!

Also in (?) **Socotra**.

4. **Wahlenbergia mannii** Vatke in Linnaea 38: 700 (1874); von Brehmer l.c. 128 (1915), incl. var. *intermedia* v. Brehm.

APD: Synonym of Wahlenbergia silenoides Hochst. ex A. Rich.

A herb with wiry stems from a horizontal perennial base; flowers pale bluish or white with blue veins; **in montane grassland.**

[**Br.**] **Cam.:** Cam. Mt., 7,000-9,000 ft. (fl. & fr. Dec.-Feb.) Mann 1226! 1945! Dalz. 8315! Brenan 9378! Bafut-Ngamba F.R., Bamenda (fl. & fr. Feb., May) Hepper 2144! Ujor FHI 30314! Kumbo to Oku (Feb.) Hepper 2010! near L. Oku (Jan.) Keay FHI 28482! **F. Po:** Clarence Peak (Pico de S. Isabel), 9,000 ft. (fl. & fr. Dec., Mar.) Mann 600! Guinea 2715!

2. CEPHALOSTIGMA

APD: Synonym of Wahlenbergia Schrad. ex Roth

A. DC. Monogr. Campanulac. 117 (1830); F.T.A. 3: 471.

- 1 Herb; stems more or less terete, usually pilose, sometimes glabrous; leaves oblong-lanceolate, 1-5 cm. long, 5-15 mm. broad, acute at each end, margin undulate and thickened with a nerve; flowers very numerous, the cymules forming an oblong panicle; pedicels slender 1 cm. or more long; ovary pilose or glabrous; petals very short and slender; calyx-lobes about 1 mm. long; fruits obconical with 5 prominent nerves; seeds trigonous[*perrottetii*](#)

Cephalostigma perrottetii A. DC. Monogr. Campanulac. 118 (1830); Prod. 7: 420; Chev. Bot. 382; Berhaut Fl. Sén. 175.

APD: Synonym of Wahlenbergia perrottetii (A. DC.) Thulin

Cephalostigma priouri A. DC. (1830).

Cephalostigma diagnissae A. Chev. Bot. 382, name only.

Annual herb, very variable in size and pubescence, a few inches to 2 ft. high; flowers very small and pale mauve; **a weed of cultivation and in sandy places.**

Sen.: Heudelot 554! Berhaut 1215; 4463; 4668. Bignona to Sindalone Chev. 2833. Cape Verde Perrottet & Leprieur! **Mali:** Ouacoro Chev. 80! **Guin.:** Kouria Caille in Hb. Chev. 14682! Dalaba-Diaguissa Plateau Chev. 18868; 18881. Bafing Adam 12652! **S. L.:** Kumrabai (fl. & fr. Dec.) Thomas 6796! Rokupr (fl. & fr. Nov.) Jordan 692! Kenema (Nov.) Deighton 394! Makump (fl. & fr. Dec.) Glanville 117! **Lib.:** Monrovia Whyte! **Iv. C.:** Marabadiassa to Gottoro Chev. 22023. **Ghana:** Sekondi (fl. & fr. Oct.) Howes 984! Nkwanta (fl. & fr. Jan.) Chipp 68! Techiman (fr. Dec.) Adams 4480! Tamale (fl. & fr.

Dec.) Adams & Akpabla 4151! Yendi (fr. Dec.) Adams & Akpabla 4061! **Togo Rep.:** Sokode to Basari Schroeder 117! **N. Nig.:** Borgu Barter 826! Kontagora (Oct.) Dalz. 58! Kano (fr. Dec.) Hagerup 654! Naraguta (Oct.) Hepper 1020! Abinsi (fl. & fr. Nov.) Dalz. 707! **S. Nig.:** Lagos MacGregor 363! Aguku Dist. Thomas 1377! Ibadan (Nov.) Newberry & Etim 171! Owo (fl. & fr. Nov.) Meikle 507! Oron to Eket Talbot 3044! **[Br.] Cam.:** Bamenda (fl. & fr. Dec.) Daramola FHI 40563! Gembu, Mambila Plateau (fl. & fr. Jan.) Hepper 1809! Gurum, Adamawa Prov. (Nov.) Hepper 1280!

Also in **Cameroun**, **Ubangi-Shari**, **the Congos**, **Sudan**, **Uganda**, **Comoro Isl.** and **tropical S. America**.

3. LIGHTFOOTIA

APD: Synonym of Wahlenbergia Schrad. ex Roth

L'Hérit. Sert. Angl. 4 (1788); F.T.A. 3: 473.

- 1 Stems glabrous, angular, slender; leaves subulate, about 1 cm. long and 1 mm. broad, apex acute, decurrent at base, margins thick and with a few minute teeth towards apex; flowers numerous in a branched inflorescence; corolla about 2 mm. long; calyx-lobes 0.5 mm. long; ovary glabrous; seeds trigonous [1a. abyssinica var. tenuis](#)
Stem pilose at least below; leaves crenulate and undulate; corolla about as long as calyx lobes:2
- 2 Leaves lanceolate about 1 cm. long and 3 mm. broad; flowers rather numerous in lax inflorescences; pedicels very slender 1-3.5 cm. long; calyx-teeth of fruit shortly triangular, about 1 mm. long, much shorter than the ovary; fruit about 3 mm. long; seeds trigonous[2. ramosissima](#)
Leaves ovate or obovate, 1-3 cm. long, 8-20 mm. broad; flowers numerous in branched inflorescences; pedicels slender 1-1.5 cm. long; calyx-teeth of fruit long-triangular, about 2.5 mm. long, as long as the ovary; fruits about 2.5 mm. long; seeds trigonous[3. hirsuta](#)

1. **Lightfootia abyssinica** Hochst ex A. Rich. Tent. Fl. Abyss. 2: 1 (1851).

APD: Synonym of Wahlenbergia abyssinica (Hochst. ex A. Rich.) Thulin subsp. abyssinica

APD: Synonym of Wahlenbergia abyssinica (Hochst. ex A. Rich.) Thulin

1a. **Lightfootia abyssinica var. tenuis** Oliv. in J. Linn. Soc. 21: 401 (1885); Hepper in Kew Bull. 15: 61.

APD: Synonym of Wahlenbergia abyssinica (Hochst. ex A. Rich.) Thulin subsp. abyssinica

Slender, well-branched herb 1-2 ft. high.

[Br.] Cam.: Mambila Plateau Chapman 59!

Also in **Uganda**, **Kenya** and **Tanganyika**.

2. **Lightfootia ramosissima** (Hemsley) E. Wimm. ex Hepper in Kew Bull. 15: 61 (1961).

APD: Synonym of Wahlenbergia ramosissima (Hemsl.) Thulin subsp. ramosissima

Cephalostigma ramosissimum Hemsley in F.T.A. 3: 472 (1877); F.W.T.A., ed. 1, 2: 191.

Erect branched annual with slender ribbed hispid stems 3-10 ins. high; flowers blue.

[Br.] Cam.: Cam. Mt., 5,000-7,000 ft. (fl. & fr. Nov., Dec.) Mann 1992! Maitland 1185!

3. **Lightfootia hirsuta** (Edgew.) E. Wimm. ex Hepper l.c. (1961).

APD: Synonym of Wahlenbergia hirsuta (Edgew.) Tuyn

Cephalostigma hirsutum Edgew. in Trans. Linn. Soc. 20: 81 (1851); F.T.A. 3: 472.

C. perotifolium Hutch. & Dalz. F.W.T.A., ed. 1, 2: 191 (1931), not *Wahlenbergia perotifolia* Wight & Arn. (1834).

Erect much-branched pilose annual a few inches high; flowers blue, rarely yellow; **in moister places between rocks.**

Ghana: Sunyani (fl. & fr. Dec.) Adams 2870! Gambaga Scarp (Sept.) Hall 811! **N. Nig.:** Nabardo Lely 623! Jos Plateau (fl. & fr. Oct.) Lely P802! P804! Vom Dent Young 167! Gindiri (fl. & fr. Oct.) Hepper 1100! 1100a! [**Br.**] **Cam.:** Vogel Peak, Adamawa (fl. & fr. Nov.) Hepper 1341!

LOBELIACEAE

Herbs, shrubs or small trees, always with milky juice; leaves alternate, rarely opposite or verticillate, simple; stipules absent. Flowers hermaphrodite, zygomorphic. Calyx-tube adnate to the ovary, 5-lobed. Corolla gamopetalous, tubular, usually bilabiate, lobes 5, valvate. Stamens 5, epigynous, alternate with the corolla-lobes, inserted on or free from the corolla; filaments partly free, anthers completely connate in a tube around the filiform style, 2-celled, opening lengthwise. Ovary inferior, 2-celled with axile placentation, rarely 1-celled with parietal placentation; ovules numerous, very rarely few. Fruit capsular or baccate; seeds minute, embryo straight in fleshy endosperm.

A widely distributed family in the tropics and subtropics, few species in the temperate zone, in Africa mainly confined to the South, some remarkable species of *Lobelia* in the African mountains, especially in E. Africa, where they are a prominent feature of the vegetation.

Distinguished from Campanulaceae by the zygomorphic corolla and the anthers cohering into a tube around the style.

- 1 Capsule more or less globose or obovoid (nearly as broad as long), dehiscent with 2 valves:2
Capsule elongate-conic to fusiform, tortuose, at length splitting into 5 narrow-linear strips; flowers bluish3.
[*Dielsantha*](#)
- 2 Flowers bluish or white; stigma 2-lobed, lobes more or less rounded to oblong, spreading1. [*Lobelia*](#)
Flowers yellowish; stigma 2-lobed, lobes long-filiform, rolling back2. [*Monopsis*](#)

1. LOBELIA

Linn.—F.T.A. 3: 464; E. Wimm. in Engl. Pflanzenr. 4, 276b Campanulac-Lobelioid.: 408 (1953).

Anthers all bearded at apex:10

- 1 Tall stiff erect herb, mostly unbranched, 1.5-2.5 m. high; stem softly tomentellous; leaves sessile, lanceolate, acute, up to 20 cm. long and 3 cm. broad, densely denticulate to irregularly dentate, shortly pubescent on both surfaces; flowers in a dense terminal raceme, 20-25 cm. long; bracts linear-lanceolate, 25 mm. long, 3-5 mm. broad; pedicels 10-15 mm. long, 2-bracteolate in the middle; calyx-lobes sublinear, entire, tomentellous, obtuse and mucronulate, 10-15 mm. long; corolla 25-35 mm. long, puberulous; filaments glabrescent, up to 28 mm. long; anther-tube glabrous at the apex, 6 mm. long1. [*columnaris*](#)

Small herbs, erect, decumbent or prostrate, 5-80 cm. high:

Anthers with only the 2 lower bearded at the apex:2

- 2 Leaves basal, few, ovate to elliptic, shortly petiolate, rounded at the base or cuneate, subacute at the apex, densely denticulate on the margin, scarcely pilose above, glabrous beneath; stem without leaves, 5-20 cm. high, hirtellous below, glabrous above; inflorescence a one-sided raceme with few flowers; pedicel 4 mm. long, calyx-tube obconic, lobes subulate with a tooth near the base; corolla 6 mm. long; stamens 3 mm. long; anther-tube glabrous2. [*lelyana*](#)

Leaves cauline, alternate:3

- 3 Prostrate, creeping herb, densely leafy, stems glabrous:4

Erect or ascending (occasionally decumbent) herbs, stems with scattered leaves:5

- 4 Leaves ovate-rounded, 4-5 mm. long and about as broad, glabrous, truncate or rounded at base, margin bluntly toothed and mucronulate; petiole 1-2 mm. long; flowers solitary in the uppermost axils of the leaves; pedicels about twice as long as the leaf, hirtellous; calyx-tube turbinate, hirtellous, the lobes linear, acute, 1.5 mm. long; corolla 8 mm. long, deep sky blue or blue and white, glabrous, the lower 3 lobes oblong; anther-tube glabrous upwards3a. [*minutula* var. *kiwuensis*](#)

Leaves ovate-rounded, 5-10 mm. long, 5-12 mm. broad, rounded-truncate at base, margin angular-dentate, glabrous; petiole 2 mm. long; flowers singly in the axils of the uppermost leaves; pedicels 10-20 mm. long, hirtellous; calyx-tube obconic, hirtellous, the lobes subulate, ciliate, 2 mm. long; corolla dull blue, 11 mm. long, subglabrous; stamens 5 mm. long; anther-tube upwards hirtellous4. [*acutidens*](#)

- 5 Leaves (except the lowest) lanceolate to linear:6

Leaves suborbicular, ovate to elliptic or subrhomboidal, the uppermost often more lanceolate; petioles 3-10 mm. long:7

- 6 Calyx-lobes ciliate; corolla 5 mm. long, glabrous within; lower leaves ovate to oblong, 2-4 cm. long, 1-2-2 cm. broad, with petiole 5-10 mm. long, the upper leaves subsessile; seeds ovoid-globose, 0.4-0.5 mm. long [5. *molleri*](#)
- Calyx-lobes glabrous; corolla about 10 mm. long, upper lobes hirtellous; lower leaves spatulate, about 3 cm. long, 8 mm. broad, narrowed into a short petiole; the others subsessile, remotely denticulate, all glabrous; seeds oblong-ellipsoid, 0.5 mm. long [6. *senegalensis*](#)
- 7 Corolla 3-6 mm. long; erect herbs: [8](#)
- Corolla 9-10 mm. long; erect, or often decumbent below and rooting at nodes; leaves ovate: [9](#)
- 8 Stem and branches conspicuously 3-winged; leaves ovate to elliptic, 1-2 cm. long, 3-15 mm. broad, subcordate truncate to gradually narrowed to base, blunt to acute at the apex, more or less dentate, scarcely hirtellous above; bracts lanceolate, acute; pedicels 1 cm. long; calyx-lobes lanceolate to linear, entire, 2 mm. long; corolla about 5 mm. long, stamens 3 mm. long [7a. *heyneana* var. *inconspicua*](#)
- Stem and branches not winged, the leaf at most very narrowly decurrent; leaf ovate to ovate-elliptic, 1.5-5 cm. long, 8-32 mm. broad, glabrous or scarcely hirtellous; petiole 3-10 mm. long; flowers in a lax, terminal raceme; pedicels 3-8 mm. long with short bracts; calyx-tube turbinate, soon oblong-cylindrical, 3-4 mm. long, lobes subulate, entire, 2 mm. long; corolla 3-4 mm. long; anther-tube hirtellous above [8. *sapinii*](#)
- 9 Leaves bluntly acuminate, 5-40 mm. long, 3-17 mm. broad, rounded to cuneate at base, margin denticulate; petiole 3-10 mm. long; flowers solitary in axils of the upper leaves or in a lax raceme; bracts more or less lanceolate; calyx-tube obconic, lobes linear, 3-6 mm. long, sometimes ciliate, spreading; seeds oblong-ellipsoid [9. *rubescens*](#)
- Leaves acute at apex, 15-25 mm. long, 5-10 mm. broad, rounded to cuneate at base, margin serrulate; petiole 5-7 mm. long, winged; flowers laxly clustered; calyx-tube obconic, lobes subulate, 2-4 mm. long, minutely ciliate, spreading; seeds compressed-elliptic [10. *kamerunensis*](#)
- 10 Leaves sessile, linear-lanceolate (some of lowermost leaves ovate), acute, denticulate, 1-3.5 cm. long, 4-6 mm. broad, glabrous; flowers solitary, axillary or in lax racemes; pedicels 2-4 cm. long with 2 divaricate bractlets at the base; bracts narrow-lanceolate, shorter than the pedicels; calyx-tube obovoid, lobes subulate, 1 mm. long [11. *djurenensis*](#)
- Leaves petiolate, ovate, about 5 cm. long, 3 cm. broad, acute to acuminate at apex, subcordate or rounded to cuneate at base, sparsely pilose on both sides or only beneath: [11](#)
- 11 Corolla 7-9 mm. long, white or pale blue, with lilac margins; pedicels with 2 bractlets near the middle; seeds compressed-ovoid, 0.8 mm. long [12. *hartlaubii*](#)
- Corolla 14-25 mm. long, blue, rarely white; pedicels with 2 bractlets near the base; seeds convex-oblong, 1 mm. long [13. *baumannii*](#)

1. ***Lobelia columnaris* Hook. f.** in J. linn. Soc. 6: 14 (1862); F.T.A. 3: 466; E. Wimm. in Engl. Pflanzenr. 4, 276b, Campanulac.-Lobelioid.: 660. **APD acc**

***Tupa columnaris* (Hook. f.) Vatke** (1874).

Erect simple herb, 6-9 ft. high; flowers blue or lilac; **in montane grassland.**

[Br.] **Cam.:** Cam. Mt.: above Ukile 8,500 ft. (Mar.) Brenan 9536! above Bamenda, 6,000 ft., Migeod 360! Ndu, 6,000 ft. (fl. & fr. Feb.) Hepper 1937! **F. Po:** Clarence Peak (Dec.) Mann 1316! Moka, 3,800-4,000 ft. (Nov., Jan.) Mildbr. 7067! Guinea 1609!

Also in **Cameroon**.

2. ***Lobelia lelyana* E. Wimm.** l.c. 465 (1953).

APD: *Synonym of Lobelia sapinii De Wild.*

Erect annual herb, up to 8 in. high; flowers dull blue; **on rocks.**

N. Nig.: Jos Plateau (Sept.) Lely P727!

3. ***Lobelia minutula* Engl.** Bot Jahrb. 19, Beibl. 47: 50 (1894). **APD acc**

3a. ***Lobelia minutula* var. *kiwuensis* (Engl.) E. Wimm.** in Ann. Naturhist. Mus. Wien 56: 347 (1948); Engl. Pflanzenr. l.c. 486.

APD: *Synonym of Lobelia minutula Engl.*

***Lobelia kiwuensis* Engl.** Ergebn. Deutschen Zentralaf.-Exped. 1907-08, 2: 345 (1911).

A small caespitous herb with stems creeping; flowers deep blue or white-spotted.

[Br.] Cam.: Lakom, 6,000 ft., Bamenda (fl. & fr. Apr.) Maitland 1773!

4. *Lobelia acutidens* Hook. f. in J. Linn. Soc. 7: 204 (1864); F.T.A. 3: 467; E. Wimm. l.c. 488. *APD acc*

A small prostrate, creeping herb; flowers dull blue.

F. Po: 9,000 ft. (Mar.) Mann 1452! above Basilé, 8,000 ft., St. Isabel's Peak Mildbr. 7171!

5. *Lobelia molleri* Henriq. in Bol. Soc. Brot. 10: 137 (1892); E. Wimm. l.c. 472. *APD acc*

Lobelia thomensis Engl. & Diels (1899).

Lobelia fervens of F.W.T.A., ed. 1, 2: 193, not Thunb.

A weak erect or partly decumbent herb, glabrous, 1 ft. or more high; flowers white.

[Br.] Cam.: above Buea, frequent Deistel 39 (652)! 91! F. Po: Moka, about 3,600 ft. Tessmann 2873!

Also in Cameroun, S. Tomé, Uganda and Tanganyika.

6. *Lobelia senegalensis* A. DC. Prod. 7: 372 (1839); F.T.A. 3: 469; E. Wimm. l.c. 551; Berhaut Fl. Sén. 174. *APD acc*

Lobelia kohautiana Vatke (1874).

Lobelia chilawana Schinz (1900).

Lobelia trierarchi R. Good (1924).

A glabrous erect, branched herb, about 1 ft. high; flowers pale blue with white spots.

Sen.: Perrottet 439! Sieber 15! Boivin 403! Cayor Leprieur! R. Senegal Heudelot 512! Sangalkam (Dec.) Berhaut 204!

Also in Sudan, Somaliland and Mozambique.

7. *Lobelia heyneana* Roem. & Schult. Syst. Veg. 5: 50 (1819). *APD acc*

7a. *Lobelia heyneana* var. *inconspicua* (A. Rich.) E. Wimm. l.c. 475, fig. 79 c. (1953).

APD: *Synonym of Lobelia inconspicua* A. Rich.

Lobelia inconspicua A. Rich. (1851)-F.T.A. 3: 468.

Lobelia ilysanthoides Schlechter (1922), partly.

A small erect herb, 2-11 cm. high, stem narrowly winged and sparsely pilose; flowers 3-5 mm. long, reddish or lilac.

S. L.: Jaeger 451!

Also in Cameroun, Ethiopia and Tanganyika.

8. *Lobelia sapinii* De Wild. in Bull. Jard. Bot. Brux. 3: 261 (1911); E. Wimm. l.c. 511. *APD acc*

Lobelia ledermannii Schlechter (1922).

A glabrous erect branched herb, up to 8 in. high; flowers blue or white with deep blue stripes or bright blue with 2 rows of dark dots across lower lip.

N. Nig.: Anara F.R., Zaria (Oct.) Keay FHI 5465! Naraguta F.R., 3,800 ft., (Nov.) Hepper 1072! [Br.] Cam.: Vogel Peak, Adamawa (Nov.) Hepper 1484!

Also in Cameroun, Congo, Tanganyika and Nyasaland.

9. *Lobelia rubescens* De Wild. in Rev. Zool. Bot. Aft. 8, Suppl. 27 (1920); E. Wimm. l.c. 507. *APD acc*

Erect, subglabrous herb to 1 ft. high, often decumbent or somewhat trailing and rooting at the base; flowers blue, about 1/2 in. long; in marshes.

S. L.: Loma Mts. (Feb.) Jaeger 4257!

Also in Congo, Uganda and Tanganyika.

[Note.: This specimen seems to be an intermediate form between *L. kamerunensis* Engl. and *L. rubescens* De Wild.-E. W.]

10. *Lobelia kamerunensis* Engl. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 193 (1931); E. Wimm. l.c. 507.

APD: *Synonym of Lobelia rubescens* De Wild.

APD: *Synonym of Lobelia rubescens* De Wild.

APD: *Synonym of Lobelia molleri* Henriq.

Erect or decumbent-ascending herb to 1 ft. high, stems and leaves above slightly pilose or glabrescent; flowers white, bluish within with dull spots on the lower lip, 1/4 in. long.

S. L.: Loma Mts. 1,400 ft. (Sept.) Jaeger 1979! **S. Nig.:** Sonkwala, 5,500 ft., Obudu Div. (Aug., Dec.) Stone 80! Savory & Keay FHI 25247! **[Br.] Cam.:** Cam. Mt.: Mann's Spring, 7,700 ft., Preuss 748! Musake Maitland 1239! Bafut-Ngemba F.R., 7,000 ft., Bamenda (Feb.) Hepper 2106! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1667! **F. Po:** Moka, 4,000 ft., and Mioka area Boughey 38! 90!

Also in **Cameroun**.

11. *Lobelia djurensis* Engl. & Diels in Engl. Bot. Jahrb. 26: 116 (1898); E. Wimm. l.c. 570, fig. 93 d.

APD acc

Lobelia baoulensis A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 180 (1912); F.W.T.A., ed. 1, 2: 193; Berhaut Fl. Sén. 174.

A glabrous erect herb, stem 4-angled, succulent and spongy; flowers pale lilac or purple, 1/8 in. long; in muddy places.

Sen.: Badi (Dec.) Berhaut 1827! 4424. **Mali:** Diafarabé (Dec.) Davey 600! **Guin.:** Grandes Chutes (Dec.) Chev. 20313! **Iv. C.:** Baoulé (Aug.) Chev. 22252! 22389 bis! **Ghana:** near Burufo (Dec.) Adams & Akpabla 4383! **N. Nig.:** Borgu Barter 797! Anara F.R., Zaria Prov. (Oct.) Hepper 994! Lokoja and Kontagora (Oct., Nov.) Dalz. 59! Minna (Dec.) Meikle 728!

Also in **Middle Congo** and **Sudan**.

12. *Lobelia hartlaubii* Buchenau in Abh. Naturwiss. Ver. Bremen. 7: 201 (1881); E. Wimm. l.c. 586.

APD acc

Lobelia schaeferi Schlechter in Engl. Bot. Jahrb. 57: 624 (1922).

Decumbent or ascending herb, 1-2 ft. high, often rooting below, branched, sparsely pilose; flowers white, blue or mauve with white margins; in montane forest.

[Br.] Cam.: (eastern border): Mbo, 5,000 ft. (Nov.) Ledermann 6054!

Also in **Cameroun**, **Uganda** and **Madagascar**.

13. *Lobelia baumannii* Engl. in Abhandl. Preuss. Akad. Wiss. 46 (1894); E. Wimm. l.c. 586. APD acc

Erect herb, stem decumbent at the base, rooting at the nodes, 1 ft. or more high; flowers white with purple markings on the throat, anthers blue.

S. Nig.: Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25208!

Widespread in E. Africa.

2. MONOPSIS

Salisb. in Trans. Hort. Soc. Lond. 2: 37 (1817); E. Wimm. in Engl. Pflanzenr. 4, 276b, Campanulac.-Lobelioid.: 698 (1953).

- 1 Small herb; stems prostrate, scabrid; leaves opposite, lanceolate, up to 2.5 cm. long and 6 mm. broad, subacute at both ends, midrib scabrid, margins callous and crenate; flowers solitary in the axils of the leaves; peduncles 8-25 mm. long, divaricate; calyx-tube obconic, retrorse-pilose, lobes sublinear, 4 mm. long, ciliate, divaricate or deflexed; corolla about 8 mm. long, bilabiate; capsule oblong-obovoid, hirtellous, 6 mm. long; seeds compressed-globose, scrobiculate, 0.6-0.8 mm. long*stellarioides* var. *schimperiana*

Monopsis stellarioides (*Presl*) *Urb.* in *Jahrb. Bot. Gart. Berl.* 1: 275 (1881). *APD acc*

Dobrowskya stellarioides *Presl* (1836), partly.

Monopsis stellarioides var. **schimperiana** (*Urb.*) *E. Wimm.* l.c. 704 (1968).

APD: Synonym of *Monopsis stellarioides* subsp. *schimperiana* (*Urb.*) *Thulin*

Monopsis schimperiana *Urban* in *Jahrb. Bot. Gart. Berl.* 1: 276 (1881).

Lobelia stellarioides (*Presl*) *Benth. & Hook. f. ex Hemsley* in *F.T.A.* 3: 470 (1877).

L. mukuluensis *De Wild.* (1920).

Straggling herb, with weak stems 1-2 ft. long; flowers yellow with dull red throat and often reddish outside; in montane marshes.

[Br.] *Cam.*: Litoka, 4,400 ft., Cam. Mt. (Apr.) Maitland 1087! Bamenda (fl. & fr. May) Daramola FHI 41185! Jakiri, 5,000 ft., Bamenda (Feb.) Hepper 1957! *F. Po.*: Biao, 6,500 ft. (Sept.) Wrigley & Melville 469!

Also in Cameroun, tropical E. Africa, E. Congo.

3. DIELSANTHA

E. Wimm. in *Ann. Naturhist. Mus. Wien* 56: 372 (1948); *Engl. Pflanzenr.* 4, 276b, Campanulac.-Lobelioid.: 743, fig. 111 (1953).

- 1 Erect or decumbent, branched, herb; stems succulent, more or less square, often rooting below; leaves ovate to oblong-ovate, 3-7 cm. long, 2-3-5 cm. broad, subacuminate to acute at the apex, rounded to cuneate, margin serrate, slightly hirsute on the surfaces or glabrescent; petioles 5-15 mm. long; flowers few, sessile in sessile axillary fascicles; corolla as in *Lobelia*, 1 cm. long, all segments ciliate at the apex; all anthers bearded; calyx-tube at first peduncle-like, soon becoming conical or spindle-shaped; fruit 1.5-2 cm. long, 2 mm. broad, with 5 sepals at apex, splitting into 5 narrow strips [galeopsoides](#)

Dielsantha galeopsoides (*Engl. & Diels*) *E. Wimm.* l.c. (1953). *APD acc*

Lobelia galeopsoides *Engl. & Diels* in *Engl. Bot. Jahrb.* 26: 118 (1899); *F.W.T.A.* ed. 1, 2: 193.

A weak herb, about 8 in. high; flowers lilac or blue-violet.

S. Nig.: Oban Talbot 1259! [Br.] *Cam.*: Barombi gorge (May) Preuss 184! *F. Po.*: St. Isabel's Peak (Aug.) Mildbr. 6365!

GOODENIACEAE

Herbs or undershrubs. Leaves alternate or rarely opposite; stipules absent. Flowers zygomorphic. Calyx tubular, adnate to the ovary, rarely free. Corolla gamopetalous, bilabiate or rarely 1-lipped, lobes valvate, often induplicate. Stamens 5, alternate with the corolla-lobes, free or rarely shortly adnate to the corolla; anthers 2-celled, free or connivent around the style. Ovary mostly inferior, 1-4-celled; stigma indusiate at the top. Ovules 1 or more in each cell, erect or ascending. Fruit drupaceous or nut-like, or capsular. Seeds small, with straight embryo in the middle of copious endosperm.

Mainly Australian; represented in our area by one widely distributed species.

SCAEVOLA

Linn.-*F.T.A.* 3: 462. *Nom. cons.*

- 1 A succulent low shrub; leaf-scars oblique, prominent; leaves narrowly obovate, fleshy, rounded at the apex, broadly petiolate, 5-8 cm. long, 2.5-4 cm. broad, glabrous, faintly nerved when dry; flowers in short axillary cymes, sessile; bracts linear; calyx very short and annular; corolla about 2 cm. long, glabrous outside, densely woolly inside; style pubescent, indusiate stigma finely ciliate; fruit fleshy, about 1.3 cm. long, ellipsoid-globose [plumieri](#)

Scaevola plumieri (*Linn.*) *Vahl* *Symb. Bot.* 2: 36 (1791). *APD acc*

Lobelia plumieri Linn. (1753).

Scaevola lobelia Murr. (1774)-F.T.A. 3: 462; Chev. Bot. 381.

A low shrub 1-3 ft. high, succulent and nearly glabrous, with thick branchlets marked by leaf-scars; flowers white or greenish-yellow, fruits blue-black; on sandy shores near high-water mark.

Sen.: Sieber 23! Leprieur! Berhaut 1012. Dakar (fl. & fr. May) Baldwin 5755! Chev. 2834. **S. L.:** Lumley (Aug.) Deighton 2044! Hamilton (Apr.) Hepper 2531! Messima (Apr.) Adames 31! **Lib.:** Grand Bassa (Julv) T. Vogel 116! Robertsport (fl. & fr. Dec.) Baldwin 10909! **iv. C.:** Bériby Chev. 20017. Abouabou (fl. & fr. Jan.) Leeuwenberg 2376! Near Assinie (July) Chipp 283! **Ghana:** Accra Moloney! Tema Irvine 948! Prampram (fr. June) Boughey GC 512! **S. Nig.:** Badagry (Aug.) Onochie FHI 33488!

Sea coast of Africa, tropical America and S. India.

Scaevola sericea Vahl

A native of Madagascar and tropical Asia.

Cultivated at Victoria.

HYDROPHYLLACEAE

Annual or perennial herbs. Leaves radical or alternate, rarely opposite, entire to pinnately or palmately lobed. Flowers usually cymose, hermaphrodite, actinomorphic. Calyx-segments 5, imbricate. Corolla gamopetalous, lobes imbricate or contorted. Stamens the same number as the corolla-lobes and alternate with them, mostly inserted towards the base of the tube; anthers 2-celled. Ovary superior, 1-celled with 2 parietal placentas, or 2-3-celled; styles 1 or 2. Ovules numerous. Fruit a loculicidal or rarely septicidal capsule. Seeds with fleshy endosperm and small straight embryo.

Mainly North American.

HYDROLEA

Linn.-F.T.A. 4, 2: 2; Brand in Engl. Pflanzenr. 4, 251, Hydrophyllac.: 174 (1913). Nom. cons.

Herbs; leaves alternate, entire, narrow. Flowers blue, in axillary clusters, or in terminal cymes. Sepals 5, free to near the base, imbricate. Corolla 5-lobed to near the base, open. Stamens 5; anthers sagittate. Ovary 2-(rarely 3-) celled; ovules numerous; styles 2, divergent. Capsule septicidally 2-valved.

- 1 Flowers in axillary clusters along the stems or in very short axillary racemes; leaves lanceolate, very acutely acuminate, acute at the base, 4-8 cm. long, 1-1.5 cm. broad, glabrous, with numerous lateral nerves; sepals oblong-lanceolate, acute, glabrous, about 6 mm. long; corolla lobed nearly to the base, very short; capsule broadly ovoid, glabrous [1. glabra](#)

Flowers in cymes; leaves linear or linear-lanceolate: **2**

- 2 Sepals cordate-ovate, about 7 mm. long; cymes lax, few-flowered; pedicels slender; leaves sessile, linear-lanceolate, acute, 2-5 cm. long, 0.5-1 cm. broad, glabrous, with very few lateral nerves; capsule subglobose, hidden by the slightly accrescent veiny sepals [2. macrosepala](#)

Sepals lanceolate, 4 mm. long; cymes rather compact, many-flowered; leaves linear, up to 9 cm. long, acute, glabrous; capsule globose, about 4 mm. diam., glabrous [3. floribunda](#)

1. *Hydrolea glabra* Schum. & Thonn. Beskr. Guin. Pl. 161 (1827); Brand l.c. 175.

APD: *Synonym of Hydrolea palustris (Aubl.) Raeusch.*

Hydrolea guineensis Choisy in Ann. Sci. Nat., sér. 2, 1: 180 (1834); F.T.A. 4, 2: 3; Chev. Bot. 447; F.W.T.A., ed. 1, 2: 194.

Glabrous herb with spongy stems ascending or weakly erect; flowers blue; **in pools and wet places.**

Sen.: Heudelot 79! Niokolo-Koba (fl. & fr. Apr.) Berhaut 1500! Badi (fl. & fr. Dec.) Berhaut 2163! **S. L.:** Pendembu (July) Thomas 735! Kahreni to Port Loko (Apr.) Sc. Elliot 5805! Mapaki (Aug.) Deighton 1207! Mano (Jan.) Deighton 2447! **Lib.:** Monrovia Whyte! Tauiné (Sept.) Linder 825! **iv. C.:** Bliéron Chev. 19919. Grabo to Taté Chev. 19787. **Ghana:** Sesiamang (Feb.) A.S. Thomas D149! Dormaa-Ahenkro (Dec.) Adams GC 3009! **N. Nig.:** Lokoja (Oct.) Dalz. 217! Agiare, Bida (Dec.) Savory UCI 102! Kontagora (Dec.) Dalz. 56! **S. Nig.:** Abo Barter 185! Abeokuta Irvine 46! Badagry (Aug.) Onochie FHI 33464! Adani (Mar.) Tuley 71!

Also in [Cameroun](#), [Congo](#) and [Madagascar](#).

2. *Hydrolea macrosepala* [A.W. Bennett](#) in J. Linn. Soc. 11: 277, t. 1, fig. 13 (1870); F.T.A. 4, 2: 4. *APD acc*

Hydrolea djalensis [A. Chev.](#) Bot. 447, name only.

Erect branched glabrous herb, stems up to 2 ft. high, spongy in the lower part; flowers blue in very lax panicles; [in swamps and moist ground in savanna](#).

Sen.: Niokolo-Koba Berhaut 1144! **Guin.:** Kouroussa (Dec.) Pobéguin 612! Kouria Caille in Hb. Chev. 14962! **S. L.:** Kambia (Nov.) Jordan 376! **Ghana:** Lawra (Oct.) Hinds 5011! **N. Nig.:** Nupe Barter 902! Kontagora (Nov.) Dalz. 54! Mada (Nov.) Hepburn 515! [**Br.**] **Cam.:** Gurum, Adamawa (Nov.) Hepper 1242!

Also in [Sudan](#).

3. *Hydrolea floribunda* [Kotschy & Peyr.](#) Pl. Tinn. 22, t. 9B (1867); F.T.A. 4, 2: 5; Brand l.c. 177, fig. 37. *APD acc*

Hydrolea graminifolia [A. W. Bennett](#) l.c. t. 1, fig. 12 (1870); F.T.A. 4, 2: 5; Chev. Bot. 447; F.W.T.A., ed. 1, 2: 194.

Erect herb branched above at the corymbose inflorescence, glabrous, stems spongy below, up to 3 ft. high; flowers rich blue; [in swamps in savanna](#).

Sen.: Niokolo-Koba (Jan.) Roberty 16636! **Mali:** Tiguiberri (fr. Jan.) Chev. 296! Dogo (Mar., May) Davey 99! 007! **Guin.:** Kollangui Chev. 12190; 13530. Kebeya Pobéguin 717! Férédougouba R. (July) Collenette 69! Erimakuna (= Hérémakon) (Mar.) Sc. Elliot 5235! **Iv. C.:** Alangouassou to Mbayrakro Chev. 22240! **Ghana:** Yeji (fl. & fr. Aug.) Vigne FH 3318! Yeji to Ejura (Apr.) Dalz. 48! Damongo Scarp (Sept.) Rose Innes GC 30201! Yendi to Zabzugu (Oct.) Rose Innes GC 30696! **N. Nig.:** Jebba Barter 888! Bida (Dec.) Savory UCI 103! Keay FHI 37296! Kontagora (Nov.) Dalz. 55! Abinsi (June) Dalz. 750! [**Br.**] **Cam. (?)**: Tuburi marshes Talbot 332!

Also in [Cameroun](#), [Uganda](#) and [Sudan](#).

BORAGINACEAE

Trees, shrubs or herbs, often roughly scabrid or hispid. Leaves alternate or rarely opposite, simple; stipules absent. Flowers often in scorpioid cymes, actinomorphic or rarely oblique, mostly hermaphrodite. Calyx-lobes imbricate or rarely valvate. Corolla with contorted or imbricate lobes. Stamens the same number as the corolla-lobes and alternate with them, inserted on the corolla. Anthers 2-celled, opening lengthwise. Disk present or absent. Ovary superior, 2-celled or 4-celled by spurious septa, entire or deeply 4-lobed; style terminal or gynobasic. Ovules paired, erect or spreading from the central axis. Fruit a drupe or of 4: nutlets. Seeds with or without endosperm.

Generally distributed; very numerous in the drier parts of the Mediterranean regions.

Recognized by the usually rough hairs and often lobed ovary with gynobasic style.

- 1 Style terminal on top of the ovary (ovary not vertically lobed):2
Style inserted between the lobes of the ovary (ovary vertically lobed):6
- 2 Trees or shrubs:3
Herbs:5
- 3 Style once divided:4
Style twice divided[3. Cordia](#)
- 4 Stamens inserted at the throat of the corolla-tube; flowers small, cymose[1. Ehretia](#)
Stamens inserted at the bottom of the corolla-tube; flowers few, in leafy cymes [2. Rotula](#)
- 5 Styles two, separate; annual procumbent herb densely setose all over; flowers tetramerous, solitary, axillary ...[4. Coldenia](#)
Style one; herbs with scorpioid cymes (in one species flowers appearing solitary); flowers pentamerous (except the gynaeceum)[5. Heliotropium](#)
- 6 Calyx large and conspicuous, accrescent in fruit [6. Trichodesma](#)
Calyx rather small, not or only slightly accrescent:7
- 7 Nutlets depressed-globose, covered with glochidiate bristles[7. Cynoglossum](#)

Nutlets ovoid, without glochidiate bristles:8

8 Corolla-tube rather long and narrow; plants densely hispid with long stiff white hairs; flowers yellow [8. Arnebia](#)

Corolla-tube short, hypocrateriform, plants clothed with short spreading bristly hairs; flowers white or bright blue
.....[9. Myosotis](#)

1. EHRETIA

Linn.-F.T.A. 4, 2: 19.

1 Leaves glabrous beneath except sometimes on the nerves, broadly elliptic to obovate or almost suborbicular, abruptly acuminate, rounded to subacute at the base, 10-15 cm. long and up to 10 cm. broad, entire; petiole 1-2 cm. long, slightly pilose; cymes large, terminal, many-flowered; flowers small:.....2

Leaves shortly setulose with broad-based hairs beneath, obovate-elliptic, gradually acuminate, rounded at base, 12-16 cm. long, 5-8 cm. broad, with about 5-6 pairs of lateral nerves; petiole extremely short; cymes few-flowered; calyx-segments linear-lanceolate, glabrous; fruit narrowly obovoid, ribbed, 1 cm. long[2. trachyphylla](#)

2 Flowers clearly pedicellate, articulated at or near base of the calyx; inflorescences usually minutely pubescent; leaves nearly glabrous, sometimes very sparsely pilose on the midrib and principal nerves of the lower surface
.....[1a. cymosa var. cymosa](#)

Flowers subsessile, articulated at or near the base of calyx; inflorescences pubescent, tomentellous or shortly pilose[1b. cymosa var. zenkeri](#)

1. *Ehretia cymosa* *Thonning* Beskr. Guin. Pl. 129 (1827); F.T.A. 2: 25; F.W.T.A., ed. 1, 2: 195; Chev. Bot. 449; Brenan in Mem. N.Y. Bot. Gard. 9, 1: 4 (1954); Aubrév. Fl. For. C. Iv., ed. 2, 3: 217, t. 332, 6-9. *APD acc*

Ehretia thonningiana *Exell* Suppl. Cat. S. Tomé 34 (1956).

Shrub or small tree up to 20 ft. high, sometimes with weak drooping branches; flowers small, white, fragrant, in copious paniced cymes; fruits red.

1a. *Ehretia cymosa* var. *cymosa*-Brenan l.c. 5 (1954). *APD acc*

S. L.: Bafodeya highlands (fr. Apr.) Sc. Elliot 5645! Duunia (Feb.) Sc. Elliot 4856! Bumban (Apr.) Sc. Elliot 5723! Kanah (May) Thomas 406! Njala (Apr.) Deighton 2636! **Iv. C.:** Sassandra Chev. 16338; 17915. Dimbokro Aubrév. 436; 437. Bondoukou Aubrév. 759. Tonkoui Mt. Aubrév. 1020. **Ghana:** Accra (Feb., Aug., Oct.), T. Vogel! Johnson 607! Brown 372! Aburi Patterson 184! Secondi (Jan.) Dalz. 67! Kumasi (fl. & fr. Feb.) Irvine 9! **Togo Rep.:** Lomé Warnecke 82! 370! **S. Nig.:** Abeokuta Chev. 13915; 14085; 14116. Irving 52! Punch 2! Shaki (fl. May) Denton 24! Aboh Barter 287! Degema Talbot 3839! Eket Dist. Talbot! **[Br.] Cam.:** Rio del Rey Johnston! Buea (May) Maitland 694!

Also in **Cameroun**, **Gabon**, **Congo** and **Uganda**.

1b. *Ehretia cymosa* var. *zenkeri* (*Gürke ex Bak. & Wright*) Brenan l.c. (1954). *APD acc*

Ehretia zenkeri *Gürke ex Bak. & Wright* in F.T.A. 4, 2: 25 (1905).

Like the last but with longer and denser indumentum on the inflorescence.

N. Nig.: Thornewill 70! 83! **S. Nig.:** Lagos Phillips 34!

Also in **Cameroun** and **S. Tomé**.

[Note: Intermediates between var. *cymosa* and var. *zenkeri* are frequent in S. Nigeria, e.g. Rowland! Lagos (Feb.) Dalz. 1018! (May) Foster 86! Abeokuta Barter 3388! Ibadan Newberry 59! Aku Rock (fr. Nov.) Hamblen 582!-H. H.]

2. *Ehretia trachyphylla* *C.H. Wright* in Kew Bull. 1907: 53; Aubrév. Fl. For. C. Iv., ed. 2, 3: 218, t. 332, 1-5. *APD acc*

A small tree with lenticellate branches, and small white flowers in lax pubescent cymes.

Iv. C.: Aubrév. 153; 797; 1378; 1787 bis; 1792. **Ghana:** Dunkwa (Aug.) Vigne FH 4781! Ateiku Vigne FH 4775! Aburi (June) Johnson 974! Cape Coast (fr. July) Hall 1502!

2. ROTULA

Lour. Fl. Cochinch. 121 (1790); Johnston in J. Am. Arb. 32: 14 (1951).

Rhabdia Mart.-F.T.A. 4, 2: 27.

- 1 Shrub with numerous setose to glabrescent branchlets; leaves oblanceolate, up to 3.5 cm. long and 1 cm. broad, rather long-setose-pilose to almost glabrous beneath; corymbs lax, lateral; bracts foliaceous; calyx-segments linear-oblong, 5 mm. long; corolla widely campanulate, 1 cm. long, throat glabrous; stamens included; fruit slightly ribbed, ovoid, surrounded by the persistent calyx [aquatica](#)

Rotula aquatica *Lour.* l.c. (1790); Bunting in J. Bot. 47: 269 (1909); Merrill in Trans. Am. Phil. Soc., n. ser., 24 2: 330 (1936); Johnston l.c. 15; Berhaut Fl. Sén. 7, 134. *APD acc*

Rhabdia lycioides Mart. (1827)-F.T.A. 4, 2: 28; Chev. Bot. 449.

Zombiana africana Baill. (1888)-F.T.A. 5: 263.

A stiff-branched shrub 3-6 ft. high, with red flowers; **by streams or half-submerged.**

Sen.: Heudelot 116! Berhaut 1276; 4088; 4493. M'bidjem (May) Thierry 217! **Mali:** Badumbé Chev. 59. Quignaba Chev. 255. Kéniégué Chev. 273. **Port. G.:** Chitole Saltinko (fl. & fr. Feb.) Esp. Santo 2669! **Guin.:** Tongué (Dec.) Roberty 16316! Farana Chev. 13397. Sc. Elliot 5339! **S. L.:** Njala (Feb.) Deighton 3116! Musaia (Feb.) Deighton 4237! Makump (Oct.) Glanville 137! Kukuna (Jan.) Sc. Elliot 4718! Batkanu (Jan.) King 178b! **Ghana:** Kete Krachi (Dec.) Adams 4554! Black Volta, N.T. (Dec.) Adams & Akpabla 4453! Black Volta R., Lawra (Jan.) Crisp! **S. Nig.:** R. Awon, Yoruba country Barter 1143!

Pantropical.

3. CORDIA

Linn.-F.T.A. 4, 2: 6.

- 1 Leaves opposite or subopposite, oblong-ob lanceolate, rounded at the apex, 4-8 cm. long, 1.5-3 cm. broad, slightly scabridulous above, finely reticulate beneath; petiole 0.5-1 cm. long; flowers few; pedicels 5 mm. long; calyx 5 mm. long, slightly setulose; fruit acute, 1 cm. long [1. rothii](#)
- Leaves alternate: [2](#)
- 2 Leaves glabrous on the lower surface: [3](#)
- Leaves pubescent to tomentose beneath: [4](#)
- 3 Calyx-tube not ribbed, contracted at the base, about 7 mm, long, glabrous; leaves long-petiolate, oblong to narrowly ovate, acutely acuminate, very shortly cuneate at the base, 8-15 cm. long, 3-6 cm. broad, with about 5 pairs of lateral nerves; fruit 1.5 cm. long, acute [2. senegalensis](#)
- Calyx-tube strongly ribbed, 1 cm. long, velvety-tomentellous; corolla shortly exserted, lobes reflexed; leaves elliptic or ovate-elliptic, acutely acuminate, rounded at the base, 10-25 cm. long, 5-10 cm. broad, with about 5 pairs of lateral nerves; petiole 2 cm. long [3. aurantiaca](#)
- 4 Calyx very strongly ribbed: [5](#)
- Calyx not ribbed or only very obscurely so: [6](#)
- 5 Calyx 1-3 cm. long, appressed-setulose; corolla shortly exserted; branchlets densely pilose; leaves oblong-lanceolate, broadly acuminate, about 20 cm. long and 5 cm. broad, long-pilose on the midrib on both surfaces; petiole 1 cm. long [4. vignei](#)
- Calyx less than 1 cm. long, tomentellous; corolla long-exserted, funnel-shaped, about 2.5 cm. long; leaves ovate-orbicular, rounded to widely cordate at the base, rounded at the apex, about 8 cm. diam., with very prominent parallel tertiary nerves, shortly tomentellous beneath; cymes many-flowered; fruit 1.3-1.5 cm. long, fleshy [5. africana](#)
- 6 Calyx glabrous outside or minutely puberulous only towards the tip, contracted at the base and widely obconic; cymes about 8 cm. long; pedicels very short and stout; leaves ovate-orbicular, slightly and broadly mucronate, slightly pubescent on the closely reticulate lower surface, flabellately trinerved at the base, 6-12 cm. long, 4-9 cm. broad [6. myxa](#)
- Calyx tomentose or tomentellous outside: [7](#)
- 7 Leaves rounded at the apex; calyx apiculate in bud: [8](#)
- Leaves acuminate, broadly ovate-elliptic, rounded to slightly cuneate at base, up to 18 cm. long and 12 cm.

broad, shortly pubescent beneath, with prominent and numerous parallel tertiary nerves; calyx not apiculate in bud, about 7 mm. long; cymes divaricate [9. platythyrsa](#)

8 Leaves small, at most 7-8 cm. diam. [7. guineensis](#)

Leaves large, 15-25 cm. long, obovate-orbicular [8. millenii](#)

1. ***Cordia rothii* Roem. & Schutt.** Syst. Veg. 4: 798 (1819); F.T.A. 4, 2: 18; Chev. Bot. 448; Berhaut in Mém. Soc. Bot. fr. 1953/54: 4 (1954), and Fl. Sén. 109.

APD: *Synonym of Cordia sinensis* Lam.

***Cornus gharaf* Forsk.** (1775), name only.

***Cordia gharaf* (Forsk.) Ehrenb. ex Aschers.** in Sitzungsber. Ges. Naturf. Fr. Berlin 1879: 46 (1879), and Verh. Bot. Ver. Prov. Brandenburg 21: 69 (1879); Aubrév. Pl. For. C. Iv., ed. 2, 3: 218, and Fl. For. Soud.-Guin. 493, t. 110, 2, 3; Pellegr. in Bull. Soc. Bot. Fr. 81: 272.

Cordia senegalensis of A. DC. Prod. 9: 480, not of Juss., incl. var. *pelida* A. DC. (1845).

A shrub or small tree up to 16 ft., with white flowers 1/4 in. long in rather small pubescent cymes and ovoid, pointed fruits on a saucer-shaped calyx.

Sen.: Dagana Leprieur. Perrottet 131; 544. Fadiout Ezanno 41. Berhaut 357. **Mali:** Tacadji Chev. 3179. Timbukto Chev. 3547. Niafouké (fr. Mar.) Davey 603! **Ghana:** Winneba Plain (fr. Feb.) Dalz. 8275! Accra (Jan.) Dalz.! Adams 4763! Newningo (Mar.) Morton A169! Shai Plains (Feb.) Irvine 1981! **Togo Rep.:** Lomé Warnecke 344! **N. Nig.:** Yo, Bornu (fl. & fr. Dec.) Elliott 149!

In the drier parts of tropical Africa generally and throughout **Arabia** to India.

[Davey 603 is a specimen which seems to be an intermediate between this and *C. ovalis* R. Br. ex DC.]

2. ***Cordia senegalensis* Juss.** in Poir. Encycl. 7: 47 (1806); F.T.A. 4, 2: 16, partly; Pellegr. in Bull. Soc. Bot. Fr. 81: 270; Berhaut Fl. Sén. 14: 1; Aubrév. Fl. For. C. Iv., ed. 2, 3: 220, t. 333, 1-5 *APD acc*

***Cordia heudelotii* Bak.** (1894)-F.T.A. 4, 2: 14.

***Cordia mannii* C. H. Wright** in F.T.A. 4, 2: 15.

***Vitex syringaefolia* Bak.** (1896)-F.T.A. 5: 350.

***Ehretia acutifolia* Bak.** (1894).

A nearly glabrous shrub or tree up to 30 ft. high, with white flowers 1/3 in. long in lax terminal and axillary cymes.

Sen.: Perrottet 541. Heudelot 253! 342! Irvine 3237! Berhaut 209. **iv. C.:** Aubrév. 1128; 1779. **Ghana:** Rowland! Mampong Vigne FH 1061! Juaso (Feb.) Vigne FH 1820! **S. Nig.:** Lagos Rowland! Yoruba country Barter 3425! Ibadan North F.R. (Feb.) Chizea FHI 23970! Eruwa, Oyo (Apr.) Keay FHI 37808! **[Br.] Cam.:** Amba Bay (fl. Feb.) Mann 968! Johann-Albrechtshöhe Staudt 614!

Also in **Cameroun**.

3. ***Cordia aurantiaca* Bak.** in Kew Bull. 1894: 26; F.T.A. 4, 2: 10 (1905). *APD acc*

***Cordia dusenii* Gürke** (1895).

A shrub or small tree 16-26 ft. high, brownish-velvety on the young parts, with orange-yellow flowers, 3/4 in. long in terminal cymes.

S. Nig.: Idumuje (Dec.) Thomas 2103! 2140! Sapoba Kennedy 1971! Oban Talbot 318! **[Br.] Cam.:** Buea (fl. & fr. Mar.) Deiskel 620! Hutch. & Metcalfe 102! Maitland 570! Victoria (Mar.) Maitland 511! Boirongo (fl. Jan.) Keay FHI 37390! **Po:** (June) Barter! Mann 4!

4. ***Cordia vignei* Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 196 (1931); Aubrév. Fl. For. C. Iv., ed. 2, 3: 220, t. 333, 6-9. *APD acc*

A shrub with rather long acutely-pointed leaves, densely pale brown pubescent on the young parts, with flowers 1/2-2/3 in. long.

S. L.: Levuma (fr. Aug.) Deighton 2212! Kaboura-Mamayema (fr. Apr.) Deighton 3927! Mano (fl. Apr.) Deighton 4619! **iv. C.:** Agboville Aubrév. 1387; 1388. **Ghana:** Kumasi (fl. & fr. Apr., June) Vigne FH 1098! 1744! Ankaful Hall 1845!

5. ***Cordia africana* Lam.** Tabl. Encycl. Ill. 1: 420 (1792). *APD acc*

G. abyssinica R. Br. (1814)-F.T.A. 4, 2: 9; Aubrév. Fl. For. Soud-Guin. 493, t. 110, 4, and Fl. For. C. Iv., ed. 2, 3: 218.
Cordia platythyrsa of Chev. Bot. 448, not of Bak.
Cordia ubanghensis A. Chev. (1913).

A shrub or small tree up to 25 ft. high, with broad leaves strongly-nerved beneath, conspicuous funnel-shaped white flowers in paniculate cymes, and yellow succulent fruits 1/3-1/2 in. in diam.; **often planted**.

Guin.: Koumi Pobéguin 1486! Scaëtta 3348. Labé Cochet 64. Kouria (fl. Dec.) Caille in Hb. Chev. 14666! **N. Nig.:** Moiser 61! Lely 140! Katagum Dist. Dalz. 88! Wase (Nov.) Lamb 79! Nafada (fr. Dec.) Foster 84!

Widespread in tropical Africa.

6. *Cordia myxa* Linn. Sp. Pl. 190 (1753); F.T.A. 4, 2: 14; Hutch. in Kew Bull. 1918: 217, t. on p. 220, 1; Chev. Bot. 448; Berhaut Fl. Sén. 130; Aubrév. Fl. For. C. Iv., ed. 2, 3: 218, t. 834, 6; Fl. For. Soud.-Guin. 490, 493, t. 112, 5. **APD acc**

Vitex gomphophylla Bak. in F.T.A. 5: 319 (1900).

A shrub or tree up to 40 ft. high with stout stem, nearly glabrous branchlets, and cream-white flowers 1/3 in. long in lax paniculate cymes.

Sen.: Niakoulrab Berhaut 192. **Mali:** Birgo Dubois 57. Monguiéneba Chev. 446. Moussaia (Feb.) Chev. 463! Somilia Chev. 446. **Port. G.:** Esp. Santo 403! 737! **Guin.:** Timbo Chev. 13604. Kouroussa Pobéguin 837. Kouroussa to Kankan Aubrév. 3072. Dantilla (fr. Mar.) Sc. Elliot 5389! **Iv. C.:** Langouassou Chev. 22152. Ouangolo Aubrév. 1476; 1845. **Ghana:** Wenchi (Mar.) Dalz. 28! Banda, Wenchi Dist. (fr. Dec.) Morton GC 15288! Kunche, Cherepong to Yaga (fr. Mar.) Kitson 848! 849!

Introduced and cultivated but apparently naturalised; native of Asia Minor and Palestine.

7. *Cordia guineensis* Schum. & Thonn. Beskr. Guin. Pl. 128 (1827); F.T.A. 4, 2: 17; F.W.T.A., ed. 1, 2: 198 (as imperfectly known species); Aké Assi, Contrib. 1: 176 (1961). **APD acc**

Cordia johnsonii Bak. in F.T.A. 4, 2: 13 (1906).

Cordia warnecke Gürke ex Bak. & Wright in F.T.A. 4, 2: 13 (1905); Chev. Bot. 449.

Cordia kabarensis De Wild. (1923).

Cordia bequaerti De Wild. Rev. Zool. Afr. 9, 3, Suppl. Bot. 88 (1921), not *C. bequaerti* De Wild., l.c. 8: 43 (1920).

A low shrub with densely pubescent branchlets; flowers 1/3-1/2 in. long, cream-yellowish, in short dense cymes; fruit pointed, 1/2 in. long.

Iv. C.: Forêt de Singrobo Aké Assi IA 4457. Bouna to Bondoukou Aké Assi IA 5396. **Ghana:** Iser! Afram Plains (fl. Mar.) Johnson 705! Ningo (fl. & fr. May) Irvine 1435! Ayikuma (fr. May) Irvine 2679! Elmina (May) Morton A893! Accra Plains (Mar.) Morton A229! Banda (fr. Dec.) Morton GC 25282! **Togo Rep.:** Lomé Warnecke 100! 308! **Dah.:** Djougou Chev. 23911.

Also in **Congo**.

8. *Cordia millenii* Bak. in Kew Bull. 1894: 27; F.T.A. 4, 2: 11; Aubrév. Fl. For. C. Iv., ed. 2, 3: 224; Aké Assi, Contrib. 1: 176 (1961). **APD acc**

Cordia chrysocarpa Bak. (1894)-F.T.A. 4, 2: 11; F.W.T.A., ed. 1, 2: 198.

Cordia irvingii Bak. (1895), partly; F.T.A. 4, 2: 11; Bruce in Kew Bull. 1940: 62 (for full synonymy).

A large **forest** tree pale brownish-tomentose on the young parts; flowers yellowish 1/2 in. long, crowded in cymes; **often planted in towns**.

Iv. C.: Kokondékro, near Bouaké Aubrév. (?); many localities cited by Aké Assi. **Ghana:** East Akim Johnson 744! Thompson 77! Asafo (Mar.) Moor FH 854! Abeambra Vigne FH 861! Nfoum (fr. Oct.) Vigne FH 109! Asakrakra-Kwahu (Mar.) Johnson 625! **S. Nig.:** Lagos (Nov.) Millen 12! 210! Okeado Onyeagochoa FHI 7149! Shagamu (Mar.) Schlechter 13010! Abeokuta Barter 3400! Irving 147! Chev. 13898; 13950. [**Br.**] **Cam.:** Buea (buds Feb.) Maitland 369!

Widespread in tropical Africa.

9. *Cordia platythyrsa* Bak. in Kew Bull. 1894: 27; F.T.A. 4, 2: 12; Aubrév. Fl. For. C. Iv., ed. 2, 3: 222, t. 334, 1-5. **APD acc**

Cordia irvingii Bak. (1895), partly.

Cordia candidissima A. Chev. Bot. 447, name only. "C. platyphylla Bah." of Chev. Bot. 448, name only in error.

A tree 30-80 ft. high, pale brownish-pubescent on the young parts, with white funnel-shaped flowers in cymes forming a spreading panicle.

S. L.: Freetown Burbridge 535! Bagroo R. Mann 875! Moyamba (Mar.) Lane-Poole 101! **Lib.:** Firestone Plantation (Apr.) Harley 1491! **iv. C.:** Anoumaba Chev. 22349. Guidéko Chev. 16366; 19098. Eryma-kougnié Chev. 16966. Indénié Chev. 17666; 17789. **Ghana:** Kumasi (Mar.) Vigne FH 3740! Swedru (Apr.) Morton A500! **S. Nig.:** Abeokuta Irvine 63! Ilugun to Olokemeji (Apr.) Keay FHI 37807! Ikorodu (Mar.) Schlechter 12999! Lagos MacGregor 179!

Cordia tisserantii **Aubrév.** Fl. For. Soud.-Guin. 490, t. 110, fig. 1 (1950), French descr. only; Berhaut Fl. Sén. 108, 130.

"A small tree or tall shrub or **coppice regrowth in forest clearing**" (Patel FHI 51343).

Sen.: Niakoulrab (sterile material) Berhaut 192. **S. Nig.:** Foster 325! Nigerian College, Ibadan Patel FHI 51343! Onda, Omo F.R., Ijebu Jones & Onochie FHI 16978!

Also in **Ubangi-Shari**.

The identity of this species seems doubtful.

4. COLDENIA

Linn.-F.T.A. 4, 2: 28; Johnston in Journ. Arn. Arb. 32: 12 (1951).

- 1 Annual procumbent herb, densely setose all over; leaves shortly petiolate, oblong, up to 2.5 cm. long and 1 cm. broad, rounded at each end, dentately lobulate, the hairs converging between and revealing the nerves above; flowers solitary, axillary, shortly pedicellate; fruit glandular-pubescent, laterally 4-lobed, apiculate, about 4 mm. diam [procumbens](#)

Coldenia procumbens **Linn.** l.c. (1753); F.T.A. 4, 2: 28; Chev. Bot. 449; Johnston, l.c. 13. **APD acc**

Whitish hairy, spreading from a woody base, with wrinkled leaves and small scarlet or white flowers; **in wet places, by muddy pools** (in habit resembling *Chrozophora*, *Forskohlea* and *Neurada*).

Sen.: (fl. & fr. Nov.) Perrottet! Richard Tol (Jan.) Roger 144! **Gam.:** Hayes 542! Genieri (Feb.) Fox 88! **Mali:** Kabarah (fl. & fr. Sept.) Hagerup 229! Dogo (Apr.) Davey 509! Day Chev. 1351. **Port. G.:** Bissau (fl. & ft. Feb.) Esp. Santo 1780! **Guin.:** Kankan Chev. 587. **Ghana:** (fl. & fr. Mar.) Kitson! Sapoba (fr. Mar.) Hepper & Morton A3120! Tapei (fr. Apr.) Adams 3921! Tamale to Damongo (fr. Mar.) Morton GC 8764! **N. Nig.:** Lokoja Barter 1672! Jos, 2,200 ft. (fl. & ft. May) Lely 173! Yola (fl. & fr. Apr.) Dalz. 155!

5. HELIOTROPIUM

Linn.-F.T.A. 4, 2: 28.

- 1 Leaves broadly ovate, more or less cuneate into the winged petiole, more or less triangular-pointed at the apex, up to 12 cm. long and 8 cm. broad, more or less undulatedentate, shortly pubescent; sometimes bullate; stems densely pilose or villous; spikes slender, curled towards the tip, up to 20 cm. long; corolla about 8 mm. long; fruit ovoid, ribbed, glabrous [l. indicum](#)
- Leaves linear to obovate (never ovate): **2**
- 2 Corolla-lobes with long linear-filiform points; leaves lanceolate, acute, 4-6 cm. long, up to 1.4 cm. broad, setulose-pilose; stems long-setose-pilose and with short gland-tipped hairs; fruits ovoid, slightly rugose [subulatum](#)
- Corolla-lobes without filiform points: **3**
- 3 Leaves rather broadly obovate-oblancheolate to obovate: **4**
- Leaves more or less lanceolate to linear: **5**
- 4 Flowers very small and numerous in a close slender spike-like cyme, appressed-pilose; calyx 2-3 mm. long; leaves oblong-elliptic, densely to thinly villous on both sides; fruits depressed, pubescent [3. ovalifolium](#)
- Flowers few, rather laxly spicate, softly villous; calyx about 5 mm. long; leaves elliptic, appressed-pilose between the nerves above, villous beneath; fruit ovoid, 4-ribbed, rugulose [4. supinum](#)

- 5 Leaves linear or linear-oblongate, several times longer than broad:6
 Leaves shortly lanceolate, about 3 times as long as broad; inflorescence leafy, the flowers appearing solitary;
 fruit ovoid:.....8
- 6 Leaves linear, not undulate, 2-2.5 cm. long, appressed-setose-pilose on both sides; flowers distinctly pedicellate;
 fruit depressed, sparingly setulose [5. strigosum](#)
 Leaves oblanceolate, with strongly undulate margins, up to 8 cm. long and 1.5 cm. broad, setulose-scabrid on
 both surfaces; flowers in dense short scorpioid cymes; stems setose-pilose; fruit glabrous:7
- 7 Nutlets free, equal, pilose at first, finally glabrous, rugose [6. bacciferum](#)
 Nutlets cohering in pairs; glabrous and smooth, each pair margined with a broad horny wing, with a round sinus
 at the apex [7. pterocarpum](#)
- 8 Fruit beaked up to 2 mm. long; flowers white with yellow throat [8a. baclei var. baclei](#)
 Fruit beaked up to 5 mm. long; flowers mostly entirely bright yellow [8b. baclei var. rostratum](#)

1. **Heliotropium indicum** Linn. Sp. Pl. 130 (1753); F.T.A. 4, 2: 32; Chev. Bot. 450; Berhaut Fl. Sén. 200
APD acc

(?) **H. africanum** Schum. & Thonn. Beskr. Guin. Pl. 87 (1827); A. DC. Prod. 9: 548; F.T.A. 4, 2: 43; F.W.T.A., ed. 1, 2: 199.

Robust annual 1-3 ft. high with small lilac, sometimes white, flowers in long dense curled spikes; a
 common weed of waste places near dwellings, throughout the area.

Sen.: Berhaut 1013. Perrottet 527! 537! Dakar Chev. 15815. Richard Tol (fl. & fr. May) Döllinger 63! Baldwin 5734!
 Lelièvre! **Gam.:** Hayes 533! Kuntaur Ruxton 33! Albreda (fl. & fr. June) Leprieur! **Mali:** Bamako Chev. 201. Goundam
 Chev. 2883. Keniéba (fl. & fr. Mar.) Roberty 17032! **Port. G.:** Bissau (fl. & fr. Mar.) Esp. Santo 1131! **Guin.:** Timbo Caille
 in Hb. Chev. 14675. Kankan Brossart 15680! **S. L.:** Kukuna (fl. & fr. Jan.) Sc. Elliot 4719! Batkanu (fl. & fr. Apr.) Thomas
 16! Yetaya (fl. A fr. Sept.) Thomas 2269! Ronietta (fl. & fr. Nov.) Thomas 5546! Freetown (fl. Oct.) Deighton 2165!
 Gembahun (fl. & fr. Jan.) King 164b! **Lib.:** Monrovia Johnston! Ganta (fr. Oct.) Harley! Gbanga (fl. & fr. Sept.) Linder
 659! **Iv. C.:** Alépe to Malamalasso Chev. 17506. **Ghana:** Achimota (fr. Mar.) Marton GC 25401! Adabraka, Accra (fr.
 July) Morton! Kumasi Cummins 52! Tamale Williams 157! **Togo Rep.:** Lomé Warnecke 277! Misahöhe (fl. & fr. July)
 Baumann 210! **Dah.:** Pédjilé chev. 22916. **N. Nig.:** Aguju (fl. A fr. Aug.) Thornton! Lokoja Parsons 66! Zaria (fl. & fr.
 Apr.) Ryan 50! Lemme (fl. & fr. July) Lely 151! Maifoni (fl. & fr. July) Parsons! **S. Nig.:** Agogo-Igun (fl. & fr. May)
 MacGregor 3! Idanre Brenan & Jones 8732! Aguku (fl. & fr. Jan.) Thomas 1393! Ibazoo (fl. & fr. Nov.) Thomas 1989! Kuni
 (fl. & fr. Jan.) Holland 209! **[Br.] Cam.:** Brown 56! Mamfe (fl. & fr. Jan.) Maitland 1179! Bama, Dikwa Div. (fl. Jan.)
 McClintock 163!

Throughout the tropics in the Old World.

2. **Heliotropium subulatum** (Hochst. ex A. DC.) Vatke in Linnaea 43: 316 (1882); Duthie in Fl. Gangetic
 Plain 2: 91 (1917).

APD: Synonym of Heliotropium zeylanicum (Burm. f.) Lam.

Tournefortia subulata Hochst. ex A. DC. in DC. Prod. 9: 528 (1845).

Heliotropium zeylanicum of F.T.A. 4, 2: 31; F.W.T.A., ed. 1, 2: 199; Chev. Bot. 451; Berhaut Fl. Sén. 201, not of Lam. (1789).

A coarse, erect branched perennial with tap-root, more or less glandular hairy, with small whitish
 tubular flowers in lax scorpioid spikes up to 9 in. long.

Sen.: Perrottet 526! Richard Tol Roger 109! Maka-Diama Berhaut 475. **Mali:** Féréibo (fl. & fr. Aug.) Chev. 2884! **Niger:**
 Zinder (fl. & fr. Dec.) Hagerup 583! **N. Nig.:** Katagum (fl. & fr. June) Dalz. 76! Kuka, L. Chad (fl. & fr. Feb.) E. Vogel 36!
 Kalkala, L. Chad Golding 43!

Throughout tropical Africa, and in India.

3. **Heliotropium ovalifolium** Forsk. Fl. Aegypt.-Arab., Descr. Pl. 38 (1775); F.T.A. 4, 2: 34; Berhaut Fl.
 Sén. 201.

APD: Synonym of Euploca ovalifolia (Forssk.) Diane & Hilger

Heliotropium niveum A. Chev. Bot. 450, name only.

Diffuse densely white-villous stems from a woody base and taproot, with small white flowers in cymes
 2-3 in. long.

Sen.: Berhaut 1010. M'Bogosse Chev. 2885. Sieber 12! Dakar (fl. & fr. May) Baldwin 5712! Richard Tol (fl. & fr. June) Döllinger 56! **Mali:** Sébi Chev. 1167. Sompi Chev. 2882. Timbuktu (July) Hagerup 209! (fl. & fr. Aug.) 249! Bossobougou (fl. & fr. July) De Wailly 5085! Sarédina Davey 108! 140! **Ghana:** Accra Plains (ft. & fr. June) Morton GC 9231! White Volta (May) Kitson! **N. Nig.:** Kuka (July) E. Vogel! Nupe Barter! Sokoto (fl. & fr. July) Dalz. 388! Mamu (fl. May) Lely 164! 165! Bani (fl. & fr. June) Lean 43!

In tropical Africa generally, extending to Transvaal.

4. **Heliotropium supinum** *Linn.* Sp. Pl. 130 (1763); F.T.A. 4, 2: 37; Berhaut fl. Sén. 201. Hairy much-branched herb, decumbent from a woody base. *APD acc*

Sen.: Berhaut 1053; 2357. **Mali:** Sarédina (fl. A ft. Mar.) Davey 94! 96! **Niger:** Zinder Hagerup 603! **N. Nig.:** Kuka, L. Chad. E. Vogd 12, partly! [**Br.**] **Cam.:** Bama, Dikwa Div. (fl. Dec.) McClintock 85!

In **N. & S. Africa**, **Canary Islands**, **S. Europe** and **eastern tropics**.

5. **Heliotropium strigosum** *Willd.* Sp. Pl. 1, 2: 743 (1798); F.T.A. 4, 2: 41; Chev. Bot. 451; Berhaut Fl. Sén. 201.

APD: Synonym of Euploca strigosa (Willd.) Diane & Hilger

Perennial, branched, erect or spreading from a woody base up to 1 ft. high, with appressed white bristly hairs, and small white flowers; **in sandy soil, on farms, waste places etc.**

Sen.: Berhaut 755; 2356. Richard Tol (fl. Sept., Nov.) Roger 106! 108! Lelièvre! **Gam.:** Kuntaur Ruxton 150! **Mali:** Tenétou Chev. 656. Sindou Chev. 871. Guiébili Chev. 1008. Beragungu Hagerup 311! **Port. G.:** Bafata (fl. & fr. Aug.) Esp. Santo 2721! **Iv. C.:** Mankono Chev. 21991; 21992. **Ghana:** Cape Coast Don! Accra Plains Brown 255! T. Vogel 6! 14! Achimota (fl. & fr. May, June) Irvine 685! 1430! Aburi (fl. & ft. Dec.) Anderson 30! Ashanti Chipp 501! Yendi (Mar.) Hepper & Morton A3078! **Togo Rep.:** Lomé Warnecke 19! **Dah.:** Burton s.n.! **N. Nig.:** Zaria (fl. & fr. July) Keay FHI 2597! Birnin Gwari (fl. & fr. June) Keay FHI 25879! Lokoja Shaw 37! Liruwun-Kano Hills Carpenter! Lemme (fl. & fr. May) Lely 124!

Throughout tropical Africa and in **Egypt** and **Arabia**; also in Australia.

6. **Heliotropium bacciferum** *Forsk.* Fl. Aegypt.-Arab., Descr. Pl. 38 (1775). *APD acc*

APD: Synonym of Heliotropium ramosissimum (Lehm.) DC.

Heliotropium undulatum *Vahl* (1790)-F.T.A. 4, 2: 37, partly; Chev. Bot. 451 (partly?); F.W.T.A., ed. 1, 2: 199, partly; Berhaut Fl. Sén. 201 (?); Schnell in Ic. Pl. Aft. I.F.A.N. 2, t. 40

Sub-erect or prostrate from a perennial stock, covered with white bulbous-based bristles, with small white flowers, nutlets 4, equal, free, finally glabrous; **common in dry regions.**

Sen.: Dakar Debeaux 85! 189! (fl. & fr. May) Roger 40! Côté des Maures (fl. & fr. Jan.) Döllinger! M'Bidjem Thierry 51! **Mali:** Timbuktu Hagerup 149! Doura Davey 079! **N. Nig.:** Dabehi Noble A20! Kalkala Golding 73!

Common in dry regions in N. Africa, **Arabia** and tropical Asia.

7. **Heliotropium pterocarpum** (*DC. & A. DC.*) *Hochst. & Steud. ex Bunge* in Bull. Soc. Imp. Natural. Moscou 42 (1): 331 (1869). *APD acc*

Heliophytum pterocarpum *DC. & A. DC.* Prod. 9: 552 (1845)

"**Heliotropium pterocarpum** *Hochst. ex DC.*"-F.T.A. 4, 2: 35.

Heliotropium undulatum of F.T.A. 4, 2: 37; of F.W.T.A., ed. 1, 2: 199, partly; Chev. Bot. 451 (partly?); Berhaut Fl. Sén. 175, 201 (?), not of Vahl.

In habit like the last, but nutlets cohering in pairs and each pair margined with a broad horny wing, with a rounded sinus at the apex.

Sen.: Perrottet!Dakar (fl. & fr. Mar.) Dalz. 8409! **Mali:** Timbuktu (fl. & fr. July) Hagerup 155! **N. Nig.:** Kuka (fl. & fr. Jan.) E. Vogel 12, partly! Fodama (fl. & fr. Nov.) Moiser 229! 237! Bornu (fl.; ft. Nov.) Elliott 122! Katagum Dalz. 74! Kalkala (fl. & fr. Jan.) Parsons! Jos Plateau (fl. & fr. Dec.) Kennedy 2848!

Also in **N.E. Africa** and **Arabia**.

8. **Heliotropium baclei** *DC. & A. DC.* Prod. 9: 546 (1845), partly; F.T.A. 4, 2: 34; Johnston in Contrib.

Gray Herb. 92: 91 (1930); Berhaut Fl. Sén. 195, 200.

APD: Synonym of Euploca baclei (DC.) Diane & Hilger

Heliotropium marifolium of F.T.A. 4, 2: 40, partly (W. Afr. specimens); Chev. Bot. 450, partly, not of Retz.

Much-branched, decumbent herbs, slightly woody beneath. The following two varieties are only distinguishable by the key-characters given above.

8a. *Heliotropium baclei* DC. & A. DC. var. *baclei* APD acc

Sen.: Ouassadou Berhaut 1690. Heudelot 874! **Gam.:** (fl. & fr. July) Hayes 543! Quioia Bacle. **Mali:** San Chev. 1063! 1069. Kabara (fl. & fr. Sept.) Hagerup 317! Day Chev. 1366. **Port. G.:** Pitche to Buruntuma (fl. June) Esp. Santo 2713! Catió (fl. & fr. May) Esp. Santo 2055! 2474! **Guin.:** Mamou to Kindia Chev. 13589. **S. L.:** Mesima (fl. & fr. Apr.) Deighton 3704! Makunde (fl. & fr. Apr.) Sc. Elliot 5715: Batkanu Glanville 152! 190! Gbundapi McDonald 4! Madina, Makari Ganta (fr. Apr.) Bakshi 152!

8b. *Heliotropium baclei* var. *rostratum* Johnston l.c. (1930). APD acc

Heliotropium katangense Gürke in De Wild. Ann. Mus. Congo, Bot. Sér. 4, 223 (1903); F.T.A. 4, 2: 34.

Heliotropium nigerinum A. Chev. in Sudania 1: 24 (1911) and Chev. Bot. 450, name only.

Heliotropium marifolium of F.T.A. 4, 2: 34, partly; Chev. Bot. 450, partly, not of Retz.

Mali: "Dunes along streams" Lécard 42. Sébi (fl. & fr. July) Chev. 1168! Gumguber (fl. & fr. Sept.) Hagerup 309! Korienza (fl. & fr. June) Lean 52! 53! Pilot 2666! Mopti (fr. July) Pilot 1135! (fl. & fr. June) Lean 36! Scudégéré (ft. Sept.) Pitot 5033!

Also in **Congo**, **N. Rhodesia** and **Tanganyika**.

6. TRICHODESMA

R. Br.-F.T.A. 4, 2: 44. Nom. cons.

- 1** Leaves (except the upper ones) fairly long-petiolate, ovate to broadly lanceolate, truncate to acute at the base, up to 12 cm. long and 7 cm. broad, scabrid on both surfaces with short bristles from a discoid base; cymes lax and few-flowered; calyx-segments narrowly lanceolate, gradually acute, about 1 cm. long, with a conspicuously bristly midrib and margins; anthers densely villous, with spirally connivent tips [1. africanum](#)

Leaves all sessile, lanceolate or ovate-lanceolate, narrowed at the base, about 5 cm. long and up to 2.5 cm. broad, tuberculate-scabrid; cymes lax and few-flowered; calyx-segments ovate-lanceolate, acutely acuminate, 1.5 cm. long, broadening in fruit; anthers loosely villous [2. ledermannii](#)

1. *Trichodesma africanum* (Linn.) Lehm. Pl. Asperif. 195 (1818); F.T.A. 4, 2: 48; Berhaut Fl. Sén. 71. APD acc

APD: Synonym of Trichodesma africanum (L.) R. Br.

Borago africana Linn. Sp. Pl. 138 (1763).

Trichodesma africanum var. *homotrichum* Bornm. & Kneuck. in Allg. Bot. Zeitschr. 22: 2 (1916); Brand in Engl. Pflanzenr. 4, 252: 30 (1921).

Trichodesma fruticosum Maire in Bull. Soc. Hist. Nat. Afr. Nord 39: 136 (1949).

Erect branched annual 2-3 ft. high, harshly scabrid, with flowers 1/2 in. long white, the throat yellow and with brown spots.

Sen.: Perrottet 547; 2006. Dakar Maire. Volcan de Mamelles, Cape Verde peninsula (fl. & fr. Dec.) Jaeger 5685! **Mali:** Bargoussi, Hombori (fl. & fr. Oct.) Jaeger 5485! Mopti (fl. & fr. Dec.) De Wailly 5305! Gao (fl. & fr. Sept.) Hagerup 344! **Ghana:** Nangodi (Mar.) Hepper & Morton A3764! **Dah.:** Garimana Gironcourt 101. **N. Nig.:** Borgu Barter 770! Kontagora (fl. & fr. Oct.) Dalz. 115! Bauchi (fl. & fr. May) Lely 169! Gujba (fl. Dec.) Foster 83! L. Chad (fl. Feb.) E. Vogel 43! Kalkala (fl. Mar.) Golding 46! Yola (Dec.) Hepper 1620! **[Br.] Cam.:** Bama, Dikwa Div. (fl. Nov.) McClintock 11!

Also in **Cape Verde Islands** and **Mauritania**, extending to the coast of the Red Sea and to S. Africa.

2. *Trichodesma ledermannii* Vaupel in Engl. Bot. Jahrb. 48: 529 (1912); Brand in Engl. Pflanzenr. 4, 252: 24 (1921).

APD: Synonym of Trichodesma ambacense subsp. hockii (De Wild.) Brummitt

Trichodesma physaloides of F.W.T.A., ed. 1, 2: 200, not of (Fenzl) A. DC. (1846).

Stems herbaceous 1-2 ft. high from a woody rootstock, roughly hairy at first, with conspicuous bluish or white flowers 1-1 1/2 in. across, spotted in the throat.

N. Nig.: Kaduna (fl. Nov.) Lamb 95! Maigana Hill 47! Jos Plateau (fl. Jan.) Lely P74! Young 176! Vom (fl. Dec.) W. D. MacGregor 378!

Also in **Cameroun**.

Trichodesma uniflorum Brand in Fedde Rep. 12: 504 (1913), and in Engl Pflanzenr. l.c. 38

([Br.] Cam.: Johann-Albrechts-Hütte Winkler 1255. Victoria Zahn 530) is treated in F.W.T.A., ed. 1 as a synonym of *T. indicum* (L.) Lehm. (1818), an introduced species from the Eastern Tropics. No material seen for the Revised Edition.

7. CYNOGLOSSUM

Linn.-F.T.A. 4, 2: 51; Brand in Engl. Pflanzenr. 4, 252 (1921).

- 1 Nutlets cohering at the apex with the style, not separated from the style at maturity:2
 Spines on the nutlets spread all over the surface; leaves broadly lanceolate, 4-6 cm. long, 1.5-2 cm. broad, setulose-scabrid above, sparingly so beneath; cymes long and slender when in fruit [1a. lanceolatum subsp. lanceolatum](#)
- 2 Spines on the nutlet marginal and on the midrib; leaves lanceolate, acutely acuminate, up to 14 cm. long and 3 cm. broad, rather closely pilose with bulbous-based hairs above, setose-pilose beneath; cymes slender; calyx-lobes oblong; corolla slightly longer than calyx [1b. lanceolatum subsp. geometricum](#)
 Nutlets free before maturity, 7 mm. diam., smooth between the bristles on margin and midrib; leaves ovate, acuminate, narrowed at base with a short winged petiole, 6-12 cm. long, 4-7 cm. broad, pilose with discoid-based hairs on the upper surface, softly and shortly pubescent beneath; cymes few-flowered; calyx-lobes broadly ovate, setulose; corolla nearly twice as long as calyx [2a. amplifolium forma macrocarpum](#)

1. **Cynoglossum lanceolatum Forsk.** Fl. Aegypt.-Arab., Descr. Pl. 41 (1775); F.T.A. 4, 2: 54; Brand in Engl. Pflanzenr. 4, 252: 139 (1921); Chev. Bot. 452. *APD acc*

APD: Synonym of Cynoglossum coeruleum var. johnstonii (Baker) Baker & C.H. Wright

A pilose herb 3-6 ft. high, with white or bluish flowers.

1a. **Cynoglossum lanceolatum subsp. lanceolatum APD acc**

Cynoglossum lanceolatum subsp. eu-lanceolatum Brand, l.c. (1921).

Lib.: Cape Palmas (fl. & fr. Mar.) T. Vogel 18! **iv. C.:** Guidéko Chev. 19099. **Ghana:** Lakte (fl. & fr. Oct.) Johnson 820! Amedzofe (fl. & fr. May) Morton A3662! **N. Nig.:** Jos Plateau (fl. & fr. May) Lely 275! **S. Nig.:** Thomas 1745! 1827! **[Br.] Cam.:** Bamenda (fl. & fr. Apr.) Maitland 1630! Jakiri (fl. & fr. Feb.) Hepper 1954!

Widely distributed in the Old World tropics and subtropics.

1b. **Cynoglossum lanceolatum subsp. geometricum (Bak. & Wright) Brand** l.c. 140 (1921).

APD: Synonym of Cynoglossum coeruleum var. mannii (Baker & C.H. Wright) Verdc.

APD: Synonym of Cynoglossum geometricum Baker & C.H. Wright

Cynoglossum geometricum Bak. & Wright in F.T.A. 4, 2: 52 (1905).

Cynoglossum mannii Bak. & Wright in F.T.A. 4, 2: 52 (1905); F.W.T.A., ed. 1, 2: 200.

Cynoglossum lanceolatum subsp. geometricum var. mannii (Bak. & Wright) Brand l.c. 140 (1921).

Cynoglossum mannii Bak. & Wright l.c. (1905).

Erect herb, scabrid-pilose, up to 4-6 ft. high, with white flowers.

[Br.] Cam.: Cam. Mt. (fl. & fr. Jan., Feb., June, July) Deistel 657! Dalz. 8274! Migeod 108! Maitland 47! 1015! Mann 2005! Hutch. & Metcalfe 12! Oku (fl. & fr. Feb.) Hepper 2026! Nguroje, 5,500 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 1756! Chapman 67!

Also in tropical E. Africa.

2. *Cynoglossum amplifolium* Hochst. ex A. DC. in Prod. 10; 149 (1846). *APD acc*

Widespread, but in our area represented by:

2a. *Cynoglossum amplifolium forma macrocarpum* Brand l.c. 141 (1921).

APD: *Synonym of Cynoglossum amplifolium var. subalpinum* (T.C.E. Fr.) Verdc.

Cynoglossum lancifolium Hook. f. in J. Linn. Soc. 7: 207 (1864); F.T.A. 4, 2: 53; F.W.T.A., ed. 1, 2: 200.

Erect herb up to 3 or 4 ft. high, hispid, with conspicuous bluish or white flowers 1-1 1/2 in. across, spotted in the throat.

[Br.] Cam.: Cam. Mt., 7,000-8,000 ft. (fl. & fr. Dec., fr. Jan.) Mann 1266! 2004! Johnston 10! 57! Maitland 966! Bafut-Ngemba F.R., Bamenda (fl. & fr. Jan., Feb.) Hepper 2859! Daramola FHI 40628!

8. ARNEBIA

Forsk.-F.T.A. 4, 2: 55; Johnston in J. Arn. Arb. 35: 51 (1954). *APD acc*

- 1 Whole plant densely hispid with long stiff white hairs; leaves linear-lanceolate, sub-acute, up to 8 cm. long and 1 cm. broad; cymes scorpioid; calyx-segments linear-subulate, about 8 mm. long, densely setose; corolla-tube narrow, 1 cm. long, lobes slightly pubescent; nutlets angular, rugose [hispidissima](#)

Arnebia hispidissima (Sieber ex Lehm.) DC. Prod. 10: 94 (1846); F.T.A. 4, 2: 56; Johnston in J. Arn. Arb. 35: 55 (1954). *APD acc*

Lithospermum hispidissimum Sieber ex Lehm. (1821)-Johnston in J. Arn. Arb. 33: 325 (1952).

Arnebia asperima (Del.) Hutch. & Dalz. F.W.T.A., ed. 1, 2: 201 (1931).

Anchusa asperima Del. (1813), name only.

Much-branched from a hard woody base, sometimes short and bushy, the hairs almost pungent, with yellow tubular flowers 1/2 in. long and a blood-red root; [a plant of dry sandy soil](#).

N. Nig.: Deli (fl. & fr. Apr.) E. Vogel 97! Katagum Dist. (fl. & fr. Feb.) Dalz. 75! [Br.] Cam.: Bama, Dikwa Div. (fl. & fr. Feb.) McClintock 2!

9. MYOSOTIS

Linn.-F.T.A. 4, 2: 57; Stroh in Beih. Bot. Cbl. 61B: 317 (1941).

- 1 Racemes with a leafy bract subtending each flower, short; stems dwarf; leaves narrowly oblong-lanceolate, the larger about 2 cm. long and 6 mm. broad, pilose-setose on both surfaces; calyx-lobes narrowly linear-lanceolate, 3-4 mm. long [1. abyssinica](#)

Racemes without leaf bracts, slender; stems up to 60 cm. high; leaves linear-lanceolate, acute, the larger about 5 cm. long and 1 cm. broad, thinly pilose on both surfaces; pedicels up to 5 mm. long in fruit, shortly pubescent; calyx-lobes lanceolate, pubescent [2. sp. nr. vestergrenii](#)

1. *Myosotis abyssinica* Boiss. & Reut. in Boiss. Diagn. pl. or., n. sér. 1, 11: 122 (1849); F.T.A. 4, 2: 58; Stroh l.c. 334; Hedberg in Symb. Bot. Upsal. 15, 1: 157 (1957). *APD acc*

Herb a few inches high, harshly pubescent, with small white flowers.

[Br.] Cam.: Cam. Mt., 8,000-10,000 ft. (fl. & fr. Nov.) Mann. 2033! F. Po: 8,500 ft. Mann 1459!

Also in E. Africa from [Ethiopia](#) to [Tanganyika](#).

2. *Myosotis* sp. nr. *vestergrenii* *Stroh* l.c. 328 (1941); Hedberg l.c. 158, 316. *APD acc*

Myosotis sylvatica of F.T.A. 4, 2: 57, partly (Johnston 72); of F.W.T.A., ed. 1, 2: 201, not of Hoffm.

Erect 1-2 ft. high, thinly hairy, with bright blue flowers.

[Br.] Cam.: Cam. Mt., 7,000-8,000 ft., upper forest (Dec., Feb.) Johnston 72! Maitland 1342! Morton K875!

SOLANACEAE

Herbaceous or woody. Leaves alternate, simple; stipules absent. Flowers hermaphrodite, mostly actinomorphic. Calyx 4-6-lobed, persistent. Corolla gamopetalous, usually 5-lobed, lobes folded, contorted or valvate. Stamens inserted on the corolla-tube and alternate with its lobes; anthers 2-celled, cells parallel, opening lengthwise or by apical pores. Ovary 2-celled, the cells sometimes again divided by a false septum; style terminal. Ovules very numerous, axile. Fruit a capsule or berry. Seeds with copious endosperm and curved or annular embryo.

Generally distributed, but most numerous in tropical regions.

- | | | |
|---|---|---------------------------------------|
| 1 | Fruit a capsule: | 2 |
| | Fruit a berry: | 4 |
| 2 | Capsule 4-valved; stamens 5; leaves and flowers large | 1. <i>Datura</i> |
| | Capsule 2-valved: | 3 |
| 3 | Stamens 5; flowers medium-sized | 2. <i>Nicotiana</i> |
| | Stamens 2; flowers very small | 3. <i>Schwenckia</i> |
| 4 | Anthers opening by slits lengthwise: | 5 |
| | Anthers opening by terminal pores | 8. <i>Solanum</i> |
| 5 | Calyx not enlarged in fruit or not strikingly so: | 6 |
| | Calyx enlarged and inflated in fruit: | 7 |
| 6 | Corolla rotate, valvate | 4. <i>Capsicum</i> |
| | Corolla urceolate, induplicate-valvate | 5. <i>Discopodium</i> |
| 7 | Flowers solitary | 6. <i>Physalis</i> |
| | Flowers fasciculate | 7. <i>Withania</i> |

Cyphomandra betacea (Cav.) *Sendtner* (in *Flora* 28: 172 (1845); Sandwith in *Chron. Bot.* 4: 225 (1938), for full syn.; *Solanum betaceum* Cav. (1799)).

This species, a native of Peru, is cultivated and often becomes naturalized in many parts of the tropics. In Africa it occurs particularly in the E. and SE. Attention is drawn to the first record from W. Africa (Cam. Mt., Mann's Spring, fl. & fr. Dec. 1959, Morton K852: "small tree 15 ft. high in moist forest, fl. very pale pinkish, fr. plum-shaped, orange") as it may soon become widely naturalized in our area.

The tree-tomato.

1. DATURA

Linn.—F.T.A. 4, 2: 258; Fosberg in *Taxon* 8: 52 (1959); Satina, Avery & Sachet in *Blakeslee, The Genus Datura* 16-47 (1959).

- | | | |
|---|--|-----------------------------------|
| 1 | Flowers 25-30 cm. long, pendulous; calyx not circumscissile, either persisting like a husk appressed to the fruit or spathiform; fruits unarmed and indehiscent, spheroid, ellipsoid or fusiform, terete; ovate-acuminate; leaves large, up to 24 cm. long and 12 cm. broad, ovate-acuminate, leaf-margin mostly entire: | 2 |
| | Flowers up to 20 cm. long, erect; calyx circumscissile near the base, the base persistent and expanding like a frill, shield or cup, calyx-tube falling off together with the corolla; fruit ovoid or globular, armed and dehiscent; leaves up to 16 cm. long and 8.5 cm. broad, ovate or triangular-ovate, leaf-margin frequently sinuate-repand, more or less dentate: | 3 |
| 2 | Calyx spathiform, terminating in a point, finely pubescent outside, appressed to the funnel-shaped lower part of the corolla-tube; principal nerves of the corolla terminating in 1-2 cm. long tail-like appendages between which the margin is entire or rounded; anthers free; fruit lemon-shaped | 1. <i>Candida</i> |

Calyx 5-toothed at the apex, nearly glabrous, very inflated and not appressed to the very thin pipe-like lower part of the corolla-tube; principal nerves of the corolla terminating in very short (0.5 cm. long) appendages; anthers coherent; fruit fusiform [2. suaveolens](#)

- 3 Petioles and branchlets densely and softly grey-pubescent or pilose; leaves ovate, unequal, rounded or truncate at the base, 8-20 cm. long, 4-14 cm. broad, entire, thinly pubescent beneath; flowers solitary, usually axillary; pedicels 1.5 cm. long, densely pilose; calyx tubular, about 9 cm. long; corolla narrowly trumpet-shaped, up to 18 cm. long, 10-lobed, lobes broadly triangular; capsule pendulous on the elongated pedicel, prickly, globose, 3-4 cm. diam., dehiscence irregular [3. innoxia](#)

Petioles and branchlets glabrous; corolla 5-6 lobed, lobes long-cuspidate or long-acuminate: 4

- 4 Capsule pendulous, dehiscing irregularly; leaves elliptic to broadly ovate or triangular-ovate, up to 20 cm. long, 14 cm. broad, subentire or with a few dentate lobes; pedicels 1 cm. long; calyx tubular, 6 cm. long, 1.5 cm. diam.; corolla often double, up to 20 cm. long, the 5-6 lobes long-cuspidate; capsule covered with blunt warts [4. metel](#)

Capsule erect, dehiscing by 4 valves; leaves rather narrowly ovate, up to 24 cm. long, 10 cm. broad, more or less coarsely dentate; pedicels very short; calyx tubular, up to 3.5 cm. long, 4 mm. diam.; corolla about 8 cm. long, the 5-6 lobes long-acuminate; capsule densely prickly [5. stramonium](#)

1. **Datura × candida** (Pers.) Safford in J. Wash. Acad. Sci. 11: 182 (1921); Pasquale in Cat. R. Orto Bot. Napoli 36 (1867), not validly published.

APD: Synonym of Brugmansia ×candida Pers.

Brugmansia candida Pers. (1805).

Datura arborea of Ruiz & Pavon Fl. Peruv. 2,15: 127 (1799), not of Linn. (1753); Fosberg l.c. 52; Sachet l.c. 41.

A handsome shrub or small tree; flowers white, very fragrant.

Ghana: Mampong Scarp (Aug.) Darko 712! **[Br.] Cam.:** Buea (Feb., Nov.) Migeod 148! Keay FHI 37545! Bamenda (Jan., Apr.) Ujor FHI 30035! Daramola FHI 40607! Ntim (Feb.) Hepper 1858!

Known only in cultivation; believed to be native of the Andean region of South America, now spreading widely in tropical and subtropical countries.

[Note: P. C. Standley states in Publ. Field Mus. of Nat. Hist. Bot. 18, 3: 1055 (1938): "In recent years this species has been listed frequently as D. Candida (Pers.) Pasqu., the specific name under which it was treated by Safford, but it now appears probable that the name D. arborea L. is the correct one." I cannot accept this brief discussion as sufficient for a taxonomic conclusion.-H. H.]

2. **Datura suaveolens** Humb. & Bonpl. ex Willd. Enum. Pl. Berol. 227 (1809); Safford, l.c. 185; Sachet l.c. 46.

APD: Synonym of Brugmansia suaveolens (Humb. & Bonpl. ex Willd.) Bercht. & C. Presl

Datura gardneri Hook. Bot. Mag. t. 4252 (1846).

A shrub or small tree like the last; flowers white, fragrant.

S. L.: Regent Sc. Elliott 4107! **Ghana:** Agogo (Apr.) Vigne FH 1909! **[Br.] Cam.:** Buea (Nov.) Migeod 113!

A native of Brazil, now much cultivated in the tropics.

3. **Datura innoxia** Mill. Gard. Dict., ed. 8, no. 5 (1768), as innoxia; Safford l.c. 179 (1921) and Ann. Rep. Smithsonian Inst. 1920: 545, t. 3, fig. 4 (1922); Fosberg l.c. 55; Satina & Avery l.c. 25; Sachet l.c. 44. *APD acc*

Datura metel of F.T.A. 4, 2: 256; F.W.T.A., ed. 1, 2: 202; Chev. Bot. 468; Berhaut Fl. Sén. 199, not of Linn.

Erect-branched herbaceous undershrub 2-4 ft. high, with long white flowers and long spiny spherical fruit; **in waste places.**

Sen.: Boivin! Chev, Berhaut 25. **Port. G.:** Cachén Mator (fl. & fr. Feb.) Esp. Santo 1312! **Guin.:** Farana (fl. & fr. Mar.) Sc. Elliot 5387! **N. Nig.:** Lokoja Shaw 41! Katagum Dalz. 93!

Widespread weed in the tropics; native of tropical S. America.

[Note: The spelling "innoxia", used by Miller (l.c.) and Fosberg and subsequent authors, is orthographically incorrect; it is not used here as Miller based this epithet upon the pre-Linnean polynomial of Boerhaave (Ind. alt. hort. acad. Lugd.-Bat. 1:

262, 1720) in which the correct spelling "innoxia" is used. It seems hardly justifiable to perpetuate the incorrect spelling. -H. H.]

4. **Datura metel** *Linn.* Sp. Pl. 1: 179 (1753); Safford in J. Wash. Acad. Sci. 11: 178, t. 1, B, C (1921) and Ann. Rep. Smithsonian Inst. 1920: 546, t. 1-2 (1922); Satina & Avery, l.c. 32; Sachet l.c. 44. *APD acc*

APD: Synonym of Datura inoxia Mill.

Datura fastuosa *Linn.* (1769)-F.T.A. 4, 2: 256; F.W.T.A., ed. 1, 2: 202; Chev. Bot. 467; Berhaut Fl. Sén. 192.

Datura alba *Nees* in Trans. Linn. Soc. 17: 73 (1837); Dunal in DC. Prod. 13,1: 541 (1852); Fosberg l.c. 53;

Datura fastuosa var. alba (*Nees*) *C. B. Cl.* in Hook. f., Fl. Brit. Ind. 4: 243 (1884); F.T.A. 4, 2: 257; Chev. Bot. 468,

Habit of the last, 2-3 ft. high, with white or wine-purple, sometimes (in cultivation) double flowers.

Sen.: Dakar (Jan.) Chev. 2874! Berhaut 905. **Guin.:** Poisson! **S. L.:** Kanike (Sept.) Thomas 2058! 9333! Roruks (fl. & fr. Nov.) Thomas 5754! Gorongo (fl. Dec.) Deighton 267! Serabu (fl. & fr. Apr.) Deighton 1724! Njala (fl. & fr. Nov.) Deighton 2807! **iv. C.:** Abinta Chev. 17728. Tabou to Beriby Chev. 19509; 19510. Grabo to Taté Chev. 19781. **Ghana:** Cape Coast (fl. & fr. May) Morton A3687! Accra Moloney! **Dah.:** Djougou Chev. 23862. **S. Nig.:** Aponmu, Akure Dist. (Oct.) Ujor FHI 26195!

5. **Datura stramonium** *Linn.* Sp. Pl. 179 (1753); F.T.A. 4, 2: 257; Chev. Bot. 468; Satina & Avery l.c. 18; Sachet l.c. 45; Berhaut Fl. Sén. 199; Aké Assi Contrib. 1: 177. *APD acc*

Datura tatula *Linn.* Sp. Pl., ed. 2,1: 256 (1762).

Erect branched, annual with smooth stems 1-2 ft. or more high, and rather slender white (*D. stramonium* *Linn.* proper) or purple-violet (*D. tatula* *Linn.* proper) flowers. The flower-colour is of no taxonomic importance.

Mali: Kabarah Chev. 1363. **Ghana:** Accra (fl. June) Dalz. 118! (fr. May) Morton A884! Assin Yan Kumasi Cummins 8as! **Togo Rep.:** Lomé Warnecke 364! **N. Nig.:** Kuka (fl. & fr. Feb.) E. Vogel 56! **[Br.] Cam.:** Bamenda (fr. July) Daramola FHI 41588!

Cosmopolitan.

2. NICOTIANA

Linn.-F.T.A. 4, 2: 259; Goodspeed, The Genus Nicotiana (1954).

- 1 Corolla about 4 cm. long, 3-4 mm. diam. in lower half of the tube, lobes very acute; upper leaves oblong-lanceolate to elliptic, apex acute, decurrent at the base, 8-15 cm. long, 1.5-6 cm. broad, sessile or subsessile; inflorescence a terminal cyme; pedicels glandular-pubescent, 1.5 cm. long; calyx about 1.5 cm. long, lobes long-acuminate; capsule ovoid or ellipsoid, 2 cm. long, surrounded by the persistent calyx, and with a short apical beak *1. tabacum*

Corolla not more than 2 cm. long, 6-7 mm. diam., lobes rounded or subacute; upper leaves broadly ovate or oblong-elliptic rounded or subacute at the apex and base, 4-10.5 cm. long, 2-7 cm. broad, petioles up to 4 cm. long; inflorescence and pedicels as above; calyx about 1 cm. long, lobes broadly triangular, acute; capsule globose, about 1.2 cm. diam., without an apical beak *2. rustica*

1. **Nicotiana tabacum** *Linn.* Sp. Pl. 180 (1753); F.T.A. 4, 2: 259; Chev. Bot. 468; Berhaut Fl. Sén. 203; Goodspeed l.c. 372. *APD acc*

Robust annual up to 6 ft. high, with long tubular white, pinkish, or sometimes cream flowers, viscid-glandular outside.

Sen.: Dakar Chev. 2875! **Mali:** Faraba Chev. 1020. **Guin.:** Kouria Caille in Hb. Chev. 14757. Koulikoro Chev. 20644; 25025. **S. L.:** Freetown (fl. & fr. Feb.) Johnston 72! Kuntara (fr. June) Thomas 434! Kanya (fl. Oct.) Thomas 3005! Njala Deighton 2454! **iv. C.:** Mankono Chev. 21841; 21924. Bouaké Chev. 22110. **Ghana:** (fl. & fr. Feb.) Brown FHI 2164! **Dah.:** Agouagon Chev. 23511! **Niger:** Diapaga to Fada Chev. 24473. **N. Nig.:** Robins! Barter 1345! Manga Dudgeon 60! **S. Nig.:** Ulepelu (fr. June) Umana FHI 29131! Ukungu (Jan.) Thomas 2200! **[Br.] Cam.:** Bamenda (fr. May) Ujor FHI 30338! Kumba (Feb.) Binuyo & Daramola FHI 35567!

Widely cultivated tobacco in warmer parts of the world; native of S. America.

2. *Nicotiana rustica* Linn. l.c. 180 (1753); F.T.A. 4, 2: 260; Berhaut Fl. Sén. 203; Goodspeed l.c. 351.
APD acc

Herb, branched up to 4 ft. high, with short greenish-yellow flowers villous outside.

Mali: Gao (fl. & fr. Feb.) De Wailly 5343! Kangaba Chev. 268. Simona Chev. 976! **Guin.:** Soucourala Chev. 25014. **S. L.:** Smythe 128! Kabula (fr. Nov.) Tindall 56! Yetaya Thomas 2288! 2426! **Ghana:** Johnston! [**Br.**] **Cam.:** Bafawchu (fr. May) Ujor 30339! Kakara, 4,900 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 2823!

Cultivated tobacco; native of S. America, (see Appendix, p. 430.)

3. SCHWENCKIA

D. van Royen ex Linn.-F.T.A. 4, 2: 20, as *Schwenkia* Linn.; Heine in Kew Bull. 16: 465 (1963). *APD acc*

- 1 Herb, glabrous or sparingly pubescent, branching freely; lower leaves petiolate, elliptic to ovate, up to 4 cm. long and 2.5 cm. broad, rounded to subacute, entire; upper leaves becoming narrowly oblong, sessile; inflorescence a lax panicle, pedicels 0.5 cm. long; calyx-teeth triangular, tube cylindric, 3 mm. long; corolla narrowly tubular, 7-9 mm. long, lobes broadly and obtusely triangular, two rather larger than the rest, alternating with club-shaped processes; fruit a subglobose capsule 4 mm. diam., surrounded by the persistent calyx and dehiscing by two valves *americana*

Schwenkia americana Linn. Gen. Pl., ed. 6, 577 (error " 567 ") (1764); F.T.A. 4, 2: 260; Chev. Bot. 469; Berhaut Fl. Sén. 203. *APD acc*

Schwenkia hirta of C. H. Wright in F.T.A. 4, 2: 260, not of Klotzsch; Chev. Bot. 469.
 (?) *S. guineensis* Schum. & Thonn. (1827).

Erect slender-branched herb 1-3 ft. high; flowers greenish-yellow; weed of cultivation.

Sen.: Berhaut 1126. **Mali:** (fl. & fr. Apr.) Leprieur! Kourouasa (Dec.) Chev. 390! Dakar (fr. May) Baldwin 5729! Tabacco Chev. 135. **Guin.:** Dalaba-Diaguissa Chev. 18870; 18897. Boola to Moribadou Chev. 20942. Conakry (fl. & fr. June) Debeaux 421! **S. L.:** Kitchom Sc. Elliot 4322! Leicester Sc. Elliot 3887! Kumrabai (Dec.) Thomas 6783! Lumley beach (fl. Dec.) Deighton 790! Kambia (fl. Dec.) Deighton 893! Musaia (fr. Apr.) Deighton 5381! Talla Hills Sc. Elliot 5087a! **Lib.:** Sinkor (fl. & fr. Sept.) Barker 1063! Bushrod Is. (fl. & fr. Apr.) Barker 1295! **Iv. C.:** Adiopodoumé (fr. Sept.) Roberty 12208! Brafouédi (ft. Dec.) de Wit 7252! Mt. Nimba (fl. & fr. June) P. Gruys 42! **Ghana:** Cape Coast Castle (fr. July) T. Vogel 12! Accra Brown 308! Achimota (fl. & fr. May) Irvine 696! Pong Tamale (fl. July) Williams 827! **Dah.:** Allado Chev. 23377. **N. Nig.:** R. Niger (Quorra) (fl. Sept.) T. Vogel 193! Nupe Barter! Sokoto Prov. (June) Dalz. 546! Zaria (fl. & fr. Mar.) Hill 41! Abinsi (fl. & fr. July) Dalz. 722! Yola (fl. & fr. July) Dalz. 118! **S. Nig.:** Lagos (fr. Apr.) Millen 100! Dawodu! Ibadan (Mar.) Schlechter 12332! Aguku Dist. Thomas 1392! [**Br.**] **Cam.:** Mildbr. 9449! Bamenda, 5,000 ft. (fl. & fr. Apr.) Maitland 1647! Gurum, Adamawa (fl. & fr. Nov.) Hepper 1315!

4. CAPSICUM

Linn.-F.T.A. 4, 2: 250; Smith & Heiser in Am. J. Bot. 38: 362 (1951).

- 1 Annual or biennial herbs; leaves broadly lanceolate to ovate, apex acutely acuminate, cuneate or abruptly acute at the base, 5-8 cm. long, 2-5 cm. broad, entire, sub-glabrous; flowers in 3-8-flowered axillary clusters, producing usually only one fruit; pedicels up to 1.5 cm. long, swollen in the upper part; calyx obscurely 5-toothed, 10-ribbed; corolla rotate-campanulate, deeply 5-lobed, 5 mm. diam.; fruit a more or less elongated berry, subglobose to acutely conical, 1-several cm. long *1. annuum*
- Suffrutescent perennial; very similar to the above, but readily distinguished by its more or less shrubby habit; calyx truncate; fruits usually 2 or more from each flower-cluster, much smaller and rarely exceeding 2 cm. in length *2. frutescens*

1. *Capsicum annum* Linn. Sp. Pl. 188 (1753); F.T.A. 4, 2: 251; Chev. Bot. 466. *APD acc*

Stout herb 2-5 ft. high, much branched, angular, glabrous stems; flowers white or greenish; fruits red; cultivated.

Mali: San Chev. 1035. **S. L.:** Freetown (fr. Jan.) Johnston 51! Matotoka Thomas 1839! Njala (Feb.) Deighton 1883! **Iv. C.:** fide Chev. l.c. **N. Nig.:** Barter 522! Yates 65! Lokoja (fl. & fr. Sept.) Parsons 85! **S. Nig.:** Sapoba Kennedy 2617! Obompa (fr. Jan.) Thomas 2236! Port Harcourt (fr. Sept.) Stubbins 46!

Widely dispersed throughout the tropics, cultivated and sometimes naturalized.

2. *Capsicum frutescens* Linn. l.c. 189 (1753); F.T.A. 4, 2: 251; Chev. Bot. 467.

APD: *Synonym of Capsicum annuum L.*

Undershrub 2-3 ft. high, much-branched, angular, nearly glabrous stems; flowers white or pale yellow.

Sen.: Roger! Cape Verde T. Vogel! **Mali:** Kati Chev. 177. Siguiri Chev. 300. **S. L.:** Glanville 403! Kanitole (fr. Sept.) Thomas 2067! Yonibana (fr. Nov.) Thomas 4718! Hangha (Jan.) Thomas 7780! Njala (fl. & fr. Feb.) Deighton 1884! **iv. C.:** Sassandra (fr. Feb.) Leeuwenberg 2888! **Ghana:** Irvine 457! Kumasi Cummins 152! **Togo Rep.:** Lomé Warnecke 356! **N. Nig.:** Sapoba Kennedy 2615! 2616! 2618! **S. Nig.:** Obompa (fr. Jan.) Thomas 2231! Lagos (fl. & fr. Sept.) Dodd 439! **[Br.] Cam.:** Gwoza, Dikwa Div. (fr. Dec.) McClintock 67!

Widely dispersed throughout the tropics, cultivated and sometimes naturalized.

[It is impossible to give here an account of the very difficult taxonomy of this critical genus. The present writer therefore, feels unable to deal here with the various hybrids and infraspecific taxa (mainly cultivars) within the genus, or to recognize *C. sinense* Jacq. as a distinct species occurring in our area (as stated by J. Y. Wilson in Nature 183 (4): 1142 (1959)-H. H.]

5. DISCOPODIUM

Hochst.-F.T.A. 4, 2: 253.

- 1 Small tree or shrub, 15-20 ft. high; leaves elliptic to oblong-elliptic, broadly acuminate, cuneate at the base, 10-25 cm. long, 3-10 cm. broad, entire, glabrous or slightly pubescent on the midrib and 10-12 pairs of lateral nerves beneath; petioles 1-2 cm. long; flowers fasciculate, axillary; pedicels 1-1.5 cm. long; calyx 4 mm. long, lobes broadly triangular, spreading; corolla cylindrical, about 8 mm. long, tomentellous outside above the calyx, lobes more or less reflexed or spreading, half as long as the tube; stamens and style included; berry globose, 6-8 mm, diam. [penninervium](#)

Discopodium penninervium Hochst. in Flora 1844: 22; F.T.A. 4, 2: 253; Robyns Fl. Parc Nat. Alb. 2: 203 (1947) APD acc

Discopodium penninervium var. *sparsearaneosum* Bitter in Engl. Bot. Jahrb. 57: 17 (1920).

Flowers white or yellowish fading to brown.

[Br.] Cam.: Cam. Mt., 7,000-7,600 ft. (Feb., Mar., Dec.) Mann 1236! 2178! Brenan 9375! Maitland 1332! Mt. Mbakakeka, 7,900 ft., Bafut-Ngemba F.R., Bamenda (fl. Jan., fl. & fr. Feb.) Hepper 2166! Keay & Lightbody FHI 26288! 28365! **F. Po:** 4,000 ft. Mann 300!

Also in Cameroun, Congo and E. Africa from **Ethiopia** to Nyasaland, a typical highland species.

Some of the E. African plants are considered as varietally distinct by Bitter (l.c. 16 (1920)).

6. PHYSALIS

Linn.-F.T.A. 4, 2: 246; O. E. Schulz in Urban, Symb. Antill. 6: 140 (1909); Waterfall in Rhodora 60: 107-114, 128-142, 152-173 (1958).

- 1 Plants glabrous or nearly so (sometimes sparingly villose in No. 1):2
Plants villous or appressed-strigose:3
- 2 Leaves subentire, ovate 1.5-3(-5) cm. long, acuminate at apex, cuneate at base; fruiting calyx sub-globular, up to 15 mm. long and 12 mm. diam., finely puberulous; pedicels puberulous, up to 3 cm. long; corolla very small, up to 4 mm. long1. [micrantha](#)
Leaves coarsely sinuate-dentate, ovate, 5-10 cm. long, acuminate at apex, broadly cuneate to rounded at base; fruiting calyx ovoid, up to 3 cm. long and 2 cm. broad, glabrous or very finely puberulous; pedicels glabrous, up to 1 cm. long, corolla up to 8.5 mm. long2. [angulata](#)
- 3 Perennial, the whole plant densely villous; leaves entire or with a few large teeth, rhomboid to deltoid, acuminate at apex, broadly rounded, truncate or cordate at base, 8-10 cm. long, 6-7.5 cm. broad; pedicels up to 5-8 mm. long, not becoming longer in fruit; corolla 15 mm. long; fruiting calyx ovoid, about 4 cm. long and 3 cm.

broad, villous [3. *peruviana*](#)

Annual, the lower parts glabrescent, upper parts and pedicels appressed-strigose; leaves coarsely and irregularly sinuate-dentate, ovate to suborbicular, acuminate at apex, broadly rounded to cordate at base, 2-5 cm. long; flower-pedicels 5-8 mm. long, later 2-3 cm. long; corolla 8-10 mm. long; fruiting calyx turbinate, i.e. ovoid, abruptly acute, about 3 cm. long and 2.2 cm. diam., nearly glabrous [4. *pubescens*](#)

1. ***Physalis micrantha* Link** Enum. Pl. Hort. Berol. 1: 181 (1821); O. E. Schulz l.c. 147 (1909), for full synonymy.

*APD: Synonym of *Physalis lagascae* Roem. & Schult.*

(?) ***P. divaricata* D. Don** Prod. Fl. Nep. 97 (1825); Baldwin & Speese in Bull. Torrey Bot. Club 78, 3: 255 (1951).

Physalis minima of F.T.A. 4, 2: 246, of Chev. Bot. 465, and of Berhaut Fl. Sén. 175, not of Linn.

Physalis angulata of F.W.T.A., ed. 1, 2: 205, partly.

A very variable annual, stems more or less prostrate or sometimes erect up to 3 ft. high; flowers cream; calyx in fruiting state bladder-like.

Sen.: Perrottet 553! 567! Roger 132! Berhaut 494. **Gam.:** Saunders 68! **Mali:** Sikasso Ohev. 748. Djenné Chev. 2881. **S. L.:** Njala (Apr.) Thomas 100! (fr. Mar.) Deighton 542! Mange Bureh (fl. & fr. May) Deighton 1044! Roboli, Rokupr (fl. & fr. July) Jordan 286! **Lib.:** Sinoe R. Johnston! Dukwai R. (fl. & fr. Oct.) Cooper 5! Jabroke (fr. July) Baldwin 6433! Begwai (fl. & fr. Oct.) Bunting 201! Sanokwele (fr. Sept.) Baldwin 13213! **Iv. C.:** Soubre Chev. 19137. **Ghana:** "Guinea" Isert (fide O. E. Schulz l.c.) Achimota (fr. Aug.) Irvine 854! Akroso (fr. Aug.) Stowes 949! Bomase (Apr.) A. S. Thomas D182! Nangodi (fr. Dec.) Adams & Akpabla 4294! **Togo Rep.:** Lomé Warnecke 192! **Niger:** Diapaga to Fada Chev. 24493 bis. Niamey (fl. & fr. Oct.) Hagerup 536! **N. Nig.:** Barter 1493! Katagum (fr. Sept.) Dalz. 90! Sokoto Lely 110! Lokoja (fr. Oct.) Parsons L47! Idah T. Vogel 66! **S. Nig.:** Ibadan (fl. & fr. Aug.) Onochie FHI 7586! Owo Burton! Onitsha (fr. Oct.) Thomas 1867! Agege (fr. Oct.) Baldwin 14531! **[Br.] Cam.:** Dawo, Vogel Peak, Adamawa (fr. Nov.) Hepper 1409!

Pantropical (?).

But owing to the complexity of the genus and the lack of a monographic treatment, neither distribution nor taxonomic position properly known.

2. ***Physalis angulata* Linn.** Sp. Pl. 183 (1753); F.T.A. 4, 2: 249; O. E. Schulz l.c. 140, for full synonymy; Berhaut Fl. Sén. 174, 195; Baldwin & Speese l.c. 255. *APD acc*

Physalis minima of F.T.A. 4, 2: 247, partly, not of Linn.

Erect glabrous annual up to 3 ft. high; flowers cream.

Sen.: Perrottet! Berhaut 450. **Gam.:** Hayes 505! **Mali:** Kouroussa (fr. Aug.) Pobéguin 369! **S. L.:** Mgamba (fr. Jan.) King 136B! Waterloo Deighton 2068! Kortright (fr. Feb.) Gledhill 10! Jigaya (fr. Sept.) Thomas 2763! Yonibana (Nov.) Thomas 4866! **Lib.:** Monrovia (fl. & fr. July) Linder 17! Ganta Harley! Harbel (fr. June) Baldwin 5934! Gbanga (Sept.) Linder 588! **Ghana:** T. Vogel 51! Accra (fr. Apr.) Bally 22! Owabi (fr. Apr.) Andoh 4188! Achiasi (fl. & fr. Mar.) Kitson 1033! Nkwanta (fl. & fr. Apr.) Kitson 1077! White Volta (fr. Dec.) Adams & Akpabla 4300! **Togo Rep.:** Lomé Warnecke 253! 255! **N. Nig.:** Lokoja Parsons 1! Katagum (Sept.) Dalz. 89! Ngurno (fl. & fr. Feb.) T. Vogel 54! Kano (Dec.) Hagerup 648! Kalkala Golding 53! **S. Nig.:** Ibadan (Oct.) Newberry 119! Owo Burton! Attah (fl. & fr. Sept.) T. Vogel 37! Calabar (fr. Jan.) Holland 14! **[Br.] Cam.:** Dawo, Vogel Peak, Adamawa (Nov.) Hepper 1405! **F. Po:** Botonos (fl. & fr. Feb.) Exell 870!

Native of tropical America, widely distributed in the tropics.

3. ***Physalis peruviana* Linn.** Sp. Pl. ed. 2, 1670 (1763); F.T.A. 4, 2: 248; Baldwin & Speese l.c. 255, 257. *APD acc*

Erect perennial up to 3 ft. high, densely hairy, from a creeping rootstock.

S. L.: Njala (fr. Oct.) Deighton 2419! **Ghana:** Kumasi (fl. & fr. Nov.) Irvine 1855! **N. Nig.:** Jos Plateau (fl. & fr. Oct.) Hepper 1179! Kura Falls Kennedy 2965! **[Br.] Cam.:** Bamenda (fl. & fr. Dec., Feb.) Baldwin 13853! Migeod 454! Jakiri (fl. & fr. Feb.) Hepper 1966!

Native of tropical S. America, occasionally cultivated and naturalized.

The "Cape Gooseberry."

4. ***Physalis pubescens* Linn.** Sp. Pl. 183 (1753); O. E. Schulz l.c. 143; Waterfall l.c. 164, for discussion. *APD acc*

Physalis turbinata Medik. (1780)-O. E. Schulz.

An annual herb about 2 ft. high; flowers yellow with brown centre.

Ghana: Achimota (fl. & fr. Nov.) Akpabla 1801! Chilinga, Krachi (fl. & fr. May) Morton A3971!

Introduced from America.

7. WITHANIA

Pauq.-F.T.A. 4, 2: 248. Nom. cons.

- 1 Shrubby herb, stems stellate-tomentose; leaves elliptic to broadly ovate-lanceolate, apex acute to rounded, abruptly acute to long-decurrent at the base, 5-10 cm. long, 2-5 cm. broad, entire or sinuate; petiole 1-2 cm. long; flowers 2-6 in axillary fascicles; pedicels about 5-6 mm. long, elongating to 1 cm. or more in fruit; calyx campanulate, divided to about the middle into 5 acute triangular lobes, inflated in fruit, 1-2 cm. long, up to 1 cm. broad; corolla campanulate, twice as long as the calyx, about 7-8 mm. long, stamens slightly exserted, style included; fruit a red, globose berry, enclosed by the inflated calyx [sommifera](#)

Withania somnifera (Linn.) Dunal in DC. Prod. 13, 1: 453 (1852); F.T.A. 4, 2: 249. *APD acc*

Physalis somnifera Linn. (1753).

Much-branched undershrub 3-7 ft. high; flowers small, pale.

Mali: Onatagouna Hagerup 430! **N. Nig.:** Ngurno (fr. Feb.) E. Vogel 58! Katagum (fr. Sept.) Dalz. 91! Jos Plateau (fl. & fr. Apr.) Lely P209! Vom (fl. & fr. Feb.) McClintock 252!

[A specimen collected by T. Vogel and cited as No. 35 in F.T.A. (l.c.) and F.W.T.A., ed. 1, 2: 205 from Cape Palmas, Liberia (fl. & fr. July 1841) may not have been collected there due to confusion of labels.]

8. SOLANUM

Linn.-F.T.A. 4, 2: 207.

Numerous hybrids have been recorded in this genus e.g. *S. indicum* subsp. *distichum* var. *modicearmatum* x *gilo* var. *gilo*, *S. indicum* subsp. *distichum* var. *distichum* x *gilo* var. *gilo* (Guin.: Chev. 16449! Iv. C.: Chev. 16436!); *S. dasyphyllum* x *macrocarpon* (see note below *S. macrocarpon*); *S. incanum* x *dasyphyllum* (?), etc. Cultivated species.

- Indumentum stellate (always fairly copious): **8**
- Indumentum simple or absent: **19**
- 1 Inflorescence terminal: **2**
 Inflorescences lateral, axillary, extra-axillary or leaf-opposed:
 - 2 Leaves entire: **3**
 Leaves pinnate or pinnately lobed up to 15 cm. long and 8 cm. broad with 3-4 pairs of leaflets, the leaflets of the upper pairs mostly confluent with the rachis; cymes very large, many-flowered; calyx 1 mm. long; corolla 9 mm. long; climber, entirely glabrous and without spines or prickles [6a. seaforthianum var. disjunctum](#)
 - 3 Inflorescences paniculate or broadly cymose (not spiciform): **4**
 Inflorescences spiciform, cymules subsessile on the axis; leaves oblong to obovate, gradually acuminate, 7-15 cm. long, 3-6 cm. broad; pedicels very short; calyx cupular, with minute teeth; corolla 7-8 mm. long, lobes linear-oblong; fruits about 5 mm. diam. [2c. terminale subsp. welwitschii](#)
 - 4 Leaves glabrous or nearly so: **5**
 Leaves tomentose beneath with stellate hairs: **6**
 - 5 Leaves coriaceous, shining above, leaf-nerves 7-9 pairs anastomosing clearly at the margin; not climbing (?) . [1. clerodendroides](#)
 Leaves membranous, never becoming coriaceous, not shining, leaf-nerves 11-13 pairs never clearly anastomosing; climbing [2b. terminale subsp. sanaganum](#)
 - 6 Leaves upper side entirely glabrous [3. giganteum](#)
 Leaves with indumentum on both sides: **7**
 - 7 Stems with axillary subactive buds bearing small leaves up to 2 cm. diam.; leaves elliptic to ovate-lanceolate, up

- to 16 cm. long and 8 cm. broad, densely tomentose on both surfaces; panicles lax, globose; calyx about 6 mm. long; corolla 1 cm. long [4. mauritianum](#)
- Stems with subdormant axillary buds; leaves elliptic to ovate, up to 21 cm. long and 10 cm. broad, pubescent above, tomentose beneath; inflorescences and flowers as above [5. verbascifolium](#)
- 8** Flowers subsolitary to about 4 together:..... **9**
- Flowers rather numerous, cymose (occasionally also a few solitary flowers); corolla up to 2 cm. diam.; fruits about 1 cm. diam. or less:..... **12**
- 9** Flowers white, corolla 12-16 cm. diam.: **10**
- Flowers almost purple-violet (rarely white), corolla up to 3 cm. diam.:..... **11**
- 10** Plants green; fruits globose or pear-like, up to 2.5 cm. diam., bright red, shining [8a. gilo var. gilo](#)
- Plants tinged with violet; fruits globose, light red-brown and tinged with violet [8b. gilo var. pierreanum](#)
- 11** Tomentum on stem floccose; plants always armed; leaves mostly up to 10 cm. long and 7 cm. broad; fruit globose, yellow [9. incanum](#)
- Tomentum on stem not floccose; plants (occurring in Africa) never armed; leaves up to 16 cm. long and 10 cm. broad; fruit egg-shaped, sometimes cucumber-like or pyriform, intense violet, white or dirty-yellow [10b. melongena var. inerme](#)
- 12** Leaves glabrous above, green, spines sometimes very large, up to 15 mm. long, compressed, base up to 5 mm. long, sharply recurved [11. aculeastrum](#)
- Leaves tomentose throughout, spines never longer than 1 cm., straight or slightly recurved:..... **13**
- 13** Leaves rather small, ovate, 2-7 cm. long, subentire; cymes about 7 cm. long, lax; calyx about 3 mm. long; corolla 1.3 cm. long; fruit up to 1 cm. diam. [12. albicaule](#)
- Leaves large, more or less elliptic, up to 10-16 cm. long, but sometimes smaller; lobate-sinuate to subentire: **14**
- 14** Corolla about 1 cm. long and up to 3.3 cm. diam.: **15**
- Corolla about 6 mm. long; cymes raceme-like; leaves very shortly pubescent above, subtomentose beneath:.. **17**
- 15** Cymes corymbose, nearly always unarmed; pedicels about 6 mm. long, with glandular hairs; calyx 4 mm. long, lobes triangular; corolla up to 2.5 cm. diam., white; fruit 1 cm. diam., dirty-brown [13. torvum](#)
- Cymes racemose, mostly armed with straight yellow spines; pedicels 10-15 mm., hairs not glandular; calyx 6 mm. long; corolla up to 3.3 cm. diam. (lower flowers of the inflorescence), violet; fruit up to 3 cm. diam., yellow or olive-yellow, shining:..... **16**
- 16** Leaves pubescent when young, becoming glabrescent and rather thinly scabrid-pubescent [14a. cerasiferum subsp. cerasiferum](#)
- Leaves densely yellowish tomentose, not becoming glabrescent [14b. cerasiferum subsp. crepinii](#)
- 17** Plants unarmed [15a. indicum subsp. distichum var. distichum](#)
- Plants armed:..... **18**
- 18** Plants armed with spines up to 10 mm. long and at the base 6 mm. broad [15b. indicum subsp. distichum var. grandemunitum](#)
- Plants armed with spines up to 5 mm. long and at the base 2.5 mm. broad [15c. indicum subsp. distichum var. modicearmatum](#)
- 19** Leaves sessile or subsessile, the latter long-decurrent on the midrib at the base:..... **20**
- Leaves distinctly petiolate:..... **21**
- 20** Calyx armed with long sharp bristles, very accrescent in fruit; the fruit about 3 cm. diam.; leaves pinnately lobed nearly to the middle, elliptic-obovate in outline, with prickles on the nerves, pilose on both surfaces [16. dasyphyllum](#)
- Calyx not armed and not accrescent in fruit, the latter 4 cm. diam.; leaves less lobate than above and glabrous [17. macrocarpon](#)
- 21** Plants armed with sharp prickles:..... **22**
- Plants unarmed:..... **24**
- 22** Fruits 3 cm. diam. or more; leaves pinnately lobed, shortly pubescent; flowers subsolitary; calyx-lobes pubescent, becoming prickly in fruit:..... **23**
- Fruits less than 1 cm. diam.; flowers not subsolitary; inflorescence subfasciculate, leaves glabrous or nearly so, with undulate margins [20. anomalum](#)
- 23** Corolla white; ripe fruit dirty-yellow or brownish; seeds about 2 mm. diam. without conspicuous hyalin margin [18. aculeatissimum](#)
- Corolla white or pale violet; ripe fruit orange or bright red; seeds about 4 mm. diam., with a conspicuous hyalin margin about 1 mm. broad [19. ciliatum](#)

- 24 Woody plants: 25
 Herbs: 26
- 25 Climber; leaves elliptic, acuminate, entire, up to 12 cm. long and 8 cm. broad, glabrous or nearly so; inflorescence few-flowered, subracemose [2a. terminale subsp. inconstans](#)
 Erect shrub; branches mealy-pubescent; leaves obovate-elliptic, hardly acuminate, up to 12 cm. long and 6 cm. broad, glabrous, undulate on the margin; flowers subfasciculate on a short peduncle [20. anomalum](#)
- 26 Plants pubescent; stems slightly winged; leaves ovate, subacute, up to 12 cm. long and 5 cm. broad, subentire; inflorescence 4-6-flowered [21. pseudospinosum](#)
 Plants glabrous or nearly so: 27
- 27 Flowers umbellate on a common peduncle; leaves ovate, shortly ciliate, entire or nearly so [22. nigrum](#)
 Flowers fasciculate, without a peduncle; pedicels about 5 mm. long; leaves lobulate, glabrous [7. aethiopicum](#)

1. **Solanum clerodendroides** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 206 (1931).

APD: Synonym of Solanum madagascariense Dunal

An undershrub with crowded shining leaves, and flowers in a thyrsoïd panicle.

S. Nig.: Eket Talbot 3211!

Apparently endemic, only known from the type collection.

Solanum terminale *Forsk. APD acc*

2. **Solanum terminale subsp. terminale**-Fl. Aegypt.-Arab. 45 (1775); Bitter in Fedde Rep. 18: 301 (1922). *APD acc*

Solanum bifurcatum *Hochst. ex A. Rich.* Tent. Fl. Abyss. 2: 98 (1851); Exell Cat. S. Tomé 252.

Solanum bifurcum *Hochst. ex Dunal* in DC. Prod. 13, 1: 105 (1852); F.T.A. 4, 2: 213; Bitter in Engl. Bot. Jahrb. 54: 454 (1917).

In **Ethiopia**, **Arabia** and **tropical N. E. Africa**.

2a. **Solanum terminale subsp. inconstans** (*C. H. Wright*) *Heine* in Kew Bull. 14: 247 (1960); Aké Assi, Contrib. 1: 177.

APD: Synonym of Solanum terminale Forssk.

Solanum inconstans *C. H. Wright* in Kew Bull. 1894: 127; F.T.A. 4, 2: 211 (partly, excl. *S. symphostemon* De Wild. & Th. Dur.); Bitter in Engl. Bot. Jahrb. 54: 482 (1917); F.W.T.A., ed. 1, 2: 207.

Solanum togoense *Dammer* in Engl. Bot. Jahrb. 38: 59 (1905); F.T.A. 4, 2: 246, 571; Bitter l.c. 478; F.W.T.A., ed. 1, 2: 207.

Solanum suberosum *Dammer* l.c. 182 (1906); Bitter in Fedde Rep. 18: 307 (1922).

Inflorescences very small, long-peduncled, mostly lateral; fruit ellipsoid.

Togo Rep.: Badja (Mar.) Schlechter 12974! **S. Nig.:** Ondo Prov. (Aug.) Jones FHI 19515! Shasha F.R. (fl. & fr. Apr.) Richards 3373! Eket Talbot! Oban Talbot! **[Br.] Cam.:** Cam. Mt. Kalbreyer 172! **F. Po:** Mann 62! Guinea 1144! 1146! El Pico, 3,000 ft. (fl. & fr. Dec.) Boughey 190!

Also in **Cameroun**.

2b. **Solanum terminale subsp. sanaganum** (*Bitter*) *Heine* in Kew Bull. 14: 248 (1960).

APD: Synonym of Solanum terminale Forssk.

Solanum bansoense *Dammer* in Engl. Bot. Jahrb. 48: 237 (1912); Bitter in Engl. Bot. Jahrb. 54: 472 (1917), and in Fedde Rep. 18: 303 (1922), incl. var. *episporadotrichum* Bitter l.c. (1922) and subsp. *sanaganum* Bitter l.c. 304 (1922).

Solanum plousianthemum *Dammer* (1906)-Bitter in Engl. Bot. Jahrb. 54: 456 (1917).

Inflorescence large, terminal, fruits ellipsoid.

[Br.] Cam.: Bamenda, 3,500 ft. (May) Maitland 1960! Bafut-Ngamba F.R. (Apr.) Ujor FHI 30026! Dengdeng (Mar.) Mildbr. 8616! Nkom-Wum F.R. (June) Daramola FHI 41085!

Also in **Cameroun**, **Congo** and tropical E. Africa.

Distribution without revision of the whole group not properly known.

- 2c. **Solanum terminale subsp. welwitschii** (*C. H. Wright*) *Heine* in Kew Bull. 14: 248 (1960); Aké Assi, Contrib. 1: 178;

APD: Synonym of Solanum welwitschii C.H. Wright

Solanum welwitschii *C. H. Wright* in Kew Bull. 1894: 126, incl. var. strictum and oblongum; F.T.A. 4, 2: 213; Bitter in Engl. Bot. Jahrb. 54: 478 (1911); F.W.T.A., ed. 1, 2: 206.

Inflorescence spike-like, terminal, fruits globose.

Guin.: Sérédou (May) Collenette 29! Lola to Uzo Chev. 20992! Boola Chev. 20935! Mt. Tongoui Schnell 4079! **Iv. C.:** Sakota to Sassandra (Aug.) de Wilde 306! Yapo (fl. & fr. Oct.) de Wilde 715! **Ghana:** Bosuso to Begoro (May) Robertson K9! Akim (fl. & fr. Jan., Mar.) Irvine 1172! 1812! Aburi (June) Johnson 158! Sutih Cummins 45! **S. Nig.:** Sonkwala, Obudu Div. (fl. & fr. Dec.) Savory & Keay FHI 25255! **[Br.] Cam.:** Bakosi F.R. (May) Olorunfemi FHI 30589! Amba Bay (fl. & fr. Feb.) Mann, X! **F. Po:** Mann 274!

Also in **Cameroun**, **Rio Muni**, **the Congos** and **Angola**.

3. **Solanum giganteum** *Jacq.* Collect. 4: 125 (1790); Bot. Mag. 44: t. 1921; F.T.A. 4, 2: 229; Bitter in Engl. Bot. Jahrb. 57: 256 (1921). *APD acc*

A shrub or tree up to 25 ft. high, with white tomentum on all parts, except the surfaces of the leaves; flowers violet-purple.

[Br.] Cam.: Cam. Mt., Buea 4,000 ft. (fl. & fr. May) Mildbr. 9507! 9525! Bali-Ngemba F.R. (fr. May) Ujor FHI 30356!

Widespread in tropical Africa also in S. Africa, S. India and Ceylon.

4. **Solanum mauritianum** *Scop.* Delic. Fl. et Faun. Insubr. 3: 16 (1788); Bitter in Engl. Bot. Jahrb. 54: 491 (1917). *APD acc*

Solanum auriculatum *Ait.* (1789)-F.W.T.A., ed. 1, 2: 206.

Solanum verbascifolium of F.T.A. 4, 2: 221, partly (Angolan specimens), not of Linn.

A densely stellate-tomentose tree or shrub up to 20 ft. high, with blue-purple flowers.

S. L.: Njala, cultivated (July) Deighton 3961! **[Br.] Cam.:** Cam. Mt., Buea, 3,500-4,000 ft. (Feb., Apr. June, Nov.) Dundas FHI 20389! Dalz. 8207! Dunlap 103! Hutch. & Metcalfe 124! Maitland 58! Migeod 242!

Probably a native of S. America (Brazil, Paraguay, Uruguay); long-introduced and naturalized in many tropical and subtropical regions of the Old World. Not a native of Mascarene Islands, as stated in F.W.T.A., ed. 1, 2: 206.

5. **Solanum verbascifolium** *Linn.* Sp. Pl. 184 (1753); F.T.A. 4, 2: 221, partly; O. E. Schulz, in Urban, Symb. Antill. 6: 182 Bitter l.c. 490.

APD: Synonym of Solanum erianthum D. Don

An unarmed shrub, mealy-stellate-pubescent, with white flowers turning blue-purple.

Guin.: Lola (May) Roberty 18011! **S. L.:** Kenema (fl. & fr. Feb.) Deighton 4142! Tunisia (fl. Dec., fr. Nov., Jan.) Deighton 3827! 3877! Pyne 18! Gola Forest (Apr.) Small 609! **Lib.:** Vahon (fr. Nov. Baldwin 10253! Gonatown (fr. Dec.) Baldwin 10785! Mecca (fr. Dec.) Baldwin 10400! Klay (fl. & fr. Aug.) Barker 1395! **Ghana:** Krobo Williams 304! Afram, Mankrang F.R. Foggie FH 4856! Begoro (fr. Nov.) Morton! **N. Nig.:** Jebba (Nov.) Hagerup 729! **S. Nig.:** Lagos Millen 50! Olokemeji F.R. (Apr.) Ross 135/10/3! Akilla Kennedy 2376! Nikrowa, Okomu F.R. (fl. & fr. Sept.) Iriah FHI 23086!

A very common weed in the tropics of the whole world.

6. **Solanum seaforthianum** *Andr.* Bot. Reposit. 8; t. 504 (1808). *APD acc*

- 6a. **Solanum seaforthianum var. disjunctum** *O. E. Schulz* in Urban Symb. Antill. 6: 169 (1909); Bitter in Fedde Rep. Beih. 16: 309 (1923); Berhaut Fl. Sén. 47. *APD acc*

A very handsome climber, with large panicles of violet-purple flowers; fruits globose, red.

Sen.: Berhaut 1869. **S. L.:** Njala (fl. & fr. May) Deighton 5155! **S. Nig.:** Olokemeji (fl. & fr. Nov.) MacGregor FHI 364!

A native of W. Indies and Central America, introduced for ornamental purposes and naturalized in many parts of tropical Africa.

7. ***Solanum aethiopicum* Linn.** Amoen. Acad. 4: 307 (1759); F.T.A. 4, 2: 217, partly; F.W.T.A., ed. 1, 2: 208, partly (Thomas 146) and excl. syn.; Bitter in Fedde Rep. 16: 44 (1923). *APD acc*

A glabrous herb up to 2 ft. high, with white or pale violet flowers up to 2/3 in. diam. and globose, red shining fruits up to 3/4 in. diam.

Dah.: Cabolé (fr. May) Chev. 23769. Zagnanado Chev. 23070! **S. Nig.:** Thomas 146! (fr. Mar.) Irvine 3604!

Various forms cultivated in many parts of tropical Africa, frequently misidentified and confused with other species.

8. ***Solanum gilo* Raddi** in Atti Soc. Ital. Sci. Modena 18: 31 (1820); Bitter in Fedde Rep. 16: 48 (1923).

APD: Synonym of Solanum aethiopicum L.

A widespread long cultivated plant in many parts of tropical Africa; taxonomically it was almost entirely misunderstood until Bitter's revision. Introduced (and naturalized?) in S. America from where it was originally described.

- 8a. ***Solanum gilo* var. *gilo* APD acc**

***Solanum geminifolium* Thonning** in Schum. & Thonn. Beskr. Guin. Pl. 121 (1827); F.T.A. 4, 2: 223.

***Solanum naumanii* Engl.** (1886)-F.T.A. 4, 2: 216.

An unarmed shrub up to 4 ft. high, with white flowers and intense shining pink, sometimes yellowish, globose fruits.

Guin.: Tonfill (fl. & fr. Jan.) Chev. 20446! **S. L.:** Likuru (Feb.) Sc. Elliot 4955! Njala (fl. & fr. July) Deighton 2225! **Lib.:** Filoke (fr. July) Baldwin 6694! **Iv. C.:** Bébon (Dec.) Chev. 22643! Baoulé (July) Chev. 22179! 22194! 22297! Bouaké (fr. July) Chev. 22124! **N. Nig.:** Yates 13a! 20! 43! Katagum Dist. Dalz. 316! **S. Nig.:** Thomas 1237!

[Note: The note on "*S. incanum* Linn." in the Appendix p. 433 includes this species, and the plants called "Yalo" and similar belong to *S. gilo* Raddi var. *gilo*-H. H.]

- 8b. ***Solanum gilo* var. *pierreanum* (Paillieux & Bois) Bitter l.c. (1923).**

APD: Synonym of Solanum aethiopicum L.

***Solanum pierreanum* Paillieux & Bois** in Rev. Sci. Nat. Appl. 37: 483, fig. p. 484 (1890); André in Rev. Hort. 62: 343 (1890), 71: 495 (1899) and 72: 288, with fig. (1900); Chev. Bot. 464.

Like the last var., but fruits larger and lengthwise silicate and like the whole plant tinged with violet.

Mali: Kankan (Mar.) Chev. 589!

Only known as cultivated plant; also in Gabon.

[Note: This is clearly a horticultural variety, i.e. "cultivar" (cv.). The present writer, however, feels that it is better not to change the rank of this taxon given by Bitter without modern revision of the whole

9. ***Solanum incanum* Linn.** Sp. Pl. 1: 188 (1753); F.T.A. 4, 2: 238; Bitter l.c. 270, 297; F.W.T.A., ed. 1, 2: 206, partly (fig. 249); Berhaut Fl. Sén. 170. *APD acc*

A spiny undershrub up to 6 ft. high, pale stellate-tomentose all over, with violet purple, rarely white, 5-parted flowers and globose yellow fruits, up to 1 in. diam.

Sen.: Berhaut 147. Tamba-Kounda (Sept.) Berhaut 3205! **Mali:** Compongane (July) Chev. 24359! Mopti (fl. & fr. Dec.) de Wailly 5311! Timbuktu Hagerup 222! Iles de Bourem (July) Chev. 1291! **Togo Rep.:** Lomé Warnecke 351! **Dah.:** Cotonou (fl. & fr. June) Debeaux 191! Allada (Feb.) Chev. 23238! **N. Nig.:** Jebba Barter! Katagum (May) Dalz. 92! Daddara (fr. Dec.) Meikle 816! Sokoto (fl. & fr. July) Dalz. 387! Yola Dalz. 184! Kuka (fl. & fr. Jan.) E. Vogel 28! Kalkala Golding 52! **S. Nig.:** Abeokuta Millen 96! **[Br.] Cam.:** Rosevear Cam. 50/37!

The typical variety is widespread in drier north tropical Africa and north and eastwards to India. Many other infraspecific taxa accepted by Bitter (l.c. 275-282 (1923)) from other parts of Africa could not be studied in connection with this revision.

[Berkhaut 3205 is probably a hybrid between *S. incanum* and *S. dasyphyllum*.]

10. ***Solanum melongena* Linn.** Sp. Pl. 186 (1753); F.T.A. 4, 2: 242; Bitter l.c. 292.

The Egg-plant or Aubergine, a native of tropical Asia, widely cultivated in many horticultural varieties and often naturalized in the warmer parts of the world.

10a. *Solanum melongena* var. *melongena* APD acc

Plants to which this name could be applied do not occur wild in Africa, according to Bitter. Specimens of cultivated plants concerned are for example:

Mali: Mau Portères! **Iv. C.:** Guidéko (May) Chev. 16377! **S. Nig.:** Lagos Rowland!

10b. *Solanum melongena* var. *inerme* (DC.) Hiern in Cat. Welw. 1, 3: 748 (1898); F.T.A. 4, 2: 242; Bitter l.c. 294.

*APD: Synonym of *Solanum melongena* L.*

Solanum esculentum var. *inerme* Dunal in DC. Prod. 13, 1: 355 (1852).

Solanum incanum of F.W.T.A., ed. 1, 2: 206, partly, not of Linn.

Unarmed undershrub, flowers mostly 7-8-parted.

Sen.: Tambouakané (Dec.) Chev. 2878! **Guin.:** Faranna, Tonfili (fl. & fr. Jan.) Chev. 20451! **S. L.:** T. Vogel 52! Garrett 22! Motenta (June) Thomas 456! Mamba (Nov.) Thomas 4357! Kangama (Sept.) Fisher 91! **Togo Rep.:** Lomé Warnecke 351!

[Note: Garrett 22, determined by Hiern, has a few very small spines on the calyx-H. H.]

11. *Solanum aculeastrum* Dunal in DC. Prod. 13, 1: 366 (1852); F.T.A. 4, 2: 243; Bitter in Fedde Rep. 16: 166 (1923). APD acc

A tree or shrub up to 20 ft. high, with white tomentum on all parts, except the surface of the leaves, and mostly very big and sharp hook-like spines, but sometimes also unarmed.

11a. *Solanum aculeastrum* Dunal var. *aculeastrum* APD acc

The armed variety.

[Br.] Cam.: Bafut-Ngemba F.R., 7,100 ft. (fl. & fr. Feb., June) Ujor FHI 30449! Hepper 2183! Madange (fl. & fr. Jan.) Latilo & Daramola FHI 34356!

Widely distributed in the tropics and frequently cultivated as a hedge-plant.

11b. *Solanum aculeastrum* var. *albifolium* (C. H. Wright) Bitter in Fedde Rep., Beih 16: 170 (1923), including var. *exarmatum* Bitter and var. *conraui* (Dammer) Bitter (1923).

*APD: Synonym of *Solanum aculeastrum* Dunal*

Solanum albifolium C. H. Wright in Kew Bull. 1894: 127; F.T.A. 4, 2: 224.

Solanum conraui Dammer in Engl. Bot. Jahrb. 48: 242 (1912).

Unarmed variety.

[Br.] Cam.: Bamenda, Lakom, 6,000 ft. (Apr.) Maitland 1657! Bangwe (June) Conrau 255!

Also in **tropical East Africa** and **Angola**.

12. *Solanum albicaule* Kotschy ex Dunal in DC. Prod. 13, 1: 204 (1852); F.T.A. 4, 2: 255; Bitter in Fedde Rep. Beih. 16: 101 (1923); Carvalho & Gillet in J. Agric. Trop. 7: 237 (1960); Heine in Kew Bull. 16: 204.

*APD: Synonym of *Solanum forsskalii* Dunal*

Solanum heudelotii Dunal (1852); F.T.A. 4, 2: 224; Bitter l.c. 5 (1923); F.W.T.A., ed. 1, 2: 206; Monod in Contrib. Et. Sahara Occ. 2: 108; Berhaut Fl. Sén. 122.

Solanum scindicum Prain J. As. Soc. Beng. 65: 542 (1896).

An undershrub with slender branches and reflexed spines, shortly hoary-tomentose.

Sen.: Heudelot 34! 417! Perrottet 340! Leprieur! Huard! Oualo Berhaut 1376!

Also in **Mauritania**, **Chad**, **N.E. Africa (Ethiopia, Sudan, Egypt, Eritrea, Somalia)**, **Arabia** and **Pakistan**.

13. **Solanum torvum** Sw. Prod. 47 (1788); F.T.A. 4, 2: 231 (excl. syn. *S. ferrugineum* Jacq., incl. *S. torvum* var. *compactum* Wright); O. E. Schulz, in Urban, Symb. Antill. 6: 233 (1909), for full synonymy. Bitter in Engl. Bot. Jahrb. 57: 252 (1921). *APD acc*

Solanum mannii C. H. Wright, in Kew Bull 1894: 129, incl. var. *compactum* C. H. Wright, l.c. (1894); F.W.T.A., ed. 1, 2: 207.

A shrubby weed attaining 10 ft. or more in height, pale stellate-tomentose, with flattened spines, white or lilac flowers; fruits 1/3 in. diam.

Sen.: Richard! **Lib.:** Gbanga (fl. & fr. Nov.) Daniel 31! Lakrata (Apr.) Bequaert 188! Monrovia (fl. & fr. Dec.) Dinklage 3307! **S. L.:** Bafodea (fl. & fr. Apr.) Deighton 5470! Hill Station (fl. & fr. Nov.) Deighton 229! Regent (Jan.) Gledhill 40! Tombo (Jan.) Deighton 957! Guma (fl. & fr. Mar.) Hepper 2511! **Iv. C.:** Bingerville (fl. & fr. Dec.) Chev. 16030! 16074! (16014?). **Ghana:** Asawasi, Kumasi (Apr.) Andoh 5267! Bunsu, Akim (Mar., Apr.) Irvine 1356! 1754! Kotonfo (fl. & fr. Aug.) Andoh 4419! Dunkwa (fl. & fr. Feb.) Whiting 16! **S. Nig.:** Gambari F.R. (fl. & fr. Mar.) Meikle 1272! Lagos (fl. & fr. May) Dalz. 1190! Sapoba Kennedy 1766! 2717! Yoruba country (Dec.) Newberry 13! Nikrowa, Okomu F.R. (Sept.) Iriah FHI 23085! Baba Eko, Shasha F.R. (fl. & fr. Mar.) Ross 80! 273! **[Br.] Cam.:** Cam. Mt., 3,000-3,500 ft. (Jan., Nov.) Maitland 281! Migeod 241! Dunlap 104! Mamfe to Ikom (fl. & fr. Feb.) Hepper 2209! S. Bakundu F.R. (fl. & fr. Feb.) Binuya & Daramola FHI 35550! **F. Po:** Mann 55! Musola Guinea 1209! Boughey 107!

A very common weed throughout the tropics.

14. **Solanum cerasiferum** Dunal in DC. Prod. 13, 1: 365 (1852); F.T.A. 4, 2: 241, partly. *APD acc*

- 14a. **Solanum cerasiferum subsp. cerasiferum**-Bitter in Fedde Rep., Beih. 16: 283 (1923) (incl. var. *garuense* Bitter l.c. 285.) *APD acc*

Solanum xanthocarpum var. *schraderi* of Schweinf. Pl. nilot. 25, t. 9 (1862); F.T.A. 4, 2: 234, not of DC.

Solanum yolense Hutch. & Dalz. in F.W.T.A., ed. 1, 2: 206 (1931).

Herbaceous undershrub with blue-purple flowers and yellow fruits 1/2-3/4 in. across.

N. Nig.: Yola Dalz. 183!

Also in **Cameroun**, **Ubangi-Shari**, **Sudan** and **Ethiopia**.

- 14b. **Solanum cerasiferum subsp. crepinii** (van Heurck) Bitter l.c. 287 (1923) (incl. subsp. *duchartrei* (Heckel) Bitter l.c. 286 (1923)). *APD acc*

Solanum crepini van Heurck in Obs. Bot. 1: 89 (1870).

Solanum duchartrai Heckel in Rev. Gén. Bot. 2: 49, t. 2 (1890).

Sen.: Plateau de Thiés, Rufisque Duclot & Sambuc; Sieber. Walo (fl. & fr. Oct.) Perrottet 557!

15. **Solanum indicum** Linn. Sp. Pl. 187 (1753); F.T.A. 4, 2: 232, partly.

APD: *Synonym of Solanum anguivi* Lam.

A very critical group of a very wide distribution in the Old World tropics. As far as Bitter's revision is the most up-to-date work on these plants which are extremely difficult to classify, his infraspecific concept is generally accepted here, although it does not correspond well with modern taxonomic methods.

Solanum indicum subsp. distichum (Thonning) Bitter in Fedde Rep. Beih 16: 13 (1923).

APD: *Synonym of Solanum anguivi* Lam.

Solanum distichum Thonning (1827)-F.T.A. 4, 2: 223.

- 15a. **Solanum indicum subsp. distichum var. distichum** *APD acc*

Solanum indicum Linn. subsp. *distichum* var. *immunitum* Bitter l.c. 14 (1923).

Solanum senegambicum Dunal in DC. Prod. 13, 1: 194 (1852); F.T.A. 4, 2: 222.

Solanum anomalum of F.T.A. 4, 2: 232; of F.W.T.A., ed. 1, 2: 207, not of Thonning.

S. schroederi Dammer (1912), partly.

Solanum scalare C. H. Wright (1894)-F.T.A. 4, 2: 224.

A coarse tomentose, unarmed undershrub up to 6 ft. high, with white flowers and erect red globose fruits 1/3-1/2 in. diam.

Sen.: near R. Nunez Heudelot 47; 713! **S. L.:** Garrett 18! Yungeru (fr. Jan.) Thomas 1321! Njala (fl. & fr. Oct., Nov.) Deighton 1407! 1784! Sakaro (fl. & fr. Jan., Feb.) Sc. Elliot 4394! 4898! Bumbuna (fl. & fr. Oct.) Thomas 3677! Bafodea (fr. Apr.) Deighton 5471! **Lib.:** Whyte! Ganta (fr. May) Harley! Gbanga (fl. & fr. Sept.) Linder 550! 655! Bobei Mt. (fr. Sept.) Baldwin 9638! **Iv. C.:** Bouaké, Baoulé Nord (fl. & fr. July) Chev. 22127! 22194! 22274! Tonkoui (fr. Aug.) Boughey 18321! **Ghana:** Thonning (photo)! Kpeve Williams 95! Akim Irvine 556! Kumasi (fr. June) Andoh FH 2271! Aburi (fl. & fr. June) Brown 320! Achimota (fl. & fr. June) Irvine 1770! Pramkese (fl. & fr. Jan.) de Wit & Morton A2967! Asuansi (fr. Oct.) Darko 1033! **N. Nig.:** Abinsi Dalz. 723! **S. Nig.:** Yorubaland (fr. Mar.) Schlechter 13004! Lagos Rowland! Abeokuta Harrison 3! Sapoba Kennedy 2325! Jamieson R. Kennedy FHI 1958! Baba Eko, Shasha F.R. (fl. & fr. May) Ross 85! 276! Cross R. (fl. & fr. Dec.) Holland 188! **[Br.] Cam.:** Mambila Plateau: Bellel (fl. & fr. Jan.) Hepper 1707! Gembu (fl. & fr. Jan.) Hepper 1828!

A common weed (sometimes cultivated for its fruits) in tropical Africa.

(See Appendix, p. 433, also for both the following varieties [grandemunitum and modicearmatum], under "S. anomalum Thonn.")

15b. *Solanum indicum* subsp. *distichum* var. *grandemunitum* Bitter l.c. 17 (1923).

APD: *Synonym of Solanum anguivi Lam.*

Solanum rederi Dammer in Engl. Bot. Jahrb. 48: 251 (1912).

Stems densely armed with long, sharp spines.

Guin.: Diaguissa (fr. Sept., Oct.) Chev. 18368! 18596! **S. L.:** Musaia (fl. & fr. Apr.) Deighton 5469! **[Br.] Cam.:** Cam. Mt., 5,800-8,000 ft. (fl. & fr. Nov.-Jan.) Mann 1322! 1975! Maitland 895! 1330! Mildbr. 10811! Dunlap 31! Lakom to Basenako (fr. Apr.) Maitland! **F. Po.:** (fl. & fr. Jan.) Guinea 1746!

15c. *Solanum indicum* subsp. *distichum* var. *modicearmatum* Bitter l.c. 16 (1923).

APD: *Synonym of Solanum anguivi Lam.*

Solanum buettneri Dammer in Engl. Bot. Jahrb. 38: 59 (1905); F.T.A. 4, 2: 273.

Solanum schroederi Dammer in Engl. Bot. Jahrb. 48: 250 (1912), partly.

Solanum indicum var. *micranthum* Hook. f. in J. Linn. Soc. 6: 18 (1861), name only-F.T.A. 4, 2: 232, in syn.

Loosely armed with much shorter and narrower spines.

Sen.: Roger! **Gam.:** Genieri Fox 92! **Port. G.:** Boé (fl. & fr. Jan.) Esp. Santo 2369! **Guin.:** Sulimania (fl. & fr. Mar.) Sc. Elliot 5335b! **S. L.:** Thomas! G. Don! T. Vogel 87! Musaia (Mar., Apr.) Deighton 5451! 5472! Pendambu (fl. & fr. July) Thomas 761! Yonibana (fl. & fr. Oct.) Thomas 4194! Njala (fl. & fr. Nov.) Deighton 1783! **Lib.:** Begwai (fl. & fr. Oct.) Bunting 124! Grant's Farm, Sinoe B. Whyte! **Togo Rep.:** Sokodé Schroeder 92! **N. Nig.:** Jos (fl. & fr. June) Lely 316! 365! Batten-Poole 339! Udonoria (fl. & fr. May) Umana FHI 29110! **[Br.] Cam.:** Migeod 423! Cam. Mt., 6,000 ft. (fl. & fr. Apr.) Hutch. & Metcalfe 16! Bamenda (fl. & fr. Jan.) Migeod 306! 424! Bansa, Bamenda (fl. & fr. Oct.) Tamajong FHI 23484! Vogel Pk., Adamawa (Dec.) Hepper 1586! **F. Po.:** 6,000 ft. (fl. & fr. Dec.) Mann 625! 1165! T. Vogel 52! 83! Guinea 2256! Moka (fl. & fr. Dec.) Boughey 4!

A common weed in nearly all parts of tropical Africa.

There are many intermediate forms between both var. *modicearmatum* and var. *grandemunitum*, for example: **Guin.:** Chev. 20447! 20448! Pobéguin 1043! **Iv. C.:** Chev. 19133! Dah.: Le Testu 132! Chev. 23910! 24022!

16. *Solanum dasyphyllum* Schum. & Thonn. in Beskr. Guin. Pl. 126 (1827); Bitter in Fedde Rep., Beih. 16: 188 (1923), incl. var. *semiglabrum* (C. H. Wright) Bitter l.c. 191, and var. *inerme* Bitter l.c. 192.

APD acc

Solanum duplosinuatum Klotzsch in Peters, Reise nach Mossamb., Bot. 1: 233 (1862); F.T.A. 4, 2: 243; F.W.T.A., ed. 1, 2: 207.

Solanum afzelii Dunal in DC. Prod. 13, 1: 363 (1852).

Solanum duplosinuatum var. *semiglabrum* C. H. Wright in F.T.A. 4, 2: 244 (1905).

Solanum macinae A. Chev. Bot. 463 (1920), name only.

Usually a coarsely hairy and spiny undershrub up to 3 ft. high, with bluish-purple flowers 1-1 1/2 in. diam. Unarmed plants occur (var. *inerme* Bitter) but the occurrence of spines cannot be regarded as of taxonomic importance.

Sen.: Marancounda (fr. Feb.) Chev. 2880! **Gam.:** Kuntaur Ruxton 39! **Port. G.:** Bissau, Prabis (fr. Feb.) Esp. Santo 1818! **S. L.:** Afzelius! Njala (fr. Nov.) Deighton 2867! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 571! **Iv. C.:** Sassandra (June) Chev. 21817! Mossi Chev. 24667! 24680! **Ghana:** Axim (July) Chev. 13809! **Dah.:** Atacora (fr. June) Chev. 24139! Porto Novo (Mar.) Chev. 23317! **N. Nig.:** Yates! Baradan (May) Lely 91! Gawu, Niger Prov. (fr. Aug.) Onochie FHI 35941! Lokoja (fl. & fr. Nov.) Dalz. 186! Nupe Barter 1344! **S. Nig.:** Lagos (Sept.) Dawodu 37! Rowland! Gambari (fl. & fr. Sept.) Onochie FHI 7681! Oban Talbot! Ukunzu (Jan.) Thomas 2199! Omo F.R. (Feb.) Jones & Onochie FHI 16714! Obompa (Jan.) Thomas 220! **[Br.] Cam.:** Bamenda (Feb.) Migeod 456! Vogel Peak, Adamawa (Dec.) Hepper 2788!

17. **Solanum macrocarpon** Linn. Mant. Alt. 205 (1771); F.T.A. 4, 2: 214; Bitter in Fedde Rep., Beih. 16: 195 (1923) incl. var. *calvum* Bitter, l.c. 198 (1923), and other varieties; Burkill in Kew Bull. 1925: 333. *APD acc*

Half-woody usually unarmed undershrub with rather stout branches up to 5 ft. high, hairy or sometimes glabrescent; flowers 3/4-1 in. diam., white or bluish-purple; **often cultivated**.

Mali: between Senegal and Niger Bellamy 136! 208! **Guin.:** Tonfili (fr. Jan.) Chev. 20450! Timbo Pobéguin 1878! **S. L.:** Njala, cult. (fl. & fr. Dec.) Deighton 1803! 1803a! Kangama (Sept.) Fisher 94! Kanika (Sept.) Thomas 2063! Rowala (July) Thomas 1162! Mabum (Aug.) Thomas 1636! **Iv. C.:** Attéou Chev. 17045! Bouake (July) Chev. 22136! 22138! Arbasso (fl. Dec.) Chev. 22642! **N. Nig.:** Thornewill 95! **S. Nig.:** Lagos Dalz. 1189! Enugu (Mar.) Irvine 3605!

Also in **E. Africa**.

[Note: Intermediate forms between both *S. dasphyllum* and *S. macrocarpon* are not infrequent (for example: *S. L.*: Deighton 1803A; 1804), and it seems to be evident that the two species are very close. No. 17 may be a glabrous form of No. 16, arisen in cultivation, and perhaps there are hybrid swarms between both "species": see Bitter, l.c. 197 (1923).]

18. **Solanum aculeatissimum** Jacq. Icon. Pl. Rar. 1: 5, t. 41 (1781); F.T.A. 4, 2: 228, partly (excl. syn. *S. ciliatum* Lam.); Bitter l.c. 148. *APD acc*

An undershrub 1-2 ft. high, armed with nearly straight spines, with white flowers 1/2 in. diam. and smooth brown-yellow nodding fruits.

Guin.: Nzérékoré (fr. Oct.) Baldwin 12101! Diaguissa (Apr.) Chev. 12686! **S. L.:** Mano Bonjena (fr. May) Jordan 2114! Kanya (fr. Oct.) Thomas 3946! Njala (fr. Apr.) Deighton 2635! (Nov.) Deighton 1782! Yonibana (Oct.) Thomas 4213! **Lib.:** Whyte! Ganta (Oct.) Harley! **Iv. C.:** Guidéko Chev. 16428! Japo Chev. 16603! Soubré (fl. & fr. Dec.) Leeuwenberg 2170! **[Br.] Cam.:** Bamenda, 5,500 ft. Migeod! Bamenda: Lakom, 6,000 ft. (May) Maitland! Bali-Ngomba F.R. (fr. Apr.) Ujor FHI 30333! Jakiri, 5,600 ft. (fl. & fr. Feb.) Hepper 1949!

19. **Solanum ciliatum** Lam. illustr. 2: 21, No. 2360 (1793); Encycl. Méth. Bot. 4: 298 (1796); Bitter in Fedde Rep Beih. 16: 151, partly (excl. syn. *S. campechiense* Dunal (1852) and *S. polycanthum* L'Hér. MS.); Dinklage in Fedde Rep. 41: 265 (1937).

APD: Synonym of Solanum capsicoides All.

Solanum aculeatissimum of F.T.A. 4, 2: 228; F.W.T.A., ed. 1, 2: 207, partly, and of Exell Cat. S. Tomé 252, not of Jacq. **Solanum aculeatissimum** var. **purpureum** A. Chev. Bot. 460 (1920), name only.

Like the last, but indumentum less dense, particularly in the leaves above; leaves clearly ciliate (epithet!); fruits always red.

Lib.: Fishtown, Grand Bassa (fl. & fr. July) Dinklage 1661. **Iv. C.:** Taté to Tabou (fr. Aug.) Chev. 19830!

Also in Principe (Quintas 45, Mann 1110! Exell 541!). Pantropical, but mainly in tropical America and East Asia. Most likely (in Africa) an introduced plant.

Often confused with No. 18 and perhaps overlooked and more widespread.

20. **Solanum anomalum** Thonning in Beskr. Guin. Pl. 126 (1827); Bitter in Engl. Bot. Jahrb. 57: 272 (1921); not of F.T.A. 4, 2: 232 and F.W.T.A., ed. 1, 2: 207 (which is No. 15a). *APD acc*

Solanum mannii Wright var. **compactum** C. H. Wright in Kew Bull. 1894: 129.

Solanum warnekeanum Dammer in Engl. Bot. Jahrb. 38: 168 (1906); F.W.T.A., ed. 1, 2: 207, not of C. H. Wright (1894).

Solanum pauperum of F.T.A. 4, 2: 217, partly (Ansell), of F.W.T.A. ed. 1, 2: 207, not of C. H. Wright (1894).

Unarmed or armed shrub, up to 5 ft. high, branchlets and young leaves densely stellate-tomentose at first, branches sometimes with rather large flattened spines; fruits globose, 1/4-3/4 in. diam., yellow-brown.

Lib.: Zeahtown (fr. July) Baldwin 6999! Moylakwelli (fl. & fr. Oct.) Bequaert 1286! **Iv. C.:** Toumodi to Uzaakro Chev. 22429! Guidéko (fl. & fr. May, June) Chev. 19003! Soubré Chev. 19147! Sassandra (fl. & fr. May, June) Chev. 17937! **Ghana:** Thonning 135 (photo)! Accra Ansell! Pokoase (May) Hughes 832! Asuantsi (Mar., fl. & fr. Oct.) Irvine 1579! Darko 1031! Newtown (July) Chipp 278! **Togo Rep.:** Lomé Warnecke 145! **Dah.:** Poisson 132! Cotonou Chev. 4498! **S. Nig.:** Thomas 1679! Ukunzu (fr. Jan.) Thomas 2201! Ibazo (fr. Nov.) Thomas 2020! Badagry (fr. Aug.) Onochie FHI 33481!

21. *Solanum pseudospinosum* C. H. Wright in F.T.A. 4, 2: 220 (1906); Bitter in Fedde Rep. 10: 546 (1912). *APD acc*

Solanum molliusculum Bitter l.c. (1912).

Herb, prostrate or ascending, sometimes slightly woody below, with small white flowers and violet-black berries.

[**Br.**] **Cam.:** Cam. Mt., 6,000-10,000 ft. (fl. & fr. Dec.-Apr.) Mann 1321! 1938! Dalz. 8335! Mildbr. 10888! Hutch. & Metcalfe 54! Maitland 1301! 1333!

A quite easily recognised segregate of No. 22, endemic in our area.

22. *Solanum nigrum* Linn. Sp. Pl. 186 (1753) (incl. vars.); F.T.A. 4, 2: 218; Exell in Cat. S. Tomé 253. *APD acc*

Solanum nodiflorum Jacq. (1788)-F.T.A. 4, 2: 218; F.W.T.A., ed. 1, 2: 208; Berhaut Fl. Sén. 174, 194.

Solanum guineense (Linn.) Lam. (1797), not of Linn. (1753).

A weed 1-2 ft. or more high, sometimes cultivated, with small white flowers and berries 1/4-3/4 in. diam.

Sen.: Berhaut 378. Roger 17! **Mali:** Timbuktu Hagerup 144! **S. L.:** Thomas 4396! Ronietta (Nov.) Thomas 5435! Katuna (fl. & fr. Jan.) Deighton 1033! Njala (cult. var. *guineense* Linn.; fr. Dec.) Deighton 1811! Freetown (fl. & fr. Dec.) Deighton 474! Musaia (fr. Dec.) Deighton 4571! Bumbuna (fr. Oct.) Thomas 3703! Kambia (fr. Sept.) Glanville 412! **Ghana:** Amedzofe (fr. Nov.) Morton! Asuansi (Oct.) Darko 1032! **N. Nig.:** Nupe Barter 1054! Jos Plateau (fl. & fr. July) Lely P392! Naraguta Lely 31! **S. Nig.:** Lagos Dalz. 1188! 1188a! 1188b! Ogwashi (fl. & fr. Nov.) Thomas 2042! [**Br.**] **Cam.:** Buea, 3,000 ft. (fl. & fr. Nov.) Migeod 88! Bamenda, 6,000 ft. (fr. Jan.) Migeod 358! Bafut-Ngemba F.R., 7,000 ft. (fl. & fr. Feb.) Hepper 2146! Lightbody FHI 28492! Kumbo (fl. & fr. Feb.) Hepper 1981! **F. Po:** Musola, 3,000 ft. (fl. & fr. Jan.) Guinea 1348! Moka, 4,000 ft. (fl. & fr. Dec.) Boughey 109!

Widespread throughout the world.

[Note: A broad view of this species has been taken for this revision owing to its complexity throughout the world. For a discussion on *Solanum nigrum* var. *guineense* Linn. Sp. Pl. 186 (1753), see Heine in Kew Bull. 14: 246 (1960).]

***Solanum wrightii* Benth.** in Fl. Hong Kong 243 (1861); Heine in Kew Bull. 14: 248 (1960).

Solanum macranthum hort. in Rev. Hort. 1867: 132, not of Dunal.

Solanum grandiflorum auct. not of Ruiz & Pavon Fl. Peruv. 2: 35, t. 168, fig. b. (1799); Bitter in Fedde Rep., Beih. 16: 180 (1923).

A large shrub or tree up to 20 ft. high, with very large, violet "potato-like" flowers up to 3 in. diam., cultivated at Njala, Sierra Leone.

A native of Bolivia, frequently cultivated in the tropics and sometimes naturalized.

The "Potato-Tree".

***Solanum hispidum* Pers.** Syn. 1: 228 (1805); Dunal in DC. Prod. 13, 1: 275; C. T. White in Kew Bull. 1939: 666.

Solanum stellatum Ruiz & Pavon Fl. Peruv. 2: 40, t. 176 (1799), not of Jacq. (1789) or of Moench (1794).

Solanum warszewiczii Weick ex Lambertye in Rev. Hort. 1865: 429; Bitter in Engl. Bot. Jahrb. 57: 253 (1921).

Solanum antiguense Coult. in Donnell Smith, Enum. pl. Guatem. 4: 187 (1895).

Solanum pynaertii De Wild. in Miss, E. Laurent 2: 437, t. 119 (1907).

A small shrub or tree up to 30 ft. high, in habit resembling *Solanum forvum* Linn., but with rusty-coloured tomentum of stellate hairs on all parts, mainly the younger ones, and more (and particularly more regularly) pinnatisect leaves.

Guin.: Dalaba, Fouta Djallon (Sept.) Schnell 7467!

An ornamental plant of Mexican and Guatemalan origin; apparently naturalized in Congo. Naturalized in Queensland, Ceylon and obviously in Peru, from where it was first described ("habitat in ruderalis, ad Pillao et Panao vicos" Ruiz & Pavon, l.c.).

Solanum tuberosum Linn. (1753)

The "European" potato, originally American, is mainly represented in our area by cultivars introduced from Europe; cultivated in the upland parts of our area.

Solanum lycopersicum Linn. (1753) incl. var.

Lycopersicum esculentum Mill. (1768)

L. cerasiforme Dunal (1813)

The tomato is more widely cultivated; originally American, it is mainly represented in our area by cultivars introduced from Europe; *S. lycopersicum* particularly frequently by the var. *cerasiforme* (Dunal) A. Voss (1896) and related cultivars.

Solanum guineense Linn. Sp. Pl. 184 (1753); Heine in Kew Bull. 14: 245 (1960).

Solanum aggregatum Jacq. (1790)-F.T.A. 4, 2: 214.

A S. African plant which, since Linnaeus, has been erroneously indicated from our area.

CONVOLVULACEAE

Herbaceous or woody plants, often climbing, juice usually milky. Leaves alternate, simple; stipules absent. Flowers hermaphrodite, actinomorphic; bracts often forming an involucre. Sepals usually free, imbricate, persistent. Corolla gamopetalous, mostly funnel-shaped, lobes 5, contorted. Stamens 5, inserted towards the base of the corolla-tube and alternate with the lobes; anthers 2-celled, opening lengthwise. Ovary often surrounded by a disk, 1-4-celled; ovules solitary or paired, erect; style terminal. Fruit a capsule or fleshy. Seeds sometimes hairy, with rather scanty endosperm and more or less curved embryo. Cotyledons folded or crumpled.

A widely distributed family, mainly in warmer regions; flowers very delicate and often fugitive.

For an account of the classification of the family, with extensive bibliography, see K. A Wilson in J. Arn. Arb. 41: 298 (1960).

- 1 Leafless parasitic plants with filiform stems and clusters of small flowers [1. Cuscuta](#)
- Leafy plants, not parasitic: [2](#)
- 2 Pollen grains smooth: [3](#)
- Pollen grains spinose: [14](#)
- 3 The 2 outer sepals much enlarged in fruit; bracts not enlarged; woody climbers [2. Calycobolus](#)
- Sepals not enlarged in fruit: [4](#)
- 4 Bracts enlarged in fruit; plants shrubby [3. Neuropeltis](#)
- Bracts not enlarged in fruit; plants generally herbaceous (shrubby in Bonamia and in Ipomoea sp. No. 14, as well as in one cultivated Ipomoea sp.): [5](#)
- 5 Ovary 2-cleft with 2 ovules in each chamber; fruit 2-lobed, styles 2, inserted between the lobes of the ovary; a small prostrate and creeping herb, with cordate to reniform leaves [4. Dichondra](#)
- Ovary not deeply lobed; fruit not 2-cleft; style simple or, if styles 2, terminal; plants of various habits: [6](#)
- 6 Styles 2, or single and rather deeply bilobed: [7](#)
- Style 1, entire or slightly lobed: [9](#)
- 7 Small herbs with very small flowers: [8](#)
- Shrubby climbers; style with 2 unequal branches with globose stigmas [7. Bonamia](#)
- 8 Styles 2, forked [5. Evolvulus](#)
- Styles 2, not forked [6. Cressa](#)
- 9 Outer sepals not much larger than the inner: [10](#)
- Outer sepals conspicuously larger than the inner: [13](#)
- 10 Stigmas filiform or elliptic: [11](#)
- Stigmas biglobular: [12](#)

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- 11 Stigmas linear-filiform [8. *Convolvulus*](#)
 Stigmas elliptic [9. *Jacquemontia*](#)
- 12 Capsule circumscissile; upper part of the epicarp separating from the lower part and from the endocarp;
 peduncles and pedicels winged [10. *Operculina*](#)
 Capsule opening by 4 valves or more or less irregularly dehiscent; peduncles and pedicels not winged [11. *Merremia*](#)
- 13 Stigmas 2, ovate-oblong; capsule globose [12. *Hewittia*](#)
 Stigmas biglobular; capsule ovoid [13. *Aniseia*](#)
- 14 Fruit a capsule: **15**
 Fruit fleshy and indehiscent; cymes few-flowered and subsessile; leaves long-petiolate [17. *Stictocardia*](#)
- 15 Stamens inserted at the base of scales [14. *Lepistemon*](#)
 Stamens not attached to scales: **16**
- 16 Indumentum stellate; erect shrubs [15. *Astripomoea*](#)
 Indumentum absent or if present then not stellate; climbing, trailing or creeping plants, very rarely (I.
 verbascoidea) erect shrubs [16. *Ipomoea*](#)
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1. CUSCUTA

Linn.-F.T.A. 4, 2: 202; Yuncker in Mem. Torrey Bot. Club 18: 2 (1932); Verdcourt in E. Afr. Agric. Journ. 18: 85 (1952).

- 1 Capsule not circumscissile: **2**
 Capsule circumscissile; scales in the corolla-tube large, broadly oblong, fimbriate, embracing the styles and thus closing the throat of the corolla; corolla exceeding the calyx, tube shortly campanulate, about 2 mm. long, lobes spreading, ovate, obtuse, 2-5 mm. long, margin slightly and irregularly crenate [3. *blepharolepis*](#)
- 2 Scales in the corolla-tube not reaching the base of filaments, oblong, variously fimbriated to almost entire; corolla-lobes broad, obtuse or rounded, ovate to suborbicular, erect [1. *australis*](#)
 Scales in the corolla-tube usually reaching the base of the filaments, ovate, abundantly fringed with fairly long processes; corolla-lobes broadly triangular, acute often with inflexed tips, rarely obtuse, usually spreading .. [2. *campestris*](#)

1. ***Cuscuta australis* R. Br.** Prod. Fl. Nov. Holl, ed. 1, 491 (1810); Yuncker in Mem. Torrey Bot. Club 18: 124, fig. 1; van Ooststr. in Blumea 3: 66 (1938); Fl. Males., ser. 1, 4: 392; Verdcourt in E. Afr. Agric. Journ. 18: 85, 86; Meeuse in Bothalia 6: 647 (1958). *APD acc*

Cuscuta cordofana (Engelm.) Yuncker l.c. 127, fig. 2 (1932).

Cuscuta chinensis of F.T.A., 4, 2: 204, partly (W. Afr. specimens); of F.W.T.A., ed. 1, 2: 219, not of Lam. (1786).

Leafless parasitic twiner with very slender tangled stems bright yellow or reddish-orange in colour; flowers small, white; **mostly on marsh plants**.

S. L.: Makomba (fl. & fr. Feb.) Deighton 4081! Panguma (fl. & fr. Aug.) Smythe 88! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 544! Vahon (fl. & fr. Nov.) Baldwin 10238! Bobli Mt. (fl. & fr. Sept.) Baldwin 9567! Geo (fl. & fr. Dec.) Baldwin 10562! **IV. C.:** Danané (fl. & fr. Nov.) de Wilde 896! **Ghana:** Aburi (fl. & fr. June) Johnson 157! Koforidua (fl. & fr. July) Vigne FH 4249! **S. Nig.:** Lagos (fl. & fr. July; Dec.) Dalz. 1152! 1353! **[Br.] Cam.:** Bansa (Oct.) Tamajong FHI 23459!

Widespread in the Old World tropics.

2. ***Cuscuta campestris* Yuncker** l.c. 138, fig. 14 (1932); van Ooststr. in Blumea 3: 68; Verdcourt l.c. 85-86; Meeuse, l.c. 648. *APD acc*

A parasite like the last; very common in some parts of tropical Africa and a **serious pest on cultivated plants**.

[Br.] Cam.: Kumbo (fl. & fr. Feb.) Hepper 1980!

A native of America, now a very widespread weed in warmer parts of the world.

3. ***Cuscuta blepharolepis* Welw. ex Hiern** Cat. Welw. 1: 743 (1898); F.T.A. 4, 2: 205; Yuncker l.c. 198,

fig. 68. *APD acc*

A saffron coloured parasite.

Guin.: Nzérékoré (fl. & fr. Sept.) Baldwin 13280!

Also in **Angola**.

2. CALYCOBOLUS

Willd. ex Roem. & Schult. Syst. Veg. 5: II (1819); House in Bull. Torrey Bot. Club 34 143; Heine in Kew Bull. 16: 387 (1963).

Prevostea Choisy, Ann. Sci. Nat. 4: 496 (1825); F.T.A. 4, 2: 81.

- 1** Leaves very shortly acuminate or not acuminate, ovate or ovate-elliptic, rounded at the base, 8-14 cm. long, 5-8 cm. broad, glabrous, pitted in the axils of the 4-7 pairs of lateral nerves; petiole 2-2.5 cm. long, glabrous; cymes several-flowered; sepals softly tomentose; corolla 1.5-2.5 cm. long, the 5 lobes slightly pubescent outside; style-arms unequal; two sepals in fruit very unequal, one twice as large as the other, orbicular, cordate at the base, the larger about 5 cm. diam., venose [1. heudelotii](#)

Leaves more or less long-acuminate: **2**

- 2** Corolla 1.5 cm. long or more: **3**

Corolla up to 12 mm. long; leaves ovate-lanceolate to oblong-elliptic, broadly acuminate, rounded to acuminate at base, 7-15 cm. long, 3-8 cm. broad, with about 8 pairs of lateral nerves prominently looped; **4**

- 3** Petiole tomentose; leaves shortly and broadly narrowed at base, obovate-elliptic, about 15 cm. long, 7 cm. broad, with 7-8 pairs of lateral nerves not pitted in their axils; pedicels pubescent; two sepals in fruit orbicular, one 2/3 as large as the other, the larger 5 cm. diam. [2. insignis](#)

Petiole slightly pubescent, 1 cm. long; leaves oblong-ob lanceolate, long-tailed-acuminate, gradually narrowed from above the middle to the obtuse base, 10-15 cm. long, 3-6 cm. broad, minutely glandular-punctate below, with 8-10 pairs of prominently looped lateral nerves; corolla 2 cm. long, very shortly lobed; two sepals in fruit very unequal, broadly ovate-orbicular, slightly pointed, one less than 1/3 as large as the other, the larger 7 cm. long [3. africanus](#)

- 4** Leaves minutely pubescent on the nerves beneath, becoming nearly glabrous, petiole pubescent, up to 1 cm. long; pedicel and calyx minutely pubescent and appearing nearly glabrous; corolla urceolate, slightly inflated, slightly pubescent only near the margin [4. micranthus](#)

Leaves and the 5-20 mm. long petioles entirely glabrous; pedicels and calyx persistently whitish to greyish pubescent; corolla tubular, straight, pubescent [5. parviflorus](#)

1. *Calycobolus heudelotii* (Bak. ex Oliv.) Heine in Kew Bull. 15: 390 (1963). *APD acc*

Prevostea heudelotii (Bak. ex Oliv.) Hallier f. in Bull. Herb. Boiss. 5: 1009 (1897); F.T.A. 4, 2: 83 (1905), incl. var. minor Rendle.

Breweria heudelotii Bak. ex Oliv. in Hook. Ic. Pl. t. 2276 (1894).

Baillaudea mirabilis (Bak.) G. Roberty in Candollea 14: 25 (1952), partly.

P. gilgiana Pilger (1908).

Stachyanthus nigeriensis S. Moore (1920) as to leaves (see F.W.T.A., ed. 2, 1: 643).

Chlamydocarya rostrata Bullock in Kew Bull. 1933: 469 (1933), as to leaves; (see F.W.T.A., ed. 2, 1: 643).

Climbing shrub, glabrous, with shining leaves; flowers in terminal inflorescences, white, corolla variable in length; **in forest**.

Port. G.: Catio (fr. May) Esp. Santo 2056! **Guin.:** Fouta Djallon Heudelot 864! Labé Chev. 12232; 12293. Bomboli Chev.

13566. **S. L.:** Hill Station, Freetown (Apr.) Deighton 5024! Rokupr (Apr.) Jordan 201! **Iv. C.:** Sassandra (fl. & fr Dec.)

Leeuwenberg 2208! **Ghana:** Owabi (Mar.) Andoh 4311! Kumasi (Dec.) Dalz. 121! Kamokra to Boinso (Dec.) Adams

2220! Aburi Scarp and Hills (fl. & fr. Feb., Apr.) Adams 3773! Johnson, 614! Morton A3644! Dodowa (Jan.) Johnson 585!

S. Nig.: Lagos (fl. & fr. Feb.) Dalz. 1069! Olokemeji (Feb.) Richards 5011! Ibadan to Lagos (fl. & fr. Mar.) Meikle, Keay &

Davey FHI 25689! Onochie FHI 201693! Acharane (Mar.) Okafor FHI 36881! Gambari F.R. (Mar.) Hepper 2289!

[Br.] Cam.: Mamfe Maitland 1167 (partly, leaves)!

Also in **Cameroun**.

2. *Calycobolus insignis* (Rendle) Heine l.c. 390 (1963). *APD acc*

Prevostea insignis Rendle in F.T.A. 4, 2: 57! (1906).

A shrub with slightly brown-pubescent branchlets; flowers unknown, fruits with large membranous veined sepals, sometimes purple-tinged.

Lib.: Kakatown Whyte! Mecca (fr. Nov.) Baldwin 10429!

3. *Calycobolus africanus* (G. Don) Heine l.c. 388 (1963). *APD acc*

APD: *Synonym of Calycobolus africanus* (G. Don) Heine

Prevostea africana (G. Don) Benth. in Fl. Nigrit. 469, t. 46 (1849); F.T.A. 4, 2: 82; Chev. Bot. 459.

Codonanthus africanus G. Don Gen. Syst. 4: 166 (1838).

Calycobolus alternifolia Planch. in Hook. Ic. Pl. t. 796 (1848).

Breweria codonanthus Bak. ex Oliv. in Hook. Ic. Pl. t. 2276 (1894).

B. alternifolia (Planch.) Radlk. (1884).

Prevostea nigerica Rendle Cat. Talb. 72 (1913); F.W.T.A., ed. 1, 2: 209.

A woody climber with pubescent branches becoming glabrous; flowers white.

S. L.: G. Don! Kafogo (fr. Apr.) Sc. Elliot 5518! **iv. C.:** Malamalasso Chev. 17491. Niapidou (Feb.) Leeuwenberg 2765!

Ghana: Kimso (Feb.) Chipp 110! Pra River Station (Feb.) Vigne FH 1038! 1826! Andoh 3253! **S. Nig.:** Lagos Moloney! Sapoba Kennedy 2139! Ibadan (fr. Mar.) Idahosa FHI 23862! Okomu F.R. (Jan.) Brenan 8882! Oban Talbot 1484!

Also in **Cameroun**, **Rio Muni**, **Cabinda** and **Congo**.

4. *Calycobolus micranthus* (U. Dammer) Heine l.c. 390 (1963). *APD acc*

Prevostea micrantha U. Dammer in Engl. Bot. Jahrb. 23, Beibl. 57: 57 (1897); F.T.A. 4, 2: 82.

A shrub 7-9 ft. high, with densely puberulous branchlets when young; flowers white, rather small, few together on short axillary peduncles sometimes below the leaves.

[Br.] Cam.: Johann-Albrecht-Höhe Staudt 637!

[Note: Only known from the type collection and perhaps only an occasional small-flowered form of *C. africanus* (G. Don) Heine-H. H.]

5. *Calycobolus parviflorus* (Mangenot) Heine l.c. (1963). *APD acc*

Prevostea parviflora Mangenot in Bull. I.F.A.N. 19: 359 (1957).

A glabrous climber up to 30 ft. high; flowers tubular, yellowish-green up to 1/2 in. long, in very short axillary cymes; **in swamp forest**.

Lib.: Moala (Nov.) Linder 1374! **iv. C.:** Adiopodoumé (fl. & fr. Dec.) Mangenot!

3. NEUROPELTIS

Wall.-F.T.A. 4, 2: 80.

- 1 Inflorescences long-spicate, 12-30 cm. long, up to 50-flowered; flowers hypocrateriform, up to 7 mm. long; leaves elliptic tending to obovate, up to 10 cm. long and 5 cm. broad, subcoriaceous, older leaves always flat: **2**
 Inflorescences short-racemose, 2-5 cm. long, 4-10 flowered; flowers campanulate, up to 16 mm. long; leaves elliptic, 8-14 cm. long and 4-6 cm. broad, chartaceous, older leaves very often folded towards the upper central part; fruiting bracts up to 4 cm. diam. [3. prevosteoides](#)
- 2 Branches and leaves beneath very finely whitish-pubescent, becoming glabrous [1. acuminata](#)
 Branches and leaves beneath densely ferrugineously hairy [2. velutina](#)

1. *Neuropeltis acuminata* (P. Beauv.) Benth. in Fl. Nigrit. 469 (1849); F.T.A. 4, 2: 80; De Wild. Pl. Bequaert. 1: 537 (1922); Mangenot in Rev. Bot. Appliq. 31: 521 (1951). *APD acc*

Porana acuminata P. Beauv. Fl. Oware 1: 66, t. 39 (1805).

Neuropeltis vermoesenii De Wild l.c. 542 (1922).

A climbing shrub with shining leaves and small white flowers in narrow racemes 3-6 in. long forming a panicle, with a large papery veined bract in fruit.

S. L.: Don! Mano Smythe 119! **Lib.:** Peahtah (Oct.) Linder 1048! Gbanga (Sept.) Linder 658! **Ghana:** (Dec.) Vigne FH 194! Bia F.R. (Feb.) Foggie 4447! Bobiri F.R. (Jan.) Andoh FH 5460! **N. Nig.:** Dogon Kurmi, Jemaa Div. (fr. Sept.) Killick 66! **S. Nig.:** P. Beauvois! Sapoba (Nov.) Ejiofor FHI 24651! Kennedy 1886! 1937! Benin (fl. & fr. Jan.) Keay FHI 37350! Okomu F.R. (Jan.) Onochie in Hb. Brenan 8885! Ibadan South F.R. (Sept.) Keay FHI 28042! Calabar Williams! **[Br.] Cam.:** Victoria Kalbreyer 11!

Also in **Cameroun**, **Gabon**, **Congo** and **Angola**.

2. **Neuropeltis velutina** Hallier f. in Bull. Herb. Boiss. 5: 374 (1897); F.T.A. 4, 2: 81; De Wild., Pl. Bequaert. 1: 540; Mangenot l.c. 521. **APD acc**

Neuropeltis anomala Pierre ex De Wild. Pl. Bequaert. 1: 539 (1922).

Like the last, but the whole plant ferrugineously hairy.

S. L.: Mabomba (Nov.) Deighton 3772! Mabonto (Oct.) Thomas 3575! **Lib.:** Harley 492! Ganta (fr. Jan.) Baldwin 14049! Kondessu (fr. Dec.) Baldwin! **S. Nig.:** Gambari F.R. (fr. July) Symington FHI 4117! Ibadan (fr. July) Ahmed & Chizea FHI 20008! Eket Talbot!

Also in **Cameroun**, **Gabon** and **Congo**.

3. **Neuropeltis prevosteoides** Mangenot l.c. 52! (1951). **APD acc**

A lofty climber with relatively small golden-brownish pilose inflorescences and yellowish-white flowers with bracts becoming membranaceous-transparent in the fruiting state.

Lib.: Gbanga (Sept.) Linder 818! **iv. C.:** Niapidou (fr. Jan.) Leeuwenberg 2513! Adiopodoumé Mangenot.

(According to Mangenot (l.c. 521) common in all rain forests of Ivory Coast.)

4. DICHONDRA

J. G. & R. Forster-F.T.A. 4, 2: 65. **APD acc**

- 1 Leaves reniform, 1-3 cm. broad, more or less silky, especially on the lower face, long-petioled; flowers axillary, solitary; peduncles shorter than the petiole; calyx up to 2 mm. long, sepals oblong to oblong-spathulate; corolla yellow, slightly shorter than the calyx; utricles of the fruit about 2 mm. broad [repens](#)

Dichondra repens J. G. & R. Forst. Char. Gen. 40, t. 20 (1776); F.T.A., l.c. 65; van Ooststr. in Blumea 3: 72 (1938); Meeuse in Bothalia 6: 657 (1958).

APD: *Synonym of Dichondra micrantha Urb.*

A perennial herb with slender trailing pubescent stems rooting from the nodes, **in moist places**.

Maur.: Kaédi to Mbagne (Dec.) Mosnies in Hb. Raynal 7538! **Mali:** " Fleuve Blanc " Peney! **[Br.] Cam.:** Cam. Mt., 3,000 ft. Maitland 1310! Bamenda, 5,000 ft. Maitland 145! Oku (fl. & fr. Feb.) Hepper 2024! Lus, Nkambe Div. (fl. & fr. Feb.) Hepper 1861!

Cosmopolitan and widely spread in the warmer regions of both hemispheres.

5. EVOLVULUS

Linn.-F.T.A. 4, 2: 66; van Ooststr. in Meded. Bot. Mus. Herb. Utrecht 14: 1-267 (1934).

Volvulopsis Roberty (1952).

- 1 Leaves elliptic, oblanceolate-oblong to lanceolate; corolla shallowly lobed; capsule 2-celled [1. alsinoides](#)
Leaves orbicular or orbicular-obovate or elliptic; corolla deeply lobed, capsule 1-celled [2. nummularius](#)

1. **Evolvulus alsinoides** (Linn.) Linn. Sp. Pl., ed. 2, 1: 392 (1762); F.T.A. 4, 2: 67; Chev. Bot. 458; van Ooststr. l.c. 26. **APD acc**

Convolvulus alsinoides Linn. Sp. Pl. 157 (1753).

A tufted or spreading hairy herb; woody at the base, with sky-blue funnel-shaped flowers 1/4 in. across.

Sen.: Leprieur! Roger 12! Heudelot 229! Dakar Chev. 2891. **Mt. Roland Chev.** 2903. **Gam.:** Hayes 554! **Mali:** Siguiri Chev. 289. Sikasso Chev. 759. Gao (fl. & fr. Sept.) Hagerup 350! Ansongo (fl. & fr. Sept.) Hagerup 387! Karora Hills Robbie 18! Dioura (fl. & fr. Oct.) Davey 087! **Port. G.:** Praia de Varela (Aug.) Esp. Santo 3071! **Guin.:** Kouroussa Brossart in Hb. Chev. 15750. **Iv. C.:** Orodoungou Chev. 21810. Bouaké to Mt. Lémé-libou Chev. 22100. Bouaké (fl. & fr. Nov.) Leeuwenberg 2087! **Ghana:** Accra (fl. & fr. Oct.) T. Vogel! Brown 360! Achimota (fl. & fr. Dec.) Andoh 4473! Amansare (fl. & fr. Aug.) Chipp 520! Tamale (fl. & fr. Feb.) Williams 483! Navrongo (fl. & fr. June) Vigne FH 4531! **Togo Rep.:** Lomé Warnecke 212! **N. Nig.:** Fobur, Bauchi (July) Summerhayes 14! Kogigiri, Jos (fl. & fr. Oct.) Hepper 1053! Jos Plateau (fl. & fr. Feb.) Lely 164! R. Benue Talbot 799! Baradan (fl. & fr. May) Lely 89! Katagum Dist. (fl. & fr. July) Dalz. 189! **[Br.] Cam.:** Bama, Dikwa Div. (fl. & fr. Nov.) McClintock 26! Gurum, Adamawa (fl. & fr. Nov.) Hepper 1274!

2. **Evolvulus nummularius (Linn.) Linn.** Sp. Pl., ed. 2, 1: 391 (1762); F.T.A. 4, 2: 68; Chev. Bot. 458; van Oostatr. l.c. 114. **APD acc**

Convolvulus nummularius Linn. Sp. Pl. 157 (1753).

Volvulopsis nummularium (Linn.) G. Roberty (1952).

A perennial prostrate herb; flowers small, white, rarely pale blue.

Iv. C.: Marabadiassa Chev. 22012. **Ghana:** Achimota (fl. & fr Aug.) Milne-Redhead 5127! Akropong, Ashanti (fl. & fr. June) Darko 685! Lawra (Apr.) Adams 4081!

6. CRESSA

Linn.-F.T.A. 4, 2: 72.

- 1 A much-branched herb; branchlets dense, pubescent; leaves ovate, sessile, subacute, 5-6 mm. long, thinly pilose; flowers subsessile, crowded at the tops of the branchlets, the latter forming a panicle; calyx campanulate, pubescent; corolla 4-5 mm. long, lobes sharply reflexed; stamens exserted; stigma capitate; fruit ovoid, shortly beaked, slightly nerved, 4 mm. long, glabrous; seed ovoid, dark brown [cretica](#)

Cressa cretica Linn. Sp. Pl. 223 (1753); F.T.A. 4, 2: 72; Chev. Bot. 459; Berhaut Fl. Sén. 5, 6, 203. **APD acc**

Stems woody below, slender, spreading or ascending from a few inches to 1 ft. long; in damp sandy places, especially near the sea.

Sen.: Leprieur! Roger 73! Heudelot 409! Berhaut 201! Dakar Chev. 15812. **Mali:** Niayes (fl. & fr. Dec.) Chev. 2906! **Port. G.:** Bambadinca, Bafáta (fl. & fr. June) Esp. Santo 2518! **Guin.:** Conakry Maclaud!

Also in the Mediterranean region, Socotra, E. Africa, Madagascar, and in many other places of both hemispheres.

7. BONAMIA

Thouars-F.T.A. 4, 2: 78; van Ooststr. in Blumea 3: 75 (1938), and in Fl. Males., ser. 1, 4: 398 (1953); Meeuse in Bothalia 6: 664 (1958). Nom. cons.

- 1 Leaves oblong-ovate, mucronate, rounded at the base, 4-6 cm. long, 2-3.5 cm. broad, glabrous or nearly so above, appressed-silky-tomentose beneath to nearly glabrous, with about 8 pairs of lateral nerves impressed above, prominent beneath; petiole 1 cm. long; flowers in shortly pedunculate axillary cymes; pedicels tomentose, about 1 cm. long; calyx-segments ovate, acuminate, about 8 mm. long, tomentose; corolla 2 cm. long, pilose outside, slightly pilose to nearly glabrous in the throat, lobes only up to 4 mm. long; fruit ovoid, apiculate, about 1 cm. long; seeds black, glabrous [1. thunbergiana](#)
- Leaves oblong to lanceolate-elliptic or obovate, 5-12 cm. long, 2-5 cm. broad, at first slightly pilose on both sides and with ciliate margin, becoming glabrous or nearly so above, slightly furfuraceous and pilose on the midrib and lateral nerves beneath, with 5-7 pairs of lateral nerves; petiole 3-7 mm. long, tomentose; flowers in dense, subsessile terminal cymes; pedicels tomentose, 4-6 mm. long; calyx-segments elliptic to broad-elliptic, 4-7 mm. long, and 3-5 mm. broad, tomentose outside, glabrous inside, accrescent in fruit, becoming slightly orbicular and about 7 mm. diam.; corolla up to 15 mm. long, appressed-tomentose outside, very villose in the throat, lobes half as long as the corolla-tube; fruit obliquely ovoid, apiculate, 8-10 mm. in diam., seeds dark red and with a persistent blackish aril [2. vignei](#)

1. **Bonamia thunbergiana** (Roem. & Schult.) F. N. Williams in Bull. Herb. Boiss., 2e sér., 7: 371 (1907); Heine in Kew Bull. 14: 276 (1960). *APD acc*

Convolvulus thunbergianus Roem. & Schult. Syst. Veg. 4: 884 (1819).

C. cymosus Roem. & Schult. l.c. 303 (1819), not of Desrousseaux in Lam. (1791), or of Ruiz & Pavon (1799).

Bonamia cymosa (Roem. & Schult.) Hallier f. in Engl. Bot. Jahrb. 18: 91 (1893); F.T.A. 4, 2: 79; Chev. Bot. 459; F.W.T.A., ed. 1, 2: 210.

A woody climber and twiner, with wrinkled leaves brown-ochry beneath, and rather small white flowers 2/3 in. long in dense cymes forming one-sided panicles.

Gam.: Ingram! **Port. G.:** Catio (Dec.) Esp. Santo 2236! **Guin.:** Kouria to Ymbo Caille in Hb. Chev. 14754. Kouria Caille in Hb. Chev. 14795. **S. L.:** Afzelius! Don! Hart! Barter! Makump (Dec.) Glanville 108! Mamaneu (Nov.) Marmo 145! Kambui Hills (Dec.) Small 857! **Lib.:** Dukwia R. (fr. Feb.) Cooper 220! Monrovia Whyte! Kakatown Whyte! Banga (fl. & fr. Oct.) Linder 1190! Dobli Island Bequaert 19! Ganta (Apr.) Harley! **Iv. C.:** Beyo (Jan.) Leeuwenberg 2455! **Ghana:** Assin Cummins! Sampa (fr. Mar.) Irvine 1583! Axim (?) (fr. Feb.) Irvine 2366! Bibiani to Kumasi (Dec.) Adams 1941! Mpameso F.R. (Dec.) Adams 2943! **S. Nig.:** Lagos Barter 2167! 2227! Millen 34! Ikoyi Plains (Dec.) Dalz. 1157! Oban Talbot 88! 88a! 1535!

Also in **Cameroun**.

2. **Bonamia vignei** Hoyle in Kew Bull. 1934: 188. *APD acc*

APD: *Synonym of Bonamia longitubulosa Breteler*

APD: *Synonym of Bonamia nzabii Breteler*

A woody climber with dark brown pilose stems, inflorescences and petioles, leaves nearly glabrous; flowers small, white, in corymbose inflorescences (never forming onesided panicles); **in forest**.

Ghana: Tiasi (Oct.) Vigne FH 1387! Owabi (fr. Dec.) Lyon 2631!

8. CONVULVULUS

Linn.-F.T.A. 4, 2: 88; Verdcourt in Kew Bull. 12: 344 (1957); Meeuse in Bothalia 6: 666 (1958).

- 1 Leaves linear-oblongate, acute at the base, rounded and mucronate at the apex, 2-3 cm. long, 3-6 mm. broad, pilose; flowers solitary or paired in the leaf-axils; calyx-segments lanceolate, acuminate, 8 mm. long, densely pilose; corolla 1 cm. long [1. microphyllus](#)

Leaves lanceolate, hastate-lobulate at the base, about 4 cm. long, shortly pubescent; flowers paired on a common peduncle; calyx-segments about 8 mm. long, setulose; corolla 1.3-1.5 cm. long [2. aschersonii](#)

1. **Convolvulus microphyllus** Sieb. ex Spreng. Syst. Veg. 1: 611 (1824); Hallier f. in Engl. Bot. Jahrb. 18: 98 (1893); F.T.A. 4, 2: 91; F.W. Andr. Fl. Pl. Sudan 3: 106; Berhaut Fl. Sén. 200, 287; Carvalho & Gillet in J. Agric. Trop. 7: 240; Heine in Kew Bull. 16: 205.

APD: *Synonym of Convolvulus prostratus Forssk.*

Ipomoea microphylla Roth (1821).

Convolvulus pluricaulis Choisy (1834)-Hallier f. l.c.; F.T.A. 4, 2: 91; F.W.T.A., ed. 1, 2: 210.

Convolvulus scindicus Boiss. (1856), not of Stocks (1852).

Stems slender, rusty pilose, from a woody stock, erect or spreading, with whitish shortly funnel-shaped flowers 1/3 in. long.

Sen.: Heudelot 403! Leprieur (fide Hallier f. l.c.). Berhaut 1009.

Also in **Sudan**, **Egypt**, **Arabia**, **W. Pakistan** and **N. India**.

2. **Convolvulus aschersonii** Engl. Hochgebirgsfl. trop. Afr. 349 (1892; = Abh. Preuss. Akad. Wiss. 1891, 2); Meeuse in Bothalia 6: 677 (1958). *APD acc*

Convolvulus sagittatus Thunb. Prod. 35 (1794).

Convolvulus sagittatus var. abyssinicus (*Hallier f.*) *Bak. & Rendle* in F.T.A. 4, 2: 96 (1905); F.W.T.A., ed. 1, 2: 210.

Convolvulus sagittatus var. parviflorus subvar. *abyssinicus* *Hallier f.* in Bull Herb. Boiss. 6: 533 (1898).

Convolvulus sagittatus var. aschersonii (*Engl.*) *Verdc.* in Kew Bull. 12: 345 (1957).

Stems prostrate, grey-greenish, pubescent, with pink-purplish or white flowers 1/2 in. long.

N. Nig.: Hephram to Ropp, 4,600 ft. (July) Lely 362!

Widespread in the drier parts of tropical Africa from Eritrea and **Ethiopia** to **Angola**, Bechuanaland, S. Rhodesia and Transvaal.

9. JACQUEMONTIA

Choisy-F.T.A. 4, 2: 85; van Ooststr. in Blumea 3: 267 (1939), Fl. Males., ser. 1, 4: 431 (1953); Meeuse in Bothalia 6: 699 (1958).

- 1 Flowers subumbellate, few; pedicels about 1 cm. long, slender; bracts subulate; leaves oblong-lanceolate, rounded at the apex or emarginate, 3-4 cm. long, 1-2.5 cm. broad, entire, glabrous; calyx-segments ovate, 5 mm. long; corolla 7-8 mm. long; capsule about 5 mm. diam. [1. ovalifolia](#)

Flowers capitate, surrounded by leafy bracts; leaves broadly ovate, acuminate, cordate to rounded at the base, up to 8 cm. long and 5.5 cm. broad, glabrous or nearly so beneath; calyx-segments 1 cm. long, linear-lanceolate, long-pilose with brown hairs; corolla about 9 mm. long; capsule 4-5 mm. diam. [2. tamnifolia](#)

1. **Jacquemontia ovalifolia** (*Vahl*) *Hallier f.* in Engl. Bot. Jahrb. 18: 96 (1893); F.T.A. 4, 2: 87. *APD acc*

Convolvulus ovalifolius *Vahl* Eclog. Am. 2: 16 (1798).

C. coeruleus *Schum. & Thonn.* (1827).

Prostrate and ascending from a half-woody base, glabrous, with pale blue flowers 1/2 in. long.

Ghana: Accra Thonning. (June-July) T. Vogel 11! Brown 374! Dalz. 8! Irvine 668! 689! Prampram (Nov.) Morton 6075! Nungua, Accra Plains (fl. & fr. May) Rose Innes GC 30064! **Togo Rep.:** Lomé Warnecke 254!

Also in other coastal regions in tropical Africa (Somaliland, tropical E. Africa and **Angola**).

[The type is from the West Indies, but the plant has never been recorded from there since the type collection was made.]

2. **Jacquemontia tamnifolia** (*Linn.*) *Griseb.* Fl. Brit. W. Ind. 474 (1861); Bruce in Kew Bull. 1940: 63; Meeuse in Bothalia 6: 700. *APD acc*

Ipomoea tamnifolia *Linn.* (1753).

Convolvulus capitatus *Desr.* (1791).

Jacquemontia capitata (*Desr.*) *G. Don* (1837)-F.T.A. 4, 2: 85; Chev. Bot. 457; F.W.T.A., ed. 1, 2: 211.

Convolvulus guineensis *Schum.* (1827).

A slender twiner, pilose, with blue flowers.

Sen.: Richard Tol (fl. & fr. Sept., Oct.) Roger 9! Farmar 38! **Mali:** Télé Chev. 2901. Sompi Chev. 2902. San Chev. 2904.

Port. G.: Bissau (Oct.) Esp. Santo 2533! **Lib.:** (July) T. Vogel 38! **Ghana:** Accra Plains (Jan., May) Irvine 691! Dalz. 120!

Ansell! Nungua (May) Rose Innes GC 30047! Damongo (Nov.) Harris! **Togo Rep.:** Lomé Warnecke 243! **Dah.:** Burton! **N.**

Nig.: Baikie 3! Jebba Barter! Sokoto (fl. & fr. Nov.) Lely 158! Moiser 72! Katagum Dist. (fl. & fr. Sept.) Dalz. 179! Bornu (fl. & fr. Nov.) Elliot 130!

[**Br.**] **Cam.:** Bama, Dikwa Div. (fl. & fr. Jan.) McClintock 157!

A native of tropical America, found there in all warmer parts, naturalized in tropical and S. Africa, and the Mascarene Islands.

Jacquemontia pentantha (*Jacq.*) *G. Don*

Convolvulus pentanthus *Jacq.*

A native of the warmer parts of America, is sometimes cultivated as an ornamental plant.

10. OPERCULINA

Silva Manso, Enum. Subst. Brazil. 16 (1836); van Ooststr. in Blumea 3: 361 (1939), Fl. Males., ser. 1, 4: 454 (1953).

- 1 Stems stout, hollow, conspicuously 4-winged on the older portions; leaves up to 13 cm. long and 18 cm. broad, palmatisect with 5 or more more or less elliptic lobes, with bluntish mucronulate apex and tapering base, veins beneath winged and conspicuous, sometimes obsoletely puberulous; petiole stout, narrowly winged, nearly as long as the blade; peduncle about 4 cm. long; few-flowered; bracts deciduous, membranous, bluntly ovate, about 7 mm. long; pedicels stoutly clavate and broadly winged, about 2.5 cm. long; calyx broadly cup-shaped, up to 2.5 cm. long and broad, glabrous, lobes broadly obovate to orbicular; corolla about 6.5 cm. long and nearly as broad; fruits depressed-globose, up to 3.5 cm. diam. (the persistent calyx included), bilocular (2-)3-4-seeded, epicarp fleshy, in the superior part circumscissile and forming a little cap ("operculum"); seeds about 1 cm. diam., glabrous [macrocarpa](#)

Operculina macrocarpa (Linn.) Urban Symb. Antill. 3: 343 (1902) (for full synonymy); Heine in Kew Bull. 14: 397. *APD acc*

Convolvulus macrocarpus Linn. Syst. Nat., ed. 10, 2: 923 (1759); Sp. Pl., ed. 2, 222 (1762).

Operculina convolvulus *Silva Manso* l.c. 49 (1836).

Merremia alata *Rendle* in F.T.A. 4, 2: 102 (1905); F.W.T.A., ed. 1, 2: 212.

A stout glabrous climber with winged hollow stems; flowers widely funnel-shaped, creamy-white.

Ghana: Takoradi (fl. & fr. Oct.) Homes 979! Odumassu (Oct.) Johnson 155! Krobo plains (Dec.) Johnson 517! Cape Coast (fr. Sept.) Hall 1600! **Togo Rep.:** Lomé Warnecke 273! (fl. & fr. Nov.) Mildbr. 7502!

A native of Brazil, also found in Martinique and Guadeloupe, apparently long-introduced and naturalized in our area. (See Appendix p. 440).

11. MERREMIA

Dennst. ex Hallier f.-F.T.A. 4, 2: 101; van Ooststr. in Blumea 3: 292 (1939), Fl. Males., ser. 1, 4: 439 (1953); Meeuse in Bothalia 6: 700 (1958).

- 1 Leaves deeply pinnatipartite, up to 4 cm. long, segments linear, thinly pilose; peduncles axillary, 2-3 cm. long, pilose, 1-3-flowered; calyx-segments with long linear points; corolla narrowly funnel-shaped, a little longer than the calyx; fruit globose, pilose [1. pinnata](#)
- Leaves not pinnately divided: **2**
- 2 Leaves linear-lanceolate or linear, usually hastately-lobulate or toothed at the base, subsessile, 3-5 cm. long, glabrous; peduncles slender, axillary, 1-3-flowered, bracteate towards the top; calyx-segments 5 mm. long, mucronate; corolla 1.5 cm. long; fruit ovoid-globose, about 8 mm. long [2a. tridentata subsp. angustifolia](#)
- Leaves neither linear nor lanceolate: **3**
- 3 Leaves more or less ovate, entire or 3-lobed to the middle: **4**
- Leaves deeply divided: **5**
- 4 Corolla less than 1 cm. long; calyx-segments dry and chaffy, 6 mm. long, obovate-elliptic; pedicels very short; leaves small, mostly shortly trilobed; fruit quadrangular-globose, about 8 mm. diam., glabrous ... [3. hederacea](#)
- Corolla 3 cm. long; calyx segments 1 cm. long, leathery; pedicels 1.5 cm. long; leaves broadly ovate, deeply cordate, about 12 cm. long and 7-10 cm. broad, glabrous or pubescent on the midrib beneath; fruit 1.5 cm. long; seeds covered with short hairs [4a. umbellata subsp. umbellata](#)
- 5 Calyx-segments and branchlets densely covered with long slender hairs; leaves divided completely to the base into 5 obovate acutely acuminate segments up to 8 cm. long and 4 cm. broad; calyx-segments 1.5-2 cm. long in flower, increasing to 3 cm. in fruit; corolla 2-2.5 cm. long; seeds glabrous [5. aegyptia](#)
- Calyx-segments glabrous; branchlets usually glabrous: **6**
- 6 Calyx 2-3 cm. long: **7**
- Calyx up to about 1 cm. long: **8**
- 7 Segments of the leaves sinuate-dentate, acute, 7-10 cm. long, lanceolate; stems and often the petioles usually with long slender hairs; corolla 3-5 cm. long; fruit ovoid, 1.5 cm. long; seeds glabrous [6. dissecta](#)
- Segments of the leaves nearly entire, acute 7-9 cm. long, oblanceolate; stems and petioles glabrous; corolla about 5 cm. long [7. kentrocaulos](#)
- 8 Leaves digitately lobed; stems winged in the lower part; leaf-segments variable, from linear- to broadly-

lanceolate, long mucronate, up to 10 cm. long and 3 cm. broad, pubescent towards the base of the principal nerves beneath; corolla-lobes densely setose in bud [8. pterygocaulos](#)

Leaves subpinnately divided with 2 lobes on each side, the terminal lobe linear-lanceolate, 5-6 cm. long, thinly pilose on the nerves beneath; peduncle densely pubescent, short; pedicels 5 mm. long; calyx 8 mm. long ... [9a. pes-draconis var. nigerica](#)

1. **Merremia pinnata** (*Hochst. ex Choisy*) *Hallier f.* in Engl. Bot. Jahrb. 16: 552 (1893); F.T.A. 4, 2: 113; Chev. Bot. 458; Berhaut Fl. Sén. 46. **APD acc**

Ipomoea pinnata *Hochst. ex Choisy* in DC. Prod. 9: 353 (1845).

Annual, trailing and twining, with slender loosely hairy stem, and cream-white flowers 1/3-1/2 in. long mostly hidden by the hairy calyx.

Sen.: Farmer 154! Berhaut 252! M'bidgem Thierry 18! Tivaouane Chev. 2887. Kaolak 41 Chev. **Gam.:** Ingram! Brown-Lester 79! **Mali:** Dioura (Oct.) Davey 097! San Chev. 2888. Koulikoro Chev. 2889. Sompé Chev. 2895. **Port. G.:** Bissau (Oct.) Esp. Santo 2540! **S. L.:** Kitchom (fr. Dec.) Sc. Elliot 1891! Deighton 981! Juring (fl. & fr. Dec.) Deighton 287! Kokupr Deighton 1326! **Lib.:** Monrovia (Nov.) Linder 1437! Sinkor (fr. Dec.) Harley 1957! **Ghana:** Wa (fr. Nov.) Harris! **N. Nig.:** Jebba Barter! Sokoto (fr. Sept.) Dalz. 377! Fodama (fr. Jan.) Moiser 170! Jos Plateau (fr. Nov.) Lely P635! Bakura Tureta (fr. Jan.) Yumus Bornu & Jibiringa FHI 29052! Yola (fl. & fr. Nov.) Hepper 1222!

2. **Merremia tridentata** (*Linn.*) *Hallier f.* in Engl. Bot. Jahrb. 16: 552 (1893). **APD acc**

Convolvulus tridentatus *Linn.* Sp. Pl. 157 (1753).

Merremia tridentata subsp. tridentata-van Ooststr. in Fl. Males., ser. 1, 4: 445 (1953).

APD: *Synonym of Merremia tridentata* (*L.*) *Hallier f.*

Merremia tridentata subsp. genuina (*Hallier f. ex Ooststr.*) *Ooststr.* in Blumea 3: 315 (1939).

E. tropical Africa, Mascarene Is., tropical Asia and Malaysia.

2a. **Merremia tridentata subsp. angustifolia** (*Jacq.*) *Ooststr.* l.c. 323 (1939).

APD: *Synonym of Merremia tridentata* (*L.*) *Hallier f.*

Ipomoea angustifolia *Jacq.* (1788).

Merremia angustifolia (*Jacq.*) *Hallier f.* (1893)-F.T.A. 4, 2: 111; Chev. Bot. 457; F.W.T.A., ed. 1, 2: 211; Berhaut Fl. Sén. 153, 171.

A glabrous annual, prostrate and twining amongst grass, etc., with pale yellow funnel-shaped flowers; in savanna.

Sen.: Berhaut 224; 2277. Kaolak 101 Kaichinger in Hb. Chev. **Gam.:** Saunders 33! Skues! **Mali:** Timbuctu (fl. & fr. July) Hagerup 223! Folo Chev. 834. San Chev. 2910. Ségou Chev. 2911. **Guin.:** Cotonou (fl. & fr. Apr.) Debeaux 347! **S. L.:** Tisana (fr. Nov.) Deighton 2276! Yunguru (fl. & fr. Jan.) Thomas 7127! 7222! Mahela (fl. & fr. Dec.) Sc. Elliot 4891! Aberdeen (fl. & fr. Aug.) Melville & Hooker 133! **Lib.:** Cape Palmas T. Vogel 55! **iv. C.:** Farmer 363! Bingerville (fl. & fr. Aug.) de Wilde 240! Chev. 1733! **Ghana:** Wa (fr. May) Vigne FH 3819! Accra Plains (fr. Apr.) Bally B25! Achimota Irvine 340! **Togo Rep.:** Lomé Warnecke 35! **N. Nig.:** Niger T. Vogel 112! Nupe Barter 1266! Sokoto (fl. & fr. Jan., July) Dalz. 379! Moiser 41! Katagum Dist. Dalz. 181! Makurdi (Feb.) Jones FHI 677! **S. Nig.:** Lagos (fl. & fr. Oct.) Stubbings 83! Dalz. 1073! Dawodu 375! 379! Olokemeji F.R. (Mar.) Keay FHI 25688! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1270!

In tropical Africa generally, and in S. Africa.

3. **Merremia hederacea** (*Burm. f.*) *Hallier f.* in Engl. Bot. Jahrb. 18: 118 (1894); van Ooststr. in Blumea 3: 302, fig. 1, e-f, m-n; Fl. Males., ser. 1, 4: 441; Meeuse in Bothalia 6: 700. **APD acc**

Evolvulus hederaceus *Burm. f.* (1768).

Merremia convolvulacea *Dennst. ex Hallier f.* (1893)-F.T.A. 4, 2: 114; Chev. Bot. 457.

A nearly glabrous twiner and climber, the stems often red-purple-tinged, with rather small yellow flowers.

Sen.: Berhaut 153. Richard Tol (fr. Feb.) Roger 117! Roberty 16862! **Port. G.:** Contubo-el (fl. & fr. Nov.) Esp. Santo 2814! **S. L.:** Mofari (fr. Jan.) Sc. Elliot 4433! Mange (fr. Dec.) Jordan 726! **iv. C.:** Makougnie Chev. 16964! Tiassalé (fl. & fr. Dec.) Leeuwenberg 2134! **Ghana:** Nungua, Accra Plains (fr. Apr.) Ankrah GC 20170! Mankessim (fl. & fr. Dec.) Hall

1673! **N. Nig.:** Nupe Barter 885! Jebba (fl. Dec.) Hagerup 680! Kontagora (fr. Nov.) Dalz. 119! Kumu (fr. Oct.) Lely 668! Yola (Dec.) Hepper 1679! **S. Nig.:** Sasha, Ijebu Ode Tamajong FHI 20300! Olokemeji F.R. (Feb.) Keay FHI 22191! [**Br.**] **Cam.:** Jalo, Gashaka Dist. Latilo & Daramola FHI 28878! Bama, Dikwa Div. (fr. Jan.) McClintock 166!

In the tropics of the Old World.

4. **Merremia umbellata** (Linn.) Hallier f. in Engl. Bot. Jahrb. 16: 552 (1893); F.T.A. 4, 2: 106; Chev. Bot. 458; van Ooststr. in Blumea 3: 333 (1939); Fl. Males., ser. 1, 4: 449 (1953); Verdcourt in Kew Bull. 13: 186. *APD acc*

Convolvulus umbellatus Linn. Sp. Pl. 155 (1753).

- 4a. **Merremia umbellata subsp. umbellata**-van Ooststr. l.c. (1953); Exell Cat. S. Tomé, Suppl. 35 (1956). *APD acc*

Merremia umbellata var. **occidentalis** Hallier f. in Verslag's Lands Pl.-tuin Buitenz. 1895; 127 (1896), and in Bull. Herb. Boiss. 5: 375 (1897); van Ooststr. in Blumea 3: 341, 296 (1939).

Ipomoea fragilis of F.W.T.A., ed. 1, 2: 216, partly (Thomas 305; 7305), not of Choisy in DC. (1845).

I. oenotheriflora A. Chev. Bot. 466, name only.

A perennial twiner, glabrous or sparingly hairy, with sulphur-yellow funnel shaped flowers in umbellate cymes on a peduncle 2-6 in. long; in swampy places by streams.

Gam.: SKues! Kudang (fl. Jan.) Dalz. 8047! **Mali:** Banfara Chev. 533! **Guin.:** Faranna, Kaba Chev. 20391! Kindia Chev. 13207! **S. L.:** Njala (Jan.) Dalz. 8136! Makump (Dec.) Glanville 107! Regent (Dec.) Sc. Elliot 4324! Mange Bureh (Jan.) Deighton 1039! Kamah (fr. May) Thomas 305! Yungeru (Jan.) Thomas 7305! **Lib.:** Harley 854! Kakatown Whyte! Genna Tanyehun (Dec.) Baldwin 10776! **Iv. C.:** Saasandra (fl. & fr. Feb.) Leeuwenberg 2902! **Ghana:** Axim (Jan.) Chipp 59! Cape Coast Deakin 61! **N. Nig.:** Ibi (Nov.) Dalz. 77! Abutshi Woodruff! **S. Nig.:** Ikwette, Obudu (Dec.) Savory & Keay FHI 25002! [**Br.**] **Cam.:** Victoria to Buea (Mar.) Hambler 653! Mamfe (Nov.) Tamajong FHI 22125! **F. Po:** Mann 85! Barter 1838! T. Vogel 54!

Also in tropical America.

[The subsp. *orientalis* (Hallier f.) Ooststr. in Fl. Males., ser. 1, 4: 449 (1953) is the subspecies occurring in B. Africa and in tropical Asia.]

5. **Merremia aegyptia** (Linn.) Urban Symb. Antill. 4: 505 (1910); van Ooststr. in Blumea 3: 327; Fl. Males. ser. 1, 4: 448; *APD acc*

Ipomoea aegyptia Linn. Sp. Pl. 162 (1753).

Convolvulus pentaphyllus Linn. (1762)

Merremia pentaphylla (Linn.) Hallier f. (1893)-F.T.A. 4, 2: 108; F.W.T.A. ed. 1, 2: 212; Schnell in Ic. Pl. Afr. I.F.A.N., 1, t. 19 (1953); Berhaut Fl. Sén. 23.

A robust annual twiner, hirsute with campanulate funnel-shaped white flowers 1 in. long, the buds covered with spreading yellowish hairs.

Sen.: Roger 94! Kanu to Wothan Baumann! Richard Tol (Jan.) Döllinger 8! Thiès Chev. 2865. Tivaouane Chev. 2867..Farmar 36! **Gam.:** Brooks 26! **Port. G.:** Bissau (fr. Dec.) Esp. Santo 1589! **Guin.:** Conakry (Apr.) Debeaux 314! **S. L.:** Freetown (fr. Dec.) Deighton 1535! Regent (fr. Dec.) Sc. Elliot 4060! Wellington (Dec.) Deighton 3353! Ninia (fr. Feb.) Sc. Elliot 4869! Port Loko (Dec.) Thomas 5622! Kumrabai (Jan.) Thomas 68661 **Ghana:** Cape Coast (Sept.) Dalz. 132! Elmina Castle (Jan.) Dalz. 36! Kpedsu (Dec.) Howes 1049! Shai Hills (fr. Oct.) Adams! **Togo Rep.:** Lomé Warncke 275! **Niger:** Labézanga (Sept.) Hagerup 447! **N. Nig.:** Nupe Barter 863! Sokoto (Nov.) Moiser 8! Katagum Dist. (Sept.) Dalz. 184! Bornu Parsons! **S. Nig.:** Iagos (Mar.) Millen 1181 Ibadan (Feb.) Foster 155! (Dec.) Keay FHI 37289!

Widespread throughout the tropics.

6. **Merremia dissecta** (Jacq.) Hallier f. in Engl. Bot. Jahrb. 16: 552 (1893); F.T.A. 4, 2: 104; van Ooststr. in Blumea 3: 328; Fl. Males., ser. 1, 4: 448. *APD acc*

Convolvulus dissectus Jacq. Obs. 2: 4, t. 27 (1767).

A perennial twiner, the stems, etc., at first coarsely hirsute, becoming glabrous, with widely funnel-shaped flowers 1 1/2 in. long, white with purple throat, opening in the evening.

S. L.: Njala (Oct.) Deighton 2818! **Iv. C.:** Abidjan (Mar.) Leeuwenberg 3123! **Ghana:** Achimota (fr. Jan.) Irine 1107! **S. Nig.:** Lagos Cons. of For. 472! Benin Dundas FHI 21480! Ibadan (fr. Oct.) Newberry & Etim 145! **F. Po:** T. Vogel 238!

Cultivated and sometimes naturalized in many parts of the tropics; a native of tropical America.

7. **Merremia kentrocaulos** (*C. B. Cl.*) *Rendle* in F.T.A. 4, 2: 103 (1905); Berhaut Fl. Sén. 152; Meeuse in Fl. Pl. Aft. 30: t. 1194, and in Bothalia 6: 704. *APD acc*

Ipomoea kentrocaulos *C. B. Clarke* in Hook. f. Fl. Brit. Ind. 4: 213 (1883).

A glabrous perennial twiner, with widely funnel-shaped flowers 2-2½ in. long, cream-white with dark purple centre.

Sen.: Berhaut 438; 2137. **N. Nig.:** Nupe Barter 930! Jos Plateau (Nov.) Lamb 781 Mokwa (Nov.) Mutch FHI 27964! Matyoro (Oct.) Thornehill 1231 **S. Nig.:** Okeifo, Oyo (Oct.) Onachie FHI 40871! [**Br.**] **Cam.:** Kwagiri, Gashaka Dist. (Nov.) Latilo & Daramola FHI 28769!

8. **Merremia pterygocaulos** (*Steud. ex Choisy*) *Hallier f.* in Engl. Bot. Jahrb. 16: 552 (1893); F.T.A. 4, 2: 105; Meeuse l.c. 702. *APD acc*

APD: *Synonym of Merremia hornbyi Verdc.*

Ipomoea pterygocaulos *Steud. ex Choisy* in DC. Prod. 9: 381 (1845).

I. leucantha of F.W.T.A. ed. 1, 2: 216, partly (Hayes 521), not of Webb (1849).

A perennial twiner with glabrous acutely-angled and often winged stems, and campanulate flowers about 1½ in. long, white, occasionally yellow, with a purple or red ring in the throat; **by swamps and streams.**

Gam.: Hayes 521! Kudang (Jan.) Dalz. 8049! **S. L.:** Musaia Deighton 4558! (fr. Feb.) 4238! Kaballa Thomas 2171 Yalamba (Jan.) Jaeger 3956! Mabahu (Dec.) Marmo 102! Rowala (Jan.) King 151B! **Lib.:** Ganta (fr. Nov.) Harley 304! **N. Nig.:** Jos Plateau Batten-Poole 228! Vom Dent Young 182! Naraguta (Nov.) Lely 709! Kontagora (fl. & fr. Dec.) Dalz. 121! **S. Nig.:** Abokom to Ikura (fr. Jan.) Holland 266! [**Br.**] **Cam.:** Bamenda, 3,000 ft. (Jan.) Keay FHI 28520! Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 16771 Vogel Peak, 4,000 ft., Adamawa (Dec.) Hepper 1552!

Widespread throughout tropical Africa, also in the Mascarene Islands.

9. **Merremia pes-draconis** *Hallier f.* in Bull. Herb. Boiss. 6: 537 (1898); F.T.A. 4, 2: 107.

APD: *Synonym of Merremia xanthophylla (Hochst.) Hallier f.*

- 9a. **Merremia pes-draconis var. nigerica** *Rendle* Cat. Talb. 73 (1913). *APD acc*

A rather slender twiner, covered with dull yellowish pubescence, with 7-lobed leaves and flowers ¾ in. long.

N. Nig.: R. Benue Talbot 832!

Merremia cissoides (*Lam.*) *Hallier f.*

Native of tropical America, occasionally cultivated in our area.

Merremia tuberosa (*Linn.*) *Rendle*

Native of tropical America, occasionally cultivated in our area.

Merremia sp. "between M. palmata Hallier f. and M. pterygocaulos (Choisy) Hallier f." (Verdcourt MS.).

N. Nig.: Katagum Dist. Dalz. 313!

This specimen is conspecific with A.W. Cruse 396 (= 17) from Dambo, N. Rhodesia.

12. HEWITTIA

Wight & Arn.-F.T.A. 4, 2: 100; Meeuse in Bothalia 6: 698 (1958).

- 1 Stems twining; leaves ovate to triangular-ovate, mucronate, cordate at the base, up to 12 cm. long and 9 cm. broad, thinly pubescent on the nerves beneath; flowers few in a bracteate head on an axillary peduncle; bracts

ovate or ovate-lanceolate, green, about 1 cm. long, pubescent; calyx-segments ovate-lanceolate, 1 cm. long; corolla densely pilose in bud, 2-8 cm. long; fruit subglobose [sublobata](#)

Hewittia sublobata (Linn. f.) O. Ktze. Rev. Gen. Pl. 441 (1892); van Ooststr. in Blumea 3: 286; Fl. Males, ser. 1, 4: 438; Meeuse l.c.

APD: Synonym of Hewittia malabarica (L.) Suresh

APD: Synonym of Hewittia scandens (J. König ex Milne) Mabb.

Convolvulus sublobatus Linn. f. Suppl. 135 (1781).

C. bicolor Vahl (1794).

Hewittia bicolor (Vahl) Wight & Arn. (1837)-F.T.A. 4, 2: 100; Chev. Bot. 457.

Herbaceous twiner, pubescent, with flowers 1 in. long, cream-white or pale yellow with deep purple centre and leafy bracts and calyx.

Gam.: Brown-Lester 26! **Mali:** Bambaya to Forboia-Bafé (fl. & fr. Aug.) Jaeger 861! **S. L.:** Regent (fl. & fr. Dec.) Sc. Elliot 4111! Kumrabai (fl. & fr. Dec., Jan.) Thomas 6766! Njala (fl. & fr. Feb.) Deighton 1927! Makump (fl. & fr. Dec.) Glanville 106! Kaballa (Sept.) Thomas 2341! **Lib.:** Cape Palmas T. Vogel 14! Dukwai R. (July) Linder 117! **Iv. C.:** Bingerville Chev. 17333! Tiassalé (Aug.) de Wilde 4401 **Ghana:** Farmar 531! Cummins! Agogo Deakin 3! Elmina (Dec.) Deakin 56! Dodowali (Nov.) Harris K20! **S. Nig.:** Lagos (fl. & fr. Oct.) Dalz. 1158! Barter 2160! Abeokuta Barter 3351! Irving 120! Ibadan (Jan., Feb.) Ejiofor FHI 31927! Daggash FHI 22747! Oban Talbot 798! **[Br.] Cam.:** Rio del Rey Johnston!

Throughout tropical Africa, Asia and Polynesia.

13. ANISEIA

Choisy-F.T.A. 4, 2: 88. *APD acc*

- 1 Stems twining, soon nearly glabrous; leaves oblong-lanceolate, rounded at the apex and long-mucronate, up to 9 cm. long and 2.5 cm. broad, glabrous or slightly pubescent; petiole up to 2.5 cm. long; flowers usually solitary, on rather long axillary peduncles; bracts subulate, a little below the ovate-lanceolate acute sepals, the latter about 1-5 cm. long; corolla about 3 cm. long, pilose outside; fruit 2 cm. long [martinicensis](#)

Aniseia martinicensis (Jacq.) Choisy in Mém. Soc. Phys. Genève 8: 66 (1838); van Ooststr. in Blumea 3: 279; Fl. Males., ser. 1, 4: 435. *APD acc*

Convolvulus martinicensis Jacq. Select. Stirp. Americ. 26, t. 17 (1763).

C. uniflorus Burm. (1768).

Aniseia uniflora (Burm.) Choisy (1833)-F.T.A. 4, 2: 88; Chev. Bot. 456.

Ipomoea ruyssenii A. Chev. Rev. Bot. Appliq. 30: 270, t. 13 (1950).

Ipomaeëlla ruyssenii (A. Chev.) A. Chev. l.c. 272 (1950), illegitimate name.

A slender twiner thinly pubescent at first, with white flowers 1 in. long with leafy sepals.

Sen.: Roger 38! **Guin.:** Kouria Caille in Hb. Chev. 14665. Dantilia Sc. Elliot 5271! **S. L.:** Rokupr (fl. & fr. Feb.) Deighton 4188! 5003! Mahela (Dec.) Sc. Elliot 4051! Makunde (Apr.) Sc. Elliot 5696! Rokel R. bridge (Apr.) Hepper 2662! Njala (Jan.) Dalz. 8046! **Lib.:** Experimental Sta., Central Prov. (Mar.) Blickenstaff 35! Firestone Plantations Dukwai R. (fl. & fr. Oct.-Nov.) Cooper 9! Linder 120! Kakatown Whyte! Ganta (Sept.) Barley! **Iv. C.:** Abradine Chev. 17587. Blieron Chev. 19910. **Ghana:** Pokoase (Apr.) Irvine 1592! Kpotame (fl. & fr. Dec.) Adams 3620! Black Volta (fr. Dec.) Adams & Akpabla 4452! **Niger:** Gaya Chev. **N. Nig.:** Benue (Nov.) Dalz. 74! Ndoni (?) Barter 1771! **S. Nig.:** Lagos (July) Dalz. 1354! Abeokuta Barter 3340! (Dec.) Keay & Jones FHI 4871! Ibadan (Nov.) Newberry & Etim 173! Benin (fl. & fr. Mar.) Onochie FHI 38515!

Widespread throughout the tropics.

14. LEPISTEMON

Blume-F.T.A. 4, 2: 115; van Ooststr. in Blumea 5: 340 (1943); Fl. Males., ser. 1, 4: 489 (1953).

- 1 Flowers rather few, subfasciculate; stems long-pilose with reflexed hairs; leaves very broadly ovate, widely

cordate at the base, mucronate at the apex, up to about 15 cm. long, entire or sinuately lobed or dentate; pedicels 1-1.5 cm. long, setulose-pubescent; calyx-segments ovate, 7 mm. long; corolla 2-5-3 cm. long, broadly funnel-shaped, wider towards the base; fruit densely bristly [1. owariense](#)

Flowers numerous, in short cymes; stems glabrous; leaves as above but smaller, appressed-pilose on the upper surface; pedicels 1 cm. long, glabrous; calyx-segments 5 mm. long; corolla 1 cm. long [2. parviflorum](#)

1. *Lepistemon owariense* (P. Beauv.) Hallier f. in De Wild. Etud. Fl. Katanga 1: 112 (1902). *APD acc*

Ipomoea owariensis P. Beauv. Fl. Oware 2: 41, t. 82 (1816).

Lepistemon africanum Oliv. in Hook. Ic. Pl., ser. 3, 3: 54, t. 1270 (1878); F.T.A. 4, 2: 115.

Lepistemon chevalieri Trochain (1933).

A robust twiner clothed with almost pungent hairs; yellowish-white flowers, sometimes with purple throat, about 1 in. long in short axillary cymes.

Port. G.: Farim, Cajamabarim (Oct.) Esp. Santo 2315! **S. L.:** Musala (fr. Dec.) Deighton 4414! **Iv. C.:** Férékessédougou (Nov.) Leeuwenberg 2041! **Ghana:** Se-Mahem (fr. Jan.) Irvine 644! Anum (Nov.) Johnson 817! Aburi (Jan.) de Wit 8018! Prah Cummins 1! Dedeman (fr. Dec.) Irvine 2101! **N. Nig.:** Lokoja Dais. 195! Kabba (Oct.) Parsons 83! Gindiri, Jos Plateau (fl. & fr. Oct.) Hepper 1079! **S. Nig.:** Lagos (fl. & fr. Mar.) Millen 33! 68! 180! Ibadan (Nov.) Newberry 111! Newberry & Etim 176! **[Br.] Cam.:** Victoria (fr. Jan.) Maitland 310! Jalo (fr. Dec.) Latilo & Daramola FHI 28880!

Also in Congo, Ubangi-Shari, **Sudan**, E. Africa and south to **Angola**.

2. *Lepistemon parviflorum* Pilger ex Büsgen in Mitt. Deutsche Schutzgeb. 23: 87 (before July 1910); Pilger in Engl. Bot. Jahrb. 46: 219 (Dec. 1910). *APD acc*

A slender twiner with smaller and more numerous flowers than the last.

S. L.: Joru to Daru (Nov.) Pyne 31! **Lib.:** Genna Tanyehun, Grand Cape Mount Co. (fr. Dec.) Baldwin 10771! **Ghana:** Kwahu, 2,350 ft. (Dec.) Adams 5727! **S. Nig.:** Onipan, Ondo (Dec.) Onochie FHI 5237! Oban Talbot 1289! Ikom (Dec.) Keay FHI 28161! **[Br.] Cam.:** Johann-Albrechtshöhe Büsgen 64. Winkler 1041. Victoria (fr. Feb.) Maitland 396! Southern Bakundu F.R., Kumba (fr. Jan.) Binuyo & Daramola FHI 36497!

15. ASTRIPOMOEAE

Meeuse in Bothalia 6: 709 (1958); Verdcourt in Kew Bull. 13: 189. *APD acc*

Astrochlaena Hallier f. (1893)-F.T.A. 4, 2: 68; F.W.T.A. ed. 1, 2: 213; not *Astrochlaena* Corda (1845) nor *Astrochlaena* Garcke (1850).

- 1** Calyx-segments not keeled, ovate, about 1 cm. long in fruit, stellate-tomentellous; flowers few on a very short common peduncle; corolla about 1-5 cm. long, with a narrow purple throat; leaves broadly ovate, entire or spreading-undulate, truncate or rounded at the base, up to 12 cm. long and 9 cm. broad, loosely stellate-pubescent on both surfaces; fruit 1 cm. long, glabrous [1. lachnosperma](#)

Calyx-segments keeled, broadly lanceolate, 1 cm. long, stellate-tomentellous; flowers few on a long common peduncle; corolla up to 5 cm. long, gradually widened from the middle upwards; leaves ovate, acute, rounded at the base, mucronate, 7-9 cm. long, 5-6 cm. broad, thinly stellate-pubescent above, more densely so beneath [2. malvacea](#)

1. *Astripomoea lachnosperma* (Choisy) Meeuse l.c. 710 (1958); Verdcourt l.c. 195. *APD acc*

Ipomoea lachnosperma Choisy in DC. Prod. 9: 356 (1845).

Astrochlaena lachnosperma (Choisy) Hallier f. (1893)-F.T.A. 4, 2: 119; N.E. Br. in Kew Bull. 1909: 124; F.W.T.A., ed. 1, 2: 213.

Erect perennial herb, woody below 1-2 ft. high, covered with yellowish stellate tomentum, with funnel-shaped flowers! in. long, white with red-purple centre.

Mali: Ségouba (fr. Oct.) Davey 060! Bore Demange 42/1957! Bargousai, near Hombori (fr. Oct.) Jaeger 5487! **Niger:** Zinder (fr. Oct.) Hagerup 573! **N. Nig.:** Solroto (fl. & fr. Aug.) Dalz. 3711 Hadeija (fl. & fr. Sept.) Dalz. 182! Maiduguri (fl. & fr. Nov.) Noble A25! **[Br.] Cam.:** Bama, Dikwa Div. (fr. Dec.) McClintock 93!

2. *Astripomoea malvacea* (Klotzsch) Meeuse l.c. 710 (1958); Verdcourt in Kew Bull. 13: 192 (1958), incl. var. *malvacea*, var. *volkensii* (Damm.) Verdc. and var. *floccosa* (Vatke) Verdc. *APD acc*

Breweria malvacea Klotzsch in Peters Reise Mossamb., Bot. 245, t. 37 (1861).

Astrochlaena malvacea (Klotzsch) Hallier f. (1893)—F.T.A. 4, 2: 121; F.W.T.A., ed. 1, 2: 213; Brennan in Mem. N.Y. Bot. Gard. 9: 8

(1954).

Astripomoea chariensis A. Chev. (1913), name only.

Habit of the last, 2-3 ft. high, hoary-stellate-tomentose, with red-purple flowers 1 1/2-2 in. long.

N. Nig.: Yola (June, Oct.) Dalz, 72! Shaw 76! 104!

From Ubangi-Shari and [Ethiopia](#) to S. Africa.**16. IPOMOEA**

Linn. Sp. Pl. 159 (1753); *F.T.A.* 4, 2: 128; van Ooststr. in *Blumea* 3: 481 (1940); *Fl. Males.*, ser. 1, 4: 458 (1953), (incl. *Calonyction* Choisy (1833)—*F.T.A.* 4, 2: 117; and *Quamoclit* Moench (1794)—*F.T.A.* 4, 2: 127).

- 1 Sepals distinctly awned at or below the apex; awn straight or curved; corolla salver-shaped with a long and narrow tube; stamens and style mostly exserted: **2**
 Sepals obtuse, acute or acuminate, whether mucronulate or not, but not distinctly awned at or below the apex; corolla mostly funnel-shaped, or campanulate, sometimes salver-shaped; stamens and style mostly included, sometimes exserted (when leaves pinnately out, see 3, I. *quamoclit*): **5**
- 2 Corolla white with greenish bands or pale bluish-purple, 5-15 cm. long; outer sepals 5-12 mm. long (without awn), inner ones 7-15 mm. (without awn): **3**
 Corolla scarlet, rarely pure white, rather small, 3-4.5 cm. long; outer sepals 2-4.5 mm. long (without awn); inner ones 3-6 mm. (without awn): **4**
- 3 Corolla white; tube not or slightly widened above, 7-12 cm. long; limb rotate; stamens and style exserted [1. alba](#)
 Corolla purplish; the tube distinctly widened above, 3-6 cm. long, the limb funnel-shaped to rotate; stamens and style not or scarcely exserted [2. muricata](#)
- 4 Leaves pinnately parted into numerous linear or filiform segments, rarely less deeply pinnately cut [3. quamoclit](#)
 Leaves not pinnately cut; ovate to orbicular, cordate at the base; margin entire or lobed [4. hederifolia](#)
- 5 Flowers in involucre heads: **6**
 Flowers not in involucre heads: **10**
- 6 Leaves digitately and deeply 7-9-lobed, long-pilose beneath, lobes acutely acuminate; bracts ovate-acuminate, up to 3 cm. long, pilose; calyx about 1 cm. long, pubescent; corolla about 3 cm. long [5. pes-tigridis](#)
 Leaves not lobed: **7**
- 7 Bracts not united, lanceolate: **8**
 Bracts united into an oval doubly acuminate involucre, up to 5 cm. diam.; leaves ovate, cordate, mucronate-acuminate, up to 7 cm. long and 5 cm. broad, pilose on both surfaces; corolla up to 4.5 cm. long: **9**
- 8 Leaves ovate-subcordate, up to 8 cm. long and 6 cm. broad, setose-pilose above, silky below; petiole and branches long-pilose; petiole up to 5 cm. long; corolla 3 cm. long; twining plant [6. heterotricha](#)
 Leaves oblong-lanceolate, mucronate, truncate or subcordate at the base, up to 12 cm. long and 4 cm. broad, pilose above, silky below; petiole 0.5-1 cm. long; corolla about 5 cm. long; plants usually not twining [7. argentaurata](#)
- 9 Corolla 4-5 cm. long; sepals lanceolate, acute [8. involucreta](#)
 Corolla 2.5-3 cm. long; sepals oblong-spathulate, obtuse [9. pileata](#)
- 10 Leaves bilobed at the apex, suborbicular, up to 12 cm. diam., with numerous nerves radiating from near the base; petiole up to 8 cm. long; flowers few in cymes; calyx 1-5 cm. long; corolla 5-6 cm. long [10a. pes-caprae subsp. brasiliensis](#)
 Leaves not bilobed at the apex: **11**
- 11 Leaves more or less ovate to suborbicular, pandurate or triangular, usually cordate at the base, never lobed: .. **12**
 Leaves linear or lanceolate and not cordate at the base, or more or less deeply lobed and then cordate (in some forms of I. *kotschyana* not properly cordate) : **29**
- 12 Flowers fairly long-pedunculate, not in a subsessile cluster: **13**
 Flowers in a subsessile cluster or subsolitary and subsessile: **28**
- 13 Leaves suborbicular, not acuminate, widely cordate at the base, up to about 12 cm. diam., with few radiating nerves from near the base; petiole up to 15 cm. long; flowers cymose; calyx segments unequal, 1-1.5 cm. long; corolla 7-8 cm. long; fruit subglobose, 1.5 cm. diam.; seeds puberulous [11. asarifolia](#)

- Leaves not suborbicular, usually acuminate: 14
- 14 Flowers purplish-red, pink or lilac (not yellow or white): 15
- Flowers yellow or white (or very rarely purplish in No. 22c): 24
- 15 Leaves softly tomentose or pubescent, surface sometimes becoming glabrescent: 16
- Leaves glabrous or nearly so: 19
- 16 Flowers subumbellate or in rather dense cymes with lanceolate bracts: 17
- Flowers solitary or geminate in the axils of the leaves: 18
- 17 Leaves cordate, acuminate, about 9 cm. long and 6 cm. broad, not markedly reticulate beneath; flowers umbellate; calyx-lobes about 8 mm. long, rounded at the apex, pilose; corolla 6 cm. long [12. rubens](#)
- Leaves broadly cordate-ovate, acuminate, about 10 cm. long and 8 cm. broad, entire, thinly pilose beneath; petiole pubescent; corolla 3 cm. long; fruit loosely pilose [13. velutipes](#)
- 18 Leaves ovate-oblong to suborbicular, 8-12 cm. long and 6-9 cm. broad, woolly on the marked venation beneath, rounded or slightly cordate at base; flowers solitary, surrounded by 2 large bracts; calyx 1.5 cm. long; corolla 8-10 cm. long [14. verbascoidea](#)
- Leaves oblong-ovate to triangular-mucronate, base retuse to shallowly cordate, ovate, obtuse 2.5-6 cm. long and up to 4 cm. broad; flowers solitary or paired, inflorescences with two linear bracts up to 7 mm. long; calyx up to 12 mm. long; corolla up to 2.5 cm. long [15. pyrophila](#)
- 19 Stems setose-pilose; leaves ovate-triangular, broadly and shortly acuminate, mucronate, widely cordate at base, up to 14 cm. long and 10 cm. broad; calyx up to 2.5 cm. long, segments oblong-elliptic; corolla up to 10 cm. long [16. setifera](#)
- Stems glabrous: 20
- 20 Corolla 18-20 mm. long; calyx-segments pilose-ciliate to glabrous, apiculate; (forms with entire leaves, for other characters see below) [24. triloba](#)
- Corolla 3.5-9 cm. long: 21
- 21 Leaves broadly cordate, subacute to obtusely acuminate, with a little mucro, 4-11 cm. long, and broad; corolla 3.5-5 cm. long: 22
- Leaves variable, lanceolate or long-hastate, hastate, cordate or entire at the base, always much longer than broad, up to 14 cm. long: 23
- 22 Sepals elliptic, with rounded apex; corolla-tube very narrow at the base and remaining 2-2.5 mm. in diam. for about 5-10 mm. above the base; fruit capsule about 1.5 cm. in diam., seeds brown, 7-8 mm. long, 5-6 mm. broad, slightly pilose; plants never cultivated [17. stenobasis](#)
- Sepals oblong, shortly and abruptly acute, mucronate, corolla-tube campanulate funnel-shaped, about 5-6 mm. diam. at the base; fruit capsules very rarely developed in African specimens, seeds glabrous; plants cultivated, but sometimes apparently wild in abandoned farm-land; (forms with entire leaves; for other characters see below) [32. batatas](#)
- 23 Leaves broadly triangular to lanceolate, more or less hastate at base, up to 14 cm. long and 8 cm. broad, with numerous lateral nerves; calyx 1 cm. long; corolla up to 9 cm. long [18. aquatica](#)
- Leaves triangular-ovate and entire to deeply trilobed with linear segments, about 7 cm. long with few lateral nerves; calyx about 6 mm. long; corolla about 5 cm. long [19. hellebarda](#)
- 24 Stems pubescent: 25
- Stems not pubescent; flowers umbellate, pedicels up to 1 cm. long; calyx-segments long apiculate; (forms with entire leaves; for other characters see above) [24. triloba](#)
- 25 Leaves bluntly elliptic-ovate to more or less pandurate, widely cordate at base, 4-6 cm. long, 3-4 cm. broad, pilose on both surfaces; flowers few, in axillary fascicles or solitary; calyx 1 cm. long, pilose; corolla a little larger than the calyx, not exceeding 14 mm. [20. vagans](#)
- Leaves acuminate-cordate: 26
- 26 Leaves, petioles and inflorescences more or less densely clothed with yellowish spreading hairs; leaves never becoming glabrescent, cordate-ovate, acute, mucronate, 4-9 cm. long; petioles 2.5-5 cm. long; flowers generally in dense, many-flowered cymes; corolla up to 2.5 cm. long [21. tenuirostris](#)
- Leaves, petioles, stems and inflorescences finely pubescent, never clothed with yellowish spreading hairs; leaves becoming almost glabrescent except the margin: 27
- 27 Leaves ovate with rounded sides, widely cordate at base, broadly acuminate and mucronate, 6-9 cm. long, 3.5-7 cm. broad, shortly ciliate, pubescent on the nerves beneath; petioles 1.5-4 cm. long; flowers cymose; calyx-segments 7-8 mm. long, mucronate, the outer ones not cordate or auricled at base, corolla 4 cm. long; fruit broadly ovoid, mucronate, 1.5 cm. long [22. obscura aggregate](#)
- Leaves cordate-ovate or cordate-oblong, obtuse or acute, mucronate, basal sinus variable, usually deep and rather narrow, 3-8 cm. long, 2-5 cm. broad, margin ciliate; petioles slender, 1-9 cm. long; flowers in 1-3-flowered inflorescences, calyx-segments very unequal, outer ones cordate or auricled at the base, long-acuminate, very

- acute; corolla not exceeding 2 cm.; fruit globose, apiculate, up to 9 mm. in diam. [23. sinensis](#)
- 28** Leaves very variable, from ovate-triangular to narrowly lanceolate, widely cordate, mucronate, up to 8 cm. long and 5 cm. broad, pubescent on the nerves beneath; flowers generally clustered, but sometimes solitary or paired; calyx-segments lanceolate, 7 mm. long, pubescent; corolla 1 cm. long; fruit pilose 25. *erica* [29](#)
..... [@](#)
- Leaves ovate, widely cordate at the base, rounded and mucronate at the apex, 3-5 cm. long, 1.5-3.5 cm. broad, long-petiolate; flowers solitary or paired, shortly pedicellate; calyx-segments oblong, 3-4 mm. long, thinly pilose; corolla 6-8 mm. long; fruit glabrous, nearly 1 cm. long [26. verticillata](#)
- 29** Leaves linear to lanceolate; flowers more or less pedicellate: **30**
- Leaves more or less deeply lobed: **33**
- 30** Calyx pubescent outside: **31**
- Calyx glabrous or warted outside: **32**
- 31** Calyx about 8 mm. long; corolla slightly longer than the calyx; leaves oblong-lanceolate, pilose beneath; stems pubescent [27. coscinosperma](#)
- Calyx 2 cm. long; corolla thrice as long as the calyx; leaves linear or oblong-linear, nearly glabrous; stems puberulous; fruit 1 cm. long [28. blepharophylla](#)
- 32** Leaves acute at apex; calyx warted outside; stems usually pilose [29. barteri](#)
- Leaves rounded or emarginate at apex; calyx not warted; stems glabrous [30. stolonifera](#)
- 33** Calyx glabrous outside: **34**
- Calyx pilose or pubescent outside: **39**
- 34** Leaf-lobes deeply divided into small segments; flowers subsolitary; calyx warted, 5 mm. long; corolla 1.5 cm. long; fruit 8 mm. long [31. coptica](#)
- Leaf-lobes entire or nearly so: **35**
- 35** Sepals apiculate, 7-10 mm. long: **36**
- Sepals not apiculate: **37**
- 36** Plants cultivated for their edible subterranean tubers, sometimes escaped from cultivation; stems mostly prostrate, thick; leaves broad-ovate to orbicular in outline, cordate or truncate at base, entire, or angular to palmately 3-5(-7)-lobed; petiole up to 15 cm. long; corolla pale violet, 3-4.5 cm. long [32. batatas](#)
- Plants without tubers and generally not cultivated; stems mostly twining, thinner; leaves mostly 3-lobed (but sometimes entire); corolla pink or red-purple, 18-20 mm. long [24. triloba](#)
- 37** Leaves broadly hastate, 3-lobed, sometimes nearly to the base, the outer lobes linear-lanceolate, about 5 cm. long, glabrous; flowers about 3 in a cyme; calyx 8 mm. long; corolla 6 cm. long, contracted at the base; seeds shortly tomentellous [19. hellebarda](#)
- Leaves palmate or palmately lobed: **38**
- 38** Leaves usually 5-7-lobed to about the middle, lobes acuminate; flowers cymose; corolla about 7 cm. long, contracted at base; fruit 1.5 cm. long; seeds long-villous [33. mauritiana](#)
- Leaves 5-lobed nearly to base, the outer lobes often lobulate, acutely mucronate; flowers cymose; calyx 6 mm. long; corolla 4.5 cm. long; fruit 1 cm. long; seeds long-pilose [34. cairica](#)
- 39** Leaves glabrous; sepals 7-8 mm. long, apiculate, always distinctly fimbriate at the margin, with some rather long hairs on the back; corolla 18-20 mm. long [24. triloba](#)
- Leaves pubescent, pilose or tomentose; sepals lanceolate to ovate, acuminate, pubescent or pilose-hairy: **40**
- 40** Leaf-shape orbicular in outline, 1-2-pinnatifid, with linear lobes; flowers solitary, axillary, subsessile, about 1 cm. long; sepals pubescent [35. kotschyana](#)
- Leaves trilobed, with broad-angular lobes; petioles about as long as the lamina; flowers in rather long-peduncled inflorescences (up to 12 cm. long); corolla 2.5-7 cm. long: **41**
- 41** Leaves thinly pilose beneath, cordate, trilobed to about the middle, lobes acuminate; petiole with reflexed hairs; calyx-segments 2 cm. long, long acuminate, densely pilose in the lower half; corolla up to 7 cm. long ... [36. nil](#)
- Leaves white-woolly-tomentose beneath, trilobed to the middle, cordate; calyx as above but shorter; corolla about 2 cm. long [37. aitonii](#)

1. Ipomoea alba Linn. Sp. Pl. 161 (1753); van Ooststr. in Blumea 3: 547; Meeuse in Bothalia 6: 765.

APD acc

Convolvulus aculeatus Linn. (1753).

Ipomoea bona-nox Linn. (1762).

Calonyction aculeatum (Linn.) House in Bull. Torrey Bot. Club 31: 590 (1904); F.W.T.A., ed. 1, 2: 213; Exell Cat. S. Tomé 249.

C. speciosum Choisy in Mém. Soc. Phys. Genève 6: 441 (1833); P.T.A. 4, 2: 117; Chev. Bot. 457.

A strong twiner with stems smooth or sparingly tubercled, and large white flowers 4-6 in. across the limb, expanding and fragrant at night; **wild in secondary vegetation, but often cultivated for ornament.**

Guin.: Kouria Caille in Hb. Chev. 14871. **S. L.:** Hanga (fr. Jan.) Thomas 7783! 7799! Yungeru (Jan.) Thomas 7251! 7287! Kumrabal (Dec.) Thomas 6741! 6867! 6959! Ronietta (Nov.) Thomas 5567! Njala (Dec.) Deighton 1851! **Lib.:** Bakratown (Oct.) Linder 877! **Ghana:** Akroso (Jan.) Deakin 115! **N. Nig.:** near Ibi, R. Benue (Nov.) Dalz. 73! **S. Nig.:** Lagos (fr. Mar.) Milien 88! Ibu T. Vogel 38! Ibadan (fr. Dec.) Newberry 124! Ogwashi (Dec.) Thomas 7053! Calabar (Feb.) Mann 2324! Oban Talbot 826!

A native of tropical America, often cultivated and naturalized, now widely distributed at low and medium altitudes throughout the tropics.

2. *Ipomoea muricata* (Linn.) Jacq. Hort. Schoenbr. 3: 40, t. 323 (1798); van Ooststr. l.c. 551.

APD: Synonym of Ipomoea turbinata Lag.

Convolvulus muricatus Linn. Mant. 44 (1767).

Calonyction muricatum (Linn.) G. Don Gen. Syst. 4: 264 (1837); F.T.A. 4, 2: 118; F.W.T.A., ed. 1, 2: 213; Chev. Bot. 456.

A strong climber like the last with tubercled stems and funnel-shaped flowers, white or reddish or lilac.

Sen.: Pont Chev. 2852. **Gam.:** Ingram! **S. L.:** Mahela (fr. Dec.) Sc. Elliot 4074! Musaia (fr. Feb.) Glanville 404! **N. Nig.:** Sokoto (Aug.) Dalz. 372! **S. Nig.:** Lagos Dawodu 257!

A native of tropical America, cultivated, and now widespread throughout the tropics, but apparently not as frequent as *I. alba* Linn.

3. *Ipomoea quamoclit* Linn. Sp. Pl. 159 (1753); van Ooststr. l.c. 555; O'Donell in Lilloa 29: 74, for full synonymy. *APD acc*

Convolvulus pennatus Desr. (1791).

Quamoclit pennata (Desr.) Boj. Hort. Maurit. 224 (1837); F.W.T.A., ed. 1, 2: 213.

Quamoclit vulgaris Choisy in Mém. Soc. Phys. Genève 6: 434 (1833); F.T.A. 4, 2: 128; Exell Cat. 8. Tome 249.

A glabrous twiner, **cultivated** like the last.

S. L.: Waterloo (fl. & fr. Aug.) Melville & Hooker 171! Njala (July) Deighton 1162! Bo (fl. & fr. Jan.) Thomas 7423! **Lib.:** Whyte **N. Nig.:** Sokoto (fl. & fr. Nov.) Moiser 25! **S. Nig.:** Sapoba Kennedy 152! 1585! Lagos MacGregor 85! Port Harcourt (fl. & fr. July) Stubbings 191! [**Br.**] **Cam.:** Man-of-War Bay (Apr.) Schlechter 12398! **F. Po.:** (fr. July) Mann. 400! Barter 1266!

Native of tropical America, often cultivated in warmer countries as an ornamental and frequently naturalized.

4. *Ipomoea hederifolia* Linn. Syst. Nat., ed. 10, 925 (1759); O'Donell l.c. 45, for full synonymy. *APD acc*

Ipomoea angulata Lam. Tabl. Encycl. 1: 464 (1797); van Ooststr. l.c. 553.

Quamoclit angulata (Lam.) Boj. Hort. Maurit. 224 (1837).

Ipomoea phoenicea (Roxb.) Choisy l.c. 433 (1833).

Quamoclit coccinea of F.T.A. 4, 2: 128, and of F.W.T.A., ed. 1, 2: 213, not of Moench (1794); (see note by van Ooststr. l.c. 555, referring to a note of Hallier f. in Bull. Herb. Boiss. 7: 415).

Annual twiner with brilliant scarlet tubular salver-shaped

S. L.: (fl. & fr. Dec.) Sc. Elliot 3987! 3894! Freetown (fl. & fr. Feb.) Johnston 63! Njala (fl. & fr. Dec.) Deighton 2568! **Ghana:** Aburi Brown 387! Asuansi (fl. & fr. Feb.) Williams 1! **N. Nig.:** Kabba Parsons 76! Jemaa (Nov.) Lamb 87! **S. Nig.:** Rowland! Agbor Kennedy 1985! 2076! Olokemeji (Nov.) MacGregor 362! Port Harcourt (Jan.) Stubbings 158!

Native of tropical America, widespread in warm countries as an ornamental plant.

5. *Ipomoea pes-tigridis* Linn. Sp. Pl. 162 (1753); F.T.A. 4, 2: 158; Hallier f. in Bull. Herb. Bolsa. 6: 539 (1898), incl. var. *africana* Hallier f. (1898) and var. *indica* Hallier f. (1898); van Ooststr. l.c. 504; Brenan in Mém. N.Y. Bot. Gard. 9: 7 (1954); Roberty in Bull. I.F.A.N. 16: 1010, incl. forma *subintegrifolia* Roberty (1954); Meeuse l.c. 744 (1958). *APD acc*

Coarsely hairy twiner with deeply divided leaves, and pink or red-purple flowers 1 in. or more long in pedunculate bracteate heads.

Mali: Dioura (fr. Oct.) Davey 171! **Port. G.:** Bissau (Oct.) Esp. Santo 2529! **Niger:** Niamey (fl. & fr. Oct.) Hagerup 474! 507! **N. Nig.:** Moiser 74! Ako (fl. & fr. Oct.) Lely 652! Katagum Dist. (fr. Oct.) Dalz., 186!

6. *Ipomoea heterotricha* **F. Didr.** in Vidensk. Meddel. naturhist. Foren. Kjöbenhavn 1854: 220 (1855).
APD acc

Ipomoea amoena **Choisy** in DC. Prod. 9: 365 (1845); F.T.A. 4, 2: 154; Chev. Bot. 453; F.W.T.A., ed. 1, 2: 218, not of Blume (1825).
Ipomoea amoenula **Dandy** in F.W. Andr. Fl. Pl. Sudan 3: 112 (1956).

A twiner, densely yellow-hairy, with leaves silvery-silky beneath, and flowers either red-purple or white with a purple centre 3/4-1 in. long in peduncled bracteate heads.

Sen.: heudelot 146! **Gam.:** Ingram! Brooks 29! Kuntaur Ruxton M16! **Port. G.:** Bissau (fr. Oct.) Esp. Santo 2593! **S. L.:** Musaia (Dec.) Deighton 5709! Yalamba (fr. Jan.) Jaeger 3953! Kabala (fr. Jan.) King 188B! (fr. Dec.) Deighton 4511! **Iv. C.:** Assakra (Oct.) de Wilde 595! Séguéla to Mankono (Nov.) de Wilde 928! 959! Bouaké Leeuwenberg 2075! **Ghana:** Achimota (fl. & fr. Nov.) Irvine 819! Utonso (Oct.) Darko 388! Krepi Plains (Jan.) Johnson 544! Agogo Chipp 608! Yendi (Nov.) Williams 415! Sampa (fl. & fr. Dec.) Vigne FH 3490! Gambaga (fr. Dec.) Adams 4221! **N. Nig.:** R. Benue, Barter! Panahanu (Nov.) Lely 608! Fuka, Minna (Oct.) Hepper 964! Toro (Oct.) Lely 686! Jos Plateau (Oct.) Lely P843! **S. Nig.:** Lagos Rowland! Owo Burton 7! Akure F.R., Ondo (Oct.) Keay FHI 25461! **[Br.] Cam.:** foot of Vogel Peak, Adamawa (Nov.) Hepper 1446!

7. *Ipomoea argenteaurata* **Hallier f.** in Engl. Bot. Jahrb. 18: 132 (1893); F.T.A. 4, 2: 153 *APD acc*

Stems prostrate or ascending from a woody base, whitish-tomentose and with spreading yellow hairs; flowers whitish turning light purplish with darker centre, 2 in. long and as much across the limb.

S. L.: Sumbaraya Sc. Elliot 4949! **Iv. C.:** Oourossantiakara (Nov.) Leettwenberg 2005! **Ghana:** Wa (Nov.) Darko 1052! Tamale Williams 407! Bole Harris! **Togo Rep.:** Misahöhe to Bismarckburg Büttner 746! **N. Nig.:** R. Niger (Kworra) (Sept.) T. Vogel 123! Nupe Barter 1031! Zungeru (Feb., Nov.) Elliott 16! Dalz. 118! Naraguta F.R. (fl. & fr. Oct.) Hepper 1017! Abinsi (fl. & fr. Nov.) Dalz. 684! Yola (Oct., Nov.) Shaw 80! Hepper 1220! **S. Nig.:** Lagos Rowland! Ibadan Foster 141! Awba Hills F.R. (Dec.) Olafusi FHI 14198! Gadika, Bornu (Oct.) Daggash FHI 24786! **[Br.] Cam.:** near Vogel Peak, Adamawa (Nov.) Hepper 1378!

Also in **Cameroun**.

8. *Ipomoea involucrata* **P. Beauv.** Fl. Oware 52, t. 89 (1817); F.T.A. 4, 2: 150; Chev. Bot. 455; Berhaut in Bull. Soc. Bot. Fr. 101: 373 (1955); van Ooststr. in Fl. Males., ser. 1, 4: 468; Meeuse l.c. 744.
APD acc

Twinner, often widely climbing, pubescent, with red-purple flowers 1 1/2 in. long or more, opening one at a time in head enclosed in a boat-shaped involucre.

Sen.: Heuddot! **Gam.:** Brown-Lester 24! **Guin.:** Dyoko (Oct.) Baldwin 9681! Bambaya (Jan.) Jaeger 3881! **S. L.:** G. Don! Barter! Leicester (Dec.) Sc. Elliot 3845! Panguma Deighton 3932! Mange, Bureh (Jan.) Deighton 1026! Njala (July) Sc. Elliot 754! Loma Mts. (Nov.) Jaeger 288! **Lib.:** Cape Palmas (July) T Vogel 43! Monrovia (Oct. & Nov.) Cooper 11! Whyte! Kakatown Whyte! Ganta (Apr.) Harley! Dukwai R.. (July) Linder 119! **Iv. C.:** Bingerville Chev. 17335! Lamé (fr. Oct.) Leeuwenberg 1748! **Ghana:** Axim (fl. & fr. Dec.) Chipp 49! Dunkwa (fl. & fr. Feb.) Whiting 8! Assene Irvine 566! Achimota (Nov.) Morton 6136! Aburi (Nov.) Johnson 239! **Dah.:** Burton! **N. Nig.:** Kontagora (fl. & fr. Feb.) Dalz. 120! Naraguta (fl. & fr. Aug.) Lely 514! Vom, 3,000-4,500 ft. Dent.-Young 179! Jebba (Dec.) Hagerup 747! **S. Nig.:** Lagos Barter 2185! Carter's Peak, Idanre (Nov.) Brenan 8647! Abeokuta Irving! Ibadan (Dec.) Newberry 12! Port Harcourt Stubbings 199! Onitsha Barter 1748! Oban Talbot 814! **[Br.] Cam.:** Buea Maitland 220! (Nov.) Migeod 80! Cam. Mt. (Jan.) Dunlap 6! **F. Po:** T. Vogel 234!

Very common throughout tropical Africa.

9. *Ipomoea pileata* **Roxb.** Fl. Ind., ed. Carey & Wall. 2: 94 (1824); F.T.A. 4, 2: 151; van Ooststr. l.c. 507; Fl. Males., ser. 1, 4: 468; Berhaut l.c. *APD acc*

Ipomoea involucrata var. *saxicola* **A. Chev. ex Meeuse** l.c. 745 (1958).

A slender twiner with flowers not more than 1 in. long; in all parts more slender than No. 8.

Sen.: Vélor, near Saloum Berhaut 525; 3485; 4779. **Gam.:** (fr. Dec.) Ingram!

Also in E. and S. Africa, the Mascarenes and in tropical Asia.

10. *Ipomoea pes-caprae* (Linn.) Sweet Hort. Suburb. Londin. 35 (1818); van Ooststr. l.c. 532; Exell Cat. S. Tomé 251 (1944); Meeuse l.c. 754; Naegelé in Bull. I.F.A.N. 21: 1186, f. 6 (1959). *APD acc*

Convolvulus pes-caprae Linn. Sp. Pl. 159 (1753).

Ipomoea pes-caprae (Linn.) Sweet subsp. *pes-caprae*

In Somaliland, tropical Asia and Malaysia.

- 10a. *Ipomoea pes-caprae* subsp. *brasiliensis* (Linn.) Ooststr. l.c. 3: 533; Meeuse l.c. *APD acc*

Convolvulus brasiliensis Linn. Sp. Pl. 169 (1753).

Ipomoea biloba of F.T.A. 4, 2: 172, not of Forsk. (1775) (W. Afr. specimens); Chev. Bot. 453.

Ipomoea pes-caprae "Roth" of F.W.T.A., ed. 1, 2: 215, only partly of (Linn.) Sweet (1818).

Glabrous perennial trailing on sand of the seashore, with half-succulent leaves and large red-purple flowers.

Sen.: Boivin! St. Louis Roger! **Guin.:** Conakry (fl. & fr. July) de Wit 7123! Chev. 12254! **S. L.:** Deighton 2039! Lumley (fl. & fr. Aug.) Melville & Hooker 245! River Beach (July) Small 157! Yunguru (fl. & fr. Jan.) Thomas 7304! **Lib.:** Cape Palmas (July) T. Vogel 44! 23! **iv. C.:** Sassandra (fl. & fr. Feb.) Leeuwenberg 2790! **Ghana:** Axim (Mar.) Chipp 414! Accra (Jan.) Irvine 814! 1962! Ada (Apr.) Bally 23! **S. Nig.:** Lagos (Sept.) Dalz. 1070! Stubbings 9! **[Br.] Cam.:** Victoria (Nov.) Nditapah FHI 50289! **F. Po.:** (Jan.) Mann 241! Clarence beach (fl. & fr. Nov.) T. Vogel!

Circumtropical.

11. *Ipomoea asarifolia* (Desr.) Roem. & Schult. Syst. Pl. 4: 251 (1819); van Ooststr. l.c. 539. *APD acc*

Convolvulus asarifolia Desr. in Lam. Encycl. Méth. Bot. S: 562 (1789).

Ipomoea repens Lam. Tabl. Encycl. 1: 467 (1791); F.T.A. 4, 2: 172; Chev. Bot. 456; F.W.T.A., ed. 1, 2: 215; Berhaut Fl. Sén. 158; F.W. Andr. Fl. Pl. Sudan 3: 120 (1956), not of Both (1821); Roberty in Bull. I.F.A.N. 16: 1011 (1954), incl. forma deltoidea Roberty and forma suffrutescens Roberty.

A glabrous perennial, trailing, with hollow stems and large red-purple flowers.

Sen.: Roger! Heudelot 218! Brunner! Farmar 59! Dakar Chev. 15814. **Gam.:** Genieri to Massembe (Feb.) Fox 31! **Mali:** Couroula Chev. 753. Djénne Chev. 1133. Korioumé (July) Chev. 1294! Kabarah (Sept.) Hagerup 300! **Guin.:** Ditinn Chev. 12987; 13526. **iv. C.:** Bliéron Chev. 19898. **Ghana:** Abetifi Kwahu (Jan.) Irvine 1558! Navrongo (Apr.) Vigne 3759! **N. Nig.:** Nupe Barter 841! Sokoto Moiser 75! Katagum Dist. Dalz. 187! Mopti (June) Lean 39! Kano (Dec.) Meikle 802! Kuka, L. Chad. (Feb) E. Vogel 49! **S. Nig.:** Foster 360! Lagos Rowland! Dalz. 1072! Ibadan (Dec.) Foster 132! **[Br.] Cam.:** Bama, Dikwa Div. (Dec.) McClintock 50!

Also in **Cape Verde Islands**, **tropical Asia and America**.

12. *Ipomoea rubens* Choisy in Mém. Soc. Phys. Genève 6: 463 (1834); Verdcourt in Webbia 13: 324 (1958). *APD acc*

Ipomoea lilacina Blume Bijdr. 715 (1826); F.T.A. 4, 2: 187; F.W.T.A., ed. 1, 2: 215; Berhaut Fl. Sén. 153, not of Schrank (1822).

Ipomoea riparia G. Don (1838)-Exell Cat. S. Tomé 251.

Ipomoea senegambica A. Chev., in Bull. Mus. Hist. Nat. Paris, ser. 2, 5: 234 (1933).

A fairly stout twiner with grey-pubescent striate stems and bright red-purple flowers 1 1/2-2 in. long.

Sen.: Roger! Niayes (Dec.) Chev. 2855! Berhaut 1308! **Guin.:** Cercle de Tillabéri (Jan.) de Wailly 5820! **N. Nig.:** T. Vogel 241! Nupe Barter 969! Jebba (Dec.) Hagerup 679! Yola (May) Dalz. 75!

Also in **Sudan**, **Uganda**, **E. Africa**, **Congo** and **Angola**.

13. *Ipomoea velutipes* Welw. ex Rendle in J. Bot. 32: 175 (1894); F.T.A. 4, 2: 155.

APD: *Synonym of Ipomoea chrysochaetia* var. *velutipes* (Welw. ex Rendle) Lejoly & Lisowski

Ipomoea camporum A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 215 (1931); A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 231 (1933); Verdcourt in Kew Bull. 13: 208.

A twiner with striate pubescent stems and long-pedunculate cymes of pale red-purple flowers.

Guin.: Kaba, Faranna (fl. & fr. Jan.) Chev. 20390! Ditinn (fl. & fr. Jan.) Roberty 16457! Dalaba to Mamou (fl. & fr. Jan.) Chev. 20392! **S. L.:** Musaia (Dec.) Deighton 4481! **S. Nig.:** Bendiga Ayuk, Ogoja (Dec.) Keay FHI 28136!

Also in **Congo**, **Angola** and **N. Rhodesia**.

14. *Ipomoea verbascoidea* Choisy in DC. Prod. 9: 356 (1845); F.T.A. 4, 2: 183; Meeuse l.c. 769. *APD acc*

Ipomoea lukafuensis De Wild. Ann Mus. Congo, sér. 4, 1: 112, t. 2 (1903); F.T.A. 4, 2: 184.

Ipomoea tessmannii Pilger in Notizbl. Bot. Gart. Berl. 7: 542 (1921); F.W.T.A., ed. 1, 2: 215.

A stout erect plant, with wrinkled leaves whitish-woolly beneath, and large reddish-purple flowers 3 in. long.

N. Nig.: Jos Plateau (June) Lely P366! Naraguta (June) Lely 287! Vom, 3,000-4,500 ft. Dent Young 180!

Also in Cameroun, Congo, Angola, E. Africa, N. and S. Rhodesia, Bechuanaland and S.W. Africa.

15. *Ipomoea pyrophila* A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 235 (1933). *APD acc*

A slender trailing plant with a thickened rootstock, densely covered with short spreading hairs; flowers in pedunculate cymes; in savanna after fires.

Guin.: Kouredrari40 (Feb.) Chev. 421! **N. Nig.:** Kontagora (fl. & fr. May) Dalz. 378! Ntachu to Madengyen (Jan.) Meikle 1073! Owudugu, Birnin Gwari (Feb.) Dagdash FHI 31422! Sokoto Lely 132! Jos Plateau (Jan.) Lely P43! Naraguta (May) Lely 40! 41! 458! Vom Dent Young 1811

[This species belongs to the *I. asperifolia-fulvicaulis* complex, which has been studied recently by B. Verdcourt (Kew Bull. 13: 202, and 14: 337). It may be treated later as an infraspecific taxon, but as these studies are not yet complete and have not dealt with the plants of our area, it seems inadvisable to establish a new taxon for it.

Ipomoea atacorensis A. Chev. (l.c. 232 (1933))

Belongs to the same group; it is only known from the type-specimen (Dahomey, Atacora Mts. (June) Chev. 24138!) and may be an extreme form of a taxon already described. Also, the specific delimitation between *I. tenuirostris* Choisy, incl. vars. (No. 21 below) and representatives of the *I. asperifolia-fulvicaulis* complex is neither clear nor satisfactory. Intermediates are represented at Kew from Sierra Leone (Musaia Deighton 4205! 5399!) and N. Nigeria (Katagum Dalz. 359! Birnin Gwari Meikle 1350!).]

16. *Ipomoea setifera* Poir. in Lam. Encycl. Méth. Bot. 6: 17 (1804); F.T.A. 4, 2: 199; F.W.T.A., ed. 1, 2: 216, partly (excl. Phimtre 55); Hill & Sandwith Fl. Trinidad & Tobago 2: 228 (1953); Berhaut Fl. Sén. 156, 158. *APD acc*

Convolvulus ruber Vahl Eclog. Am. 2: 12 (1798).

Ipomoea rubra (Vahl) Millesp. in Field Col. Mus. Bot. 2: 86 (1900); Urban Symb. Antill. 3: 345 (1902), not of Murray (1774).

A hirsute rather robust twiner and trailer with red-purple flowers 2 to nearly 4 in. long, the sepals often plicate, tubercled and apiculate.

Sen.: Berhaut 1780. **Gam.:** Kudang (Jan.) Dalz. 8050! S. bank of Gambia B. Brown-Lester 9! **Guin.:** Heudelot 750! **S. L.:** York (Dec.) Deighton 3338! Yunguru (Jan.) Thomas 7207! 7278! Port Loko (fr. Dec.) Thomas 6552! 6638! Kambia (cult.) (Dec.) Sc. Elliot 5902! Rokupr (fl. & fr. Jan.) Deighton 2945! **iv. C.:** Marahoui (fr. Jan.) de Wit 7647!

A native of tropical America and now naturalized in our area.

17. *Ipomoea stenobasis* Brenan in Kew Bull. 5: 228 (1950). *APD acc*

General appearance as in *I. asarifolia*, but more slender and graceful, and leaves always clearly pointed or acuminate, with a little mucro up to 1 mm. long (which is always lacking in *I. asarifolia*), and with a much more conspicuous glandular dotting on the lower surface.

S. Nig.: Idanre Hills (fl. & fr. Oct.) Keay FHI 22525! 22574! Ado Rock (Oct.) Hambley 342! Savory & Keay PHI 25442! Akure F.R. (Oct.) Keay FHI 25468!

Also in Congo and in Uganda.

18. *Ipomoea aquatica* Forsk. Fl. Aegypt.-Arab. Descr. Pl. 44 (1775); F.T.A. 4, 2: 170; van Ooststr. l.c. 528; Meeuse l.c. 753. *APD acc*

Ipomoea reptans Poir. in Lam. Encycl. Méth. Bot. 3: 460 (1814); F.W.T.A., ed. 1, 2: 215; Berhaut Fl. Sén. 158, not *Convolvulus reptans* Linn. (1753).

Ipomoea barteri of Chev. Bot. 453, not of Bak.

Nearly glabrous, stems hollow, from a stout woody stock, **trailing on mud** and rooting at the nodes, with pale or dark red-purple flowers 2-3 in. long.

Sen.: Richard Tol (fl. & fr. Sept.) Roger 95! Tamboukané Chev. 2863! Berhaut 559, 2271! **Gam.:** Kuntaur Kuxton 31! Pendaba Gardiner 17! 22! **Mali:** Dogo (fl. & fr. Apr., May) Davey 131! 577! Douentza to Hombori (Oct.) Jaeger 5497! **S. L.:** Ronietta (Nov.) Thomas 5527! Njala (Feb.) Deighton 2877! Moselolo (Nov.) Deighton 2391! L. Yomboro, near Konta (Apr., Dec.) Jordan 715! Hepper 2654! Aberdeen (Aug.) Melville & Hooker 132! **Ghana:** Yendi Thorold 312! Densu R., near Sekumu Lagoon (Jan.) Irvine 1100! Tamale (Nov.) Williams 399! **N. Nig.:** Addacudu T. Vogel 126! Lokoja (Oct.) Parsons 56! Fodama (Nov.) Moiser 217! Yola to Jimeta (Nov.) Hepper 1198! Katagum Dist. (Aug.) Dalz. 188! Lemme (May) Lely 143! **S. Nig.:** Lagos Rowland! Eyinawsa Keay FHI 16047! Asaba (Dec.) Keay FHI 28304! Sapoba Kennedy 2906! [**Br.**] **Cam.:** Victoria Maitland 1346! Vogel Peak, Adamawa (Nov.) Hepper 1438! Dikwa (Nov.) McClintock 22!

19. ***Ipomoea hellebarda* Schweinf. ex Hiern** in Cat. Welw. 1, 3: 737 (1898), incl. var. *sarcopoda* Welw. ex Hiern; F.T.A. 4, 2: 170 (excl. syn.); Hallier f. in Engl. Bot. Jahrb. 18: 142, in syn. (1893); Engl. Bot. Jahrb. 28: 43 (1899).

APD: *Synonym of Ipomoea marginata (Desr.) Verdc.*

Merremia hastifolia A. Chev. in Bull. Mus. Hist. Nat. Paris, sér 2, 5: 236 (1933).

A glabrous twiner or trailer with very variable leaves and flowers 2 in. long, lilac or darker red-purple.

Gam.: Ingram! Kambo, Central Prov. (Oct.) Frith 232! **Mali:** Goumal (fl. & fr. Jan.) Davey 230! **Guin.:** Mamou Chev. 20388! **Ghana:** Thonning (photo.)! Krobo Irvine 1022! Kpeloe (fr. Oct.) A. S. Thomas K5! Kumasi (Sept.) Dalz. 133! **Dah.:** Massé to Ketou Chev. 22992. **N. Nig.:** Naraguta Lely 549!

20. ***Ipomoea vagans* Bak.** in Kew Bull. 1894: 70; F.T.A. 4, 2: 137. **APD acc**

Ipomoea sulphurea Hochst. ex Choisy in DC. Prod. 9: 356 (1845); F.T.A. 4, 2: 137; E.W.T.A., ed. 1, 2: 216; Roberty in Bull. I.F.A.N. 15: 1060, incl. forma *deltoidea* Roberty; Berhaut, Fl. Sén. 157, 155 not of G. Don (1838).

Trailing, woody at the base, pale-pilose, with rather small white (or yellow) flowers with a leafy calyx.

Sen.: Perrottet. Leprieur. Berhaut 464, 2260, 2834. **Ghana:** Isert. **N. Nig.:** Sokoto (fl. & fr. Sept.-Nov.) Moiser 17! 81! Katagum Dist. Dalz. 180!

Also in **Sudan**.

21. ***Ipomoea tenuirostris* Choisy** in DC. Prod. 9: 379 (1845); F.T.A. 4, 2: 143; Verdcourt in Kew Bull. 13: 202 (on *I. asperifolia* Hallier f.). **APD acc**

Ipomoea gracilior Rendle in J. Bot. 46: 180 (1908).

Climbing in grass; flowers pale mauve with mauve centre, in cymose inflorescences.

S.L.: Makump (Dec.) Glanville 106! Jaiama (fr. Dec.) Deighton 3468! Musaia (fl. & fr. Dec.) Deighton 4539! Bintumane Peak, 5,400 ft. (fr. Jan.) T. S. Jones 61! **N. Nig.:** Naraguta (Oct.) Hepper 1164! **S. Nig.:** Koloishe Mt., 4,900 ft., Obudu (fl. & fr. Dec.) Savory & Keay FHI 25102! [**Br.**] **Cam.:** Bamenda, 5,000 ft. (fl. & fr. Jan.) Migeod 310!

Also in **Cameroun**.

[Note: A critical species; material at Herb. Kew not homogenous and in some specimens (Adams 5145; Deighton 3468; 4539; etc.) perhaps hybridized with *I. eriocarpa* R. Br.-H. H.)

22. ***Ipomoea obscura* (Linn.) Ker-Gawl.** in Bot. Reg. 3, t. 239 (1817); Verdcourt in Kew Bull. 13: 210, incl. var. *sagittifolia* Verdc.; F.T.A. 4, 2: 164; van Ooststr. l.c. 519; Meeuac l.c. 746 (1958), incl. var. *fragilis* (Choisy) Meeuse in Fl. Pl. Afr. 31, t. 1222 (1959). **APD acc**

Convolvulus obscurus Linn. Sp. Pl. ed. 2, 1: 220 (1762).

Ipomoea fragilis Choisy in DC. Prod. 9: 372 (1845); P.T.A. 4, 2: 165; F.W.T.A., ed. 1, 2: 216.

(?) **C. micrantha** Hallier f. in Bull. Herb. Boiss. 6: 541 (1898); F.T.A. 4, 2: 166.

Ipomoea afra Choisy l.c. 380 (1845), partly.

In typical specimens the corolla is 1.4-2.5 cm. long, whitish-yellow with or without a purplish centre.

Extremely common throughout tropical Africa. See note Linder 22c.

- 22a. ***Ipomoea ochracea* (Lindl.) G. Don** Gen. Syst. 4: 270 (1837); F.T.A. 4, 2: 166; Verdcourt in Kew

Bull. 13: 210. *APD acc*

Convolvulus ochraceus Lindl. in Bot. Reg., 13: t. 1060 (1827).

Ipomoea ochroleuca Spanoghe in Linnaea 15: 340 (1841) (as "ochroleuceae"), van Ooststr. l.c. 523, Fl. Males., sér. 1, 5: 561 (1958).

Ipomoea kentrocarpa Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 70 (1851); F.T.A. 4, 2: 163; F.W.T.A., ed. 1, 2: 216, partly (excl. Sc. Elliot 4679).

In typical specimens the corolla is 2·7-4 cm. long, bright yellow with a purple centre.

Fairly common through our area in savanna. See note Linder 22c.

22b. *Ipomoea trichocalyx* Schum. & Thonn. Beskr. Guin. Pl. 91 (1827); Verdcourt in Kew Bull. 13: 210. *APD acc*

Ghana: Thonning (Photo!) (identified by F. Didrichsen as "I. afra Choisy," by H. Hallier f. as *I. ochracea*).

22c. *Ipomoea acanthocarpa* (Choisy) Ascherson & Schweinf. in Schweinf. Beitr. Fl. Aethiop. 277 (1867); F.T.A. 4, 2: 166 (1905);

APD: Synonym of Ipomoea obscura (L.) Ker Gawl. var. *obscura*

Calonyction? *acanthocarpum* Choisy in DC. Prod. 9: 346 (1845).

Corolla 1 in. long, whitish or pale purple, peduncles short, 1-3 flowered; fruits tipped with a sharp persistent style-base.

Sen.: Perrottet 521; 524. Lelièvre. **Port. G.:** Antula, Bissau (fl. & fr. Oct.) Esp. Santo 2583! **Niger:** Zinder (fl. & fr. Oct.) Hayerup 585! **N. Nig.:** Katagum Dist. Dalz. 183! Sokoto (fr. Aug.) Dalz. 375! **[Br.] Cam.:** Dikwa (fl. & fr. Nov.) McClintock 16!

Also in **Sudan**.

[The taxa *I. obscura*, *I. ochracea* and *I. trichocalyx* are kept recently by Verdcourt (in Kew Bull. 13: 209 (1958)) specifically distinct, but *I. ochracea* is considered as "actually little more than a large *I. obscura*" and Verdcourt is "far from satisfied" with his conclusions and says that "cultural work is needed on the members of this complex." *I. acanthocarpa*, *Merremia geophiloides* A. Chev. (in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 236 (1933), Sarafinian Chev. 20637! Koulounda to Kaba Chev. 20388!) and *Ipomoea sudanica* A. Chev. (l.e. 235 (1933), Moriguenieba Chev. 415. Koundian Chev. 445 I) from Guinée also belong to the *Ipomoea obscura*-complex, and I am quite unable to key satisfactorily these above-mentioned species and to refer properly the W. African material to them; for this reason no specimens are cited for Nos. 22 and 22a. It is, meanwhile, best to accept the name *I. obscura* (Linn.) Ker.-Gawl. for the whole and to treat it as an aggregate species-H. H.)

23. *Ipomoea sinensis* (Desr.) Choisy in Mém. Soc. Phys. Genève 6: 459 (1834); Meeuse in Bothalia 6: 728 (1958). *APD acc*

Convolvulus sinensis Desr. in Lam. Encycl. Meth. Bot. 3: 557 (1789).

Ipomoea tropica Santapau & Patel in J. Bombay Nat. Hist. Soc. 54: 799 (1957).

Ipomoea sinensis subsp. *blepharosepala* (Hochst. ex A. Rich.) Verdc., ex Meeuse in Bothalia 6: 729 (1958).

Ipomoea cardiosepala Hochst. ex Bak. & Wright in F.T.A. 4, 2: 147 (1905), not of (H.B.K.) Meissner (1869).

Ipomoea blepharosepala Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 72 (1857).

A slender perennial, trailing or twining; flowers white or pinkish.

Niger: Air (fl. & fr. Aug.) Rodd!

In the tropics of the Old World.

24. *Ipomoea triloba* Linn. Sp. Pl. 161 (1753); Meisner in Martius Fl. Brasil. 7: 277 (1869), incl. vars.; Eggers in Bull. U.S. Nat. Mus. 13: 71 (1879), incl. vars.; Hallier f. in Engl. Bot. Jahrb. 18: 138 (1893); Britton & Wilson in Sci. Surv. P. Rico & Virgin Isl. 6, 1: 116 (1925); van Ooststr. in Blumea 3: 509 (1940). *APD acc*

Ipomoea leucantha Webb ex Hook. Fl. Nigrit. 152 (1849); F.T.A. 4, 2: 176; F.W.T.A., ed. 1, 2: 216; Berhaut Fl. Sén. 157; Eggers l.c. (1879); Britton & Wilson l.c. 117 (1925), not of Jacq. (1788).

A glabrous twiner and trailer with rather angular stems, sepals long-ciliate, density of indumentum very variable; flowers white, mauve, pink or pale red-purple 3/4-1 in. long.

Sen.: Ouassadou Berhaut 1231; 2129. Dakar (fl. & fr. Sept.) Berhaut 834! **Guin.:** Heudelot 734! **S. L.:** Glanville 366! Magbile (Dec.) Thomas 5930! 5932! 5981! Njala (fl. & fr. Nov.) Small 805 (red-fl. form)! Magbile (Dec.) Thomas 6065! 6491! Port Loko (Dec.) Thomas 5822! 6535! Russell (fl. & fr. Dec.) Deighton 3316 (red-fl. form)! Kambia (Dec.) Deighton 1082! Musaia (fl. & fr. Dec.) Deighton 4466! Segbwema (fl. & fr. Dec.) Deighton 3476! Roboli, near Rokupr (Nov.) Jordan 178! **Iv. C.:** Béyo (fl. & fr. Dec.) Leeuwenberg 2001!

A circumtropical weed, native of tropical America.

[Note: The W. African specimens are almost white-flowered, but this character is insufficient for a taxonomic distinction between American and African specimens; such white-flowered forms do occur also in the W. Indies and in S. America (see Meissner and Eggers, etc. l.c.), and they have sometimes been treated unnecessarily in the older literature as varietally or (as with *I. leucantha* Webb ex Hook., not of Jacq.) specifically distinct. -H. H.]

25. ***Ipomoea eriocarpa* R. Br.** Prod. Fl. Nov. Holl., ed. 1, 484 (1810); F.T.A. 4, 2: 136; Exell Cat. S. Tomé 250; van Ooststr. in Fl. Males., sér. 1, 4: 462 (1953). **APD acc**

APD: *Synonym of Ipomoea kourankoensis A. Chev.*

Ipomoea hispida (Vahl) Roem. & Schult. Syat. Pl. 4: 238 (1819); F.W.T.A., ed. 1, 2: 216; van Ooststr. in Blumea 3: 490 (1940), not of Zuccagni (1806).

Convolvulus hispidus Vahl (1794).

Ipomoea morsonii Bak. in Kew Bull. 1894: 91; F.T.A. 4, 2: 140; F.W.T.A. ed. 1, 2: 216.

Ipomoea leptocaulos Hallier f. in Engl. Bot. Jahrb. 18: 126 (1893); F.T.A. 4, 2: 140.

(?) **I. kourankoensis** A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 234 (1933).

A slender twiner, sparingly pubescent, with white flowers about 1/2 in. long.

Sen.: Roger 116! Ingram! **Gam.:** Genieri (fr. Feb.) Fox 23! **Mali:** Kara (fl. & fr. Dec.) Davey 177! Dogo (fr. Apr.) Davey 570! **Guin.:** Kouroussa (fr. Oct.) Pobéguin 584! **Port. G.:** Bissau (fl. & fr. Oct.) Esp. Santo 2588! **S. L.:** Kambia (Jan.) Deighton 916! Falaha (fr. Mar.) Sc. Elliot 5186! Gbangbama to Senge (Nov.) Deighton 2355! Kenema (fl. & fr. Dec.) Deighton 3454! Kasawe F.R. (fl. & fr. Dec.) King 52B! **Iv. C.:** Mankono (fl. & fr. Nov.) de Wilde 957! **Ghana:** Bole (fl. & fr. Nov.) Harris! Yendi (fr. Dec.) Adams 4053! Kpeve (fr. Jan.) Robertson 115! **Togo Rep.:** Lomé Warnecke 253! Bismarckburg Büttner 365. **Dah.:** Burton! **N. Nig.:** Nupe Barter 1027! Kontagora (fl. & fr. Oct.) Dalz.! Sokoto (fl. & fr. Sept.) Dalz. 373! Katagum Dist. Dalz. 177! Jos Plateau (Oct.) Lely P793! Abinsi (fl. & fr. Oct.) Dalz. 679! **S. Nig.:** Lagos (fr. Mar.) Millen 139! 167! Ibadan (Jan.) Newberry & Etim 183! **[Br.] Cam.:** Bamenda, 3,000 ft. (fl. & fr. Apr.) Maitland 1711! Gurum, Adamawa (fl. & fr. Nov.) Hepper 1294! 1822!

Also throughout tropical Africa and in Madagascar, tropical Asia and N. Australia, (see Appendix p. 438).

26. ***Ipomoea verticillata* Forsk.** Fl. Aegypt.-Arab. Descr. Pl. 44 (1775); F.T.A. 4, 2: 136; Berhaut Fl. Sén. 157. **APD acc**

A prostrate annual with small white axillary flowers.

Sen.: Perrottet. Leprieur. Richard Tol Berhaut 1411. **Mali:** Kakarah (fr. Aug.) Hagerup 291!

Also in **Sudan**, **Ethiopia** and **Angola**.

27. ***Ipomoea coscinosperma* Hochst. ex Choisy** in DC. Prod. 9: 354 (1845); F.T.A. 4,2: 138, incl. var. *glabra* Schimper ex Bak. & Rendle (1905) (= var. *coscinosperma*) and var. *hirsuta* A. Rich. (1851); Meeuse l.c. 721 (1958); Berhaut Fl. Sén. 155. **APD acc**

Trailing herb with loosely hairy slender stems; flowers red or purplish, only about 1/3 in. long.

Sen.: Berhaut 1228! 3474. **Mali:** Gao (Sept.) Hagerup 342a! Sompi (fl. & fr. Aug.) Chev. 2899! **Ghana:** Bongo to Nangodi (fr. Nov.) Morton! **Niger:** Niamey (fl. & fr. Oct.) Hagerup 522! **N. Nig.:** Sokoto (fl. & fr. Sept.) Dalz. 374!

[Note: the W. African plants belong to the var. *hirsuta* A. Rich. Tent. Fl. Abyss. 2: 66 (1851), but it seems unreasonable to distinguish taxa in varietal rank of this extremely variable and widespread species; see Meeuse l.c. -H. H.]

28. ***Ipomoea blepharophylla* Hallier f.** in Engl. Bot. Jahrb. 18: 125 (1893); F.T.A. 4, 2: 141; Chev. Bot. 454; Berhaut Fl. Sén. 156. **APD acc**

Stems slender, pubescent, trailing from a woody rootstock, with narrow funnel-shaped flowers 2-2 1/2 in. long, pale- or red-purple with darker lines and throat.

Sen.: Ouassadou Berhaut 1226. **Mali:** Sarankoro (Feb.) Chev. 366! **Ghana:** Afram Plains (Mar.) Johnson 728! **N. Nig.:** Mongu (fl. & fr. Aug.) Lely 392! Jos Plateau (May) Lely P272! Naraguta (June) Dalz. 311! Abinsi (fl. & fr. July) Dalz. 683! Yola (July) Dalz. 69!

29. *Ipomoea barteri* **Bak.** in Kew Bull. 1894: 70 (1894); F.T.A. 4, 2: 169. *APD acc*

Ipomoea fleuryana **A. Chev.** in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 233 (1933).

Stems twining, very slender, pilose at first, becoming glabrous, with flowers 2-2 1/2 in. long and as much across the limb, pale, almost white, or reddish-purple with darker throat and tube.

Guin.: Fouta Djallon Chev. 18294! Soumbalato to Boulivel Chev. 18640! **S. L.:** Tabe (Sept.) Deighton 3045! Bunkolo (Aug.) Thomas 1770! Loma Mts. (Sept.) Jaeger 2014! Warantamba, Gberia Fotombu (Oct.) Small 352! **N. Nig.:** Jebba Barter! Jos Plateau (fl. & fr. July, Aug.) Lely P510! P603! Vom, 3,000-4,500 ft., Dent Young 178! Mongu, 4,300 ft. (July) Lely 391! Yola (fl. & fr. July) Dalz. 70!

30. *Ipomoea stolonifera* (**Cyrill.**) **J.F. Gmel.** in Linn. Syst. Nat., ed. 13, 2: 345 (1791); F.T.A. 4, 2: 171; van Ooststr. in Blumea 3: 540 (1940); Naegelé in Bull. I.F.A.N. 21: 1186, fig. 5 (1959).

APD: *Synonym of Ipomoea imperati* (**Vahl**) **Griseb.**

Convolvulus stoloniferus **Cyrill.** Pl. Rar. Neap. 1: 14 (1788).

Stems slender, glabrous, from a perennial tuberous root, creeping and sending up short leafy branchlets; flowers pure white with a purple centre, 2 in. across the open limb.

Gam.: Bathurst (Nov.) Gardiner 113! **S. L.:** Morson! Yele, Turtle Isl. (Nov.) Deighton 2315! Yoni to Ugepe, Bonthe Isl. (fl. & fr. Nov.) Deighton 2275! Ruka (Dec.) Sc. Elliot 4109! Shengbi (Dec.) King 74B! **Lib.:** Monrovia (Nov.) Linder 1438! (fr. Jan.) Harley 1098! Robertsport (Dec.) Baldwin 10911! **Iv. C.:** Azuretti (Sept.) de Wit 7132! Abidjan to Grand Bassam (Jan.) Leeuwenberg 2378! **Ghana:** Axim (Feb.) Irvine 2302! Teshi, Accra (fr. Nov.) Irvine 810! **Togo Rep.:** Lomé Warnecke 56!

Widespread on the shores of warm countries.

31. *Ipomoea coptica* (**Linn.**) **Roth ex Roem. & Schult.** Svst. Veg. 4: 208 (1819); Both Nov. Pl. Spec. 110 (1821); van Ooststr. l.c. 544 (1940); Meeuse in Fl. Pl. Aft. 31: t. 1217a (1956); Bothalia 6: 760 (1958). *APD acc*

Convolvulus copticus **Linn.** Mant. Alt., App. 559 (1771).

Ipomoea dissecta **Willd.** Phytogr. 5, t. 2 (1794); F.T.A. 4, 2: 176; F.W.T.A., ed. 1, 2: 218.

A slender glabrous trailing herb with much-divided leaves and small white flowers 1/2-2/3 in. long.

Sen.: (fl. & fr. Sept.) Roger! Heudelot 270! **Mali:** Kabarah (fl. & fr. Aug.) Hagerup 290! Sarédina (fl. & fr. May) Davey 107! 138! Gao (fl. & fr. Aug.) de Wailly 5120! Boré (Sept.) Demange 41/1957! **Ghana:** Brown 305! Accra (fl. & fr. July) Irvine 710! Nungua, Accra Plains (fr. July) Ankrah GC 20188! **Togo Rep.:** Lomé Warnecke 284! **N. Nig.:** R. Benue Talbot 806! Katagum Dist. (fr. Sept.) Dalz. 178! Maifoni, Bornu Parsons! Bindawa (Aug.) Grove 49! **S. Nig.:** Lagos Dawodu 85!

32. *Ipomoea batatas* (**Linn.**) **Lam.** Tabl. Encycl. 465 (1791); P.T.A. 4, 2: 175; Chev. Bot. 453; van Ooststr. l.c. 512 (1490); Meeuse l.c. 746 (1958). *APD acc*

Convolvulus batatas **Linn.** Sp. Pl. 154 (1753).

Ipomoea setifera of F.W.T.A., ed. 1, 2: 216 partly (Plumptre 65), not of Poir. in Lam.

Trailing and climbing, nearly glabrous from tuberous root; flowers campanulate-funnel-shaped with whitish or pink-tinged limb and red-purple centre 1 1/2-2 in. long. The sweet potato.

Sen.: Tiaraye Chev. 2857. "Kaolak 167" Kaichinger in Hb. Chev. **Port. G.:** Bissau (Nov.) Esp. Santo 1370! **Guin.:** Conakry Chev. 12017; 12131. **S. L.:** Rowala (July) Thomas 1185! Bumba (Sept.) Thomas 1946! Jigaya (Sept.) Thomas 2474! Boruks (Nov.) Thomas 5743! 5776! **Iv. C.:** Bingerville Chev. 17334. **Ghana:** Achimota (Aug.) Irvine 780! Accra Plains (Nov.) Morton 6121! Asamankase (Dec.) Plumptre 65! Kumasi Chipp 709! **N. Nig.:** Dalz. 680! Lely 713! **S. Nig.:** Lagos (Aug.) Dodd 424! Obu Thomas 489! Port Harcourt (Dec.) Stubbings 166!

Commonly cultivated and naturalised near habitations or railways, etc. **A. Chev.** (1920), illegitimate name; F.W.T.A., ed. 1, 2: 216, fig. 251 and various other Floras of the Old World Tropics, see van Ooststr. in Fl. Males, sér. 1, 4: 483 (1953), and in Blumea 3: 558 (1940), not of Linn. (1759).

Perennial with a large tuberous root, with widely climbing glabrous hollow stems, and conspicuous rose-red flowers 2-2½ in. long in pedunculate cymes.

Sen.: Berhaut 359; 3238. **Gam.:** Kuntaur Ruxton 63! **Guin.:** Kouria Caille in Hb. Chev. 14944. Longuéry Caille in Hb. Chev. 14945. Golea, near Conakry (fl. & fr. July) de Wit 7013! **Port. G.:** Bedanda (fr. Jan.) d'Orey 249! **S. L.:** T. Vogel 96! Kortright (fl. & fr. Aug.) Melville & Hooker 29! Waterloo (July) Lane-Poole 294! Kukuna, Scarcies (fl. & fr. Jan.) Sc. Elliot 4507! Kaballa (fr. Sept.) Thomas 2335! **Lib.:** Kakatown Whyte! Robertsport (fr. Dec.) Baldwin 10920! Dukwai R. (fl. & fr. Oct.-Nov.) Cooper 15! Gbanga (fr. Aug.) Okeke 14! Ganta (Oct.) Harley! **Iv. C.:** Nékakougnié to Grabo Chev. 19601. Bassam (Sept.) de Wit 5771! Niapidou (Apr.) Leeuwenberg 3198! Adiopodoumé (fl. & fr. June) de Wilde 34! **Ghana:** Axim (Feb.) Irvine 2301! Achimota (Dec.) Irvine 815! Techeri (June) Chipp 473! Kumasi (Apr.) Akwa 1682! Kpeve Williams 44! **Togo Rep.:** Lomé Warnecke 244! **N. Nig.:** Nupe Barter 1267! Lokoja Parsons 120! Abinsi (fl. & fr. Mar.) Dalz. 682! Malabu Hills, near Yola (fl. & fr. May) Dalz. 71! **S. Nig.:** Lagos Dalz. 1074! Sapoba Kennedy 2626! Ibadan (Jan.) Newberry 24! Port Harcourt (Sept.) Stubbings 59! Eket (May) Onochie FHI 32948! Calabar Clarke! [**Br. Cam.:** Victoria (Mar.) Maitland 470! **F. Po.:** (fr. June) Mann 422!]

Cosmopolitan in the tropics.

34. *Ipomoea cairica* (Linn.) Sweet Hort. Brit., ed. 1, 287 (1827); van Ooststr. in Blumea 3: 542 (1940); Brenan in Mem. N.Y. Bot. Gard. 9: 8 (1954); Meeuse l.c. 761 (1958). *APD acc*

Convolvulus cairicus Linn. Syst. Nat., ed. 10, 922 (1759).

Ipomoea palmata Forsk. Fl. Aegypt.-Arab. 43 (1775); F.T.A. 4, 2: 178; Chev. Bot. 455; incl. var. *ciliolata* A. Chev., name only; Berhaut Fl. Sén. 152.

Ipomoea vesiculosa P. Beauv. Fl. Oware 2: 73, 1. 106 (1819).

A slender twiner with glabrous, sometimes warted stems, and funnel-shaped flowers pale or reddish-purple 1½-2 in. long.

Sen.: Roger! Leprieur! Brunner! Farmar 158! Berhaut 839. **Gam.:** Ingram! Hayes 520! **Port. G.:** Bissau (Dec.) Esp. Santo 2637! **S. L.:** T. Vogel 48! Sc. Elliot 4082! Boltum, Turtle Isl. (Nov.) Deighton 2366! Shenghi (fr. Dec.) King 73B! Luti (Oct.) Jordan 941! **Lib.:** Monrovia Whyte! **Iv. C.:** San Pedro Thoiré! Bingerville (Feb.) Chev. 17330! Bériby (Aug.) Chev. 20001 bis! **Ghana:** Emisano, near Elmina (Dec.) Deakin 53! **N. Nig.:** Bornu Parsons! **S. Nig.:** Lagos (Apr.) Dalz. 1071! **F. Po.:** Clarence Pk. (fl. & fr. Nov., Dec.) T. Vogel 40! 236! Mann 54!

35. *Ipomoea kotschyana* Hochst. ex Choisy in DC. Prod. 9: 354 (1845); Hallier f. in Engl. Bot. Jahrb. 18: 125 (1893); F.T.A. 4, 2: 139; Berhaut Fl. Sén. 48, 152; Verdcourt in Kew Bull. 13: 200. *APD acc*

A slender annual with small flowers.

Sen.: Leprieur. Berhaut 948. Dagana Perrottet! **Guin.?:** Heudelot 734! **Mali:** Timbuktu (Aug.) Hagerup 241!

Also in **Sudan** and **Eritrea**.

[Heudelot 734 at the British Museum is dated 1847; but Heudelot 734 at Kew is *I. triloba* and dated 1838.]

36. *Ipomoea nil* (Linn.) Roth Cat. Bot. 1: 36 (1797); van Ooststr., in Blumea 3: 497 (1940); Verdcourt in Taxon 6: 23! (1957); Meeuse l.c. 733 (1958). *APD acc*

Convolvulus nil Linn. Sp. Pl., ed. 2, 219 (1762).

Ipomoea hederacea of F.T.A. 4, 2: 159; of F.W.T.A., ed. 1, 2: 218 (and of many other Floras), not of Jacq. (1787).

A twiner, the stems, etc., covered when young with spreading yellow hairs; the flowers pale blue in the morning turning bright pink or red-purple, with long narrow calyx-lobes; **on fences in villages and in fields**.

S. L.: Njala, cult. (July) Deighton 3740! **Ghana:** Cape Coast Brass. **N. Nig.:** Jebba Barter! Lokoja (Oct.) Dalz. 76! R. Benue Talbot 822! Sokoto (Dec.) Dalz. 376! Kadana (fl. & fr. Nov.) Lely 592! **S. Nig.:** Lagos (Oct.) Punch 39! Ado Rock, Oyo (Oct.) Savoury & Keay FHI 25237! Shabe Rock, Oyo (Oct.) Hambley 532!

Widespread in the tropics.

37. *Ipomoea aitonii* Lindl. Bot. Reg. 21; t. 1794 (1836); F.W. Andr. Fl. Pl. Sudan 3: 114 (1956).

APD: *Synonym of Ipomoea dichroa* Choisy

Ipomoea arachnosperma Welw. (1858)-Meeuse in Fl. Pl. Afr. 31: t. 1203 (1956); Bothalia 6: 736 (1958).

Ipomoea pilosa (Roxb.) Sweet Hort. Brit., ed. 1, 289 (1827); F.T.A. 4, 2: 161; F.W.T.A., ed. 1, 2: 218, not of Hottouyn (1777), or of

Cavanilles (1797).

A perennial twiner, coarsely hairy, with leaves white below and rather small pink or red-purple flower 3/4 in. long in pedunculate axillary cymes.

Sen.: Roger! **Gam.:** Ingram! **Ghana:** Abetifi (Dec.) Irvine 1654! Sunyani (fr. Dec.) Adams 2754! **N. Nig.:** Moiser! Gosling! Katagum Dist. Dalz. 185! Nabardo (fl. & fr. Sept.) Lely 611! R. Benue Talbot 808!

***Ipomoea acuminata* (Vahl) Roem. & Schult.**

Ipomoea congesta R. Br.

***Ipomoea leari* Paxton**

***Ipomoea purpurea* (Linn.) Roth**

***Ipomoea setosa* Ker-Gawl.**

***Ipomoea tuba* (Schlechtend.) G. Don**

***Ipomoea tricolor* Cav.**

Ipomoea rubrocaerulea Hook.

***Ipomoea intrapilosa* Rose**

A tree about 12 ft. high with large white flowers

Is cultivated at Ibadan, S. Nigeria.

***Ipomoea arborescens* (Humb. & Bonpl. ex Willd.) G. Don**

Closely allied

Recorded from gardens in Senegal by Berhaut (Fl. Sén. 126, 130).

***Ipomoea tiliacea* (Willd.) Choisy** in DC. Prod. 9: 375 (1845); van Ooststr. in Blumea 5: 233 (1942); Fl. Males., ser. 1, 4: 469 (1953); Exell Cat. S. Tomé 252.

Convolvulus tiliaceus Willd. (1809).

C. fastigiatus Roxb. (1824).

***Ipomoea fastigiata* (Roxb.) Sweet** Hort. Brit., ed. 1, 288 (1826); Choisy in DC. Prod. 9: 380 (1845); F. Didr. in Vidensk. Medd. Kjöbenhavn 1854: 226 (1855); F.T.A. 4, 2: 169.

Native of tropical America; found on Principe (vide Exell l.c.) and in Cameroun (vide F.T.A. l.c.), also recorded by Didrichsen (l.c.) "e Guinea, Mortensen" without further comment. No material seen, but it seems very probable that this species occurs in our area.

***Ipomoea ardissima* A. Chev.** in Rev. Bot. Appliq. 30: 272 (1950).

Niger: Gaya to Dosso A. Chev. s.n.

According to Chevalier this species belongs to "the group" of *I. cairica* and *I. coptica*.

17. STICTOCARDIA

Hallier f. in Engl. Bot. Jahrb. 18: 158 (1894); van Ooststr. in Blumea 5: 346 (1943); Fl. Males., sér. 1, 4: 491 (1953); Meeuse in Bothalia 6: 772 (1958).

- 1 Branches puberulous; leaves long-petiolate, very widely ovate-orbicular, widely cordate at the base, broadly acuminate, about 15 cm. diam., with numerous nerves from near the base, puberulous beneath, with large glandular areas here and there which perish and leave large holes; cymes subsessile or shortly pedunculate, few-flowered; calyx-segments 1.3 cm. long, stellate-pubescent towards the base; corolla about 4.5 cm. widely tubular [beraviensis](#)

***Stictocardia beraviensis* (Vatke) Hallier f.** l.c. (1894); Verdcourt in Kew Bull. 13: 189. **APD acc**

***Ipomoea beraviensis* Vatke** in Linnaea 43: 514 (1882).

***Argyreia* (?) *beraviensis* (Vatke) Bak.** in F.T.A. 4, 2: 201 (1906); Chev. Bot. 453.

***Ipomoea hierniana* Rendle** in J. Bot. 39: 58 (1901); Chev. Bot. 453.; F.T.A. 4, 2: 188.

A stout climber with finely pubescent pithy stems and crimson or red-purple flowers 1 1/2-2 in. long.

Mali: Kita (Nov.) Jaeger 5566! **Port. G.:** Bafata (fr. Dec.) Esp. Santo 2873! **Guin.:** Kouria Caille in Hb. Chev. 14874. **S. L.:** Njala (Nov.) Heighten 2570! Maboma (Nov.) Deighton 3778! **Lib.:** Ganta (Nov.) Harley! Banga (Oct.) Linder 1232!

Kakatown Whyte! Zigida (Oct.) Baldwin 10037! **Ghana:** Akwapim (Dec.) Johnson 759! Ahim Swedru (Dec.) Irvine 2054! **N. Nig.:** Lokoja (Oct.) Parsons 77! Mada Hills (fl. & fr. Oct.) Hepburn 87! **S. Nig.:** Foster 366! Lagos (Mar.) Millen 55! Idumuye (Dec.) Thomas 2122! Udi F.R. (Oct.) Smith S 20! Onitsha Olassa Thomas 1887! Ondo, Okelife (Nov.) Onochie FHI 34350! (Dec.) Okereks FHI 26881! Oban Talbot 801!

Also in **Cameroun**, **Congo**, **E. Africa** and **Madagascar**.

SCROPHULARIACEAE

Herbs or shrubs, rarely small trees. Leaves alternate, opposite or verticillate; stipules absent. Flowers hermaphrodite, mostly zygomorphic. Calyx imbricate or valvate. Corolla-lobes imbricate. Stamens often 4 or 2, rarely 5, inserted on the corolla and alternate with the lobes, sometimes the fifth stamen represented by a staminode; filaments free from each other; anthers 1-2-celled, opening lengthwise. Ovary superior, entire, usually 2-celled; style terminal. Ovules numerous on axile placentas. Fruit a capsule or berry. Seeds numerous, with fleshy endosperm.

Widely distributed.

Recognized by the usually opposite exstipulate leaves, mostly zygomorphic flowers, entire ovary with terminal style, and axile placentas.

- 1 Flowers spurred; lower leaves opposite, upper leaves alternate: **2**
Flowers not spurred: **3**
- 2 Capsule dehiscent by apical pores; corolla 1-2 cm. long [1. *Linaria*](#)
Capsule splitting loculicidally and spreading; corolla 5 mm. long [2. *Diclis*](#)
- 3 Leaves alternate, never all radical (but densely congested in No. 3): **4**
Leaves opposite, or at least subopposite (sometimes the upper leaves alternate) or all radical: **8**
- 4 Stamens 2, staminodes absent [3. *Anticharis*](#)
Stamens 4 (rarely 5 in Nos. 7 and 9): **5**
- 5 Leaves orbicular; creeping herb with small rotate axillary flowers [7. *Sibthorpia*](#)
Leaves not orbicular; erect herbs: **6**
- 6 Corolla rotate; flowers in long racemes [5. *Celsia*](#)
Corolla with distinct tube: **7**
- 7 Leaves densely congested on short stems; flowers sessile amongst the leaves [4. *Aptosimum*](#)
Leaves not congested; stems erect; flowers axillary on long slender pedicels [9. *Capraria*](#)
- 8 Stamens 2 (2 staminodes also present in No. 20 and very reduced in No. 15): **9**
Stamens 4 (rarely 3 in No. 4): **14**
- 9 Leaves much divided; aquatic (*K. sessiliflora*); see also below [13. *Linnophila*](#)
Leaves not divided; creeping or erect: **10**
- 10 Creeping herb 1 cm. high; flowers solitary, slender-pedicellate; calyx 3-lobed; anther-cells confluent [22. *Glossostigma*](#)
Plant usually much larger, or if only about 2 cm. high and erect (as in No. 23) then calyx 5-toothed: **11**
- 11 Corolla-tube short, almost rotate; stamens exserted [6. *Veronica*](#)
Corolla with distinct tube, usually un-equally 2-lipped; stamens included: **12**
- 12 Flowers subsessile in dense axillary clusters, minute; stems very slender 2-3 cm. high; anther cells distinct; staminodes absent; stigma spatulate [23. *Psammeteris*](#)
Flowers axillary or in terminal racemes, not in dense clusters; stigma bilobed: **13**
- 13 Staminodes (inside lower lip) with a boss-like appendage and long slender sterile filament; capsule septicidal [20. *Ilysanthes*](#)
Staminodes (inside lower lip) reduced to 2 small protuberances or quite obsolete; capsule loculicidal [15. *Dopatrium*](#)
- 14 Leaves all radical; small tufted herbs with or without stolons [21. *Limosella*](#)
Leaves not all radical; more or less erect herbs: **15**
- 15 Calyx-lobes very unequal [14. *Bacopa*](#)
Calyx-lobes not markedly unequal: **16**

-
- 16 Stamens all (or some of them) inserted at the throat of the corolla: 17
 Stamens all inserted in corolla-tube: 20
- 17 Flowers 2-3 cm. long; calyx 5-partite, segments broad and imbricate [16. Artanema](#)
 Flowers up to 1 cm. long: 18
- 18 Lower filaments arched with a small boss-like appendage at the base; calyx slightly 2-lipped and narrowly winged along the nerves [18. Torenia](#)
 Lower filaments sharply angled and with a large boss-like appendage at base: 19
- 19 Calyx deeply 5-partite; flowers solitary or in lax spikes [19. Lindernia](#)
 Calyx 5-toothed; flowers in rather or very dense spikes [17. Craterostigma](#)
- 20 Anthers with 2 equal or subequal cells: 21
 Anthers 1-celled or with 1 fertile cell and 1 variously modified sterile cell or appendage; dry plants usually dark; mainly semi-parasitic: 29
- 21 Leaves pinnately or variously deeply divided, in at least the submerged ones: 22
 Leaves all entire or toothed, not deeply divided: 23
- 22 Corolla-tube short and campanulate, at most 1.5 cm. long, yellow, rarely white [13. Limnophila](#)
 Corolla-tube long and narrow, about 2.5 cm. long, white (R. fistulosa); see also below [28. Rhamphicarpa](#)
- 23 Anther-cells distinct and separate [11. Stemodia](#)
 Anther-cells distinct but contiguous: 24
- 24 Corolla-lobes 4; calyx deeply 4- or 5-lobed [8. Scoparia](#)
 Corolla-lobes 5, funnel-shaped or campanulate tube; calyx 5-toothed or lobed: 25
- 25 Flowers distinctly pedicellate, 5-20 mm. long: 26
 Flowers sessile or subsessile; plants drying blackish: 28
- 26 Fruits markedly reflexing on maturity [12. Stemodiopsis](#)
 Fruits not reflexing: 27
- 27 Bracteoles absent; corolla markedly bilabiate; pedicels 1-2 cm. long; plants drying green [10. Mimulus](#)
 Bracteoles present beneath calyx; corolla not bilabiate; pedicels 5-10 mm. long; plants drying blackish [24. Micrargeria](#)
- 28 Bracteoles absent; corolla neither thin nor conspicuously veined; seeds winged [25. Bartsia](#)
 Bracteoles present; corolla thin, conspicuously longitudinally veined; each seed enclosed in a transparent or opaque envelope [26. Alectra](#)
- 29 Calyx-teeth woolly inside (conspicuous as a white fringe on calyx-margin); anthers (at least two of them) 2-celled, with 1 fertile cell and 1 sterile cell or appendage; corolla subrotate [27. Sopubia](#)
 Calyx-teeth not woolly inside nor on margins; anthers all 1-celled; corolla-tube long and narrow: 30
- 30 Corolla-tube sharply curved at or above the middle, lobes unequal [30. Striga](#)
 Corolla-tube straight or nearly so: 31
- 31 Fruits obliquely ovoid, long-beaked; calyx campanulate; corolla-tube about 2 cm. long [29. Rhamphicarpa](#)
 Fruits straight, oblong or ellipsoid; calyx tubular: 32
 Corolla large, about 4 cm. long, upper lobes united and smaller than the lower; fruits fleshy and indehiscent [31. Cycnium](#)
- 32 . Corolla small, about 5 mm. long, with subequal lobes; fruits dry and dehiscent [28. Buchnera](#)

Russelia equisetiformis Schlecht. & Cham.

R. juncea Zucc.

A native of Mexico, is cultivated as an ornamental plant in our area.

1. LINARIA

APD: Synonym of Kickxia Dumort.

Juss.-F.T.A. 4, 2: 288.

- 1 Stems and leaves glandular-pubescent; leaves more or less ovate, with a few large teeth or hastately lobed, 5-15 mm. long, 4-10 mm. broad; petiole up to 9 mm. long, pubescent, or leaves sessile; flowers solitary, axillary, corolla about 1 cm. long with spur 3 mm. long, pubescent [1. *aegyptiaca*](#)
- Stems and leaves glabrous; leaves linear to lanceolate-hastate, 1.5-4.5 cm. long, 2-10 mm. broad; petiole 2-10 mm. long, glabrous; flowers solitary, axillary, corolla about 2 cm. long with spur 10 mm. long, slightly glandular-pubescent [2. *sagittata*](#)

1. ***Linaria aegyptiaca* (Linn.) Dum.-Cours.** Bot. Cult., ed. 1, 2: 92 (1802); De Miré and Gillet in J. Agric. Trop. 3: 718 (1956), incl. infra-specific forms.

APD: *Synonym of Kickxia aegyptiaca subsp. battandieri (Maire) Wickens*

APD: *Synonym of Kickxia aegyptiaca (L.) Nábelek*

APD: *Synonym of Kickxia aegyptiaca subsp. virgata Wickens*

***Antirrhinum aegyptiacum* Linn.** (1753).

***Kickxia aegyptiaca* (Linn.) Nábelek** in Publ. Fac. Sci. Univ. Masaryk, Brno 70: 31 (1926).

Straggling Linder-shrub with many slender branches a few inches to 2 ft. high; flowers yellow; in semi-desert.

Maur.: Kankossa (fl. & fr. Mar.) Roberty 16944! **Niger:** Aïr, fide De Miré & Gillet l.c.

Also in **N. Africa** and **Syria**.

2. ***Linaria sagittata* (Poir.) Hook. f.** Bot. Mag. t. 6060 (1873); F.T.A. 4, 2: 291; Berhaut Fl. Sén. 190.

APD: *Synonym of Kickxia heterophylla (Schousb.) Dandy*

***Antirrhinum sagittatum* Poir.** (1816).

***Linaria heterophylla* (Schousb.) Spreng.** (1825), not of Desf. (1798).

***Kickxia heterophylla* (Schousb.) Dandy** in F.W. Andr. Fl. Sudan 3: 137 (1956).

Slender twining herb with stems about 2 ft. long; flowers yellow.

Sen.: Perrottet 571! Wakam (Sept., Oct.) Berhaut 1153! 1980!

Also in **Sudan**, **Ethiopia**, **Somaliland**, **N. Africa**, **Arabia** and **Canary Islands**.

2. DICLIS

Benth.-F.T.A. 4, 2: 286.

- 1 Prostrate or ascending annual; leaves mostly alternate, ovate, acute at apex, truncate to cuneate at base, with several large teeth on each side, (5-) 10-18 mm. long and nearly as broad, minutely pubescent; petiole (3-)8-15 mm. long; flowers solitary, axillary; pedicels 11-34 mm. long; calyx deeply 5-lobed; corolla 2-lipped, upper lip small, lower lip 3 mm. long, 3-lobed, spur 1.5 mm. long; capsule splitting and spreading, 2 mm. long; seeds ovoid, longitudinally wrinkled [ovata](#)

***Diclis ovata* Benth.** in Hook. Comp. Bot. Mag. 2: 23 (1836); F.T.A. 4, 2: 287; Hepper in Kew Bull. 15: 65. *APD acc*

Slender herb at first more or less erect becoming prostrate, with sub-simple branches up to a foot long; flowers white, streaked reddish, spur yellowish; in moist, open places.

[Br.] **Cam.:** Buea (fl. & fr. May) Morton K943! Mambila Plateau: Gembu, 5,300 ft. (fl. & fr. Jan.) Hepper 1813! Maisamari to Bellel, 5,000 ft. (fl. & fr. Jan.) Hepper & Daramola 1710!

Also in **Cameroun (?)**, **Ethiopia**, **Uganda**, **Kenya**, **Tanganyika**, **N. & S. Rhodesia**, **Nyasaland**, **Angola**, **Madagascar** and **Mauritius**.

3. ANTICHARIS

Endl.-F.T.A. 4, 2: 275. APD acc

- 1 Leaves narrowly linear, 2-5.5 cm. long, about 3 mm. broad, with glandular hairs, acute; flowers axillary, solitary; pedicels very slender, 1-2 cm. long, with a pair of bracteoles above the middle; fruits ovoid, about 8 mm. long, beaked [1. linearis](#)

Leaves ovate-elliptic, about 1 cm. long and 5 mm. broad, densely glandular-pubescent, obtuse; pedicels 2-3 mm. long, with 2 inconspicuous bracteoles about the middle; fruits ovoid, about 7 mm. long, beaked [2. glandulosa](#)

1. **Anticharis linearis** (*Benth.*) *Hochst. ex Aschers.* in Monatsber. Akad. Wiss. Berl. 1866: 882 (1867); F.T.A. 4, 2: 275; Chev. Bot. 469; Berhaut Fl. Sén. 200; De Miré & Gillet in J. Agric. Trop. 3: 717 (1956).

APD: Synonym of Aptosimum pumilum (Hochst.) Benth.

APD: Synonym of Anticharis senegalensis (Walp.) Bhandari

Doratanthera linearis *Benth.* (1846).

Erect much-branched herb, woody below, up to 1 ft. or more high; flowers pink or purplish; **in semi-desert.**

Sen.: Leprieux! Walo Perrottet 557! Richard Tol Berhaut 1753. **Mali:** Ansongo (fl. & fr. Sept.) Hagerup 380! Goundam (Aug.) Chev. 3300! **iv. C.:** Ouagadougou (Oct.) Aubrév. 2662! **Niger:** Fada to Koupéla Chev. 24519! Aïr Mts. fide De Mire & Gillet l.c. **N. Nig.:** Fodama (fl. & fr. Nov., Dec.) Moiser 213! 231! Kuka, Bornu Prov. (fl. & fr. Jan.) E. Vogel 11!

From Cape Verde Islands to India.

2. **Anticharis glandulosa** *Aschers.* l.c. 880 (1867); De Miré & Gillet l.c. 717 (1956). *APD acc*

Erect herb about 6 ins. high, densely glandular; flowers bluish; **in semi-desert.**

Niger: Aïr Mts. fide De Miré & Gillet l.c.

Also in **N. Africa**, **Somaliland** and extends to India.

4. APTOSIMUM

Burch.-F.T.A. 4, 2: 267. APD acc

- 1 Densely caespitose herb, half woody at base, 3-10 cm. high; leaves linear to linear-lanceolate, 2-5 cm. long, 2-5 mm. broad, midrib prominent beneath, more or less pubescent on both sides, long-ciliate beneath; flowers sessile, axillary; calyx deeply 5-cleft, lobes subulate, about 1 cm. long, long-ciliate; corolla about 1 cm. long, tube narrow at base, broadening above, lobes subequal; stamens 4 [pumilum](#)

Aptosimum pumilum (*Hochst.*) *Benth.* in DC. Prod. 10: 345 (1846); F.T.A. 4, 2: 268. *APD acc*

Chilostigma pumilum *Hochst.* (1841).

Anticharis linearis of Monod in Contrib. Et. Sahara Occ. 2 (Phanéro.): 110 (1939),? partly, not of (*Benth.*) *Hochst.*

Densely tufted, with 2 or 3 horizontal branches at ground level 2 or 3 in. long; flowers white outside and blue inside; **in semi-desert.**

Maur.: Tagant Region Monod 1789! Néma to Timbrédra Rossetti 61/278! **Niger:** Tabbello, Aïr Chopard & Villiers! Agadès (fl. & fr. Nov.) de Wailly 5263!

Also in **Sudan** and **Somaliland**.

5. CELSIA

APD: Synonym of Verbascum L.

APD: Synonym of Rhabdotosperma Hartl

Linn.-F.T.A. 4, 2: 280; Murbeck in Lunds Univ. Årsskrift. n.f. 22: 1 (1925).

- 1 Leaves tomentose beneath, often very densely so, lanceolate, closely serrulate, 2-7 cm. long, 7-20 mm. broad; stems densely tomentose; bracts ovate-lanceolate, nearly as long as pedicels in flower; pedicels 1 cm. long in flower, 1.5 cm. long in fruit, glandular; flowers about 2 cm. diam.; fruits 6-8 mm. long [1. densifolia](#)

Leaves sparsely tomentose on the nerves beneath, oblong-lanceolate, crenate, up to 16 cm. long and 6 cm. broad; stems sparsely tomentose; bracts ovate-lanceolate, lower ones cordate, shorter than the pedicels; pedicels 1-2 cm. long in flower, 1.5-3 cm. long in fruit, glandular; flowers about 2.5 cm. diam.; fruits 8-10 mm. long [2. ledermannii](#)

1. **Celsia densifolia** Hook. f. in J. Linn. Soc. 7: 208 (1862); F.T.A. 4, 2: 284; Murbeck in Lunds Univ. Årsskrift. n.f. 22: 63 (1925).

APD: Synonym of Rhabdotosperma densifolia (Hook. f.) Hartl

Robust erect herb with pithy stems 3 ft. high, woody at the base; flowers yellow in a long terminal raceme; **in montane grassland and thickets.**

[Br.] Cam.: Cam. Mt., 9,000-10,000 ft. (fl. & fr. Dec.) Johnston 9! Maitland 892! Thorold CM 20! Lakom, Bamenda (fl. & fr. Apr.) Maitland 1409! Kumbo to Oku, 6,000 ft. (fl. & fr. Feb.) Hepper 1996! F. Po: 8,500 ft. Mann 1453!

2. **Celsia ledermannii** Schlechter in Murbeck l.c. 64 (1925).

APD: Synonym of Rhabdotosperma ledermannii (Murb.) Hartl

Stout erect herb woody at the base, 4-5 ft. high; flowers yellow; **in montane grassland.**

[Br.] Cam.: Muti, Bamenda Ledermann 5851. Lakom, 6,000 ft., Bamenda (fl. & fr. June) Maitland 1547! Mbakakeka Mt., 7,400 ft., Bamenda (fl. & fr. Jan.) Keay FHI 28409! Hepper 2131! Ndu, 6,000-7,000 ft. Bamenda (Sept.) Savory UCI 397!

6. VERONICA

Linn.-F.T.A. 4, 2: 356.

- 1 Stems and calyx pubescent: [2](#)
Plant entirely glabrous; leaves shortly petiolate, oblong-elliptic, 1.5-3 cm. long, 1-1.5 cm. broad, slightly serrate; flowers numerous in opposite axillary racemes; pedicels slender about 5 mm. long; calyx 2-3 mm. long; corolla about 4 mm. diam. [3. beccabunga](#)

- 2 Leaves petiolate, ovate, rounded or truncate at base, (1-)2-4 cm. long, 1-2 cm. broad, shortly pubescent on both surfaces, serrate except towards base; petiole about 1 cm. long; flowers paired or a few together on a slender axillary peduncle; calyx 3-4 mm. long, pubescent; corolla 8-10 mm. diam.; fruit bilobed, as long as calyx, pubescent [1. abyssinica](#)

Leaves sessile, lanceolate, narrowed at base, 1-4 cm. long, 2-12 mm. broad, pilose at first, soon becoming glabrous; flowers in a dense terminal spike-like raceme; calyx 4-5 mm. long, pubescent; corolla 10-14 mm. diam.; fruits reflex, shorter than calyx, pubescent [2. mannii](#)

1. **Veronica abyssinica** Fres. in Bot. Zeit. 2: 356 (1844); F.T.A. 4, 2: 358; Römpf in Fedde Rep., Beih. 50: 141 (1928); Hedberg in Sym. Bot. Upps. 15: 169 (1957). *APD acc*

Veronica africana Hook. f. in J. Linn. Soc. 7: 208 (1864).

Prostrate herb, creeping, branched from the base, more or less pilose; flowers blue or pinkish; **in montane grassland and scrub beside small streams.**

[Br.] Cam.: Cam. Mt., 5,000-9,000 ft. (fl. & fr. Dec., Jan.) Mann 1263! Dunlap 75! Bamenda, 6,000-8,000 ft. (fl. & fr. Jan., Apr., June, Sept.) Ujor FHI 30445! Savory UCI 279! Boughy GC 10557! Ndu (Feb.) Hepper 1939! Ngel Nyaki, Mambila Plateau (Jan.) Hepper 1718!

Also in the highlands of eastern Africa from **Ethiopia** to Nyasaland.

2. **Veronica mannii** Hook. f. in J. Linn. Soc. 6: 19 (1861); F.T.A. 4, 2: 359; Hedberg l.c. 169, 323. *APD*

acc

Erect or ascending perennial herb, stems with 2 lines of hairs, 6-18 in. high, internodes short, inflorescence densely glandular-pubescent; flowers blue; **in montane grassland**.

[Br.] Cam.: Cam. Mt., 9,000-13,000 ft. (fl. & fr. Nov.-Mar.) Mann 1312! 2030! Maitland 798! Keay FHI 28505! F. Po: Clarence Peak, 9,350 ft. (fl. & fr. Dec.) Mann 604!

3. *Veronica beccabunga* Linn. Sp. Pl. 12 (1753); F.T.A. 4, 2: 357. *APD acc*

Veronica anaganallis of F.W.T.A. ed. 1, 2: 231; Chev. Bot. 474; not *V. anagallis-aquatica* Linn.

A soft-stemmed herb, ascending up to 1 ft. high; flowers blue; **in wet places**.

Niger: Bilma Oasis (fl. & fr. May) Ducellier in Hb. Chev. 28627! Le Coeur 29!

Widely distributed in warm and temperate regions was included by error in the first edition. However, it is widespread in Africa and may well occur in our area; easily distinguished from *V. beccabunga* by its sessile leaves. -F.N. H.]

7. SIBTHORPIA

Linn.-F.T.A. 4, 2: 353.

- 1 A weak, straggly herb rooting at the nodes; stems thinly pubescent; leaves reniform-orbicular, crenate with numerous small teeth, 1.5-2 cm. diam., pilose on both surfaces; petiole slender, pubescent; pedicels 3-4 mm. long; calyx about 2 mm. long, pubescent, shortly lobed; corolla purple *europaea*

Sibthorpia europaea Linn. Sp. P. 631 (1753); Hedberg in Bot. Not. 108: 168 (1955), and in Sym. Bot. Upps. 15: 168 (1957). *APD acc*

Sibthorpia europaea var. *africana* Hook. in J. Linn. Soc. 7: 208 (1862); F.T.A. 4, 2: 354.

Sibthorpia australis Hutch. F.W.T.A., ed. 1, 2: 221 (1931).

A prostrate herb in **moist montane habitats**.

[Br.] Cam.: Cam. Mt., 7,000-8,500 ft. (Dec., Feb., Apr.) Mann 1963! Maitland 1197! 1322! Mildbr. 7098. Brenan 9566! Mbakakeka Mt. Coombe 236! Bafut-Ngamba F.R. (Feb.) Hepper 2094! Oku, 6,500 ft. (Feb.) Hepper 2009! F. Po: 7,500 ft. Mann 1455!

Widespread in oceanic parts of W. & S. Europe, in the Azores and on high mountains in tropical Africa.

8. SCOPARIA

Linn.-F.T.A. 4, 2: 354.

- 1 Stems ribbed, glabrous; leaves opposite or whorled, narrowly oblanceolate, narrowed and entire in the lower half, crenulate in the upper part, 2.5-5 cm. long, up to 1.5 cm. broad, glabrous, areolate-punctate below; flowers 1-2 in the upper reduced leaf-axils forming slender racemes; pedicels about 6 mm. long, glabrous; calyx and corolla 2-3 mm. long; capsule globose, 4 mm. diam. *dulcis*

Scoparia dulcis Linn. Sp. Pl. 116 (1753); F.T.A. 4, 2: 354; Chev. Bot. 474; Berhaut Fl. Sén. 61, 74. *APD acc*

Erect shrubby weed 1-3 ft.; flowers white or bluish, usually 4 petals, densely bearded inside.

Maur.: El Berbera (fl. & fr. Apr.) Monod 9531! **Sen.:** Richard Tol (fl. & fr. Jan.) Döllinger 4! **Gam.:** Kuntaur Ruxton 143! Genieri (fl. & fr. July) Fox 133! **Mali:** Timbuktu (fl. & fr. June) Hagerup 113! Macina to Diafarabé (fl. & fr. May) Lean 22! **Port. G.:** Pussubé, Bissau (fl. & fr. Oct.) Esp. Santo 966! **Guin.:** Koukoré (fl. & fr. Sept.) Pobéguin K 6! Kouroussa (fl. & fr. July) Pobéguin 301! **S. L.:** Sc. Elliot 5134! Freetown (fl. & fr. Aug.) Deighton 2059! Njala (fl. & fr. Mar.) Deighton 18191 Musaia (fl. & fr. Apr.) Deighton 5377! **Lib.:** Monrovia Whyte! Brand Bassa (fl. & fr. July) T. Vogel 47! Gbanga (fl. & fr. Aug.) Freeman 6! **Ghana:** Accra Plains (fl. & fr. Nov.) Morton GC 6120! Bomase (fl. & fr. Apr.) A. S. Thomas D .187! Juaso, Ashanti (fl. & fr. June) Irvine 272! Tamale (fl. & fr. Feb., June) Williams 482! 821! **Togo Rep.:** Lome Warnecke 24! 377! **N. Nig.:** Lokoja (fl. & fr. Sept.) Parsons L .17! Nupe Barter 1174! Sokoto (fl. & fr. Nov.) Moiser 40! 68! Bindawa, Katsina (fl. & fr. Aug.) Grove 31! Naraguta Lely 33! **S. Nig.:** Lagos (fl. & fr. Dec.) Onochie FHI 32034!

Ibadan to Abeokuta (fl. & fr. Mar.) Schlechter 12337! Nun R. Mann 475! Ogbomosho Barter 3405! Olokemeji Foster 290! Calabar (fl. & fr. Jan., Apr.) Holland 17! 98! [Br.] Cam.: Johann-Albrechtshöhe Staudt 598! Mamfe (fl. & fr. Dec.) Migeod 269! Gembu, Mambila Plateau (fl. & fr. Jan.) Latilo & Daramola FHI 34373! Gurum, Adamawa (Nov.) Hepper 2742!

Widespread in the tropics.

9. CAPRARIA

APD: Synonym of Lindernia All.

Linn.-F.T.A. 4, 2: 355.

- 1 A small shrub; branches thinly pilose; leaves broadly oblanceolate, long-cuneate and entire towards the base, sharply serrate in the upper half, 3-3.5 cm. long, 1-1.5 cm. broad, slightly pubescent towards the margin; flowers 1-2, axillary; pedicels nearly 1 cm. long; calyx-segments linear-lanceolate, about 4 mm. long, ciliate; corolla widely funnel-shaped, 1 cm. long; fruit broadly ellipsoid, 5 mm. long, gland-dotted [biflora](#)

Capraria biflora Linn. Sp. Pl. 628 (1753); F.T.A. 4, 2: 355; Sprague in Kew Bull. 1921: 209. *APD acc*

Erect branched under-shrub, 2-3 ft. high; flowers white; [in waste places](#).

Ghana: Cape Coast (fl. & fr. July) T. Vogel 79! Accra (fl. & fr. Oct.) Brown 377! Dalz. 115! Irvine 1004! Adaiso (fl. & fr. Nov.) Morion GC 6145! Asebu, Asuansi (fl. & fr. Oct.) Lovi WACRI 3930!

A tropical American weed introduced into our area, Cape Verde Islands and Mauritius.

10. MIMULUS

Linn.-F.T.A. 4, 2: 310.

- 1 Glabrous perennial; stems quadrangular, slightly winged; leaves lanceolate or linear-lanceolate, 2-6 cm. long, 5-12 mm. broad, shortly toothed or undulate on margin, acute at apex, rounded or amplexicaul at base; flowers solitary, axillary; pedicels about 2 cm. long; calyx 7 mm. long, 5-toothed; corolla about 1 cm. long, very unequally 2-lipped; stamens 4 [gracilis](#)

Mimulus gracilis R. Br. Prod. 439 (1810); F.T.A. 4, 2: 310. *APD acc*

Slender stiffly erect herb, 1-2 ft. high, simple or sparingly branched; flowers white or mauve with yellowish spots in the throat; [in upland savanna](#).

N. Nig.: Jos Plateau (fl. & fr. June) Lely P 355! Panyam, 4,500 ft. (fl. & fr. July) Lely 410!

Also in [Sudan](#), [Ethiopia](#), [Tanganyika](#), [N. & S. Rhodesia](#), [Nyasaland](#), [Mozambique](#) and [Angola](#).

11. STEMODIA

Linn.-F.T.A. 4, 2: 313. Nom. cons.

- 1 Leaves lanceolate, sessile, broad at the base, up to 5 cm. long, dentate towards the apex, pubescent on the nerves; flowers in leafy spike-like racemes; calyx-segments linear, about 5 mm. long, pubescent; corolla 2-lipped; stamens 4, included; fruit narrow, glabrous, as long as the calyx [1. serrata](#)
- Leaves more or less ovate, serrate except the cuneate base, petiolate, about 1-5 cm. long; flowers axillary, subsolitary; fruit globose [2. verticillata](#)

1. **Stemodia serrata** Benth. in DC. Prod. 10: 381 (1846); F.T.A. 4, 2: 314; Berhaut Fl. Sén. 74. *APD acc*

An erect, much branched viscid glandular-pubescent aromatic herb, 6-12 in. high; flowers yellow or white.

Sen.: Leprieur! Perrottet 441! Roger. Berhaut 1307! **Ghana:** Nangodi (Dec.) Morton A1254!

Also in [Sudan](#), [Ethiopia](#), [Nyasaland](#) and [India](#).

2. *Stemodia verticillata* (Mill.) Boldingh Zakfl. Landb. Java 165 (1916). *APD acc*

Erinus verticillatus Mill. Gard. Dict. ed. 8, No. 5 (1768).

Stemodia parviflora Ait. (1789)-F.W.T.A., ed. 1, 2: 221.

A small, much-branched herb, slightly woody below, erect or decumbent, a few inches high; flowers blue-purple; [weed of waste places](#).

Guin.: Lalie (fr. Oct.) Adam 12667! **S. L.:** Rokupr (fl. & fr. July) Jordan 278! Bonthe (fl. & fr. Nov.) Deighton 2264! Njala (fl. & fr. Sept.) Deighton 2087! Hepper 2555! Makump (fl. & fr. Aug.) Deighton 1387! Nyiyama (fl. & fr. Apr.) Deighton 1659! **Lib.:**? Ganta (May) Harley 923! **[Br.] Cam.:** Ebonji, Kumba (fl. & fr. May) Olorunfemi FHI 30586! **F. Po:** El Pico, 1,700 ft. (fl. & fr. Dec.) Boughey 186a!

Introduced from tropical America; also in Mauritius and Java.

Stemodia senegalensis Desf. Cat. Hort. Paris, ed. 3, 107 (1829), name only. *APD acc*

An annual from Senegal without description.

It seems more probable that this is *S. serrata*, which is known from Senegal, than *S. verticillata* (syn. *S. parviflora*) under which it was provisionally placed in F.W.T.A., ed. 1, 2: 221.

12. STEMODIOPSIS

Engl.-F.T.A. 4, 2: 314.

- 1 herb from a small tufted base, pubescent with short stiff whitish hairs; leaves opposite, ovate, acute at apex, cuneate at base, coarsely dentate, 1-2 cm. long, 6-15 mm. broad; petiole 5-10 cm. long; inflorescences few-flowered, cymes in most axils; calyx deeply 5-fid, segments linear, 3 mm. long; corolla 5 mm. long, 2-lipped, lower lip shortly 3-lobed; fruit conical, 5-5 mm. long, slightly hairy [humilis](#)

Stemodiopsis humilis Skan in F.T.A. 4, 2: 316 (1906); Hepper in Kew Bull. 15: 65.

APD: *Synonym of Stemodiopsis rivae Engl.*

A perennial with tufted stems about 5 in. long from [cracks in large rocks](#); flowers greenish-yellow.

[Br.] Cam.: Mapeo, Alantika Mts., 2,500-3,500 ft., Adamawa (fl. & fr. Dec.) Hepper 1601!

Also in [Sudan](#), [Uganda](#), [Kenya](#), [Tanganyika](#), [Nyasaland](#), [S. Rhodesia](#) and [Mozambique](#).

13. LIMNOPHILA

R. Br.-F.T.A. 4, 2: 316. Nom. cons.

- 1 Flowers with slender pedicels 6-18 mm. long, axillary or subterminal; leaves deeply divided, the lower in whorls, the upper whorled or opposite and sometimes only serrate, 1-3 cm. long; calyx-segments linear, 5 mm. long; corolla 1 cm. long; fruit nearly equalling calyx [1. indica](#)
Flowers sessile or subsessile: **2**
- 2 Corolla 5-10 mm. long, about 2 mm. diam.; flowers in lax spikes or axillary, solitary: **3**
Corolla 13-15 mm. long, about 5 mm. diam., in a terminal congested spike and often also some axillary flowers; aerial leaves glabrous, punctate beneath, ovate, rarely all divided, rounded at base, 7-20 mm. long, 4-8 mm. broad, 3-nerved; calyx 5 mm. long, glabrous [4. dasyantha](#)
- 3 Bracts and leaves above water ovate, often broadly so and subcordate, 1.5-2.5 cm. long, 1-2 cm. broad, 5-7-nerved, serrulate, softly tomentose on both sides, submerged leaves much divided and whorled; stems above densely pubescent; flowers in interrupted spikes, numerous; corolla 5 mm. long; calyx pubescent, 4 mm. long [2. barteri](#)
Bracts and leaves all pinnatisect and whorled, up to 1 cm. long, glabrous, submerged leaves with finer segments; stems glabrous or slightly pubescent; flowers few, solitary, axillary; corolla 8-10 mm. long; calyx glabrous, gland-dotted, 5 mm. long [3. sessiliflora](#)

1. *Limnophila indica* (Linn.) Druce in Rep. Bot. Exch. Cl. Brit. Isles 3: 420 (1914). *APD acc**Hottonia indica* Linn. (1759).*Limnophila gratioloides* R. Br. (1810)-F.T.A. 4, 2: 319; F.W.T.A., ed. 1, 2: 223; Berhaut Fl. Sén. 61.*Ambulia gratioloides* (R. Br.) Baill. ex Engl.-Chev. Bot. 470.

Slender glabrous or slightly glandular-pubescent herb, branched or simple, a few inches to 2 ft. long; flowers small, white; in mud or submerged sometimes in masses.

Sen.: Roger 59! Berhaut 1511. **Mali:** Nafadié (fl. & fr. Jan.) Chev. 155! Gao (Mar.) de Wailly 5355! **Togo Rep.:** Lome Warnecke 230! **[Br.] Cam.:** Gurum, Adamawa (fl. & fr. Dec.) Hepper 1599!

Widespread in tropical Africa, Asia and Australia.

A dwarf form about 2 in. high with congested leaves and few flowers (Barter 1709) has been named *L. gratioloides* var. *nana* Skan in F.T.A. 4, 2: 319 (1906).

2. *Limnophila barteri* Skan in F.T.A. 4, 2: 317 (1906); Chev. Bot. 470; Berhaut Fl. Sén. 68. *APD acc**Limnophila fluviatile* A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 4: 587 (1932), incl. forma *fluviatile* and forma *terrestris*.

Erect or semi-aquatic herb 1-2 ft. high, with viscid hairs; flower white.

Sen.: Berhaut 1518. **Mali:** Dogo (fr. Apr.) Davey 552! **Port. G.:** Batatá (fl. & fr. Dec.) Esp. Santo 2856! **Guin.:** Kindia to Télimélé (fl. & fr. Feb.) Roberty 10744! **S. L.:** Lomaburu (fr. Feb.) Sc. Elliot 5032! Port Loko (fl. & fr. Dec.) Thomas 6549! **iv. C.:** Alangouassou to Mbayakro Chev. 22249! **Ghana:** Burufo (fl. & fr. Dec.) Adams & Akpabla GC 4381! Bimbila (fr. Mar.) Hepper & Morton A3092! **N. Nig.:** Barter 751! Kontagora (fl. & fr. Nov.) Dalz. 161!

3. *Limnophila sessiliflora* (Vahl) Blume Bijdr. Fl. Ned. Ind. 749 (1825); F.T.A. 4, 2: 318. *APD acc**Hottonia sessiliflora* Vahl (1791).

Small aquatic herb about 6 ins. long; flowers yellow.

S. L.: Makeni to Kabala (fl. & fr. Jan.) King 172b!

Also in **Tanganyika**, **N. & S. Rhodesia**, **Angola**, **S. Africa**, **tropical Asia** and **China** and **Japan**.

4. *Limnophila dasyantha* (Engl. & Gilg) Skan in F.T.A. 4, 2: 318 (1906); Chev. Bot. 470. *APD acc**Ambulia dasyantha* Engl. & Gilg (1903).*Ceratophyllum demersum* of F.W.T.A., ed. 2, 1: 65 (partly Deighton 2339), not of Linn.

Weak-stemmed aquatic herb 2-4 ft. long, leafless in the lower part; flowers conspicuous yellow; in stagnant pools.

Mali: Oualia, Kita Chev. 101! **Port. G.:** Antula (Dec.) Esp. Santo 2638! Empandja Esp. Santo 1609! S. Domingos to Suzana (Nov.) Esp. Santo 3677! **Guin.:** Koba (Nov.) Jac.-Fél. 7223! **S. L.:** Bentembu (Apr.) Sc. Elliot 5862! Songo (Oct.) Lane-Poole 379! Bokupr (Apr.) Adames 169! Njala (Oct.) Deighton 2810! Matru to Gbangbama Deighton 2339!

Also in **Angola**.

14. BACOPA

Aubl. Pl. Guian. 1: 128, t. 49 (1775), nom. cons. Moniera Browne (1756).-F.T.A. 4, 2: 319. *APD acc*

- 1 Leaves palmately nerved with 5-7 almost equal nerves, spatulate, undulate on margin towards apex, broadly cuneate into petiole, 1-2.5 cm. long, 5-15 mm. broad, glabrous; prostrate, rooting at most nodes; flowers solitary; pedicels 1-1.5 cm. long; bracteoles absent; sepals and corolla-lobes 3-5, stamens 3-4 *1. egensis*
Leaves 1-nerved, midrib prominent: 2
- 2 Calyx 2-5(-6) mm. long in fruit; fruiting pedicels 1(-3) mm. long: 3
Calyx 8-11 mm. long in fruit; fruiting pedicels (2-)3-13 mm. long: 5
- 3 Leaves broad and subcordate at base, ovate-lanceolate, 1-2 cm. long, 4-9 mm. broad, densely glandular-punctate beneath; younger stems appressed-pubescent *2. occultans*
Leaves not subcordate at base narrowly lanceolate or linear: 4
- 4 Fruits and smaller calyx segments obscured by 2 large ovate calyx segments about 4 mm. broad; leaves narrowly

lanceolate, narrowed to base, 2-3 cm. long, 3-7 mm. broad; stem usually branched below [3. *hamiltoniana* var. *hamiltoniana*](#)

Fruits not obscured by calyx, segments all visible, at most 2.5 mm. broad; leaves linear, up to 2.5 cm. long and 2 mm. broad; stem simple[3a. *hamiltoniana* var. *angustisepala*](#)

- 5 Pedicels pubescent, 5-11 mm. long; largest calyx-segment broadly ovate, about 8 mm. long and 7 mm. broad in fruit, pubescent; leaves lanceolate, narrowed to base or sessile, 1-3.5 cm. long, 3--6(-15) mm. broad, pubescent[4. *floribunda*](#)

Pedicels and other parts glabrous:[6](#)

- 6 Erect, annual herb; largest calyx-segment oblong-lanceolate, about twice as long as broad, in fruit 8-11 mm. long and 4-6 mm. broad, toothed or entire; flowers solitary or often in short congested axillary racemes[5. *decumbens*](#)

Creeping herbs; flowers usually solitary in axils:[7](#)

- 7 Calyx-segments conspicuously venose at least in fruit, broadly ovate, 7-8 mm. long, 5-6 mm. broad; pedicels shorter than leaves; leaves lanceolate, crenate-serrate above, subacute, 2-3.5 cm. long, 5-11 mm. broad[6. *crenata*](#)

Calyx-segments not venose; pedicels as long as or longer than the leaves;[8](#)

- 8 Leaves oblanceolate, subentire, obtuse at apex, 5-15 mm. long, 3-8 mm. broad; calyx-segments narrowly ovate; stems fleshy[7. *monniera*](#)

Leaves ovate-elliptic, coarsely serrate, subacute at apex, about 2 cm. long and 1 cm. broad; calyx-segments broadly ovate; stems not fleshy[8. *procumbens*](#)

1. **Bacopa egensis** (*Poepp. & Endl.*) *Pennell* in Proc. Acad. Nat. Sci. Phil. 98: 95 (1946). *APD acc*

Hydranthelium egense *Poepp. & Endl.* (1845)-F.T.A. 4, 2: 351; F.W.T.A., 1, 2: 229.

A creeping herb; flowers white or bluish, fragrant; on muddy river and stream sides.

S. Nig.: Onitsha Barter 1252!

Also in [the Congos](#) and [Central and S. America](#).

2. **Bacopa occultans** (*Hiern*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 222 (1931); *Berhaut Fl. Sén. 74. APD acc*

Moniera occultans *Hiern* (1898).

Erect or ascending herb, up to 1 ft. high, sparingly branched near the base: flowers white; [in rice swamps and margins of lakes](#).

Sen.: Banbankountia (Dec.) *Berhaut* 1822! *S. L.*: Njala (fl. & fr. Oct.) *Deighton* 2811! *Miligi* (Oct.) *Jordan* 926! *Ghana*: Kamba, near Lawra (Nov.) *Harris*! *N. Nig.*: Nupe Barter 1689! *S. Nig.*: Eket Talbot!

Also in [Angola](#).

Bacopa hamiltoniana (*Benth.*) *Wettst. APD acc*

3. **Bacopa hamiltoniana** var. **hamiltoniana**-in *E. & P. Pflanzenfam.* 4, 3B; 77 (1891); F.W.T.A., ed. 1, 2: 222, excl. syn. *B. alternifolia* *Engl. Berhaut Fl. Sén. 74. APD acc*

Herpestis hamiltoniana *Benth.* (1835).

Moniera hamiltoniana (*Benth.*) *T. Cooke* (1905)-F.T.A. 4, 2: 323.

M. scabrida *A. Chev.* in *Mém. Soc. Bot. Fr.* 2, 8: 184 (1912); *Chev. Bot.* 471.

Erect usually well-branched herb about 6 in. high; [in damp places](#).

Sen.: Leprieur 237! *Berhaut* 1452. *Guin.*: Mankoutan (Nov.) *Jac-Fél.* 7349! *Iv. C.*: Toumodi Chev, 22391! *Ghana*: Gambaga Scarp (Sept.) *Hall* 752b! *N. Nig.*: Kontagora (fl. & fr. Nov.) *Dalz.* 158! *Anara F.R.*, Zaria (fr. Oct.) *Hepper* 987! *Yola* (fl. & fr. Nov.) *Hepper* 1192! [*Br.*] *Cam.*: Jada, Adamawa (fl. & fr. Nov.) *Hepper* 1225!

Also in [India](#).

3a. **Bacopa hamiltoniana** var. **angustisepala** *Hepper* in *Kew Bull.* 15: 64 (1961). *APD acc*

Small half-succulent, simple herb 2-7 in. high; flowers pale blue; [in moist ground](#).

N. Nig.: Guma, Minna (fl. & fr. Oct.) *Hepper* 976!

4. **Bacopa floribunda** (*R. Br.*) *Wettst.* in E. & P. Pflanzenfam. 4, 3B: (1891); Berhaut Fl. Sén. 74. *APD acc*

Herpestis floribunda *R. Br.* (1810).

Moniera floribunda (*R. Br.*) *T. Cooke* (1905)-F.T.A. 4, 2: 322.

M. pubescens *Skan* in F.T.A. 4, 2: 322 (1906).

M. calycina of Chev. Bot. 471, not of (Benth.) Hiern.

Bacopa pubescens (*Skan*) *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 222 (1931).

Moniera bicolor *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 183 (1912).

Erect or ascending variable herb, 3-18 in. high flowers mauve; in damp places.

Sen.: Perrottet 583! 598! 602! Badi (fr. Dec.) Berhaut 1839! **Gam.:** Dawe 28! **Port. G.:** Pirada (fl. & fr. Nov.) Esp. Santo 3161! Bafatá (fl. & fr. Dec.) Esp. Santo 2841! **S. L.:** Falaba R. (fl. & fr. Apr.) Sc. Elliot 5451! **Iv. C.:** Toumodi Chev. 22400! 22410! **Ghana:** Burufo (fl. & fr. Dec.) Adams & Akpabla 4382! Lumbaga (fl. & fr. Dec.) Morton GC 6263! Tumu (fr. Dec.) Adams & Akpabla 4373! **N. Nig.:** Nupe Barter 1011! Bida (fl. & fr. Mar.) Meikle 1325! Lokoja (Oct.) Parsons L60! Anara F.R., Zaria (Oct.) Hepper 986! Jos Plateau (Oct.) Lely P826! **[Br.] Cam.:** Kwagiri, Gashaka Dist. (Nov.) Latilo & Daramola FHI 28766! Jada, Adamawa (fl. & fr. Nov.) Hepper 1225!

Also in Ubangi-Shari, **Sudan**, Congo, **Kenya**, **Tanganyika**, Pemba, Zanzibar, Mozambique and Madagascar, extending into tropical Asia and Australia.

5. **Bacopa decumbens** (*Fernald*) *F. N. Williams* in Bull. Herb Boiss., sér. 2, 7: 369 (1907). *APD acc*

Herpestis decumbens *Fernald* (1897).

Moniera decumbens (*Fernald*) *Skan* in F.T.A. 4, 2: 321 (1906).

Bacopa erecta *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 222 (1931); Berhaut Fl. Sén. 74.

Erect herb 1-2 ft. high with soft stem; flowers white; in brackish swamps and rice fields.

Sen.: Heudelot 595! Perrottet 589! 607! Berhaut 1772. **Gam.:** Dawe 66! Sukuko (fl. & fr. Jan.) Dalz. 8060! **Port. G.:** Bissau (fl. & fr. Jan., Feb., Nov.) Esp. Santo 1013! 1446! 1751! Sedeugafe to Ingoré (fl. & fr. Dec.) Esp. Santo 3738! **Guin.:** Koba (nov.) jac.-fél. 7203! **S. L.:** Smeathmann! Mahela (Dec.) Sc. Elliot 3847! Rokupr (Feb., Apr.) Jordan 769! Hepper 2598! Maswari (fl. & fr. Feb.) Deighton 4985! Urika (Mar.) Glanville!

Also in **Mexico** and **C. America**.

[In spite of this being described as a new species in the first edition, I cannot see that it is specifically distinct from Fernald's species and I therefore revert to the F.T.A. determination with its apparently inappropriate epithet-F. N. H.]

6. **Bacopa crenata** (*P. Beauv.*) *Hepper* in Kew Bull. 14: 407 (1960). *APD acc*

Herpestis crenata *P. Beauv.* Fl. Oware 2: 83 t. 112 (1819).

H. calycina *Benth.* (1836).

Bacopa calycina (*Benth.*) *Engl. ex De Wild.* in Bull. Herb. Boiss 1: 832 (1901); F.W.T.A., ed. 1, 2: 222; Berhaut Fl. Sén. 74.

Moniera calycina (*Benth.*) *Hiern* (1898)-F.T.A. 4, 2: 320.

M. cuneifolia of F.T.A. 4, 2: 320, partly (Beauvois s.n.), not of Michx.

Bacopa monnieri of F.W.T.A., ed. 1, 2: 222, not of (Linn.) Wettst.

Creeping and ascending herb with soft spongy stems a few inches to 3 ft. long, rooting at the lower nodes; flowers white; in swamps and ditches.

Sen.: Leprieur 214! Perrottet 12! 604! Berhaut 603. **Lib.:** Nyaake, Webo Dist. (June) Baldwin 6159! Vonjama (Oct.) Baldwin 9874! **Iv. C.:** Tadio Lagoon Tournier! Bouakro to Alangoussou Chev. 22225! **Ghana:** Beyin (fl. & fr. Feb.) Irvine 2350! Accra Plains (fl. & fr. July) Irvine 725! Atwabo Fishlock 54! 81! Bimbila (fl. & fr. Mar.) Hepper & Morton A3104! **Togo Rep.:** Lomé Warnecke 226! **N. Nig.:** Borgu Barter 1690! Lokoja (fl. & fr. Nov.) Dalz. 1238! Badagry (fl. & fr. Aug.) Onochie FHI 33492! 33497! Ibadan (fl. & fr. Aug.) Tamajong FHI 19507!

Also in **Sudan**, the **Congos**, **Angola** and **Madagascar**.

7. **Bacopa monniera** (*Linn.*) *Wettst.* in E. & P. Pflanzenfam. 4, 3B: 77 (1895).

APD: *Synonym of Bacopa monnieri* (*L.*) *Pennell*

Lysimachia monnieri *Linn.* (1756).

Moniera cuneifolia *Michx.* (1803)-F.T.A. 4, 2: 320 and F.W.T.A., ed. 1, 2: 222, partly (excl. Beauvois and syn. *Herpestis crenata* *P. Beauv.*)

A creeping, or sometimes aquatic, herb; flowers blue or white.

S. Nig.: Ogun F. R., Lagos (Mar.) Hepper 2249! Majidun Ilaje, Lagos (Feb.) Hambler 410!

8. *Bacopa procumbens* (Mill.) Greenman in Publ. Field Columb. Mus., Bot. ser., 2: 261 (1907). *APD acc*

Erinus procumbens Mill. Gard. Dict., ed. 8, No. 6 (1768).

Herpestis chamaedryoides H. B. & K. (1817).

Bacopa chamaedryoides (H.B. & K.) Wettst. in E. & P. Pflanzenf. 4, 3B: 76 (1895).

A prostrate creeping herb with large yellow flowers; plant usually drying black.

[Br.] Cam.: Buea, 4,000 ft. (fl. & fr. Jan.) Morton K947!

Widespread in tropical America and presumably introduced into our area and recorded here for the first time from Africa; also in India and Queensland.

15. DOPATRIUM

Buch.-Ham. ex Benth.-F.T.A. 4, 2: 324.

- 1 Lowermost flowers in inflorescence sessile and cleistogamous; perfect flowers pedicellate, pedicels 5-10 mm. long; lower leaves oblanceolate, 1-3 cm. long; stem leaves ovate, 1-5 mm. long; calyx 1-2 mm. long; corolla 5-6 mm. long; fruits globose or ovoid, 1.5-2 mm. long [1. *junceum*](#)
All flowers perfect and pedicellate: [2](#)
- 2 Corolla less than 5 mm. long; calyx 3-3.5 mm. long, segments about 2 mm. long, narrowly lanceolate, acuminate; basal leaves elliptic, 10-15 mm. long; fruits narrowly ovoid [2. *baoulense*](#)
Corolla more than 10 mm. long: [3](#)
- 3 Calyx 4-6 mm. long; corolla salver-shaped, tube slender, 1-1.5 cm. long, limb 2-3 cm. across; racemes few-flowered: [4](#)
Calyx 2-3 mm. long; corolla subcampanulate, tube widening from base, less than 1 cm. long, limb less than 1 cm. across; lower leaves lanceolate; stem leaves minute, deltoid; racemes usually many flowered; pedicels up to 2 cm. long [5. *senegalense*](#)
- 4 Pedicels in fruit reflexed, up to 2 cm. long; basal leaves lanceolate acute, stem leaves deltoid [3. *longidens*](#)
Pedicels in fruit erect, up to 2 cm. long; basal leaves narrowly lanceolate, stem leaves ovate [4. *macranthum*](#)

1. *Dopatrium junceum* Buch.-Ham. ex Benth. Scroph. Ind. 31 (1835). *APD acc*

Erect, usually simple herb, to 1 ft. high; flowers white or pale mauve; **in wet places.**

Sen.: Richard Tol (Sept.) Martine 111! **N. Nig.:** Kumu (Oct.) Lely 666!

Widespread in tropical Africa and Asia.

2. *Dopatrium baoulense* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 184 (1912); Chev. Bot. 471. *APD acc*

Ilysanthes parviflora of F.W.T.A., ed. 1, 2: 230, partly (syn. & Chev. 22250), not of (Roxb.) Benth.

Erect simple herb to 8 in. high; **in wet places.**

Iv. C.: Baoulé (Aug.) Chev. 22250!

3. *Dopatrium longidens* Skan in F.T.A. 4, 2: 325 (1906). *APD acc*

Erect herb often branched from base to 15 in. high; flowers large and showy, purple or mauve; **in wet places.**

Mali: Ségou (Aug.) Roberty 3756! **N. Nig.:** Nupe Barter 1683! Anara F.R., Zaria Prov. (Sept.) Olorunfemi FHI 24353! Jos (Aug.) Keay FHI 20072! Maraguta (Aug.) Lely 526! Jos Plateau Sounders 9! Dent Young! Gidan-Anju, Muri Div., Adamawa (Nov.) Latilo & Daramola FHI 28728!

4. *Dopatrium macranthum* Oliv. in Trans. Linn. Soc. 29: 120 (1875). *APD acc*

Dopatrium schweinfurthii Wettst. in E. & P. Pflanzenfam. 4, 36: 75 (1895).

Dopatrium luteum Engl. (1897)-F.T.A. 4, 2: 324.

Erect, usually simple herb to 18 ins. high; flowers large and showy, purple or yellow; **in wet places.**

Mali: Bamako to Ségou (fl. & fr. Sept.) Jaeger 5116! Boroma to Ouagadougou (Sept.) Jaeger 5271! **Ghana:** Yendi to Gambaga (Oct.) Rose Innes GC 30486! Lawra (July) Hinds s.n.! 5004! 5004a!

Also in **Congo**, **Uganda** and **Sudan**.

5. **Dopatrium senegalense** *Benth.* in DC. Prod. 10: 407 (1846); F.T.A. 4, 2: 326; Berhaut Fl. Sén. 4. *APD acc*

Dopatrium nanum *Sc. Elliot* (1895)-F.T.A. 4, 2: 326.

Dopatrium peulhorum *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 185 (1912); Chev. Bot. 471.

Dopatrium dawei *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 230 (1931).

Erect, usually branched herb, to 18 in. high; flowers violet; **in wet places.**

Sen.: Heudelot 138! Tambacounda Berhaut 1261. **Gam.:** Bansang Duke 3! **Guin.:** Fouta Djallon (Sept.) Chev. 18554; 18623! 18657. Schnell 7383! Kindia Farmar 199a! Dalaba Abbayes 844! **S. L.:** Scarcies (Feb.) Sc. Elliot 4275b! Moyamba (Aug.) Dawe 568! Bunkababe Dawe 493! Binkolo Deighton 1280! Kambia Adames 185!

16. ARTANEMA

D. Don-F.T.A. 4, 2: 327. Nom. cons. *APD acc*

- 1 Stems glabrous; leaves opposite, broadly lanceolate, acutely acuminate, shortly petiolate, (6-) 10-25 cm. long, (1-) 2-9 cm. broad, serrulate except the cuneate base, soabrid above especially towards margin; racemes 10-15 cm. long; pedicels 1 cm. long; calyx glabrous, lobes ovate to lanceolate, 3-8 mm. long; corolla 3 cm. long, slightly irregular; fruits globose, about 1 cm. diam. [longifolium](#)

Artanema longifolium (*Linn.*) *Vatke* in Linnaea 43: 307 (1882). *APD acc*

Columnnea longifolia *Linn.* (1767).

Achimenes sesamoides *Vahl* (1791).

Artanema sesamoides (*Vahl*) *Benth.* (1835)-F.T.A. 4, 2: 327; Chev. Bot. 471.

Herb about 3 ft. high with hollow, succulent stems; flowers deep red-purple, paler inside; **in water and marshy places; drying green.**

Lib.: Browntown, Tchien Dist. (Aug.) Baldwin 7081! Gipu (Aug.) Harley 2194! **Iv. C.:** Sassandra Basin Chev. 17977! Bériby Chev. 20006! 20042! Alangouassou Chev. 22221! 22243! **Ghana:** Accra Brown 381! Cape Coast (June) Fishlock 37! Swedru (fl. & fr. Sept.) Dalz. 146! Subiri F.R., Benso (fl. & fr. Sept.) Andoh FH 5563! Kpandu (Sept.) Robertson 110! Baumann 245! **Dah.:** Savé Chev. 23583! **S. Nig.:** Ndoni Barter 1769! Abeokuta Irving! Ibadan (Apr.) Meikle 1474! Sapoba Kennedy 2377! British Ogbokum, Ikom (fl. & fr. May) Jones & Onochie FHI 18877! **[Br.] Cam.:** Mombo to Bakosi, Kumba (fr. May) Olorunfemi FHI 30568!

Also in **Cameroun**, **Rio Muni**, **the Congos** and **Uganda** and extends into tropical Asia.

17. CRATEROSTIGMA

APD: Synonym of Lindernia All.

Hochst.-F.T.A. 4, 2: 328.

- 1 Lower lip of corolla 5-7 mm. long, tube 6-7 mm. long, densely puberulous; flowers congested in terminal heads; stems quadrangular, at least towards base, glabrous; lower leaves ovate to elliptic, obtuse, upper leaves lanceolate, acute, sessile, 1-2.5 cm. long, 3-11 mm. broad, subentire, glabrous [l. schweinfurthii](#)
Lower lip of corolla 2-3 mm. long, tube 5 mm. long, slightly puberulous and gland-dotted; flowers several together or solitary in interrupted spikes; leaves lanceolate, acute, with 2 or 3 small serrations on each side, 7-20 mm. long, 3-7 mm. broad, glabrous [2. guineense](#)

1. **Craterostigma schweinfurthii** (*Oliv.*) *Engl.* in Engl. Bot. Jahrb. 23: 501 (1897); F.T.A. 4, 2: 332; Chev. Bot. 472, partly.

APD: Synonym of Crepidorhopalon schweinfurthii (Oliv.) Eb. Fisch.

Torenia schweinfurthii Oliv. (1878).

Stem herbaceous 1-2 ft. high, erect or slightly decumbent at base with fibrous roots along the internodes, leaves tinged brown or purple beneath; flowers rich violet-blue; **in marshes**.

Ghana: Yeji (fl. & fr. July) Vigne FH 1256! Bosuso (May) Vigne FH 3848! **Dah.:** Atacora Mts. Chev. 23989! **N. Nig.:** Kontagora (fl. & fr. Jan., Nov.) Dalz. 165! Meikle 1044! Nupe Barter! Bokkos, Plateau Prov. (fl. & fr. Dec.) Coombe 74!

Also in **Cameroun**, **Sudan**, **Uganda**, **N. Rhodesia** and **Angola**.

2. **Craterostigma guineense** Hepper in Kew Bull. 14: 407, fig. 2 (1960).

APD: Synonym of Crepidorhopalon gracilis (Pilg.) Eb. Fisch.

Craterostigma schweinfurthii of Sousa in Est. Bot. Anais 5: 39 (1950); of Chev. Bot. 472, partly; (?) Berhaut Fl. Sén. 81.

Slender erect herb 11-16 ins. high, sparingly branched, similar in habit to the last; small blue flowers with yellow hairs on the lower lip; **in marshes**.

Sen.: Sedhiou to Tambaba (fl. & fr. Feb.) Chev. 2849! Badoii Berhaut 1831 (not seen). **Port. G.:** Antula, Bissau (fl. & fr. Dec.) Esp. Santo 1424! Prabis, Bissau (Nov.) Esp. Santo 1821! **Guin.:** Grandes Chutes (Dec.) Chev. 20239! 20318! Timbo to Ditinn (fl. & fr. Sept.) Chev. 18422! Dalaba-Diaguisaa Plateau, 3,200-4,200 ft. (Oct.) Chev. 18764! 18864!

18. TORENIA

Linn.-F.T.A. 4, 2: 334.

- 1 Flowers subsessile in leafy spikes; plant erect; leaves oblanceolate, dentate, narrowed to base and subsessile, 1-3 cm. long, 3-10 nun. broad, glabrous; calyx shortly 5-toothed, 3-5 mm. long, in fruit up to 6 mm. long and longitudinally winged; lower stamens inserted in a small boss [1. spicata](#)
- Flowers distinctly pedicellate, pedicel at least 1 cm. long; plants prostrate: **2**
- 2 Lamina lanceolate to ovate-lanceolate, 10-35 mm. long, 7-16 mm. broad, crenate-serrate; petioles 4-8 mm. long; bracteoles filiform at base of pedicel 2-5 mm. long; flowers axillary, solitary or a few together on a short leafless peduncle; pedicels 1-5-3 cm. long, usually reflexing in fruit; calyx slightly winged, at least in fruit, 10 mm. long; seeds pitted, numerous, very small; filaments with small appendage at base [2. thouarsii](#)
- Lamina ovate to suborbicular, (8-)10-12(-17) mm. long, 6-13 mm. broad, crenate; petioles 1-2(-4) mm. long; bracteoles absent; flowers axillary, solitary; filaments with a large appendage towards base; pedicels about 1 cm. long, not reflexing; calyx prominently winged, in fruit 9 mm. long; seeds pitted, few, twice as large as in No. 2 [3. dinklagei](#)

1. **Torenia spicata** Engl. Bot. Jahrb. 23: 502, t. 7, figs. G-M. (1897); F.T.A. 4, 2: 334. *APD acc*

Pseudolobelia humilis A. Chev. Bot. 480, name only.

Erect glabrous annual, simple or branched, the steins acutely 4-angular, 2-9 in. high; flowers blue, sometimes white or pink; **weed of cultivation and waste places in savanna**.

Mali: Ségou (Oct.) Roberty 2819! **Guin.:** Timbo to Ditinn (fl. & fr. Sept.) Chev. 18497! **Ghana:** Tamale (fl. & fr. Dec.) Adams & Akpabla 4154! Dedoro to Tankara (fr. Dec.) Adams 4331! **N. Nig.:** Keana, Nassarawa Prov. (fl. & fr. Oct.) Hepburn 39! Nupe Yates! Jos Plateau (Aug.) Lely P579! Kadaura (Sept.) Dalz. 603! Yola (fl. & fr. July, Nov.) Dalz. 127! Hepper 1219!

Also in **Sudan**, **Tanganyika**, **N. & S. Rhodesia**, **Nyasaland**, **Angola** and **Transvaal**.

2. **Torenia thouarsii** (Cham. & Schlechtend.) O. Ktze. Rev. Gen. Pl. 2: 468 (1891). *APD acc*

Nortenia thouarsii Cham. & Schlechtend. (1828).

Torenia parviflora Buch.-Ham. ex Benth. (1835)-F.T.A. 4, 2: 335; F.W.T.A., ed. 1, 2: 229, mostly; Chev. Bot. 472; Berhaut Fl. Sén. 74.

Slender branched procumbent or weakly ascending herb, rooting at nodes and sometimes along internodes; flowers mauve or white; **in moist places**.

Sen.: Perrottet 587! 606! Farmar 50! Berhaut 1014. Adéane, Casamance Chev. 3289. **Mali:** Sikasso Chev. 787. **S. L.:** Rokupr (fl. & fr. Kov., Apr.) Jordan 697! Hepper 2624! Kenema (fl. & fr. Nov.) Deighton 422! Futa (Sept.) Deighton 2238! Gola Forest (fl. & fr. Jan.) King 133b! **Lib.:** Firestone Cavalla Plantation (fl. & fr. June) Baldwin 6005! **Iv. C.:** Angouakoukro to Toumodi Chev. 22408. Mankono Chev. 21934. Manikro to Tiégouakro Chev. 22321. **Ghana:** Owabi (fl. & fr. Sept.) Andoh FH 4553! Sesiamang (fl. & fr. Feb.) A. S. Thomas D 151! Bole Harris! Otiso Ferry (Mar.) Hepper & Morton A3032! Amedzofe (fl. & fr. Mar.) Morton GC 6499! **N. Nig.:** Nupe Barter 1199! Jebba Island (fl. & fr. Mar.) Meikle 1286! Kontagora (fl. & fr. Nov.) Dalz. 156! Abinsi (fl. & fr. May) Dalz. 701! **S. Nig.:** Lagos (fl. & fr. Feb.) Dalz. 1237! Ibadan to Abeokuta (fl. & fr. Mar.) Schlechter 12339! Akinjare, Owo (fl. & fr. Mar.) Jones FHI 3072! Milliken Hill, Enugu (fl. & fr. Feb.) Jones FHI 657! **[Br.] Cam.:** Mamfe (fl. & fr. Dec.) Migeod 270! Kakara, Mambila Plateau (Jan.) Hepper 1786!

[T. thouarsii and T. dinklagei sometimes grow together when hybrids may occur and appear intermediate between these otherwise quite distinct species.]

3. *Torenia dinklagei* Engl. Bot. Jahrb. 57: 610 (1922). *APD acc*

Torenia parviflora of F.T.A. 4, 2: 335, partly (Mann 1442); of F.W.T.A., ed. 1, 2: 229, partly (Mann 1442); not of Buch.-Ham. ex Benth.

Lindernia diffusa of Chev. Bot. 473, partly (Chev. 16978; 19740), not of (Linn.) Wettst.

A slender creeping herb rooting at the nodes; flowers blue or white; in waste places and moist sandy ground.

S. L.: Njala (fl. & fr. Sept.) Deighton 2104! Puabu, Gaura Chieftdom (fl. & fr. Oct.) Deighfon 5201! Pujehun, S. Prov. (fl. & fr. Apr.) Deighton 1621! Kasawe F.R. (fl. & fr. Dec.) King 32b! **Lib.:** Diebia, Webo Dist. (fl. & fr. July) Baldwin 6277! Begwai (fl. & fr. Oct.) Bunting 13! **Iv. C.:** Guitri (fl. & fr. Dec.) Boughey GC 13555! Makougné Chev. 16978. Grebo, Cavally Chev. 19740. **Ghana:** Oda (fl. & fr. Aug.) Howes 966! **Togo Rep.:** Baumann 158! **S. Nig.:** Port Harcourt (fl. & fr. Sept.) T. W. J. Taylor 9 (partly)! **[Br.] Cam.:** Mamfe (fl. & fr. Dec.) Migeod 266! **F. Po:** Mann 14421 Moka Plateau, 3,500-4,000 ft. (fl. & fr. Dec.) Boughey 80! Exell 823!

Also in **Cameroun**, **Ubangi-Shari** and **Congo**.

Torenia fournieri Linden ex Fourn.

With large flowers is cultivated in our area.

19. LINDERNIA

Allioni-F.T.A. 4, 2: 337.

- 1 Flowers terminal or subterminal; erect herbs 5-13 cm. high; pedicels 1-1.5 cm. long, erect:2
Flowers axillary, solitary; erect or procumbent:3
- 2 Fruits obtuse, as long as calyx; calyx shortly 5-toothed, 2-4 mm. long, thin; leaves ovate to ovate-elliptic, serrate, 5-10 mm. long, upper leaves and bracts decreasing in size and becoming subulate [1. crustacea](#)
Fruits acute, slightly longer than calyx; leaves and bracts similar and not decreasing in size [2. numulariifolia](#)
- 3 Calyx 2-3 mm. long:4
Calyx 5-9 mm. long:5
- 4 Leaves broadly ovate about 1 cm. long and broad, serrate, subsessile; flowers slenderly pedicellate, rarely sessile; calyx shortly triangular-toothed [2. numulariifolia](#)
Leaves narrowly lanceolate about 1 cm. long and 3 mm. broad, entire, subsessile; flowers sessile in lax spikes; calyx segments linear-filiform [3. debilis](#)
- 5 Fruits and flowers sessile or pedicel up to 2 mm. long in fruit; stems prostrate, pubescent; leaves ovate to suborbicular, 1-3 cm. long, about 1 cm. broad, serrate, obtuse at apex, subsessile; calyx about 7 mm. long, lobes subulate; fruit narrowly lanceolate, 11 mm. long, beak beyond seeds 1-2 mm. long [4. diffusa var. diffusa](#)
Fruits (and usually flowers) distinctly pedicellate; pedicels about 1-2 cm. long:6
- 6 Leaves ovate to suborbicular, or elliptic-oblong, 3-1.0 mm. broad:7
Leaves linear, 1-2.5 cm. long, 1-2 mm. broad, acute, sessile; corolla about 1 cm. long, with broad rounded lobes on lower lip [8. oliveriana](#)
- 7 Leaves ovate to suborbicular, about 1 cm. broad, not fleshy or congested:8
Leaves elliptic-oblong, 3-5 mm. broad, 7-13 mm. long, subentire, ciliate, rather fleshy and congested; calyx-lobes lanceolate; fruits about 1 cm. long, shortly beaked [7. abyssinica](#)

- 8 Beak of fruit beyond seeds 1-2 mm. long;.....9
 Beak of fruits beyond seeds 2.5-4 mm. long, attenuate; fruits very narrow, up to 18 mm. long; fruiting calyx 8-9 mm. long; leaves ovate to suborbicular, obtuse, about 1 cm. long and broad, crenate, shortly petiolate [6. vogelii](#)
 9 Leaves broadly ovate to suborbicular, 1-3.5 cm. long, 1-2 cm. broad, obtuse to subacute; fruits up to 11 mm. long [4a. diffusa var. pedunculata](#)
 Leaves ovate to ovate-lanceolate, 1-3 cm. long, 1-1.5 cm. broad, acute; fruits up to 19 mm. long [5. senegalensis](#)

1. **Lindernia crustacea** (Linn.) F. Muell. Census 97 (1882). *APD acc*

Capraria crustacea Linn. (1767).

Annual, erect or ascending, 2-3 in. high; flowers blue; [weed of gardens and waste places](#).

S. L.: Makump (fl. & fr. Aug.) Deighton 1385! Rokupr (fl. & fr. Sept.) Jordan 558! Njala (fl. & fr. June) Deighton 2079! Mattru (fl. & fr. July) Deighton 4841! **iv. C.:** Angedédou (Dec.) Leeuwenberg 2272! **Ghana:** Kumasi (fl. & fr. June) Vigne FH 3058! **S. Nig.:** Ibadan (Sept.) Keay FHI 37175! Ozziza, Ogoja (fl. & fr. July) Stone 31! Enugu (fl. & fr. Oct.) Jones FHI 2217! **[Br.] Cam.:** Mamfe (fl. & fr. Dec.) Migeod 267!

Widespread in tropical and sub-tropical countries.

2. **Lindernia numulariifolia** (D. Don) Wettst. in E. & P. Pflanzenfam. 4, 3B: 79 (1891); F.T.A. 4, 2: 341. *APD acc*

Vandellia numularifolia D. Don (1825).

Erect herb 2-5 in. high, simple or sparingly branched, leaves often tinged purple beneath; flowers mauve and white or yellow; [weed of paths and damp places, usually in hilly districts](#).

S. L.: Hill Station (Oct.) Deighton 2152! Loma Mts. (fl. & fr. Sept.) Jaeger 237! 1947! **iv. C.:** Tonkoui, 3,500 ft. (fl. & fr. Aug.) Boughey GC 18326! **N. Nig.:** Naraguta & Jos (fl. & fr. Aug., Sept.) Lely 518! 558! **S. Nig.:** Akure Div. (fl. & fr. Jan.) Brenan & E. W. Jones 8739! **[Br.] Cam.:** Buea, 3,500 ft. (Apr.) Dundas FHI 15338! Preuss 1004! Gembu, Mambila Plateau (fl. & fr. Jan.) Hepper 1814!

Also in [Sudan](#), [Ethiopia](#), [E. Africa](#), [N. Rhodesia](#) and [Angola](#); extends into tropical Asia.

3. **Lindernia debilis** Skan in F.T.A. 4, 2: 344 (1906). *APD acc*

A slender herb, 1-6 in. high; flowers purplish with yellow on the lower lip; [in damp places](#).

N. Nig.: Lokoja (fr. Nov.) Dalz. 128! Anara F.R. (fl. & fr. Oct.) Hepper 989! **[Br.] Cam.:** Gurum, Adamawa (fl. & fr. Nov.) Hepper 1249!

Also in [Sudan](#).

Lindernia diffusa (Linn.) Wettst. *APD acc*

4. **Lindernia diffusa var. diffusa** in E. & P. Pflanzenfam. 4, 3B: 80 (1891); F.T.A. 4, 2: 338; Chev. Bot. 473, partly. *APD acc*

Vandellia diffusa Linn. (1767).

A pubescent much-branched creeping herb with stems about 6 in. long, rooting at nodes; flowers white; [in damp places and roadsides](#).

Mali: Guiri Chev. 890! **Guin.:** Dalaba-Diaguissa Plateau Chev. 18858! **S. L.:** Freetown (fl. & fr. Sept.) Hepper 927! Regent Sc. Elliot 4013! Rokupr (fl. & fr. Sept.) Jordan 112! Bumbuna (Oct.) Thomas 3250! **Lib.:** Kakatown Whyte! Monrovia (fl. & fr. Nov.) Barter 1451! Suacoco, Gbanga (fl. & fr. May) Daniel 173! **iv. C.:** Dabou (Nov.) Leeuwenberg 1955! **Ghana:** Begoro (fl. & fr. Mar.) Johnson 696! New Koforidua (fl. & fr. June) Darko 319! Psah R. Irvine 434! Amedzofe (May) Morton GC 7223! **N. Nig.:** Lokoja Parsons! Kontagora (fl. & fr. Nov.) Dalz. 152! Nupe Yates! **S. Nig.:** Lagos (fl. & fr. Oct.) Dalz. 1241! Onitsha Barter 1766! Oban Talbot 315! **[Br.] Cam.:** Preuss 1184! Mamfe (fl. & fr. Dec.) Migeod 265! Abonando (fl. & fr. Mar.) Rudatis 6! Mayo Selbe, Gashaka Dist. (fl. & fr. Jan.) Hepper 1635! **F. Po:** Mann 1441!

Also in [Cameroun](#), [Gabon](#), [Middle Congo](#), [Uganda](#) and [Tanganyika](#).

4a. **Lindernia diffusa var. pedunculata** (Benth.) Skan in F.T.A. 4, 2: 338 (1906).

APD: Synonym of Lindernia diffusa (L.) Wettst.

Vandellia diffusa var. *pedunculata* Benth. (1846).

Ilysanthus stictantha Hiern (1898).

Lindernia stictantha (Hiern) Skan in F.T.A. 4, 2: 339 (1906).

Ascending or prostrate herb with white flowers.

S. L.: Barter! T. Vogel 111! Njala (fl. & fr. Sept.) Deighton 2078! Makump (fl. & fr. Aug.) Deighton 1386! Kambaia (fl. & fr. Oct.) Small 487! **Lib.:** Monrovia (fl. & fr. July) Linder 24!

Also in **S. Tomé**, **Congo** and **Angola**.

5. *Lindernia senegalensis* (Benth.) Skan in F.T.A. 4, 2: 339 (1906); Chev. Bot. 473; Berhaut Fl. Sén. 67.

APD acc

Vandellia senegalensis Benth. (1846).

Ascending from a woody rootstock, stems slightly pubescent becoming glabrous, about 1 ft. long; **in wet places**.

Sen.: Leprieux! Perrottet 586! Niokolo-Koba Berhaut 1562. **Guin.:** Heudelot 804! Timbo to Ditinn Chev. 18509. **S. L.:** Barter! Don! Lomaburn, Talla (Feb.) Sc. Elliot 5031! **Iv. C.:** Nimba Mts., 5 200 ft. Schnell 3710!

6. *Lindernia vogelii* Skan in F.T.A. 4, 2: 339 (1906); Chev. Bot. 473, partly. *APD acc*

A slender glabrous herb, stems ascending; flowers white and pink.

Iv. C.: Agniéby Valley Chev. 17061. Cavally Basin Chev. 19587. **S. Nig.:** Nun R. (fl. & fr. Aug.) T. Vogel 1! Brass Barter 27! **F. Po:** Ureka (fl. & fr. Feb.) Guinea!

7. *Lindernia abyssinica* Engl. Bot. Jahrb. 23: 503, t. 9, figs. A-E (1897); F.T.A. 4, 2: 343. *APD acc*

Small perennial, erect or ascending, 2-4 in. high; flowers blue; **a montane plant**.

[Br.] Cam.: Bamenda: Lakom, 6,000 ft. (fl. & fr. May) Maitland 1790! Bafut-Ngemba F.R., 6,000 ft. (Nov.) Lightbody FHI 26268! Bali-Ngemba F.R. (May) Ujor FHI 30325!

Also in **Sudan**, **Ethiopia** and **Uganda**.

8. *Lindernia oliveriana* Dandy in F.W. Andr. Fl. Pl. Sudan 3: 139 (1956). *APD acc*

Vandellia lobelioides Oliv. in Trans. Linn. Soc. 29: 120, t. 121B (1875), not of F. Muell. (1858).

Lindernia lobelioides (Oliv.) Wettst. in E. & P Pflanzenfam. 4, 3B: 80, fig. 36 A, B (1891); F.T.A. 4, 2: 340, not of F. Muell. (1882).

An ascending herb about 1 ft. high, with slender, nearly simple stems and few narrow leaves; flowers blue with white and yellow markings; **in swampy places**.

N. Nig.: Heipang, Jos Plateau (Aug.) Summerhayes 155!

Also in **Sudan**, **Ethiopia** and through E. Africa to S. Rhodesia.

20. ILYSANTHES

APD: Synonym of Lindernia All.

Raf.-F.T.A. 4, 2: 345.

- 1** Calyx deeply divided almost to base; prostrate or erect; fruits globose-ellipsoid; flowers axillary, solitary; pedicels slender about 6 mm. long and up to 2 cm. in fruit:**2**
- Calyx 5-toothed; plants erect; fruits linear, acute:**3**
- 2** Prostrate; leaves suborbicular, sessile, subcordate, 6-12 mm. long and broad, about 7-nerved from base; calyx 5 mm. long, lobes linear, about 1 mm. broad; fruits about as long as calyx [1. rotundifolia](#)
- Erect; leaves ovate, oblanceolate to linear, (3-)6-12 mm. long, (1-)3-8 mm. broad, 3-nerved from base; calyx 2 mm. long, lobes slender; fruits twice as long as calyx [2. parviflora](#)

- 3 Stems and leaves minutely but distinctly scabrid; leaves linear to lanceolate, 5-15 mm. long, with distinct lamina, 2-3(-4) mm. broad, midrib distinct; pedicels 5-12 mm. long, remaining erect in fruit; fruit 9 mm. long[3. *gracilis*](#)

Stems and leaves smooth and glabrous (sometimes slightly scabrid towards the base of the stem); leaves subulate to linear about 5 mm. long, 0.5-1 mm. broad, distinctly 2-nerved, midrib obscure; pedicels 1-8 mm. long, reflexing in fruit; fruit about 5 mm. long[4. *schweinfurthii*](#)

1. *Ilysanthes rotundifolia* (Linn.) Benth. in DC. Prod. 10: 420 (1846); F.T.A. 4, 2: 346; Hepper in Kew Bull. 15: 65.

APD: *Synonym of Lindernia rotundifolia* (L.) Alston

Gratiola rotundifolia Linn. (1771).

Ilysanthes ratundata Pilger in Engl. Bot. Jahrb. 46: 214 (1910).

Creeping herb rooting at the nodes; flowers few, white or pale mauve; [in boggy ground](#).

[Br.] Cam.: Bafut-Ngemba F.R., 6,000 ft., Bamenda (Jan.) Keay FHI 28380! Jakiri (Feb.) Hepper 1956! Nguroje, Mambila Plateau (Jan., June) Hepper 1713! Chapman 25!

Also in [Cameroun](#), [Congo](#), [E. Africa](#), [Madagascar](#) and through India to China.

2. *Ilysanthes parviflora* (Roxb.) Benth. in DC. Prod. 10: 419 (1846); F.T.A. 4, 2: 346; F.W.T.A., ed. 1, 2: 230, partly (excl. syn. *Dopatrium baoulensis* A. Chev. & Chev. 22250); Berhaut Fl. Sén. 54.

APD: *Synonym of Lindernia parviflora* (Roxb.) Haines

Gratiola parviflora Roxb. (1819).

Lindernia parviflora (Roxb.) Haines (1922)-F.W. Andr. Fl. Pl. Sudan 3: 139.

Erect or ascending herb, 2-9 in. high with slender usually diffuse branches; flowers blue and white; [in swamps](#).

Sen.: Perrottet 609! 610! Casamance (fr. Apr.) Perrottet 590! Ross Berhaut 1425! [Mali](#): Gao to Kokoromme (fl. & fr. Mar.) De Wailly 4987! [Ghana](#): Dormaa to Ahenkro (fl. & fr. Dec.) Adams 3010! [Niger](#): Air De Miré & Gillet. [N. Nig.](#): near Gombe (fl. & fr. Oct.) Lely 665!

Also in [Sudan](#), [Congo](#), [E. Africa](#), [Mozambique](#), [N. Rhodesia](#) and [India](#).

3. *Ilysanthes gracilis* Skan in F.T.A. 4, 2: 349 (1906); Chev. Bot. 474, partly.

APD: *Synonym of Lindernia exilis* Philcox

Erect slender herb 3-6 in. high, simple or freely branched, leaves purple beneath; flower pink and white or lilac; [in moist pockets in rock outcrops](#).

[Mali](#): Bamako Garnier! [Lib.](#): Atonso (fl. & fr. Oct.) Baldwin 13495! [Iv. C.](#): Séguéla (fl. & fr. Aug.) Boughey GC 18485! Bouaké Chev. 22090. Langouassou to Fetékro Chev. 22157. Kodiokoffi Chev. 22365. [Ghana](#): Mankrong, Kwahu (Dec.) Adams 4993! [N. Nig.](#): Jebba Barter! Jos, 4,000-5,000 ft. (fl. & fr. Aug.) Sounders 3! Keay FHI 20051! Naraguta (fl. & fr. Aug.) Lely 519! [S. Nig.](#): Idanre (fl. & fr. Aug.) Jones FHI 20725! Okelifi, Ondo (fl. & fr. Nov.) Onochie FHI 34224! Ado Bock, Ibadan Dist. (fr. Oct.) Hamblar 504!

4. *Ilysanthes schweinfurthii* Engl. Bot. Jahrb. 23: 504 (1897); F.T.A. 4, 2: 350, incl. var. *linearifolia* Engl. (1897); Berhaut Fl. Sén. 5, 54, 93.

APD: *Synonym of Lindernia schweinfurthii* (Engl.) Dandy

Ilysanthes barteri Skan in F.T.A. 4, 2: 350 (1906); F.W.T.A., ed. 1, 2: 230. Chev. Bot. 473; Sousa in An. Junta Invest. Colon. 7: 58 (1952).

Lindernia schweinfurthii (Engl.) Dandy in F.W. Andr. Fl. Pl. Sudan 3: 139 (1956).

Slender erect herb like the last and in similar habitats - [in moist pockets in rock outcrops](#).

Sen.: Tambacounda (Sept.) Berhaut 1648! [Port. G.](#): Batatá (Aug.) Esp. Santo 2743! [Mali](#): Koulikoro Chev. 2787. Banfora (Sept.) Jaeger 5256! Mt. Zongapignié, Mossi Chev. 24642. [Guin.](#): Timbo to Ditinn Chev. 18421. Dalaba-Diaguissa Plateau Chev. 18762. [S. L.](#): Barter! Brookfields (Aug.) Jordan 65! Kambia (Sept.) Adames 186! Lengekoro (July) Olanville 262!

Ghana: Damongo Scarp (Nov.) Rose Innes GC 30837! **N. Nig.:** Jebba Barter! Lame Dist. (fl. & fr. Aug.) Summerhayes 20! Fuka, Minna (fl. & fr. Oct.) Hepper 963! Jos (Aug.) Sounders 4! Keay FHI 20073! Yola (Aug.) Dalz. 129! **S. Nig.:** Ado Rock, Oyo (fl. & fr. Oct.) Keay & Savory FHI 25350! Fashola, Oyo (fl. & fr. Oct.) Onochie FHI 34925!

Also in **Ubangi-Shari**, **Sudan**, **Congo** and **Uganda**.

21. LIMOSELLA

Linn.-F.T.A. 4, 2: 352; Glück in Engl. Bot. Jahrb. 66: 488 (1934).

- 1 Leaves spatulate with a distinct lamina and long petiole, 1·8-9 cm. long, 2·5-10 mm. broad, all radical; flowers axillary, solitary on pedicels about 1 cm. long; calyx 5-toothed, about 2 mm. long, glabrous; corolla a little longer than calyx; fruits subglobose, about 3 mm. long [1. africana](#)

Leaves subulate or acicular, terete or subterete, without a distinct lamina, 2-4·3 cm. long, 1 mm. broad; otherwise similar to above [2. subulata](#)

1. **Limosella africana** Glück in Notizbl. Bot. Gart. Berl. 12: 76 (1934), and in Engl. Bot. Jahrb. 66: 540, 558 (1934); Hedberg in Sym. Bot. Uppsal. 15: 166, 318 (1957). *APD acc*

Limosella aquatica of F.T.A. 4, 3: 352; of F.W.T.A., ed. 1, 2: 221; not of Linn.

A small tufted **aquatic or marsh herb**, often with stolons bearing tufts of leaves and rooting; flowers small, lilac or pinkish.

Mali: Bentia, Ansongo Hagerup 424! [**Br.**] **Cam.:** Cam. Mt., 9,800-10,800 ft. Mann!

Through much of tropical Africa and in S. Africa.

2. **Limosella subulata** Ives in Trana. Phys.-Med. Soc. New York 1: 440 (1817); Glück in Engl. Bot. Jahrb. 66: 491.

APD: *Synonym of Limosella australis R. Br.*

Limosella aquatica var. **tenuifolia** (Nutt.) Hook. f. in F.T.A. 4, 2: 352 (1906).

Limosella tenuifolia Nutt. (1818)-F.W.T.A., ed. 1, 2: 221, not of Wolf ex Hoffm. (1804).

Stolons usually absent.

F. Po: Clarence Peak, 9,350 ft. (Dec.) Mann 597!

Cosmopolitan.

22. GLOSSOSTIGMA

Arn. in Nov. Act. Nat. Cur. 18: 355 (1836). Nom. cons.

- 1 Small creeping herb; stems filiform prostrate rooting at nodes; leaves spatulate, about 1 cm. long, 1-1·5 mm. broad; flowers axillary, solitary; pedicels 3-9(-18) mm. long; calyx 3-lobed; corolla 5-lobed; stamens 2; stigma compressed; fruits 2-celled, many-seeded [diandra](#)

Glossostigma diandra (Linn.) O. Ktze. Rev. Gen. Pl. 2: 461 (1891); A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 4: 587 (1932). *APD acc*

Limosella diandra Linn. (1767).

Microcarpaea spathulatum Hook. (1831).

Glossostigma spathulatum (Hook.) Arn. (1836)-Berhaut Fl. Sén. 93.

In small mats **on mud**.

Sen.: Leprieur! Perrottet! Podor (Dec.) Martine 33! Berhaut 1426! **Mali:** Timbuktu to Bamba (Mar.) Chev.! Timbuktu to Gao Chev.

Also in **Kenya**, **India** and **Ceylon**.

23. PSAMMETES

Hepper in Hook. Ic. Pl. t. 3582 (1962).

- 1 A small erect unbranched herb, 2.5-4 cm. high; stem narrowly 4-winged, lower internodes about 5 mm. long, upper internodes up to 16 mm. long; leaves opposite, linear-lanceolate, 3-7 mm. long, 1-1.5 mm. broad, glabrous; flowers cleistogamous, subsessile in axils of upper leaves and terminal; calyx (4-)5-lobed, lobes 1 mm. long, linear; corolla bilabiate, 1-2 mm. long, upper lip emarginate, lower lip 3-lobed; stamens 2; ovary 2-celled, style glabrous, stigma flattened; fruit ovoid, dry, 1 mm. long with numerous seeds [nigerica](#)

***Psammetes nigerica* Hepper l.c. (1962).**

*APD: Synonym of *Psammetes madagascariensis* (Bonati) Eb. Fisch. & Hepper*

A slender annual about 2 in. high; flowers pale yellow-brown; "in coconut palm plantation on degraded sands in furrows between ridges."

S. Nig.: Badagry (fl. & fr. Aug.) Onochie FHI 33493! Ogoyo-Igbosere, Lagos (Aug.) Savory UCI 271a!

24. MICRARGERIA

Benth.-F.T.A. 4, 2: 457.

- 1 Plants minutely scabrid all over; leaves linear-acicular, acute, 1-3.5 cm. long, more or less spreading; stems much-branched; flowers numerous in lax racemes; calyx campanulate, 3-4 mm. long, teeth triangular, acute or slightly acuminate, 1(-2) mm. long; corolla about 1 cm. long, widely funnel-shaped, puberulous outside; fruits subglobose, 3-4 mm. diam., smooth [l. filiformis](#)

Plants glabrous, only slightly scabrid on stem below; leaves erect; stems sparingly branched; calyx-teeth acuminate, 2 mm. long; otherwise similar to above [2. barteri](#)

1. ***Micrargeria filiformis* (Schum. & Thonn.) Hutch. & Dalz.** F.W.T.A., ed. 1, 2: 223 (1931); Berhaut Fl. Sén. 54, 94. *APD acc*

Gerardia filiformis Schum. & Thonn. (1827).

Gerardiella scopiformis Klotzsch (1861).

Micrargeria scopiformis (Klotzsch) Engl. (1895)-F.T.A. 4, 2: 457; Chev. Bot. 480.

Sopobia parviflora of F.W.T.A., ed. 1, 224, partly (Lely 604, Glanville 22).

Slender-branched erect annual herb, 1-2 ft. high; flowers showy, pink or purple; in moist grassland in savanna and rice-fields; drying grey-brown.

Sen.: Casamance Chev. 3299. Bad! Berhaut 1837. **Gam.:** Kombo Prov. Dawe 33! **Mali:** Kita massif (Nov.) Jaeger 5563! **Port. G.:** Bafatá (fl. & fr. Nov., Dec.) Esp. Santo 2855! 2966! Suzana (Nov.) Esp. Santo 3147! Gabu (fl. & fr. Oct.) Esp. Santo 3505! **Guin.:** Kouria to Irébéléya Chev. 18273. Timbo to Ditinn Chev. 18493. Dalaba-Diaguissa Plateau Chev. 18894. **S. L.:** Mateboi (fl. & fr. Oct.) Glanville 22! **Iv. C.:** Mankono Chev. 21908. **Ghana:** Shai Plains (fl. & fr. Jan.) Johnson 576! Navrongo (fl. & fr. Nov.) Vigne FH 4667! **Togo Rep.:** Lomé Warnecke 271 (partly)! **N. Nig.:** Anara F.R., Zaria (fl. & fr. Sept., Oct.) Olorunfemi FHI 24395! Hepper 988! Abinsi (fl. & fr. Dec.) Dalz. 710 (partly)! Panshanu (fl. & fr. Sept.) Lely 604! Jos Plateau (fl. & fr. Oct.) Lely P821! **[Br.] Cam.:** Gurum, Vogel Peak area (Nov.) Hepper 1244!

Also in **Sudan**, **E. Africa**, **Angola**, **N. Rhodesia** and **Nyasaland**.

2. ***Micrargeria barteri* Skan** in F.T.A. 4, 2: (1906); Chev. Bot. 480.

*APD: Synonym of *Micrargeria filiformis* (Schumach. & Thonn.) Hutch. & Dalziel*

Annual herb, 2-3 ft. high, sparingly branched; flowers ornamental, pink; in moist grassland in savanna; drying grey-brown.

Port. G.: Gabu (fl. & fr. Oct.) Esp. Santo 3455! **Iv. C.:** Alangouassou to Mbayakro Chev. 22241. Kodiokoffi Chev. 22327! 22370! **Ghana:** Kayoro (fl. & fr. Oct.) Vigne FH 4610! Deloro-Tankara (fr. Dec.) Adams & Akpabla 4336! Elmina (fl. & fr. Oct.) Hall 855! **Togo Rep.:** Lomé Warnecke 271 (partly)! **N. Nig.:** Abinsi (Dec.) Dalz. 710 (partly)! Zungeru (fr. Oct.) Dalz. 174! Nupe Barter 755! 1706! Jos Plateau (Oct.) Lely P829! Makurdi (fl. & fr. Nov.) Keay FHI 22275! **S. Nig.:**

Abeokuta (fl. & fr. Aug.) Symington FHI 5095! Awba Hills F.R. (fl. & fr. Oct.) Jones FHI 6311! Enugu Extension F.R.. (fl. & fr. Sept.) Onochie 34107! [Br.] Cam.: Vogel Peak, Adamawa (Nov.) Hepper 1391!

25. BARTSIA

Linn.-F.T.A. 4, 2: 458; R. E. Fries in Acta Horti Berg. 8: 63 (1924). Nom. cons. *APD acc*

- 1 Stems branched, up to 170 cm. long; flowers numerous in lax terminal inflorescences; corolla 11 mm. long; fruit about 12 cm. long; leaves 1-3-5 cm. long, narrowed to base with very short but distinct petiole [1. mannii](#)
- Stems simple or branches arising from near the rootstock, up to 25 cm. long; flowers few, 2-9, in terminal clusters; corolla 9 mm. long; fruit 8(-12) mm. long; leaves 6-12 mm. long, quite sessile [2. petitiiana](#)

1. *Bartsia mannii* Hemsl. in F.T.A. 4, 2: 459 (1906).

APD: Synonym of Hedbergia abyssinica (Hochst. ex Benth.) Molau

Straggling perennial herb 1-3 ft. high; flowers pale yellow turning pink; [in montane grassland](#); drying dark brown.

S. Nig.: Ikwette Plateau, 5,200 ft., Obudu Div. (fl. & fr. Dec.) Keay & Savory FHI 25258! [Br.] **Cam.:** Cam. Mt., 6,000-9,000 ft. (fl. & fr. Nov.-Feb., fr. May) Mann 1264! 1986! Dunlap 198! Maitland 668! Bafut-Ngemba F.R., Bamenda (fl. & fr. Dec.) Tamajong FHI 22213! Hepper 2093! Kumbo (Feb.) Hepper 2843! Maisamari, Mambila Plateau (fl. & fr. Jan.) Hepper 1661!

2. *Bartsia petitiiana* (A. Rich.) Hemsl. in F.T.A. 4, 2: 460 (1906); Hedberg in Sym. Bot. Uppsal. 15: 171, 325 (1957).

APD: Synonym of Hedbergia abyssinica (Hochst. ex Benth.) Molau

Alectra petitiiana A. Rich. (1851).

Bartsia mannii of F.W.T.A., ed. 1, 2: 224, partly (Johnston 80).

Erect perennial herb 6 in. to 1 ft. high; flowers carmine or bluish-mauve; [in montane grassland](#); drying dark brown.

[Br.] **Cam.:** Cam. Mt., 8,000-12,000 ft. (fl. & fr. Nov.-Jan.) Johnston 80! Migeod 183! Maitland 805! 1298! Keay FHI 28607!

Also in [Ethiopia](#) and [E. Africa](#).

26. ALECTRA

Thunb.-F.T.A. 4, 2: 362; Melchior in Notizbl. Bot. Gart. Berl. 15: 423 (1941). *APD acc*

- 1 Calyx 13-16 mm. long, pilose on nerves outside, calyx-teeth about 5 mm. long; anthers apiculate, filaments all glabrous; flowers few, scattered in axils; stems slender, with 2 lines of hairs; leaves spreading, linear to linear-oblong, remotely serrate, sessile, only the midrib prominent, 2-5 cm. long, 3-8 mm. broad; seeds opaque [1. linearis](#)
- Calyx 5-10 mm. long:..... [2](#)
- 2 Calyx glabrous, teeth 2 mm. long; anthers apiculate, filaments all glabrous; flowers towards tips of stems; stems slender, with 2 obscure lines of hairs; leaves linear, subentire with ciliate margins, sessile, appressed to stem, only the midrib prominent, 1-5 cm. long, 2-4 mm. broad; seeds opaque [2a. rigida subsp. paludosa](#)
- Calyx pubescent, at least on margins and nerves:..... [3](#)
- 3 Pubescence of calyx on margins and nerves only, hairs usually long:..... [4](#)
- Pubescence of calyx short and evenly spread; leaves and bracts subentire; filaments glabrous; anthers not apiculate [6. vogelii](#)
- 4 Whole plant densely hispid; leaves clasping the simple stem, sessile, lanceolate, serrate, 1-2.5 cm. long, 5-10 mm. broad; inflorescence congested and with leafy bracts rather larger than the stem leaves; seeds in a transparent envelope [3. sp. nr. capensis](#)

Plants slightly hispid or glabrous:5

- 5 Leaves 2-4 mm. broad, 7-11 mm. long, lanceolate, rounded at base, slightly toothed, 1-nerved, ciliate; stems hispid-pilose; anthers apiculate, filaments all bearded; seeds opaque [4. *virgata*](#)

Leaves (5-)10-20 mm. broad, 10-50 mm. long, 3-nerved from base; seed in a transparent envelope 1-1.5 mm. long; filaments 2 bearded and 2 glabrous; anthers apiculate:6

- 6 Lower leaves ovate, broadly rounded at base or cordate, almost sessile, slightly to deeply serrate [5a. *sessiliflora* var. *senegalensis*](#)

Lower leaves lanceolate to elliptic, cuneate at base, distinctly petiolate, often deeply serrate [5b. *sessiliflora* var. *monticola*](#)

1. *Alectra linearis* *Hepper* in Kew Bull. 14: 402, fig. 1 (1960). *APD acc*

Slender, branched annual herb 6-17 ins. high with spreading leaves; flowers pale yellow; in drier parts of swamps; drying black.

Iv. C.: Nzi, Baoulé-Nord (fl. & fr. Aug.) Chev. 22286! **Ghana:** Babile, Lawra (fr. Sept.) Irvine 4733! **N. Nig.:** Lokoja (fr. Oct.) Dalz. 218! **S. Nig.:** Mamu R., Awka Dist. (May) Jones FHI 6142!

2. *Alectra rigida* (*Hiern*) *Hemsl.* in E.T.A. 4, 2: 369 (1906). *APD acc*

Melasma rigida *Hiern* (1898).

2a. *Alectra rigida* subsp. *paludosa* (*A. Chev.*) *Hepper* in Kew Bull. 14: 404 (1960). *APD acc*

Alectra paludosa *A. Chev.* Bot. 475 (1920).

Alectra virgata of F.W.T.A., ed. 1, 2: 223 and of Melchior l.c. 437, partly (*Chev.* 18896).

Erect simple or branched annual herb, 1-2 ft. high with appressed leaves; flowers yellow; amongst grass in moist places; drying black.

Port. G.: Bór, Bissau (fl. & fr. Jan.) Esp. Santo 1448! Pelubé, Bissau (Dec.) Esp. Santo 1613! Gabu (Oct., Dec.) Esp. Santo 3510! 3766! **Guin.:** Dalaba-Diaguissa Plateau (Oct.) Chev. 18896! **S. L.:** Waterloo (fl. & fr. Dec.) Deighton 3282! Kent Deighton 3301! Mankara, Maforki Chiefdom (fl. & fr. Oct.) Jordan 812! **Ghana:** Kwahu Tafo (Dec.) Harris!

3. *Alectra* sp. nr. *capensis* *Thunb.* Nov. Gen. Pl. 82 (1784); Melchior l.c. 432; Hepper in Kew Bull. 15: 64. *APD acc*

Stiffly erect, harshly hispid herb about 10 in. high; in wet grassland.

Ghana: Elmina (Feb.) Hall 1050! **N. Nig.:** Naraguta, 3,700 ft., Jos Plateau (fl. & fr. Oct.) Hepper & Wimbush 1169!

[Note: The group to which these collections belong is in need of further revision-F. N. H.]

4. *Alectra virgata* *Hemsl.* in F.T.A. 4, 2: 369 (1906); Melchior l.c. 437. *APD acc*

A small slender herb, simple or with a few branches, about 6 ins. high; drying brown.

S. Nig.: Lagos area Millson!

5. *Alectra sessiliflora* (*Vahl*) *O. Ktze.* Rev. Gen. Pl. 2: 458 (1891); Melchior l.c. 437; Hepper in Kew Bull. 14: 404 (1960). *APD acc*

Gerardia sessiliflora *Vahl* (1794).

Alectra melampyroides *Benth.* (1846)-F.T.A. 4, 2: 371.

5a. *Alectra sessiliflora* var. *senegalensis* (*Benth.*) *Hepper* l.c. 405 (1960). *APD acc*

Alectra senegalensis *Benth.* (1846)-F.T.A. 4, 2: 371; F.W.T.A., ed. 1, 2: 223; Melchior l.c. 439; Berhaut Fl. Sén. 68.

Alectra communis of F.W.T.A., ed. 1, 2: 223, and of Chev. Bot. 474, partly (*Chev.* 3296, 18428, 18435, 18880), not of *Hemsl.*

Alectra cordata *Benth.* (1846) partly, Afr. spec.,-F.T.A. 4, 2: 371; Melchior l.c. 439.

A slender erect usually roughly pilose herb 1 ft. or more high but may be reduced to a few inches high; flowers yellow; drying greenish-brown; parasitic on grasses.

Sen.: Leprieur 9! 10! Perrottet 573! Casamance Chev. 3295! 3296! **Gam.:** Brown-Lester 27! **Mali:** Kita (fl. & fr. Oct.) Chev. 3297! **Guin.:** Heudelot 787! Timbo to Ditinn Chev. 18435! Dalaba-Diaguissa Plateau Chev. 18880. **S. L.:** Picket Hill, 2, 914 ft. (fl. & fr. Nov.) T. S. Jones 216! 228! **Ghana:** Kumasi Darko 352! **N. Nig.:** Kontagora (fl. & fr. Jan.) Dalz.

153! Naraguta (Aug.) Lely 502! Vodni, 4,600 ft. (July) Lely 421! Sara Hills, Bauchi Prov. (fl. A fr. Oct.) Hepper 1122! **S. Nig.:** Akure F.R., Ondo (fl. & fr. Nov.) Latilo & Olorunfemi FHI 24448! [**Br.**] **Cam.:** Cam. Mt., 3,000-10,000 ft. (fl. & fr. Nov., Dec.) Mann 1262! 1985! Bafut-Ngemba F.R., 6,000 ft., Bamenda (fl. & fr. Feb., Oct., Nov.) Lightbody FHI 26273! Hepper 2187! Kumbo to Oku (fl. & fr. Feb.) Hepper 2005! Gembu, 5,300 ft., Mambila Plateau Hepper 1806! Vogel Peak area, 1,900-5,000 ft. Adamawa (fl. & fr. Nov.) Hepper 1276! 2766!

Also in eastern Africa from the **Sudan** to Mozambique.

5b. *Alectra sessiliflora* var. *monticola* (Engl.) Melch. in Notizbl. Bot. Gart. Berl. 15: 126 (1940) and 438 (1941); Hepper l.c. 406. **APD acc**

Glossostylis avensis Benth. (1835).

Alectra avensis (Benth.) Merrill (1917), "arvensis" by error.

Alectra communis Hemsl. in F.T.A. 4, 2: 372 (1906); F.W.T.A., 4, 2: 372 (1906); F.W.T.A., ed. 1, 2: 223; Berhaut Fl. Sén. 68.

Erect scabrid herb 1-3 ft. high; flowers pale yellow; **amongst grass.**

Sen.: Simenti Berhaut 1609! **S. L.:** Zimmi (Nov.) Deighton 366! Pujehun, near Njala (Dec.) Deighton 1515! **Lib.:** Kakatown Whyte! **Ghana:** Abetifi (fl. & fr. Jan.) Irvine 1666! **S. Nig.:** Forest Hill, Ibadan (Oct.) Jones FHI 13735! Latilo FHI 24439! Oban Talbot 317! [**Br.**] **Cam.:** Buea, 3,000-3,500 ft. (Nov.) Migeod 56! 115! Cam. Mt., lava flow (Sept.) Ngongi FHI 15087! L. Bambuluwe, Bamenda (Sept.) Ujor FHI 30205! Vogel Peak area, (Nov.) Hepper 2743! **F. Po:** Moka 3,500-4,000 ft. (Dec.) Boughey 82! 86! Musola (fr. Jan.) Guinea 1402!

Widespread in tropical Africa, in the Mascarenes and tropical Asia to the Philippines and Formosa.

[The division between these two varieties is by no means distinct.-F. N. H.]

6. *Alectra vogelii* Benth. in DC. Prod. 10: 339 (1846); F.T.A. 4, 2: 368; Melchior l.c. 432. **APD acc**

Alectra senegalensis var. **arachidis** A. Chev. Bot. 475, name only.

Alectra arachidis A. Chev. (1936), name only.

Alectra communis of F.W.T.A., ed. 1, 2: 223, partly (syn. and Chev. 18285)

Stoutly stemmed herb branching from near the base, or simple, 7-18 ins. high, with few leaves that are often deciduous on drying; flowers yellow; **semi-parasitic weed of cultivation, particularly of Papilionaceae, in savanna;** drying greenish-brown.

Guin.: Irébéléya to Timbo (Sept.) Chev. 18285! **Ghana:** Ketin (fl. & fr. Oct.) Vigne FH 4609! **N. Nig.:** Borgu Barter 789! Sokoto (fl. & fr. Nov.) Dalz. 356! Oke-Opin, Ilorin (fl. & fr. Dec.) Ajayi FHI 19265! Patti Lokoja T. Vogel 186! Tangale-Waja, Bauchi Prov. (Nov.) Summerhayes 75! **S. Nig.:** Ebute Metta Millen 172! Oluwatedo, Oyo (fl. & fr. Jan.) Keay FHI 25638!

Also in **E. Africa, Nyasaland, N. & S. Rhodesia, Angola** and **Cabinda.**

27. SOPUBIA

Buch.-Ham.-F.T.A. 4, 2: 444.

- 1 Calyx 2-3 mm. broad and long, glabrous and smooth outside, only margin woolly inside, teeth less than 1 mm. long; bracteoles filiform, nearly as long as calyx; flowers about 6 mm. diam.; stems slender, slightly puberulous, almost terete; leaves and bracts linear-acicular or almost filiform, 1-2(-4) cm. long; annual1. *parviflora*
- Calyx 4-5 mm. broad, 4-7 mm. long, smooth, scabrid or verrucose; perennials:2
- 2 Stems angular and longitudinally furrowed, almost glabrous; calyx 4-5 mm. long and broad, scabrid-pubescent outside, teeth 2 mm. long, woolly inside; bracteoles subulate much shorter than calyx-tube; flowers about 1.5 cm. diam.; leaves linear, more or less appressed to stem, 5-30 mm. long, slightly scabrid2. *simplex*
- Stem not angular, internodes puberulous in alternate strips; leaves spreading, 1-3 cm. long, scabrid, axillary tufts or branchlets frequent; calyx-teeth densely woolly inside:3
- 3 Calyx verrucose and minutely scabrid-pubescent outside, teeth 3 mm. long, acuminate; bracteoles linear often leaf-like with a midrib and about as long as calyx; flowers about 1 mm. diam.; midrib prominent3. *ramosa*
- Calyx smooth and glabrous or rarely slightly woolly and verrucose outside but not scabrid, 4-5 mm. long and broad, teeth 2 mm. long, triangular; bracteoles subulate, nearly as long as calyx-tube; flowers about 1.5 cm. diam.; midrib more or less obscure:4
- 4 Pedicels 1 cm. long or less; flowers numerous, often densely arranged; leaves densely congested on stem4.

mannii var. *mannii*

Pedicels 1.5-2 cm. long; flowers few and laxly arranged; leaves laxly arranged or rather congested ...*4a. mannii*
var. tenuifolia

1. *Sopubia parviflora* Engl. Bot. Jahrb. 18: 65 (1893); F.T.A. 4, 2: 452. *APD acc*

Erect slender branched annual herb with obtusely 4-angled slightly scabrid stems 1-2 ft. high; flowers yellow with a purple centre; **in damp grassland**; drying brown.

Mali: Bamako to Ségou (Sept.) Jaeger 5108! **Guin.:** Kouroussa (Aug.) Pobéguin 371 (partly)! **S. L.:** Afzelius! Kakama (fl. & fr. Aug.) Deighton 6097! Tabe (Sept.) Deighton 3043! Roboli (fl. & fr. Nov.) Jordan 176! Musaia (fl. & fr. Sept., fr. Dec.) Deighton 4520! 4875! **iv. C.:** Séguéla (fr. Aug.) Boughey GC 18481! Nimba Mt. (fl. & fr. Aug., Sept.) Boughey GC 18141! Schnell 3571! **Ghana:** Kwahu Tafo (Dec.) Harris! Damongo (fr. Sept.) Goodall GC 15908! Gambaga Scarp (Sept.) Hall 812! **N. Nig.:** Zaria (fl. & fr. Sept.) Olorunfemi FHI 24390! Zungeru (fl. & fr. Sept.) Dalz. 176! Naraguta (Aug.) Lely 524! Jos (fr. Oct.) Hepper 1064!

Also in **Congo** and **Sudan**.

2. *Sopubia simplex* (Hochst.) Hochst. in Flora 27: 27 (1844); F.T.A. 4, 2: 45; Chev. Bot. 479. *APD acc*

Rhaphidophyllum simplex Hochst. (1841).

Erect perennial herb with slender sparingly branched ribbed stem, 1-2 ft. high, from a stout woody rootstock; flowers pink or mauve with a purple centre; **in moist grassland in savanna**; drying brown.

Mali: Niana to Namesa (Feb.) Chev. 330! Guienguénia to Moriguéya Chev. 433. **Guin.:** Kankan Pobéguin 1014a! Kebeya (June) Pobéguin 1014b! Erimakuna (Mar.) Sc. Elliot 224! **S. L.:** Ninia Talla Sc. Elliot 4872! **Ghana:** Afram Plains (fl. & fr. Mar.) Johnson 727! Amedzofe (Mar., May) Scholes 58! Hepper & Morton A3044! **Togo Rep.:** Agome (Mar.) Schlechter 12959! **N. Nig.:** Nupe Barter! Abinsi (Mar.) Dalz. 708! Zaria (fl. & fr. Feb.) Dalz. 383! Tof, 4,000 ft., Jos Plateau (Feb.) Hepburn 136! Bui, 2,500 ft., Bornu Prov. (May) Noble 53! **S. Nig.:** Upper Ogun F.R., Oyo (Feb., Mar.) Keay FHI 22520! 23443! [**Br.**] **Cam.:** Bamenda, 3,000-5,000 ft. (Jan., Apr., fl. & fr. May) Migeod 367! Maitland 1414! 1762! Ujor FHI 30094! Gembu, Mambila Plateau (Jan.) Hepper 1817! Mayo Wombo to Mai Idoanu, Gashaka Dist. (fl. & fr. Feb.) Latilo & Daramola FHI 34460!

Also in **Cameroun**, **Ubangi-Shari**, **Congo** and eastern Africa from **Sudan** to S. Africa.

3. *Sopubia ramosa* (Hochst.) Hochst. l.c. (1844); F.T.A. 4, 2: 449; Chev. Bot. 479. *APD acc*

Rhaphidophyllum ramosum Hochst. (1841).

Robust erect shrub or woody herb 1-5 ft. high; flowers pink or mauve with darker centre; **in savanna woodland or grassy places**; drying brown.

Guin.: Kouroussa (July, Oct.) Pobéguin 565! 1021! **S. L.:** Bumbuna (fr. Jan.) Deighton 3597! Rofankma (fr. Dec.) Korama 1! Lomaburn (fr. Jan.) Sc. Elliot 5036! **Ghana:** Kayoro (Oct.) Vigne FH 4613! Kintampo Scarp (Nov.) Morton A3814! Wa (fr. Dec.) Adams 4474! Techiman to Nkoransa (fl. & fr. Dec.) Adams 4520! **Togo Rep.:** Alafanyo Krause! **Dah.:** Poisson! **N. Nig.:** Borgu Barter 774! Liruwen-Kano Hills Carpenter! Dogon Kurmi, Jemaa Div. (Nov.) Keay & Onochie FHI 21538! Jos (Oct.) Hepper 1065! Maifula, Muri Dist. (fl. & fr. Nov.) Latilo & Daramola FHI 28711! **S. Nig.:** Abeokuta Irving! Oyo to Iseyin Hambley 114! Oban Talbot 316! [**Br.**] **Cam.:** Bansa, Bamenda (fr. Dec.) Egbuta FHI 3775! Bansa to Bamenda (Oct.) Tamajong FHI 23487! Vogel Peak area (Nov.) Hepper 1425!

Also in **Congo**, **Sudan**, **E. Africa**, **Nyasaland**, **N. and S. Rhodesia** and **Mozambique**.

4. *Sopubia mannii* Skan var. *mannii* in F.T.A. 4, 2: 450 (1906); Hepper in Kew Bull. 14: 409 (1960). *APD acc*

Sopubia dregeana Benth. (1846), illegitimate name, partly-F.T.A. 4, 2: 451.

Erect undershrub about 1 ft. high, rootstock woody, stems branched and with short internodes; flowers purplish or magenta; **in montane grassland above timber line**; drying brown.

iv. C.: Nimba Mt., 4,700 ft. Monod 10264! [**Br.**] **Cam.:** Cam. Mt., 5,000-11,000 ft. (Jan., Dec., fl. & fr. Mar.) Mann 1287! 2003! Johnson 2! Maitland 447! Keay FHI 28589! Bafut-Ngemba F.R., Bamenda 6,000 ft. Lightbody FHI 26255! Basenako, Bamenda, 6,000 ft. (June) Maitland 1723! L. Oku, 7,800 ft., Bamenda (Jan.) Lightbody FHI 28496!

Also in **Cameroun**, **Uganda**, **Tanganyika**, **Angola**, **N. & S. Rhodesia** and **S. Africa**.

4a. **Sopubia mannii** var. **tenuifolia** (Engl. & Gilg) Hepper l.c. 410 (1960). *APD acc*

Sopubia dregeana Benth. var. **tenuifolia** Engl. & Gilg (1903).

A few-flowered undershrub of [montane grassland](#).

S. L.: Bintumane, 5,000-6,000 ft. (fl. Feb., fl. & fr. May, fr. Aug.) Deighton 5089! Glanville 472! Jaeger 1135! 4247!

Also in [Uganda](#), [N. & S. Rhodesia](#), [Angola](#) and [S. Africa](#).

28. **BUCHNERA**

APD: Synonym of Striga Lour.

Linn.-F.T.A. 4, 2: 373.

- 1 Spikes head-like, 1-2.5 cm. long; leaves lanceolate to linear-lanceolate, entire or slightly dentate, lower ones obtuse, upper ones subacute: **2**
 Spikes elongate, usually lax and discontinuous, not head-like; leaves lanceolate to linear-lanceolate, the lowest often oblanceolate, petiolate: **3**
- 2 Stems and nerves of leaves beneath hispid with spreading hairs about 1 mm. long; lower leaves narrowed to base; calyx-teeth triangular, acuminate, about 1.5 mm. long; bracts ovate, villous [1. bowalensis](#)
 Stems above and upper leaves pubescent in the younger parts with hairs 0.25 mm. long, glabrous below; lower leaves slightly narrowed at base; calyx-teeth subulate, 2-3 mm. long; bracts broadly lanceolate, acuminate .. [2. capitata](#)
- 3 Plant hispid with hairs about 1 mm. long; calyx densely hispid; corolla-tube about 5 mm. long, sparsely villous outside; leaves often coarsely dentate [3. hispida](#)
 Plant almost glabrous; calyx glabrous or nearly so, with ciliate teeth; corolla-tube about 5 mm. long, glabrous outside; leaves subentire [4. leptostachya](#)

1. **Buchnera bowalensis** A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 185 (1912); Chev. Bot. 475. *APD acc*

Slender erect herb, 4-20 in. high; flowers blue; [in pools on ironstone plateau](#); drying black.

Mali: Banfora, Upper Volta (Sept.) Jaeger 5220! **Guin.:** Dalaba-Diaguissa Plateau, 3,200-4,000 ft. (Oct.) Chev. 18867! Bouria (fl. & fr. Sept.) Chev. 18461! Ditinn (Sept.) Schnell 7404!

2. **Buchnera capitata** Benth. in DC. Prod. 10: 495 (1846); F.T.A. 4, 2: 381. *APD acc*

Erect herb 1-3 ft. high, simple or slightly branched with bright green leaves; flowers usually white, or pale mauve; [in wet places amongst grass](#); drying black.

Iv. C.: Alanguouassou to Mbayakro, Nzi Valley (fl. & fr. Aug.) Chev. 22248! **Ghana:** Banda, Wenchi Dist. (Dec.) Morton GC 25206! **N. Nig.:** Bida (fl. & fr. Mar.) Meikle 1320! Tangale (Oct.) Lely 659! Yola and Kilba (fl. & fr. Jan., Aug.) Dalz. 116! **S. Nig.:** Akure F.R., Ondo (fl. & fr. Oct., Nov.) Keay FHI 22663! 25470! [**Br.**] **Cam.:** Vogel Peak, 4,800 ft., Adamawa (fl. & fr. Nov.) Hepper 1355! Kakara, 4,900 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 17691

Widespread in tropical Africa and in Madagascar.

3. **Buchnera hispida** Buch.-Ham. ex D. Don Prod. Fl. Nepal. 91 (1825); F.T.A. 4, 2: 397; Chev. Bot. 475; Berhaut Fl. Sén. 69. *APD acc*

Buchnera longifolia Klotzsch (1861)-F.T.A. 4, 2: 398; F.W.T.A., ed. 1, 2: 225; Berhaut l.c.

Variable erect herb 1-2 ft. high; flowers mauve; [in waste sandy places](#); drying black.

Sen.: Heudelot 132! Leprieur 8! Oualia Chev. 42. Thiès Chev. 3287! **Gam.:** Brown-Letter 62! Boteler! MacCarthy Isl. Dalz. 8063! Jappeni Jarra Central (Nov.) Frith 263! **Mali:** Sonni Koura (?) Roberty 487! **Port. G.:** Antula (Jan.) Esp. Santo 1454! **Guin.:** Kouroussa Pobéguin 566! **Ghana:** Kayoro (Oct.) Vigne FH 4611! Nangodi (fr. Dec.) Adams & Akpabla 4275! Deloro-Tankara (fl. & fr. Dec.) Adams & Akpabla 4328! Yendi (Dec.) Adams & Akpabla 4056! **Niger:** Daddora (fl. & fr. Dec.) Meikle 819! **N. Nig.:** Kano (fl. & fr. Oct., Dec.) Hagerup 659! Keay FHI 21418! Anchu, Zaria (fl. & fr. Nov.) Keay FHI 21668! Kontagora (Nov.) Dalz. 172! Shere Hills, Jos (fl. & fr. Dec.) Savory UCI 120! Jos (Oct.) Hepper 1044!

Maiduguri (fl. & fr. Oct.) Noble A15! **[Br.] Cam.:** Gurum, near Vogel Peak (Nov.) Hepper 1284! Bama, Dikwa Div. (fl. & fr. Dec.) McClintock 102!

Widespread in tropical Africa also in S.W. & S. Africa, Madagascar and India.

4. **Buchnera leptostachya** *Benth.* in DC. Prod. 10: 497 (1846); F.T.A. 4, 2: 394; Chev. Bot. 476; Berhaut Fl. Sén. 69. *APD acc*

Erect slender-branched herb, stem 1-2 ft. high, from a rosette of leaves, leaf-veins sometimes tinged purple beneath; flowers mauve or occasionally white; **roadsides and moist places**; drying black.

Sen.: Leprieur 7! Badi Berhaut 1557. **Gam.:** Brown-Lester S42! **Mali:** Tabacco (fl. & fr. Jan.) Chev. 134! **Port. G.:** Cantubo (Nov.) Esp. Santo 3602! **Guin.:** Heudelot 613! Dalaba-Diaguissa Plateau Chev. 18758! 18865! Kissidougou (fr. Dec.) Martine 226! **S. L.:** Tower Hill, Freetown (fl. & fr. Dec.) Deighton 793! Bonthe (fl. & fr. Nov.) Adames 108! Wallia (fl. & fr. Feb.) Sc. Elliot 4266! Yiraia (fl. & fr. Jan.) Glanville 481! **Iv. C.:** Mankono Chev. 21994! **Ghana:** Burufo (fr. Dec.) Adams & Akpabla 4389! Bimbila Hepper & Morton A3102! **N. Nig.:** Nupe Barter 907! Kontagora (fl. & fr. Nov., Dec.) Dalz. 160! Hoss, Jos (fl. & fr. Nov.) Keay FHI 21736! **[Br.] Cam.:** Cam. Mt., 5,500 ft. (Feb.) Keay FHI 37505! Kumbo to Oku (Feb.) Hepper 2015! Nguroje, Mambila Plateau (fl. & fr. Jan.) Hepper 1744! Karamti, Gashaka Dist. (fl. & fr. Dec.) Latilo & Daramola FHI 28938! Gurum, Vogel Peak area (Dec.) Hepper 1597!

Also in **Cameroun**, **Uganda**, **Kenya**, **Tanganyika** and **Nyasaland**.

29. RHAMPHICARPA

Benth.-F.T.A. 4, 2: 418.

- 1 Leaves pinnatisect into slender filiform segments, 1-8 cm. long; corolla 1.5 cm. diam. across the lobes, tube very slender but distended above, 2.5-3 cm. long, very slightly pubescent; calyx 6 mm. long, lobes ovate, long-acuminate-subulate; fruits obliquely ovoid with the erect beak to one side, compressed, dehiscent longitudinally between flanges, 1 cm. long *1. fistulosa*

Leaves linear to narrow-lanceolate, remotely serrate, 3-11 cm. long, 2-9 mm. broad; corolla 3-5 cm. diam. across the lobes, tube uniform, 2.5 cm. long, glandular-pubescent; calyx 1(-2) cm. long, lobes lanceolate; fruits very obliquely ovoid with the beak horizontal and projecting between calyx-lobes, 6 mm. long *2. tubulosa*

1. **Rhamphicarpa fistulosa** (*Hochst.*) *Benth.* in DC. Prod. 10: 504 (1848); F.T.A. 4, 2: 419.

Macrosiphon fistulosa *Hochst.* (1841).

Rhamphicarpa longiflora *Benth.* in Hook. Comp. Bot. Mag. 1: 368 (1838), partly (African spec.)-Berhaut Fl. Sén. 11, not of *Benth.* in DC. Prod. 10: 504 (1846).

Erect much-branched glabrous herb a few inches to 2 ft. high, half-woody below, with fibrous roots; flowers white, rarely yellow; **in swamps and damp places in savanna**; drying black.

Sen.: Perrottet 568! 570! St. Louis Isl. Leprieur! **Gam.:** Kuntaur Ruxton 84! **Mali:** Kabarah (fl. & fr. Aug.) Chev. 1336! Bamako Garnier! Kita Jaeger 9! **Port. G.:** Farim (fl. & fr. Apr.) Esp. Santo 2678! Gabu (July) Esp. Santo 2704! **Guin.:** Kouroussa (fl. & fr. Aug.) Pobéguin 373! Fouta Djallon (fl. & fr. Sept.) Schnell 7064! **Ghana:** Mirigu (fl. & fr. Oct.) Vicgne FH 4595! Kete Krachi (Dec.) Adams 4568! Burufu, near Lawra (Nov.) Harris! **Niger:** Air De Miré & Gillet. **N. Nig.:** Nupe Barter 1713! Sokoto (fl. & fr. Sept., Oct.) Moiser 115! Gindiri, Plateau (Oct.) Hepper 1096! Zaria (fl. & fr. July, Sept.) Olorunfemi FHI 24388! Keay FHI 25914! Yola (fl. & fr. Sept.) Dalz. 120! L. Chad shore (fl. & fr. Apr.) Potter! **S. Nig.:** Ado Rock, near Olokemeji (June) Hambler 289! Onochie FHI 31208! **[Br.] Cam.:** Jada, Adamawa (Nov.) Hepper 1224!

Widespread in tropical Africa, also in S. Africa and Madagascar.

2. **Rhamphicarpa tubulosa** (*Linn. f.*) *Benth.* in Hook. Comp. Bot. Mag. 1: 368 (1836); F.T.A. 4, 2: 428.

APD: *Synonym of Cycnium tubulosum* (*L. f.*) *Engl. subsp. tubulosum*

Gerardia tubulosa *Linn. f.* (1781).

An erect herb 1-2 ft. high, sparingly branched; flowers blue, pink or white, fragrant; **in wet grassland**; drying black.

N. Nig.: Thornewill 74! Nupe Yates! Odeke, Kabba (Feb.) Jones FHI 5896! **S. Nig.:** Onitsha Talbot!

Also in **Ethiopia**, **E. Africa**, **Congo**, **N. & S. Rhodesia**, **Nyasaland**, **S. Africa** and **Madagascar**.

30. STRIGA

Lour.-F.T.A. 4, 4: 399.

- 1 Calyx 10- or more ribbed, 1 rib or more between each calyx-tooth:2
 Calyx 4-5-ribbed, each rib ending in a tooth:8
- 2 Plant glabrous; leaves reduced to scales clasping the stem, 2-7 mm. long; corolla-tube about 1 cm. long, slightly curved, corolla-lobes 1-2 cm. long; capsule-lobes 2, linear, reflexing, about 6 mm. long; calyx 4-toothed, about 15-ribbed [1. baumannii](#)
 Plants pubescent; capsule-lobes not reflexing at maturity:3
- 3 Flowers imbricated in a very dense spike:4
 Flowers not imbricated, forming a loose spike:6
- 4 Bracts ovate, about 7 mm. long and nearly as broad, evenly and shortly glandular-pubescent; corolla-tube 1-1.5 cm. long, densely pubescent above, corolla more or less 1.5 cm. diam.; leaves linear-lanceolate, coarsely serrate, 2-12 cm. long; stems hispid [2. macrantha](#)
 Bracts lanceolate, hispid with hairs about 1 mm. long on the margins and midrib; stems hispid:5
- 5 Leaves oblong-lanceolate, 3-4 cm. long, 3 mm. broad, very scabrid-setose; corolla about 4 mm. diam., lower lobes 2 mm. long, tube about 1 cm. long, shortly glandular-pubescent; bracts 8-12 mm. long, about 3 mm. broad, the hispid hairs arising from bulbous bases [3. klingii](#)
 Leaves linear, 2-3 cm. long, 3 mm. broad, hispid-setose; corolla nearly 2 cm. diam., lower lobes about 1 cm. long, tube 2 cm. long, puberulous; bracts 15 mm. long, 3 mm. broad, hair-bases inconspicuous [4. dalzielii](#)
- 6 Calyx-lobes about 5 mm. long in flower, becoming about 10 mm. long in fruit; bracts leafy each subtending 1 flower, opposite; flowers 1-2 cm. diam., corolla-tube 2-2.5 cm. long, sparsely pubescent [5. forbesii](#)
 Calyx-lobes at most 2 mm. long; bracts neither leafy nor opposite:7
- 7 Calyx-lobes triangular; calyx rather obscurely about 15-ribbed, pubescent; corolla-tube about 2 cm. long, glandular-pubescent, corolla about 1.5 cm. diam.; bracts ovate-lanceolate, 2-5 mm. long [6. primuloides](#)
 Calyx-lobes subulate; calyx distinctly 10-ribbed, usually hispid; corolla-tube up to 1 cm. long, minutely pubescent, corolla 5-10 mm. diam.; bracts linear-lanceolate, about 5 mm. long [7. asiatica](#)
- 8 Indumentum closely appressed to the stems, hairs directed upwards; leaves subulate, appressed, 5(-10) mm. long; bracts similar to the leaves; corolla tomentose-pubescent, the tube about 1 cm. long, the lobes 2-3 mm. long [8. linearifolia](#)
 Indumentum of stems more or less erect or spreading, scabrid-hispid or plant glabrous:9
- 9 Stems scabrid-hispid or conspicuously pubescent:10
 Stems glabrous or very slightly pubescent, not scabrid; flowers opposite or subopposite:16
- 10 Corolla-tube conspicuously pubescent or tomentose, often glandular; flowers usually alternate:11
 Corolla-tube nearly glabrous or very shortly pubescent; flowers alternate; stems not sharply angular:13
- 11 Bracts acuminate, obovate to oblanceolate, 3-4 mm. broad, 7-9 mm. long, ciliate, the lower ones linear, about 8 mm. long, spikes compact, 2.5-3.5 cm. long; leaves linear, spreading, 4-6 cm. long, basal ones about 1 cm. long and erect, scabrid [9a. bilabiata subsp. jaegeri](#)
 Bracts acute, lanceolate to linear-lanceolate, ciliate:12
- 12 Stems square, sharply angular with decurrent leaf-bases, branching above; inflorescences usually only about 1/2 as long as the rest of the stem; bracts linear-lanceolate, about 1 cm. long, not imbricate; leaves linear to linear-lanceolate, 1-5.5 cm. long, usually spreading [9b. bilabiata subsp. rowlandii](#)
 Stems terete or obtusely square, branching below; inflorescences usually about twice as long as the rest of the stem, lax; bracts linear, 1-1.5(-3) cm. long; leaves linear, 1-3 cm. long, few [9c. bilabiata subsp. barteri](#)
- 13 Bracts linear to subulate:14
 Bracts lanceolate to lanceolate-elliptic, markedly ciliate on margin and sometimes on midrib outside, about 1 cm. long and 2(-3) mm. broad; leaves linear or slightly elliptic-linear, 3-9 cm. long, 3-7 mm. broad, scabrid; corolla often very large [13. hermontheca](#)
- 14 Calyx-tube 1.5-2 mm. long, teeth 1 mm. long, up to 2 mm. in fruit; mature fruits 2-3 mm. long; leaves 1-2 cm. long, scabrid [10. brachycalyx](#)
 Calyx-tube 3-8 mm. long; leaves linear, 1-5 cm. long, scabrid:15
- 15 Bracts mostly shorter than calyx, about 3 mm. long (lower ones sometimes longer); calyx-tube 3-4 mm. long, teeth 1-2 mm. long; mature fruits about 4 mm. long [11. aspera](#)
 Bracts leafy, much longer than calyx, up to 3 cm. long, only uppermost about same length; calyx-tube 6-8 mm.

long, teeth 2 mm. long, spreading and lengthening to up to 5 mm. in fruit; mature fruits 5-6 mm. long [12. passargei](#)

16 Leaves subulate to linear, 1-2(--3) cm. long; corolla-tube densely pubescent [14. aequinoctialis](#)

Leaves ovate, scale-like from a broad base, few, about 5 mm. long; corolla-tube glabrous [15. gesnerioides](#)

1. **Striga baumannii** *Engl.* Bot. Jahrb. 23: 515, t. 12 figs. O-T (1897); F.T.A. 4, 2: 414. *APD acc*

Tall glaucous herb 2 ft. or more high; flowers dull-yellow, in long slender spikes; roots subsucculent from a fairly stout stock; [parasitic on grass roots in moist grassland](#); drying grey.

Mali: Oualia, Kita (Dec.) Chev. 102! **S. L.:** Sc. Elliot 5085! Kumrabai (fl. & fr. Jan.) Glanville 148! Brookfields (fl. & fr. Aug.) Jordan 784! Waterloo (fr. Aug.) Melville & Hooker 329! **Ghana:** Amedzofe, 2,600 ft. (fl. & fr. Mar.) Hepper & Morton 2313! **Togo Rep.:** Quamikrum (Mar.) Schlechter (fl. & fr. Mar.) 12954! Misahöhe Baumann 29. **N. Nig.:** Abinsi (fl. & fr. Mar.) Dalz. 709! **S. Nig.:** Ago-Are F.R., Oyo (Mar.) Keay FHI 87556! [**Br.**] **Cam.:** Bum-Nchan, 5,000 ft., Bamenda (June) Maitland 1636! Vogel Peak, 5,200 ft. (fr. Nov.) Hepper 1497!

Also to **Cameroun**, **Kenya** and (?) **Congo**.

2. **Striga macrantha** (*Benth.*) *Benth.* in DC. Prod. 10: 503 (1846); F.T.A. 4, 2: 413; Chev. Bot. 477, partly; Berhaut Fl. Sén. 68, 83. *APD acc*

Buchnera macrantha *Benth.* (1836).

B. buettneri *Engl.* (1894)-Chev. Bot. 475.

Robust herb 2-5 ft. sparingly branched above; flowers white, tube green; [amongst tall grass](#); drying dark brown.

Sen.: Berhaut 650! **Gam.:** Brooks 4! Brown-Lester S34! **Mali:** Roberty! Nafadié to Ouacoro Chev. 3275. **Port. G.:** Pussubé, Bissau (fl. & fr. Jan.) Esp. Santo 1464! Safim, Bissau (fr. Jan.) Esp. Santo 1699! **Guin.:** Heudelot 607! Farmar 246a! Farana Chev. 20402! 20440! **S. L.:** Regent (fl. & fr. Oct.) Deighton 220! Bumban to Port Loko (fl. & fr. Apr.) Sc. Elliot 5677! Musaia (Dec.) Deighton 4494! Bintumane Peak, 4,500 ft. (fl. & fr. Jan.) Nichols 11! **Iv. C.:** Ano, Tchumkrou to Akakoumoékrou Chev. 22543! **Ghana:** Winneba Plains (Oct.) Darko 1026! Attabubu (Dec.) Morton GC 6183! Salaga Krause! Dutukpene (Mar.) Hepper & Morton 2355! Techiman (fl. & fr. Dec.) Adams & Akpabla 5609! **Togo Rep.:** Bismarckburg Kling 179. **N. Nig.:** Oke-Opim, Ilorin (Dec.) Ajayi FHI 19271! Nupe Barter 985! Kurmin Damisa, Jemaa Div. (Nov.) Keay FHI 21541! Jos Plateau (Oct.) Lely P785! **S. Nig.:** Lagos (fl. & fr. Mar.) Millen! Abeokuta (Oct.) Baldwin 13639! Ibadan (Dec.) Newberry 6! Jesse, Wari Prov. (fl. & fr. Sept.) Butler-Cole 4! [**Br.**] **Cam.:** Vogel Peak, 3,400 ft., Adamawa (Nov.) Hepper 1392!

Also in **Cameroun** and **Angola**.

3. **Striga klingii** (*Engl.*) *Skan* in F.T.A. 4, 2: 413 (1906). *APD acc*

Buchnera klingii *Engl.* (1893).

Striga macrantha of Chev. Bot. 477, partly (Chev. 18403, 18612, 20176), not of (*Benth.*) *Benth.*

Erect, little-branched herb 1 ft. high, with harshly hairy stem; flowers pink or red with white throat; [in wet places or amongst grass](#); drying brown.

Port. G.: Gabu (Oct.) Esp. Santo 3447! Farim (Nov.) Esp. Santo 3622! S. Domingo to Suzana (Nov.) Esp. Santo 3668! Bafata (Dec.) Esp. Santo 3754! 3808! **Guin.:** Mamou (Sept.) Schnell 6785! Fon Massif, Beyla (Aug.) Schnell 6626! Fouta Djallon Chev. 18403! 18612! 20176! **Ghana:** Kete Krachi (Dec.) Morton GC 6292! **Togo Rep.:** Assumafaru Büttner 293. Ketschem Timoy Büttner 221. **N. Nig.:** Borgu Barter 758! Rinji (Nov., Dec.) Lely 680! [**Br.**] **Cam.:** Vogel Peak, 3,600 ft., Adamawa (Nov.) Hepper 1397!

Also in **Ubangi-Shari**.

4. **Striga dalzielii** *Hutch.* in F.W.T.A., ed. 1, 2: 226 (1931). *APD acc*

Similar to the last; [to wet places](#); drying brown.

N. Nig.: Zungeru (Sept.) Dalz. 168!

5. **Striga forbesii** *Benth.* in Hook. Comp. Bot. Mag. 1: 364 (1836); F.T.A. 4, 2: 410; Berhaut Fl. Sén. 83. *APD acc*

Erect, simple or little-branched scabrid herb a few inches to 2 ft. high; flowers pink, or sometimes scarlet or yellow, subtended by leafy bracts; **in wet places**; drying greenish-brown.

Sen.: Leprieur 5! Perrottet 566! **Gam.:** Kuntaur Ruxton 67! 149! **Mali:** Mopti (June) Lean 37! **Port. G.:** Farim to Bigene (fl. & fr. Aug.) Esp. Santo 3063! **Guin.:** Kouroussa (Dec.) Pobéguin 1018! **Ghana:** Navrongo (Aug.) Vigne FH 4580! **N. Nig.:** Zungeru (Aug.) Dalz. 167! Nell's Valley, Naraguta (June) Lely 255! Vom, 3,000-4,500 ft. Dent Young 184! Yola (June) Dalz. 109! Ruma, Katsina (fl. & fr. Aug.) Onwudinjoh FHI 24005! **S. Nig.:** Obani Talbot 308! [**Br.**] **Cam.:** Mambila Plateau (July) Chapman 64!

Widespread in tropical Africa and in Madagascar and S. Africa.

6. *Striga primuloides* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 185 (1912); Chev. Bot. 478. *APD acc*

Erect leafless parasite about 1 ft. high; flowers primrose-yellow; drying brown.

iv. C.: Anoumaba (fl. & fr. Nov.) Chev. 22404! Mt. Dourou, 1,800-2,500 ft., Upper Sasaandra Chev. 21714! Thiassalé (Aug.) Pobéguin. 120! **S. Nig.:** Awkaka (Jan.) Birkett-Smith in Hb. Hambley 49!

7. *Striga asiatica* (Linn.) O. Ktze. Rev. Gen. Pl. 2: 466 (1891); Berhaut Fl. Sén. 83 (incl. vars.). *APD acc*

Buchnera asiatica Linn. (1753).

Striga lutea Lour. (1790)-F.T.A. 4, 2: 409; Chev. Bot. 477.

Striga hirsuta Benth. (1846)-Chev. Bot. 477.

Extremely variable slender erect herb, scabrid-pubescent or almost glabrous, a few inches to 1 ft. high; flowers usually brilliant scarlet inside, yellow outside, sometimes all red, yellow or white; **in moist shallow sandy soil overlying rock amongst short grass**; drying greenish.

Sen.: Berhaut 555. Ouassadou Berhaut 1673. **Port. G.:** Bafatá (Aug.) Esp. Santo 2740! 3329! **Guin.:** Macenta (fl. & fr. Oct.) Baldwin 9787! **S. L.:** Morson! Waterloo (fl. & fr. Aug.) Deighton SLH 2042! Rokupr (Nov.) Jordan 151! Kasewe Hills (fl. & fr. June) Deighton 5841! Konjo-ngiehum, Bagbe (July) Deighton 5812! **Lib.:** Harper (fl. & fr. June) Baldwin 5988! **iv. C.:** Sabodougou, Touba (fl. & fr. July) Collenette 59! **Ghana:** Aburi Anderson 53! Birifu, Lawra (fl. & fr. Aug.) Thorold 213! Damongo (fl. & fr. July) Andoh FH 5202! 5206! Banda (fl. & fr. Dec.) Adams & Akpabla 4021! **N. Nig.:** Nupe Barter 538! Anara F.R., Zaria (fl. & fr. Sept.) Olorunfemi FHI 24389! Vom, 3,000-4,500 ft. Dent Young 184a! Naraguta (fl. & fr. June, Aug.) Lely 254! 525! Yola (fl. & fr. Aug., Sept.) Dalz. 111! 113! **S. Nig.:** Apapa, Lagos (fl. & fr. Feb.) Datz. 1390! Calabar Robb! Ogoja Dtst. Rosevear 44/29! 45/29! [**Br.**] **Cam.:** Bum, 4,000 ft., Bamenda (May) Maitland 1599! Vogel Peak, Adamawa (nov.) Hepper 2745!

Widespread in tropical Africa and Asia, S. Africa and the Mascarenes.

8. *Striga linearifolia* (Schum. & Thonn.) Hepper in Kew Bull. 14: 416 (1960). *APD acc*

Buchnera linearifolia Schum. & Thonn. (1827)-F.T.A. 4, 2: 415.

Striga canescens Engl. (1895)-F.T.A. 4, 2: 406; Chev. Bot. 477.

Striga strictissima Skan in F.T.A. 4, 2: 407 (1906); F.W.T.A., ed. 1, 2: 227.

Erect herb, simple or little-branched from near the base, stems ribbed and square, 1-2 ft. high; flowers pale pink, pale lilac or white in rather dense spikes 3-12 ins. long; **moist ground in savanna grassland**; drying grey.

Mali: Macina Roberty 2676! Bamako Waterlot 1240! **Guin.:** Pobéguin 364! Kouroussa Pobéguin 389! **iv. C.:** Dotou Chev. 21775! **Ghana:** Accra (Jan.) Dalz. 145! Nangodi (fr. July) Williams 534! Vigne FH 3355! Busa (fl. & fr. Aug.) Thorold 209! Amedzofe (May) Scholes 59! Hepper 2314! Dutukpene (Mar.) Hepper & Morton A3050! **N. Nig.:** Nupe Barter 1263! Lokoja (Apr.) Parsons L117! Maska, Katsina Prov. (fl. & fr. June) Keay FHI 25896! Lemme, 2,600 ft. (May) Lely 146! **S. Nig.:** Ibadan F.R. (May) Keay FHI 22864!

Also in **Ethiopia**, **East Africa** and **Angola**.

9. *Striga bilabiata* (Thunb.) O. Ktze. Rev. Gen. Pl. 8, 2: 240 (1898); Hepper in Kew Bull. 14: 411 (1960). *APD acc*

Buchnera bilabiata Thunb. (1800).

Striga thunbergii Benth. (1836)-F.T.A. 4, 2: 404.

9a. *Striga bilabiata* subsp. *jaegeri* Hepper l.c. 415 (1960). *APD acc*

Striga welwitschii var. *longifolia* Berhaut Fl. Sén. 84 (1854), French descr. only.

Erect simple perennial herb about 7 in. high; in scrub on ironstone plateau and laterite hills; drying greenish.

Sen.: Ouassadou (fl. & fr. Sept.) Berhaut 1681! **Mali:** Kita Massif (July, Sept.) Jaeger K2! 2541!

9b. *Striga bilabiata* subsp. *rowlandii* (Engl.) Hepper l.c. 415 (1960). *APD acc*

Striga rowlandii Engl. (1897)-F.T.A. 4, 2: 405; F.W.T.A., ed. 1, 2: 227; Berhaut Pl. Sén. 84. S. sp. of Berhaut l.c.

Herb about 1 ft. or more high with mauve, pink or white flowers; in burnt savanna grassland; drying greenish.

Sen.: Niokolo-Koba (fl. & fr. Jan.) Berhaut 1630! Jouat (Mar.) Perrottet 649! **Gam.:** Hayes 539! **Mali:** Dougoura (fl. & fr. Feb.) Chev. 336! Pessubé, Bissau (Mar.) Esp. Santo 1504! **Guin.:** Pobéguin 364! **S. L.:** Mange Glanille 241! Falaba (fl. & fr. Mar.) Sc. Elliot 5207! Rhombe (Mar.) Adames 146! Robis (Jan.) Jordan 190! **Ghana:** Sesiayang (fl. & fr. Feb.) A. S. Thomas D138! Afram Plains (fl. & fr. Mar.) Johnson 709! Lumbuga (May) Morton GC 8795! Yendi (Mar.) Hepper & Morton A3110! **N. Nig.:** Nupe Barter 1169! Liruwén-Kano Hills Carpenter! Zaria (Mar.) Dalz. 407! Milne-Redhead 5043! Mando F.R., Birnin Gwari (June) Keay FHI 25833! Vom, 3,000-4,500 ft. Dent Young 185! **S. Nig.:** Rowland! Upper Ogun F.R., Oyo (Feb.) Keay FHI 23442!

9c. *Striga bilabiata* subsp. *barteri* (Engl.) Hepper l.c. 414 (1960). *APD acc*

Striga barteri Engl. (1897)-F.T.A. 4, 2: 406; F.W.T.A., ed. 1, 2: 227; Berhaut Fl. Sén. 84; F.W. Andr. Fl. Pl. Sud. 3: 143.

Striga glandulifera Engl. (1897)-F.T.A. 4, 2: 406.

Perennial herb 6-8 ins. high; flowers pinkish or violet; in savanna; drying dark brown or greenish.

Sen.: fide Berhaut l.c. **Port. G.:** Contabane to Guilege (June) Esp. Santo 3199! **Guin.:** Mali (Jan.) Roberty 16608! Kouroussa (Mar.) Pobéguin 208! **N. Nig.:** Nupe Barter 1170! Jebba (Jan.) Meikle 1011! Alagbe F.R., Ilorin (Feb.) Ejiofor FHI 19822!

Also in **Ubangi-Shari**, **Sudan** and **Uganda**.

10. *Striga brachycalyx* Skan in F.T.A. 4, 2: 403 (1906). *APD acc*

Striga warnecke Engl. ex Skan in F.T.A. 4, 2: 414 (1906).

Erect usually diffusely branched perennial herb, 1-1 1/2 ft. high, scabrid; flowers purple; weed of cultivation, drying brown.

Ghana: Bole (Apr.) Morton A3295! Wa (fl. & fr. Nov.) Harris! Tili, Kusai Dist. (July) Vigne FH 4534! **Togo Rep.:** Lomé Warnecke 201! Basari to Heppé Kersting A665! **N. Nig.:** Jebba Barter! Jos Plateau (Aug.) Lely P567! Samaru, Zaria (Oct.) Harris 4! Abinsi (fl. & fr. Nov.) Dalz. 790! **S. Nig.:** Enugu Extension F.R. (fl. & fr. Sept.) Onochie FHI 34106! Oban Talbot 1033!

Also in **Cameroun**.

11. *Striga aspera* (Willd.) Benth. in Hook. Comp. Bot. Mag. 1: 362 (1836); F.T.A. 4, 2: 403, incl. var. filiformis Benth. (1846); Chev. Bot. 476; Berhaut Fl. Sén. 84. *APD acc*

Euphrasia aspera Willd. (1801).

Slender erect slightly hispid herb, 6-18 in. high; flowers pink or purple, sometimes white; weed of waste places and cultivation in savanna; drying blackish.

Sen.: Heudelot 165! Roger! **Gam.:** Mungo Park! Kuntaur Ruxton 65! 152! **Mali:** Dogo Davey 039! Ségou Chev. 3282! Koulikoro Chev. 3284! **Guin.:** Kouroussa (fl. & fr. Aug.) Pobéguin 371 (partly)! Kankan (May) Pobéguin 1020! **Iv. C.:** Gampéla Chev. 24616. Ouadougou to Ouahigonya Chev. 24718. **Ghana:** Williams 548! Cape Coast Brass! Zuarungu (Sept., Dec.) Adams & Akpabla 4272! Jiripa (Sept.) Thorold 252! **Niger:** Diapaga Chev. 24415. **N. Nig.:** Jebba Barter! Zaria (June) Keay FHI 25911! Kontagora (Nov.) Dalz. 170! Vom Dent Young 186! Biu, Bornu (Aug.) Noble 1! **S. Nig.:** Onitsha (fl. & fr. Feb.) Jones FHI 4557! **[Br.] Cam.:** Gulumba, Dikwa Div. McClintock 42!

Also in **Sudan**.

12. *Striga passargei* Engl. Bot. Jahrb. 23: 515, t. 12, figs. M, N (1897); Chev. Bot. 478, partly; Berhaut Fl. Sén. 83. *APD acc*

Striga aspera of F.T.A. 4, 2: 403, in note; F.W.T.A., ed. 1, 2: 226, partly (Dalz. 110, 355; Lely 532).

Erect slightly scabrid herb, 4-18 in. high; flowers creamy-white to pale yellow with pink centre, rarely wholly pale pink (Lely 532); **in rocky places**; drying black.

Sen.: Ouassadou (fl. & fr. Sept.) Berhaut 1666! **Ghana:** Jiripa (fl. & fr. Sept.) Thorold 251! **N. Nig.:** Sokoto (fl. & fr. July) Dalz. 355! Kakangi F.R., Zaria (fl. & fr. July) Keay FHI 25936! Kufena Rock, Zaria (fl. & fr. July) Keay FHI 25977! Maraguta (fl. & fr. Aug.) Lely 532! Yola (fl. & fr. July) Dalz. 110! Passarge 48.

Also in **Sudan** and **Tanganyika**.

13. *Striga hermontheca* (Del.) Benth. l.c. 365 (1836); F.T.A. 4, 2: 407. *APD acc*

Buchnera hermontheca Del. (1813).

Striga senegalensis Benth. (1846)-F.T.A. 4, 2: 408; F.W.T.A., ed. 1, 2: 226.

An erect semi-parasitic herb about 1 ft. high; flowers bright pink; **usually parasiting Sorghum roots**.

Sen.: Heudelot! **Gam.:** Ingram! Sounders 60! 62! **Mali:** Ségou Chev. 3281! Sompi Chev. 3286! Bamako (Nov.) Waterlot 1451! **Port. G.:** Bafatá (Oct.) Esp. Santo 2796! Gabu (Oct.) Esp. Santo 3520! **Ghana:** Sounders 7! Burufo (Dec.) Adams 4419! Paliba (fl. & fr. Dec.) Adams & Akpabla 4107! Birifu, near Lawra (Aug.) Thorold 254! **Niger:** Niamey (Oct.) Hagerup 478! Dosso (Oct.) Monod 7138! **N. Nig.:** Nupe Barter 866! Kontagora (fl. & fr. Oct.) Dalz. 171! Onisaja, Ilorin (fl. & fr. Jan.) Ejiofor FHI 30811! 30240! Naraguta (Oct.) Hepper 1162! Biu, Bornu (fl. & fr. Sept.) Noble 30! Lassa, Chad (Oct.) Royer 136! **S. Nig.:** Stirling T. Vogel 130! Aboh Barter 136! Ogoja (fl. & fr. Dec.) Talbot! **[Br.] Cam.:** R. Donga, Mambila Disk. (Feb.) Hepper 1847! Gangumi, Adamawa Prov. (fl. & fr. Dec.) Latilo & Daramola FHI 28792! Gurum, Vogel Peak area (Nov.) Hepper 1278! Gwoza, Dikwa Div. (fl. & fr. Dec.) McClintock 74!

Widespread in the drier parts of tropical Africa and in Madagascar.

[Extreme variability in corolla size and in inflorescence compactness occurs in this species. A specimen from Biu, N. Nigeria (Noble 31) has a congested, imbricated inflorescence and flowers with corolla-lobes about 2 mm. long, whilst Davey FHI 27126 from Bornu, N. Nigeria, has a laxer inflorescence with corolla lobes about 13 mm. long: there is no satisfactory point of separation in the range.-F. N. H.]

14. *Striga aequinoctialis* A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 227 (1931); Chev. Bot. 476, *APD acc*

Erect, slender, simple or little-branched herb, 6-18 ins. high; flowers purple to almost white; **in moist montane grassland**; drying black.

Guin.: Mt. Nzo, 5,300 ft. Chev. 21035. Siredougou, 2,500 ft. (Apr.) Colletetle 3! Maneah (fl. & fr. July) Pobéguin 782! Nimba Mts. (Apr.) Schnell 930! **S. L.:** Freetown (Aug.) Burbridge 510! Bumbuna to Farangbaia (Sept.) Deighton 5146! **Iv. C.:** Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18052! 18067b! 18076! 18095b! I

15. *Striga gesnerioides* (Willd.) Vatke in Oest. Bot. Zeitschr. 25: 11 (1875). *APD acc*

Buchnera gesnerioides Willd. (1801).

Striga orobanchoides Benth. (1836)-F.T.A. 4, 2: 402; Chev. Bot. 477.

Stiff erect perennial herb with usually rather stout stems a few inches to 1 ft. or more high; flowers pink or purple or creamy white; **in waste places and cultivated land**; drying black.

Maur.: Dendari to Bou Zériba (Oct.) Monod 4007! **Sen.:** Sieber 52! Heudelot 540! Leprieur 6! Farmar 131! **Gam.:** Kuntaur Ruxton 53! **Mali:** Ségou (Sept.) Chev. 3280! **S. L.:** Buyabuya, Scarcies (fl. & fr. Feb.) Sc. Elliot 4279! **Ghana:** Zuarungu (fl. & fr. Sept.) Thorold 210! Manga (fl. & fr. Sept.) Thorold 248! **Togo Rep.:** Lomé Warnecke 189! **Dah.:** Cotonou (Nov.) Le Testu 229! **Niger:** Niamey (fl. & fr. Oct.) Hagerup 479! **N. Nig.:** Sokoto (fl. & fr. Aug., Nov.) Dalz. 357! Moiser 63! Naraguta (fl. & fr. Aug.) Lely 489! Kilba Hills and Yola (fl. & fr. Aug.) Dalz. 300! **S. Nig.:** Addarundu T. Vogel! Ado Rock, Oyo (fl. & fr. Oct.) Keay & Savory FHI 25446!

Also in Cape Verde Islands, throughout tropical and S. Africa and through **Arabia** to India.

31. CYCNIUM

E. Mey. ex Benth.-F.T.A. 4, 2: 430.

- 1 Leaves narrowed to the base, often slightly petiolate, oblong-ob lanceolate, serrulate, 4-8 cm. long, 1.5-3 cm. broad, scabrid; flowers supra-axillary; pedicels about 1.5 cm. long, glandular-pubescent; calyx 1.5 cm. long, lobes unequal, ovate; corolla-tube 4.5 cm. long, pubescent outside; limb about 3 cm. diam. *I. camporum*

Leaves sessile, ovate, rounded at the base, 3-4.5 cm. long, 1-2.5 cm. broad, densely glandular-scabrid, irregularly serrulate; flowers slightly supra-axillary; pedicels 2 cm. long, with two leafy bracts at the top; calyx 2 cm. long, glandular-tomentellous, lobes ovate; corolla-tube 3.5-4 cm. long, unilaterally constricted above the middle, glandular-pilose, limb 3-4 cm. diam. [2. petunioides](#)

1. *Cynium camporum* Engl. Bot. Jahrb. 18: 73 (1893); F.T.A. 4, 2: 432; Chev. Bot. 479.

APD: Synonym of Cynium adonense subsp. camporum (Engl.) O. J. Hansen

Much-branched perennial herb from a woody base, 1-3 ft. high, pilose and scabrid; flowers pure white, occasionally with pink spots or outside mauve fading to indigo or black; **amongst grass**; drying bluish-brown.

Mali: Penia, Sonfarasso (May) Chev. 817! **Guin.:** Siredougou, 2,000 ft. (Apr.) Collenette 4! 5! Erimakuna (Mar.) Sc. Elliot 5729! **S. L.:** Deighton 2002! Lengekoro to Kabala (Apr.) Glanville 200! **Ghana:** Kpong (Feb.) Johnson 962! Kintampo (Mar.) Dalz. 29! Shai Plain Irvine 946! Sesiamang (Feb.) A. S. Thomas D136! Gambaga (May) Vigne FH 3855! **Togo Rep.:** Misahöhe Baumann! Gbiu (fr. Mar.) Schlechter 12949! **N. Nig.:** Sokoto (May) Dalz. 361! Anara F.R., Zaria (May) Keay FHI 22923! Vom, Joa Plateau Sent Young 183! Fusa, Jarawa Dist., 3,200 ft. (June) Summerhayes 60! **S. Nig.:** Ogbomoshos Barter 3398! Obba Foster 187! Ado to Iseyin Rowland! Owo to Benin (Mar.) Richards 5351! **[Br.] Cam.:** Bamenda Prov.: Bafut-Ngemba F.R., 5,000-6,000 ft. (Jan., Mar.) Tiku FHI 22248! Onochie 34847! Hepper 2858! Bali-Ngemba F.R. (fr. May) Ujor FHI 30330! Bamenda, 5,000 ft. (Jan., Apr.) Maitland 1541! Migeod 309! Kumbo (Apr.) Ejiofor FHI 30080!

Also in **Cameroun, Congo, Cabinda, Sudan, Uganda** and **Kenya**.

2. *Cynium petunioides* Hutch. in Kew Bull. 1921: 251.

APD: Synonym of Cynium adonense subsp. camporum (Engl.) O. J. Hansen

Erect perennial herb 9-18 ins. high; flowers white, fading black; **in grassland**; drying green to brown.

N. Nig.: Jos Plateau (Jan.) Lely P135! Naraguta (Dec.) Kennedy 2850! Lely 17! Vom, 4,000 ft. (Feb.) McClintock 214! Jos (Mar.) Hill 17! **[Br.] Cam.:** Ndop, Bamenda (Jan.) Keay FHI 28427! Gembu, Mambila Plateau (Jan.) Hepper 1820!

OROBANCHACEAE

Herbs, parasitic on roots, often covered with scales at the base, never green; stems with alternate, often crowded, scales. Flowers solitary in the axils of bracts, often crowded, hermaphrodite, zygomorphic. Calyx 4-5-toothed or lobed or variously split, lobes open or valvate. Corolla gamopetalous, often curved; limb oblique or 2-lipped, lobes 5, imbricate, the adaxial 2 interior. Stamens 4, didynamous, inserted below the middle of the corolla-tube, alternate with the lobes, the fifth (adaxial) one reduced to a staminode or absent; anthers often connivent in pairs, opening lengthwise. Ovary superior, 1-celled, with 4 parietal placentas; style terminal; ovules numerous. Capsule often enveloped by the calyx, opening by 2 valves. Seeds very numerous, small, with fleshy endosperm and minute embryo.

A small family recognised by the parasitic habit, absence of leaves, and the zygomorphic flowers usually crowded into spikes.

- 1** Calyx-lobes rounded; corolla 2.5-5 cm. long; stems fleshy [1. Cistanche](#)
 Calyx-lobes acute; corolla about 1 cm. long; stems not fleshy [2. Orobanche](#)

1. CISTANCHE

Hoffm. & Link-F.T.A. 4, 2: 463.

- 1** A parasite, destitute of chlorophyll; stem stout, fleshy, glabrous; leaves reduced to fleshy scales, lurid-purple or yellowish, lower crowded, triangular, caudate-acuminate to acute, upper lanceolate, 1-2.5 cm. long, with thinner margins; spikes up to 30 cm. long, dense; bracts like the leaf-scales; calyx 5-lobed to about the middle; corolla-tube 2.5-5 cm. long, at length curved, wider in the upper half, villous in the lower part; lobes broader than long; anthers woolly [phelypaea](#)

Cistanche phelypaea (Linn.) Cout. Fl. Port. 571 (1913); Graham in F.T.E.A. Orobanchac. 2 (q.v. for discussion); F.W. Andr. Fl. Pl. Sudan 3: 150, fig. 40; Berhaut Fl. Sén. 5. *APD acc APD acc*

Lathraea phelypaea Linn. (1753).

Cistanche lutea (Desf.) Hoffgg. & Link Fl. Port. 1: 319, t. 63 (1809); F.T.A. 4, 2: 463; Chev. Bot. 480.

Phelipaea lutea Desf. (1798).

Stem 6-18 in. high, swollen at base; flowers bright yellow; [parasite on plants in maritime and sandy inland habitats](#).

Sen.: Berhaut 999. Leprieur! Dakar (Dec., Jan.) Chev. 3317! Debeaux! St. Louis (June) Roger! Kayar (July) Kesby 17!
Mali: Goundam, parasitic on *Salvadora persica*, Chev. 3316! Gao de Wailly 5396! **Dah.:** Haut Dahomey Gironcourt 76!

Also in Cape Verde Isl., Spain, along southern shore of Mediterranean to [Egypt](#), [Sudan](#), [Arabia](#) and possibly beyond.

[G. Beck in Engl. Pflanzenr. 4, 261, Orobanchac. 33, 35 (1930), records the species *C. senegalensis* (Reuter) G. Beck (*Phelipaea senegalensis* Reuter (1847)); *C. hesperugo* (B. Webb) G. Beck (*Phelipaea hesperugo* B. Webb (1849)) and *C. brunneri* (B. Webb) G. Beck (*Phelipaea brunneri* B. Webb (1849)) from Senegal. These may all be *C. phelypaea* (Linn.) Cout., but available material is insufficient to be sure. -F. N. H.)

2. OROBANCHE

Linn.-F.T.A. 4, 2: 464.

- 1 A parasitic herb, without chlorophyll; stems simple or slightly branched, not fleshy; leaves reduced to a few small ovate scales, up to 1 cm. long; spikes elongated or short and congested; bracts subtending each sessile flower, lanceolate to ovate-lanceolate as long as the calyx; bracteoles narrower and nearly as long as the bracts; calyx 4-lobed, each lobe acutely deltoid; corolla hairy (or glabrous in W. Afr. specimen) [ramosa](#)

Orobanche ramosa Linn. Sp. Pl. 633 (1753); F.T.A. 4, 2: 465; G. Beck in Engl. Pflanzenr. 4, 261 Orobanchac. 66 (1930); Graham in F.T.E.A. Orobanchac. 3, fig. 1, 1-2.

APD: *Synonym of Phelipanche ramosa (L.) Pomel*

A herb with pale yellow stems about 1 ft. high; flowers mauve-blue or pale yellow with a blue lip; [parasitic on a wide range of hosts](#).

Mali: Timbuktu Hagerup 200a!

Widespread in Europe; in Africa and America probably introduced.

\$/eflora

LENTIBULARIACEAE

Annual or perennial herbs, terrestrial, epiphytic or aquatic, with much modified parts for the capture of small organisms. Leaves entire or much divided, often bearing traps. Inflorescence racemose, bracteate, those of some aquatic species supported on the water by a whorl of modified spongy leaves (floats). Flowers zygomorphic. Calyx-lobes 2, 4 or 5. Corolla 2-lipped, spurred or saccate. Stamens 2, attached at the base of the corolla, filaments often winged; anthers 2-celled, dorsifixed, the cells sometimes confluent. Ovary superior; style usually very short, persistent; stigma unequally 2-lipped. Ovules 2—numerous on a free central placenta. Fruit a capsule, usually globose opening by valves or pores, circumscissile or indehiscent. Seeds without endosperm, sometimes winged.

A small and very remarkable family of great morphological interest. Habitat usually aquatic or damp places; flowers mostly small or very small but usually brightly coloured.

- 1 Calyx-lobes 5; traps tubular, with 2 divergent helically twisted arms [1. *Genlisea*](#)
 Calyx-lobes 2, free to or near the base; traps bladder-like, ovoid or globose [2. *Utricularia*](#)

1. GENLISEA

St. Hil. Voy. Dist. Diam. 2: 428 (1833); F.T.A. 4, 2: 497.

- 1 Inflorescence and ovary more or less densely covered with gland-tipped hairs; leaves spatulate, numerous in a basal rosette, 0.5-3 cm. long; scape up to 35 cm. tall, 2-12-flowered; corolla violet, rarely white or yellow, lower lip deeply 3-lobed, about as long as spur [1. *africana*](#)
 Inflorescence and ovary without gland-tipped hairs; ovary, calyx and pedicels hispid; leaves spatulate, up to 5 cm. long; scape up to 30 cm. tall, 2-6-flowered; corolla violet, lower lip shortly 3-lobed, shorter than the spur [2. *hispidula*](#)

1. *Genlisea africana* *Oliv.* in J. Linn. Soc. 9: 145 (1865); F.T.A. 4, 2: 497; Chev. Bot. 484.

APD: Synonym of Genlisea hispidula Stapf

Genlisea stapfii *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 188 (1912); Chev. Bot. 484.

Slender, erect herb of **wet grassland** with remarkable subterranean inverted Y-shaped traps for the capture of small organisms; flowers pedicellate, 1/4-1/3 in. long.

Mali: Bamako Garnier! **Port. G.:** Suzana to Cassalal (Nov.) Esp. Santo 3125! Gabu (Oct.) Esp. Santo 3525! **Guin.:** Timbo to Ditinn (Sept.) Chev. 18415! Frigulagbé (July) Chillou 581! Macenta (Oct.) Baldwin 9798! Nimba Mts. (Aug.) Schnell 6199! **S. L.:** Waterloo (Aug.) Melville & Hooker 275! Bonthe (Nov.) Deighton 2297! Bumban (Aug.) Deighton 1303! Mateboi (Oct.) Glanville 19! Loma Mts. (Nov.) Jaeger 1704! **Lib.:** Monrovia (Aug.) Baldwin 9187! Paynesville (Oct.) Harley 1685! Duport (Nov.) Linder 1448! **Iv. C.:** Mt. Dou (May) Fleury in Hb. Chev. 21499! Nimba Mts. (Aug.) Boughey GC 18161! **[Br.] Cam.:** Mamfe (Mar.) Onochie FHI 34870!

Also in **E. and S.E. tropical Africa**.

2. *Genlisea hispidula* *Stapf* in Fl. Cap. 4, 2: 437 (1904); F.T.A. 4, 2: 498. *APD acc*

Similar to the above but lacking the gland-tipped hairs and with fewer, larger leaves.

N. Nig.: Jos Plateau (Apr.) Morton K404! **[Br.] Cam.:** Buea (May) Mildbr. 9468! Jakiri, 5,800 ft., Bamenda (Feb.) Hepper 1964!

Also in **S.E. tropical and S. Africa**.

2. UTRICULARIA

Linn.—F.T.A. 4, 2: 469; Pellegr. in Bull. Soc. Bot. Fr. 61: 13-21 (1914); P. Taylor in Kew Bull. 18 (1) (1963).

-
- 1 Terrestrial or epiphytic herbs with entire leaves or apparently leafless or nearly so:2
 Aquatic herbs with leaves divided into filiform segments:..... 17
- 2 Inflorescence and 1-2 obovate-spathulate or broadly linear leaves arising from a small globose tuber; epiphyte; corolla yellow, 12-25 mm. long [1. mannii](#)
 Inflorescence and leaves not arising from a tuber:3
- 3 Bracts not produced below the point of attachment:4
 Bracts produced below the point of attachment: 14
- 4 Fruiting pedicel as long as or longer than the calyx, flattened or winged:.....5
 Fruiting pedicel much shorter than the calyx, terete:..... 12
- 5 Seeds verrucose, ovoid; leaves usually present at flowering time, linear, 3-nerved, thalloid, rosulate at the base of the scape; corolla yellow, less than 10 mm. long [2. andongensis](#)
 Seeds smooth or reticulate:.....6
- 6 Corolla yellow; seeds ovoid, smooth with a prominent hilum; leaves 1-nerved often not present at flowering time:7
 Corolla violet or mauve:.....9
- 7 Corolla 12 mm. or more long, spur thick, straight, conical, obtuse or subacute:8
 Corolla less than 10 mm. long, spur slender, curved, acute [4. scandens subsp. schweinfurthii](#)
- 8 Upper lip of corolla shorter than the calyx, lower lip about 1/4 as long as the spur [3a. micropetala var. micropetala](#)
 Upper lip of corolla longer than the calyx, lower lip 1/2 as long as the spur ... [3b. micropetala var. macrocheilos](#)
- 9 Seeds globose, reticulate, the cells of the testa isodiametric; fruiting pedicels erect: 10
 Seeds ovoid, reticulate, the cells of the testa distinctly longer than broad; fruiting pedicels recurved [6. baoulensis](#)
- 10 Spur curved, acute; inflorescence usually twining: 11
 Spur straight, obtuse; inflorescence not twining; corolla 10-12 mm. long, upper lip broad, longer and wider than the calyx [5c. spiralis var. pobeguinii](#)
- 11 Corolla 12-30 mm. long, upper lip broad, longer and wider than the calyx [5a. spiralis var. spiralis](#)
 Corolla up to 10 mm. long, upper lip shorter and narrower than the calyx [5b. spiralis var. tortilis](#)
- 12 Calyx, bracts and bracteoles pectinate; leaves narrowly linear, rosulate at the base of the scape; scape 3-12 cm. high; corolla deep yellow [7. fimbriata](#)
 Calyx, bracts and bracteoles entire; leaves narrowly spatulate:..... 13
- 13 Corolla yellow, sub-persistent; margin of calyx-lobes strongly recurved; flowers numerous [8. formula](#)
 Corolla mauve or white, not persistent; margin of calyx-lobes not recurved; flowers few (2-4) [9. arenaria](#)
- 14 Bracteoles present, similar to the bracts but smaller; flowers white or mauve: 15
 Bracteoles absent; flowers yellow:..... 16
- 15 Leaves inconspicuous, peltate; calyx-lobes more or less equal, upper acute; corolla lower lip entire; seeds smooth [10. pubescens](#)
 Leaves numerous and conspicuous at flowering time, orbicular or reniform, long-petiolate; calyx-lobes very unequal, upper emarginate; corolla lower lip 5-crenate; seeds glochidiate [11. striatula](#)
- 16 Inflorescence zigzag; all bracts on the inflorescence-axis fertile; calyx-lobes obtuse, not strongly nerved at flowering time [12. subulata](#)
 Inflorescence straight; some bracts on the inflorescence-axis sterile; calyx-lobes acute, strongly nerved at flowering time [13. stanfieldii](#)
- 17 Plants attached by thickened claw-like rhizoids; spur of corolla absent:..... 18
 Plant free floating; corolla with well developed spur: 19
- 18 Leaves up to 100 cm. long, bearing few or no traps; corolla 4-6 mm. long, lower lip emarginate; fruits about 1.6 mm. long [14. rigida](#)
 Leaves up to 6 cm. long, traps numerous on the rachis; corolla 2-3 mm. long, lower lip 4-lobed; fruits about 1.2 mm. long [15. tetraloba](#)
- 19 Inflorescence with a whorl of spongy floats:..... 20
 Inflorescence without a whorl of floats: 22
- 20 Corolla upper lip entire, lower lip about equal to the spur; calyx accrescent, longer than the fruit: 21
 Corolla upper lip deeply bilobed, lower lip much shorter than the inflated cylindrical spur; calyx not accrescent, smaller than the fruit [17. benjaminiana](#)

- 21** Inflorescence floats narrowly cylindrical up to 15 mm. long, 5-10 times as long as wide; corolla usually mauve [16a. inflexa var. inflexa](#)
 Inflorescence floats ellipsoid up to 40 mm. long, 2-3 times as long as wide; corolla usually yellow .. [16b. inflexa var. stellaris](#)
- 22** Traps arising in the angle of bifurcation of the leaf segments; inflorescence 1-4-flowered; corolla yellow, hairy; fruiting pedicels reflexed [18. reflexa](#)
 Traps arising laterally on the leaf segments above the point of bifurcation:..... **23**
- 23** Scape many-flowered; fruiting pedicels recurved; leaves very large, repeatedly pinnately divided; seeds with a narrow regular wing [19. foliosa](#)
 Scape 1-4-flowered; fruiting pedicels erect; leaves very small 1-2 times forked only; seeds with a broad irregular wing: **24**
- 24** Corolla 10-20 mm. long, upper lip broader than the lower [20a. gibba subsp. gibba](#)
 Corolla up to 6 mm. long, upper lip about as wide as the lower [20b. gibba subsp. exoleta](#)

1. *Utricularia mannii* Oliv. in J. Linn. Soc. 9: 149 (1865); F.T.A. 4, 2: 484. *APD acc*

Utricularia bryophila Ridl. in Ann. Bot. 2: 306 (1889); F.T.A. 4, 2: 484.

Epiphyte on mossy tree trunks with slender scape 1-4 in. high arising from small tuber and bearing 1-3 yellow flowers 2/3-1 in. long.

[Br.] Cam.: Cam. Mt., 4,000-6,000 ft. (Nov.) Mann 2112! Buea (Aug.) Gregory 321b! Bamenda, 7,000 ft. (May) Keay FHI 37937! F. Po: Ureka, 2,000-3,000 ft. (Aug.) Thorold 80! Moka, 4,600 ft. (Sept.) Wrigley & Melville 434a! 434b!

Also in S. Tomé and Principe.

2. *Utricularia andongensis* Welw. ex Hiern Cat. Welw. 787 (1900); F.T.A. 4, 2: 481. *APD acc*

Terrestrial herb of wet rocks with erect or twining scape arising from a rosette of thalloid linear leaves and bearing a few small yellow flowers.

Guin.: Kindia (Apr.) Chillou 1306! Nzérékoré (Sept.) Baldwin 13296! S. L.: Tonkolili Dist. (Nov.) Marmo 132! Bintumane Jaeger 1100! Lib.: Sanokwele (Sept.) Baldwin 9556! N. Nig.: Jos (Aug.) Keay FHI 20092! S. Nig.: Ife (Sept.) Stanfield 120! [Br.] Cam.: Mamfe (Sept.) Gregory 321a! Onochie FHI 34870! Bamenda (May) Maitland! Bum, Wum Div. (Feb.) Hepper 1920! Mambila Plateau, Adamawa Div. (Jan.) Hepper 1770! 1793!

Throughout tropical Africa.

3. *Utricularia micropetala* Sm. in Rees Cyclop. 37: No. 58 (1819); F.T.A. 4, 2: 483. *APD acc*

3a. *Utricularia micropetala* Sm. var. *micropetala*

APD: Synonym of Utricularia micropetala Sm.

Erect or twining herb to about 6 in. high; pedicels longer than the calyx, winged; corolla yellow with a thick conical spur and very short upper and lower lips.

Guin.: Friguiagbé (Nov.) Boismare 482! Fouta Djallon Heudelot 676! Ditinn (Jan.) Roberty 16461! Mt. Gangan (Nov.) Schnell 2207! S. L.: Afzelius! Waterloo (Oct.) Lane-Poole 405! N. Nig.: Vom Dent Young 187! Naraguta (Aug.) Lely 553! [Br.] Cam.: Vogel Peak, Adamawa Div. (Nov.) Hepper 1486!

3b. *Utricularia micropetala* var. *macrocheilos* P. Tayl. Taxon 12: ined. (1963).

APD: Synonym of Utricularia macrocheilos (P. Taylor) P. Taylor

Similar to above but upper and lower lips of the corolla well developed.

Guin.: Kindia (Oct.) Pobéguin! Farmar 199! Macenta (Oct.) Baldwin 9796! S. L.: Bintumane (Sept.) Jaeger 1994!

4. *Utricularia scandens* Benj. in Linnaea 20: 309(1847). *APD acc*

Utricularia wallichiana Wight (1850).

Utricularia gibbsiae Stapf in F.T.A. 4, 2: 574 (1906).

A widespread species, subsp. scandens occurring throughout E. & S. tropical Africa, Madagascar and tropical Asia, and the following subspecies in W. Africa.

4a. *Utricularia scandens* **Benj.** subsp. *schweinfurthii* (*Bak. ex Stapf*) *P. Tayl.* l.c. (1963).

APD: Synonym of Utricularia scandens *Benj.*

Utricularia schweinfurthii *Bak. ex Stapf* in F.T.A. 4, 2: 482 (1906).

Utricularia prehensilis of Pellegr. in Bull. Soc. Bot. Fr. 61: 17 (1914), partly; of F.W.T.A., ed. 1, 2: 234, not of E. Mey.

Erect or twining; corolla yellow; seeds smooth with a prominent hilum.

Guin.: Benna (Nov.) Schell 21441 **Iv. C.:** Mankono (Jan.-Nov.) Chev. 21888! de Wilde 943! **N. Nig.:** Kontagora (Nov.) Dalz. 145! [**Br.**] **Cam.:** Bamenda (Jan.-Feb.) Hepper 1963! Migeod 418! Keay FHI 28533!

Also in **Ubangi-Shari**, **Congo**, **Sudan** and **Ethiopia**.

5. *Utricularia spiralis* *Sm.* in Rees Cyclop. 37: No. 5 (1819). *APD acc*

5a. *Utricularia spiralis* *Sm.* var. *spiralis* *APD acc*

Utricularia spiralis *Sm.* F.T.A. 4, 2: 482, partly; F.W.T.A., ed. 1, 2: 234, partly (excl. syn. *U. baoulensis*).

Utricularia baumii *Kam.* (1902)-F.T.A. 4, 2: 480; Pellegr. in Bull. Soc. Bot. Fr. 61: 16, incl. var. *leptocheilos* Pellegr. l.c. (1914).

Slender twining herb to about 1 ft. high; corolla violet, 1/2 -1 in. long, spur curved, slender, acute.

Guin.: Conakry Maclaud! Kindia Farmar 201! Telemélé (Jan.) Koberty 16468 1 Benna (Nov.) Schnell 21521 **S.L.:** Mano, Bonjema (Jan.) Capstick in Deighton 53081 Sherbro Is. (Feb.) Dalz. 1027! Wellington (Nov.) Deighton 1865 1 Mateboi (Oct.) Olanvilte 26 **I Lib.:** Monrovia (Aug.) Baldwin. 13035! Paynesville (Jan.) Barker 1187! Dupont (Nov.) Linder 1442! **Iv. C.:** Mankono (June) Chev. 21885!

Also in **Gabon**, **Congo**, **E. and S.E. tropical Africa**.

5b. *Utricularia spiralis* var. *tortilis* (*Welw. ex Oliv.*) *P. Tayl.* l.c. (1963).

APD: Synonym of Utricularia tortilis *Welw. ex Oliv.*

Utricularia spiralis of F.T.A. 4, 2: 482, partly, not of *Sm.*; Pellegr. in Bull. Soc. Bot. Fr. 61: 17 (1914); F.W.T.A., ed. 1, 2: 234, partly.

Utricularia tortilis *Welw. ex Oliv.* in J. Linn. Soc. 9: 150 (1865); F.T.A. 4, 2: 483.

Slender twining herb similar to above but with smaller corolla (up to 2/5 in. long) with a relatively smaller and much narrower upper lip.

Sen.: Badi (Dec.) Berhaut 1828! **Port. G.:** Gabu (Oct.) Esp. Santo 3531! Bissau (Jan.) Esp. Santo 1444! **Mali:** Bamako (Mar.) Raynal 5641! Sansanding (Feb.) Chev. 3301! **Guin.:** Friguiagbé (Dec.) Chillou 1065! Conakry Maclaud! Mali (Dec.) Schnell 2355! **S. L.:** Waterloo (Aug.) Melville & Hooker 282! Bonthe (Oct.) Adames 85! Kambia (Sept.) Adames 182! Roboli (Nov.) Jordan 172! **Lib.:** Monrovia (Aug.) Baldwin 9188! Paynesville Harley 1681! **Iv. C.:** Mossou (Aug.) de Wilde 223! Grand Bassam (Sept.) de Wit 1198! **Ghana:** Sanpa (Apr.) Morton A3261 Yendl Morton A1465! **N. Nig.:** Kontagora (Nov.) Dalz. 144! **S. Nig.:** Badagry (Aug.) Thorold 2007! Lagos Barter 2214! Sapoba (Nov.) Kennedy 2726!

Throughout tropical Africa.

5c. *Utricularia spiralis* var. *pobeguini* (*Pellegr.*) *P. Tayl.* l.c. (1963).

APD: Synonym of Utricularia pobeguini *Pellegr.*

Utricularia pobeguini *Pellegr.* in Bull. Soc. Bot. Fr. 61: 16 (1914).

Usually erect, not twining; upper lip of corolla broad, spur obtuse.

Guin.: Kindia (Aug.) Pobéguin 1361! Friguiagbé (Sept.) Chillou 649! 2119!

6. *Utricularia baoulensis* *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 186 (c. 21 Sept. 1912); Chev. Bot. 481.

APD: Synonym of Utricularia foveolata *Edgew.*

Utricularia scandens *Oliv.* in J. Linn. Soc. 3: 181 (1859), not of *Benj.* (1847).

Utricularia tenerrima *Merrill* in Philipp. Journ. Sci., Bot. 7: 247 (30 Sept. 1912).

Very slender twining herb with minute mauve flowers and recurved fruiting pedicels.

Mali: Koulouba, Balasoko (Nov.) Duong! **Iv. C.:** Baoulé (Aug.) Chev. 22247! **Ghana:** Navrongo (Oct.) Vigne FH 4603 (partly)! **S. Nig.:** Owo (Sept.) Stanfield 122!

Also in E. tropical Africa, Madagascar and tropical Asia (Madras and Philippines).

7. *Utricularia fimbriata* H.B.K. Nov. Gen. et Sp. 2: 225 (1818).

APD: *Synonym of Utricularia simulans* Pilg.

Polypompholyx laciniata Benj. in Mart. Fl. Bras. 10: 251 (1847), partly; Pellegr. in Bull. Soc. Bot. Fr. 61: 20.

Inflorescence stiffly erect bearing a few small orange-yellow flowers with deeply fimbriate calyx-lobes.

Port. G.: Gabu (Oct.) Esp. Santo 3522! **Lib.:** Duport (Nov.) Linder 1452! Paynesville (Oct.) Harley 2159! Monrovia (Aug.) Baldwin 13037!

Also in Gabon, Congo, N. Rhodesia and **Angola**, and from peninsula Florida southwards to Brazil.

8. *Utricularia firmula* Welw. ex Oliv. F.T.A. 4, 2: 479 (1906); F.W.T.A., ed. 1, 2: 234, partly (excl. Lane-Poole 404; Chev. 21865); Pellegr. in Bull. Soc. Bot. Fr. 61: 16; Chev. Bot. 481. *APD acc*

Stiffly erect terrestrial herb with numerous very small subsessile yellow flowers.

Sen.: Trochain 1466! Koulaye (Feb.) Chev. 3302! **Gam.:** Kombo Dawe 24! **Guin.:** Kadé (Jan.) Pobéguin 1881 Chev. 20319! **Lib.:** Johnsonville (Feb.) Dinklage 2960! **N. Nig.:** Kontagora (Dec.) Dalz. 147! Zaria (Dec.) Milne-Redhead 5004! Jos (Oct.) Hepper 1013! **S. Nig.:** Owo (Oct.) Stanfield 24!

Throughout tropical Africa and in Madagascar.

9. *Utricularia arenaria* A. DC. in DC. Prod. 8: 20 (1844). *APD acc*

Utricularia tribracteata Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 18 (1851); F.T.A. 4, 2: 475, partly (excl. syn. and Schimper 1149; Edith Cole); F.W.T.A., ed. 1, 2: 234.

Utricularia kirkii Stapf in F.T.A. 4, 2: 476 (1906).

Utricularia exilis Oliv. in J. Linn. Soc. 9: 154 (1865); F.T.A. 4, 2: 477; Pellegr. in Bull. Soc. Bot. Fr. 61: 16.

Erect, delicate herb 2-6 ins. tall bearing 2-4 white or mauve flowers; leaves oblanceolate-spathulate.

Sen.: St. Louis Perrottet! Leprieur! **Mali:** Bamako Garnier! **S. L.:** Lumley (Aug.) Melville & Hooker 157! **Iv. C.:** Mankono (Aug.) Schnell 6440! **Ghana:** Atwabo Fishlock 1! 3! Navrongo (Oct.) Vigne FH 4603a! **N. Nig.:** Anara F.R., Zaria (Oct.) Hepper 1001! Naraguta (Aug.) Lely 521! Vom Dent Young 188! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1251!

Throughout tropical Africa and in Madagascar.

10. *Utricularia pubescens* Sm. in Rees Cyclop. 37: No. 53 (1819). *APD acc*

Utricularia papillosa Stapf in Kew Bull. 1916: 41; F.W.T.A., ed. 1, 2: 234.

Utricularia graniticola A. Chev. & Pellegr. in Mém. Soc. Bot. Fr. 2, 8: 276 (1917); Chev. Bot. 482; F.W.T.A., ed. 1, 2: 234.

Utricularia peltatifolia A. Chev. & Pellegr. l.c. 276 (1917); Chev. Bot. 482.

Utricularia hydrocotyloides Lloyd & G. Tayl. in Contrib. Gray Herb. 165: 85 (1947).

Utricularia fernaldiana Lloyd & G. Tayl. l.c. 87 (1947).

Utricularia thomasi Lloyd & G. Tayl. l.c. 88 (1947).

Utricularia deightonii Lloyd & G. Tayl. l.c. 89 (1947).

Erect terrestrial herb with small peltate leaves and slender, few-flowered scape; flowers white or mauve, very variable in size, calyx and scape often pubescent.

Guin.: Fouta Djallon (Aug.-Oct.) Chev. 18414! 18416! 20207! Nimba Mt. (Aug.) Schnell 6200! Nzérékoré (Sept.) Baldwin 13297! **S. L.:** Bonthe (Oct.) Adames 96! Sugar Loaf Mt. (Nov.) T. S. Jones 238! Waterloo (Aug.) Melville & Hooker 284! Rokupr (Nov.) Jordan 174! Bintumane (Sept.) Jaeger 1771! **Lib.:** Paynesville (Oct.) Harley 1686! Monrovia (Aug.) Dinklage 2830! Sanokwele (Sept.) Baldwin 8557! Gbanga (Aug.) Baldwin 9153! **Iv. C.:** Mt. Dou (May) Chev. 24497! Mossou (Sept.) Aké Assi 3155! Mt. Tonkoui (Oct.) Aké Assi 3821! Mankono (June) Chev. 21918! **N. Nig.:** Abinsi (Nov.) Dalz. 732! Bida (Mar.) Meikle 1328! **S. Nig.:** Idanre Hills (Oct.) Keay FHI 22659! Owo (Sept.) Stanfield 123! **[Br.] Cam.:** Mamfe (Mar.) Onochie FHI 38798!

Also in **Uganda**, **Tanganyika**, **N. Rhodesia**, **Angola**, and **tropical S. America**.

11. *Utricularia striatula* Sm. in Rees Cyclop. 37: No. 17 (1810). F.T.A. 4, 2: 486; Pellegr. in Bull. Soc. Bot. Fr. 61: 18; F.W.T.A., ed. 1, 2: 234, partly (excl. syn. *U. peltatifolia* A. Chev. & Pellgr.). *APD acc*

A delicate epiphyte of mossy trees or rocks with numerous orbicular-spathulate leaves and small pink or white flowers, very unequal calyx-lobes and glochidiate seeds.

Guin.: Dalaba (Sept.) Schnell 6841! **S. L.:** Regent (Aug.) Deighton 2071! Sugar Loaf Mt. (Nov.) T. S. Jones 288! Bumban (Aug.) Deighton 1307! Bintumane (Sept.) Jaeger 1948! **Lib.:** Ganta (Aug.) Harley 1535! Sanokwele (Sept.) Baldwin 9621! **iv. C.:** Mt. Tonkoui (Sept.) Aké Assi 3335! **Ghana:** Boti Falls (Oct.) Hall 1644! **S. Nig.:** Ogoja (Aug.) Stone 40! Calabar (Mar.) Richards 9253! [**Br. Cam.:** Cam. Mt. (Nov.) Mann. 1964! Buea (Sept.) Dundas FHI 15307! Vogel Peak, Adamawa (Nov.) Hepper 1477! **F. Po:** Ureka (Aug.) Thorold 84a! Moka (Sept.) Wrigley & Melville 641!

Also in **Gabon, Uganda, Tanganyika, N. Rhodesia, Angola** and throughout tropical Asia.

12. *Utricularia subulata* Linn. Sp. Pl. 18 (1753); F.T.A. 4, 2: 485; Pellegr. in Bull. Soc. Bot. Fr. 61: 18; Chev. Bot. 484 *APD acc*

Inflorescence erect 1-10 in. high, scape capillary, flexuous or zigzag, bearing small yellow flowers on pedicels about 1/4 in. long with obtuse, obscurely nerved calyx-lobes.

Sen.: Djongouts (Feb.) Trochain 1465! **Mali:** Sikasso (May) Chev. 794! 795! 3304! Bamako (Sept.) Waterlot 1340! **Port. G.:** Bissau (Sept.) Esp. Santo 1343! **Guin.:** Conakry Maclaud! Fon (Aug.) Schnell 6604 bis! Fouta Djallon (Sept., Oct.) Chev. 18426; 18489; 20205! Macenta (Oct.) Baldwin 0797! Mt. Nimba (Sept.) Baldwin. 13296! **S. L.:** Waterloo (Aug.) Deighton 2073! Bonthe (Oct.) Adames 93! Mandu (Oct.) T. S. Jones 415! Kambia (Sept.) Adames 180! Lunsar (Mar.) Jordan 29! Bintumane, 5,000 ft. (Nov.) Jaeger 575! **Lib.:** Monrovia (Aug.) Baldwin 9178! Gbanga (Dec.) Baldwin 10544! Boporo (Nov.) Baldwin 10347! Miamu (Aug.) Linder 415! Paynesville (Apr.) Barker 1246! **iv. C.:** Mt. Tonkoui (Nov.) Aké Assi 3476! Nimba (Aug.) Boughey GC 18162! Mossou (Aug.) de Wilde 222! **Ghana:** Ntonso (Oct.) Baldwin 13493! Atwabo Fishlock 2! Banda (Dec.) Morton GC 25211! **N. Nig.:** Kontagora (Jan.) Meikle 1095! Bida (Mar.) Meikle 1331! Dogon Kurmi, Jemaa Dist. (Aug.) Killick 46! Naraguta (Aug.) Lely 522! **S. Nig.:** Lagos Barter 2213! Carter's Peak, Idanre Hills (Oct.) Keay FHI 25508! Enugu to Agbami (May) Onochie & Awa FHI 35808! Owo (Aug.) Stanfield 114!

Throughout tropical Africa and Madagascar, eastern N. America southwards to S. Brazil; also in tropical Asia, Siam and Borneo.

13. *Utricularia stanfieldii* P. Tayl. l.c. (1963). *APD acc*

Inflorescence erect, scape capillary, straight bearing 2-6 small yellow flowers with 3-lobed lower corolla lip and acute, strongly nerved calyx-lobes.

S. L.: Roboli (Nov., Oct.) Jordan 173! 1053! **Lib.:** Sanokwele (Sept.) Baldwin 9483! Paynesville (Jan.) Barker 1192! **S. Nig.:** Oba, Ondo Prov. (Sept.) Stanfield 121! Idogun Hill, Benin Prov. (Oct.) Stanfield!

14. *Utricularia rigida* Benj. in Linnaea 20: 303 (1847); F.T.A. 4, 2: 486; Pellegr. in Bull. Soc. Bot. Fr. 61: 19; Chev. Bot. 483. *APD acc*

Aquatic attached to rocks in flowing water with emerging stiffy erect inflorescences bearing numerous small white flowers and long submerged leaves divided into capillary segments.

Port. G.: Nova Lamego to Canjadude (Oct.) Esp. Santo 3451! Gabu (Dec.) Esp. Santo 3782! Nhampassare (Dec.) Esp. Santo 3785! **Mali:** Sikasso (May) Chev. 793! Koulikoro (Oct.) Chev. 3305! Kita Massif (Nov.) Jaeger 5558! Bamako (Nov.) Raynal 5192! **Guin.:** Ymbo to Kouria (Oct.) Chev. 14996! Boffa Jac.-Fél. 7360! Dalaba (Sept.) Schnell 6840! Mali (Dec.) Schnell 2345! **S. L.:** Sugar Loaf Mt. (Aug., Nov.) T. S. Jones 275a! 239b! Melville & Hooker 70! Kambia (Sept.) Adames 187! Bumban (Aug.) Deighton 1302! **N. Nig.:** Jos (Oct.) Hepper 1029! Naraguta (Aug.) Lely 555!

15. *Utricularia tetraloba* P. Tayl. l.c. (1963). *APD acc*

Similar to the above but much shorter and more slender with shorter leaves bearing numerous traps.

Guin.: Kanea (Oct.) Adam 12624! Friguiagbé (Oct.) Boismare 420! Mt. Benna Jac.-Fél. 7172! **S. L.:** Sugar Loaf Mt. (Sept., Oct., Nov.) T. S. Jones 246! 239a! Milne-Redhead 5157! Loma Mts. (July) Jaeger 431!

16. *Utricularia inflexa* Forsk. Fl. Aegypt. Arab. Descr. Pl. 9 (1775). *APD acc*

16a. *Utricularia inflexa* Forsk. var. *inflexa*-P. Tayl. in Mitt. Bot. Staatss. München 4: 95 (1961).

APD: Synonym of Utricularia inflexa Forssk.

Utricularia thoningii Schumach. in Schumach. & Thonn. Beskr. Guin. Pl. 12 (1827); F.T.A. 4, 2: 487; Pellegr. in Bull. Soc. Bot. Fr. 61: 10; F.W.T.A., ed. 1, 2: 234.

Diffuse aquatic half submerged with emergent inflorescences supported by a whorl of long narrowly cylindrical spongy floats; flowers usually mauve.

Sen.: Sangalkam (Jan.) Berhaut 222! Telé (Apr.) Trochain 3032! Kankossa (Mar.) Roberty 16988! **Mali:** Soye (Nov.) Monod 4! Gao (Nov.) de Wailly 4889! **Ghana:** Mankessim (Oct.) Box FH 3314! Atiawi (Sept.) Alcpabla 345! Agbosome Thorold 259! **Dah.:** Dogba (Oct.) Le Testu 209! **N. Nig.:** Amabo, Kabba Prov. (Feb.) A. P. D. Jones 2800 (=FHI 632)! Keana Hepburn 50! Yola (Jan.) Dalz. 130! **S. Nig.:** Ijebu-Ode (Aug.) Horne FHI 39717! Ologun to Owoseni (Dec.) Onochie FHI 26689!

Throughout tropical Africa southwards to Natal, also in Madagascar and India.

16b. *Utricularia inflexa* var. *stellaris* (Linn. f.) P. Tayl. in Mitt. Bot. Staatss. München 4: 96 (1961).

APD: Synonym of Utricularia stellaris L. f.

Utricularia stellaris Linn. f. Suppl. 86 (1781); F.T.A. 4, 2: 488; Pellegr. in Bull. Soc. Bot. Fr. 61: 19; F.W.T.A., ed. 1, 2: 234.

Utricularia trichoschiza Stapf in F.T.A. 4, 2: 488; F.W.T.A., ed. 1, 2: 234.

Similar to the above, but with shorter ellipsoid floats and small yellow flowers.

Maur.: Kankossa (Mar.) Roberty 17005! **Sen.:** N'Tal (Dec.) Trochain 2231! N'Diaél (Dec.) Trochain 2025! Matam (Nov.) Trochain 1002! Kaedi (Dec.) Chev. 3306! **Gam.:** Bansang Duke 5! Kuntaur Ruxton 103! 111! Fulladu (Nov.) Frith 259! **Mali:** Macina Roberty 2948! San (June) Chev. 1032! Gao (Dec.) de Wailly 5269! 6271! **Port. G.:** Bafata to Capé (Aug.) Esp. Santo 3320a! Bissau (Nov.) Esp. Santo 1477! **Guin.:** Koba (Nov.) Jac.-Fél. 7205! Faranah (Jan.) Chev. 20461! **S. L.:** Njala (Sept.) Deighton 2093! 5855! Gbap (Sept.) Adames 78! Gbundapi (Sept.) Adames 70! Kambia (Aug.) Jordan 961! Ronietta (Nov.) Thomas 5322! **Iv. C.:** (Jan.) Hedin 2563! Baoule Nord (Aug.) Chev. 22374! **Ghana:** Achimota (Nov.) Irvine 1518! Tamale (Dec.) Adams & Akpabla 4136! 4137! Jirapa (Nov.) Harris! Navrongo (Oct.) Vigne FH 4604! **Togo Rep.:** (Sept.) Unknown Collector 425! **Dah.:** Logozohé (July) Annet 168! **Niger:** Niamey to Gao Ryff! **N. Nig.:** Isoburi (Dec.) Elliott 139! Kontagora (Dec.) Dalz. 142! Nupe Barter 1553! Maiduguri (Nov.) Noble 30! **S. Nig.:** Benin (Dec.) Stanfield 160! **[Br.] Cam.:** Gulumba, Dikwa Div. (Dec.) McClintock 47!

Widespread in tropical Africa, also in S. Africa, Madagascar and tropical Asia to N. Australia.

17. *Utricularia benjaminiana* Oliv. in J. Linn. Soc. 4: 176 (1860); Kam in Engl. Bot. Jahrb. 33: 109.
APD acc

Utricularia gillettii De Wild. & Th. Dur. in Compt. Rend. Soc. Bot. Belg. 38: 40 (1900).

Utricularia villosula Stapf in F.T.A. 4, 2: 480 (1906); F.W.T.A., ed. 1, 2: 234; Pellegr. in Bull. Soc. Bot. Fr. 61: 19.

Aquatic half submerged with emergent slender racemes of mauve and white flowers supported by a whorl of slender fusiform floats.

Sen.: Casamance Trochain 1551! **Mali:** Macina (Nov.) Monod 2! Gao (Mar.) de Wailly 4974! **Port. G.:** Bafata to Capé (Aug.) Esp. Santo 3320! **Guin.:** Mankoutan Jac.-Fél. 7348! Benna (Nov.) Schnell 2164! **S. L.:** Newton (Oct.) T. S. Jones 247! Njala (Dec.) Deighton 5973! Sherbro Is. (Feb.) Dalz. 1025! **Lib.:** Monrovia (Nov.) Dinklage 3277! Duport (Nov.) Linder 1475! **Iv. C.:** Mossou (Aug.) Schnell 6557! **Ghana:** Atwabo (Jan.) Thorold 293! **S. Nig.:** Sapoba (Nov., Feb.) Meikle 543! Onochie FHI 27679!

Throughout tropical Africa and Madagascar, also in Brazil and Guiana.

18. *Utricularia reflexa* Oliv. in J. Linn. Soc. 9: 146 (1867); F.T.A. 4, 2: 492; Pellegr. in Bull. Soc. Bot. Fr. 61: 19. *APD acc*

Utricularia platyptera Stapf in F.T.A. 4, 2: 492 (1906); F.W.T.A., ed. 1, 2: 234.

Utricularia charoidea Stapf in F.T.A. 4, 2: 492 (1906); F.W.T.A., ed. 1, 2: 234.

Utricularia pilifera A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 187 (1912); Pellegr. in Bull. Soc. Bot. Fr. 61: 19.

Utricularia kalmaloensis A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 4: 588 (1932).

Aquatic with long stolons bearing short lateral scapes, with 1 to 4 yellow flowers, the pedicels elongating and reflexing in fruit.

Sen.: Richard Toll (Jan.) Trochain 2310! **Gam.:** Pirie 41! Kuntaur Ruxton 32! **Mali:** Macina (Nov.) Monod 3! Gao (Mar., Dec.) de Wailly 4973! 5270! **S. L.:** Madina, Port Loko Dist. (Aug.) Jordan 906! Kambia Dist. (Sept.) Adames 191! **Iv. C.:** Baoule-Nord (Aug.) Chev. 22297! Mankono (June) Chev. 21881! **Ghana:** Viume (Dec.) Foote! Yendi to Tamali (Oct.) Akpabla 4138! **Dah.:** Porto-Novo (Jan.) Chev. 22764! **Niger:** Birni N'Koni (Feb.) Chev. **N. Nig.:** Kontagora (Dec.) Dalz. 143! Zaria (Dec.) Milne-Redhead 5001! Nupe Barter 890! Lokoja Barter! **S. Nig.:** Badagry (Aug.) Thorold 2009! Sapoba (Nov.) Meikle 520! Keay & Onochie FHI 21518! **[Br.] Cam.:** Gulumba, Dikwa Div. (Dec.) McClintock 107! 108!

Throughout tropical Africa and Madagascar.

19. *Utricularia foliosa* Linn. Sp. Pl. 18 (1753); F.T.A. 4, 2: 491; Pellegr. in Bull. Soc. Bot. Fr. 61: 19. *APD acc*

Submerged aquatic forming large masses in still or slowly flowing deep water, with erect many-flowered scapes up to 1 ft, long; flowers yellow.

Sen.: (Dec.) Trochain 1203! **Mali:** Gao (Jan.-Mar.) de Wailly 4952! 4973 bis! 5403! Macina (Nov.) Monod 5! **Guin.:** Koba Jac.-Fél. 7214! **S. L.:** Sembahun (Dec.) Deighton 301! Sherbro Is. (July) T. S. Jones 166! Subu (Oct.) Jordan 592! L. Mape (Jan.) Adames 5! L. Mabesi (Jan.) Capstick in Hb. Deighton 5303! **Iv. C.:** Jolly! **Niger:** Niamey to Gao Ryff! **N. Nig.:** Bukwami (Mar.) Clayton 1538 (= FHI 41999)! Birnin Kebbi (Dec.) Philcox 212 (= FHI 43152)!

Throughout tropical Africa and Madagascar, also from southern U.S.A. to Brazil.

20. *Utricularia gibba* Linn. Sp. Pl. 18 (1753). *APD acc*

20a. *Utricularia gibba* Linn. subsp. *gibba*-P. Tayl. in Mitt. Bot. Staatss. München 4: 98 (1961).

APD: *Synonym of Utricularia gibba L.*

***Utricularia obtusa* Sw. (1788)-F.T.A. 4, 2: 495.**

Creeping on wet mud with yellow flowers about 1/2 in. long, 1-3 on a slender scape 1-6 ins. long.

S. Nig.: Okomu F.R., Benin (Jan.) Brenan & Jones 8598a!

Throughout central, E. and S. tropical Africa, and widespread in N. and S. America.

20b. *Utricularia gibba* subsp. *exoleta* (R. Br.) P. Tayl. in Mitt. Bot. Staatss. München 4: 101 (1961).

APD: *Synonym of Utricularia gibba L.*

***Utricularia exoleta* R. Br. (1810)-F.T.A. 4, 2: 495; Pellegr. in Bull. Soc. Bot. Fr. 61: 20; F.W.T.A., ed. 1, 2: 234; Chev Bot. 481.**

***Utricularia riccioides* A. Chev. in Mem. Soc. Bot. Fr. 2, 8: 187 (1912).**

Similar to above but flower much smaller, less than 1/4 in. long.

Sen.: Perrottet! Casamance (Feb.) Chev. 3303! Dagana (Mar.) Leprieur! Galam Heudelot 117! Sangalkam (Jan.) Berhaut 570! **Mali:** Bamako (Apr.) Waterlot 1085! Gao (Mar.) de Wailly 4972! **Port. G.:** Bissau (Oct.) Esp. Santo 1317! Gabu (July) Esp. Santo 2703! **Guin.:** Koba (Nov.) Jac.-Fél. 7208! Kindia (Mar.) Chev. 13372! **S. L.:** Kumrabai (Dec.) Thomas 6761! Newton (Mar.) Adames 201! Waanje R. (Dec.) T. S. Jones 386! Lunsar (Mar.) Jordan 28! Rokupr (Oct.) Jordan 145! Njala (Feb.) Deighton 2957! **Lib.:** Clay (May) Harley 2113! Ganta (Sept.) Baldwin 13225! Monrovia (Feb.) Baldwin 11044! Vonjama (Oct.) Baldwin 9856! **Iv. C.:** Mossou (Aug.) Schnell 6559! Songon Agban to Dabou (Feb.) Leeuwenberg 2637! Mankono (June) Chev. 21865! **Ghana:** Gambaga (Mar.) Hepper & Morton 2413! Nungua (Feb.) Rose Innes GC 30096! Amisana (Dec.) Hall 1249! **N. Nig.:** Bida (Jan.) Meikle 1021! Bukwium, Sokoto (Mar.) Clayton FHI 42000! Katsina (Feb.) Meikle 1224! Vom Dent Tounge 189! Yola (Jan.) Dalz. 131! **S. Nig.:** Lagos Barter 2212! Badagry (Aug.) Thorold 2008! Calabar Mann 2333! Ogoja (June) Stone 13! **[Br.] Cam.:** Vogel Peak, Adamawa (Dec.) Hepper 1545! Gulumba, Dikwa Div. (Dec.) McClintock 109!

Throughout tropical and S. Africa, Madagascar, N. Africa, Portugal and tropical Asia to Australia.

GESNERIACEAE

Acaulescent or caulescent herbs, or rarely shrubs. Leaves opposite (rarely alternate), those of a pair equal or unequal; plants sometimes 1-foliate and the leaf cotyledonary in origin. Inflorescence generally of open axillary cymes, the flowers at each dichotomy being paired and opening serially; occasionally much congested and sub-capitate, or pseudoracemose. Flowers hermaphrodite (very rarely

unisexual) often protandrous, usually zygomorphic, often large and showy, sometimes cleistogamous with reduced corolla. Calyx tubular and 5-lobed or divided to the base or 3 upper lobes only united. Corolla gamopetalous with distinct tube, often 2-lipped, proportion of lobes to tube variable; lobes imbricate, and adaxial pair often interior. Stamens rarely 5, usually 4 or 2, inserted on corolla-tube; anthers free or variously connate, 2-celled, opening lengthwise. Disk annular or cup-like, often lobed or undulate, rarely oblique. Ovary superior, 1-celled with 2 parietal bilamellate placentas, occasionally 2-celled by their union centrally. Ovules numerous. Fruit a capsule (often linear, sometimes spirally twisted) or a more or less fleshy berry. Seeds numerous, small, more or less ellipsoid, sometimes tailed with hair-like appendages at either end; endosperm absent or very slight.

Mainly in the tropics and subtropics, often favouring shady places (at least for their roots) and sometimes epiphytic. Comparatively few in Africa. The African genera either occur in Asia or have affinity with genera there. They are not closely related to the tropical American genera.

- 1 Flowers in open pedunculate cymes arising from leaf-axil or leaf-base, or subsolitary; fertile stamens rarely 4, usually only the 2 antecous ones; fruit dehiscing longitudinally, straight or spirally twisted:2
Flowers in densely congested, bracteate, cymose heads; 2 posticous stamens only fertile; capsule circumscissile4. [Epithema](#)
- 2 Capsule many times longer than broad; filaments without appendages; caulescent (in W. African species):3
Capsule ovoid or oblong; filaments with distinct tooth-like appendage; inflorescence arising from the base of the midrib of the single leaf; acaulescent3. [Acanthonema](#)
- 3 Capsule valves flat; flowers subsolitary; stems creeping1. [Didymocarpus](#)
Capsule valves twisting spirally; flowers cymose; stems erect2. [Streptocarpus](#)

In addition to the above indigenous genera the E. African *Saintpaulia ionantha* and members of the American genus *Achimenes* are sometimes cultivated.

1. DIDYMOCARPUS

Wall.-F.T.A. 4, 2: 503. Nom. cons.

- 1 Stems prostrate and rooting at and between nodes, glabrous; leaves ovate, rounded at base, subobtusate, 4-6 cm. long, 3-4 cm. broad, glabrous, with about 6 pairs of lateral nerves; petiole 2.5-3.5 cm. long, nearly glabrous; flowers subsolitary; pedicels 1 cm. long; calyx-segments linear, 8 mm. long, slightly pilose; corolla urceolate, 8 mm. long, lobes very short, acute; fruit linear [kamerunensis](#)

***Didymocarpus kamerunensis* Engl. Bot. Jahrb. 18: 79, t. 4-5 (1894); F.T.A. 4, 2: 503.**

APD: Synonym of Schizoboea kamerunensis (Engl.) B.L. Burt

A weak-branched herb 1 ft. or more long, with white axillary flowers.

[Br.] Cam.: Barombi Preuss 951! F. Po: Moka, 4,550 ft. (Jan., Sept.) Guinea 2094! Wrigley 619!

2. STREPTOCARPUS

Lindl.-F.T.A. 4, 2: 504.

- 1 Ovary glabrous or nearly so; ripe capsule glabrous, 4-5 cm. long; branchlets hispid with gland-tipped hairs; lower leaves very long-petiolate, upper sessile, ovate-elliptic, acuminate, rounded or subcordate at base, 8-12 cm. long, 4-6 cm. broad, setulose above, nearly glabrous beneath; corolla 1 cm. long 1. [elongatus](#)
Ovary and ripe capsule pubescent; corolla 2.5-3.5 cm. long, the tube glandular-pubescent outside; leaves ovate-elliptic, rounded to subcordate at base, shortly and obtusely pointed, up to 12 cm. long and 7 cm. broad, pubescent to nearly glabrous on both surfaces; lower flowers small and cleistogamous, the tiny corolla narrowly hood-like and persistent on the young fruit:2
- 2 Capsule at most 5 cm. long, pubescent2. [nobilis](#)
Capsule 12 cm. long, glandular-pubescent3. [insularis](#)

1. *Streptocarpus elongatus* Engl. Bot. Jahrb. 18: 76, t. 4-5, fig. A (1894); F.T.A. 4, 2: 509. *APD acc*

Erect herb 1-1 1/2 ft. high, with white flowers in lax pedunculate cymes.

[Br.] Cam.: Buea, 4,000 ft. (Jan.) Maitland! Preuss 1010! Buea to Mann's Spring, 4,500 ft. (Dec.) Morton K 889!

[Note: Jaeger 236 & 455 from Loma Mts., Sierra Leone, are very closely allied to *S. elongatus* but the material is not yet sufficient to say if they are really conspecific-B. L. B.]

2. *Streptocarpus nobilis* C.B. Cl. in DC. Monogr. Phan. 5, 1: 155 (1883); F.T.A. 4, 2: 511. *APD acc*

Streptocarpus balsaminoides Engl. (1894)-F.W.T.A., ed. 1, 2: 236.

Streptocarpus lagosensis C.B. Cl. (1906).

Streptocarpus atroviolaceus Engl. (1921).

Streptocarpus princeps Mildbr. & Engl. (1921).

(?) *S. violascens* Engl. (1921-fruiting spec. only).

Stems up to 3 ft. high, half-succulent; chasmogamous flowers deep violet-purple, 1-1 1/4 in. long. Sometimes only a few inches high with all the flowers cleistogamous.

Guin.: Landouman country (fr. Jan.) Heudelot 728! S. L.: Bumban, (Oct.) Deighton 3277! Iv. C.: Donané, 1,100 ft. (Oct.) Chev. 4179! Ghana: Bobiri F.R. (Oct.) Andoh 4915! Mpraeso scarp (Nov.) Morton A2766! Adiambra to Domiabra (June) Kitson 1231! Togo Rep.: Misahöhe, (Nov.) Mildbr. 7329! N. Nig.: Patti Lokoja (Oct.) Dots. 121! Mada Hills Hepburn 80! Gindiri, 3,700 ft., Jos Plateau (fr. Oct.) Hepper 1099! S. Nig.: Akure F.R., Ondo (Oct.) Keay FHI 21573! Olokemeji F.R., (Oct.) Ogbeni FHI 5199! [Br.] Cam.: Victoria (Oct.) Maitland 743! Likomba Mildbr. 10509! 10619! Vogel Peak, 2,500 ft., Adamawa (fr. Nov.) Hepper 2759!

Also on S. Tomé.

3. *Streptocarpus insularis* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 237 (1931). *APD acc*

Streptocarpus denticulatus Engl. Bot. Jahrb. 57: 213 (1921), not of Turrill (1915).

A handsome plant 3 ft. high with dark violet-blue flowers; in mountain grassland.

F. Po: Moka, 4,000-5,500 ft. (Nov.) Mildbr. 7113.

Streptocarpus kerstingii Engl. Bot. Jahrb. 57: 209 (1921).

Togo Rep.: Sokode to Basari (fr. Nov.) Kersting 501 (22).

Specimen in fruit and leaf only.

3. ACANTHONEMA

Hook. f.-F.T.A. 4, 2: 502. Nom. cons. *APD acc*

- 1 Stems short, tomentose, bearing one leaf and a short cyme; leaf ovate-oblong, cordate at base, up to 20 cm. long and 10 cm. broad, with numerous lateral nerves, setulose-pilose above and on the nerves beneath; cymes several-flowered; pedicels 1 cm. long; calyx-segments lanceolate, 5 mm. long, pilose; corolla slightly curved, 2 cm. long; fruit ovoid, sharply beaked, 6 mm. long, glabrous *strigosum*

Acanthonema strigosum Hook. f. in Bot. Mag. t. 5339 (1862); F.T.A. 4, 2: 502. *APD acc*

Carolofritschia diandra Engl. (1899).

Flowers bluish-purple, in short cymes borne 1-4 together at the base of the leaf; epiphytic or on rocks, etc.

S. Nig.: Calabar Hewan! [Br.] Cam.: Cam. Mt., 2,000 ft. (Dec.) Mann 1948! F. Po: 1,000-2,000 ft. (Nov.) Mann 569!

Also in Cameroun.

[This plant normally has two stamens: 4 or 5 stamens may occur exceptionally, associated with a more or less regular corolla, in many diandrous genera of Gesneriaceae].

4. EPITHEMA

Blume-F.T.A. 4, 2: 501.

- 1 Nearly stemless herb; leaves ovate-elliptic, cordate at the base, up to 12 cm. long and 3-8 cm. broad, thinly pilose on both surfaces, serrulate; petiole 2-2.5 cm. long, pilose; mature flowers not seen [tenua](#)

Epithema tenua C. B. Cl. in DC. Monogr. Phan. 5, 1: 181 (1883); F.T.A. 4, 2: 502. *APD acc*

Epithema graniticolum A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 189 (1912); Chev. Bot. 484.

Somewhat succulent, with a single leaf at flowering; calyx hirsute-velvety; **on rocks in forest.**

Guin.: Boola Mt., 3,200 ft., Guérzé country (Mar.) Chev. 20924. **S. L.:** Denkali, Loma Mt. (Oct.) Jaeger 227! **Lib.:** Vahon, Kolahun Dist. (Nov.) Baldwin 10215! **iv. C.:** Do Mt., 2,900 ft., Upper Cavally (May) Chev. 21141. Droupleu to Zoanlé, Upper Sassandra (May) Chev. 21418! Digoualé to Gouané (May) Chev. 21457. Sampleu to Ganhouie, Upper Nuon Chev. 21506. **[Br.] Cam.:** Metschum Falls, Bamenda (Aug.) Savory UCI 299! Nbika's by-pass, Wum (Aug.) Ujor FHI 29260! **F. Po:** Mann 2345!

Also in **Uganda**.

BIGNONIACEAE

Trees or shrubs, sometimes scandent, very rarely herbs. Leaves opposite, rarely alternate, mostly compound, digitate or pinnate, sometimes the terminal leaflet tendril-like (but not in the native genera of W. Africa); stipules absent, pseudostipules present in some genera. Flowers often showy, hermaphrodite, more or less zygomorphic. Calyx campanulate, closed or open in bud, truncate or 5-toothed, sometimes spathaceous. Corolla with 5 imbricate lobes sometimes forming 2 lips, the upper of 2, the lower of 3 lobes. Stamens alternate with the corolla-lobes, only 4 or 2 perfect. Anthers connivent in pairs or rarely free, 2-celled, opening lengthwise; staminode representing the fifth stamen often short, sometimes absent, often 3 present when only two stamens. Disk usually present. Ovary superior, 2-celled with 2 placentas in each cell or 1-celled with parietal bifid placentas. Style terminal, 2-lipped; ovules numerous. Fruit capsular or fleshy and indehiscent. Seeds often winged, without endosperm; embryo straight.

- 1 Climbing shrub (if, exceptionally, not climbing, then with very long slender shoots), ovary 2-celled, ovules in 8 series (each placenta bearing four rows of ovules); fruit dehiscent, cylindrical, apparently very similar to those of *Newbouldia* (not yet known in ripe state); calyx irregularly 5-lobed, sometimes slightly bilabiate or subspathaceous [1. Dinklageodoxa](#)
- Erect trees or shrubs: **2**
- 2 Calyx not spathaceous: **3**
- Calyx spathaceous: **4**
- 3 Ovary 1-celled; fruit indehiscent, sausage-shaped; seeds not winged [2. Kigelia](#)
- Ovary 2-celled; fruit dehiscent; seeds winged [3. Stereospermum](#)
- 4 Calyx split on the adaxial side; ovules in 4 or more series: **5**
- Calyx split on the abaxial side, bilobed at the apex; ovules in 2 series [6. Newbouldia](#)
- 5 Ovules in many series; valves of the fruit boat-shaped; calyx recurved, acuminate, ribbed [4. Spathodea](#)
- Ovules in 4-6 series; valves of the fruit flat; calyx beaked in bud [5. Markhamia](#)

The following ornamentals have been introduced into our area:

Bignonia capreolata Linn.

S. E. North America

Crescentia cujete Linn.

Tropical America

Haplophragma adenophyllum (Wall. ex G. Don) P. Dop

India

Jacaranda mimosifolia D. Don

N. W. Argentine

Pandorea pandorana (Andr.) van Steenis

Indonesia, New Guinea

Parmentiera cereifera Seem.

C. America

Pyrostegia venusta (Ker-Gawl.) Miers

Brazil

Saritaea magnifica (Sprague ex van Steenis) Dugand

Arrabidaea magnifica Sprague ex van Steenis

Colombia

Tabebuia rosea (Bertol.) DC.

C. America

Tecoma stans (Linn.) H.B.K.

C. America

Tecomaria capensis (Thunb.) Spach

S. Africa

1. DINKLAGEODOXA

Heine & Sandwith in Kew Bull. 16: 223 (1962).

- 1 Branchlets glabrous; leaflets 1-2 pairs, long-elliptic, entire, acuminate on both sides (sometimes in big leaflets leaf-base rounded), 7-18 cm. long and 2.5-6 cm. broad; minutely punctate and sparsely glandulose beneath; inflorescence terminal, 10-20 flowered, racemose-paniculate; peduncles 5-7 mm. long, 1-3-flowered, pedicels 7-9 mm. long; calyx about 15 mm. long, and at the top 15 mm. in diam., glabrous, covered with small flattened glands; corolla campanulate funnel-shaped, 5-6 cm. long, glabrous outside, slightly puberulous within, with small immersed glands in the inferior part [scandens](#)

Dinklageodoxa scandens Heine & Sandwith, l.c. 223, figs. 1 & 2 (1962). *APD acc*

Kigelia dinklagei Aubrév. & Pellegr. in Fl. For. C. Iv. 3: 210 (1936), invalidly published (short French descr. only).

Dinklageanthus volubilis Melchior ex Dinklage & Mildbr. in Fedde Rep. 41: 266 (1937), name only.

A climber, up to 11 ft. high, in trees of coastal savanna, with white flowers, corolla outside lilac at the base, inside with purplish lines and dots; ripe fruits unknown.

Lib.: Monrovia (Nov.) Dinklage 2926! 3282! Duport (Nov.) Bequaert in Hb. Linder 1511! Mt. Barclay (Nov.) Bunting 22! Arboretum of the College of Forestry, Paynesville (Nov.) Voorhoeve 76! 82!

2. KIGELIA

DC. Bibl. Univ. Genève, n.s., 17: 135 (1838); F.T.A. 4, 2: 533.

- 1 A tree, extremely variable in all its parts, with imparipinnate leaves up to 50 cm. long, with 3-6 pairs of leaflets; leaflets elliptic, elliptic-oblong, to oblong-lanceolate, up to 20 cm. long and 6 cm. broad, papery to subcoriaceous, rounded to apiculate, entire to slightly dentate-serrate in the upper part, sometimes scabrid above, indumentum on the rachis and on the leaves beneath present or absent, with 7-12 pairs of lateral nerves, sessile or stalked up to 1 cm. long; inflorescences in long-peduncled hanging panicles, up to 50 cm. long; flowers 6-13 cm. long; calyx 1-3 cm. long and 1-2 cm. broad; corolla 5-10 cm. long; fruits sausage-like, up to 45 cm. long and 15 cm. diam. [africana](#)

Kigelia africana (Lam.) Benth. in Fl. Nigr. 463 (1849); F.T.A. 4, 2: 536; Chev. Bot. 487; Aubrév. Fl. For. C. Iv. ed. 2, 3: 242, t. 231; Fl. For. Soud.-Guin. 484, t. 111; Sillans in Not. Syst. 14: 323 (1853), incl. var. *aethiopica* (Decne.) Aubrév. ex Sillans and var. *elliptica* (Sprague) R. Sillans l.c. p. 324. *APD acc*

Bignonia africana Lam. Encycl. 1: 424 (1785).

Crescentia pinnata Jacq. Collect. 3: 203, t. 18 (1789).

Sotor aethiopium Fenzl (1844).

- Kigelia aethiopica** *Decne.* in Deless. Ic. Select. Pl. 5: 39, t. 93 (1845); F.T.A. 4, 2: 538, incl. vars. *abyssinica* (A. Rich.) Sprague, *bornuensis* Sprague and *usambarica* Sprague (1906).
Kigelia abyssinica A. Rich. Tent. Fl. Abyss. 2: 60 (1847).
Kigelia pinnata (Jacq.) DC. Prod. 9: 247 (1845).
Kigelia acutifolia Engl. ex Sprague in F.T.A. 4, 2: 535 (1906); F.W.T.A., ed. 1, 2: 240.
Kigelia elliptica Sprague in F.T.A. 4, 2: 636 (1906); Chev. Bot. 487; F.W.T.A. ed. 1, 2: 240.
Kigelia elliptica Sprague in F.T.A. 4, 2: 634 (1906); F.W.T.A. ed. 1, 2: 240.
Kigelia impressa Sprague in F.T.A. 4, 2: 536 (1906); F.W.T.A., ed. 1, 2: 240.
Kigelia spragueana Wernham in J. Bot. 52: 31 (1914).
Kigelia tristis A. Chev. Bot. 487 (1920), name only.
Kigelia talbotii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 238 (1931).
Kigelia aethiopianum (Fenzl) Dandy in F. W. Andr. Fl. Sudan 3: 156 (1966).

A medium-sized tree 20-50 ft. high; flowers variable in colour, purplish-red, purple-yellow, orange, greenish-yellow, and sometimes spotted with darker reddish colours; fruits like long sausages. The Sausage Tree.

Sen.: Adanson 199a. Michelin! **Gam.:** Brown-Lester S15! **Mali:** Timbuktu Chev. 1208! El Massara Chev. 3314! 3315! **Guin.:** Kouria Caille in Hb. Chev. 14916; 14949. **S. L.:** Freetown (Sept.) Lane-Poole 357! Buyabuya (Feb.) Sc. Elliot 4757! Harley 1406! Talla (Feb.) Sc. Elliot 5037! Musaia (Sept.) Small 267! Rotifunk (Oct.) Deighton 4134! **Lib.:** Beiden, Boporo Dist. Baldwin 10273! **iv. C.:** Dabou Chev. 15559. Agboville Aubrév. 427; rasso F.R. Aubrév. 563; Djibi Aubrév. 1361; Banco Aubrév. 1368. **Ghana:** Cape Coast T. Vogel 88! Accra & Dodawah Plains (Feb.) Irvine 1525! Akotaa (Oct.) Andoh FH 5579! Nangodi Vigne FH 4489! Kpedsu (fl. & fr. Jan.) Howes 1088! **Togo Rep.:** Kersting 79! **N. Nig.:** Jos Plateau (Mar.) Lely P198! Wawa, Borgu Barter 724! Katagum Dist. (Aug.) Dalz. 105! Bornu (fl. & fr. Apr.) E. Vogel 83! **S. Nig.:** Bonny Monteiro! R. Ossin Barter 1145! Oban Talbot 115! 1016! Cross R. Div. (fr. Jan.) Holland 237! Ogoja Dist. Rosevear 78/29. **[Br.] Cam.:** Barombi (Mar.) Preuss 202. Bali-Ngemba F.R., 5,500 ft. (June) Tikou, Dih & Ujor FHI 30417! Serti, Adamawa Prov. Latilo & Daramola FHI 28952! Mayuko (Feb.) Dalz. 8224! Lus, Nkambe Div. (Feb.) Hepper 1878! **F. Po.:** (Dec.) Mann 2!

Widespread in tropical Africa.

[Note: Sprague in F.T.A. accepted for *Kigelia* 14 taxa: 10 in specific, and 4 in infraspecific (varietal) rank. Aubréville & Sillans more recently accepted only 1 sp. with 3 varieties in our area and Ubangi-Shari: i.e. *K. africana* var. *africana*, var. *aethiopica* (Decne.) Aubrév. ex Sillans, var. *elliptica* (Sprague) Sillans. But Sillans states that the characters used in his key are due to ecological adaptations. I find from a taxonomic study of all the characters accepted in Sprague and Sillans that they break down even variably and the only practical conclusion possible is that there is one extremely variable species in Africa. Much of its variability may be accounted for by the fact that it grows in both dense forest and in savanna. -H. H.]

3. STEREOSPERMUM

Cham. in Linnaea 7: 720 (1832); F.T.A. 4, 2: 517.

- 1 Calyx campanulate, 5-6 mm. long, softly tomentellous to nearly glabrous outside; corolla about 5 cm. long, tube softly pubescent outside; leaflets 3-4 pairs, stalked, oblong or oblong-elliptic, shortly acuminate, 5-10 cm. long, entire or crenate-serrate, glabrous or softly pubescent; panicle large, usually softly pubescent; capsule cylindrical, elongate, up to 60 cm. long; seeds winged at each end, 2.5-3 cm. long [1. kunthianum](#)
 Calyx tubular, 1.5-2 cm. long, glabrous outside; corolla 5-6 cm. long, tube glabrous or very sparingly pubescent outside; leaflets 5-6 pairs, oblong, long-acuminate, 8-14 cm. long, closely reticulate below, glabrous; panicle glabrous except for the small bracts; fruit as above [2. acuminatissimum](#)

1. **Stereospermum kunthianum** *Cham.* in Linnaea 7: 721 (1832); F.T.A. 4, 2: 518; Chev. Bot. 487; Aubrév. Fl. For. C. Iv., ed. 2, 3: 240; Fl. For. Soud.-Guin. 497, t. 112, fig. 1-4. **APD acc**

A tree of [savanna woodlands](#), up to 30-40 ft. high, with drooping ample panicles of pink or purplish and darker streaked flowers 1-2 in. long; flowering in the dry season usually while leafless.

Sen.: Heudelot 202! Perrottet 499! **Gam.:** Genieri (Feb.) Fox 75! Niani (Feb.) Frith 165! **Mali:** Macina to Sarro (Mar.) Davey 502! Kayes (?) (Jan.) Roberty 17025! **Port. G.:** Farim Juan d'Orey 282! Geba, Bafata (Nov.) Esp. Santo 2675! 2667! Catauliez Juan d'Orey 282! **Guin.:** Fouta Djallon Pobéguin 180! **Ghana:** Agomeda, Shai Plains (Feb.) Irvine 1505! Adakulu Plains (Mar.) Lloyd Williams 58! Prang to Attabubu Kitson 686! Kengerigongo to Bisuma, Kitson 822! **Togo Rep.:** Baumann 372! **N. Nig.:** Bida (May) Lamb 36! Mupe Barter 1135! Kontagora (fr. Jan., fl. Mar.) Dalz. 181! Daley FHI 32256! Bornu E. Vogel 89! Zungeru (fl. Oct.) Elliott 12! **S. Nig.:** Lagos Rowland! Foster 26! Olokemeji Ross 15! **[Br.] Cam.:** Madaki, Adamawa (Dec.) Latilo & Daramola FHI 28832!

Extends to the Red Sea, and south to Nyasaland and Congo Basin.

2. **Stereospermum acuminatissimum** *K. Schum.* in E. & P. Pflanzenfam. 4, 3B: 243 (1895); F.T.A. 4, 2: 519; Aubrév. Fl. For. C. Iv., ed. 2, 3: 242, t. 340; Fl. For. Soud.-Guin. 494; Chev. Bot. 486. *APD acc*

A tall tree up to 100 ft. or more high; with pink or pale purple flowers 1 1/2-2 in. long in ample corymbose-pyramidal panicles; in forests and often planted for ornamental purposes.

Guin.: Collette 39! Kindia (July) Jac.-Fél. 1800! **S. L.:** Wilberforce (June) Lane-Poole 56! Kessewe (Aug.) Lane-Poole 133! Panguma (June) Lane-Poole 90! Bumbuna (Aug.) Dawe 518! Tonkoli Forest (Aug.) Thomas 69! Panguma (July) Deighton 374! Loma Mts. Jaeger 1568! Musaia (July) Miszewski 2! 13! **Lib.:** Zeahtown (Aug.) Baldwin 6975! Gbau, Sanokwele Dist. (fr. Sept.) Baldwin 9425! **Iv. C.:** Aubrév. 659! 1597! **N. Nig.:** Mada Hills, (July) Hepburn 91! **S. Nig.:** Idanre (Aug.) Olorunfemi FHI 41527! Imo R. (Dec.) Unwin 18! 31! Lagos Phillips 41! Ukon River F.R. (Aug.) Amachi FHI 38279! Ukon F.R., Ogoja Prov. (July) Latilo FHI 38164! **[Br.] Cam.:** Barombi Preuss 332! Johann-Albrechtshöhe (=Kumba) Staudt 950! Bamenda (June) Ujor FHI 30441!

Also in **Cameroun**.

4. SPATHODEA

P. Beauv. Fl. Oware. 1: 46 (1805); F.T.A. 4, 2: 528. *APD acc*

- 1 Branchlets tomentellous; leaves opposite, sometimes unequal in each pair; leaflets 4-8 pairs, elliptic or oblong, rather gradually acuminate, shortly cuneate and with a large gland at the base, up to 14 cm. long and 6 cm. broad, very minutely reticulate beneath, with about 6 pairs of lateral nerves; racemes terminal, few-flowered; pedicels stout, up to 6 cm. long, finely tomentellous; calyx recurved, long-acuminate, ribbed, softly tomentellous, 6-8 cm. long, split down one side; corolla widely campanulate from a contracted base, 10-12 cm. long; fruit 15-20 cm. long; seeds winged all round, 2 cm. broad (including the hyaline wing) *campanulata*

Spathodea campanulata *P. Beauv.* l.c. 47, t. 27 (1805); F.T.A. l.c. 529; Chev. Bot. 485; Aubrév. Fl. For. C. Iv., ed. 2, 3: 248, t. 344; Fl. For. Soud.-Guin. 494. *APD acc*

A tree 20-70 ft. high with conspicuous flaming inflorescences, flowers scarlet or orange-red with yellow margin; habitat mainly fringing forests.

Guin.: Kouria Caille in Hb. Chev. 14916! Timbo Caille in Hb. Chev. 14765. Mamou Caille in Hb. Chev. 14816. Fouta Djallon Chev. 18720. **S. L.:** Yetaya Thomas 2268! Kabala (Sept.) Thomas 2208! Panguma (Aug.) Smythe 59! Kambia (Dec.) Sc. Elliot 4502! Njala (Oct.) Deighton. 1415! **Lib.:** Gbau, Sanokwele Dist. (Sept.) Baldwin. 9403! **Iv. C.:** Dabou (fr. Feb.) Chev. 12616! Bériby Chev. 20024. Bouaké Chev. 22131. Agboville Chev. 22335. **Ghana:** Ejura (Aug.) Chipp 730! Kanyankor (Nov.-Dec.) Miles 16! Chibbi (Sept.) Gent 934! Aburi (Feb.) Howes 1012! Mampong Brown 2064! **Togo Rep.:** Lome Warnecke 447! Kulè stream Kersting. **Dah.:** (Oct.) Le Testu 191 **N. Nig.:** Stirling Hill Ansell! Tonti, Kurmi Tonduru (Nov.) Latilo & Daramola FHI 28741! Kabba Parsons 157! Agaie (Oct.) Yates 22! **S. Nig.:** Barter 560! Lagos Irving! Abeokuta Irving! 1 Enugu F.R. Smith 13! Ibadan (Nov.) Newberry & Etim 177! MacGregor 557! Ugwogo, Enugu (Sept.) Rosevear 1/28! Benin (Aug.) Unwin 126! Calabar (Sept.) Holland 151! **F. Po:** (May) Mann 387!

Extending to Congo and **Angola**. (See Appendix p. 445.)

5. MARKHAMIA

Seemann ex K. Schum. in E. & P., Pflanzenfam. 4, 3B: 242 (1895)44; Sprague in F.T.A. 4, 2: 522, and in Kew Bull. 1919: 309.

- 1 Pseudostipules orbicular, foliaceous, about 2 cm. diam.; calyx densely lepidote outside, 2-5 cm. long, with a long slender beak in bud, split down one side; leaflets 3-4 pairs, oblong or oblong-elliptic, gradually acuminate, unequally wedge-shaped at the base, up to 17 cm. long and 7 cm. broad, pubescent only in the axils of the nerves; panicles small, few-flowered; corolla about 6 cm. long, contracted for nearly 1 cm. at the base, broadly expanded to the top; fruit elongate-linear, 1-5 cm. broad, with one nerve down the middle *lutea*
- Pseudostipules conical, tomentose; calyx split down one side, tomentose outside, 2-5 cm. long, shortly beaked in bud; leaflets 4-5 pairs, oblong-elliptic, rather gradually acuminate, shortly wedge-shaped at the base, 8-15 cm. long, 4-6 cm. broad, more or less pubescent or tomentose beneath; corolla 5-6 cm. long, gradually expanded from the base; fruits elongate-linear, 1-5 cm. broad, softly tomentose *tomentosa*

1. **Markhamia lutea** (*Benth.*) *K. Schum.* l.c. (1895); Sprague in F.T.A. 4, 2: 525; Kew Bull. 1919: 311.

APD acc

Spathodea lutea *Benth.* in Fl. Nigrit. 461 (1844); A. Chev. Bot. 486; Aubrév. Fl. For. C. Iv., ed. 2, 3: 246, t. 1343, fig. 8; Fl. For. Soud.-Guin. 499.

A shrub or tree 15-30 ft. high with finely scaly branchlets becoming glabrous, and yellow flowers marked with purple, over 2 in. long in terminal and axillary corymbose panicles, and long narrow falcate fruits 1 1/2-3 ft. long with seeds 1 1/4 in. long, including the hyaline wing at each end.

Ghana: Brown 393! Anum Plumpire 38! Odumase (fr. Jan.) Irvine 1932! Senchi Ferry (Oct.) Morton! **S. Nig.:** Abeokuta (fr. Dec.) Olorunfemi FHI 40321! [**Br.**] **Cam.:** Preuss 436! Victoria Kalbreyer 33! Buea (Mar.) Maitland 475! 572! (fr. Feb.) Dalz. 3237! Johann-Albrechtshöhe Staudt 486! **F. Po:** (fl. Mar., Nov., Dec., fr. Nov.) T. Vogel 60! Mann 5! 399! Ansell!

2. **Markhamia tomentosa** (*Benth.*) *K. Schum. ex Engl.* in Glied. Veg. Usambara 34 (1894); E. & P. Pflanzenfam, 4, 3B: 242 (1895); Sprague in F.T.A. 4, 2: 528; Kew Bull. 1919: 311, incl. var. *gracilis* Sprague in F.T.A. 4, 2: 528 (1906); Chev. Bot. 486; Aubrév. Fl. For. C. Iv., ed. 2, 3: 246, t. 343, fig. 1-7; Fl. For. Soud.-Guin. 499. *APD acc*

Spathodea tomentosa *Benth.* in Fl. Nigrit. 462 (1849).

A tree up to 30 ft. high with yellowish-tomentose brachlets, and yellow flowers with purple lines, 2-2 1/2 in. long in long terminal oblong tomentose racemes, and fruit up to 2 ft. or more long; habitat commonly fringing forests.

Guin.: Kouroussa to Conakry Pobéguin 7461 **S. L.:** Sefadu (Nov.) Deighton 4665! Sulimania (Mar.). Sc. Elliot 5281! Kumala (June) Thomas T63! Musaia (fr. Feb.; fl. & fr. Oct.) Deighton 4210! Thomas 2622! Talla Hills (fr. Feb.) Sc. Elliot 4992! **Ghana:** Larte (Apr.) Morton A834! Pepeose to Nkwantaneng Morton A796! Ejura (fl. & fr. Aug.) Chipp 770! Nwereme (May) Irvine 2513! **Togo Rep.:** Kuië stream Kersting 633! **N. Nig.:** Patti Lokoja Barter 555! Nupe Barter 1310! Dekina (June; Aug.) Elliott 89! 242! Wana (July) Hepburn 90! Acharane F.R. (June) Daramola FHI 38042! Odoaba Forest (Aug.) Horwood FHI 38351! **S. Nig.:** Lagos (Aug.) Phillips 58! MacGregor 703! Dawodu 203! Foster 101! Shabe Rock (Oct.) Hamblen 518! Asaba Leslie 37! Oban (May) Talbot 2055 bis! Enugu (Oct.) Onyeagocha FHI 16597! [**Br.**] **Cam.:** Bamenda (June) Maitland 1576! 1610!

Also in **Cameroun**.

6. NEWBOULDIA

Seemann ex Bureau, Mon. Bignon., Atlas t. 15 (1864); Seemann in J. Bot. 1: 225 (1863), name only; l.c. 8: 337 (1870); F.T.A. 4, 2: 520.

- 1 Branchlets glabrous; leaflets 3-6 pairs, oblanceolate to broadly elliptic, serrate to entire or nearly so, long-acuminate, glandular at the base beneath, up to 20 cm. long and 10 cm. broad, minutely punctate beneath; flowers in a terminal racemose panicle; pedicels 6-8 mm. long, glabrous; calyx 2.5 cm. long, split down one side and shortly bilobed at the apex, glabrous outside; corolla nearly regular, narrowly campanulate from a contracted cylindrical base, about 6 cm. long, glabrous outside; fruit about 30 cm. long, the valves 3-nerved; seeds winged at each end, 3.5 cm. long *laevis*

Newbouldia laevis (*P. Beauv.*) *Seemann. ex Bureau* l.c. (1864); Seemann in J. Bot. 8: 337 (1870); F.T.A. 4, 2: 251; Chev. Bot. 485; Aubrév. Fl. For. C. Iv., ed. 2, 3: 244, t. 342; Fl. For. Soud.-Guin. 494.

APD acc

Spathodea laevis *P. Beauv.* Fl. Oware. 1: 48, t. 29 (1805).

A tree of medium size in forest, commonly slender, 10-40 ft. high in towns, nearly glabrous, with red-purple or pink and white foxglove-like flowers 2 in. or more long, in erect dense raceme-like panicle.

Sen.: (Dec.) Döllinger 36! Perrottet 500! Heudelot 818! **Gam.:** Brown-Lester S31! S46! Tamba Jang Jarra (fl. & fr. Apr.) Frith 152! **Guin.:** (fr. Sept.) Farmar 185! Timbo Pobéguin 129! Kindia Chev. 13027; 13223; 13308. Sangorola (Feb.) Chev. 347! Kollangui Chev. 12559. **S. L.:** Barter! Garrett 21! Thomas 8624! 10028! Kambia (fr. Dec.) Sc. Elliot 4350! Mabasike (Feb.) Lane-Poole 79! Batkanu (Apr.) Thomas 37! Njala (Feb.) Deighton 509! Jala (Feb.) Bunting 13! **Lib.:** Whyte! **Iv. C.:** Bingerville Chev. 16061; 17287. Bouroukrou Chev. 16133. Brafouédi (Dec.) de Wit 7878! **Ghana:** Thonning (photo)!

Ejura (Dec.) Morton 9755! Sahara, W. Prov. (Feb.) Vigne FH 218! Aburi (Jan.) Morton 6345! Johnson 297! Kpeve (fr. Mar.) Lloyd Williams 42! Wurubong to Okraji (fr. May) Kitson 1145! **Togo Rep.:** Lomé Warnecke 65! **Dah.:** Burton! Sakété Chev. 22854. **N. Nig.:** Rosevear 1/30! 36/28! 40/28! Kontagora (Jan.) Dalz. 184! **S. Nig.:** Lagos Moloney! Olokemeji F.R. (Jan.) Ross 54! Akwa Thomas 62! Ibadan (Jan.) Richards 5003! Ala (Nov.) Thomas 1949! Oban Talbot 1342! Degema Talbot 3689! Millen 25! 59! Lamborn 29! **[Br.] Cam.:** Victoria (Jan.) Maitland 282! 772! Likomba Mildbr. 10599! Johann-Albrechtshöhe Staudt 898. S. Bakundu F.R., Kumba (Jan.) Daramola FHI 35500! Gashaka, Adamawa (Dec.) Latilo & Daramola FHI 28967! **F. Po.:** (fl. & fr. Dec.) Mann 84!

Also in **Cameroun**.

PEDALIACEAE

Annual or perennial herbs. Leaves opposite or the upper alternate, simple; stipules absent. Flowers hermaphrodite, zygomorphic. Calyx of 5 or 4 segments or 4-fid or spathaceous. Corolla gamopetalous, often oblique; lobes 5, imbricate. Stamens 4, or rarely only 2 perfect, alternate with the corolla-lobes; anthers connivent in pairs, 2-celled, cells distinct, parallel or divaricate, opening lengthwise; fifth stamen often represented by a staminode. Disk hypogynous, fleshy. Ovary sessile, 1-celled with 2 intrusive parietal placentas or 2-4-celled, the cells again often divided by spurious septa; style terminal. Ovules solitary or numerous on each placenta. Fruit a capsule, nut, or subdrupaceous; endocarp hardened and often horned or prickly. Seeds without endosperm; embryo with flat cotyledons.

- 1 Flowers in erect terminal racemes; pedicels not inserted between two small sessile nectarial glands, short[1. Martynia](#)
Flowers solitary, axillary; pedicels inserted between 2 small nectarial glands:[2](#)
- 2 Ovary and fruit 2-celled; cells undivided; fruit indehiscent, more or less turbinate, regular and symmetric, 4-angled, up to 2 cm. long, with one lateral spreading spine at each basal angle[2. Pedalium](#)
Ovary and fruit 2-(rarely 4-) celled; cells incompletely divided by a false septum; fruit dehiscent or indehiscent, never turbinate or properly 4-angled, obliquely ovoid (and therefore more or less asymmetric) and rostrate when spined at the base:[3](#)
- 3 Cells of the ovary and capsule very unequal, the posticous one small and indehiscent[3. Rogeria](#)
Cells of the ovary and capsule equal-sized:[4](#)
- 4 Capsule acute or beaked, without lateral appendages[4. Sesamum](#)
Capsule with 2 divergent horns or spines at the apex[5. Ceratotheca](#)

1. MARTYNIA

Linn. Sp. Pl. 618 (1753).

- 1 Annual; clothed with patent, long, glandular-viscid hairs; main stem almost hollow; leaves opposite, long-petioled, broad, palmatinerved; flower with 2 membranous bracteoles at the base; calyx 5-partite to the base; corolla obliquely campanulate thimble-shaped, lobes very unequal, broad; perfect stamens 2 (anterior ones); anthers cohering; ovary 1-celled, divided into 4 compartments by 2 deeply intruding, parietal, opposite, T-shaped placentas touching in the middle; fruit a beaked horn-like capsule about 3 cm. long[annua](#)

Martynia annua *Linn.* l.c. (1753); *Backer in Fl. Males.*, ser. 1, 4: 221, fig. 3 (p. 220) (1951). *APD acc*

A foetid, erect, rank herb, frequently widely branched, up to 6 ft. high, with yellowish or greenish-white flowers.

S. Nig.: Ago-Are, Oyo (Apr.-May) Onochie FHI 34001! Sofoluwe FHI 38160! Sabongida Ora, Benin Prov. (July) Umana FHI 34507! Ibadan (June) Squire K1! Olokemeji (May) Foster 303! Okeke & Adebusuyi FHI 18248!

Native of Mexico, locally naturalized in tropical Africa and in other parts of the tropics.

2. PEDALIUM

Linn.-F.T.A. 4, 2: 540.

- 1 Annual herb with simple or branched subsucculent stem; leaves petiolate, elliptic, obovate or oblong, rounded or truncate at the apex, entire or coarsely dentate, 1·5-5 cm. long; flowers solitary in the leaf axils; calyx small; corolla-tube subcylindric or narrowly funnel-shaped, about 2·5 cm. long, pale primrose-yellow; fruit an indehiscent 4-angled capsule, subpyramidal, rounded to acute at the apex, with a spreading spine at each basal angle, and then abruptly contracted into a narrow collar below, 1-2 cm. long and 0·6-1 cm. broad [murex](#)

Pedaliium murex *Linn.* Syst. Nat., ed. 10, 1123 (1759); F.T.A. 4, 2: 540 (1906); F.T.E.A., Pedaliac. 6, fig. 2. *APD acc*

Erect, spreading or subprostrate, sparsely glandular herb, 1-2 1/2 ft. high; a saline soil indicator in sand or limestone in short grass near the coast.

Ghana: Keta (fr. July) Akpabla 32! **Togo Rep.:** Mahoux 511! **S. Nig.:** Badagry (fr. Aug.) Onochie FHI 33470!

Also in **East tropical Africa**, **Socotra**, **Madagascar**, and in **India** and **Ceylon**.

3. ROGERIA

J. Gay ex Delile, Cent. Pl. Afr. 78 (1826)46; F.T.A. 4, 2: 548. *APD acc*

- 1 Stems mealy-glandular in the upper part; leaves broadly obovate, 3-lobed, truncate or shortly cuneate at the base, 5-10 cm. long, glandular below and rather glaucous; lobes obtuse, dentate, teeth subulate, with glands at the base; flowers 1-3 in the leaf-axils, subsessile; corolla 4-5 cm. long; capsule 2·5-3 cm. long with 4 spreading spines below the middle, often with 4 smaller between [adenophylla](#)

Rogeria adenophylla *J. Gay ex Delile* l.c., t. 2, fig. 3 (1826); J. Gay in Ann. Sci. Nat. sér. 1, 1: 457 (1824); F.T.A. 4, 2: 548; Chev. Bot. 488; Berhaut Fl. Sén. 64. *APD acc*

Stout herb up to 9 ft. high; flowers white to purplish; in dry savanna.

Sen.: Roger! Perrottet 548! Richard Tol (Jan.) Döllinger 68! Bondy (fl. & fr. Nov.) Trochain 891! Berhaut 1202. **N. Nig.:** Jos Kennedy 2863! Keffin Hausa Dalz. 100 bis! Kouka, L. Chad (fl. & fr. Feb.) E. Vogel 48! Mongonu, Baga (fr. Jan.) Daggash FHI 24962! Sokoto (July) Dalz. 365! Moiser 85!

Also in **Mauritania**, **Sudan** and extending to **Angola**.

4. SESAMUM

Linn.-F.T.A. 4, 2: 550.

- 1 Seeds muricate, 2-3 mm. long, with a suborbicular 2-3 mm.-long wing at the base and apex; capsule sub-obconical, narrowed to the base, about 5 cm. long, long-beaked, strigillose, calyx deciduous in fruit; plants nearly glabrous, lower leaves palmately 3-5-foliolate or -partite with narrow lobes or segments; corolla up to 3 cm. long, pubescent [1. alatum](#)
- Seeds not winged; capsule parallel-sided, rounded at the base; calyx persistent in fruit; plants usually pubescent, leaves when lobed or partite with broad and ovate segments: [2](#)
- 2 Mature seeds on their broad surfaces with finely reticulate ribs or almost smooth, up to 3 mm. long and 1·5 mm. broad; capsule up to 3 cm. long and 12 mm. broad, crowned by a very conspicuous subulate beak; lowest leaves often deeply divided or palmately compound [2. indicum](#)
- Mature seeds rugose or pitted; leaves never parted or divided: [3](#)
- 3 Seeds up to 3 mm. long and 2 mm. broad; leaves petiolate (petiole 0·2-2·5 cm. long), varying from obovate-elliptic (the lower) to narrowly oblong (the upper), 3·5-11 cm. long and 1·2-4 cm. broad; capsule up to 3 cm. long and 1 cm. broad [3. radiatum](#)
- Seeds up to 1·5 mm. long and 1 mm. broad; leaves sessile or subsessile (very rarely the lower ones shortly petiolate; the petiole then up to 5 mm. long), linear to linear-lanceolate, 2-12 cm. long and 0·1-1 cm. (lower ones sometimes up to 4 cm.) broad; capsule up to 2·4 cm. long and 4 mm. broad. [4. angustifolium](#)

1. **Sesamum alatum** *Thonning* in Beskr. Guin. Pl. 284 (1827); F.T.A. 4, 2: 559; Chev. Bot. 489; Berhaut, Fl. Sén. 11, 23, 264; F.T.E.A., Pedaliac., 17, fig. 7,1-3. *APD acc*

Sesamum sabulosum *A. Chev.* Bot. 489 (1920), name only.

Erect herb 2-3 ft. high with sulcate 4-angled stems finely glandular when young; flowers pink or bright red with spotted throat; **in dry savanna**.

Sen.: Roger! Berhaut 757. **Mali:** Timbuktu (fl. & fr. June, July) Chev. 1293! Hagerup 117! Diendéla (Mar.) Chev. 624! Fenadjie (fl. & fr. June) Davey 124! **Ghana:** Thonning (photo)! Burufo Plain (fl. & fr. Dec.) Adams 4442! Bongo to Nangodi (fr. Nov.) Morton A3805! **N. Nig.:** Borgu Barter 119! Kontagora (fr. Dec.) Dalz. 151! Sokoto (Nov.) Moiser 12! Alkalire Lely 645! Chad Gaillard! Daura (fl. & fr. Nov.) Sampson 11! **[Br.] Cam.:** Bama, Dikwa Dist. (fl. & fr. Nov.) McClintock 31!

Also in **Sudan**, Ethiopia, E. Africa to Mozambique, S. Rhodesia, Bechuanaland and S. W. Africa.

2. **Sesamum indicum** *Linn. Sp. Pl.* 634 (1753); *F.T.A.* 4, 2: 558; Chev. Bot. 488, 489 (incl. vars.); *F.T.E.A.*, Pedaliac. 17, fig. 7, 4-8; *Fl. Males.*, ser. 1, 4: 217; Berhaut *Fl. Sén.* 67. **APD acc**

Erect, simple or branched, herb, 1-6 ft. high; flowers whitish or pink and purple-tinged and spotted; **cultivated**. Beniseed.

Sen.: Heudelot! Galam (fl. & fr. Dec.) Roger 140! Berhaut 1813. **Mali:** Binkola (fr. Aug.) Thomas 1776! Tassakant (fl. & fr. Aug.) Chev. 3322! **S. L.:** Momaba (fr. Nov.) Thomas 4596! Bumban (Sept.) Thomas 1996! Mano Thomas 1002! Njala (fl. & fr. Aug.) Deighton 1972! Pehala (Oct.) Fischer 34! **Lib.:** Monrovia (Nov.) Cooper 133! Kakatown Whyte! Firestone Plantation No. 3 (fl. & fr. July) Linder 122! Firestone Plantation, Dukwai R., Lely 622b! 671! **N. Nig.:** Nupe Barter 1260! Kafanchan (fl. & fr. Dec.) Sampson 38! 40! Kontagora (fl. & fr. Dec.) Dalz. 150! Biu, Bornu Prov. (fl. & fr. Sept.) Noble 21! **S. Nig.:** Ibadan (fl. & fr. Jan.) Smith 1!

Cultivated and naturalized in most tropical and subtropical countries.

3. **Sesamum radiatum** *Schum. & Thonn. Beskr. Guin. Pl.* 282 (1827); *F.T.A.* 4, 2: 557; Chev. Bot. 489; Backer in *Fl. Males.*, ser. 1, 4: 218; Berhaut *Fl. Sén.* 67. **APD acc**

Sesamum talbotii *Wernham Cat. Talb.* 73 (1913).

Sesamum caillei *A. Chev. Bot.* 488 (1920), name only.

Erect herb about 2 ft. high, glandular hairs, with an unpleasant smell; flowers purplish-pink; **cultivated for its seed**.

Sen.: Heudelot 547! Berhaut 1453. **Gam.:** Toniataba (fl. & fr. Oct.) Agric. Dept.! **Guin.:** Kouria to Longdery Caille in Hb. Chev. 14623. Kouroussa (June) Pobéguin! **S. L.:** Afzelius! Don! Smeathman! Sherbro Isl. (fr. Nov.) Hunter 21! Mahela (fr. Dec.) Sc. Elliot 4136! Njala (fr. Dec.) Sc. Elliot 1794! **Lib.:** Whyte! Ganta (May) Harley! Monroviatown (fl. & fr. Aug.) Baldwin 9003! Brewersville (fl. & fr. Sept.) Barker 1429! **Iv. C.:** Dabou (ft. July) de Wilde 108! Sassandra (fr. Mar.) Leeuwenberg 3097! Port Bouet (fl. & fr. Feb.) Leeuwenberg 2713! Assakra (fr. Aug.) de Wit 7007! **Ghana:** Dawa (May) Howes 912! Legon Hill (fl. & fr. Apr.) Adams 4242! **Dah.:** Burton! **N. Nig.:** Nupe Barter 1202! Jebba (fl. & fr. Mar.) Meikle 1287! Vom Dent Young 190a! **S. Nig.:** Lagos (fl. & fr. June) Dalz. 1244! 1080! Abeokuta Migeod! Irving! Ijebu (fl. & fr. Apr.) Onochie FHI 15549! Anewi (fl. & fr. Oct.) Okafor FHI 35878! Ibadan (fl. & fr. Jan.) Smith 3! **[Br.] Cam.:** Victoria (Apr.) Ejiofor FHI 29334! Kumba to Victoria (fl. & fr. Apr.) Olorunfemi FHI 30534! Bama, Dikwa Dist. (fr. Jan.) McClintock 159! **F. Po.:** T. Vogel 23.

Throughout tropical Africa. Pantropical weed, undoubtedly of tropical African origin, sometimes cultivated.

4. **Sesamum angustifolium** (*Oliv.*) *Engl. Pflanzenw. Ost-Afr. C.* 365 (1895); *F.T.A.* 4, 2: 554; *F.T.E.A.*, Pedaliac. 19, fig. 7, 9-16. **APD acc**

Sesamum indicum var.? **angustifolium** *Oliv.* in *Trans. Linn. Soc.* 29: 131 (1875).

A herb up to 6 ft. high, with pink or mauve flowers about 1 inch long; **sometimes cultivated**.

N. Nig.: Yates 18a! 19a! Zungeru (fl. & fr. July) Dalz. 149! **S. Nig.:** Lagos Philips 48! Onitsha (fl. & fr. Mar.) Killick 99! Shaki, Oyo Prov. (Apr.) Sofoluwe FHI 38160!

From Nigeria eastwards throughout tropical Africa, in cultivated and waste areas.

5. CERATOTHECA

Endl. in *Linnæa* 7: 5 (1832); *F.T.A.* 4, 2: 563.

- 1 Stems pubescent; leaves ovate-deltoid to ovate or linear-oblong, base more or less truncate or hastate, dentate, 3-

6 cm. long; petiole up to 2.5 cm. long; corolla 1.5-4 cm. long (in one specimen described by Berhaut as var. grandiflora 5 cm. long); capsule 1.2-2.3 cm. long, pubescent, horns up to 3.5 mm. long [sesamioides](#)

Ceratotheca sesamioides Endl. in Linnaea 7: 5, figs. 1, 2 (1832); F.T.A. 4, 2: 563; Chev. Bot. 489-490, incl. var. baoulensis A. Chev., name only; Berhaut Fl. Sen. 67, incl. var. (see note below); F.T.E.A. Pedaliac. 14, fig. 6. *APD acc*

Sesamum heudelotii Stapf in F.T.A. 4, 2: 552 (1906); F.W.T.A., ed. 1, 2: 244.

Erect or suberect herb, branched, 1/2-2 ft. high, with foxglove-like flowers 3/4-1 in. long, solitary in the axils, pink or light red-purple outside, paler with purple streaks inside, sometimes white.

Sen.: Kohaut! Heudelot 147! Perrottet 552! Roger 141! Kouroussa (fl. & fr. Dec.) Pobéguin 616! Tambacounda Berhaut 1730 (the type of var. grandiflora, Berh.). **Mali:** Sindou Chev. 868! Tiédiana Chev. 1001; San Chev. 1024; 3324. Ségou Chev. 3324. **Guin.:** Conakry Chev. 12154. Kankan Brossart in Hb. Chev. 15678. **S. L.:** Port Loko (fr. Dec.) Thomas 5819! Bumbunah (fl. & fr. Oct.) Thomas 3281! 3402! Ronietta (Nov.) Thomas 5293! Njala (fl. & fr. Dec.) Deighton 1783! Yetaya (fl. & fr. Sept.) Thomas 2389! Rokupr (Jan.) Deighton 4039! **Lib.:** Sanokwele (fr. Sept.) Baldwin 9527! **Ghana:** Aburi (fl. & fr. Mar.) Patterson! Ashanti Kitson! Tamale (fl. & fr. June) Saunders 9! (Nov.) Sampson 2! Lloyd Williams 531! Gambaga Cliff (June) Harris! **Togo Rep.:** Lorro, Missodu Kersting A374! **N. Nig.:** Yates 39! Ilorin (Mar.) Lamb 40! Bida Town (fr. July) Onochie FHI 35369! Maifoni Parsons! Lokoja & Kontagora (fl. & fr. May) Dalz. 148! Sokoto (Sept.) Moiser 105! Fodama (fl. & fr. Jan.) Moiser 180! 212! **S. Nig.:** Ibadan (fl. & fr. Jan.) Smith 2! Meikle 998! Olokemeji (May) Foster 3041

Throughout tropical Africa.

[Berhaut's var. grandiflora (l.c., 1954), French descr. only, has "corollas up to 5 cm. long and a flat U-shaped capsule with two truncate horns". Not seen, but almost certainly only an occasional form-H. H.]

ACANTHACEAE

Herbaceous or climbing, rarely somewhat shrubby. Leaves opposite, often with distinct cystoliths; stipules absent. Flowers hermaphrodite, zygomorphic, often with conspicuous bracts. Calyx-segments or lobes 4 or 5, imbricate or valvate; rarely the calyx reduced to a ring. Corolla gamopetalous, 2-lipped or sometimes 1-lipped, lobes imbricate or contorted. Stamens 4, didynamous or 2, inserted on the corolla-tube and alternate with its lobes; filaments free amongst themselves or partially connate in pairs; anthers 2-celled or 1-celled by reduction, cells confluent or separated, sometimes one much smaller than the other, opening lengthwise. Disk present. Ovary superior, sessile on the disk, 2-celled. Capsule mostly elastically dehiscent from the apex downwards, the valves recurved and leaving the central axis. Seeds mostly with indurated funicle; endosperm rarely present; embryo large.

Recognised by the usually herbaceous habit, opposite leaves and the peculiar capsule.

- | | | |
|---|---|----------------------------------|
| 1 | Corolla-lobes contorted in bud: | 2 |
| | Corolla-lobes imbricate in bud: | 20 |
| 2 | Stamens 4: | 3 |
| | Stamens 2: | 18 |
| 3 | Anthers 2-celled: | 4 |
| | Anthers 1-celled | 15. Physacanthus |
| 4 | Anther-cells not tailed at base: | 5 |
| | Anther-cells tailed at base: | 16 |
| 5 | Ovules superimposed in each cell or rarely 1: | 6 |
| | Ovules 2, and collateral in each cell: | 15 |
| 6 | Ovules 3 or more in each cell: | 7 |
| | Ovules 1-2 in each cell: | 13 |
| 7 | Corolla 2-lipped; retinacula curved or papilliform; seeds usually with hygroscopic hairs; herbs of various habit, sometimes heterophyllous, nearly always growing in wet habitats | 1. Hygrophila |
| | Corolla not 2-lipped: | 8 |
| 8 | Leaves in each pair equal- or subequal-sized: | 9 |
| | Leaves in each pair unequal-sized | 6. Endosiphon |

-
- 9 Flowers solitary or in small cymes, axillary: 10
 Flowers three to very many in a terminal spike or head, or inflorescence elongated and loose: 11
- 10 Small marsh-herb; leaves up to 2 cm. long and 12 mm. broad; corolla 9-13 mm. long (*H. abyssinica*) [1. Hygrophila](#)
 Tall herbs; leaves up to 6 cm. long and 3 cm. broad; corolla up to 4 cm. long [2. Ruellia](#)
- 11 Calyx divided into subequal segments, the lower part sometimes forming a little tube: 12
 Calyx with two segments free to the base and three united at least one third of their length, usually more than three quarters [5. Dischistocalyx](#)
- 12 Corolla-tube linear-cylindric almost to the small mouth, corolla-lobes 5, subreflexed, more or less at one side [3. Eremomastax](#)
 Corolla-tube infundibuliform, gradually widened upwards into an oblique mouth, corolla-lobes more or less regularly arranged [4. Heteradelphina](#)
- 13 Valves of the placenta not rising elastically from the base of the capsule: 14
 Valves of the placenta rising elastically from the base of the ripe capsule and throwing out the seeds [9. Phaulopsis](#)
- 14 Stigma with one linear arm and one minute or obsolete; seeds with many hygroscopic hairs [7. Acanthopale](#)
 Stigma capitate, obscurely 2-lobed; seeds glabrous [8. Whitfieldia](#)
- 15 Fruit dry, beaked, 2-celled, dehiscent [10. Thunbergia](#)
 Fruit a drupe, i.e. fleshy, 1-celled, indehiscent [11. Mendoncia](#)
- 16 Ovules 3 or more in each cell; anther-cells 6 [12. Mimulopsis](#)
 Ovules 2 in each cell; anthers 2: 17
- 17 Flowers solitary, opposite in the leaf-axils; corolla about 5 cm. long; anther-cells without spurs; calyx tubular, up to 30·5 cm. long [13. Satanocrater](#)
 Flowers mostly axillary, solitary or clustered in small condensed, rarely lax, cymes; corolla up to 3 cm. long; anthers pointed or spurred at base; calyx never longer than 15 mm., not tubular [14. Dyschoriste](#)
- 18 Ovules 3 or more in each cell; corolla 2-lipped: 19
 Ovules 1-2 in each cell; corolla not 2-lipped [17. Lankesteria](#)
- 19 Flowers paniculate; seeds with large curved retinacula [16. Brillantaisia](#)
 Flowers verticillate; seeds with minute conical retinacula [1. Hygrophila](#)
- 20 Stamens 4: 21
 Stamens 2: 32
- 21 Anthers 1-celled; corolla 1-lipped: 22
 Anthers (at least of one pair of stamens) 2-celled; corolla 2-lipped: 26
- 22 Calyx-segments 5: 23
 Calyx-segments 4: 24
- 23 Calyx-segments all similar, the adaxia 1-nerved [18. Sclerochiton](#)
 Calyx-segments not all similar, the adaxial larger, 2-nerved and often 2-toothed at the top [19. Crossandra](#)
- 24 Bracts or leaves spinous: 25
 Bracts and leaves not spinous [22. Crossandrella](#)
- 25 Seeds covered with rope-like hair bundles, which unroll when moistened [20. Blepharis](#)
 Seeds glabrous [21. Acanthus](#)
- 26 Anther-cells tailed [23. Asystasia](#)
 Anther-cells not tailed: 27
- 27 Shrubs or undershrubs; capsules always with retinacula; bracteoles absent: 28
 Herbs or creepers, often prostrate and rooting at the nodes; bracteoles present, longer than the calyx: 31
- 28 Flowers in terminal, elongated many-flowered racemes; capsule compressed globose-ellipsoid [24. Thomandersia](#)
 Flowers in short, bracteate, sometimes unilateral spikes, not always terminal, but also axillary, basal etc.; capsules elongate (not known in No. 26): 29
- 29 Leaves triplinerve, acicular or ericaceous [25. Lepidagathis](#)
 Leaves with 5-10 pairs of lateral nerves, never triplinerve, acicular or ericaceous: 30
- 30 Corolla inflated upwards, mouth oblique, abaxial stamens with 2-celled anthers, one anther-cell below the other, smaller; inflorescence terminal, loose-racemose; minutely hairy; leaves green on both sides [26. Filetia](#)

- Corolla-mouth funnel-shaped, hardly oblique, abaxial stamens with 1-celled anthers; inflorescence of dense axillary heads with long white hairs; leaves with thick white tomentum beneath [27. *Neuracanthus*](#)
- 31** Leaves with cystoliths; capsules with retinacula and 2 ovules in each cell [28. *Afrofittonia*](#)
- Leaves without cystoliths; capsules with papilliform, not curved retinacula, many-seeded [29. *Staurogyne*](#)
- 32** Anthers 2-celled: **33**
- Anthers 1-celled: **48**
- 33** Anther-cells at equal or nearly equal levels, the cells not or (in No. 34) slightly tailed: **34**
- Anther-cells at unequal levels: **42**
- 34** Ovules numerous in each ovary-cell; calyx-segments 4: **35**
- Ovules 1-2 in each cell: **36**
- 35** Leaves alternate, subradical, crenate (in some forms lyrate) to subentire [30. *Elytraria*](#)
- Leaves opposite, not subradical, entire [31. *Nelsonia*](#)
- 36** Bracteoles not present: **37**
- Bracteoles present: **38**
- 37** Calyx-segments 4 [32. *Barleria*](#)
- Calyx-segments 5 [33. *Pseuderanthemum*](#)
- 38** Stigma shortly bifid: **39**
- Stigma undivided: **41**
- 39** Flowers spicate, spikes thyrsoïd or solitary [34. *Adhatoda*](#)
- Flowers paniculate or subracemose: **40**
- 40** Stamínodes (2) present [35. *Graptophyllum*](#)
- Stamínodes absent [36. *Schaueria*](#)
- 41** Flowers in a terminal spike up to 15 cm. long, corolla up to 12 mm. long, whitish [37. *Chlamydocardia*](#)
- Flowers solitary, axillary, corolla up to 4 cm. long [38. *Anisotes*](#)
- 42** Anther-cells not tailed: **43**
- Anther-cells tailed at the base: **46**
- 43** Placentas not rising elastically in fruit and not throwing out the seeds: **44**
- Placentas rising elastically in fruit and throwing out the seeds [42. *Dicliptera*](#)
- 44** Seeds smooth [39. *Peristrophe*](#)
- Seeds tubercular-scabrous: **45**
- 45** Corolla-tube thick-cylindric or inflated in the upper half (not linear) [40. *Isoglossa*](#)
- Corolla-tube linear-cylindric, regular (not inflated) [41. *Rhinacanthus*](#)
- 46** Placentas not rising elastically in fruit and not throwing out the seeds: **47**
- Placentas rising elastically in fruit and throwing out the seeds [45. *Rungia*](#)
- 47** Capsule 4-seeded; seeds rough or tubercled [43. *Justicia*](#)
- Capsule 2-seeded; seeds smooth [44. *Monechma*](#)
- 48** Flowers appearing as though enclosed between two opposite bracts which are often connate into a tube [46. *Hypoestes*](#)
- Flowers not appearing as though enclosed between two opposite bracts: **49**
- 49** Herb up to 1 m. high; flowers purple to pale-pink, in rather dense, spike-like terminal inflorescences; corolla-tube 2-2.5 cm. long; capsule about 1 cm. long [47. *Brachystephanus*](#)
- Shrubby plants with woody branches, up to 4 m. high: **50**
- 50** Shrub up to 1.5 m. high; flowers bright red, in a terminal spike-like inflorescence, composed of shortly stalked cymules; corolla-tube 2.5 cm. long; capsule up to 4 cm. long [48. *Ruspolia*](#)
- Shrub up to 4 m. high; flowers mauve to whitish, in a very loose panicle with 100-200 flowers, corolla-tube very short, 2-3 mm. long; capsule about 1.5 cm. long [49. *Oreacanthus*](#)

1. HYGROPHILA

R. Br.-F.T.A. 5: 30; Benoist in Bull. Soc. Bot. Fr. 60: 330 (1913).

Synnema Benth. (Afr. spp.)-F.T.A. 5: 29; Benoist l.c. (1913); F.W.T.A., ed. 1, 2: 248.

Kita A. Chev. in Rev. Bot. Appliq. 30: 266 (1950).

- 1 Corolla not 2-lipped, up to 1 cm. long, tube nearly linear-cylindric; segments about 2 mm. long; stamens nearly equal; capsules about 6 mm. long, with about 8 seeds; leaves usually about 15 mm. long and 8 mm. broad, sometimes the lower ones much longer (African "Hemigraphis" species) [1. abyssinica](#)
Corolla markedly 2-lipped: **2**
- 2 Inflorescence laxly cymose, axillary, its branches few-flowered; leaves sessile, usually linear to narrowly subacute, sometimes (in No. 4) with large obtuse teeth along the margins (Sect. Nomaphila; Kita A. Chev.): **3**
Inflorescences subspicate or in axillary clusters: **5**
- 3 Corolla 2 cm. long; leaves lanceolate-elliptic, acuminate, up to 10 cm. long and 1.5 cm. broad, minutely and closely puberulous beneath; calyx-segments linear, unequal, up to 1 cm. long [2. laevis](#)
Corolla 4-11 mm. long; leaves up to 9 cm. long and 1 cm. broad, but usually much smaller: **4**
- 4 Leaves broadly lanceolate, up to 2 cm. long, obtuse, sometimes the lower ones obscurely toothed; calyx segments linear-lanceolate, at flowering time about 3 mm. long, slightly accrescent in fruit; corolla up to 4.5 mm. long; capsule 5 mm. long, with short, but well distinguishable retinaculas, containing 10-14 small seeds (about 0.5 mm. long) [3. stagnalis](#)
Leaves linear to linear-lanceolate, up to 8 cm. long, acute, usually entire, but sometimes strongly toothed with up to 6 teeth on each side up to 7 mm. long; calyx-segments linear-filiform, the posticous 8-9(-10) mm., the 4 others 5-7 mm. long; corolla up to 1 mm. long; capsule 4-5 mm. long with papilliform retinacula, containing 40-50 very small sand-grain like seeds (about 0.3 mm. long) [4. borellii](#)
- 5 Capsules with 4-8 seeds; leaves elongate-ob lanceolate to linear-ob lanceolate, up to 25 cm. long and 3.5 cm. broad, more or less setose-pilose on the upper surface, with inconspicuous rod-like cystoliths beneath; bracts and calyx-segments setose with white hairs (Sect. Asteracantha): **6**
Capsules with 8 to numerous seeds; leaves never longer than 12 cm.: **7**
- 6 Flower-whorls with stiff spines up to 4 cm. long, bracts lanceolate; fruits with up to 8 seeds [5. auriculata](#)
Flower-whorls without spines, bracts much resembling the ordinary leaves but smaller, with a large dilated base which sheathes the flowers or fruits; fruits with 4 seeds [6. niokoloensis](#)
- 7 Capsules with very short papilliform (not curved) retinacula (Afr. "Synnema" spp.): **8**
Capsules with markedly curved retinacula (Sect. Physichilus, Polychema and Hygrophila): **9**
- 8 Stamens 2; stems glandular-puberulous; leaves of two forms, the lower, if submerged, sometimes pinnatifid, the upper sessile, linear-ob lanceolate, 2-5 cm. long, about 6 mm. broad, puberulous; flowers at the nodes; bracts foliaceous, up to 1 cm. long, pilose; corolla-tube 5-6 mm. long; style pubescent [7. africana](#)
Stamens 4; corolla with an extremely short or wanting upper-lip, flowers in axillary clusters; leaves sessile, narrowly lanceolate, about 4-5 cm. long and 1 cm. broad, very variable from entire to remotely toothed or very deeply serrate-pinnatifid; corolla-tube 3 mm. long; style pubescent [8. brevituba](#)
- 9 Inflorescence continuous, spike-like; bracts and calyx-segments markedly pectinate-ciliate, linear; corolla about 1.5 cm. long; leaves linear, sometimes slightly dentate or even pinnatifid, up to 5 cm. long, with rod-like cystoliths on the upper surface [9. senegalensis](#)
Inflorescence not spike-like, the flowers in interrupted axillary clusters: **10**
- 10 Plants entirely glabrous except for a few occasional caducous bristles around the nodes and some cilia on the calyx-lobes; leaves linear-lanceolate, sessile, up to 6 cm. long and 8 mm. broad [10. pobeguini](#)
Plants pubescent to setose-pilose; leaves lanceolate or oblanceolate, petiolate up to 12 cm. long and 3 cm. broad: **11**
- 11 Calyx and bracts densely setose-ciliate with stiff white hairs: **12**
Calyx and bracts softly pilose (not markedly setose); flowers very few or several at each node: **13**
- 12 Flowers large, about 1.5 cm. long, few in each cluster [9. senegalensis](#)
Flowers smaller, numerous in each cluster; flower-clusters 1.5 cm. diam.; calyx-segments 5-6 mm. long; leaves linear, up to 5 cm. long, with rod-like cystoliths on the upper surface; fruit 8 mm. long [11. barbata](#)
- 13 Small spreading plants, much-branched; leaves up to 2.5 cm. long and 5 mm. broad, often remotely and obtusely toothed (not absolutely entire, as stated in F.T.A. 5: 35); corolla about 10 mm. long; calyx divided to a little below the middle, up to 9 mm. long [12. micrantha](#)
Stout erect plants, unbranched or little branched; leaves up to 7 cm. long and 2.5 cm. broad, always entire; corolla 1.2-2 cm. long; calyx divided nearly to base: **14**
- 14 Leaves and inflorescences softly and shortly pubescent: **15**
Leaves shortly setose-pilose only on the nerves beneath, oblanceolate, nervose, 4-8 cm. long, up to 3 cm. broad; bracts much shorter than the calyx-segments, the latter linear-filiform; corolla 2 cm. long [16. uliginosa](#)
- 15 Pubescence velvety, intermixed with longer hairs; leaves up to 12 cm. long and 2.5 cm. broad, rarely

heterophyllous, i.e. submerged leaves pinnatifid; calyx-segments obtuse; corolla about 2 cm. long .. [13. odora](#)

Pubescence not velvety, hairs more or less equal, small and rather stiff-bristly; leaves up to 4.5 cm. long and 8 mm. broad; calyx-segments acute; corolla 12-13 mm. long [14. chevalieri](#)

1. *Hygrophila abyssinica* (Hochst. ex Nees) T. Anders. in J. Linn. Soc. 7: 22 (1868); Heine in Kew Bull. 16: 174 (1962). *APD acc*

***Hemigraphis abyssinica* (Hochst. ex Nees) C. B. Cl.** in F.T.A. 5: 58 (1899); Morton in J. W. Afr. Sci. Assoc. 3: 175 (1957), partly (Morton 8830).

***Polyechma abyssinicum* Hochst. ex Nees** in DC. Prod. 11: 83 (1847).

(?) ***Synnema abyssinicum* (Hochst. ex Nees) Bremek.** in Verh. Ned. Akad. Wetensch., Afd. Natuurk., ser. 2, 41, 1: 136 (1944).

***Hemigraphis schweinfurthii* (S. Moore) C. B. Cl.** in F.T.A. 5: 58, partly (Schweinfurth 2708; 2799); Schnell in Mém. I.F.A.N. 18: 13 (1952).

***Cardanthera africana* var. *schweinfurthii* S. Moore** in J. Bot. 18: 7 (1880), partly (Schweinfurth 2708; 2799)

(?) ***Synnema schweinfurthii* (S. Moore) Bremek.** l.c. 141 (1944), partly (Schweinfurth 2708; 2799).

A very variable herb in large specimens up to 1 ft. tall, but mostly much smaller, glabrescent or hairy, with dense axillary clusters and small purplish-blue flowers; **in wet or muddy places.**

Ghana: Tumu (fl. & fr. Mar.) Morton GC 8830! **N. Nig.:** Jos waterworks Schnell 9622. Near Toto, Jos to Bauchi (fr. Apr.) Morton K402! **[Br.] Cam.:** Dikwa (fl. & fr. Mar.) McClintock 14!

Throughout tropical Africa.

[An extremely variable marsh-plant, described and treated under numerous names in the genera *Cardanthera*, *Hemigraphis*, *Hygrophila*, *Polyechma* and *Synnema*. Its systematic position is not yet satisfactorily elucidated, but it is certainly a member of Hygrophilinae, and not Strobilantheae; see Bremekamp in Acta Bot. Neerland. 4: 647 (1955). The synonymy as given above contains only the names (and corresponding synonyms) which have been used by previous authors for plants from the region of the F.W.T.A.; it may be completed by further studies on the African "Hemigraphis"-species.-H.H.]

2. *Hygrophila laevis* (Nees) Lindau in E. & P. Pflanzenfam. 4, 3B: 297 (1895); F.T.A. 5: 36; Benoist l.c. 332. *APD acc*

***Nomaphila laevis* Nees** in DC. Prod. 11: 85 (1847); T. Anders. in J. Linn. Soc. 7: 21 (1863); Berhaut Fl. Sen. 94.

***Kita laevis* (Nees) A. Chev.** in Rev. Bot. Appliq. 30: 266 (1950).

Erect herb about 1 ft. high, becoming woody at the base, rooting at the lower nodes, with pale mauve flowers; **beside streams.**

Sen.: Heudelot 197! Berhaut 1468. **Mali:** Kénieba (fl. & fr. Mar.) Roberty 17048! **Ghana:** base of Gambaga Scarp (Dec.) Morton A1377!

3. *Hygrophila stagnalis* Benoist in Mém. Soc. Bot. Fr. 2, 8: 277 (1917). *APD acc*

(?) ***Kita gracilis* A. Chev.** l.c. 267 (1950).

Low herb with long creeping stems rooting at the nodes; flowers pale mauve; **in temporarily dry river beds and marshy places.**

Guin.: Kollangui Chev. 12229! [(?) **Mali:** "in R. Bakoy, 30 km. W. of Kita" Chev. s.n. (1950)].

[*Kita gracilis* is "probably only an ecological form" of *H. laevis*, according to Chevalier l.c.]

4. *Hygrophila borellii* (Lindau) Heine in Kew Bull. 16: 176 (1962). *APD acc*

***Brillantaisia borellii* Lindau** in Engl. Bot. Jahrb. 33: 186 (1902).

***Synnema borellii* (Lindau) Benoist** in Bull. Soc. Bot. Fr. 60: 330 (1913).

***S. diffusum* J. K. Morton** in J. W. Afr. Sci. Assoc. 2: 67 (1956), as *diffusa*.

A prostrate, sometimes creeping plant, very bushy, rooting at the nodes and with ascending inflorescences; flowers violet with pale brownish tube; **in marshy grassland.**

Ghana: Nassia Swamp (fl. & fr. Dec.) Vigne FH 4672! Pong Tamale (Nov.) Akpabla 430! Bungari (fl. & fr. Dec.) Morton GC 25078! Nyankpala to Tamale (fl. & fr. Dec.) Morton GC 9936! Tamale (fl. & fr. Dec.) Morton GC 9846! Bimbila (fl. & fr. Dec.) Morton A1427! **Dah.:** Paonignan (fl. & fr. Nov.) Poisson 34!

5. *Hygrophila auriculata* (Schumach.) Heine l.c. 172 (1962), for full synonymy. *APD acc*

***Barleria auriculata* Schumach.** Beskr. Guin. Pl. 285 (1827).

Hygrophila longifolia (Linn.) Kurz (1870)-Berhaut Fl. Sén. 75, not of Nees (1847).

Asteracantha longifolia (Linn.) Nees (1832)-Robyns Fl. Sperm. Parc Nat. Alb. 2: 274 (1947).

Barleria longifolia Linn. (1759).

Hygrophila spinosa T. Anders. (1860)-F.T.A. 5: 31; Benoist in Bull. Soc. Bot. Fr. 60: 330; F.W.T.A., ed. 1, 2: 247; Chev. Bot. 492.

A stout erect herb of wet places, 2-3 ft. or up to 6 ft. or more, with 4-angled usually bristly stem, and bluish or purple flowers 1-1 1/4 in. long in dense whorls with about 6 strong spines.

Sen.: Heudelot 180! Berhaut 491. M'bidgem Chev. 2800. Matam Chev. 2807. **Gam.:** Boteler! Brown-Lester 15! Brooks 27! Genieri (fl. & fr. Feb.) Fox 62! Jarra East (fl. & fr. Nov.) Frith 262! **Mali:** Goumal (fl. & fr. Oct.) Davey 059! **Port. G.:** Buruntuma Esp. Santo 374. Sucujaque (Nov.) Esp. Santo 3145! Prabis, Bissau (fr. Feb.) Esp. Santo 1806! **Ghana:** Cape Coast Castle T. Vogel! Accra Irvine 682! Achimota F.R. (Apr.) Morton GC 6166! Amisano (Oct.) Andoh 5080! Babianiba (fl. & fr. Oct.) Howes 991! **Togo Rep.:** Lome Warnecke 227! **Dah.:** Zagnanado, Abbo Chev. 22962. Savé Chev. 23582. **N. Nig.:** Nupe Barter 773! Katagum Dalz. 1021 Kabba Parsons! Naraguta (May) Lely 30! Gajibo, Bornu (Nov.) Johnston N60! **S. Nig.:** Lagos Barton 64! Ikom Rosevear! **[Br.] Cam.:** Gurum, Vogel Peak area (fl. & fr. Nov.) Hepper 1253! Dikwa (Nov.) McClintock 15!

Widespread in the Old World tropics.

6. *Hygrophila niokoloensis* Berhaut in Bull. Soc. Bot. Fr. 101: 374 (1955); Fl. Sén. 92 (1954), French descr. only. *APD acc*

Erect or ascending herb about 1 ft. high, with fleshy stem only very slightly tinged purple; flowers pale blue-mauve with fine mauve striations and on the lower lip, and 2 white processes in throat, upper lip pale blue-mauve without noticeable striations, anthers beneath upper lip and same blue-mauve colour.

Sen.: Niokolo-Koba (fr. Jan.-Apr.) Berhaut 869! 4630! **N. Nig.:** Kagara, Minna Div. (Oct.) Hepper 981! Dogon Kurmi, Jemaa Dist. (fr. Nov.) Keay FHI 37232! Anara F.R., Zaria (fr. Nov.) Keay FHI 5472! 28122! Jos, 4,000 ft. (Oct.) Hepper 1014!

7. *Hygrophila africana* (T. Anders.) Heine l.c. 176 (1962). *APD acc*

Adenosma africana T. Anders. in J. Linn. Soc. 7: 21 (1863).

Cardanthera africana (T. Anders.) Benth. (1875).

C. africana var. *schweinfurthii* S. Moore in J. Bot. 18: 7 (1880), partly (Schweinfurth 2764).

Synnema africanum (T. Anders.) O. Ktze. Rev. Gen. Pl. 2: 500 (1891); Benoist l.c.; F.T.A. 5: 29; F.W.T.A., ed. 1, 2: 248.

Hemigraphis abyssinica of J. K. Morton in J. W. Afr. Sci. Assoc. 2: 177, partly (Morton A1297), not of (Hochst. ex Nees) T. Anders.

A branched herb of swamps with white 2-lipped flowers.

Mali: Kara (Dec.) Davey 191! Dogo (Apr.) Davey 564! Saredina (May) Davey 135 (heterophyllous)! **Ghana:** N. of Pusiga, Bawku (fr. Dec.) Morton A1297! **N. Nig.:** Jebba Barter 751! Sokoto (Nov.) Lely 117! **[Br.] Cam.:** Bama, Dikwa Div. (fl. & fr. Dec.) McClintock 82!

Also in Cameroun.

8. *Hygrophila brevituba* (Burkill) Heine l.c. 176 (1962). *APD acc*

Synnema brevitubum Burkill in F.T.A. 5: 30 (1899); Benoist l.c.; F.W.T.A., ed. 1, 2: 248.

Cardanthera parviflora Turrill in Kew Bull. 1914: 82.

C. breviflora (Burkill) Turrill l.c. (1914).

A branched hairy herb attaining 2-3 ft. in height; flowers white or yellow and heavily brown-veined; amongst grass in swamps.

iv. C.: Mankona to Marahoué (Jan.) de Wit 7967! Mankona (fl. & fr. Nov.) de Wilde 965! **Ghana:** Afram Plains (Dec.) Irvine 886! Atabubu (Dec.) Darko 368! Ejura (Dec.) Morton GC 9493! Salaga Krause! Krakye, Volta R. Krause! **N. Nig.:** Abinsi Dalz. 720! **[Br.] Cam.:** Daksami, Vogel Peak area (fl. & fr. Dec.) Hepper 1557!

9. *Hygrophila senegalensis* (Nees) T. Anders., in J. Linn. Soc. 7: 22 (1863); F.T.A. 5: 34; Benoist l.c. 332; Chev. Bot. 492; F.W.T.A., ed. 1, 2: 247, excl. syn.; Berhaut Fl. Sén. 91. *APD acc*

Physichilus senegalensis Nees in DC. Prod. 11: 81 (1847), incl. forma β macer Nees l.c. 82 (1847).

Herb, erect, branched, with 4-angled glabrous stems, spongy at the base when in damp ground, and the lower leaves become pinnatifid, like those of *Myriophyllum*, if submerged; flowers 3/4 in. long, violet-purple.

Sen.: Heudelot 139! Roger 32! Leprieur. Berhaut 601. Matam Chev. 2808. **Gam.:** Brown-Lester 212! Duke 15! **Mali:** Scaëtta 3275! Koulikoro Chev. 2790; 2791. Dogo (fl. & fr. Apr.) Davey 563! **Port. G.:** Bissoram (Nov.) Esp. Santo 2408! Peluba, Bissau (Dec.) Esp. Santo 7611! **Guin.:** Kindia (fl. & fr. May) Jac.-Fél. 1640! **S. L.:** Mamaka (Feb.) Glanville 165! Yomboro, Konta (fl. & fr. Apr.) Hepper 2653! **Iv. C.:** Séguéla to Mankono (Nov.) de Wilde 929! Seguela (Nov.) de Wilde 907! **Ghana:** Afram Plains (Dec.) Irvine 619! Sampa, 1,000 ft. (Dec.) Vigne FH 3489! Dormaa-Ahenkro (Dec.) Adams 3014! Nangodi (Dec.) Adams & Akpabla 4285! **N. Nig.:** Katagum Dist. Dalz. 103! Dabeti to Damaturu (fl. & fr. Nov.) Noble A18!

[Forms with pinnatifid leaves have been known since the original description of Nees (1847) (e.g. Leprieur 31), but there is no mention of those in F.T.A., F.W.T.A. etc.]

10. *Hygrophila pobeguinii* Benoist in Notulae Syst. 2: 339 (1913), and Bull. Soc. Bot. Fr. 60: 331; Chev. in Rev. Bot. Appliq. 30: 266 (1960). *APD acc*

Hygrophila vanderystii S. Moore in J. Bot. 58: 46 (1920).

Erect herb up to 1 ft. high, with crimson stems; flowers pale blue.

Mali: Bamako to Koulouba (fl. & fr. Dec.) Monod! Sotuba, Bamako (fl. & fr. Jan.) Raynal 5404! **Guin.:** Kouroussa (Nov.) Pobéguin 1108! **Port. G.:** Bissabanca, Bissau (fr. Jan.) Esp. Santo 1602! **N. Nig.:** Bukuru to Barakin Ladi (Nov.) Keay FHI 21442!

Also in **Ubangi-Shari, Congo** and in **E. Africa**.

11. *Hygrophila barbata* (Nees) T. Anders. in J. Linn. Soc. 7: 22 (1863); F.T.A. 6: 32; Benoist in Bull. Soc. Bot. Fr. 60: 332. *APD acc*

Physichilus barbatus Nees in DC. Prod. 11: 82 (1847).

Erect much-branched annual herb, with 4-angled, glabrous stems (sometimes slightly hairy on the nodes) and pink, occasionally white or magenta flowers; **in marshy places and rice fields**.

Sen.: Heudelot 573! **Mali:** Kita (Oct.) Jaeger 3339! **Port. G.:** Antula, Bissau (Nov.) Esp. Santo 1381! **Guin.:** Iles Tristao (fl. & fr. Nov.) Jac.-Fél. 7341! Friguiagbé Chillou 791! 1018! **S. L.:** Garrett! Talia (fr. Feb.) Thomas 8865! Bonti, near Samaia (fl. & fr. Dec.) Deighton 5963! Ruka (Dec.) Sc. Elliot 4329! Rowankiliboli (Nov.) Jordan 828! **Lib.:** Monrovia (Dec.) Baldwin 10493!

12. *Hygrophila micrantha* (Nees) T. Anders. l.c. 247: 22 (1863); F.T.A. 5: 35; Berhaut Fl. Sén. 91; Benoist l.c. 331. *APD acc*

Polyechma micranthum Nees in DC. Prod. 11: 83 (1847).

Hygrophila senegalensis of Hutch. & Dalz. F.W.T.A., ed. 1, 2: 247, partly, not of (Nees) T. Anders.

Hygrophila tumbuctuensis A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 4: 586 (1932).

Hygrophila chevalieri "Benoist MS ex A. Chev." in Rev. Bot. Appliq. 30: 265 (1950), partly (de Wailly 5356), not of Benoist (1917).

A small, much-branched spreading plant, up to 6-8 in. high, stems hispid; flowers pale bluish, 1-6 in false whorls in the leaf-axiis.

Sen.: Perrottet 32; 477. Dagama Leprieur. Niokolo-Koba Berhaut 539. Saouor Leprieur 5! **Mali:** Gao (fl. & fr. Mar.-Apr.) de Wailly 4676! 4995! 5356! Bourem to Bamba, Timbuktu Chev.! Diafarabé (Jan.) Davey 4101! Sotuba, Bamako (fl. & fr. Feb.) Raynal 5476!

13. *Hygrophila odora* (Nees) T. Anders. l.c. 22 (1863); F.T.A. 5: 33; Benoist l.c. 332; F.W.T.A., ed. 1, 2: 247, excl. syn. *APD acc*

Hygrophila acutisepala of Chev. Bot. 492, not of Burkill (as to Chev. 2793); Berhaut Fl. Sén. 265.

Polyechma odorum Nees in DC. Prod. 11: 83 (1847).

An aromatic viscid herb, up to 2-3 ft. high, woody at the base, with pink, purple-lilac (or sometimes white) flowers with a musk-like scent.

Sen.: Kountaour Berhaut 1338. **Port. G.:** Chitole, Salimbo (Feb.) Esp. Santo 2668! Corubal Cossita (May) Esp. Santo 1239! **Guin.:** Heudelot 807! Paroisse 5! Farmar 301! Chute du Tinkisso Pobéguin 985! Kolenté R. Chillou 1043! **S. L.:** Freetown Burbridge 505! Komoh country (fl. & fr. Mar.) Burbridge 504! Mofari Jau Sc. Elliot 4723! Deighton 4006! Njala (Jan.) Deighton 2960! **Lib.:** Kailahun (fl. & fr. Feb.) Bequaert 58! Baila (fr. May) Harley 1422!

14. *Hygrophila chevalieri* Benoist in Mém. Soc. Bot. Fr. 2, 8: 278 (1917); Chev. in rev. Bot. Appliq. 30:

265 (1950), partly (Chev. 637). *APD acc*

Dyschoriste perrottetii O. Ktze. "var." of Chev. Bot. 494.

Hygrophila acutisepala of Chev. Bot. 492 (Chev. 2793), not of Burkill (1899).

Hygrophila odora of F.W.T.A., ed. 1, 2: 247, partly, (Chev. 2793), not of T. Anders.

Very similar to the last, but in all its parts smaller and more slender, indument less dense, composed of subequal hairs, and flowers about half the size.

Sen.: Sédhiou to Tambanaba (Feb.) Chev. 2793! **Mali:** Niagalétoumanina Chev. 637!

[Note: Chevalier's description (1950) is based partly on characters of *H. micrantha* (Nees) T. Anders. (see under No. 10).]

15. *Hygrophila uliginosa* S. Moore in J. Bot. 18: 197 (1880); F.T.A. 5: 32; Chev. Bot. 493; F.W.T.A., ed. 1, 2: 608. *APD acc*

Hygrophila teuczii Lindau (1894); F.T.A. 5: 33; F.W.T.A., ed. 1, 2: 247.

Hygrophila sereti De Wild. (1910).

An erect herb up to 2 ft. high, with angled, hispid stems, becoming glabrescent, with mauve flowers about 3/4 in. long.

Togo Rep.: Büttner 329! **N. Nig.:** Panyam (fl. & fr. Sept.) Lely 726! Vom, 3,000-4,500 ft. (Apr.) Morton K339! Dent Young 196! 197!

Also in **Ubangi-Shari**, **Chad**, **Cameroun**, **Congo** and **Angola**.

2. RUELLIA

Linn.-F.T.A. 5: 44.

Stenochista Bremek. in Engl. Bot. Jahrb. 73: 147 (1943).

- 1 Calyx-lobes linear-subulate, about 5 mm. long; corolla 2-5 cm. long, the linear-cylindric portion up to 1 cm. long; leaves ovate-elliptic to lanceolate, sub-acute, 3-4 cm. long, 1-2 cm. broad, setulose-pubescent; stamens 4; anther-cells not spurred at the base; style pubescent, one style-arm suppressed; fruit 1-5 cm. long, club-shaped, glabrous *L. praetermissa*

Calyx-lobes filiform 6-7 mm. long; corolla about 5 cm. long, inflated in the upper third, the linear-cylindric portion 3 cm. long; leaves broadly ovate-lanceolate to elliptic, acutely acuminate, 5-10 cm. long, 2-5 cm. broad; stamens, style and fruit as above *2. togoensis*

1. *Ruellia praetermissa* Schweinf. ex Lindau in Engl. Bot. Jahrb. 20: 15 (1894); F.T.A. 5: 45; Chev. Etud. Fl. Afr. Centr. 1: 232 (1913); F. W. Andr. Fl. Sudan 3: 187 (1956). *APD acc*

Ruellia patula of F.T.A. 5: 45, partly (W. African specimens); of F.W.T.A., ed. 1, 2: 246, not of Jacq.

Ruellia patula Jacq. "forma" of Chev. Bot. 494; Berhaut Fl. Sén. 91.

A decumbent undershrub with white or blue-purple flowers, the corolla pubescent, outside, 1 in. or more long.

Sen.: Richard! Berhaut 1336. **Mali:** Gao (fl. & fr. Sept.) de Wailly 4766! **S. L.:** Brass! **Iv. C.:** Guidéko to Zozro (Oct.) Chev. 19072! Gaoloubéré to Soubré Chev. 17788! **Ghana:** Accra (Nov.) Brown! Achimota (fl. Sept., fr. July, Sept.) Akpabla 578! Morton A2! Accra Plains (July) Deighton 3386 Nungua (June) Rose Innes GC 30073! **Dah.:** Ouémé (Feb.) Gironcourt 239!

[Note: As the taxonomy of the genus *Ruellia* Linn. in Africa is still uncertain and much in need of a revision, this name for the plants concerned may be altered in future. The application of Jacquin's *R. patula* to the W. African specimens does not seem to be justified, and these specimens, named since C. B. Clarke's treatment of Acanthaceae for F.T.A. as "*Ruellia patula* Jacq.", are practically conspecific with *R. praetermissa* Lindau, a Sudan species, which has also been recorded from Middle Shari-H.H.]

2. *Ruellia togoensis* (Lindau) Heine in Kew Bull. 16 181 (1962). *APD acc*

Dischistocalyx togoensis Lindau in Engl. Bot. Jahrb. 33: 188 (1902); F.W.T.A., ed. 1, 2: 249.

Stenochista togoensis (Lindau) Bremek. in Engl. Bot. Jahrb. 73: 148 (1943).

Ruellia ardeicollis Benoist in Mém. Soc. Bot. Fr. 2, 8: 278 (1917); Chev. Bot. 494; F.W.T.A., ed. 1, 2: 246.

A slightly woody herb 1 ft. or more high, with white flowers about 2 in. long more or less like the last but with a longer tube.

iv. C.: Orodougou (June) Chev. 21816! Morénou (Nov.) Chev. 22436! **Ghana:** Agogo (Apr.) Adams 2635! Sunyani to Berekum (Dec.) Adams 2776! Koforidua, Begoro (Nov.) Morton A33! Ejura Scarp GC 9798! **Togo Rep.:** Lomé Warnecke 264!

3. EREMOMASTAX

Lindau in Engl. Bot. Jahrb. 20: 8 (1894).

Paulowilhelmia *Hochst.* in Flora 27, 1, Beil. 4 (after June 1844); F.T.A. 5: 52; F.W.T.A., ed. 1, 2: 246, not *Paulowilhelmia* *Hochst.* in Flora 27: 17 (Jan. 1844).

- 1 Coarse herb up to 2 m. high; leaves irregularly toothed or lobed, ovate, truncate or subcordate at the base, 5-13 cm. long, sparsely pubescent or nearly glabrous; petiole 2.5-6.5 cm. long; flowers blue, in lax divided subscorpioid cymes 2-7 cm. long; corolla-tube 2.5-3 cm. long, linear, lobes elliptic, 12 mm. long; capsule about 15 mm. long, usually 4-8-seeded [polysperma](#)

Eremomastax polysperma (*Benth.*) *Dandy* in F. W. Andr. Fl. Sudan 3: 174 (1956).

APD: *Synonym of Eremomastax speciosa* (*Hochst.*) *Cufod.*

Paulowilhelmia polysperma *Benth.* in Fl. Nigrit. 479 (1849); F.T.A. 5: 52; F.W.T.A., ed. 1, 2: 246; Chev. Bot. 494.

P. sclerochiton (*S. Moore*) *Lindau* (1893)-F.T.A. 5: 53; F.W.T.A., ed. 1, 2: 246.

P. pubescens *Lindau* in Mém. Soc. Bot. Fr. 2, 8: 49 (1907); Chev. Bot. 494.

Ruellia sclerochiton *S. Moore* (1880).

Paulowilhelmia togoensis *Lindau* (1893)-F.T.A. 5: 53.

A stout erect branched herb with long-petioled broad leaves and lilac or bluish-purple flowers 1 1/2-2 in. long with darker spots and streaks on the corolla-lobes.

Guin.: Scaëtta 3369! Timbo Caille in Hb. Chev. 14671! Diaguissa, 4,000 ft. (fl. & fr. Nov.) Jac.-Fél. 2078! Chev. 12920; 13468. Kindia Chev. 13120bis; 13224bis. Ditinn to Diaguissa Chev. 13843bis. **S. L.:** Winwood Reade! York Pass (fr. Dec.) Deighton 3334! Sugar Loaf Mt. (fr. Mar.) Dalz. 932! Sc. Elliot 3990b! 4024! Boge (Dec.) Marmo 121! **Lib.:** Kakatown Whyte! Totokwelli (Oct.) Linder 1296! Zuie (Nov.) Baldwin 10246a! **Ghana:** Aburi Hills (Nov.) Johnson 237! 446! Amedzofe (Mar.) Morton 6496! de Wit 614! Asuboi (fl. & fr. Nov.) Morton 8002! Kumasi (fl. & fr. Nov.) Vigne FH 4082! **Togo Rep.:** Sokodé-Basari Kersting 1721! Misahöhe Mildbr. 7234! Seggebach Büttner 342! **N. Nig.:** Jos Batten-Poole 142! Kogin Girl, Jos (Oct.) Wimbush 18! Hepper 1068! Vom, 4,000 ft. (fl. & fr. Oct.) Hepper 1152! **S. Nig.:** Ibadan (fr. Jan.) Meikle 976! Aboabam (Dec.) Keay FHI 28226! Cross R. (fl. & fr. Jan.) Johnston! Oban Talbot 10! **[Br.] Cam.:** Cam. Mt. Mann 1259! Buea, 3,000 ft. (Dec.) Maitland 136! Near Vogel Peak, Adamawa (Dec.) Hepper 1522!

Widespread in tropical Africa.

4. HETERADELPHIA

Lindau in Engl. Bot. Jahrb. 17: 108 (1893); Exell Cat. S. Tomé 261 (1944).

- 1 Subshrub or coarse herb up to 1 m. (?) high; leaves broadly obovate-acuminate, 10-13 cm. long and 4-5.5 cm. broad, cordate at the base, crenate, sparsely pubescent or nearly glabrous; petiole 3-4 cm. long; flowers in a dense compound inflorescence, composed of very many axillary 5-8-flowered cymes up to 4 cm. long; corolla-tube funnel-shaped, up to 3.5 cm. long, lobes more or less equal, 12 mm. long; capsule about 15 mm. long, 8-12-seeded [paulojaegeria](#)

Heteradelphla paulojaegeria *Heine* in Bull. I.F.A.N. 23: 1028 (1961). *APD acc*

An undershrub or coarse herb up to about 3 ft. high; flowers purplish-red.

Guin.: Forékaria, Faranah (fr. Jan.) Chev. 20521! Beyla (Oct.) Jac.-Fél. 2199! Banian to Bambaya (fl. & fr. Oct.) Jaeger 2103!

5. DISCHISTOCALYX

T. Anders. ex Benth.-F.T.A. 5: 60, as *Distichocalyx*; Bremekamp in Engl. Bot. Jahrb. 73: 134 (1943).

- 1 Leaves with 6-7 pairs of lateral nerves, narrowly obovate, acutely cuneate at base, acuminate, 10-15 cm. long, 3-7 cm. broad, with numerous short rod-like cystoliths on both surfaces; spikes few-flowered; bracts early deciduous; calyx-segments linear-oblongate, acute, 2 cm. long; corolla 6 cm. long; fruit 2 cm. long, narrow, glabrous [1. thunbergiiflorus](#)

Leaves with 10 pairs of lateral nerves, otherwise as above; bracts persistent, 2-5 cm. long; calyx-segments scarcely 1-5 cm. long [2. obanensis](#)

1. ***Dischistocalyx thunbergiiflorus* (T. Anders.) Benth. ex C.B.Cl.** in F.T.A. 5: 62 (1899); Bremekamp l.c. 135. *APD acc*

Ruellia thunbergiaeflora T. Anders. in J. Linn. Soc. 7: 24 (1863).

Dischistocalyx ruellioides S. Moore in Cat. Talb. b. 76 (1913).

A herbaceous undershrub several feet high, woody below, glabrous except on the young parts, with spikes of violet-purple flowers 1 1/2-2 in. long.

S. Nig.: Oban Talbot 1527! (Mar.) Richards 5142! Okarara, Calabar (fl. & fr. May) Ujor FHI 30824! Boshi-Okwangwo F.R., Ogoja (fl. & fr. May) Latilo FHI 30941! [**Br.**] **Cam.:** Mamfe to Bamenda (fl. & fr. Mar.) Richards 5234! **F. Po:** 1,300-2,000 ft. Mann 316! 1446!

2. ***Dischistocalyx obanensis* S. Moore** in Cat. Talb. 77 (1913). *APD acc*

An undershrub like the last with pale violet flowers.

S. Nig.: Oban Talbot 73! 1485!

[Note: *D. staudtii* Bremek. l.c. 141 (1943) (Staudt 875, Johann-Albrechtshöhe) may be conspecific with this species, but the taxonomic position could not be decided without seeing type material-H.H.]

6. ENDOSIPHON

T. Anders. ex Benth.-F.T.A. 5: 49.

- 1 Stems long-pilose; leaves anisophyllous, one sometimes very small, ovate to oblong-elliptic, acuminate, rounded and very unequal-sided at the base, 6-10 cm. long, 2-5-5 cm. broad, marked with linear cystoliths on both surfaces, thinly pilose on the nerves beneath; flowers solitary; pedicels up to 4 cm. long, pilose or pubescent; calyx-lobes slightly unequal, linear, 2-5-3 cm. long, 1-nerved, pilose; corolla-tube up to 5 cm. long, narrow, limb about 4 cm. diam., with rounded lobes; anthers 4, deep in the corolla-tube, linear; fruit linear, 2 cm. long, valves grooved in the middle [primuloides](#)

***Endosiphon primuloides* T. Anders. ex Benth.** in Benth. & Hook. f. Gen. Pl. 2: 1086 (1876); F.T.A. 5: 49; Chev. Bot. 496, incl. var. *hirsuta* Benoist ex A. Chev. (1920), name only.

APD: *Synonym of Ruellia primuloides* (T. Anderson ex Benth.) Heine

Endosiphon obliquus C. B. Cl. in F.T.A. 5: 50 (1899).

Herb or small half-woody undershrub in forest, 1-3 ft. high, clothed with multicellular hairs, with pale blue or lilac slender-tubular flowers with spreading limb.

S. L.: Damawulo, Tunkia (fr. Dec.) Deighton 3825! Gola Forest (Nov.) Deighton 370! **Lib.:** Monrovia Whyte! Gbanga Linder 388! Mt. Bili (fl. & fr. Dec.) Barker 1169! Bangee, Boporo Dist. (Nov.) Baldwin 10354! Vahon, Kolahun Dist. (Nov.) Baldwin 10209! **iv. C.:** Accrédiou Chev. 17069; 17117. Fort Binger Chev. 19522. Nékaougnié to Grabo Chev. 19594. Taté Chev. 19799. Yapo (Mar.) Roberty 15476! Abidjan (fl. & fr. Jan.) Leeuwenberg 2334! **Ghana:** Kibbi Hills (fr. Dec.) Johnson 262! Bompata (Dec.) Dalz. 151! Aniase (fr. Oct.) Fishlock 59! Amentia Irvine 546! **S. Nig.:** Oban Talbot 979! Budeng to Ndeokoro (Nov.) Rosevear C27! Afi River F.R., Ogoja (Dec.) Keay FHI 28190! 28237! Calabar (fr. Feb.) Onochie FHI 36324x! **F. Po:** (Nov., Dec.) Mann 571! Guinea 739!

Also in **Rio Muni** and **Gabon**.

[Very hairy forms occur in Ivory Coast (=var. *hirsuta* Benoist ex A. Chev.), but it is impossible to regard them as of any taxonomic value-H.H.]

7. ACANTHOPALE

C. B. Cl. in F.T.A. 5: 62 (1899); Bremekamp in Engl. Bot. Jahrb. 73: 142 (1943). *APD acc*

- 1 Plants up to 3 m. high, nearly glabrous; leaves very unequal in each pair, the larger obovate, long-acuminate, attenuated at base into the winged petiole, up to 20 cm. long and 8 cm. broad; racemes axillary, up to 5 cm. long, with about 4 flowers; corolla widely funnel-shaped, about 3 cm. long; calyx-lobes about 1 cm. long; filaments glabrescent [decempedalis](#)

Acanthopale decempedalis *C. B. Cl.* in F.T.A. 5: 63 (1899); Bremekamp l.c. 143, 148. *APD acc*

Acanthopale laxiflora (Lindau) *C. B. Cl.* in F.T.A. 5: 36 (1899), partly (Preuss 947); F.W.T.A., ed. 1, 2: 248, partly (Preuss 947).

Dischistocalyx laxiflorus Lindau in Engl. Bot. Jahrb. 20: 13 (1894), partly (Preuss 947).

Acanthopale cameronensis Bremek. l.c. 145 (1943).

A soft-wooded shrub with funnel-shaped white flowers.

S. Nig.: Obudu Plateau, 5,500 ft. (Aug.) Stone 65! 75! [**Br.**] **Cam.:** Buea Preuss 947! Mimbia (Mar.) Brenan 9365! 9367! Cam. Mt., 3 mls. W. of Mann's Spring (Dec.) Morton K859! Bamenda Ledermann 5845. Konga Mts. Ledermann 6029. Lakom, 6,000 ft. (fl. & fr. May) Maitland 1535!49 **F. Po:** 7,000 ft. Mann 2347! 3747! El Pico, 7,000 ft. (fr. Dec.) Boughey 117! Biao, 6,500 ft. (Sept.) Melville 464! Peak of St. Isabel, above Basilé, 3,600-4,400 ft. Mildbr. 6301.

8. WHITFIELDIA

Hook.-F.T.A. 5: 65.

- 1 Corolla-tube very slender, about 5 cm. long, elongated, abruptly expanded into the limb, indumentum variable, glabrescent or more or less pubescent; lobes oblong-elliptic, 2 cm. long; calyx-segments broadly linear, 3 cm. long; glandular-pilose; leaves more or less elliptic, long-acuminate, acutely cuneate at base, 6-18 cm. long, 3-6 cm. broad, minutely pustulate on the upper surface; bracts ovate, about 1.5 cm. long [1. elongata](#)
- Corolla-tube gradually expanded from the base, about 2-4 cm. long: [2](#)
- 2 Bracteoles broadly and obliquely obovate, about 0.8-1 cm. long; flowers rather few:..... [3](#)
- Bracteoles lanceolate to narrowly elliptic, 1-1.5 cm. long; flowers rather numerous; corolla 3 cm. long; leaves oblong-lanceolate to ovate-elliptic, acutely acuminate, acute at base, 10-18 cm. long, 3-7 cm. broad, glabrous; fruit 2 cm. long [4. colorata](#)
- 3 Corolla 3-3.5 cm. long; leaves oblong-lanceolate to ovate-elliptic, acutely acuminate, acute at base, 10-18 cm. long, 3-7 cm. broad, pubescent on the midrib beneath; fruit 2 cm. long [2. lateritia](#)
- Corolla 2 cm. long, very broad; inflorescence rather elongated; leaves as above, but midrib glabrous . [3. preussii](#)

1. **Whitfieldia elongata** (*P. Beauv.*) *De Wild. & Th. Dur.* in Bull. Soc. Bot. Belg. 38: 110 (1899); F.T.A. 5: 66. *APD acc*

Ruellia elongata *P. Beauv.* Fl. Oware 1: 45, t. 26 (1806).

Whitfieldia longifolia *T. Anders.* (1863)-F.T.A. 5: 66; F.W.T.A., ed. 1, 2: 248, incl. var. *perglabra* (*C. B. Cl.*) Hutch. & Dalz. (1931).

Whitfieldia perglabra *C. B. Cl.* in F.T.A. 5: 66 (1899).

Whitfieldia subviridis *C. B. Cl.* in F.T.A. 5: 66 (1899).

Nearly glabrous undershrub, erect, several feet high, or straggling and half-scandent, with pith in the stems, constricted nodes, and conspicuous white flowers 2-3 in. long, with petaloid calyx, in terminal panicles.

S. Nig.: Ikorodu, Lagos (Dec.) Onochie FHI 26694! Ilaro F.R., Abeokuta (Dec.) Onochie FHI 31888! Igbessa Millen 141! Ibazoo (Nov.) Thomas 2003! Oban Talbot 992! 2009! [**Br.**] **Cam.:** Kumba (Dec.) Binuyo & Daramola FHI 35074! **F. Po:** (Jan.) Barter 198! 2069! T. Vogel 187! 242! Mann 198!

Extends to **Angola**, **Sudan** and **Tanganyika**.

2. **Whitfieldia lateritia** *Hook.* in Bot. Mag. 71: t. 4155 (1845); F.T.A. 5: 67. *APD acc*

A forest undershrub about 10 ft. high, with red or salmon flowers 1-1 1/2 in. long in terminal pubescent racemes.

Guin.: Sérédou Bouquet! **S. L.:** Whitfield! Sc. Elliot 3976! Jagba Hill (Sept.) Melville & Hooker 631! Lumbaraya (Feb.) Sc. Elliot 4933! Kambui Hills South F.R. (Dec.) Small 860! Batkanu (Jan.) Deighton 2861! **Lib.:** Kakatown Whyte! Gbanga (Sept.) Linder 440! Gletown (July) Baldwin 6776! Tappita (Aug.) Baldwin 9031! Karamadhun (Nov.) Baldwin 10195! **iv. C.:** Tai (Mar.) Leeuwenberg 3030! Man (Nov.) de Wilde 847! Tai to Tabou (Aug.) Boughey GC 14916!

3. **Whitfieldia preussii** (Lindau) C. B. Cl. in F.T.A. 5: 67 (1899). *APD acc*

Stylarthropus preussii Lindau (1894)-E. & P. Pflanzenfam. 4, 3: 309, fig. 123, A, B, C (1895).

A nearly glabrous undershrub with yellow flowers scarcely 1 in. long in a terminal raceme.

[Br.] **Cam.:** Barombi (Sept.) Preuss 516!

Also in **Cameroon**.

4. **Whitfieldia colorata** C. B. Cl. ex Stapf in Johnston Lib. 2: 640 (1906). *APD acc*

A glabrous undershrub about 10 ft. high, with short dense panicles of bright red or reddish-purple flowers 1-13/4 in. long, the bracts turning brick-red.

S. L.: Pujehun (Feb.) Thomas 8451! 8663! Giewahun (Nov.) Deighton 363! Gola Forest (Mar.) Small 548! **Lib.:** Monrovia Whyte! Kakatown Whyte! Cooper 34! Farmington R. (Dec.) Bequaert 10! Dukwia R. (fr. Feb.) Cooper 152! Sinoe Basin Whyte! **iv. C.:** Béyo (Dec.) Leeuwenberg 2223! Niapidou (fl. & fr. Feb.) Leeuwenberg 2475! 2757!

9. PHAULOPSIS

Willd. Sp. Pl. 3: 342 (1800). Nom. cons., 'Phaylopsis'; corr. Spreng. Anleit. ed. 2, 1: 422 (1817); F.T.A. 5: 82.

- 1 Abaxial calyx-lobes broadly spatulate-ob lanceolate, adaxial ones asymmetric, oblong-falcate, black towards the base, their adjacent margins straight, very close together, both hispid-ciliate; inflorescence strobilate, short, sessile or subsessile, bracts ovate-orbicular, thin and reticulate, ciliate; leaves long-petiolate, ovate to ovate-lanceolate, up to 12 cm. long and 5 cm. broad, crenate except towards the base [1. falcisepala](#)
- Abaxial calyx-lobes linear or subulate-lanceolate, abaxial ones symmetric: **2**
- 2 Leaves small, at most about 5 cm. long and 2.5 cm. broad, rounded at apex; flower-clusters ellipsoid, not strobiliform; bracts ciliate with long rather stiff hairs [2. silvestris](#)
- Leaves much larger, acuminate, up to 10 cm. long and 4 cm. broad, shortly pubescent; flower-clusters strobiliform: **3**
- 3 Bracts ovate-orbicular, about 1 cm. long, always entire, long-ciliate, nervose; leaves up to 8 cm. long and 4 cm. broad; adaxial calyx-lobes narrowly linear-ligulate, about 5 mm. long, not dilated at the acute tip; corolla 7-10 mm. long [3. imbricata](#)
- Bracts suborbicular to ovate-lanceolate, 1.5-2 cm. long; leaves up to 10 cm. long and 3.5 cm. broad, in large specimens sometimes crenulate; adaxial calyx-lobes spatulate, up to 8 mm. long, dilated at the rounded tip; corolla up to 16 mm. long [4. barteri](#)

1. **Phaulopsis falcisepala** C. B. Cl. in F.T.A. 5: 84 (1899), as Phaylopsis; Berhaut Fl. Sén. 93; F. W. Andr. Fl. Sudan 3: 185; Aké Assi, Contrib. 1: 200.

APD: Synonym of Phaulopsis ciliata (Willd.) Hepper

Herb or weak undershrub up to 4 ft. high, erect or decumbent, with dense ovoid or short-cylindric spikes of small flowers red or white with purple markings.

Sen.: Berhaut 720. **Guin.:** Farmar 311! **S. L.:** Kumrabai (fl. & fr. Dec.-Jan.) Thomas 6792! 6798! 6833! Kenema (fl. & fr. Jan.) Thomas 7661! 7739! 7912! Senehun, Kamgai (Nov.) Cole 55! Gegbwema (Nov.) Deighton 400! **Lib.:** Boporo (Nov.) Baldwin 10381! Monrovia (Nov.) Barker 1458! Linder 1414! Kakatown (Sept.) Whyte! Peahtah (fr. Oct.) Linder 1103! **iv. C.:** Mankona (Nov.) de Wilde 967! Beoumi (Dec.) Lowe! **Ghana:** Amoma (fr. Jan.) Vigne FH 3550! Agogo (fr. Dec.) Irvine 581! Abetifi, Kwahu (fr. Dec.) Irvine 1656! Kibi (fl. & fr. Dec.) Morton GC 8122! Bamboi to Wenchi (Dec.) Adams & Akpabla GC 4505! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7226! **N. Nig.:** Ilorin Clarke 2! Nupe Barter 913 (partly)! Kontagora (fl. & fr. Nov.) Dalz. 186! Damisa, Zaria Prov. (Nov.) Keay & Onochie FHI 21658! Anara F.R., Zaria Prov. (Oct.) Keay FHI 20114! **S. Nig.:** Lagos Millson 127! Ilaro F.R. (Dec.) Onochie FHI 31897! Idanre (Jan.) Brenan & Jones 8702! 8725! Onitsha Olona (Oct.) Maitland 1842! **F. Po:** Bahia de Venus (Dec.) Guinea 294!

2. *Phaulopsis silvestris* (Lindau) Lindau in E. & P. Pflanzenfam. Nachtr. 2-4: 305 (1897).

APD: *Synonym of Phaulopsis angolana S. Moore*

Micranthus silvestris Lindau in Engl. Bot. Jahrb. 17: 107 (1893).

Micranthus microphyllus O. Ktze. Rev. Gen. Pl. 2: 493 (1891), name only.

Phayloopsis microphylla C. B. Cl. in F.T.A. 5: 85 (1899); F.W.T.A., ed. 1, 2: 249.

Habit of the last, with smaller leaves and looser flower-clusters.

Ghana: Assin-Yan-Kumasi Cummins 71! near Kumasi (Dec.) Morton A123! Kibi (Dec.) Morton GC 8121! Bosumkese F.R. (Dec.) Adams 2910! 5256! **S. Nig.**: Oban Talbot 994! Usonigbe F.R. (Nov.) Keay & Onochie FHI 21502! [**Br.**] **Cam.**: Buea, 3,000-4,000 ft. (Dec.) Maitland 121! Migeod 145! Mimba to Buea (Dec.) Akpabla GC 10523!

Also in **Cameroun** and **Gabon**.

["Phayloopsis microphylla T. Anders." is a MS name, quoted in synonymy by O. Kuntze (1891), and accepted for this species by C. B. Clarke in F.T.A. l.c. (1899).]

3. *Phaulopsis imbricata* (Forsk.) Sweet Hort. Brit., ed. 1, 327 (1827); Alston in Trimen, Handb. Fl. Ceylon 6, Suppl.: 226; Milne-Redhead in Mem. N.Y. Bot. Gard. 9: 22 (1954). *APD acc*

Ruellia imbricata Forsk. Fl. Aeg.-Arab. Descr. Pl. 113 (1775).

Aetheilema imbricata (Forsk.) R. Br. (1810).

Micranthus oppositifolius Wendl. (1798).

Phaulopsis oppositifolia (Wendl.) Lindau (1897)-Chev. Bot. 495.

Phayloopsis parviflora Willd. Sp. Pl. 3: 342 (1801); Bot. Mag. 50: t. 2433; F.T.A. 5: 83; Chev. Bot. 495; F.W.T.A., ed. 1, 2: 249; Berhaut FL. Sén. 93; Schnell in Mém. I.F.A.N. 22: 517 (1952); Aké Assi, Contrib. 1: 201.

Phaulopsis talbotii S. Moore in Cat. Talb. 78 (1913).

A more or less hairy and slightly viscid herb or small undershrub 1-2 ft. high, with small white or purplish flowers in ovoid or short-cylindric spikes.

Sen.: Heudelot 7! 8! 585! Leprieur! Berhaut 1201. Niayes Chev. 2802. **Gam.**: Brown-Lester 11! Genieri (fr. Feb.) Fox 70! **Mali**: Tabacco Chev. 140. Kita (Nov.) Jaeger 3613! **Port. G.**: Nhambanhana Esp. Santo 310. Pessubé (Dec.) Esp. Santo 1095! **S. L.**: Freetown (Dec.) Hagerup 763! Thomas 8036! 9628! 9760! Kumrabai (fl. & fr. Jan.) Thomas 6768! Gbinti, Dibia (fr. Feb.) Jordan 994! Musaia (Dec.) Deighton 4497! Mofari (Jan.) Sc. Elliot 4426! **Lib.**: Ganta (fl. & fr. Jan.) Harley 1060! **Iv. C.**: Abengourou Aké Assi IA 2666. Taï Miége & Aké Assi IA 2716. **S. Nig.**: Oban Talbot 977!

Also in **Ethiopia**, **E. Africa** and **Nyasaland**.

4. *Phaulopsis barteri* (T. Anders.) Lindau in E. & P. Pflanzenfam. Nachtr. 2-4: 305 (1897). *APD acc*

Phayloopsis barteri T. Anders. in J. Linn. Soc. 7: 27 (1862); F.T.A. 5: 86; F.W.T.A., ed. 1, 2: 249; Aké Assi, Contrib. 1: 200.

A weak undershrub 2-4 ft. high in woodland undergrowth etc., with white flowers 2/3 in. long, well exserted from the bracts, in dense strobilate spikes 1-3 in. long and 1 in. broad.

Mali: Kita Massif (Sept. -Oct.) Jaeger 62! 2466! **Port. G.**: Boma Esp. Santo 322. **S. L.**: Afzlius. Brown. Musaia (fl. & fr. Dec.) Deighton 4416! 4497! Bintumane Peak 3,200-5,400 ft. (fi. & fr. Jan.) T. S. Jones 126! 157! **Iv. C.**: Ourossantiakara (Nov.) Leeuwenberg 2001! Kouroumkourounga Forest, Séguela to Mankono (Nov.) de Wilde 953! Aké Assi 4599bis.

Ghana: Techiman (Dec.) Adams & Akpabla 4496! Banda Ravine, Wenchi (Dec.) Morton GC 25123! 25164! Gambaga Scarp (Dec.) Adams 2235! Dutukpene (Dec.) Adams GC 4539! Kintampo (Dec.) Morton A1171! Ejura Scarp (Jan.) Morton A1553! **Togo Rep.**: Baumann 364. Atakpame (Nov.) Mildbr. 7461! Bismarckburg (Nov.) Büttner 336! Kling 193! **N. Nig.**: Nupe Barter 913! Lokoja (Oct.) Parsons! Toro (Oct.) Lely 683! Damisa, Zaria Prov. (Jan.) Keay & Onochie FHI 21542! Jos (Oct.) Hepper 1097! 1180! **S. Nig.**: Onitsha Barter 845! Ikewette Plateau, Obudu Div. (Dec.) Savory & Keay FHI 25155! [**Br.**] **Cam.**: Gangumi, Gashaka Dist. (fl. & fr. Dec.) Latilo & Daramola FHI 28829! Bellel and Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1673! 1692! Vogel Peak, 4,000 ft., Adamawa (Nov.) Hepper 1343!

A tropical African highland species; also in Cameroun, Gabon, Congo, and tropical E. Africa.

[An intermediate between this and *P. falcisepala* C. B. Cl. is Adams & Akpabla 4496! (Ghana: Techiman); Jaeger's specimens from Kita Mts. are too young for certainty and may be intermediates too. Generally, the distinction between *P. falcisepala* and *P. barteri* is not always easy and *P. falcisepala* may be an infraspecific taxon of the latter.]

Retz. Phys. Saellsk. Handl. 1: 163 (1776), nom. cons.; F.T.A. 5: 8; Benoist in Notulae Syst. 2: 287 (1912-13), and 11: 144 (1944).

- 1 Petioles winged, 1-2 cm. long; leaves ovate-triangular, sagittate or hastate at base, 3.5-7 cm. long, 2.5-4.5 cm. broad, pubescent, entire or undulate-dentate; flowers axillary, solitary; pedicels up to 6 cm. long; bracteoles ovate, subcordate, about 2 cm. long; corolla-tube 2 cm. long, limb oblique, 1.5 cm. long; fruit 2.5 cm. long [1. *alata*](#)
 Petioles not winged; [2](#)
- 2 Climbing herbs: [3](#)
 Shrubs or woody climbers: [7](#)
- 3 Flowers 2-3 together between two sessile leaves on a peduncle-like branchlet; leaves very broadly ovate, cordate, acutely acuminate, 7-9 cm. long, up to 6 cm. broad, pubescent on the nerves beneath, repand-dentate; petiole up to 6 cm. long; bracteoles ovate-elliptic, mucronate, 2 cm. long; corolla 6 cm. long [2. *fasciculata*](#)
 Flowers solitary or sometimes (in No. 5) in a few-flowered axillary inflorescence up to 15 cm. long: [4](#)
- 4 Leaves entire, or at most undulate: [5](#)
 Leaves lobulate or lobed, widely cordate at base, lobes triangular, setose-pilose above; petiole slender; flowers solitary; pedicel up to 5 cm. long; bracteoles ovate, 2.5 cm. long, slightly setulose outside; calyx obsolete, truncate; corolla 8-10 cm. long, broadly tubular [6. *chrysops*](#)
- 5 Leaves lanceolate, sometimes with a tooth on each side at the base, rounded at the base, 4-10 cm. long, acute, minutely setulose; bracteoles lanceolate, 1.5 cm. long; corolla 2.5 cm. long; fruit 1.5 cm. long, pubescent [3. *laevis*](#)
 Leaves ovate or triangular: [6](#)
- 6 Leaves acutely mucronate, cordate at base, up to 6 cm. long and 4 cm. broad, glabrous; petiole pubescent; flowers solitary; bracteoles ovate-lanceolate, 1 cm. long; corolla 2 cm. long; fruit 1.5 cm. long, softly puberulous [4. *cynanchifolia*](#)
 Leaves gradually acuminate, rounded-subcordate at base, about 17 cm. long and 8 cm. broad, prominently trinerved at base, glabrous; petiole glabrous; bracteoles narrowly ovate, 1.5 cm. long, venose; calyx lobed; corolla-tube 4 cm. long [5. *togoensis*](#)
- 7 Bracteoles densely covered outside with very small stellate hairs, ovate, rounded at apex, 3 cm. long and 2.5 cm. broad; corolla hispid outside near base, about 7 cm. long; leaves broadly elliptic, acuminate, shortly cuneate at base, about 12 cm. long and 7 cm. broad, nearly glabrous [7. *rufescens*](#)
 Bracteoles glabrous: [8](#)
- 8 Calyx about 1 cm. long; leaves oblong to elliptic, acuminate, subacute at base, 10-15 cm. long, up to 8 cm. broad, glabrous, entire; bracteoles 2 cm. long; corolla 6-7 cm. long [8. *vogeliana*](#)
 Calyx at most 3 mm. long; leaves small, ovate to broadly lanceolate, acute, 3-4.5 cm. long, 1.5-2 cm. broad, subentire; bracteoles soon deciduous; corolla 6 cm. long [9. *erecta*](#)

1. **Thunbergia alata** *Boj. ex Sims* in Bot. Mag. 52: t. 2591 (1825); F.T.A. 5: 16; Milne-Redhead in Mem. N.Y. Bot. Gard. 9, 1: 19 (1954); Bremekamp in Verh. K. Nederl. Akad. Wetensch., Afd. Natuurk. sect. 2, 50: 41 (1955); Aké Assi, Contrib. 1: 202. *APD acc*

A softly pubescent herbaceous twiner, with pale to dark yellow flowers (sometimes white) usually red or dark purple in the throat.

S. L.: Reade! Freetown (Feb., Aug.) Johnston 59! Melville & Hooker 349! Regent (Dec.) Sc. Elliot 4141a! Njala (July) Deighton 455! **Lib.:** Sinoe Basin (fr. Jan.) Johnston! Monrovia (Kov.) Linder 1565! **IV. C.:** Abidjan Aké Assi IA 925! **N. Nig.:** (fr. Sept.) Lely P711!

A native of E. and S. Africa; frequently cultivated and often naturalized in all the warmer parts of the world.

This is the oldest name available within this aggregate species.

2. **Thunbergia fasciculata** *Lindau* in Engl. Bot. Jahrb. 17: 97 (1893); F.T.A. 5: 15. *APD acc*

APD: *Synonym of Thunbergia graminifolia De Wild.*

Climber with sparingly pilose stems; flowers completely hidden by two leaf-like sessile bracts until full-out, corolla yellow or purplish with yellowish tube.

S. Nig.: Aponmu, Ondo (Oct.) Keay FHI 16248! Awba Hills F.R. (Oct.) Jones FHI 7081! Etomi to British Obokum, Ogoja Prov. (Dec.) Keay FHI 28276! **[Br.] Cam.:** Bambili, Bamenda (Aug.) Ujor FHI 29983!

Also in **Congo**, **Uganda** and **Sudan**.

3. **Thunbergia laevis** *Nees* in Wallich Pl. As. Rar. 3: 77 (1832); Bremekamp l.c. 51. **APD acc**

Thunbergia fragrans var. *laevis* (*Nees*) *C. B. Cl.* in Hook. f., Fl. Brit. Ind. 4: 391 (1884).

Thunbergia fragrans of F.W.T.A., ed. 1, 2: 250 (1931), not strictly of Roxb. (1795).

A slender twiner, sparingly hairy with whitish flowers 1 1/3 in. long; cultivated and more or less naturalized.

S. L.: Lane-Poole 278! Freetown (May) Deighton 2689! Regent (Oct.) Jordan 948! Sc. Elliot 4141b!

A native of tropical Asia, now widespread in the tropics.

[The specimens cited, above have pubescent ovaries, but one gathering from Ghana (Achimota Morton GC 25399) has glabrous ovaries and therefore appears to be the true *T. fragrans* Roxb., also a tropical Asian plant.]

4. **Thunbergia cynanchifolia** *Benth.* in Fl. Nigrit. 475 (1849); F.T.A. 5: 20; Chev. Bot. 490. **APD acc**

A slender climbing plant, on trees, etc., with pure white flowers 3/4 in. long, the stems either glabrous or spreading-pilose.

Guin.: Mt. Ntigon, 3,100 ft., Chev. 20927. Oua, upper Cavally Chev. 21312! **S. L.:** Njala (Aug.) Deighton 5579! Musaia (Aug.) Jordan 493! (fr. Mar.) Deighton 5392! Segbwema (Dec.) Deighton 3464! Warantamba (Oct.) Small 377! **Lib.:** Firestone Plantations, Dukwai R., Monrovia (Oct.-Nov.) Cooper 10! Gbanga (Sept.) Linder 481! Firestone Cavalla R. Plantation, Maryland Co. (June) Baldwin 6021! **Iv. C.:** Tal Leeuwenberg 3033! Sago (fl. & fr. Mar.) Leeuwenberg 3096! **Ghana:** Aburi (Oct.) Brown 346! 375! Kwadaso (Dec.) Darko 646! New Tafo (Sept.) Lovi 3916! Amuni Vigne FH 1271 (partly)! Amedzofe (fl. & fr. June) Morton A3423! **S. Nig.:** Thomas 1146! Niger R. (= Quorra) T. Vogel 7! Eket Talbot 3016! Oban Talbot 988! **[Br.] Cam.:** Mamfe (Mar.) Morton GC 7141!

Also in **Cameroun**.

5. **Thunbergia togoensis** *Lindau* in Engl. Bot. Jahrb. 22: 112 (1895); F.T.A. 5: 22; Aké Assi, Contrib. 1: 205. **APD acc**

A glabrous climber with blue flowers 2 in. long.

Iv. C.: Adiopodoumé (cult., fr. Aug.) Aké Assi 271! 5571! **Ghana:** Amedzofe, 2,000 ft. (Jan., Mar., Apr.) Irvine 3361! Hall 1754! Morton GC 6503! A2204! **Togo Rep.:** Misahöhe, near Aundjowe-Avetime, 2,000 ft. (July) Baumann 74! **S. Nig.:** Olokemeji F.R. (fl. & fr. Aug., Sept.) Onochie FHI 40265! Chizea & Odukwe FHI33912! **[Br.] Cam.:** Aba-ajia, Wum Dist. (July) Uior FHI 30452!

Also in **Cameroun**.

6. **Thunbergia chrysops** *Hook.* Bot. Mag. 70: t. 4119 (1844); F.T.A. 5: 21; Chev. Bot. 490; F.W.T.A., ed. 1, 2: 250 and Aké Assi, Contrib. 1: 203, excl. syn. *T. talbotiae* S. Moore and Talbot 3394. **APD acc**

Thunbergia geraniifolia *Benth.* (1849)-F.T.A. 5: 21; Chev. Bot. 491.

Thunbergia subnymphaeifolia *Lindau* in Engl. Bot. Jahrb. 38: 67 (1905).

A slender climber, pilose on the young stems, glabrescent, with beautiful violet-purple flowers 3-4 in. long, with yellow throat. **Often cultivated as an ornamental.**

Guin.: Kouria Chev. 14972! Fouta Djallon Chev. 18247. **S. L.:** Don! Burbridge! Hill Station, Freetown (fl. A fr. Oct.) Deighton 2169! Makump (Sept.) Deighton 1288! Balima (Sept.) Deighton 3030! Rowalla (July) Thomas 1190! Bo Gardner 38! **Lib.:** (Nov.) Bunting 101! Kassa Ta (Sept.) Linder 823! **Iv. C.:** Oroumba Boca (Aug.) de Wit 7646! Bocher d'Issia (fl. & fr. Aug.) de Wilde 430! **Ghana:** Vigne FH 3121! Bou Vigne FH 1583! Kibbi Gould! Maliato to Tonogo Morton A3475! Mpraeso Scarp (ft. Nov.) Morton A2757! **Togo Rep.:** Kersting 585. **[Br.] Cam.:** Ikom to Mamfe (Dec.) Morton K674!

7. **Thunbergia rufescens** *Lindau* in Engl. Bot. Jahrb. 17: 96 (1893); F.T.A. 5: 10; F.W.T.A., ed. 1, 2: 250. **APD acc**

A climbing shrub about 20 ft. high, rusty-stellate-tomentose on the young parts with white flowers 21/2-3 in. long; fruit unknown; **in forest**.

S. Nig.: Akure F.R., Ondo (Oct., Nov.) Latilo & Edwin FHI 15282! Keay FHI 25477! Aiyetoro Owenna, Ondo (Nov.) Onochie FHI 34246! [**Br.**] **Cam.:** Barombi-ba-Mbu to Kake (Sept.) Preuss 432!

[This species has a quite abnormal position within the genus *Thunbergia*: it shows some striking similarities with the genus *Pseudocalyx* (entire leaves; bracteoles which are covered with rusty-brown stellate hairs outside; stellate hairs outside at the base of the corolla-tube). The floral characters, however, do not permit its inclusion in that genus; fruits are required. -H.H.]

8. *Thunbergia vogeliana* **Benth.** in Fl. Nigrit. 476 (1849); H. Ross in Neubert's Garten-Mag. 51: 57, t. 2 (1898); F.T.A 5: 10; Bremekamp l.c. 36 (1955). **APD acc**

Thunbergia kamerunensis **Lindau** in Engl. Bot. Jahrb. 17: 97 (1893).

A branching shrub, up to 15 ft. or more high, with flowers 2-3 in. long, pale or dark violet-purple with white tube. **Sometimes cultivated as an ornamental**.

Ghana: Anyaboui to Jaketi (cult. in Achimota) (Oct.) Morton A35! **S. Nig.:** Ohe, Benin (Dec.) Keay FHI 28303! Benin F.R. (Nov.) Obomanu FHI 26930! Iseneki, Benin (Apr.) Farquhar 199! Oban Talbot 387! [**Br.**] **Cam.:** Barombi (Aug., Sept.) Preuss 387! Njia FHI 8416! Bova, Kumba Olorunfemi FHI 30776! **F. Po:** (Nov.) T. Vogel 147! Mann 557! 558! Conception (Sept.) Melville 446!

[The specimens from Ghana and Benin Prov. have toothed leaves and pointed bracts.]

9. *Thunbergia erecta* (**Benth.**) **T. Anders.** in J. Linn. Soc. 7: 18 (1863); F.T.A. 6:12; Chev. Bot. 491; Bremekamp l.c. 37 (1955); Mangelot in Ic. Pl. Afr. I.F.A.N. 4: 96 (1957). **APD acc**

Meyenia erecta **Benth.** in Fl. Nigrit. 476 (1849); Bot. Mag. 83: t. 5013 (1857).

A branching shrub, up to 15 ft. or more high with flowers 2-3 in. long, pale or dark violet-purple with white tube; **often cultivated as an ornamental**.

Port.G.: Pobresa (fr. Feb.) Esp. Santo 28771 **Guin.:** Conakry Chev. 25685. **S.L.:** Sherboro Id. Sc. Elliot 5856! Njala (fr. Nov.) Deighton 4924! **Lib.:** Ganta (Sept.) Baldwin 9304! **Iv. C.:** Adiopodoumé (cult.) Aké Assi. Oellé (Sept.) Aké Assi. **Ghana:** Aburi Chev. 13830. **N. Nig.:** Sokoto (Nov.) Moiser 71! Mada Hills Hepburn! Vom (Oct.) Dent Young 203a! Hepper 1159a! **S. Nig.:** Lagos (Feb.) Millen 190! Okomu F.R., Benin (Sept., Dec.) Brenan 8511! Iriah FHI 23089! Akilla F.R., Ijebu (Oct.) Enwioglon FHI 37951! Owo Burton 2! Calabar Williams 54! [**Br.**] **Cam.:** Bamenda, 4,700 ft. (Feb.) Miyedod 499! Gangumi, Adamawa (Dec.) Latilo & Daramola FHI 28912!

Thunbergia grandiflora (**Roxb. ex Rottl.**) **Roxb.**

Is introduced and cultivated as an ornamental (for the taxonomy of this Asiatic species see Bremekamp l.c., pp. 46-49, 1966). *T. grandiflora* was found "in thick bush near Awa" S. Nigeria (Talbot 3394) and described as *T. talbotiae* by S. Moore in J. Bot. 62: 31 (1914). Talbot's plant was unfortunately considered by Hutch. A Dalz. (F.W.T.A., ed. 1, 2: 260) as conspecific with the indigenous *T. chrysops* Hook. and the name *T. talbotiae* S. Moore therefore wrongly added to the synonymy of *T. chrysops* Hook. (see above). *T. grandiflora* (Roxb. ex Rottl.) Roxb. is apparently naturalized in Calabar: "creeping over steep slopes of bluffs; white flower," 8 Feb. 1958, Stubbings 104! It seems probable that this gathering has a connection with Talbot's, which would mean that the species has been established in Calabar Prov. for about 50 years.

Thunbergia laurifolia **Lindl.**

Is introduced and cultivated as an ornamental (for the taxonomy of this Asiatic species see Bremekamp l.c., pp. 46-49, 1966).

11. MENDONCIA

Vell. ex Vand. Fl. Lusit. 43, t. 3, f. 22 (1788); Benoist in Bull. Mus. Hist. Nat. 31: 386 (1925), Notulæ Syst. 11: 139 (1944).

Monachochlamys **Bak.** (1883).

Afromendoncica **Gilg ex Lindau** (1893)-F.T.A. 5: 6; Turrill in Kew Bull. 1919: 407; F.W.T.A., ed. 1, 2: 250.

- 1 Plants entirely glabrous; leaves oblanceolate, acuminate, slightly cordate at base, up to 9 cm. long and 5-5 cm. broad, with about 3-4 pairs of lateral nerves; petioles up to 3 cm. long; flowers unknown; bracts purplish, broadly ovate cordate, up to 1-5 cm. long and broad, acuminate; fruit a pointed drupe about 8 mm. long (when dry), somewhat angled *lb. gilgiana* var. *tisserantii*

Plants hairy; leaves becoming glabrescent:**2**

- 2** Stems 4-angled, villous when young; leaves ovate-oblong, shortly acuminate, 5-8 cm. long, up to 4 cm. broad, pilose beneath, with 5-6 pairs of lateral nerves; petiole up to 3 cm. long; flowers axillary, fasciculate; pedicels about 2 cm. long; calyx short; corolla-tube 2 cm. long; anthers hairy at the base [1a. *gilgiana* var. *gilgiana*](#)

Stems terete, thinly pubescent at the bracts; leaves broadly elliptic, slightly pointed, rounded at base, 10-14 cm. long, 5-8 cm. broad, pilose on the 2-3 pairs of lateral nerves beneath; petiole 2 cm. long; pedicels 2 cm. long, thinly setose; bracteoles broadly ovate-elliptic, 3-nerved from the base, setose-pilose; calyx an undulate rim; corolla-tube 1-3 cm. long:**3**

- 3** Indumentum composed of ordinary hairs up to 3 mm. long and some small branched (but not stellate) hairs ...**2**.
[iodioides](#)

Indumentum composed exclusively of small stellate hairs; corolla white**3. *combretoides***

1. *Mendoncia gilgiana* (Lindau) Benoist in Bull. Soc. Bot. Fr. 85: 679 (1939); Notulae Syst. 11: 143(1943). *APD acc*

Afromendowia gilgiana Lindau (1894)-F.T.A. 5: 7; F.W.T.A., ed. 1, 2: 250.

Monachochlamys gilgiana (Lindau) S. Moore in J. Bot. 67: 227 (1929).

1a. *Mendoncia gilgiana* (Lindau) Benoist var. *gilgiana* *APD acc*

A slender twiner with white flowers 3/4 in. long enclosed in broad bracteoles in axillary clusters of 2-4.

[Br.] Cam.: Barombi Preuss 481!

Also in **Cameroun**.

1b. *Mendoncia gilgiana* (Lindau) Benoist var. *tisserantii* Benoist Bull. Soc. Bot. Fr. 85: 679 (1939); Aké Assi, Contrib. 1: 205.

APD: *Synonym of Mendoncia gilgiana* (Lindau) Benoist

Climber with purplish bracts, vegetative parts similar to *Calycobolus heudelotii* (Convolvulaceae) but with opposite leaves which are slightly cordate at the base.

Lib.: Nekabozu (fr. Oct.) Baldwin 9971! **Iv. C.:** Danane to N'Zo (fr. Aug.) Aké Assi IA 3271; 5424!

Also in **Ubangi-Shari** and **Congo**.

2. *Mendoncia iodioides* (S. Moore) Heine in Kew Bull. 16: 180 (1962).

APD: *Synonym of Mendoncia phytocrenoides* var. *ioides* (S. Moore) Heine

Afromendowia iodioides S. Moore in Cat. Talb. 74, 139 (1913); F.W.T.A., ed. 1, 2: 250.

Monachochlamys iodioides (S. Moore) S. Moore in J. Bot. 67: 227 (1929).

A climbing undershrub, sparsely rusty-hairy, with broad leaves and whitish flowers nearly 1 in. long few in axillary clusters.

S. Nig.: Oban Talbot 388!

3. *Mendoncia combretoides* (A. Chev.) Benoist in Notulae Syst. 11: 143 (1943). *APD acc*

Thunbergia combretoides A. Chev. Bot. 490 (1920); F.W.T.A., ed. 1, 2: 250.

A lofty woody climber with arm-thick stem having adventitious roots at the base, and white flowers in fascicles on the old wood.

Lib.: Gletown, Webo Dist. (July) Baldwin 6764! **Iv. C.:** Grabo (Aug.) Chev. 19745! 60 km. N. of Sassandra (Feb.) Leeuwenberg 2820! Nékaougnié to Grabo (Aug.) Chev. 19600! Banco Hallé 796!

[Note: *Thunbergia combretoides* A. Chev. (1920) is not only a name, as stated by Index Kewensis, by Hutchinson & Dalziel, and Benoist; it is accompanied by a short descriptive note which indicates very clearly the diagnostic characters.]

Schweinf.-F.T.A. 5: 54.

- 1 Stems glabrous; leaves very long-petiolate, ovate-triangular, cordate at base, 8-14 cm. long, 5.5-8.5 cm. broad, doubly and coarsely dentate, lateral nerves 6-7 pairs, sparingly pubescent, with very minute rod-like cystoliths on the upper surface; panicle lax, large, leafy, pubescent; bracteoles linear; calyx densely viscid-pilose; lobes linear; corolla 2-2.5 cm. long, subregular, glabrous, widely funnel-shaped; stamens 4; fruit beaked, pubescent [solmsii](#)

Mimulopsis solmsii *Schweinf.* in Verh. Zool.-Bot. Ges. Wien 18: 677 (1868); F.T.A. 5: 55; Milne-Redhead in Mem. N.Y. Bot. Gard. 9: 21 (1954). *APD acc*

Mimulopsis violacea *Lindau* (1893)-F.T.A. 5: 55; F.W.T.A., ed. 1, 2: 252.

A coarse herb or undershrub up to 12 ft. high, with 4-angled pithy stems and viscid-hairy inflorescence of lilac or pale violet flowers 1 in. long.

[Br.] Cam.: Buea, 3,000-7,800 ft. (fl. & fr. May) Preuss 814! 1056! Maitland 1314! Mann 1260! Mba Kokeka Mt., Bamenda (Jan.) Keay FHI 28403! Bambili, Bemenda (Aug.) Ujor FHI 29971! F. Po.: 7,000 ft. (fl. & fr. Mar.) Mann 2348! Moka 4,000-7,000 ft. (fl. Sept., fr. Dec.) Boughey 87! 158! 172! 194! Wrigley 565!

[A poor specimen from Sierra Leone (Bintumane Peak, 5,800 ft. (Jan.) T. S. Jones 105!) is doubtfully this species.]

13. SATANOCRATER

Schweinf.-F.T.A. 5: 68.

- 1 Young branches densely light-brownish pubescent; mature leaves subsessile, ovate-lanceolate, up to 10 cm. long and 4.5 cm. broad, glabrous, but with small sunken yellowish glands on both sides; flowers solitary, opposite in the leaf-axils; pedicels 5-8 mm. long, with two linear bracteoles up to 12 mm. long; calyx tubular, up to 3.5 cm. long; corolla large, tube about 4.5 cm. long, cylindric at the base for a length of about 2 cm., 4 mm. diam.; throat 10-12 cm. diam., with 5 rounded, subequal lobes; stamens 4, included, filaments sparsely pilose, anther-cells 2, mucous; ovary with 2 ovules in each cell; fruit oblong, up to 22 mm. long, glabrous, but covered with small yellowish scale-like glands; seeds discoid [berhautii](#)

Satanocrater berhautii *Benoist* in Bull. Soc. Bot. Fr. 99: 325 (1953); Berhaut Fl. Sén. 89.

APD: *Synonym of Satanocrater fellatensis Schweinf.*

Herb with axillary mauve foxglove like flowers up to 2 1/2 in. long.

Guin.: Koundara (fl. & fr. Jan.-Dec.) Berhaut 1863; 4157; 4158!

[Very close to *S. fellatensis* Schweinf. (1868) from Galabat and Somaliland, only differing in the much larger bracteoles, calyx-tubes and capsules-H.H.]

14. DYSCHORISTE

Nees-F.T.A. 5: 71.

- 1 Flowers (at least the lower ones) in stalked cymes; calyx glandular-pubescent, 1.5 cm. long, segments united to the middle, subulate-lanceolate; corolla 2.5 cm. long, softly pubescent; leaves oblanceolate, 3-4 cm. long, shortly pubescent on the nerves beneath [1. pedicellata](#)
- Flowers in axillary clusters or subsolitary: **2**
- 2 Flowers 1-2 in each leaf-axil, shortly pedicellate; calyx densely glandular-pubescent, 2 cm. long, segments united to the middle, subulate; corolla 3 cm. long; leaves oblanceolate, subacute, 4-7 cm. long, up to 2 cm. broad, minutely pubescent [2. heudelotiana](#)
- Flowers 3 or more in each leaf-axil, sessile or subsessile; calyx 6-8 mm. long, covered with cystoliths but not pubescent; lobes filiform-subulate; corolla about 8 mm. long; leaves oblanceolate, up to 10 cm. long and 1.5 cm. broad, glabrous; fruit 1 cm. long [3. perrottetii](#)

1. **Dyschoriste pedicellata** *C. B. Cl.* in F.T.A. 5: 75 (1899); Monod in Mém. I.F.A.N. 18: 13 (1952).

*APD: Synonym of Dyschoriste heudelotiana (Nees) Kuntze**Hygrophila chariensis* Lindau in Mém. Soc. Bot. Fr. 2, 8: 48 (1908).*Dyschoriste radicans* of F.W.T.A., ed. 1, 2: 252, partly (Lely 483, 548), not of Nees (1847).

A low shrublet, shortly pubescent, with pinkish or light purplish flowers 1 in. long.

Gam.: (July) Ozanne 8! **Mali:** Koumana (fl. & fr. Feb.) Chev. 367! **N. Nig.:** Naraguta (fl. & fr. Aug.) Lely 483! 548! Kogigiri, 4,100 ft., Jos (fl. & fr. Oct.) Hepper 1058! Zaria (fl. & fr. Oct.) Keay FHI 21419! Wusasa, Zaria (Aug.) Keay FHI 28029! Faskari, Katsina Prov. (fl. & fr. Nov.) Daggash FHI 35029!Also in **Ubangi-Shari**.**2. *Dyschoriste heudelotiana* (Nees) O. Ktze.** Rev. Gen. Pl. 2: 486 (1891); F.T.A. 5: 87; Berhaut Fl. Sén. 91, 95. *APD acc**Calophanes heudelotianus* Nees in DC. Prod. 11: 112 (1847).

Half-woody herb or undershrub, shortly pubescent, with purple flowers 1 in. long.

Sen.: Bondou Heudelot 18; 144! 190! Berhaut 807. Vodouli (Jan.) Roberty 16645! **Mali:** Kita (Dec.) Jaeger 3750!

(D. heudelotiana and D. pedicellata C. B. Cl. are doubtfully distinct and perhaps conspecific. -H.H.)

3. *Dyschoriste perrottetii* (Nees) O. Ktze. l.c. 486 (1891); F.T.A. 5: 72; Chev. Bot. 492; Berhaut Fl. Sén. 93; Aké Assi, Contrib. 1: 205.*APD: Synonym of Dyschoriste nagchana (Nees) Bennet**Calophanes perrottetii* Nees in DC. Prod. 11: 111 (1847).

Herb or undershrub, branched, 1-3 ft. high, woody below, sometimes decumbent and rooting at the lower nodes, with rather small flowers 1/2 in. long, pink or purplish or white with purple markings.

Sen.: Perrottet 28; 515. Lepreur. Roger 136! Berhaut 1543. **Port. G.:** Canjambarim (fl. & fr. Mar.) Esp. Santo 2439! **S. L.:** Musaia (Dec.) Deighton 4561! Sasseni (Jan.) Sc. Elliot 4534! Wallia (Jan.) Sc. Elliot 4634! Mano (Mar.) Thomas 10398! Njala (fr. Feb.) Deighton 1073! **Lib.:** Baila Harley 1421! **Iv. C.:** Tiassale (fl. & fr. Dec.) Leeuwenberg 2139! Adiopodoumé Aké Assi IA 5503! **Ghana:** Paliba (fr. Dec.) Adams & Akpabla 4112! Port Tamale (fr. Mar.) Morton GC 8768! Damongo (fr. Aug.) Harris! Akuse (fr. Apr.) Morton A3654! Kete Krachi (fr. Dec.) Adams 4591! **Togo Rep.:** Saumann 410! **N. Nig.:** Kwaki (fl. & fr. Nov.) Onochie & Keay FHI 21737! Borgu Barter 820! (fr. Feb.) Onyeagocha FHI 7631! Kontagora (fr. Dec.) Dalz. 210! Fodama (fl. & fr. Jan.) Moiser 182! **S. Nig.:** Lagos (Mar.) Millen 99! Ibadan to Abeokuta (fr. Mar.) Schlechter 13035! Ibadan (fl. & fr. Jan., Dec.) Umana FHI 26758! Oyo (fl. & fr. Feb.) Brenan 8962! **[Br.] Cam.:** Belo, 5,000 ft., Bamenda Newberry & Etim FHI 184! Gangumi to Garbabi, Adamawa (fl. & fr. Nov.) Latilo & Daramola FHI 28781!Extends to E. **Sudan** and **Ethiopia**.***Dyschoriste radicans* Nees** in DC. Prod. 11: 106 (1847); F.T.A. 5: 73.

Not recorded from our area, but perhaps overlooked; the citations in F.W.T.A., ed. 1, 2: 252 belong to D. pedicellata (Lely 483, 548). Chev. 367, cited also under D. radicans, in F.W.T.A., ed. 1, 2: 252, is a syntype of Hygrophila chariensis Lindau (1908).

15. PHYSACANTHUS**Benth.**-F.T.A. 5: 57; Rendle & Britten in J. Bot. 47: 377 (1909); N. Hallé in Adansonia, n. sér. 1: 343 (1962, dated 1961).

- 1 Corolla-lobes widely bilobed, about 7 mm. long; tube 3.5 cm. long, very slender, bent and pubescent towards apex; leaves elliptic, rounded at both ends, 3-5 cm. long, 2-2.5 cm. broad, thinly pilose above, pilose beneath mainly on the nerves; calyx 1.5 cm. long, straight-tubular, never inflated, striate-pilose with rather long hyaline hairs *I. nematosiphon*
- Corolla-lobes entire or nearly so: **2**
- 2 Leaves broadly elliptic, rounded at both ends, sometimes remotely and obtusely toothed, 3-5 cm. long, 2-3.5 cm. broad, otherwise as above; calyx up to 3.5 cm. long, slightly inflated, very shortly pubescent; corolla-tube up to

5 cm. long, villous at the mouth; lobes broadly obovate, 1-3 cm. long, 1 cm. broad [2. talbotii](#)

Leaves broadly oblanceolate, rounded at apex, narrowed at base, sometimes obtusely crenate, 8-14 cm; long, 3-5 cm. broad, thinly pilose on both surfaces; petiole 1 cm. long, densely pilose; flowers up to 4 in each inflorescence; calyx 2 cm. long, conspicuously inflated, pubescent with up to 2 mm. long hyaline hairs; corolla-tube 4 cm. long, bent and pubescent towards apex; lobes obovate, 1 cm. long [3. batanganus](#)

1. *Physacanthus nematosiphon* (Lindau) Rendle & Britten l.c. 378 (1909); Hallé l.c. 343. *APD acc*

Haselhoffia nematosiphon Lindau in Engl. Bot. Jahrb. 43: 351 (1909).

Physacanthus cylindricus C. B. Cl. in F.T.A. 5: 68 (1899), Hallé l.c. 345.

Haselhoffia cylindrica (C. B. Cl.) Lindau l.c. 352 (1909), partly (4 specimens of Mann 1669, Gabon).

Creeping herb rooting at the nodes, densely hairy, the leaves with few nerves prominent beneath, and usually solitary narrow-tubular white flowers 1 1/2 in. long.

Lib.: Gola Forest (June) Bunting! Firestone Plantations, Dukwai R. (Oct.-Nov.) Cooper 17! Duo, Sinoe Co. (Mar.) Baldwin 11353! Jabroke, Webo Dist. (July) Baldwin 6482! Zuie, Boporo Dist. (Nov.) Baldwin 10241a! **iv. C.:** Mt. Copé, Cavally Basin (July) Chev. 19670! Tiapleu Forest (Nov.) de Wilde 904!

Also in **Gabon**.

2. *Physacanthus talbotii* S. Moore in Cat. Talb. 75 (1913); Hallé l.c. 345. *APD acc*

A pubescent creeping herb like the last, with slender-tubed solitary flowers 2 in. long, blue-violet with darker throat.

S. Nig.: Oban Talbot 972! Stubbs Creek F.R., Eket (Jan.-May) Keay FHI 37718a! Onochie FHI 33170!

3. *Physacanthus batanganus* (G. Braun & K. Schum.) Lindau in Schlechter Westafr. Kautschuk-Exped. 315 (1900); Rendle & Britten in J. Bot. 47: 378 (1909), for full synonymy; Hallé l.c., t. 1, 6-8. *APD acc*

Ruellia batangana G. Braun & K. Schum. Mitt. Deutsch. Schutzgeb. 2: 173 (1889).

Physacanthus inflatus C. B. Cl. in F.T.A. 5: 57 (1899); F.W.T.A., ed. 1, 2: 253; Chev. Bot. 495.

Physacanthus cylindricus C. B. Cl. in Engl. Bot. Jahrb. 43: 352 (1909).

Haselhoffia cylindrica, (C. B. Cl.) Lindau in Engl. Bot. Jahrb. 43: 352 (1909), Hallé l.c. 345, partly (Mann 1670; 3 specimens of 1669, Gabon).

Stems half-woody, erect, 1-2 ft. high, the leaves sometimes marbled with white or purple-tinge, with white or pale blue-violet flowers.

Lib.: Bumbumi-Moala (Nov.) Linder 1340! Webo (June) Baldwin 6088! Diebla, Webo Dist. (July) Baldwin 6297! Duo, Sinoe (Mar.) Baldwin 11353a! Nana Kru Baldwin 11590! **iv. C.:** Mid. Sassandra to Mid. Cavally Chev. 19255bis. Kéeta Chev. 19373. Fort Binger to Toula Chev. 19540. Toula to Nékaougnié Chev. 19570. Mt. Copé Chev. 19691; 19705. **S. Nig.:** Eket Talbot 3301! Stubbs Creek F.R., Eket (Jan.) Keay FHI 37718b!

Also in **Cameroun** and **Gabon**.

16. BRILLANTAISIA

P. Beauv.*-F.T.A. 5: 37; Benoist in Bull. Soc. Bot. Fr. 60: 334 (1913). *APD acc

- 1** Lamina lanceolate, with ascending lateral nerves, gradually acuminate, acute at base, 7-10 cm. long, 1-2.5 cm. broad, with very numerous rod-like cystoliths beneath, serrulate; petiole about 1 cm. long; panicle small, few-flowered, about 10 cm. long; calyx-segments unequal, the longest 6 mm. long, glandular; corolla 2 cm. long [1. lancifolia](#)

Lamina more or less broadly ovate: **2**

- 2** Lamina entire or very obscurely crenulate: **3**

Lamina toothed, mostly cuneate at base into the winged petiole: **4**

- 3** Lamina rounded at base, variable in size, broadly ovate, acuminate, pilose on both surfaces, with conspicuous rod-like cystoliths on the upper surface; petiole not or only slightly winged, pilose; panicle lax; calyx-segments linear, 8-10 mm. long, with a few stipitate glands; corolla about 3 cm. long, the tube about 1/2 as long as the lips; fruit glabrous, linear, 3-3.5 cm. long, many-seeded [2. lamium](#)

Lamina broadly rounded-cuneate into the winged petiole, about 16 cm. long, 7-8 cm. broad, otherwise as above;

- inflorescence spike-like; calyx-segments filiform, plumose [3. madagascariensis](#)
- 4 Petiole very shortly or scarcely winged towards the apex, up to 10 cm. long; leaves broadly ovate, rounded to truncate at base, shortly acuminate, 5-15 cm. long, up to 10 cm. broad, very thin, with numerous rod-like cystoliths prominent on the upper surface, obtusely repand-dentate; panicle many-flowered; calyx-segments 1 cm. long, glandular-pubescent; corolla 2.5 cm. long; fruit 2 cm. long, very shortly pubescent [4. vogeliana](#)
- Petiole more or less winged in the upper half, the lamina cuneate at base: [5](#)
- 5 Lamina gradually narrowed into the petiole: [6](#)
- Lamina abruptly narrowed into the winged petiole, rounded or truncate at the base: [7](#)
- 6 Branches of inflorescence markedly zigzag; petiole winged to the base; calyx-segments linear-spathulate [5. patula](#)
- Branches of inflorescence dichotomous; petiole not winged to the base; calyx-segments subfiliform [6. owariensis](#)
- 7 Petiole broadly winged, long-pilose to nearly glabrous, wings dentate; leaves very broadly ovate, abruptly acuminate, truncate or cordate at base, about 15-18 cm. long and 12 cm. broad, coarsely serrate, pilose on both surfaces; calyx-segments about 1 cm. long; corolla 3-4 cm. long [7. nitens](#)
- Petiole not winged, tomentose, about 2.5 cm. long; leaves broadly ovate, broadly acuminate, rounded at base, obtusely dentate, 8-15 cm. long, 5-10 cm. broad, shortly setulose, especially on the nerves beneath; calyx-segments linear, densely glandular-pilose, up to 1.5 cm. long; corolla 4 cm. long [8. bauchiensis](#)

1. **Brillantaisia lancifolia** *Lindau* in Engl. Bot. Jahrb. 17: 98 (1893); F.T.A. 5: 40; Benoist l.c. 335. *APD acc*

Brillantaisia talbotti *S. Moore* in Cat. Talb. 75 (1913); F.W.T.A., ed. 1, 2: 254.

A rather scrambling or suberect herb, the stems soon glabrous, the inflorescence glandular-pubescent, with blue flowers 3/4 in. or more long.

S. Nig.: Oban Talbot 1270! 2000!

Also in **Gabon**.

2. **Brillantaisia lamium** (*Nees*) *Benth.* in Fl. Nigrit. 477 (1849); F.T.A. 5: 38; Benoist l.c. 334; Chev. Bot. 493; Exell Cat. S. Tomé 260; Monod in Mém. I.F.A.N. 18: 13 (1962). *APD acc*

Leucorhaphis lamium *Nees* in Prod. 11: 97 (1847).

A coarse herb, erect branched 2-4 ft. high, more or less pilose at first, with blue- or violet-purple flowers 1-1 1/4 in. long in a glandular-pubescent panicle; **in damp shady places**.

Guin.: Kouria Caille in Hb. Chev. 14713. Fouta Djallon Chev. 18365; 18397; 18697; 18848. **S. L.:** Mt. Aureole, Freetown (Mar., Aug.) Dalz. 994! Lane-Poole 392! Fiaama, Nomo (Oct.) Deighton 81! Njala (Oct.) Deighton 1419! Madina (Sept.) Adames 73! **Lib.:** Cape Palmas (fl. & fr. July) Ansell! Bakratown (Oct.) Linder 849! White Plains (fl. & fr. Sept.) Barker 1418! Harper (fl. & fr. June) Baldwin 5993! Browntown (Aug.) Baldwin 7070! **Iv. C.:** Bingerville Chev. 16056. Potou to Alépé Chev. 17379; 17403. Nékaougnié to Grabo Chev. 19592. Yapou (Oct.) Leeuwenberg 1808! Boka (fl. & fr. Aug.) Schnell 6513! **Ghana:** Burton & Cameron! Axim (Sept.) Morton! Assuantsi road (fl. & fr. Sept.) Dalz. 149! **Togo Rep.:** Misahöhe (fl. & fr. July) Baumann 67! **N. Nig.:** Naraguta (fl. & fr. July) Lely 469! Vom Dent Young 194! (fl. & fr. Oct.) Hepper 1151! Jos Monod 9619. **S. Nig.:** Okomu F.R., Benin (fl. & fr. Sept.) Iriah FHI 23095! Ibadan (Jan.) Meikle 953! Ilaro F.R. (fl. & fr. Sept.) W. MacGregor 333! Sapoba (fl. & fr. Nov.) Meikle 590! Obudu Plateau (Aug.) Stone 63! 86! Oban Talbot 981! **[Br.] Cam.:** Mungo Ndaw, Kumba Div. (fl. & fr. Oct.) Dundas FHI 15323! Bamenda (June) Maitland 1619!

Also in **Cameroun**, **Congo** and **Uganda**.

3. **Brillantaisia madagascariensis** *T. Anders. ex Lindau* in Engl. Bot. Jahrb. 17: 103 (1893); F.T.A. 6: 43; Benoist l.c. 334; Chev. Bot. 493. *APD acc*

APD: *Synonym of Brillantaisia verruculosa Lindau*

Brillantaisia verruculosa *Lindau* l.c. 22; 113 (1895); F.T.A. 6: 43; Benoist l.c. 334.

Like the last but in W. Africa usually with whitish flowers 1-1 1/4 in. long in a spike with glandular hairs.

Guin.: Timbikounda (fl. & fr. Jan.) Chev. 20607! **F. Po:** El Pico, 4,300 ft. (Dec.) Boughey 170! Moka, 4,600 ft. (Sept.) Wrigley 643!

Also in **E. Africa** and **Madagascar**.

4. **Brillantaisia vogeliana** (*Nees*) *Benth.* in Fl. Nigrit. 477 (1849); F.T.A. 5: 40; Benoist l.c. 335; Exell Cat. S. Tomé 260. *APD acc*

Leucorhaphis vogeliana *Nees* in DC. Prod. 11: 97 (1847).

Brillantaisia preussii *Lindau* in Engl. Bot. Jahrb. 17: 100 (1893).

Habit of the last and with similar violet-purple flowers about 1 in. long.

Ghana: Begoro (Nov.) Morton A36! Kibi (fl. & fr. Dec.) Morton GC 8123! **S. Nig.:** Oban Talbot! [**Br.**] **Cam.:** Victoria (fl. & fr. Oct.) Maitland 757! Buea, 3,000 ft. (fl. & fr. Sept., fr. Oct.) Preuss 998! Maitland 1101 Barombi (fl. & fr. June) Preuss 320! **F. Po:** (fl. & fr. Nov.) T. Vogel 179! Mann 36! Monte Balea (fl. & fr. Dec.) Guinea 482! Moka, 4,000 ft. (fl. & fr. Dec.) Boughey 7!

Also in **Cameroun** and **S. Tomé**.

5. **Brillantaisia patula** *T. Anders.* in J. Linn. Soc. 7: 21 (1863); F.T.A. 5: 41; Benoist l.c. 335; Exell Cat. S. Tomé 260; Monod l.c. (1952). *APD acc*

A stout plant up to 6-10 ft. high, sometimes several inches in circumference at base of stem, with comparatively large violet-purple flowers, the upper lip yellowish and purple-spotted.

Togo Rep.: Kersting A108! **N. Nig.:** Yates 35! Lokoja (Mar.) Shaw 26! Jos, 3,600-4,000 ft. (Oct., Dec.) Lamb 66! Hepper 1094! Pedong Monod 9620. **S. Nig.:** Lagos (cult.) Dalz. 1136! [**Br.**] **Cam.:** Jamtari, Gashaka Dist. (fl. & fr. Dec.) Latilo & Daramola FHI 28926!

Also in **Cameroun**; extending to **Angola** and **Uganda**.

6. **Brillantaisia owariensis** *P. Beauv.* Fl. Oware. 2: 68, t. 100 (1818); F.T.A. 5: 40; Benoist l.c. 335. *APD acc*

Erect up to 10-12 ft. high, stems glandular-pubescent at first, later glabrous, with purple flowers 1-1 1/2 in. long.

S. Nig.: Awka Thomas 102! 114! Umuahia (Dec.) Carpenter 312! Ibadan to Lagos (fl. & fr. Jan.) Hamblen 106! below Koloishe Mt., Ogoja Prov. (Dec.) Savory & Keay FHI 25056! [**Br.**] **Cam.:** Cam. Mt. (Dec., Jan.) Mann 1959! Dunlap 25! Buea, 3,000-3,800 ft. (Feb.) Dalz. 8186! (fl. & fr. Jan.) Maitland 199! 207! Preuss 600! Hutch. & Metcalfe 122! Maisamari, 4,600 ft., Mambila Plateau (fl. & fr. Jan.) Hepper 1651! Vogel Peak, 3,850 ft., Adamawa (fl. & fr. Nov.) Hepper 1332!

7. **Brillantaisia nitens** *Lindau* in Engl. Bot. Jahrb. 17: 102 (1893); F.T.A. 5: 41; Benoist l.c. 336.

APD: *Synonym of Brillantaisia owariensis P. Beauv.*

Brillantaisia salviiflora *Lindau* l.c. 101 (1893); F.T.A. 5: 41.

Brillantaisia leonensis *Burkill* in F.T.A. 5: 41 (1899); Benoist l.c. 335; Chev. Bot. 493; F.W.T.A., ed. 1, 2: 254; Aké Assi, Contrib. 1: 206.

Stems up to 9 ft. high, glandular-pubescent becoming glabrous, with blue-purple flowers 1 1/2-2 in. long.

Guin.: Kindia Chev. 13362. Ditinn Chev. 13557. Forekaria Chev. 20526. **S. L.:** Regent to Sugar Loaf Mt. (Dec.) Sc. Elliot 3990a! Winwood Reade! Bandajuma Burbridge 473! Gegbwema (Nov.) Deighton 356! Nyago (Jan.) Smythe 240! **Lib.:** Karmadhun (fl. & fr. Nov.) Baldwin 10182! Genna Tanyehun (Dec.) Baldwin 10778! Bilipia (Dec.) Harley 1631! **Iv. C.:** Morenou Chev. B22421. Man to Danane (Nov.) de Wilde 850! 859! Mt. Tonkui, 1,500 ft., Danane (fl. Nov., fr. Mar.) Aké Assi 5502! Leeuwenberg 2948! **Ghana:** Oda (Oct.) Fishlock 55! Koforidua (Nov.) Dalz. 148! Adankrono (Aug.) Chipp 560! Assin-Yan-Kumasi (fl. & fr. Jan.) Cummins 245! Manso (fl. & fr. Aug.) Howes 957! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7353! **S. Nig.:** Ogwashi (Nov.) Thomas 2034! Benin Dennett 34! Mamu F.R., Onitsha (Jan.) Burt B16! Iso Bendiga to Bendiga Afi, Ogoja (fl. & fr. Dec.) Keay FHI 28264! Oban Talbot 993! [**Br.**] **Cam.:** Buea, 6,000 ft. (Dec., Feb.) Preuss 847! Deistel 106! Mayuko (Feb.) Dalz. 8233! Mbalanga F.R. (Jan.) Binuyo & Daramola FHI 35484! Bamenda, 6,700 ft. (fl. & fr. Jan.) Daramola FHI 40574!

Also in **Cameroun**.

8. **Brillantaisia bauchiensis** *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 254 (1931); Monod in Mém. I.F.A.N. 18: 13 (1952). *APD acc*

(?) *B. fulva* Lindau in Engl. Bot. Jahrb. 24: 313 (1897).

Herbaceous perennial up to 6-8 ft. high, densely tomentose and glandular-pubescent, with blue purple flowers nearly 2 in. long.

N. Nig.: Vom (fl. & fr. Feb.) Dent Young 195! McClintock 222! Jos Plateau (fl. & fr. Jan.) Lely P129! Batten-Poole 209! Ropp (Dec.) MacGregor 402! [**Br.**] **Cam.:** Bamenda, 4,000-6,000 ft. (fl. & fr. Jan.) Migeod 359! Keay FHI 28347! Kumbo (Feb.) Hepper 1972! Mandanga, Mambila Plateau (fr. Jan.) Latilo & Daramola FHI 28992!

[A species of doubtful position, but at the present not identifiable with another described taxon. Most likely only a highland form of *B. owariensis*. If it should prove to be specifically distinct and found to be conspecific with *B. fulva* (1897) from Cameroun the latter name would have priority over *B. bauchiensis* (1931). *B. fulva*, an inadequately described species based on fragmentary material, was not accounted for in F.T.A. (1899) and the type was not available for this revision.-H.H.]

17. LANKESTERIA

Lindl.-F.T.A. 5: 69.

- 1 Bracts ovate: 2
- Bracts linear, densely ciliate and glandular: 4
- 2 Calyx 5 mm. long, not visible in the spike; bracts nervose, 2-3 cm. long; leaves obovate-oblongate, acuminate, 10-20 cm. long, 4-7 cm. broad, with small hair-like cystoliths conspicuous on the upper surface: 3
- Calyx over 1 cm. long, conspicuous amongst the bracts; bracts as above, but more obovate; leaves more or less as above; corolla-tube about 2.5 cm. long, shortly pilose [3. *barteri*](#)
- 3 Corolla-tube about 3.5-5 cm. long, slender, shortly pubescent; bracts glabrous except the margin [1. *elegans*](#)
- Corolla-tube 1.5-3 cm. long; bracts pubescent [2. *brevior*](#)
- 4 Inflorescence spicate, longer than broad; branchlets densely pilose; leaves obovate-oblongate, 7-12 cm. long, 3-5 cm. broad, hardly acuminate, narrowed from well above middle to the base, with small hair-like cystoliths on the upper surface; calyx-segments 1.5 cm. long; corolla a little longer than the calyx [4. *thyrsoides*](#)
- Inflorescence depressed-globose; branchlets, leaves, etc., as above, but leaves acuminate; calyx-segments 2 cm. long; corolla considerably longer than the calyx; fruit 1 cm. long, glabrous [5. *hispidula*](#)

1. *Lankesteria elegans* (P. Beauv.) T. Anders. in J. Linn. Soc. 7: 33 (1863), partly (excl. Barter 3381); F.T.A. 5: 70; F.W.T.A., ed. 1, 2: 255, partly (excl. Chev. Bot. 495 and Iv. C. specimens); Mangenot in Ic. Pl. Afr. I.F.A.N. 4: 87 (1957). *APD acc*

Justicia elegans P. Beauv. Fl. Oware. 1: 84, t. 50 (1806).

Undershrub up to 4 ft. high, in [forest undergrowth](#) etc., with spikes 2-7 in. long of orange- or pinkish-tinged slender tubular flowers 1 1/2 in. long enclosed in broad smooth but ciliate bracts.

S. L.: Kambui F.R. (fl. & fr. Feb.) Lane-Poole 339! Kingohun (Jan.) Deighton 3866! **Lib.:** Ganta (Feb.) Harley 877! **Iv. C.:** Sassandra (Jan.) Leeuwenberg 2867! Biguale to Gouané (May) Chev. 21507! Tingouéla to Assikasso Chev. 22573! **Ghana:** Wiawso (Dec.) Andoh 5606! Bechema (Jan.) Foggie FH 4443! Bosumkese F.R. (Dec.) Adams 2884! Mampong Scarp (Jan.) Morton A1538! **Dah.:** Sakété (Jan.) Chev. 22810! **S. Nig.:** Lagos (Jan.-Apr.) Millen 103! 120! Moloney 6! Rowland! Okomu F.R., Benin (Dec.) Brenan 8515! Amahor F. R. (fl. & fr. Feb.) Ongunseitan FHI 41704! Sapoba (Jan.-Mar.) Kennedy 542! Shasha F.R., Ife (Dec.) Omiyale FHI 44061! [**Br.**] **Cam.:** R. Kindong, S. Bakundu (Jan.) Binuyo & Daramola FHI 35061! Mamfe (Dec.-Feb.) Keay FHI 28319! Maitland 1155! Hepper 2210!

Extends to Congo, S. E. [Sudan](#) and [Uganda](#).

2. *Lankesteria brevior* C. B. Cl. in J. Linn. Soc. 37: 110 (1905); Aké Assi, Contrib. 1: 207. *APD acc*

Lankesteria elegans of Chev. Bot. 495 (Chev. 16567bis, 16646, 19964), not of (P. Beauv.) T. Anders.

Habit of the last but flowers pure white with yellow throat, corolla-tube usually considerably shorter, and bracts smaller, pubescent and often turning bronze-tinged when old.

S. L.: Blama (Dec.) Deighton 312! Kpaku (Apr.) Deighton 1609! Fairo (Mar.) Deighton 4095! Gardohun Deighton 1596! Gorahun (Feb.-Mar.) Maitland 467! 473! Gola Forest (Dec.) King 83b! **Lib.:** Monrovia Dinklage 2917! 2955! Whyte! Firestone Plantation, Du R. (Dec.) Bequaert 3! Dukwia R. (fl. & fr. Feb.) Cooper 160! Kakatown Whyte! Robertsport Baldwin 10926! **Iv. C.:** Bouroukrou (Dec.) Chev. 16567bis! 16646! Tabou to Bériby Chev. 19964! Banco (July) de Wit 7096! 7761! Téke (Aug.) de Wit 7097! Mangenot & Aké Assi IA 108! Sassandra (Jan., Aug.) Leeuwenberg 2521! de Wilde

346! Angédédou, Abidjan (Nov.) Leeuwenberg 1861! **Ghana:** Wiawso (Dec.) Andoh FH 5603! Akim (Dec.) Johnson 261! Irvine 1816! Bompata (Dec.) Dalz. 150! Kumasi (Feb.) Vigne FH 1883! Akota (Dec.) Darko 1064! **[Br.] Cam.:** Tiko (Jan.) Dunlap 173! Johann-Albrechtshöhe (=Kumba) Staudt 538! S. Bakundu F.R., Kumba (Jan.) Keay FHI 28561!

3. **Lankesteria barteri** *Hook. f.* Bot. Mag. 91: t. 5533 (1865); F.T.A. 5: 70. *APD acc*

Undershrub 2-4 ft. high, pubescent, with slender tubular flowers 1 1/2 in. long, turning deep orange or reddish, in dense spike-like panicles 2-4 in. long.

S. Nig.: Abeokuta Barter 3381! W. of Okomu F.R. (Feb.) Lomax FHI 9055! Benin (Feb.) Jones FHI 9197! Benin to Agbor (Jan.) Keay FHI 37355! Calabar (Feb., Mar.) Mann 2313! Latilo FHI 41324! **[Br.] Cam.:** Bafia, Victoria (Feb.) Keay FHI 37519!

Also in **Cameroun**.

4. **Lankesteria thyrsoides** *S. Moore* in Cat. Talb. 77 (1913). *APD acc*

A hairy undershrub, 1 ft. or more high, with slender flowers 1-1 1/4 in. long, white, lilac or pinkish with yellow throat in a dense glandular-hairy narrow panicle; **in forest**.

S. Nig.: Ibadan South F.R. (Jan.) Keay FHI 19805! Mamu F.R. (Jan.) Burt 13! Orem, Calabar (Jan.) Onochie & Okafor FHI 36024! Oban Talbot 1646! Richards 5192! Cross R. (Dec.) Holland 229! **[Br.] Cam.:** Mamfe (Jan.) Maitland 1151!

5. **Lankesteria hispida** (*Willd.*) *T. Anders.* in J. Linn. Soc. 7: 32 (1863); Schnell in Mém. I.F.A.N. 22: 517; Aké Assi, Contrib. 1: 207. *APD acc*

Justicia hispida *Willd.* Sp. Pl., ed. 2, 1: 84 (1797).

Lankesteria parviflora *Lindl.* in Bot. Reg. 31, Misc. 86 (1845) and 32: t. 12 (1846); F.T.A. 5: 70; Chev. Bot. 495.

Pubescent undershrub 1-2 ft. high (sometimes decumbent) in **forest undergrowth**, with slender tubular flowers 1 1/4 in. long, lemon-yellow or pure white, but turning yellow, in dense heads.

Guin.: Conakry Maclaud! Kotonou Paroisse 68! Yogoronia Pobéguin 922! Nzérékoré (fl. & fr. Jan.) Schnell 4213! Kindia Chev. 13093. **S. L.:** Leicester (May) Barter! York Pass Deighton 3487! Kessewe (Feb.) MacDonald 2! Free-town (Mar.) Dalz. 972! Walla, Benna (Jan.) Sc. Elliot 4452! **Lib.:** (Jan.) Dinklage 33401! Belefani (Dec.) Baldwin 10553! Betandu (Mar.) Bequaert 149! Ganta (Feb.-Apr.) Harley 528! 868! **Iv. C.:** Danané to Tulépleu Aké Assi IA 4729. Also in Cameroun.

18. SCLEROCHITON

Harvey-F.T.A. 5: 109.

- 1 Calyx-segments subequal, one much broader than the other, broadly lanceolate, about 4 cm. long and 1.3 cm. broad, many-nerved, obtuse, the others very acutely pointed; fruit 2.5 cm. long; leaves oblong-elliptic, broadly acuminate, 15-20 cm. long, 5-8 cm. broad, very thin, glabrous [1. preussii](#)

Calyx-segments subequal in length, one somewhat broader, narrowly subulate-lanceolate, 2.5 cm. long; fruit 1.5 cm. long; leaves ovate to lanceolate, broadly acuminate, 4-12 cm. long, up to 5 cm. broad, subcoriaceous, pubescent on the midrib beneath; corolla 3 cm. long, limb of 5 united segments in one plane, lobes about 5 mm. long; stamens 4; anthers 1-celled, pubescent [2. vogelii](#)

1. **Sclerochiton preussii** (*Lindau*) *C.B. Cl.* in F.T.A. 5: 110 (1899). *APD acc*

Pseudoblepharis preussii *Lindau* in Engl. Bot. Jahrb. 20: 34 (1894).

A nearly glabrous shrub with fairly large leaves and short flower-spikes with shining striate papery bracts and calyx.

[Br.] Cam.: Buea (fr. Oct.) Preuss 1073!

2. **Sclerochiton vogelii** (*Nees*) *T. Anders.* in J. Linn. Soc. 7: 37 (1863); F.T.A. 5: 111; Aké Assi, Contrib. 1; 209. *APD acc*

APD: *Synonym of Sclerochiton vogelii subsp. congolanus (De Wild.) Vollesen*

Isacanthus vogelii *Nees* in DC. Prod. 11: 279 (1847).

A nearly glabrous shrub with dark smooth foliage and white flowers (turning red-brown on drying) about 1 in. long in abbreviated spikes with striate dry calyx and bracts.

Guin.: Macenta (fl. & fr. Sept.) Jac.-Fél. 1203! **S. L.:** Makump (fl. & fr. July) Thomas 930! Bumbuna (Aug.) Deighton 1202! Matotoka (July) Thomas 1278! **Lib.:** Cape Palmas Ansell! T. Vogel 54! Monrovia (July-Aug.) Baldwin 13007! Linder 2! Dinklage 2823! 2833! Baila (Oct.) Harley 1367! **Iv. C.:** N. Donei to Oroumba-Boca (fl. Oct.) de Wilde 674! Kassa Mangemot & Aké Assi IA 2695. Canal d'Assinié Mangenot, Miége & Aké Assi IA 3148. **Ghana:** Asientien (July) Chipp 287!

19. CROSSANDRA

Salisb.-F.T.A. 5: 112.

Stenandriopsis *S. Moore* in J. Bot. 44: 153 (1906); Benoist in Bull. Mus. Hist. Nat., sér. 2, 15: 231 (1943), W. Afr. spp.

- 1 Short herbs; inflorescences terminal:.....2
- Shrubs up to 1 m. high; inflorescences axillary:.....6
- 2 Leaves gradually attenuated into the short petiole, oblanceolate, rounded-triangular at apex, up to 25 cm. long and 6 cm. broad, puberulous beneath; spikes with a hairy peduncle, broadly oblong-cylindric, with densely overlapping very broadly ovate spinose-dentate pubescent bracts; corolla-tube slender, about 3.5 cm. long, softly pubescent[1. flava](#)
- Leaves rounded to subcordate at base:3
- 3 Leaves oblong, rounded at base, 3-6 cm. long, 1.5-2.5 cm. broad, setulose above, pubescent on the nerves beneath; petiole 8 mm. long, pubescent; spikes small and 2-3-flowered[2. buntingii](#)
- Leaves rounded or subcordate at base, obovate-elliptic, rounded at apex, 6-12 cm. long, 3-6 cm. broad, pubescent on the nerves beneath; spikes sessile, very narrowly cylindrical, up to 12 cm. long, with ovate-lanceolate striate shortly toothed bracts:4
- 4 Bracts up to 6 mm. long and 2.5 mm. broad, irregularly toothed; calyx-segments 13-14 mm. long and 1.5 mm. broad[3. thomensis](#)
- Bracts up to 25 mm. long (usually not exceeding 18 mm.); calyx-segments 6-10 mm. long and 1.5-2 mm. broad:5
- 5 Bracts acuminate, sharply pointed, up to 5 mm. broad, teeth almost only in the upper third and rather regular, small[4. guineensis](#)
- Bracts truncate, without a point, up to 7 mm. broad, teeth along the upper two thirds, very irregular and rather large[5. talbotii](#)
- 6 Leaves pseudo-vericillate, usually 4 per node; petioles about 2 cm. long, lamina entire, ovate, acute, up to 7 cm. long and 4 cm. broad, with 6 pairs of lateral nerves; inflorescences on long spreading, shortly pubescent peduncles, flowering portion 5 cm. long; bracts ovate-elliptic, 12 mm. long and 7 mm. broad, puberulous with a thinly ciliate margin, bracteoles linear, 10 mm. long and 1 mm. broad; calyx up to 8 mm. long; corolla about 2 cm. long and 2-4 cm. diam.; capsule oblong-ellipsoid, about 1 cm. long, shortly apiculate, flattened, with four flattened seeds[6. massaica](#)
- Leaves opposite, petioles up to 2 cm. long, lamina lanceolate-elliptic, 15.5-17.5 cm. long and 4.5-5 cm. broad, lateral nerves 11-12 pairs; inflorescences on peduncles up to 4.5 cm. long, inflorescence up to 5.5 cm. long, few-flowered; bracts lanceolate, 15 mm. long and 5.5 mm. broad, puberulous; bracteoles 14 mm. long and 1.5-2 mm. broad; calyx up to 11 mm. long; corolla-tube up to 3.5 cm. long[7. obanensis](#)

1. **Crossandra flava** *Hook.* Bot. Mag. 79: t. 4710 (1863); F.T.A. 6: 113; Aké Assi, Contrib. 1: 210 (1961). *APD acc*

A short-stemmed herb woody at the root, with rather long leaves and slender-tubular yellow flowers 1 1/2 in. long in a very dense bracteate almost spiny spike 1-2 in. long; [wet places in forest](#).

S. L.: Unwin. & Smythe 24! York Pass (Dec.) Lane-Poole 426! Deighton 3344! Colonial F. R. (fl. & fr. Jan.) King-Church 11! **Iv. C.:** Kassa Mangenot, Miége & Aké Assi IA 904. Mudjika Mangenot, Miége & Aké Assi IA 1195. **Ghana:** Ebene, Kwahu (Jan.) Chipp 635! Agogo (Dec.) Chipp 611! Kunkrentumi (Dec.) Johnson 271! Oboum (Dec.) Vigne FH 1485! **Togo Rep.:** Misahöhe (fl. & fr. Nov.) Mildbr. 7347! **S. Nig.:** Foster 183! Lagos (Mar.) Millen 122! Akure F.R. (fl. & fr. Dec.) Okereke FHI 26882! Okelifé, Ondo (Nov.) Onochie FHI 34349! Omo F.R. (Dec.) Tamajong FHI 20274! Idanre F. R. (Dec.) Keay FHI 37270!

2. **Crossandra buntingii** *S. Moore* in J. Bot. 49: 321 (1911); Aké Assi, Contrib. 1: 209.

APD: Synonym of Stenandrium buntingii (S. Moore) Vollesen

A low herb with pale blue or white flowers with two purple dots, about 2 in. long; **moist places in forest.**

S. L.: Glanville 392! Dama Chiefdom (Nov.) Fisher & Deighton 78! Bobu (Dec.) Deighton 3810! Masandrov (June) Marmo 163! Kenema (fl. & fr. Sept.) Deighton 4030! Pendembu (July-Aug.) Dawe 530! **Lib.:** Gola Forest Bunting! Linder! Karmadhun (Nov.) Baldwin 10205! Bilimu (May, Sept.) Harley 1354! 1542a! **Iv. C.:** Yakassé to Adzopé (Dec.) Chev. 22666! Mt. Tonkui, 3,000-6,000 ft. (Nov., Apr., Aug.) de Wilde 917! Aké Assi IA 4870! Mangenot & Miège IA 6414!

3. *Crossandra thomensis* Milne-Redhead in Kew Bull. 1935: 280; Exell Cat. S. Tomé 262.*APD: Synonym of Stenandrium thomense (Milne-Redh.) Vollesen*

Low herb with purple flower; brown stem; leaves white beneath.

[Br.] **Cam.:** bank of R. Metschum, Wum, Bamenda Prov. (June) Ujor FHI 29253!

The only mainland record of this species described from S. Tomé.

4. *Crossandra guineensis* Nees in DC. Prod. 11: 281 (1847); Bot. Mag. 104: t. 6346 (1878); F.T.A. 6: 117; F.W.T.A., ed. 1, 2: 260, partly (excl. syn.C. talbotii S. Moore, and Talbot 80); Milne-Redhead in Kew Bull. 1835: 281.*APD: Synonym of Stenandrium guineense (Nees) Vollesen*

Stenandriopsis guineensis (Nees) Benoist in Bull. Mus. Hist. Nat., sér. 2, 16: 235 (1943); Aké Assi, Contrib. 1: 210.

Crossandra elatior S. Moore Cat. Talb. 79 (1913).

Stem densely short-hairy about 6 in. high, with leaves prominently nerved beneath and often vinous-tinged, and narrow spike 2-6 in. long of pale purplish or white flowers 1 in. long; **ground herb on forest floor.**

S. L.: Njagbema (Sept.) Deighton 2232! Seli R. (Oct.) Thomas 1303! **Lib.:** Yratoke (fl. & Fr. July) Baldwin 6251! **Iv. C.:** Sassandra Aké Assi IA 3179. **Ghana:** Bomfa Cansdale 4427! Kibbi Hills (Dec.) Johnson 488! Ekosu (July) Darko 915! Joacri Tafo (July) Darko 906! Nyiraheri Hills (fl. & fr. Nov.) Morton A2809! **S. Nig.:** Akure F.R. (fl. & fr. Oct.) Keay FHI 21578! Ubijaja F.R. (Aug.) Onochie FHI 33258! Owena R. (Aug.) Jones FHI 19528! Ekeji-Ipetu F.R. (fr. Dec.) Onochie FHI 5240! Oban Talbot 101! 134! 383! [Br.] **Cam.:** Northern Korup F.R. (July) Olorunfemi FHI 80661! S. Bakundu F.R., Kumba (fr. Nov.) Ejiofor FHI 8461! Nkam-Wum F.R., 2,000 ft., Bamenda (Aug.) Savory UCI 321! Wum (Aug.) Savory UCI 316! **F. Po:** 2,000 ft. Mann 50!

Also in **Cameroun, Gabon, the Congos** and **Uganda.**

5. *Crossandra talbotii* S. Moore in Cat. Talb. 78 (1913); Milne-Redhead l.c. 281.*APD: Synonym of Stenandrium talbotii (S. Moore) Vollesen*

Crossandra guineensis of F.W.T.A., ed. 1, 2: 260, partly (Talbot 1026) not of Nees.

Herb with stout purplish ascending stems; leaves thickly papery, deep green and slightly glossy above, very pale grey-green with prominent venation beneath; bracts pale green, corolla white. Very similar to No. 4, but easily distinguished by the key characters.

S. Nig.: Okomu F.R., Benin (fr. Dec.) Brenan FHI 8463! Afi Biver F.R., Ogoja (Dec.) Keay FHI 28245! Oban Talbot 1026!

6. *Crossandra massaica* Mildbr. in J. Arn. Arb. 11: 54 (1930); J. K. Morton in J. W. Afr. Sci. Assoc. 2: 145 (1956). *APD acc*

A straggling shrub with bright salmon-pink flowers; **undershrub on rocky hills (Morton).**

Ghana: Shai Hills (Dec., Feb.) Morton GC 8088! A3862!

Also in **Congo, Kenya** and **Tanganyika.**

7. *Crossandra obanensis* Heine in Kew Bull. 16: 170 (1962). *APD acc*

A semi-shrubby plant up to 18 in. high with a few-flowered axillary inflorescence up to 2 1/2 in. long, corolla primrose yellow outside, deep yellow inside; [on wet rocks in moist forest](#).

S. Nig.: Oban, near Oban Bock (Mar.) Richards 5190! Coombe 187!

20. BLEPHARIS

Juss.-F.T.A. 5: 94.

- 1 Leaves obovate or broadly oblanceolate, rounded to acutely acuminate, about 4 in a whorl, up to 6 cm. long and 2 cm. broad, scabrid above, sparingly setulose beneath and on the margin; inflorescence 1-1.5 cm. long, often in pairs or clusters; bracts broadly obovate, with long stiff bristles on the margins, bristles with short reflexed hairs; corolla 1-lipped, 1-3 cm. long [1. maderaspatensis](#)
- Leaves linear, up to 12 cm. long and 2 cm. broad; inflorescences solitary, strobilate, often in the forks of branches, 1-5-8 cm. long; **2**
- 2 Inflorescences very reduced (one-flowered branches), up to 2.5 cm. long and 8 mm. broad, in appearance much like certain grass-spikelets; both leaves and bracts entire, sharply pointed but never with teeth or spines along the margins, with no bracteoles; corolla very shortly 3-lipped, 1-7 cm. long [2. glumacea](#)
- Inflorescences few to many-flowered, 3-8 cm. long; bracts broadly ovate, spinous-toothed, ribbed; corolla 1-lipped, about 2 cm. long, striate [3. linariifolia](#)

1. *Blepharis maderaspatensis* (Linn.) Heyne ex Roth Nov. Pl. Sp. Ind. Or. 320 (1821); Berhaut Fl. Sén. **62. APD acc**

Acanthus maderaspatensis Linn. (1763).

Blepharis boerhaviaefolia Pers. (1807)-F.T.A. 6: 96, as *B. boerhaviaefolia*; Chev. Bot. 496.

Blepharis molluginifolia of Chev. Bot. 486, not of Pers. (1807).

Suffrutescent herb, usually procumbent, coarsely pubescent on the young parts, with whorled leaves and white flowers 1/2 in. long in short finely-spiny spikes; [a weed of roadsides, waste places and forest margins in savanna](#).

Sen.: Heudelot 509! Berhaut 528. **Mali:** Koulikoro Chev. 2783. San Chev. 2784! Fakoroba (Sept.) Davey 038! **Port. G.:** Pussubé Esp. Santa 1094. **Guin.:** Kita (Sept.) Jaeger 2644! **S. L.:** Hill Station, Freetown (Dec.) Deighton 472! Sasseni (fl. & fr. Jan.) Sc. Elliot 4525! Roruks (fl. & fr. Nov.) Thomas 5719! Kasawe F.R. (fl. & fr. Dec.) King 37b! 144 b! Kumrabai (fr. Dec.-Jan.) Thomas 6900! **Ghana:** Burufo (fr. Dec.) Adams 4410! Achimota F.R. (fr. Aug.) Akpabla 853! Legon to Aburl (fr. May) Boughey GC 10392! **N. Nig.:** Sokoto (fr. Sept.) Dalz. 362! Kano (fr. Nov.) Hagerup 619! **S. Nig.:** Lagos (fl. & fr. Mar.) Millen 50! Ibadan (fl. & fr. Nov.) Meikle 664! Abeokuta (fr. Nov.) Ejiofor & Olorunfemi FHI 30783!

In tropical Africa generally, extending to India.

2. *Blepharis glumacea* S. Moore in J. Bot. 18: 232 (1880); F.T.A. 5: 97. **APD acc**

A small herb about 6 in. high with slender stems; [in savanna](#).

N. Nig.: Anara F.R., Zaria (Sept.) Olorunfemi FHI 24398! Jos Batten-Poole 120!

Also in [Angola](#), Congo and tropical E. Africa.

3. *Blepharis linariifolia* Pers. Syn. 2: 180 (1806); F.T.A. 5: 100; Chev. Bot. 496; F.W.T.A., ed. 1, 2: 260; Monod. Contr. Etud. Sahara Occ. 2: 113 (1939); Berhaut Fl. Sén. 2: 71; F.W. Andr. Fl. Pl. Sudan 3: 171, fig. 47. **APD acc**

Blepharis passargei Lindau Engl. Bot. Jahrb. 22: 117 (1895).

A herb with wiry branches often close to the ground, and prickly bracts; flowers blue with white throat.

Maur.: Pharaon-Adrar Charles in Hb. Chev. 25451! Edderoum Charles in Hb. Chev. 28806. **Sen.:** Berhaut 552. Heudelot 179. Ledièvre. **Mali:** Goundam Chev. 2789. Labezenga (fr. Sept.) Hangeup 440! Dioura (Aug.-Nov.) Davey 048! Kourblta (fr. Jan.) Davey 247! **Iv. C.:** Poisson! **N. Nig.:** Bimasa, Sokota (fr. Jan.) Bornu & Jibirinjia FHI 29051! Nupe Barter 716! Kontagora (fl. & fr. Nov.) Dalz. 183! Jos Plateau (fr. Nov.) Lely 636! Yola (fl. & fr. Aug.) Dalz. 142! **[Br.] Cam.:** Gurum, Adamawa (fl. & fr. Nov.) Hepper 1273!

Extends to [Sudan](#); apparently also in S. Africa and S.W. Asia.

[The closely related *B. persica* (Burm. f.) O. Ktze. has a similar distribution but is apparently not represented in its strict sense in our area. The genus is much in need of critical revision and monographic treatment.]

21. ACANTHUS

Linn.-F.T.A. 5: 105. APD acc

Stout erect plants, glabrescent or hirsute in the upper parts; leaves shortly petiolate, obovate to oblanceolate, often deeply pinnately lobed, rarely only dentate, spinous-toothed, up to 20 cm. long and 10 cm. broad, scabrid or thinly pilose; spikes up to 20 cm. long.

- Bracts broadly elliptic-ovate, 2-2.5 cm. long, mostly glabrescent or very sparsely puberulous, spinously toothed with about 10-12 teeth, the largest always in the middle, bracteoles with up to 5 teeth; upper calyx-segment 2.5-3 cm. long, the lowest one nearly equal; corolla rose or pink (sometimes pinkish-white); style-base hairy *L. montanus*

Bracts broadly ovate, 2-2.5 cm. long, mostly conspicuously puberulous or hairy, spinously toothed, with about 6-8 teeth, the largest pair always just beyond the terminal tooth; bracteoles entire, very rarely with 1(-2) small teeth; upper calyx-segment 2.5-3 cm. long, the lowest one always only about half that size; corolla white or pale yellow with greenish yellow marked veins (very rarely light pinkish); style entirely glabrous 2. *guineensis*

- Acanthus montanus* (Nees) T. Anders.** in J. Linn. Soc. 7: 37 (1863); Bot. Mag. 91: t. 5516 (1865); F.T.A. 5: 107; F.W.T.A., ed. 1, 2: 260, partly (specimens from N.Nig.-F.Po, fig. 268). *APD acc*

Cheilopsis montana Nees in DC. Prod. 11: 272 (1847).

Acanthus barteri T. Anders. l.c. (1863); F.T.A. 5: 108.

Plant up to 6 ft. high, stems woody, sparsely branched; leaves dark glossy green above, paler beneath, papery, scabrid bracts and calyx-lobes whitish with green veins; *in high forest*.

Dah.: Saketé (Jan.) Chev. 22834! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 138! Vom, 3,000-4,500 ft., Jos Plateau Dent Young 191! McClintock 226! **S. Nig.:** Okomu F.R., Benin Brenan 5863! Ibadan F.R. (fl. & fr. Nov.) Chizea FHI 23965! Onitsha Barter 1300! Thomas 1665! Oban Talbot 1027! 20061 **[Br.] Cam.:** Victoria (fl. & fr. Nov.) Maitland 774! Buea, 3,000 ft. (fl. Dec., Jan., fr. Mar.) Maitland 123! 460! Migeod 249! Dunlap 124! Vogel Peak, 2,000 ft., Adamawa (Nov.) Hepper 1467! **F. Po:** (Nov., Dec.) T. Vogel 239! Mann 639!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon**, **Principe**, **Congo** and **Angola**.

Plants known as *A. montanus* to the east of these countries may belong to different taxa.

- Acanthus guineensis* Heine & P. Taylor** in Kew Bull. 16: 161, fig. 1,1-3 (1962). *APD acc*

Acanthus montanus of F.W.T.A., ed. 1, 2: 206, partly; Chev. Bot. 496; Aké Assi, Contrib. 1: 211, partly (specimens W. of Togo), not of T. Anders.

An erect almost unbranched plant with fleshy stem up to 6 ft. high; *in wet forests*.

Guin.: Timbo Chev. 12427! Longuery Caille in Hb. Chev. 14782! Bouloukountou Caille in Hb. Chev. 14863! Bambaya Pobéguin 50! Dalaba (Nov.) Jac.-Fél. 568! Schnell 2223! **S. L.:** Bumbuna (Oct.) Thomas 3464! Gorahun (Nov.) Deighton 381! Kabala (Dec.) Deighton 2937! Kofiu Mt. (fl. & fr. Jan.) Sc. Elliot 4619! Mopalma (fl. & fr. Jan.) Adames 7! **Lib.:** Kakatown (Sept.) Whyte! Karmadhun (Nov.) Baldwin 10189! Ganta (Nov., Dec.) Barker 1133! Harley 775! **Ghana:** Johnson 275! Abetifi (Jan.) Irvine 1680! Begoro, 1,500 ft. (Jan.) Plumpton 90! Kibi (Nov.) Morton GC 8015! Pusa Pusa Ravine, Kibi Hill (Jan.) Morton GC 6382! Amedzofe (fl. & fr. Feb.) Irvine 162! Mpraeso Scarp (fl. & fr. Dec.) Morton A2421!

Very similar to the preceding species, and only distinguishable by the key characters.

22. CROSSANDRELLA

C. B. Cl. in Kew Bull. 1906: 251.

- Stems puberulous; leaves oblong-lanceolate, gradually acuminate, acutely cuneate at base, 10-18 cm. long, 4-6 cm. broad, with 12-15 pairs of spreading arcuate nerves, minutely punctate beneath; petiole 2-3 cm. long; spike about 10 cm. long; bracts ovate, acutely acuminate, 8 mm. long, strongly nerved, glabrous; bracteoles obovate-elliptic, 1 cm. long, 5-nerved; calyx deeply 4-lobed; corolla nearly 1.5 cm. long *dusenii*

Crossandrella dusenii (*Lindau*) *S. Moore* in Cat. Talb. 74 (1913). *APD acc**Pseudoblepharis dusenii* *Lindau* in Engl. Bot. Jahrb. 20: 34 (1894).*Acanthus dusenii* (*Lindau*) *C. B. Cl.* in P.T.A. 5: 108 (1899).*Crossandrella laxispica* *C. B. Cl.* in Kew Bull. 1906: 251.

An erect undershrub with rather long thin pale green leaves and bracteate flowers nearly 1/2 in. long in a terminal spike.

S. Nig.: Oban Talbot 1269! **[Br.] Cam.:** Dusen 348a. Korup F.R., Kumba (fl. & fr. June) Olorunfemi FHI 30643! Bamenda (fl. & fr. July) Ujor FHI 29276!

Extends to Rio Muni and **Uganda**.

23. ASYSTASIA

Blume-F.T.A. 5: 130. *APD acc*

- 1 Leaves very large, 20-30 cm. long, 5-12 cm. broad, elongate-obovate, caudate-acuminate, acute at base, with 7-9 pairs of prominent nerves, glabrous; inflorescence spike-like, with rather distant clusters of flowers, up to 30 cm. long; calyx-segments subulate, about 4 mm. long; corolla 3-5 cm. long, blackish when dry; style glabrous, threadlike and persistent [1. *macrophylla*](#)

Leaves much smaller than above, up to 15 cm. long and 6 cm. broad: [2](#)

- 2 Corolla about 5 cm. long: [3](#)

Corolla up to 3 cm. long: [4](#)

- 3 Corolla narrowly cylindric in the lower third, rather suddenly and narrowly bell-shaped in the upper two-thirds; calyx-segments about 1 cm. long; leaves oblong to obovate-elliptic, acuminate, acute at base, 8-16 cm. long, 3.5-5.5 cm. broad, glabrous [2. *scandens*](#)

Corolla gradually widened to near the top; calyx-segments linear, 7 mm. long, glandular-puberulous; leaves narrowly elliptic, gradually acuminate, acute at base, 8-15 cm. long, 3.5-5.5 cm. broad, glabrous [3. *vogeliana*](#)

- 4 Calyx-segments about 1 cm. long; corolla-tube 15-18 mm. long, glabrous outside: [5](#)

Calyx-segments 5 mm. long or less, subulate: [6](#)

- 5 Calyx-segments broadly linear (2 mm. broad), 1 cm. long, hairy to glabrescent, but not glandular; inflorescences elongate, about 5 cm. long; petiole 3-10 cm. long; leaves ovate to oblong-elliptic, broadly acuminate, rounded to cuneate at base, 5-7 cm. long, 2.5-4 cm. broad, glabrous or nearly so [4. *calycina*](#)

Calyx-segments narrowly linear (1-1.5 mm. broad), 9 mm. long, glandular-pilose; inflorescences short, about 2 cm. long, bracts 5 mm. long, 1 mm. broad; petiole 5-30 mm. long; leaves elliptic-ovate, cuspidate, rounded to cuneate at base, 7-12 cm. long, 15-55 mm. broad, slightly hirsute on the veins on both sides [5. *glandulifera*](#)

- 6 Calyx-segments 5 mm. long; leaves ovate or ovate-triangular, broadly pointed, rounded or truncate at base, 4-7 cm. long, 2.5-3.5 cm. broad, pubescent on the nerves; petiole pubescent; corolla-tube 1.5 cm. long or more, shortly pubescent with descending hairs; fruit 2 cm. long, softly puberulous [6. *gangetica*](#)

Calyx-segments 1-2 mm. long; leaves oblong- to obovate-elliptic, obtusely acuminate, bluntly cuneate at base, 6-15 cm. long, 2-6 cm. broad, subglabrous on the nerves beneath; corolla-tube 6-8 mm. long, minutely puberulous; fruit 2 cm. long, minutely puberulous [7. *decipiens*](#)

1. **Asystasia macrophylla** (*T. Anders*) *Lindau* in E. & P. Pflanzenfam. 4, 3B: 326 (1895): F.T.A. 5: 134. *APD acc*

Dicentrancha macrophylla *T. Anders.* in J. Linn. Soc. 7: 62 (1863).

A soft-wooded shrub up to 10 ft. high, with strong spikes of white or purple-tinged flowers 1 1/2 in. long.

S. Nig.: Oban Talbot 2010! Akor to Orem, Oban F.R. (Jan.) Onochie FHI 36079x! Akorkwa Thompson 14! **[Br.] Cam.:** S. Bakunda F.R., Kumba (Mar., Apr.) Olorunfemi FHI 30545! Brenan 9293! 9293a! Ikom to Mamfe, between Cross R. and Mun-Aya R. (Dec.) Keay FHI 28320! Johann-Albrechtshöhe (=Kumba) Stdudt 470! Kembong F.R. (Mar.) Onochie FBI 32054! **F. Po:** (Dec.) Mann 13!

Also in **Cameroun** and **Gabon**.

2. **Asystasia scandens** (*Lindley*) *Hook.* Bot. Mag. 75: t. 4449 (1849); F.T.A. 5: 133. *APD acc*

Henfreyia scandens *Lindley* Bot. Reg. 33: t. 31 (1847).

A straggling under-shrub, sometimes low and subherbaceous, with pale purple or white and purple flowers 2 in. long in a terminal somewhat viscid inflorescence about 3 in. long; **sometimes cultivated as an ornamental.**

Guin.: Kindia (Jan.) Pobéguin 1377! Fouta Djallon (Mar.) Chev. 12587! **S. L.:** Don! Afzelius! Smeathmann! (May) Barter! Thomas 9011! 9382! 9418! 9537! Kangahun (fl. & fr. Feb.) Deighton 6036! York Pass (Feb.) Deighton 3486! Guma (fl. & fr. Mar.) Hepper & Pyne 2509! **Lib.:** (Feb.) Harley 861a! Kakatown (fl. & fr. Sept.) Whyte 56!

Also in Congo (Beni); fide Mildbr. in Wiss. Erg. 1907-08: 300 (1914).

[Note: The Smeathmann specimen in the British Museum bears the synonym note "Ruellia acuminata Afzelius", and the same name occurs in Afzelius' own handwriting on Afzelius' specimen.]

3. *Asystasia vogeliana* Benth. in Fl. Nigrit. 479 (1849); F.T.A. 5: 133; Chev. Bot. 499. *APD acc*

Asystasia longituba Lindau in Engl. Bot. Jahrb. 22: 118 (1895); F.T.A. 5: 133.

A weak more or less straggling undershrub, with tubular pale lilac or bluish flowers 2-2½ in. long in a terminal compound lax inflorescence.

S. L.: Vaama, Koya (Dec.) Deighton 3837! Gola Forest (Jan.) King 12! Malema (Nov.) Deighton 454! **Lib.:** Kakatown (Sept.) Whyte! Bili Mt. (Jan.) Harley 1322! Genna Tanyehun (Dec.) Baldwin 10774! **Iv. C.:** Makougnie Chev. 16956! **Iv. C.:** Kassigué (Jan.) Chev. 16992 ter! 17048! **Dah.:** Pedjile to Pobé (Feb.) Chev. 22922! Guiébo Chev. 17211! Potou to Alépé Chev. 17392! Andedédou Forest, near Abidjan (Feb.) Leeuwenberg 2683! **Ghana:** Tafo (Nov.) Pyne 184! Begoro (Nov.) Morton A32! Goaso (Feb.) Andoh 5109! Akim Hills (Dec.) Johnson 265! Bibiami to Munasi (Dec.) Adams 1937! Pramkese (Jan.) Morton A2965! Assin-Yan-Kumasi Cummins 79! **S. Nig.:** Aponmu, Ondo (Nov., Dec.) Trochain & Keay FHI 25607! Keay FHI 25531! Angiama Barter 2096! Okomu F.R., Benin (fl. & fr. Dec., Jan.) Brenan 8576! 8763! Degema Talbot 3653! Eket Talbot 3008! Aboabam, Ogoja (Dec.) Keay FHI 28224! **[Br.] Cam.:** Victoria (Jan.) Maitland 314! Cam. Mt., 3,000 ft. (Dec.) Mann 1955! Preuss 1363! Lisongo, 4,000 ft. Maitland! Bokosso (fl. & fr. Jan.) Keay FHI 37363! **F. Po:** (Dec.) T. Vogel 221! Mann 47!

Also in **Cameroun**, **Ubangi-Shari**, **Gabon** and **Congo**.

4. *Asystasia calycina* Benth. in Fl. Nigrit. 478 (1849).

APD: Synonym of Asystasia buettneri Lindau

Asystasia coromandeliana of F.T.A. 5: 131, partly (syn.)

Asystasia buettneri Lindau (1894)-F.T.A. 5: 132; Chev. Bot. 499; F.W.T.A., ed. 1, 2: 257; Aké Assi, Contrib. 1: 208.

Asystasia dryadum S. Moore in Cat. Talb. 87 (1913).

Herb, erect or half-straggling, 1-2 ft. or more high, slightly pubescent, with tubular flowers inflated above, ¾-1 in. or more long, usually white with red-purple markings, in one-sided racemes,

Guin.: Kouria (fl. & fr. Nov.) Caille in Hb. Chev. 14872! Nzo (fr. Oct.) Schnell 3858! **S. L.:** Leicester (Dec.) Sc. Elliot 3895 (partly, mixed with No. 6)! Makeni (fl. & fr. Nov.) Tindall 55a! Mattru to Gbangbama (fl. & fr. Nov.) Deighton 2342! Kaballa (fl. & fr. Sept.) Thomas 2226! Gberia Fotombu (Oct.) Small 414! **Lib.:** Monrovia (fl. Nov., fl. & fr. Apr.) Barker 1263! Linder 1531! Whyte! Grand Bassa T. Vogel 87! Gbanga (Jan.) Daniel 100! **Iv. C.:** Makougnie (Jan.) Chev. 16962! Grabo (fl. & fr. Aug.) Chev. 19747! Lamé (fl. & fr. Oct.) Leeuwenberg 1737! **Ghana:** Accra (fl. & fr. Jan.) Dalz. 152! Asafo road junction (fr. Oct.) Morton GC 7836! Kumasi (fl. Sept., Nov., fr. Nov.) Darko 339! 636! Top of Bame Pass (Oct.) Morton GC 9301! **Togo Rep.:** Misahöhe (fl. & fr. Nov.) Mildbr. 7321! Depongo Büttner 260! **S. Nig.:** Aguku Dist. Thomas 738! 1689! Ibadan (Feb.) Meikle 1134! Mamu Biver F.R., Onitsha E. W. Jones 2! Eket Talbot 3114! Oban Talbot 991! 991a!

Also in **Cameroun**.

5. *Asystasia glandulifera* Lindau in Engl. Bot. Jahrb. 57: 23 (1920). *APD acc*

Ascending herb 1-2 m. high, with terminal inflorescences of white flowers with mauve mottling on lower lip.

[Br.] Cam.: Mayo Ini Plateau, 4,800 ft., Vogel Peak, Adamawa (Dec.) Hepper 1585!

Also in **Cameroun**.

6. *Asystasia gangetica* (Linn.) T. Anders. in Thwaites Enum. Pl. Zeyl. 235 (1860); J. Linn. Soc. 7: 52 (1863); Chev. Bot. 499; F.W.T.A., ed. 1, 2: 257; Backer Onkruidfl. Javan. Suikerrietgr. 668 (1931);

Robyns Fl. Sperm. Parc. Nat. Alb. 2: 294; Benoist Bol. Soc. Brot. sér. 2, 24: 39 (1950); E. C. Leonard in Contrib. U.S. Nat. Herb. 31: 288 (1953); Berhaut Fl. Sén. 87; F. W. Andr. Fl. Pl. Sudan 3: 166. *APD acc*

Justicia gangetica Linn. (1759).

Asystasia coromandeliana Nees (1832)-F.T.A. 5: 131, partly (excl. syn. *A. calycina* Benth. (1849)); Chev. Bot. 499; C. B. Cl. in Fl. Brit. Ind. 4: 493, and in Journ. As. Soc. Beng. 74: 667 (1908), incl. syn. *A. parvula* of Aké Assi, Contrib. 1: 209, t. 16 (1961), not of C. B. Cl. (1900).

Herb, 1-4 ft. high, very similar to *A. calycina* Benth. but easily distinguishable from this species by the much smaller calyx.

Sen.: Farmar 75! Berhaut 731! Niayes Chev. 2801. Dakar Chev. 2804. **Gam.:** Genieri (July) Fox 135! Ingram! Skues!
Mali: Kita (Aug.) Jaeger 22a! **Port. G.:** Boi, Bissau Baptista 30. Pussubé, Bissau Esp. Santo 1006! **Guin.:** Macenta (Oct.) Baldwin 9809! **S. L.:** Leicester (fl. & fr. Dec.) Sc. Elliot 3895 (partly, mixed with No. 4)! Freetown (fl. & fr. Dec.) Deighton 1537! Mahera (fl. & fr. Nov.) Deighton 5675! Kasewe F.R. (Dec.) King 11! Rokupr (fl. & fr. Nov.) Jordan 698!
Lib.: Cape Palmas (July) T. Vogel 56! Kakatown (Sept.) Whyte! Suen (Nov.) Linder 1391! Suah Koko (Sept.) Linder 373! Gbau (Sept.) Baldwin 9386! **Iv. C.:** Bingerville Chev. 16008. Adiopodoumé (fl. & fr. Oct.) Roberty 15324! **Ghana:** Cape Coast T. Vogel. 9! Accra Irvine 673! Kumasi (fl. & fr. Aug.) Darko 697! Atwabo Fishlock 42/1931! Yendi (fl. & fr. Apr.) Williams 168! **Togo Rep.:** Lomé Warnecke 272! **N. Nig.:** Jebba Barter! Mongu (July) Lely 402! Lokoja (fl. & fr. Sept., Oct.) Dalz. 135! Parsons 30! Vom Dent Young 192! Jos (fl. & fr. June) Lely 314! P171! **S. Nig.:** Lagos Hagerup 843! Benin (fl. & fr. May) Umana FHI 29108! Ibadan (Feb.) Meikle 1133! Odo-Ona Bridge, Ibadan (fl. & fr. Sept.) Oladoyinbo FHI 24264! Ikom Rosevear 20/29! **[Br.] Cam.:** Preuss 1115! Mamfe (fl. & fr. Dec.) Migeod 2641 Sawyer's Camp, Kumba Dist. (fl. & fr. Apr.) Olorunfemi FHI 30552! Gashaka, Adamawa (fl. & fr. Dec.) Latilo & Daramola FHI 28963! **F. Po:** Mann 2651!

Widespread throughout the Old World Tropics, introduced into tropical America.

A very complex aggregate species.

7. *Asystasia decipiens* Heine in Kew Bull. 16: 169 (1962). *APD acc*

Asystasia lindauiana Hutch. & Dalz. F.W.T.A., ed. 1, 2: 257 (1931), cited specimens only (Talbot 380, 985), otherwise = *Filetia africana* Lindau, see under this species (p. 417).

Filetia africana of S. Moore in Cat. Talb. 140 (1913), not of Lindau (1894).

Erect herb, about 80 cm. high; stems dark green; leaves dark above, paler beneath with dull crimson midrib and petiole; calyx green; corolla pale greenish-cream with faint dull crimson markings on the throat; in swampy areas of rain forest.

S. L.: Njala (July) Deighton 764! Kasawe F.R. (fr. Jan.) King 205b! Lowbma (fl. & fr. Oct.) Deighton 56! Gola Forest (Dec.) King 104b! **Lib.:** Medina, Bumbuma (Oct.) Linder 1309! Du R. (Aug.) Linder 213! 12 miles up R. Cess (fr. Mar.) Baldwin 11246! Yila, St. John R. (Aug.) Baldwin 9127! Peahtah (Oct.) Bequaert in Hb. Linder 1047! **Ghana:** Mankrong R., Afram (fl. & fr. Apr.) Morton A563! **S. Nig.:** Oban Talbot 380! 985! Oban F.R. (Jan.) Keay FHI 37732!

24. THOMANDERSIA

Baill. (1891)-F.T.A. 5: 119; Bremekamp in Réc. trav. bot. néerl. 39: 166 (1942).

Scytanthus T. Anders. ex Benth. & Hook. f. (1876), not *Skytanthus* Meyen (1834).

- 1 A shrub; branches terete; glabrous; leaves markedly anisophyllous, the larger oblong-elliptic, subcaudate-acuminate, unequal-sided at base, 8-15 cm. long, 3-6.5 cm. broad, with 3-5 pairs of lateral nerves, pubescent in their axils; petiole up to 4 cm. long; smaller leaves ovate; racemes axillary, very slender, up to 30 cm. long; calyx-leathery, 2.5 mm. long; corolla 1.5 cm. long; stamens 4; fruit ovate-orbicular, 1.5 cm. long *laurifolia*

Thomandersia laurifolia (T. Anders. ex Benth.) Baill. Hist. Pl. 10: 456 (1891); F.T.A. 5: 120; Aké Assi, Contrib. 1: 208. *APD acc*

APD: *Synonym of Thomandersia laurentii De Wild.*

APD: *Synonym of Thomandersia congolana De Wild. & T. Durand*

APD: *Synonym of Thomandersia anachoreta Heine*

APD: Synonym of Thomandersia hensii De Wild. & T. Durand

Scytanthus laurifolius T. Anders. ex Benth. in Benth. & Hook. f. Gen. Pl. 2: 1093 (1876), and in Hook. Ic. Pl. 13: t. 1209 (1877).

A nearly glabrous shrub up to 15 ft. high with shining foliage, and long narrow racemes 6-12 in. long of flowers 1/2 in. long, white or red and with red-purple markings.

Lib.: Nyaake, Webo Dist. (June) Baldwin 6151! 11264! **iv. C.:** Sassandra (Aug.) de Wilde 323! **S. Nig.:** Calabar (Feb., May) Mann 2321! Kalbreyer 204! Holland 87! Orukin to Unyene, Calabar (May) Onochie FHI 33179! Umon-Ndealichi F.R., Calabar (May) Onochie FHI 33225! Oban (fr. May) Talbot 381! Ujor FHI 31785! **[Br.] Cam.:** Barombi Preuss 339! Victoria to Kumba (Apr.) Hutch. & Metcalfe 145! S. Bakundu F.R., Kumba Dist. (Mar.) Brenan 9314! (fl. Jan., Apr., fr. Aug.) Binuyo & Daramola FHI 35167! FHI 35168! Ejiofor FHI 29345! Olorunfemi FHI 30702! Onochie FHI 30857!

This species is in need of further taxonomic study and after such work other taxa may be recognized. In the circumscription of the original authors, *T. laurifolia* also occurs in Cameroun, Gabon and Congo. The plants from Liberia differ slightly in indumentum and density of the inflorescence.

25. LEPIDAGATHIS

Willd.-F.T.A. 5: 120.

- 1 Inflorescences terminal, up to 5 cm. long; bracts broadly lanceolate, long-bristle-pointed, strongly nerved, about 7 mm. long; leaves lanceolate to narrowly oblanceolate, slightly pubescent on the nerves beneath; corolla nearly 1 cm. long; adaxial stamens 2- or 1-celled; fruit shorter than the bracts [1. alopecuroides](#)
Inflorescences axillary or at the base of the plant near the ground, sometimes both types of inflorescence on the same plant: 2
- 2 Inflorescence elongate, oblong-cylindric to finger-like, longer than broad: 3
Inflorescence globose or subglobose, about as broad as long, sometimes (in Nos. 10 and 11) ellipsoid: 6
- 3 Inflorescences (in the specimens known at present) always near the ground, finger-like to elongate-strobilate, up to 5 cm. long and (at the top) 1.5 cm. diam., ciliate on the margins but otherwise entirely glabrous, upper bracts sharply pointed, points erect; leaves acicular, up to 1.5 cm. long [2. felcis](#)
Inflorescences oblong-cylindric, nearly always in the upper parts of the plant, 1.5 cm. long and 1.5-2.5 cm. broad, formed by silvery-silky imbricate bracts with reflexed or curved points: 4
- 4 Leaves glabrous, linear, 4-5 cm. long, 1-nerved; inflorescence 3 cm. long, 1.5 cm. diam.; bracts ovate, long-subulate-acuminate, about 1 cm. long, villous [3. sericea](#)
Leaves pubescent: 5
- 5 Stems softly villous; leaves linear, prominently 3-nerved, appressed-villous-pilose, 6-7 cm. long; inflorescence sessile, 3 cm. long; bracts lanceolate, with very long bristly tips; juvenile forms [4. heudelotiana](#)
Stems thinly pubescent, otherwise plants as above; leaves linear, 3-nerved, appressed-pubescent; inflorescences about 4 cm. long; bracts long-pilose, with curved slender tips; mature and fruiting forms [4. heudelotiana](#)
- 6 Leaves long-acicular to filiform, up to 5 cm. long and 2 mm. broad: 7
Leaves not acicular or filiform; bracts acute or with spine-like tips: 9
- 7 Inflorescences strobilate to capituliform, 4-4.5 cm. diam. at the top of creeping stems up to 5 cm. long [5. capituliformis](#)
Inflorescences sessile, never strobilate, occurring at the base of the plants as well as on the stems; leaves glabrous: 8
- 8 Inner bracts with a terete subulate acumen, outer ovate-lanceolate, thin, pubescent; inflorescences densely crowded [6. fimbriata](#)
Inner bracts with a flat acumen, outer ovate-lanceolate, glabrous outside, up to 1.3 cm. long; inflorescences in a sessile cluster [7. chariensis](#)
- 9 Leaves with lateral nerves or 3-nerved, very variable, up to 10 cm. long and 1.5 cm. broad; plants never ericaceous in habit: 10
Leaves small, subulate, with no (or very inconspicuous parallel) lateral nerves, up to 2 cm. long and 1-2 mm. broad (in the vegetative parts), plants therefore often ericaceous in habit: 11
- 10 Bracts villous-plumose, with subulate points; leaves linear to elliptic-lanceolate, with lateral nerves, sometimes 3-nerved, with anastomosing lateral nerves; extremely variable plants; inflorescences often confined to the base of the plant, those sometimes occurring in the upper parts with longer and deflexed bracts, indumentum often yellowish [8. collina](#)
Bracts glabrous, usually ciliate on the margins (never villous-plumose), with long subulate points, up to 1.5 cm.

long; leaves linear, very acute, up to 17 cm. long, strongly 3-nerved, with prominent linear cystoliths spreading from the midrib at right angles [9. anobrya](#)

- 11** Inflorescences 1-3 together, 1.5-3 cm. long, about 2 cm. diam., truncate at the apex; the outer bracts 1/2-1 cm. broad, truncate with a rigid point; bracteoles and sepals oblong, truncate and tomentose at the tip; leaves of the erect stems ericoid, 4-10 mm. long, glabrous [10. pobeguini](#)

Inflorescences often proliferous, forming a globose cluster; bracteoles and sepals with a long linear ciliate tip; leaves of the erect stems 1 cm. long [11. chevalieri](#)

- 1. *Lepidagathis alopecuroides* (Vahl) R. Br. ex Griseb.** Fl. Brit. W. Ind. 453 (1861), excl. syn.
Adenosma chenopodifolia (Poir.) Sprengel (1825); Benoist in Notulae Syst. 2: 18 (1911); Chev. Bot. 497. *APD acc*

Ruellia alopecuroides Vahl Eclog. Am. 2: 49 (1796).

Teloistachya alopecuroides (Vahl) Nees in DC. Prod. 11: 262 (1847).

Lepidagathis laguroidea (Nees) T. Anders. (1863)—F.T.A. 5: 128; Chev. Bot. 498; F.W.T.A., ed. 1, 2: 256; Berhaut Fl. Sén. 88.

Teliostachya laguroidea Nees (1847).

Lepidagathis hyssopifolia (Benth.) T. Anders. (1863)—F.T.A. 5: 128.

Teliostachya hyssopifolia Benth. (1849).

Decumbent slender branching herb, woody below, rooting at the lower nodes, with small pink or purplish flowers 1/3 in. long in rather dense almost bristly pseudo-spikes; inflorescences very variable in length and density.

Sen.: Niokolo-Koba Berhaut 1541. **Mali:** Kita Chev. 99. **Guin.:** Faranna Chev. 20443. Forékaria Chev. 20528. Macenta, 2,000-2,500 ft. (fr. Oct.) Baldwin 9756! **S. L.:** Afzelius! Don! Smeathmann! Sc. Elliot 3902! Kambia, Magbema (fl. & fr. Dec.-Jan.) Jordan 761! Sc. Elliot 4376! Wallia (fl. & fr. Jan.) Sc. Elliot 4744! Makump (fl. & fr. July) Thomas 936! Njala (fr. Jan.) Dalz. 8077! Kennema Deighton 427! **Lib.:** Tawata, Boporo Dist. (Nov.) Baldwin 10311! Baila (fl. & fr. Feb.) Harley 1470a! Accra T. Vogel! **Iv. C.:** Tiassalé (fl. & fr. Dec.) Leeuwenberg 2140! Bingerville Chev. 16079. Makougné Chev. 16978bis. Tébo Chev. 19393. Grabo Chev. 19748. Taï (fl. & fr. Aug.) Boughey GC 14942! **Ghana:** Apaaso, Volta gap (fr. Feb.) Morton A119! Afram Mankrong F.R. (Jan.) Adams 5020! Mankrong, Kwahu (Jan.) Adams 5059! Pramkese (fl. & fr. Jan.) de Wit & Morton A2954! Nsawkaw (fl. & fr. Dec.) Adams 3157! **N. Nig.:** Oly R. Barter 746! Naraguta (fl. & fr. May) Lely 36! Kwakuti, Niger Prov. (fl. & fr. Dec.) Keay FHI 37307! **S. Nig.:** Olokemeji (Dec.) Meikle 921! Iseyin (fl. & fr. Feb.) Brennan & Keay 8963! Oban Talbot 984! Kwa Falls (Mar.-Dec.) Brennan 9239! Bendiga Ayuk, Ogoja (fl. & fr. Dec.) Keay FHI 28167! Coombe 164! **[Br.] Cam.:** Bamenda, 3,500 ft. (fl. & fr. May) Maitland 1689!

Widespread in the tropics.

- 2. *Lepidagathis felicis* Benoist** in Bull. Soc. Bot. Fr. 85: 682 (1938), as *felixii*.. *APD acc*

Guin.: near Mamou (Feb.) Jac.-Fél. 774!

Only known from the type collection. "Close to *L. pobeguini* Hua" (Benoist) and probably an occasional (juvenile?) form of that species

- 3. *Lepidagathis sericea* Benoist** Notulae Syst. 2: 154 (1911); Chev. Bot. 499, excl. var. *hirta* Benoist; Berhaut Fl. Sén. 81. *APD acc*

Erect woody undershrub with narrow leaves and pink-purple flowers in somewhat 4-sided spikes 3/4 - 1 1/4 in. long.

Sen.: Galam Leprieur! Bakel to Fangalla Carrey 33! Bakel Collin 77. Niokolo-Koba Berhaut 1227; 4508. Bandia Trochain 1226! **Mali:** Balani Chev. 144. **Guin.:** Col de Sokotoro (fr. Dec.) Pobéguin 1468! Pied col Sita (Oct.) Adam 12687! Dingulraye Jac.-Fél. 1483! Timbo Maclaud 21. Kadé Pobéguin.

- 4. *Lepidagathis heudelotiana* Nees** in DC. Prod. 11: 264 (1847); F.T.A. 6: 126; Benoist l.c. 21: 155; Chev. Bot. 498; Berhaut Fl. Sén. 80. *APD acc*

Lepidagathis sericea var. *hirta* Benoist l.c. 155 (1911); Chev. Bot. 499.

Lepidagathis medusae of F.W.T.A., ed. 1, 2: 256, not of S. Moore.

Erect woody undershrub with narrow velvety hairy leaves and whitish-hairy flower-spikes 1-1 1/2 in. long, often 2 together, with tail-tips of the bracts becoming deflexed.

Sen.: Rio Nunez Heudelot 666! Tambacounda Berhaut 1288. **Gam.:** Hayes 574! **Mali:** Kita (fl. & fr. Oct.) Jaeger 2912! Mossi Chev. 24630! Koulikoro (Oct.) Chev. 2773! **Port. G.:** Madina de Boé (fr. Dec.) Esp. Santo 2356! 2852! Gabu, Pirada

(Sept.) Esp. Santo 2786! **Guin.:** Kouroussa Pobéguin 912! Mamou to Dalaba (fr. Sept.) Chev. 34703! Boumalol, Madina Tossekré (Oct.) Adam 12562! Diaguissa Chev. 18786! Kindia Jac.-Fél. 1842! **Ghana:** Kayoro (Oct.) Vigne FH 4615!

[Juvenile forms of this species (Chev. 2773, 2774), originally correctly identified by Lindau as *L. heudelotiana* Nees, have been described as *L. sericea* var. *hirta* Benoist (1911).]

5. *Lepidagathis capituliformis* Benoist l.c. 19 (1911); Berhaut Fl. Sén. 81: 91. *APD acc*

A herb with mauve flowers; in appearance very similar to species Nos. 2, 10 and 11.

Sen.: Niokolo-Koba Berhaut 1494; 4455. Raynal 6777! Tantara (May) Trochain 3490! **Guin.:** Coniaguin (Feb.) Pobéguin 2144!

6. *Lepidagathis fimbriata* C. B. Cl. in F.T.A. 5: 125 (1899); Benoist l.c. 21; Chev. Bot. 498. *APD acc*

Lepidagathis anobrya var. *angustissima* Nees in DC. Prod. 11: 255 (1817).

A slender half-woody herb, nearly glabrous, with very narrow leaves and short dense inflorescences 1-1 1/2 in. across.

Sen.: Fouta Djallon Heudelot 679! **Port. G.:** Boé, Bilonco (fl. & fr. Dec.-Jan.) Esp. Santo 2868! **Guin.:** Kolen Maclaud 149. Bambaya Pobéguin 761! Timbo to Conakry Pobéguin 767. Kindia (fl. & fr. Aug.) Pobéguin 1356! Jac.-Fél. 364! Mamou (fr. Oct.) Adam 12643!

7. *Lepidagathis chariensis* Benoist in Mém. Soc. Bot. Fr. 2, 8: 189 (before Oct. 1912).

APD: *Synonym of Lepidagathis hamiltoniana* Wall.

Lepidagathis acicularis Turrill in Kew Bull. 1912: 361 (25 Oct. 1912).

Wiry, terete, glabrous stems, with very narrow leaves 1-2 in. long and yellow flowers 1/2-2/3 in. long in short congested inflorescences either basal or axillary.

N. Nig.: Patti Lokoja (Oct.) Dalz. 139!

Also in **Ubangi-Shari**.

[Most likely only an extreme form of the following.]

8. *Lepidagathis collina* (Endl.) Milne-Redhead in Kew Bull. 8: 119 (1963). *APD acc*

Russegera collina Endl. Iconogr. Gen. Pl., t. 94 (1838); Nov. Stirp. 38 (1839); F. W. Andr. Fl. Pl. Sudan 3: 182.

Lepidagathis radicalis Hochst. ex Nees (1847)-F.T.A. 6: 123; Berhaut Fl. Sén. 93.

Lepidagathis radicalis var. *acrantha* Benoist ex Tisserant Mém. Inst. Etud. Centrafic. 2: 14 (1950), French descr.; Monod in Mém. I.F.A.N. 18: 14 (1952).

Lepidagathis radicalis var. *caulispecta* Benoist l.c. (1950).

Lepidagathis radicalis var. *elata* Benoist l.c. (1950).

Lepidagathis radicalis var. *polyneura* Benoist ex Tisserant l.c. (1950).

Lepidagathis mollis T. Anders. (1863)-F.T.A. 5: 126 (1899); Benoist in Notulae Syst. 2: 22; F.W.T.A., ed. 1, 2: 256.

Lepidagathis diversa C. B. Cl. in F.T.A. 5: 126 (1899).

Lepidagathis schweinfurthii Lindau (1894)-F.T.A. 5: 123.

Lepidagathis reticulata Benoist in Notulae Syst. 2: 22 (1911).

(?) *L. garuensis* Lindau in Engl. Bot. Jahrb. 49: 402 (1913).

(?) *L. petrophila* Lindau l.c. 403 (1913).

An extremely polymorphic coarse woody herb, 1-2 ft. high, with ribbed pubescent stems, and yellow purple-spotted flowers 3/4 in. long in very dense heads 1-2 in. across either axillary or basal; **growth forms much affected by grassland-burning and other ecological factors.**

Sen.: Berhaut 803. **Mali:** Kita (Oct.) Jaeger 3037! **Port. G.:** Bafata, Uhambauha (Nov.) Esp. Santo 2817! **Guin.:** Kouroussa Pobéguin 916. Diendou Pobéguin 1515! Siguiri (Nov.) Jac.-Fél. 514! Timbo Maclaud 263! Dalaba Plateau Chev. 20276! **Ghana:** Paliba (Dec.) Adams & Akpabla 4106! Prang (Sept.) Darko 991! Damongo Scarp Morton GC 25001! Kete Krachi to Atebubu Adams 4614! Tongo Adams & Akpabla 4315! Banda Ravine (Dec.) Morton GC 25191! **N. Nig.:** Nupe Barter 955! Niger Baikie! Jos, 3,900 ft. (Oct.) Hepper 1025! Batten-Poole 341! Lapai to Paiko, Niger Prov. (Aug.) Onochie FHI 35434! Yola Dalz. 303! **[Br.] Cam.:** Vogel Peak, 4,000 ft., Adamawa (Nov., Dec.) Hepper 1361! 2712!

Also in **Cameroun, Ubangi-Shari, Sudan, Ethiopia and Uganda.**

9. *Lepidagathis anobrya* Nees in DC. Prod. 11: 255 (1847), excl. var. *angustissima* Nees l.c. (1847);

F.T.A. 5: 124; Chev. Bot. 498; Benoist in Notulae Syst. 2: 19; Berhaut Fl. Sén. 81: 93. *APD acc*

Lepidagathis fimbriata of Chev. Bot. 498, partly (Chev. 24539), not of C. B. Cl.

Stems slender, glabrous, angled, with long narrow leaves and dense flower-heads 1-1 1/2 in diam., mostly basal or with one at an upper node.

Sen.: Heudelot 204! Koulikoro Chev. 3326! Berhaut 1281! 4482. **Mali:** Fodébouyou, Kita (Aug.) Jaeger 2314! Kita (fl. & fr. Nov.) Jaeger 3622! Ravin Gaïbala, Kita (Sept.) Jaeger 2515! Sanga, near Bandigara Ganay! **Guin.:** Dalaba to Diaguissa (Sept.) Chev. 18578. **Iv. C.:** Sifie Hallé 128! **Ghana:** Berekum to Sampa Adams 5304! Sawla junction on Tamale road (Sept.) Rose Junes GC 30185! Bagabaga, Tamale (Nov.) Darko 435! Kete Krachi to Dutukpene Adams 4628! Kete Krachi Morton A1489! **Niger:** Marchal 80! Fada to Koupéla, Gourma Chev. 24539!

10. *Lepidagathis pobeguinii* *Hua* in Bull. Soc. Bot. Fr. 60: 578, t. 18 (1904), and in Pobéguin Ess. Fl. Guin. Fl. 125, t. 27bis (1906); Chev. Bot. 499. *APD acc*

Un-named plant of A. L. Smith in J. Linn. Soc. 30: 155-157, t. 8 (1894).

A very variable, heath-like plant, 12-18 in. high with a woody rootstock; flowers yellowish.

Mali: Scaëtta 3172! Dougoura Chev. 335! 356. **Guin.:** Fouta Djallon, Kouroussa Pobéguin 209! Sc. Elliot 5386! Beyla Chev. 20879!

11. *Lepidagathis chevalieri* *Benoist* l.c. 20 (1911); Chev. Bot. 498. *APD acc*

Habit of the last, with inflorescence-heads more confluent and often in dense clusters.

Mali: Diaragouéla Chev. 481! **Guin.:** Coniaguin to Boussoura Pobégum 2145!

Note: The species Nos. 2, 5, 10, 11 are very closely allied and probably (ecological?) forms of one polymorphic aggregate species. The accepted distinctions are artificial and based upon herbarium material only.

- Lepidagathis dahomeyensis* *Benoist* in Mém. Soc. Bot. Fr. 2, 8: 190 (1910); Chev. Bot. 498, as *dahomensis*; F.W.T.A., ed. 1, 2: 256.

Dah.: Farfa to Toukountouna, Mts. Atacora, 1,500 ft. Chev. 24072!

The species is only known from the type-collection and the holotype consists of a poor specimen with partly burned inflorescences, which may well represent an occasional form of *L. collina* occurring after burning. See also note under No. 7.

- Lepidagathis scabra* *C. B. Cl.* in F.T.A. 5: 129 (1899),

Ghana: Damongo Scarp, (fl. & fr. Dec.) Morton A120!

In savanna woodland.

An **Angolan** and E. African species, was found by Dr. J. K. Morton in Ghana on the top of Damongo Scarp

26. FILETIA

Miq.-F.T.A. 5: 136.

- 1 Shrub, about 1 m. high, glabrous, with simple round stem; leaves ovate, up to 18 cm. long and 7 cm. broad, with truncate or often slightly cordate base; petioles 0.5-2 cm. long; inflorescences terminal, racemose, up to 8 cm. long; bracts filiform, 2-4 mm. long, bracteoles similar, up to 2 mm. long; flowers in 1-3-flowered dichasial partial inflorescences, peduncles and pedicels short, up to 4 mm. long; calyx about 4 mm. long, glandular, with 5 equal, filiform lobes; corolla about 9 mm. long, 1.5 mm. diam., with minute glandular hairs outside; upper lip 5 mm. long, 2 mm. broad, with two lobes, lower lip 4 mm. diam.; stamens 4, of different length, the outer ones 3 mm., the inner ones 2 mm. long, filaments of the two different stamens close together and apparently united, anther-cells muticous; ovules 2 in each cell; fruit unknown [africana](#)

- Filetia africana* *Lindau* in Engl. Bot. Jahrb. 20: 41 (1894); F.T.A. 5: 136 (not of S. Moore in Cat. Talb. 140, nor syn. *F. africana* of F.W.T.A., ed. 1, 2: 257, excl. distrib.).

APD: *Synonym of Asystasia lindauiana Hutch. & Dalziel*

Asystasia lindauiana Hutch. & Dalz. F.W.T.A., ed. 1, 2: 257 (1931), excl. cited specimens (Tatbot 380, 985).

A shrub about 3 ft. high with a simple slender green stem; flowers pale purplish pink; [in deep shade in forest](#).

[Br.] Cam.: S. Bakundu F.R., Kumba (Mar.) Brenan, 9412!

Also in [Cameroun](#) and [Gabon](#).

[A very rare plant, confused in Cat. Talb. and F.W.T.A., ed. 1, with an at that time undescribed *Asystasia* sp. (*A. deeipiens*, see p. 413 above).]

27. NEURACANTHUS

Nees-F.T.A. 5: 137.

- 1 Plants about 2 ft. high, from a short woody rootstock, stems and leaves beneath white stellate-tomentose; leaves broadly elliptic, acute, up to 10 cm. long and 6.5 cm. broad, with about 10 pairs of lateral nerves, entire, subsessile or with a petiole up to 5 mm. long; flowers in dense axillary heads up to 5 cm. in diam., made up of few-flowered condensed unilateral spikes with 3 mm. long hyaline hairs; bracts 9-12 mm. long, ovate, acute, soft, mucronate with almost deflexed tips, dark brown, parallel-nerved; calyx 9 mm. long, with long-acuminate lobes; corolla about 1 cm. long, pilose; capsule glabrous, flattened, spindle-like, quadrangular and with sharp tips on both ends, about 14 mm. long, 4 mm. broad and 2 mm. diam., with 2-4 lentil-like seeds about 3 mm. diam. with fine white-silky hygroscopic hairs [niveus](#)

Neuracanthus niveus S. Moore in J. Bot. 18: 37 (1880); F.T.A. 5: 139; Benoist in Notulae Syst. 2: 145 (1911); A. Chev. in Etud. Fl. Afr. Centr. Fr. 1: 235 (1913); F. W. Andr. Fl. Pl. Sud. 3: 184. *APD acc*

General appearance like *Lepidagathis heudelotiana*, but very different from all W. African *Lepidagathis* by its broad leaves with pinnate venation of many lateral nerves and white tomentum beneath; flowers violet.

Guin.: Dinguiraye, Bocaria (fr. Dec.) Jac.-Fél. 1447!

Also in [Cameroun](#), [Ubangi-Shari](#), [Sudan](#) and [E. Africa](#).

28. AFROFITTONIA

Lindau in Engl. Bot. Jahrb. 49: 406 (Mar. 1913); Rendle in Cat. Talb. IX (Apr. 1913). *APD acc*

Talbotia S. Moore in Cat. Talb. 80, t. 11, fig. 1-6 (Apr. 1913).

- 1 Herb with procumbent stems rooting at the nodes; branches pubescent; leaves ovate-elliptic, rounded at both ends, 3-5 cm. long, 2.5-3.5 cm. broad, densely pubescent beneath; petioles pubescent; spikes axillary, pedunculate, 2-4 cm. long; bracts obovate, 1 cm. long; bracteoles spatulate-oblongate, 8-10 mm. long; corolla-tube 1 cm. long, 2-lipped, the posterior lip bidentate, the anterior lip 3-lobed; stamens 4, the anthers of the 2 shorter ones 1-celled [silvestris](#)

Afrofittonia silvestris Lindau l.c. 407, fig. 2 (1913); F.W.T.A., ed. 1, 2: 608. *APD acc*

Talbotia radicans S. Moore l.c. (1913); F.W.T.A., ed. 1, 2: 257.

A procumbent herb trailing on [moist ground on the forest floor](#); flowers whitish with mauve markings.

S. Nig.: Oban Talbot 971! Calabar to Mamfe (Jan., Nov.) Onochie FHI 36025! Baldwin 13761! Cross B. North F.R. (Dec.) Keay FHI 28149! F. Po: Monte Bolea (Dec.) Guinea 362! Bokoko (Oct.) Mildbr. 6830.

Also in Cameroun (Ndoungué Ledermann 6369.)

The related *Fittonia argyroneura* Coem., a native of tropical America, is cultivated as an ornamental, e.g. in Ghana (Legon (Nov.) Morton A2819!) and in S. Nigeria (Ibadan (Oct.) Keay FHI 37677!)

29. STAUROGYNE

Wall. Pl. As. Rar. 2: 80, t. 186 (1831); Bremekamp in *Reinwardtia* 3: 163 (1955); Heine in *Kew Bull.* 16: 181 (1962)

Ebermaiera Nees (1832).

Zenkerina Engler (1897)-F.T.A. 4, 2: 262.

(?)*Neozenkerina* Mildbr. (1921).

Staurogynopsis Mangenot & Aké Assi in *Bull. Jard. Bot. Brux.* 29: 27 (1959).

- 1 Erect plants, little-branched; inflorescence spicate, many-flowered, up to 10 cm. long; leaves elliptic, up to 15 cm. long and 6 cm. broad, cuneate at base, acute at apex [1. kamerunensis](#)
- Small creeping herbs, much-branched; inflorescence capitate, few-flowered, up to 1.5 cm. diam.; leaves ovate to ovate-lanceolate, up to 6 cm. long and 3.5 cm. broad, truncate at base, very obtuse at apex: **2**
- 2 Leaves up to 6 cm. long and 3.5 cm. broad, hairs distributed over the whole surface as well as on the nerves; calyx-lobes free from near the base [2. paludosa](#)
- Leaves up to 2 cm. long and 1.5 cm. broad, hairs on the surface nearly confined to the nerves, with very few also in the lower margins; calyx-lobes united in the lower half [3. capitata](#)

1. *Staurogyne kamerunensis* (Engl.) Benoist in *Notulae Syst.* 2: 290 (1913); Mangenot & Aké Assi l.c. 29: 36 (1959). *APD acc*

Zenkerina kamerunensis Engl. *Bot. Jahrb.* 23: 498, t. 10, fig. A-F (1897); F.T.A. 4, 2: 262 (in note); Cat. Talb. 139.

(?) *Neozenkerina bicolor* Mildbr. (1921).

Erect herb up to 18 in. high; flowers creamy-white, up to 1/2 in. long in [rain forest](#).

S. Nig.: Oban Talbot 1369! 2004! Oban F.R. (Jan.) Onochie FHI 36145x! Orem, Calabar (Jan.) Onochie FHI 36063x! Aboabam, Ikom (Dec.) Keay FHI 28210!

Also in [Cameroun](#).

2. *Staurogyne paludosa* (Mangenot & Aké Assi) Heine in *Kew Bull.* 16: 183 (1962).

APD: *Synonym of Staurogyne pseudocapitata Champl.*

APD: *Synonym of Staurogyne capitata E. A. Bruce*

Staurogyne capitata E. A. Bruce in *Kew Bull.* 1935: 284, partly (Chipp 154).

Staurogynopsis paludosa Mangenot & Aké Assi l.c. 29, t. 2 (caption reversed with t. 3) (1959); Aké Assi, *Contrib.* 1: 213.

Geophila hirsuta of Chev. Bot. 345, partly (Chev.) 15381; 19554), not of Benth.

Creeping herb; leaves pale green above, very pale beneath; calyx pale green, corolla and stamens white; [in rain forest](#).

Lib.: Nyaake, Webo Dist. (June) Baldwin. 6100! Diebla Webo Dist. (July) Baldwin 6291! Duo, Sinoe (Mar.) Baldwin 11353b! **iv. C.:** La Mamba Mangenot & Aké Assi 4597. Yapo (Sept.) Mangenot & Aké Assi 4595! Fort-Binger to Toula Chev. 19554! Abidjan, Dahou Chev. 15381! Guéde (Dec.) Leeuwenberg 2447! **Ghana:** Asamang, Axim Dist. (Apr.) Chipp 154!

Also in [Cameroun](#) (Letouzey 3642).

3. *Staurogyne capitata* E. A. Bruce in *Kew Bull.* 1935: 284, mainly (Bequaert 1141; Cook 139); Heine l.c. 183. *APD acc*

Staurogynopsis maiana Mangenot & Aké Assi, l.c. 33, t. 3 (caption reversed with t. 2).

Staurogynopsis capitata (E. A. Bruce) Mangenot & Aké Assi, *Contrib.* 1: 212 (1961).

Geophila hirsuta of Chev. Bot. 345, partly (Chev. 19267; 19500; 19555) not of Benth.

Very similar to the last, with which it often grows, but much more slender and delicate in all its parts.

S. L.: Masaklo (June) Marmo 46! **Lib.:** Cook 139! Fayapulu (Oct.) Bequaert 1141! **iv. C.:** Mid. Sassandra to Mid. Cavally (July) Chev. 19267! Fort-Binger to Mt. Niénokué (July) Chev. 19500! Fort-Binger to Toula (July) Chev. 19555! Tiapleu Forest (May) Mangenot & Aké Assi 4596! Béyo (Jan.) Leeuwenberg 2452!

L. C. Rich. in Michx. Fl. Bor. Am. 1: 8 (1803), nom. cons.; F.T.A. 5: 27; Bremekamp in Reinwardtia 3: 249 (1955); J. K. Morton in Rev. Biologia 1: 49 (1956); Johri & Singh in Bot. Notiser 112: 227 (1959).

- 1 Plants simple, erect, with a solitary, usually stalked rosette; leaves broadly oblanceolate to obovate, obtusely triangular-pointed, attenuated to base, sometimes lyrate or obtusely and remotely crenate, very shortly petiolate, up to 16 cm. long and 5 cm. broad, very thinly pilose on the nerves; inflorescence a slender pedunculate spike up to 15 cm. long; bracts broadly ovate, bristly-acuminate, about 5 mm. long, green with paler shortly ciliate margins; fruit 4-5 mm. long, glabrous [1. marginata](#)

Plants diffusely branched, prostrate, with many small rosettes of entire leaves rarely exceeding 7 cm.; all parts smaller than the preceding, but otherwise similar [2. maritima](#)

1. *Elytraria marginata* *Vahl* Enum. Pl. 1: 108 (1804); Milne-Redhead in Exell Suppl. Cat. S. Tomé 37 (1956); Morton l.c. 51. *APD acc*

Elytraria crenata of F.T.A. 5: 27 (1899), excl. syn. F.T.A. 5: 509 (1900), Cat. Talb. 139, not of Vahl (1805).

Elytraria acaulis of F.W.T.A., ed. 1, 2: 261 (1931), not of (Linn. f.) Lindau (1897).

Elytraria squamosa *Lindau* in Anal. fis.-geogr. Costa Rica 8: 299 (1895), partly (Afr. specimens), and in Schlechter Westafrik. Kautschuk-Exp. 314; Wiss. Ergebn. 1907-08: 291; Chev. Bot. 491, partly (excl. Chev. 16074), not *Verbena squamosa* Jacq. (1797).

Elytraria lyrata *Vahl* l.c. 106 (1804); Morton l.c. 54, fig. 3.

Elytraria acaulis var. *lyrata* (*Vahl*) *Bremek.* l.c. 251 (1955).

Stem up to 9 in. high, with small white or bluish flowers 1/4-1/3 in. long in narrow stiff spikes with sharp-pointed bracts.

Guin.: Badabou valley (fr. Oct.) Schnell 7600! **S. L.:** Newton (fl. & fr. Nov.) Deighton 1485! York Pass, 1,300 ft. (fr. Nov.) T. S. Jones 183! Kamalu (fr. May) Thomas 394! Gegbwema (fr. Nov.) Deighton 402! Lowoma, Nomo (fl. & fr. Oct.) Fisher 47! **Lib.:** Grand Bassa T. Vogel 93! Sinkor (fl. & fr. July) Barker 1384! Soplina (Nov.) Baldwin 10023! 10025! Bobei Mt. (Sept.) Baldwin 12503! Ganta (June) Baldwin 6102! **iv. C.:** Divo (fr. July) Aké Assi 4363! Tiapleu (fr. Sept.) Aké Assi 3276! Amitioro (fr. Dec.) Aké Assi 4486! Guédeyo, Soubré (fl. & fr. Dec.) Leeuwenberg 2163! **Ghana:** Cape Coast Brass! Farmar 519a! Obuasi (fl. & fr. June) Andoh 4216! Amentia Irvine 444! Volta R., near Jaketi (fl. & fr. Jan.) Morton GC 8021! Afram Mankrong F.R. (fl. & fr. Dec.) Adams 4936! **N. Nig.:** Lokoja (fl. & fr. Oct.) Dalz. 198! Sanga River F.R. (fr. Nov.) Keay FHI 22265! **S. Nig.:** Lagos Millen 24! Dalz. 1140! Aguku Dist. Thomas 723! Onitsha Barter 1302! Degema (fr. Sept.) Holland 138! Oban Talbot 386! **[Br.] Cam.:** Man o'war Bay Schlechter 12386! Johann-Albrechtshöhe Staudt 453! Bakosi, Kumba (fl. & fr. May) Olorunfemi FHI 30572! Aba-ajia, Bamenda (fr. July) Ujor FHI 30457! **F. Po:** T. Vogel 75! (fr. Dec.) Mann 26! Guinea 677!

Also in **Cameroun, Gabon, Congo** and (partly) **E. Africa**.

[A polymorphic species which is accepted here in a broad sense. The reviser feels quite unable to distinguish specimens with lyrate leaves in specific rank.-H.H.]

2. *Elytraria maritima* *J. K. Morton* l.c. 54, fig. 1 (1956). *APD acc*

Elytraria squamosa of Chev. Bot. 491, partly (Chev. 16074), not of (Jacq.) Lindau.

A prostrate perennial herb; flowers pale mauve; "only known from under coconut palms near the coast where this plant forms large patches in the almost bare sand" (Morton l.c. 57).

iv. C.: Abidjan Boughey GC 14539! Leeuwenberg 1789! Anguédédou (fl. & fr. Oct.) Mangelot & Aké Assi 3792! Bingerville (fr. Dec.) Chev. 16074! **Ghana:** Princetown Morton A326! GC 8451. Ancobra R. Cudjoe 123. Axim (fr. Feb.) Morton A1631!

[A local race of *E. marginata*, described in specific rank.-H.H.]

31. NELSONIA

R. Br.-F.T.A. 5: 28; Bremekamp in Reinwardtia 3: 247 (1955). *APD acc*

- 1 A small herb with decumbent villous branches; lower leaves long-petiolate, upper becoming subsessile, elliptic to ovate, entire, up to 4 cm. long, pubescent or often woolly; flowers in cylindric villous spikes up to 10 cm. long; bracts imbricate, broadly ovate, about 6 mm. long; calyx-lobes 4, lanceolate, unequal, the largest often shortly bilobed; fruits a little longer than the bracts [canescens](#)

Nelsonia canescens (Lam.) Spreng. Syst. Veg. 1: 42 (1825); F.W.T.A., ed. 1, 2: 608; Milne-Redhead in Mem. N.Y. Bot. Gard. 9, 1: 19 (1954); Bremekamp l.c. 248. *APD acc*

Justicia canescens Lam. Tab. Encycl. Méth. Bot. 1: 41 (1791).

Nelsonia campestris R. Br. (1810)-F.T.A. 5: 28; Chev. Bot. 491; F.W.T.A., ed. 1, 2: 261.

Softly pubescent prostrate branching herb with erect spikes of small pink or purple flowers.

Sen.: Heudelot 48! Boivin! Gorée Ealmy! Farmar 60! **Gam.:** Brown- Lester! Saunders 8! **Mali:** Fetodie (fr. Apr.) Davey 565! Tilembeya (Mar.) Davey 97! **Guin.(?):** Kano Pobéguin 627! **S. L.:** Kamalu (fr. May) Thomas 397! Freetown Sc. Elliot 5905! Deighton 239! Magbile (Dec.) Thomas 6037! Daru (fr. Mar.) Deighton 4100! **Lib.:** Dinklage 3356! Beiden Baldwin 10269! Monrovia (fl. & fr. Sept.) Wrigley 714! **Iv. C.:** Nambonkaha (Fr. Nov.) Leeuwenberg 2059! Davo (Aug.) de Wilde 374! Sassandra (Jan.) Leeuwenberg 2554! **Ghana:** R. Kakum (fr. Mar.) Irvine 1594! Krobo (fl. & fr. May) Morton! Dawa (fl. & fr. Dec.) Thomas D32! Assin-Yan-Kumasi Cummins 191! Atwabo Fishlock 50/1931! Navrongo (fr. Feb.) Vigne FH 4479! **N. Nig.:** Nupe Barter 1159! Kontagora Dalz. 155! Sokoto (fr. Nov.) Lely 141! Vom Dent Young 202! Naraguta (Nov.) Lely 707! **S. Nig.:** Ibadan (fr. Jan.) Meikle 956! Gambari F.R., (fl. & fr. Mar.) Hepper 2283! Utanga, Obudu Div. (fr. Dec.) Savory & Keay FHI 25164! Oban Talbot! Calabar (fl. & fr. Feb.) Onochie FHI 25149! 36341! [**Br. Cam.:** Preuss! Buea, 3,000 ft. (fr. Dec.) Maitland 119! Mbalange, Kumba (Jan.) Binuyo & Daramola FHI 35495! Bamenda, 4,000 ft. (fr. June) Maitland 1699! Near Vogel Peak, Adamawa (Nov.) Hepper 1433! **F. Po:** Barter 2046! Mann 253! 1869!

Widespread in the tropics.

32. BARLERIA

Linn.-F.T.A. 5: 140. APD acc

- 1 Plants, especially young leaves and inflorescences, covered with both simple and stellate hairs; stellate hairs mostly composed of one very long hair with a dense tuft of much smaller hairs at its base:2
Plants only covered with simple hairs:3
- 2 Flowers in a terminal spike-like inflorescence up to 15 cm. long; leaves linear-lanceolate, acute, up to 17 cm. long and 23 mm. broad, with about 5 pairs of lateral nerves which are, like the midrib, covered with stellate hairs beneath; outer sepals lanceolate, up to 15 mm. long and 4.5 mm. broad, adaxial ones usually slightly emarginate, like all other parts of the inflorescence hairy-glandulose, of the same texture as the leaves (i.e. not becoming dry and papery in flowering and fruiting state) [1. macclaudii](#)
Flowers axillary and terminal; leaves elliptic-lanceolate, acuminate, cuneate at base, up to 10 cm. long and 3.5 cm. broad (but usually only about 5 cm. long and 2 cm. broad); stellate hairs particularly conspicuous on the younger parts of the inflorescences; outer calyx-segments subequal, broadly ovate, up to 1.5 cm. long and 1 cm. broad, sharply acuminate, becoming dry and papery in flowering and fruiting state, finely and irregularly spinulose-dentate, covered along the margins and nerves on the outer surface with stellate hairs but glabrous along the nerves within, and on the inner surface only covered with sparsely distributed minute simple hairs between the veins [2. asterotricha](#)
- 3 Branches without interpetiolar spines:4
Branches with interpetiolar spines:9
- 4 Bracts with spiny teeth on the margin, strongly venose, broadly ovate, about 2.5 cm. long and 2 cm. broad; corolla 5 cm. long; leaves narrowly obovate, acutely acuminate, about 15 cm. long and 5 cm. broad, with rod-like cystoliths on the upper surface, appressed-pilose on the nerves beneath; corolla yellow .. [3. oenotheroides](#)
Bracts entire; corolla white, blue, purplish, or (particularly on drying) greyish-violet:5
- 5 Leaves glabrous beneath, ovate-elliptic, shortly and acutely acuminate, rounded or subcordate at base, 6-9 cm. long, 3-4.5 cm. broad; petioles (of the lower leaves) 1.5-2.5 cm. long, upper leaves sessile; inflorescence substrobrate; adaxial calyx-segment broadly obovate-orbicular, shortly ciliate, up to 2 cm. long and 15 mm. broad; corolla 5 cm. long, pubescent; stamens long-exserted [4. brownii](#)
Leaves pilose, pubescent or villose beneath; leaf-base always cuneate:6
- 6 Flowers very few not forming a strobilus; corolla 3-4 cm. long:7
Flowers in substrobrate, inflorescence-like clusters; the two outer sepals lanceolate to ovate-lanceolate, 13-17 mm. long, not becoming transparent nor papery nor denticulate nor purplish-tinged in fruiting specimens; corolla 4 cm. long:8
- 7 Stems covered with minute grey appressed indumentum; leaves narrow-lanceolate, 1-3.5 cm. long, 0.5-1 cm. broad, finely grey-pubescent in young leaves (older leaves may be glabrescent and larger); the 2 outer sepals ovate about 1.5 cm. long and 7 mm. broad; fruits 1-seeded, beaked [5. bonifacii](#)
Stems more or less setose with brown hairs; leaves elliptic, 3.5-15 cm. long, 2-5 cm. broad, setose mainly on the nerves beneath; the 2 outer sepals broadly ovate up to 1.8 cm. long and 1.3 cm. broad, setose, becoming

slightly transparent or papery and minutely and sparsely dentate in fruit, often purplish-tinged; fruits 2-seeded, not beaked [6. ruellioides](#)

- 8 Indumentum pilose, not densely villose, hairs spreading; adaxial sepal narrowly lanceolate, up to 15 mm. long and 4 mm. broad, abaxial sepal of about the same size, at its apex narrowly 2-cleft for about 1/4 (or sometimes more) of its length; corolla white, sometimes with a few purple markings [7. opaca](#)

Indumentum densely villose, sometimes slightly silky-shiny, hairs straight; adaxial sepal broadly ovate-lanceolate, up to 17 mm. long and 8 mm. broad, abaxial sepal of about the same size (sometimes even larger), at its apex broadly 2-cleft for about 1/3 of its length; corolla blue-purple [8. villosa](#)

- 9 Spines spinulose-dentate, slightly winged (but often nearly simple and with no, or very small, teeth); plants softly pubescent; leaves oblanceolate, up to 4 cm. long and 1.5 cm. broad, loosely pilose, drying blackish, with a sharp tip; flowers solitary in the upper axils, blue; corolla 2.5 cm. long, glabrous outside; fruit oblanceolate, 2 cm. long [9. bornuensis](#)

Spines rigid, acicular, simple; plants nearly glabrous; leaves more or less elliptic, narrowed at both ends, usually slightly larger than in No. 8, glabrous, drying light greenish or greenish-grey, with a sharp tip; flowers solitary and axillary, yellow-orange, more or less crowded at the tips of branches and forming an inflorescence, the upper leaves and bracts often becoming spine-like; corolla up to 3 cm. long, glabrous or with very few hairs outside; fruit oblanceolate, 1.5 cm. long [10. eranthemoides](#)

1. *Barleria maclaudii* Benoist in Notulae Syst. 2: 156 (1911). *APD acc*

A stout erect annual (?) herb, unbranched, up to 5 ft. high with very long willow-like leaves; flowers pale mauve, about 1 in. long, funnel-shaped, about 1 1/2 in. across.

Guin.: Saman valley (Oct.) Maclaud 209! Fouta Djallon Unknown collector (H.b Paris)! Dinguiraye (fl. & fr. Dec.) Jac.-Fél. 1430!

2. *Barleria asterotricha* Benoist l.c. 155 (1911). *APD acc*

Subshrub, up to 3 ft. high, very similar to *B. ruellioides* (No. 6), but easily distinguishable by its indumentum; flowers handsome violet with a narrow corolla-tube up to 3/4 in. long, corolla if fully opened, saucer-shaped, 3/4 in. across; [preferably in shady places](#) (Jac.-Fél.).

Guin.: Dinguiraye (fl. & fr. Dec.) Maclaud 24! Jac.-Fél. 1484!

3. *Barleria oenotheroides* Dum. Cours. Botan. Cultiv., ed. 2, 2: 561 (1811). *APD acc*

Barleria flava Jacq. f. Eclog. Pl. rar. 1: 67, t. 46 (1813), excl. syn.; l.c. 153; Bot. Mag. 70: t. 4113 (1844), excl. syn. *B. mitis* Ker; F.T.A. 5: 155; Chev. Bot. 497; F.W.T.A., ed. 1, 2: 262; Benoist in Bot. Soc. Brot., sér. 2, 24: 39.

Eranthemum flavum Willd. (1813), name only.

Barleria senegalensis Nees (1847).

A woody undershrub erect at first then often straggling, the stems covered with stiff yellowish hairs; the flowers nearly 2 in. long, yellow turning mauve in drying, in dense bracteate spikes; [sometimes cultivated as an ornamental](#).

Mali: Moussaia Chev. 397. Guienguénia Chev. 437. **Port. G.:** Tébé Esp. Santo 566. Bissalanca, Bissau (Jan.) Esp. Santo 2240! **Guin.:** Heudelot 644! Farfar 60! Kindia Chev. 13011. Soya to Kouloundala Chev. 20378. Santa to Timbo Chev. 12612; 12812bis. **S. L.:** Sugar Loaf Mt., 2,000 ft. (Feb.) Tindall 35! Mofadu (Jan.) Sc. Elliot 4423! Loma Mts. (Jan.) Jaeger 3914! Glanville 391! Thomas 8254! Kabala (Dec.) Deighton 2936! **Iv. C.:** Bouroukrou Chev. 16779; 16859. Sassandra (Jan.) Leeuwenberg 2534! 2609! **Ghana:** Banka Irvine 474! Ofin Headwaters F.R. (Jan.) Andoh 4288! Abranja-Oda (Jan.) Darko 598! Goaso (Feb.) Andoh 5108! Kibbi Hills (Jan-Feb.) Morton GC 8394! 25329! **S. Nig.:** Omo (formerly part Shasha) F.R. (Feb.) Jones & Onochie FHI 14726! 16741!

4. *Barleria brownii* S. Moore in J. Bot. 46: 73 (1908). *APD acc*

Barleria talbotii S. Moore in Cat. Talb. 86 (1913).

A straggling shrub with smooth branches and blue flowers about 2 in. long.

Ghana: Sunyani to Chira, N. Ashanti (Dec.) Morton A2826! Dormaa to Berekum (Dec.) Morton A2647! **S. Nig.:** Owo (Jan.) Burton FHI 30798! Akure F.R., Ondo (Dec.) Keay & Trochain FHI 25603! Onipanu, Ondo (Dec.) Onochie FHI 5235! Oban Talbot 1396!

Also in **Ubangi-Shari**, **Gabon**, **Congo**, **Uganda** and **Angola**.

5. *Barleria bonifacei* Benoist in Bull. Soc. Bot. Fr. 99: 325 (1953).

APD: Synonym of Barleria lancifolia subsp. charlesii (Benoist) J.-P. Lebrun & Monod

Barleria hereroensis var. **charlesii** Benoist in Mem. Soc. Bot. Fr. 8: 279 (1917); Chev. Bot. 497.

Herb 1-2 ft. high; flowers bluish or mauve; in dry savanna.

Maur.: Oumoulsouitigat (Oct.) Charles in Hb. Chev. 28813! Assaba (fl. & fr. Jan.) Boniface 107!

[This is very near the aggregate species *B. lancifolia* T. Anders. (in J. Linn. Soc. 7: 28 (1863); Obermeijer in Ann. Transvaal Mus. 16: 147 (1933), for synonymy and taxonomic discussion. *B. alata* S. Moore (1880)-F.T.A. 5: 158), which is widespread in S. Africa and Angola; but the incomplete knowledge of the taxonomy of the representatives of this group outside the area covered by Miss Obermeijer's revision does not permit the inclusion of *B. bonifacei* in its synonymy-H.H.]

6. **Barleria ruellioides** T. Anders. in J. Linn. Soc. 7: 30 (1863); F.T.A. 6: 165. *APD acc*

Woody herbaceous straggling plant with pale blue sub-campanulate flowers 1-1 1/2 in. long; in riverine forest in savanna country.

Mali: Bamako (Sept.) Jaeger 3/1943! Siriguibougou (Nov.) Raynal 5193! Sikasso (fl. & fr. Dec., Apr.) Vuillet 504! Chev. 761! **Guin.:** Kouroussa (Dec.) Pobéguin 606! Siguiri (Jan.) Jac.-Fél. 1524! **Iv. C.:** Bobo (Dec.) Aubrév. 2225! **Ghana:** Banda Ravine (fr. Dec.) Morton GC 25157! Dutukpene (Dec.) Adams 4530! **N. Nig.:** Nupe Barter 932! Mokwa Meikle 1028! Patti Lokoja (Nov.) Dalz. 141! Bebi, by R. Ata (fr. Dec.) Savory & Keay FHI 25009! Anara F.R., Zaria (Nov.) Keay FHI 21691! **[Br.] Cam.:** Labati Serti, Adamawa (Dec.) Latilo & Daramola FHI 28949! Vogel Peak, 3,850 ft., Adamawa (Nov.) Hepper 1331!

Also in **Ubangi-Shari**.

7. **Barleria opaca** (Vahl) Nees in DC. Prod. 11: 230 (1847); F.T.A. 5: 163; Chev. Bot. 497. *APD acc*

Justicia opaca Vahl Enum. 1: 133 (1805).

A straggling undershrub; flowers white, 1 1/2 in. long.

Iv. C.: Bouroukrou Chev. 16779; 16859. Anoumaba (Nov.) Chev. 22401! **Ghana:** Accra Don! Cape Coast Brass! Akroful Cummins 30! Alafango Krause! Krobo (Nov.) Irvine 1701! Aboma F.R. (Nov.) Vigne FH 3446! Aburi Scarp (Nov.) Morton GC 6133! **Togo Rep.:** Lomé Warnecke 20! **Dah.:** Sakété (Jan.) Chev. 22835. **S. Nig.:** Lagos (Feb., Mar.) Millen 46! 179! Rowland! Gambari F.R. (Nov., Dec.) Onochie FHI 34948! 35346! Ibadan (Jan.) Newberry & Etim 181! Meikle 874! Olokemciji to Alabata (fl. & fr. Nov.) Onochie FHI 8135! Utanga, Obudu Div. (Dec.) Savory & Keay FHI 25146! **[Br.] Cam.:** Buea, 3,000 ft. (Dec., Jan.) Maitland 139! 142! 272! Dunlap 161! Preuss 714. Maisamari, 4,600 ft., Mambila Plateau (Jan.) Hepper 1679!

Also in **Cameroun**.

8. **Barleria villosa** S. Moore in J. Bot. 18: 267 (1880); F.T.A. 5: 164. *APD acc*

A woody climbing shrub with villous stems and foliage, and blue-purple flowers 1 1/2 in. long.

N. Nig.: Jos Plateau (fl. & fr. Jan.) Lely P114! Batten-Pools 206! Vom (Jan.) Dent Younff 193! Ropp (Dec.) W. D. MacGregor 406! Pankshin, 4,000 ft. (Dec.) Coombe 61! **[Br.] Cam.:** Vogel Peak, 4,900 ft., Adamawa (Dec.) Hepper 1578!

Also in **Cameroun** and **Angola**.

[*B. opaca* and *B. villosa* are very similar and, particularly in herbarium specimens, sometimes difficult to distinguish (see note in F.T.A. 1.c.). The differentiation based on the size and shape of the adaxial calyx-segments as indicated by Clarke in F.T.A. 5: 144, key; 163, 164, is very unreliable because these organs are rapidly accrescent after the corollas have fully opened; the measurements-taken from a full series of dissections of herbarium material of our region-are therefore very different from those given in F.T.A. The isotype-specimens of *B. villosa* (Welw. 5070, 5071) which were apparently used by Clarke for his description in F.T.A. are very young and have therefore much smaller calyx-segments than usual; in fact, *B. villosa* has, in all fully flowering specimens seen from W. Africa for this revision, larger outer calyx-segments than *B. opaca*-H.H.]

9. **Barleria bornuensis** S. Moore in Macleod, Chiefs & Cities Centr. Afr. 304 (1912); Cat. Talb. 85. *APD acc*

Low, branched, woody undershrub of savanna, with spines 1/2-3/4 in. long, and blue flowers 1 in. long.

N. Nig.: Kontagora & Sokoto Prov. (fl. & fr. Dec.) Dalz. 359! Keana (Aug.) Hepburn 53! Dutsin Makurdi (fr. June) Elderry FHI 16352! 16372! L. Chad Dist. Talbot 1009!

Also in **Cameroun**.

10. *Barleria eranthemoides* R. Br. ex C. B. Cl. in F.T.A. 5: 147 (1899). *APD acc*

Barleria eranthemoides R. Br. in Salt, Voy. Abyss. Append. IV: LXIV (1813), name only.

Low prickly semi-shrub up to 75 cm. high with spines up to 1 in. long, leaves bright green, smooth; flowers pale orange, corolla-tube about 1 in. long.

N. Nig.: Wusasa, Zaria (Aug.) Keay FHI 28030! [**Br.**] **Cam.:** Gwoza, 3,500 ft., Dikwa Div. (Jan.) McClintock 149!

Also in **Sudan**, **Ethiopia**, **Somaliland**, **E. Africa** and **Mozambique**.

B. cristata Linn. and *B. prionitis* Linn., both natives of tropical Asia, are cultivated as ornamentals.

***Barleria schmittii* Benoist in Notulae Syst. 3: 218 (1916); Chev. Bot. 497.**

A prickly undershrub up to 1 ft. high; flowers white.

Maur.: Bir Moghreïn Schmitt in Hb. Chev. 28571! Chareb El Ba'ir (fl. & fr. Feb.) Chudeau!

Recorded apparently just outside our area and included here to draw attention to the fact that it may occur within it. The two gatherings cited (the only specimens hitherto known) belong to a complex group which is mainly represented in S. Africa and for which the following name seems today the most reliable: *B. rigida* Nees in DC. Prod. 11: 242 (1847); P. G. Meyer in Mitt. Bot. Staatssammlg. München 2: 384 (1957), for synonymy and taxonomic discussion. *B. irritans* var. *ilicina* T. Anders. in J. Linn. Soc. 7: 28 (1863). The taxonomy of these plants is still in need of further study.

33. PSEUDERANTHEMUM

***Radlk.* in Sitzb. math. phys. Cl. k. bayer. Akad. Wiss. 13: 282 (1883); Milne-Redhead in Kew Bull. 1936: 255.**

Eranthemum of F.T.A. 5: 169, partly, and of F.W.T.A., ed. 1, 2: 262, partly, not of Linn.

- 1** Capsule normally 2-seeded, slightly pubescent outside; flowers brick to red-scarlet, with a darker centre; inflorescence finely glandular; seeds finely muricate, especially on the inner face [1. *dispermum*](#)
Capsule normally 4-seeded: **2**
- 2** Corolla distinctly bilabiate, stamens exserted; corolla-tube scarcely inflated above; capsule often more than 3 cm. long; nodes of the inflorescence many-flowered; shrubs up to 4 m. high [2. *ludovicianum*](#)
Corolla not distinctly bilabiate, stamens included; inflorescence rather slender with few flowers at each node; corolla somewhat inflated above; capsule less than 3 cm. long; herbs, sometimes woody at the base, up to 20 cm. high [3. *tunicatum*](#)

1. *Pseuderanthemum dispernum* Milne-Redhead in Kew Bull. 1936: 267, fig. 6, 4. *APD acc*

Eranthemum hypocrateriforme of Cat. Talb. 140 (1913); F.W.T.A., ed. 1, 2: 262; not of Roem. & Schult.

Erect perennial herb or shrubby, up to 2 ft. high; corolla brick-red outside, bright coral-red inside, about 1 1/2 in. long.

S. Nig.: Oban Talbot 1552! Okuni, Cross B. (Jan.) Holland 172! Agoi Efut-Ukwop Eyere Rosevear 30/31! [**Br.**] **Cam.:** Meandja Schlechter 12681! Babenga to Owe, Victoria (fl. & fr. Nov.) Keay FHI 37544!

Also in **Cameroun**.

2. *Pseuderanthemum ludovicianum* (Büttner) Lindau in E. & P. Pflanzenfam. 4, 3b: 330 (1895) and in Schlechter, Westafr. Kautschuk.-Exped. 316; F.W.T.A., ed. 1, 2: 608; Milne-Redhead l.c. 263, fig. 6, 1. *APD acc*

Eranthemum ludovicianum Büttner (1890)-F.T.A. 5: 172; F.W.T.A., ed. 1, 2: 262.

A forest undershrub up to 12 ft. high, with narrow tubular flowers white or purplish-tinged, 1 1/2 in. or more long forming a spike-like panicle 4-10 in. long.

Lib.: (fl. & fr. Jan.) Harley 1063! **Ghana:** Pusa Pusa Ravine, Kibbi Hills (Jan.) Morton GC 6383! Kibbi, 2,370 ft. (Dec.) Morton GC 8129! Mampong Scarp (fl. & fr. Jan.) Morton A1537! Kwahu Tafo to Mankrong (fr. Apr.) Morton A673! **S.**

Nig.: Oban Talbot 379! 1390! 1398! 1423! 1437! Ikette to Balegete, Ogoja (Dec.) Savory & Keay FHI 25199! R. Ata, below Koloishe, 4,000 ft. (Dec.) Savory & Keay FHI 25046! Boje to Afi River F.R. (Dec.) Keay FHI 28244! **[Br.] Cam.:** Victoria Preuss 598! Buea 2,600-3,500 ft. (Jan., Feb.) Schlechter 12853! Dalz. 8210! Maitland 196! Ngusi to Mafura (Jan.) Schlechter 12905! Johann-Albrechtshöhe (= Kumba) Staudt 537! Barombi (Feb.) Binuyo & Daramola FHI 35551! **F. Po:** Mann 1437!

Also in **Cameroun**.

3. *Pseuderanthemum tunicatum* (Afzel.) Milne-Redhead l.c. 264, fig. 6, 2 (1936). *APD acc*

Justicia tunicata Afzel. (1814).

Eranthemum nigrisianum T. Anders. (1863)-F.T.A. 5: 171; F.W.T.A., ed. 1, 2: 262.

Pseuderanthemum nigrisianum (T. Anders.) Radlk. (1883)-Chev. Bot. 500; F.W.T.A., ed. 1, 2: 608.

Eranthemum lindau C. B. Cl. in F.T.A. 5: 173 (1899).

A woody herb or undershrub of the **forest**, 1-2 ft. high with pale bluish or lilac or nearly white flowers, spotted on the lip, 1-1 1/2 in. long including the corolla-lobes and slender tube.

S. L.: Afzelius! Freetown (Jan.) Dalz. 948! Kukuna (Jan.) Sc. Elliot 4692! Njala (Feb.) Deighton 1079! 1756! Port Loko Glanville 260! Loma Mts., 2,600-3,000 ft. (Jan.) Jaeger 3916! 4085! **Lib.:** Nana Kru (Mar.) Baldwin 11588! **iv. C.:** Makougnie Chev. 16992! 17188! Kassigué Chev. 17048! Zaranou Chev. 17632! Nékaougnie to Grabo Chev. 19603! Mt. Cope Chev. 19698! Sassandra (Jan.) Leeuwenberg 2608! **Ghana:** Banka Irvine 492! Assin Yan to Kumasi Cummins 237! Abetifi, Kwahu (Jan.) Irvine 1665! Sunyani (Jan.) Chipp 74! N'Kwanta (Jan.) Chipp 64! Koforidua Hills (fl. & fr. Dec.) Johnston 440! **Togo Rep.:** Baumann 375! **Dah.:** near Sakété (Jan.) Chev. 22864! 22899! **S. Nig.:** Kradu Lagoon, Lagos Barter 3300! Okomu F.R., Benin (fl. & fr. Dec.-Feb.) Brenan 8618! 8833!a! 9003a!b! Usonigbe F.R. (fl. & fr. Feb.) Onochie FHI 27699! Omo F.R. (fr. Apr.) Onochie FHI 16516! Eket Talbot! Oban Talbot 1356; 1392! **[Br.] Cam.:** Victoria Preuss 1108! 1366! Johann-Albrechtshöhe (= Kumba) Staudt 561! Mombo, S. Bakosi Olorunfemi FHI 30574! Lus, Nkambe Div. (fl. & fr. Feb.) Hepper 1880! **F. Po:** Mann 156!

Extends to **Angola**.

34. ADHATODA

Medik.-F.T.A. 5:221 . APD acc

- 1 Plants persistently brownish-tomentose and hairy, particularly stem, petioles, inflorescences and leaves beneath; leaves broadly elliptic-lanceolate, up to 35 cm. long and 11 cm. broad, with up to 17 pairs of lateral nerves; inflorescences axillary and subterminal, very short (up to 3.5 cm. long) and compact, strobiliform in appearance, densely hairy; corolla about 2 cm. long [1. camerunensis](#)
- Plants not persistently hairy or tomentose (sometimes the younger parts pubescent or even brownish-tomentose, but always becoming more or less glabrous); inflorescences terminal (but sometimes with some additional axillary branches in the upper leaf-axils), elongate, never strobiliform in appearance, paniculate or spiciform; always (in normal specimens) much longer: **2**
- 2 Lateral nerves about 15 pairs, puberulous beneath; leaves broadly elliptic, acuminate, shortly decurrent on the petiole, 17-25 cm. long, 8-10 cm. broad; petiole up to 4 cm. long; panicle large, with stiff ascending branches; bracts leafy; bracteoles obovate-oblongate, pubescent; calyx-segments oblong-lanceolate, 1 cm. long, shortly pubescent; ovary pubescent; corolla 2 cm. long [2. robusta](#)
- Lateral nerves up to 10 pairs: **3**
- 3 Inflorescences lax, almost branched, paniculate or compound-racemose: **4**
- Inflorescence a dense spike: **6**
- 4 Bracts narrowly lanceolate, about 5 mm. long; leaves broadly elliptic or obovate-elliptic, acuminate, up to 20 cm. long and 10 cm. broad, glabrous, lateral nerves in 6-8 pairs; calyx 7 mm. long, lobes about 5 mm. long and 1.5 mm. broad at base [4. maculata](#)
- Bracts ovate to orbicular, sometimes leafy: **5**
- 5 Partial inflorescence elongate, sometimes with zigzag branches, flowers in rather remote clusters with large orbicular leafy bracts of 15 cm. diam.; leaves elliptic, rather abruptly acuminate, about 15 cm. long and 8 cm. broad, glabrous; lateral nerves about 6 pairs; calyx-segments lanceolate, about 8 mm. long [3. buchholzii](#)
- Partial inflorescences straight, often branched, flowers more or less racemosely arranged at the terminal branchlets in the axils of ovate, shortly apiculate bracts 9-14 mm. long and 6-8 mm. broad; leaves narrowly obovate-lanceolate, up to 30 cm. long and 8 cm. broad, glabrous, lateral nerves about 8 pairs; calyx-segments lanceolate, about 7 mm. long and 3 mm. broad at base [5. guineensis](#)
- 6 Bracts linear-lanceolate; spikes slender, about 15 cm. long; leaves obovate, auriculate at the broadly cuneate

base, 14-18 cm. long, 5-8 cm. broad, minutely pubescent beneath, with 9-10 pairs of lateral nerves; corolla 1 cm. long [6. tristis](#)

Bracts suborbicular, overlapping, strongly nervose, about 1.3 cm. long, softly puberulous; spikes strobiliform, elongated, up to 25 cm. long, pedunculate; leaves elliptic-obovate, shortly acuminate, broadly cuneate at base, up to 25 cm. long and 12 cm. broad, shortly pubescent on nerves and veins beneath [7. orbicularis](#)

1. **Adhatoda camerunensis** *Heine* in Kew Bull. 16: 165, fig. 2 (1962). *APD acc*

Duvernoia robusta *Lindau* in Schlechter, Westafr. Kautschuk-Exp. 317 (1900), as to Schlechter 12928, not *Adhatoda robusta* C. B. Cl.

Erect, little-branched shrub up to 6 ft. high with brown-pilose stem and petioles; leaves glabrescent above, softly hairy beneath; corolla pure white or white with crimson markings; [in lowland rain forest](#).

[Br.] **Cam.**: Bova to Kuke Bova, Kumba (fl. & fr. Jan.) Keay FHI 37391!

Also in **Cameroun**.

2. **Adhatoda robusta** C. B. Cl. in F.T.A. 5: 223 (June 1900); Aké Assi Contrib. 1: 214.

APD: *Synonym of Justicia baronii* V.A. W. Graham

Duvernoia robusta (C. B. Cl.) *Lindau* in Schlechter, Westafr. Kautschuk-Exp. 317 (not before Dec. 1900) excl. Schlechter 12928.

A shrub or small tree up to 16 ft. high, brownish-velvety tomentose on the young parts, with large shining leaves and white flowers 3/4 in. long in a large erect panicle; [in rain forest](#).

Iv. C.: 30 km. E. of Gagnoa (fr. Dec.) Leeuwenberg 2154! Oumé (Nov.) Aké Aké Assi 5505! **Ghana**: Begoro, Akim (Jan.) Irvine 1158! Darko 956! Akwapim Hills (Oct.) Johnson 793! Akparafe (Nov.) Morton A4041! **S. Nig.**: Inguobazuwa, Benin (Nov.) Onochie, Latilo & Binuyo FHI 40300! Degema Talbot 3646! [Br.] **Cam.**: Buea, 3,500 ft. (Dec.) Migeod 248! N. slopes of Cam. Mt. 4,700 ft. (Feb.) Keay FHI 37498! Bonakanda, 2,200 ft. (fr. Dec.) Maitland 1211! **F. Po.**: 3,000 ft. (Dec.) Mann 634!

Also in **Cameroun**.

3. **Adhatoda buchholzii** (*Lindau*) *S. Moore* in Cat. Talb. 74, 140 (1913). *APD acc*

Duvernoia buchholzii *Lindau* in Engl. Bot. Jahrb. 20: 43 (1894).

Adhatoda maculata of F.T.A. 5: 223, partly (syn. *D. buchholzii*), not of (T. Anders.) C. B. Cl.

A climbing shrub finely rusty-pubescent on the young parts, becoming glabrous, with fairly large leaves and white flowers about 3/4 in. long in interrupted spikes forming a panicle; fruits 1 in. long.

S. Nig.: Oban Talbot 372! 1025! 2076! Uwet-Odot F.R., Calabar (Jan.) Jones FHI 6859!

Also in **Cameroun**.

4. **Adhatoda maculata** C. B. Cl. in F.T.A. 5: 223 (1900), partly; Aké Assi, Contrib. 1: 213, excl. syn. *Duvernoia buchholzii* Lindau.

APD: *Synonym of Justicia biokoensis* V.A. W. Graham

Justicia maculata T. Anders. in J. Linn. Soc. 7: 38 (1863), not of Lodd. (1822), nor of Perrottet (1825).

Asystasia trichotogyne *Lindau* in Engl. Bot. Jahrb. 33: 1900 (1902).

A climbing shrub like the last, with interrupted simple spikes of flowers 1 in. long, white with purple spots.

Iv. C.: Sakiré (Jan.) Mangelot & Aké Assi 2790! **Ghana**: Busua Bay Morton, A1805! **S. Nig.**: Oban Talbot 1405! [Br.] **Cam.**: S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35498! **F. Po.**: (Jan.) Mann 202!

Also in **Cameroun**.

5. **Adhatoda guineensis** *Heine* in Kew Bull. 16: 167, fig. 3 (1962).

APD: *Synonym of Justicia guineensis* (Heine) W.D. Hawth.

Tall herb or undershrub 3-4 ft. high, with yellow-green flowers with dull purple stripes on the upper lip and purple markings on the lower lip; [in undergrowth of forest](#).

Guin.: Nzérékoré (Sept.) Jac.-Fél. 1098! Nimba Mts. (Oct.) Schnell 3821! **S. L.:** Joru (fr. Jan.) Deighton 3857! Giewahun (Dec.) Deighton 3833! Lalahun, Gaura (Dec.) King 84b! Gola Forest (Jan.) King 4! **Lib.:** Harbel (Dec.) Bequaert 2! Gbanga (Sept.) Linder 441! Soplina (Nov.) Baldwin 10018a! Dinklaye 3360! **Iv. C.:** Tiapleu (Oct.) Aké Assi 6670!

6. *Adhatoda tristis* Nees in DC. Prod. 11: 404 (1847); F.T.A. 5: 223; Cat. Talb. 140. *APD acc*

Adhatoda auriculata S. Moore in Cat. Talb. 87, 140 (1913), not of Nees (1847).

Herbaceous undershrub 2-4 ft. high, with 4-angled branches brownish-pubescent when young, with purple flowers 3/4 in. long in spikes interrupted at the base.

S. Nig.: Oban Talbot 50! 996! 2011! Calabar to Mamfe (Jan.) Onochie & Okafor FHI 36052x! **F. Po:** (Jan.) Mann 165! (Nov.) T. Vogel 161! S. Isabel to S. Carlos (fr. Dec.) Guinea 766!

Also in [Cameroun](#).

7. *Adhatoda orbicularis* (Lindau) C. B. Cl. in F.T.A. 5:222 (1900); Cat. Talb. 140.

APD: *Synonym of Justicia orbicularis* (Lindau) V.A. W. Graham

Duvernoia orbicularis Lindau in Engl. Bot. Jahrb. 22: 123 (1895).

A shrub about 12 ft. high, tawny-pubescent on the young parts, with rather large leaves and flowers 1/2 in. long in long close spikes with strongly-nerved bracts.

S. Nig.: Oban Talbot 975! **F. Po:** Mann. 1435!

Also in [Cameroun](#).

35. GRAPTOPHYLLUM

Nees-F.T.A. 5: 241.

- 1 Leaves oblong-elliptic, usually variegated, sometimes copper-coloured, very shortly and broadly acuminate, acute at base, 9-15 cm. long, 5-7 cm. broad, with 7-8 pairs of lateral nerves, glabrous; petiole about 5 mm. long; racemes several-flowered; pedicels with 3-4 small bracts at the base, about 5 mm. long; calyx-lobes lanceolate, 3-5 mm. long; corolla glabrous, 3-5 cm. long, limb very oblique; stamens 2, exserted, anther-cells equal [1. pictum](#)

Leaves more or less as above but normally green with longer acumen and long petioles; calyx and corolla minutely glandular [2. glandulosum](#)

1. *Graptophyllum pictum* (Linn.) Griffith Notulae 4: 139 (1854). *APD acc*

APD: *Synonym of Graptophyllum glandulosum* Turrill

Justicia picta Linn. Sp. Pl. ed. 2, 1: 21 (1763); Bot. Reg. 15: t. 1227 (1829).

Graptophyllum hortense Nees (1832)-C. B. Cl. in Fl. Brit. Ind. 4: 545; F.T.A. 5: 241, partly (excl. Staudt "4551").

A glabrous shrub with variegated leaves, often copper-coloured (see note below) and red-purple tubular flowers 1-1 1/2 in. long in narrow panicles; [planted in gardens as an ornamental](#).

Guin.: Boa Entrada (cult., Aug.) Chev. 13492! **S. L.:** (cult., May) Barter! Kitchom (Dec.) Sc. Elliot 4326! Freetown (cult., Feb.) Dalz. 1015! Magbile (Dec.) Thomas 6379! **Ghana:** Kokorantumi (cult., June) Deighton 3391!

Planted in gardens as an ornamental; native country uncertain, but certainly Indo-Pacific, sometimes known as "Joseph's Coat" or "Caricature Plant".

Plants with normal green leaves have been described from Java under the name *G. hortense* var. *viride* Hasskarl (in Cat. Hort. Bogor. alt. 150, 1844), but they are apparently not known from Africa; they may be very near the next species. Plants with copper-coloured leaves are known as *G. pictum* var. *lurido-sanguineum* (Sims) Bremek. & Backer in Bkn. Fl. Java 9B: 71 (1940) (syn. *Justicia picta* β *lurido-sanguinea* Sims Bot. Mag. 44: t. 1870 (816[7?]); Blume Bijdr. 14: 784 (1826), as var.; *Graptophyllum hortense* var. *rubrum* Hassk. l.c. (1844). *G. hortense* var. *lurido-sanguineum* Chittenden, R.H.S. Dict. Gard. 2: 921 (1951); and in Bot. Mag. Index 114 (1956)).

2. *Graptophyllum glandulosum* Turrill in Kew Bull. 1912: 331; Cat. Talb. 140. *APD acc*

Graptophyllum pictum Lindau (sic.) in Schlechter Westafr. Kautschuk-Exp. 316 (1900), not of (Linn.) Griffith.

Graptophyllum hortense of F.T.A. 5: 241, partly (Staudt "4551"), not of Nees.

A shrub with 4-angled, nearly glabrous branches, normal green leaves, and red-purple flowers 1 in. or more long.

S. Nig.: Oban Talbot 377! Oban F.R. (Jan.) Onochie FHI 36142! Ifunkpa-Atakom, Calabar (Dec.) Holland 216! Obutong, Calabar (Mar.) Onochie FHI 7708! [**Br.**] **Cam.:** Bangwe Conrau 52! Johann-Albrechtshöhe (= Kumba) (June) Staudt 455! Nyasoso, 2,600 ft. Schlechter 12894!

Also in **Cameroun**.

***Odontonema cuspidatum* (Nees) O. Ktze.**

Thysacanthus cuspidatus Nees

Cultivated as an ornamental.

S. Nig.: Ibadan (cult., Jan.) Keay PHI 37330!

A relative of these plants, from Mexico, is cultivated as an ornamental.

It is sometimes wrongly named "*Jacobinia coccinea*". This species is regarded by some botanists as conspecific with the C. American *O. strictum* (Nees) O. Etze.

36. SCHAUERIA

Nees Ind. Sem. Hort. Ratisb. 1838, nom. cons.; F.T.A. 5: 242.

- 1** Branchlets glabrous; leaves ovate, rather abruptly acuminate, cordate at base, 8-10 cm. long, 3.5-6.5 cm. broad, covered with numerous minute rod-like cystoliths; petiole up to 7 cm. long, pubescent; inflorescence spike-like, cylindric, up to 9 cm. long; bracts filiform, 1-1.5 cm. long, with stipitate glands towards the apex; calyx-lobes subulate, 6 mm. long; corolla 1.5 cm. long; stamens 2; anther-cells 2, rounded at the base, pubescent at the tip [populifolia](#)

***Schaueria populifolia* C. B. Cl.** in F.T.A. 5: 242 (1900); Cat. Talb. 140. *APD acc*

Herbaceous undershrub 4-5 ft. high, with red-purple flowers 1/2-2/3 in. long in a dense cylindrical panicle.

S. Nig.: Cross River North F.R. (Dec.) Keay FHI 28157! Afi Diver F.R. (Dec.) Keay FHI 28238! Oban Talbot 993! **F. Po:** Mann 1426! Clarence Peak (Nov.) T. Vogel!

Also in **Cameroun**.

37. CHLAMYDOCARDIA

Lindau-F.T.A. 5: 234.

- 1** Branches with a line of hairs up the side; leaves narrowly ovate-elliptic, gradually acuminate, cuneate at base, 6-8 cm. long, 2.5-3.5 cm. broad, with numerous rod-like cystoliths more conspicuous beneath; spikes terminal, up to 15 cm. long; bracts very variable, from long-apiculate subulate and emarginate-cordate at the apex to broadly spatulate to subrhomboid, leafy, up to 1 cm. long and 5 mm. broad; calyx about 5 mm. long; corolla up to 12 mm. long; stamens 2, anther-cells mucous; fruit 1 cm. long; seeds tuberculate [buettneri](#)

***Chlamydocardia buettneri* Lindau** in Engl. Bot. Jahrb. 20: 139 (1894); F.T.A. 6: 234; Aké Assi, Contrib. 1: 214. *APD acc*

Chlamydocardia subrhomboidea Lindau l.c. 22: 119 (1895); F.T.A. 5: 235.

Slender, branched, woody herb, 12-18 in. high, creeping at the base, with narrow-cylindric 2-lipped whitish flowers 1/2 in. long in narrow spike-like panicles; **wet places in high forest**.

iv. C.: Baba to Jumbley, San Pedro (Feb.) Aké Assi 2858! **S. Nig.:** Okomu F.R., Benin (fl. & fr. Dec.) Brenan 8455! Shasha F.R., Ijebu Prov. (Mar.) Richards 3224! Oban Talbot 1374! Oban F.R. (fr. Feb.) Onochie FHI 36297! British Obokum, Ikom

(fl. & fr. Dec.) Keay FHI 28278! [**Br.**] **Cam.:** Victoria Preuss 1383. Victoria to Bimbina Preuss 1309. S. Bakundu F.R., Kumba (Mar.) Brenan 9317!

Extends to Gabon.

38. ANISOTES

Nees in DC. Prod. 11: 424 (1847), nom. cons.; F.T.A. 5: 226. *APD acc*

- 1 Stems puberulous; leaves oblong-ob lanceolate, obtuse at apex, 5-8 cm. long, 2-4 cm. broad, entire, shortly pubescent on the midrib; flowers solitary, axillary; bracteoles 2 cm. long, oblong; corolla 4 cm. long, 2-lipped nearly to the base, tube 1 cm. long, glabrous [guineensis](#)

Anisotes guineensis *Lindau* in Mém. Soc. Bot. Fr. 2, 8: 53 (1908); Chev. Bot. 501. *APD acc*

Erect shrub or small tree up to 13 ft. high, with laurel-like leaves dark green and glossy above; flowers dark red; [in wet ground by streams](#).

Guin.: Diaguissa to Timbo, 3,300-4,000 ft. (Apr.) Chev. 13444! Téli-mélé (fr. Jan.) Roberty 16454! Kindia to Forécariah, Benna Massif (June) Jac.-Fél. 1758! Pita (July) Pobéguin 2136! Kinkou Falls, Pita (fl. & fr. Oct.) Jac.-Fél. 1962!

39. PERISTROPHE

Nees-F.T.A. 5: 242.

- 1 Stems sparingly setose-pilose; leaves subequal ovate-lanceolate, acute, abruptly narrowed into the winged petiole, up to 10 cm. long and 4 cm. broad, with conspicuous rod-like cystoliths on both sides; flowers very numerous in a lax leafy panicle; pedicels angular and scabrid; calyx-segments linear-lanceolate, very acute, 8 mm. long; corolla 1.5 cm. long; stamens 2, anthers 2-celled; fruit 1 cm. long, pubescent [bicalyculata](#)

Peristrophe bicalyculata (*Retz.*) *Nees* in Wall. Pl. As. Rar. 3: 113 (1832); F.T.A. 5: 242, 514; Chev. Bot. 501; Schnell in Icones Pl. Afr. (I.F.A.N.) 1: t. 20 (1953), for full syn.; Berhaut Fl. Sén. 83, 85; Milne-Redhead in Mem. N.Y. Bot. Gard. 9: 28 (1954).

APD: *Synonym of Dicliptera paniculata* (*Forssk.*) *I. Darbysh.*

Dianthera bicalyculata *Retz.* in Sv. Vetensk. Handl. 36:297, t. 9 (1775).

Justicia bicalyculata (*Retz.*) *Vahl* (1791).

Peristrophe pilosa *Turrill* in Kew Bull. 1921: 394.

Erect branched herb, 2-4 ft. high, with stems several-angled, and narrow pink or pale purple flowers 1/3-1/2 in. long.

Sen.: Perrottet 633! Roger! Farmar 18! Thiès (fl. & fr. Dec.) Chev. 2785! 2786. Dakar (fr. Feb.) Caille! Richard Tol (fl. & fr. Feb.) Roberty 16855! Kaolak (Nov.) Berhaut 415! **Gam.:** Boteler! **Mali:** Gao (fl. & fr. Sept.) Hagerup 363! Tenadjie (Nov.) Davey 152! **Niger:** Kolo to Marona (fr. Oct.) Vaillant 571! **N. Nig.:** Panyam, 4,500 ft. Lely 415! Borgu Barter 767! Sokoto Lely 159! Moiser 19! Kuka, Bornu (fl. & fr. Feb.) E. Vogel 34!

In Cape Verde Islands, throughout tropical Africa from Mauritania to S. Africa, and **Arabia**.

40. ISOGLOSSA

Oerst.-F.T.A. 5: 227.

- 1 Leaves rounded at base, subequal in each pair, ovate, acuminate, up to 7 cm. long and 3.5 cm. broad, with small rod-like cystoliths very conspicuous on the nerves; petiole slender, up to 3 cm. long, the upper leaves becoming sessile; panicle slender, few-flowered; calyx-lobes 2.5 mm. long, fringed with gland-tipped hairs; corolla 2 cm. long; stamens 2; anther-cells widely separated; fruit 1.5 cm. long [I. glandulifera](#)

Leaves cuneate at base, subequal, ovate, acuminate, up to 8 cm. long and 4.5 cm. broad, with very short rod-like cystoliths on the upper surface, pubescent on the nerves beneath; petiole pilose with multicellular hairs; panicle

as above [2. nervosa](#)

1. *Isoglossa glandulifera* *Lindau* in Engl. Bot. Jahrb. 20: 54 (1894): F.T.A. 5: 229. *APD acc*

Erect, slender-branched herb 4-10 ft. high, with very thin leaves and light red flowers 3/4 in. long in a lax slightly glandular panicle.

S. Nig.: Obudu Plateau, 5,500 ft., Ogoja Prov. (Aug.) Stone 78! **[Br.] Cam.:** Victoria (Mar.) Brenan & E. W. Jones 9355! 9555! Mimbia, 3,900 ft. Preuss 1062! Cam. Mt., 7,000 ft. (Mar.) Kalbreyer 132! (fl. & fr. Nov.) Mann 1972! Maitland 1022! Bafut-Ngemba F.R., 7,000 ft. (fl. & fr. Feb.) Hepper 2172! **F. Po:** 4,000 ft. (Nov.) Mann 579! El Pico, 5,000 ft. (Dec.) Boughey 180! S.W. of Lago Bianco, 2,000 ft. (Sept.) Melville 659!

2. *Isoglossa nervosa* *C. B. Cl.* in F.T.A. 5: 229 (1900). *APD acc*

Stems fairly stout, ribbed, rather densely glandular-hairy on the young parts, 5 ft. high, with coarser strongly-nerved leaves and white flowers, turning reddish.

[Br.] Cam.: Cam. Mt., 7,000-8,000 ft. (Dec.) Mann 2009!

Isoglossa sp. A.

[Br.] Cam.: Nkom-Wum F.R. (fl. & fr. Jan.) Lightbody FHI 26290!

Single gathering of doubtful position.

Isoglossa sp. B.

F. Po: Picode S. Isabel (fr. Mar.) Guinea 2953!

Single gathering of doubtful position.

Isoglossa sp. C.

S. L.: Bitumane Peak (fl. & fr. Jan.) T. S. Jones 117!

Single gathering of doubtful position.

41. RHINACANTHUS

Nees-F.T.A. 5: 224.

- 1 Branches pubescent, leaves equal to very unequal-sized in each pair, ovate-lanceolate to lanceolate, with numerous small root-like cystoliths on both surfaces, panicles axillary and terminal; pedicels and linear calyx-segments glandular-puberulous; corolla-tube slender, tubular, 1.5 cm. long; stamens 2; anthers shortly exerted; fruit 1.5 cm. long, softly pubescent; seeds finely warted: [2](#)
 - 2 Leaves elliptic-lanceolate to ovate, gradually acuminate-cuspidate, cuneate at the base, up to 16 cm. long and 5.5 cm. broad; petiole up to 1 cm. long (but upper leaves sometimes subsessile); corolla-tube 1.5-2.5 cm. long, white to whitish-yellow, sometimes pale mauve [1a. virens var. virens](#)
- Leaves elliptic, strongly obtuse or rounded at apex, rounded to subcordate at base, up to 10 cm. long and 4.5 cm. broad, subsessile (petiole never exceeding 3 mm.); corolla-tube 10-15 mm. long, white, lower lip with purple dots [1b. virens var. obtusifolius](#)

1. *Rhinacanthus virens* (*Nees*) *Milne-Redhead* in Exell Suppl. Cat. S. Tomé 37 (1956), (q.v. for synonymy etc.). *APD acc*

Leptostachya virens *Nees* in DC. Prod. 9: 378 (1847).

Rhinacanthus subcaudatus *C. B. Cl.* in F.T.A. 5: 225 (1900).

Rhinacanthus communis of F.T.A. 5: 224, 514, partly (W. Afr. specimens), of F.W.T.A., ed. 1, 2: 266, of Aké Assi, Contrib. 1: 220, not of *Nees* (1832).

1a. *Rhinacanthus virens* (*Nees*) *Milne-Redhead* var. *virens*-Heine in Kew Bull. 16: 180. *APD acc*

Herb 1-3 ft. high or weak undershrub woody below, with slender white or purplish flowers about 1 in. long; variable in habit.

Guin.: Paroisse 1! Bafing Adam 12653! **S. L.:** Makump (Jan.) Glanville 138! Kasawe F.R. (Dec.) King 40b! Njala (Mar.) Deighton 4715! Bafi R. (Feb.) Macdonald 2! Kangahun, Gandima Deighton 6024! Wallia (Feb.) Sc. Elliot 4276! **Lib.:** Kakatown (Sept.) Whyte 99! Genna Tanyehun & Mecca (Dec.) Baldwin 10739! 10800! Ba, Mano R. Baldwin 10725! **Iv. C.:** Anguédédou Miège & Aké Assi IA 1242. Zaranou (Mar.) Chev. 17622! Leeuwenberg 3046! **Ghana:** Agogo (fl. & fr. Dec.) Irvine 574! Begoro, Akim, 1,500 ft. (Jan.) Irvine 1171! Mt. Ejuanema (Dec.) Adams 5140! Afram Mankrong F.R. (fl. & fr. Dec.) Adams 4937! **S. Nig.:** Idanre (Jan.) Brenan & Keay 8695! Benin (fl. & fr. Feb., Mar.) Onochie FHI 18749! Morton K453! Eket Talbot 3131! Oban Talbot 1365! [**Br.**] **Cam.:** Victoria (Jan., Feb.) Keay FHI 28673! Dalz. 8200! Banga, Kumba (fl. & fr. Jan., Mar.) Binuyo & Daramola FHI 35166! Brenan 9406! Olorunfemi FHI 30511!

Also in **Cameroun**, **Gabon**, **Congo**, **S. Tomé** and **Principe**.

[There is a very hairy-pilose form, occurring in Ghana (Irvine 1171, Adams 5140), but it seems impossible to distinguish such aberrant specimens in infraspecific rank.]

1b. *Rhinacanthus virens* var. *obtusifolius* Heine in Kew Bull. 16: 180 (1962).

*APD: Synonym of *Rhinacanthus obtusifolius* (Heine) I. Darbysh.*

***Rhinacanthus tenuipes* (S. Moore) Aké Assi**, Contrib. 1: 221, t. 17 (1961), partly (specimens cited from Iv. C.), not *Justicia tenuipes* S. Moore (1913).

Small herb; leaves dark green above, paler beneath; inflorescences up to 2 in. long; on **forest floor**.

Lib.: Ganta (fl. & fr. Jan.) Harley 817! **Iv. C.:** Niapidou (Jan.) Leeuwenberg 2417! Abengourou (Jan.-Feb.) Hallé 4867! Aké Assi 5515! Koleahinou (Jan.) Aké Assi 4866! Sangouine Aké Assi 5517! **Ghana:** Begoro (Jan.) Morton A2672! Doubtfully recorded also from Guinée (Schnell in Mém. I.F.A.N. 22: 518 (1952)); fide Aké Assi l.c.

42. DICLIPTERA

Juss. in Ann. Mus. Hist. Nat. Paris 9: 267 (1807), nom. cons.; F.T.A. 5: 256.

- 1 Bracteoles with sharp spiny tips, acuminate, narrowly oblanceolate to elliptic, villous-ciliate, sometimes glabrescent, up to 1 cm. long; leaves long-petiolate, ovate, broadly acuminate, up to 6 cm. long and 3 cm. broad, with prominent rod-like cystoliths on the lower surface [1. *verticillata*](#)
Bracteoles not spiny at the tips (but often sharply acuminate): **2**
- 2 The bracteoles suborbicular to broadly obovate, sometimes nearly as broad as long: **3**
The bracteoles oblong-elliptic to oblanceolate: **4**
- 3 Bracteoles densely fringed with long soft white hairs, suborbicular, 6-8 mm. long; leaves narrowly obovate, broadly acuminate, cuneate at base, 3-8 cm. long and 1.5-3 cm. broad, with rod-like cystoliths; corolla up to 2.5 cm. long [2. *elliottii*](#)
Bracteoles fringed with hairs, broadly obovate, 1-2 cm. long, strongly nerved; leaves on long slender petioles, narrowly obovate, broadly acuminate, 8-12 cm. long, 2-4 cm. broad, with about 6 pairs of lateral nerves; corolla not exceeding 1.5 cm. [3. *obanensis*](#)
- 4 Bracteoles oblong-elliptic, not narrowed to base, 5-6 mm. long, with prominent green veins; spikes lax; leaves ovate-elliptic, abruptly acuminate, 4-6 cm. long, 2-3.5 cm. broad, with minute hair-like cystoliths; petiole about 2 cm. long [4. *alternans*](#)
Bracteoles oblanceolate, narrowed to base: **5**
- 5 Bracteoles villous; leaves lanceolate, 5-6 cm. long, 1-2 cm. broad; flowers crowded [5. *adusta*](#)
Bracteoles glabrescent: **6**
- 6 Small decumbent herb; leaves oblanceolate, up to 2 cm. long and 8 mm. broad; flowers in terminal, spike-like inflorescences; bracteoles lanceolate, up to 5 mm. long and 1 mm. broad [6. *laxispica*](#)
Stout upright herb; leaves elliptic, up to 8 cm. long and 3-5 cm. broad; cymes axillary, spikelets nearly all pedicelled; bracts up to 15 mm. long and 5 mm. broad [7. *laxata*](#)

1. *Dicliptera verticillata* (Forsk.) C. Christens. in Dansk Bot. Ark. 4, 3: 11 (1922); Aké Assi, Contrib. 1: 215. *APD acc*

*APD: Synonym of *Dicliptera hyalina* Nees*

***Dianthera verticillata* Forsk.** Fl. Aeg. Arab. Descr. pl. 9 (1775).
***Justicia cuspidata* Vahl** (1791).

J. umbellata Vahl (1804).

Dicliptera umbellata (Vahl) Juss. (1807)-F.T.A. 5: 259; F.W.T.A., ed. 1, 2: 264.

Dicliptera micranthes Nees (1832)-F.T.A. 5: 258; F.W.T.A., ed. 1, 2: 264.

Dicliptera ocimoides (Lam.) Juss. l.c. (1807); Berhaut Fl. Sén. 92.

Justicia ocymoides Lam. (1784).

Dicliptera maculata var. *senegambica* Nees in DC. Prod. 11: 485 (1847).

Dicliptera senegambica (Nees) Benoist ex Tisserant in Mém. Inst. Et. Centrafic. 2: 15 (1950).

Stems several-angled almost woody below, decumbent, 1-2 ft. long, with red flowers in whorls running into terminal spikes.

Sen.: Roger 42! Brunner! Berhaut 697. **Gam.:** Genieri (Feb.) Fox 69! **S. L.:** Wellington (fl. & fr. Feb.) Deighton. 4994! Gbanbama (Mar.) Thomas 8924! 9432! **Iv. C.:** Bouaké (Jan.) Aké Assi 4551! **Ghana:** Kumasi (Jan.) Darko 370! Dormaa-Ahenkro (Dec.) Adams 3024! Zuarungu (Nov.) Akpabla 403! Nangodi (Dec.) Morton A1253! Gambaga (fr. Dec.) Morton A1368! **Niger:** Marona to Zinder (Dec.) Vaillant 621/2! **N. Nig.:** Kano (fl. & fr. Dec.) Hagerup 663! **S. Nig.:** Lagos Barter 2176! Ibadan (Jan.) de Wit 7785! Aguku Dist. Thomas 1394! Eket Talbot 3202! [**Br. Cam.:** Victoria (fl. & fr. Feb.) Maitland 978!]

Also in **Cape Verde Islands**, **Congo**, **Angola**, **E. Africa** and **Arabia**.

2. *Dicliptera elliotii* C. B. Cl. in F.T.A. 5: 258 (1900); Aké Assi l.c. 215. *APD acc*

Dicliptera talbotii S. Moore (1914).

Dicliptera silvicola Lindau (1911).

Dicliptera heterostegia of Chev. Bot. 501, not (?) of Presl ex Nees (see note below).

Dicliptera insignis Mildbr. (1935).

Decumbent, 1 ft. or more long, slightly angled stems, with small white flowers 1/3 in. long in axillary and terminal whorls of broad-bracteate spikelets.

Mali: Bamacora (fl. & fr. Feb.) Chev. 502! **S. L.:** Thomas 8793! Wallia (fl. & fr. Jan.) Sc. Elliot 4632! Njala (fl. & fr. Jan.-Mar.) Deighton 1101! 1806! Moselelo (fr. Nov.) Deighton 2373! Baoma (fr. Apr.) Deighton 3169! **Lib.:** Mao R., Nyandamolahun (fr. Feb.) Bequaert 73. **Iv. C.:** Dakpadoo (fl. & fr. Feb.) Leeuwenberg 2863! Taï (fl. & fr. Mar.) Leeuwenberg 3035! Aké Assi IA 3094. **Ghana:** Cape Coast (Dec.) Hall 1676! Axim (fr. Feb.) Irvine 2370! Akuse (Oct.) Morton P1752! Dormaa (fr. Dec.) Adams 2991! Tain II F.R. (ft. Dec.) Morton A1029! **N. Nig.:** Thornewill 26! **S. Nig.:** Eket Talbot 3217! Balinge, Obudu Div. (fl. & fr. Dec.) Savory & Keay FHI 26165!

Widespread tropical African weed.

A very variable and widespread tropical African weed described under many names; owing to the imperfect taxonomic knowledge of the genus its true distribution is not properly known. [Plants here called *D. elliotii* C. B. 01. are only doubtfully distinct (mainly by the usually smaller flowers) from those which have been described as *D. heterostegia* Presl ex Nees in DC. Prod. 11: 478 (1847); Fl. Cap. 5: 90; Chev. Bot. 501. (*D. heterostegia* (E. Mey.) Presl in Abh. k. böhm. Ges. Wiss. V. Folge, 3: 525 (1845), name only. *Justicia heterostegia* E. Mey. in Drège, Zwei Pflanzengeogr. Docum. 152, 159, 195 (1843), name only.)-Described from S. Africa. Chev. 502 was named by Lindau as "*D. heterostegia* Nees"].

3. *Dicliptera obanensis* S. Moore in Cat. Talb. 90 (1913). *APD acc*

A slender herb 1-2 ft. high, rooting at the lower nodes, with green foliaceous bracts and small white flowers.

S. L.: Lalakum to Gbwema, Gaura (ft. Dec.) King 103b! **Ghana:** Accra (fl. & fr. Jan.) Morton GC 25346! Kibi (ft. Dec.) Marton GC 8213! E. Akim (ft. Mar.) Johnson 717! Obomeng, Kwahu (Dec.) Adams 6170! **S. Nig.:** Oban (fr. Feb.) Talbot 1363! Onochie FHI 36314!

[This seems to be doubtfully distinct from *D. chinensis* (Linn.) Juss. (syn. *Justicia sexangularis* Forsk. (1775), not of Linn. (1753); C. Christens, in Dansk Bot. Ark. 4, 3: 10 (1912); *J. chinensis* Linn. (1753)).]

4. *Dicliptera alternans* Lindau in Engl. Bot. Jahrb. 20: 47 (1894); F.T.A. 5: 258. *APD acc*

A slender herb up to 1 ft. high, slightly pubescent, with white flowers and green-veined pointed bracts.

[**Br. Cam.:** Buea (ft. Jan.) Preuss 604!]

Also in **Cameroun**.

5. *Dicliptera adusta* Lindau in Mém. Soc. Bot. Fr. 2, 8: 51 (1908). *APD acc*

Dicliptera lelyi Hutch. & Dalz. F.W.T.A., ed. 1, 2: 265 (1931).

Erect, branched herb, woody below, with several-angled stems nearly glabrous, and many flowers 1/2-2/3 in. long, pinkish purple with spots and darker lower lip; [in savanna, flowering after fires](#).

N. Nig.: Naraguta (Nov.) Lely 712! Birnin Gwari (fl. & fr. Mar.) Meikle 1349! Utachu to Madengyen, Niger Prov. (Jan.) Meikle 1071! Jos Plateau (Jan.) Lely P91! Sanga River F.R., Jemaa (Apr.) Keay & Jones FHI 37623! **S. Nig.:** Oyo F.R. (fl. & fr. Feb.) Keay FHI 22613!

Also in [Ubangi-Shari](#).

[This is only slightly different from *D. pumila* (Lindau) Dandy in Mem. N.Y. Bot. Gard. 9, 1: 27 (1954), see discussion there.]

6. *Dicliptera laxispica* Lindau in Engl. Bot. Jahrb. 30: 113 (1901), and in Schlechter Westafr. Kautschuk-Exp. 316 (1900), name only. *APD acc*

A decumbent herb rooting at the lower nodes, with small leaves and small white flowers 1/4 in. long.

iv. C.: Sassandra Aké Assi 4869! Tai (fr. Jan.) Mangenot & Aké Assi 3090! **Ghana:** Mpameso F.R., W. Ashanti (Dec.) Adams 2970! **S. Nig.:** Oban Talbot!

Also in Cameroun. [This may be only a form of No. 4, but with the material at present available it is inadvisable to add it to the synonymy of that species.]

7. *Dicliptera laxata* C. B. Cl. in F.T.A. 5: 258 (1900); Mildbraed in Notizbl. Bot. Gart. Berl. 9: 507 (1926). *APD acc*

Scrambling shrub with dark green stems and pale green leaf undersurfaces; bracts usually dark tinged; flowers white; [a typical highland species](#).

[Br.] Cam.: Buea (Jan.) Deistel 489. Bamenda, 5,000 ft. (fl. Jan., fr. Apr.) Maitland! Keay & Lightbody FHI 28476! Bafut-Ngemba F.R. (fr. Feb.) Hepper 2193! Tiku FHI 22163! Bali (fr. Feb.) Conrau 18. Rudin in Hb. Hepper 2864! **F. Po:** Balachá to Ureka (fr. Feb.) Guinea 2298!

Also in [Congo](#) and [E. Africa](#).

Dicliptera hyalina of Berhaut Fl. Sén. 92, not of Nees (1847).

"**Sp.**" of Chev. Sudania 1: 44.

Sen.: Tanma Berhaut 1304. N'diaye bop Chev. 2809! Ntiaye (fl. & fr. May) Raynal 7053!

Villous-hairy plants resembling vegetatively *D. verticillata*, but they do not seem to be a form of it and they are certainly not conspecific with *D. hyalina* Nees (in DC. Prod. 11: 484 (1847)) described from Comoro Islands. Further collections and monographic study are necessary to elucidate their taxonomic position.

43. JUSTICIA

Linn.-F.T.A. 5: 179.

- 1 Bracts white, transparent, reticulate with greenish margins and veins, ovate-acute, up to 12 mm. long and 7 mm. broad; inflorescences terminal, strobilate; leaves ovate, up to 7 cm. long and 4 cm. broad [1. *betonica*](#)
Bracts never white and reticulate with greenish margins and veins: **2**
- 2 Flowers axillary; stems pubescent to glabrous; leaves very variable, from linear to ovate, subsessile to long-petiolate, acute or acuminate, up to 12 cm. long and 4 cm. broad, setulose to nearly glabrous; calyx-lobes lanceolate, acuminate, more or less ciliate; corolla up to 2.5 cm. long; pubescent outside; fruit 1.5 cm. long, slightly pubescent or glabrous [2. *insularis*](#)
Flowers spicate racemose or paniculate: **3**
- 3 Flowers all to one side of the short slender spikes; leaves linear to lanceolate, acute, 3.5-6 cm. long, up to 1 cm. broad, glabrous or nearly so, thin; calyx-segments subulate-lanceolate, 3.5 mm. long, with narrow hyaline margins; fruit 1 cm. long, glabrous [3. *anselliana*](#)
Flowers not all to one side of the inflorescence: **4**
- 4 Inflorescence spicate: **5**
Inflorescence paniculate: **9**

- 5 Spikes interrupted, the lower internodes 1 cm. long; flowers in small dense cymes; leaves broadly obovate, acuminate, cuneate at base, 10-18 cm. long, 5-8 cm. broad, glabrous, with about 5 pairs of lateral nerves; petiole 2-5 cm. long; corolla 1 cm. long; stamens exserted [4. nigerica](#)
- Spikes more or less continuous: **6**
- 6 Spikes terminal, with lanceolate, linear to spatulate bracts, stout undershrubs (No. 7 sometimes herbaceous): **7**
- Spikes lateral, 1-2 cm. long, on slender peduncles, with broadly obovate nervose bracts about 5 mm. long; leaves ovate, long-petiolate, rounded at apex, up to 5 cm. long and 3 cm. broad, very thin and glabrescent; fruits 3 mm. long; a creeping slender herb [8. tenella](#)
- 7 Flowers 2-5 cm. long, very deeply 2-lipped, opening about 5 cm. wide, blue, inflorescence sometimes bearing small lateral cymes; up to 3 m. high, with sparsely pubescent ovate leaves up to 12 cm. long and 6 cm. broad [5. preussii](#)
- Flowers much smaller, 9-22 mm. long, not deeply lipped, opening about 1 cm. wide, inflorescence never with lateral cymes: **8**
- 8 Bracts spatulate, about 1 cm. long, at the top about 2 mm. broad and in the upper half densely covered with glandular hairs 2 mm. long; corolla about 2-2 cm. long, bluish; petioles up to 2-5 cm. long; leaves elliptic-oblong, 5-15 cm. long and 2-5-7-5 cm. broad, velvety, with about 7-9 pairs of lateral nerves [6. hepperi](#)
- Bracts oblanceolate, narrowed to the base, about 1 cm. long, ciliate with eglandular hairs; corolla about 2 cm. long, yellow; petioles up to 1-7 cm. long; leaves like the last, hairy (not velvety), up to 12 cm. long and 5 cm. broad [7. flava](#)
- 9 Panicles axillary, few-flowered, terminal and very loose, compound with capillary branches: **10**
- Panicles terminal, usually 15-25 cm. long, subpyramidal (in some forms small and compact), rich-flowered; herbs about 1-5 m. high; seeds with blunt tubercles; bracts linear, subulate or sometimes leafy; leaves long-petiolate: **11**
- 10 Plants pubescent or nearly glabrous; sepals up to 4 mm. long; corolla up to 12 mm. long; seeds covered with long scabrous tubercles [9. glabra](#)
- Plants pubescent; sepals about 8 mm. long; corolla up to 10 mm. long; seeds minutely warted [10. tenuipes](#)
- 11 Ovary and capsule glabrous [11. laxa](#)
- Ovary and capsule hairy [12. extensa](#)

1. *Justicia betonica* Linn. Sp. Pl. 15 (1753); Sp. Pl. ed. 2, 1: 21 (1762); F.T.A. 5: 184. **APD acc**

A rather variable herb, sometimes becoming shrubby, with white flowers, the tube slightly violet in the throat.

Mali: Kita (Dec.) Jaeger 3788!

Throughout the Old World tropics.

[This species is cited by C. B. Clarke in F.T.A. from Sierra Leone, but there is no reference in the corresponding literature nor a specimen at Kew. Clarke attributes his indication to Lindau; I was unable to find out where Lindau published the note to which Clarke referred.-H.H.]

2. *Justicia insularis* T. Anders. in J. Linn. Soc. 7: 40 (1863); F.T.A. 5: 195; Mildbraed in Notizbl. Bot. Gart. Berl. 9: 501 (1926); Aké Assi, Contrib 1: 217. **APD acc**

APD: *Synonym of Justicia lazarus S. Moore*

Adhatoda diffusa Benth. in Fl. Nigrit. 483 (1849), not *Justicia diffusa* Willd. (1797).

Justicia galeopsis T. Anders. ex C. B. Cl. in F.T.A. 5: 196 (1900); Lindau in Mildbr. Wiss. Egebn. 1907-08: 309 (1914); Chev. Bot. 500; Benoist in Bol. Soc. Brot., sér. 2a, 24: 9.

Siphonoglossa macleodiae S. Moore in Macleod, Chiefs & Cities Centr. Afr. 304 (1912); Cat. Talb. 84.

A straggling extremely variable and widespread herb 1-3 ft. high, rooting below, with bright pink, red-purple or sometimes yellowish flowers with purple markings 3/4 in. long, 1-3 in the axils.

Sen.: Berhaut 446. Farmar 45a! **Gam.:** Skues! Kuntaur Ruxton 157! **Guin.:** Fouta Djalou (Jan.) Maclaud 312! Mamou (Sept.) Dalz. 8390! Schnell 6792! **Port. G.:** Esp. Santo 820. Calicunda to Paunca (fl. & fr. Sept.) Esp. Santo 2788! **S. L.:** Regent (fl. & fr. Dec.) Sc. Elliot 4149! Sugar Loaf Mt. (fl. & fr. Dec.) Sc. Elliot 3974! Ronietta (fl. & fr. Nov.) Thomas 5589! Masactaba (fl. & fr. Oct.) Glanville 33! Musaia (fl. & fr. Dec.) Deighton 4529! **Lib.:** Kakatown & Monrovia Whyte! **Ghana:** Bukrum (Feb.) A. S. Thomas D122! Tano-Offin F.R. (fl. & fr. Jan.) Vigne FH 1012! Kpedsu (Jan.) Howes 1079! Kwahu (Nov.) Irvine 1712! Dzolo Kputa (fr. Nov.) Morton GC 9350! Kumasi (fl. & fr. Dec.) Morton GC 9683! **Dah.:** Burton! **N. Nig.:** Yates 26! Millson 40! Nupe Barter 1038! Aguiji, Ilorin Tharnton! **S. Nig.:** Lagos Rowland! Millen 169!

Abeokuta Irving 65! EketTalbot! ObanTalbot 983! **[Br.] Cam.:** S. Bakundu F.R., Kumba (fl. & fr. Jan.) Binuyo & Daramola FHI 35196! **F. Po:** (fl. & fr. Nov., Dec.) T. Vogel! Guinea 756! Mamfe (fl. & fr. Dec.) Morton K675!

Throughout tropical Africa.

A very complex species and, like the whole genus, much in need of a monographic revision.. [This is, as accepted here, a complex group of plants which often appear heterogenous and rather different in habit, morphological characters and other features. The oldest name for it seems to be *J. lithospermifolia* Jacq. (1797), but without monographic revision of the whole group it is undesirable to change in this Revised Edition the traditional taxonomic concept for only a small part of the area inhabited by this very widespread Old World species-H.H.]

3. **Justicia anselliana** (Nees) T. Anders. in J. Linn. Soc. 7: 44 (1883); F.T.A. 5:208. *APD acc*

Adhatoda anselliana Nees in DC. Prod. 11: 403 (1847).

A nearly glabrous herb, erect or decumbent, 1-2 ft., with small white and purple-streaked flowers 1/4 in. long, few in short axillary one-sided inflorescences.

Mali: "Fleuve blanc" Peney! **Guin.:** Agoué Ménager! **Lib.:** Cape Palmas Ansell! **Ghana:** Kpong-Akuse (fl. & fr. June) Irvine 1772! Accra Unknown Coll. (Hb. Paris)! Shai Plains (May) Irvine 2674! Senya Beraku (ft. May) Morton GC 9214! **Togo Rep.:** Toblekoré (fl. & fr. Aug., Sept.) Mahoux 408! 423! **Dah.:** Zagnanado, L. Azri (Feb.) Chev. 23036! **N. Nig.:** Vom (fr. Apr.) Morton K324! Naraguta & Jos (fl. & fr. Apr.) Lely 571! P232! **S. Nig.:** Nkisi, Onitsha (fl. & fr. May) Killick 118! Abo (fl. & fr. Aug.) T. Vogel 14! Otumoye L., Onitsha (Mar.) Onochie FHI 35753!

Throughout tropical Africa.

4. **Justicia nigerica** S. Moore Cat. Talb. 81 (1913). *APD acc*

A woody undershrub with fairly stout puberulous branches flowers 1/3 in. long in spikes up to 9 in. or more long, simple or slightly compound below.

S. Nig.: Oban Talbot 995! 1308! 2008! "Central Prov." Rosevear C19!

5. **Justicia preussii** (Lindau) C. B. Cl. in F.T.A. 5: 204 (1900). *APD acc*

Salviacanthus preusii Lindau in Engl. Bot. Jahrb. 20: 75 (1894).

Brillantaisia majestica Wernham in J. Bot. 54: 229 (1916).

A puberulous shrub up to 10 ft. high; the large clear blue flowers in shape much resemble those of *Brillantaisia* or Mexican *Salvias*, capsule up to 3/4 in. long.

[Br.] Cam.: Cam. Mt., 2,000 ft. Mann 1298! Buea, 3,000-5,500 ft. (fl. & fr. Jan., Dec.) Preuss 675! Bates 817! Migeod 124! Savory FHI 36598! Mimbria, 4,000 ft. (Mar.) Brenan & E. W. Jones 9336!

Also in **Cameroun**.

6. **Justicia hepperi** Heine in Kew Bull. 16: 178, fig. 4 (1962). *APD acc*

An erect perennial herb about 5 ft. high in large clumps; flowers pale blue with darker blue veins; in hilly savanna.

[Br.] Cam.: Dakemi, Vogel Peak, 3,200 ft., Adamawa (fl. & fr. Nov.) Hepper 1393!

7. **Justicia flava** (Forsk.) Vahl Symb. Bot. 2: 15 (1791); F.T.A. 5: 190; Chev. Bot. 500. *APD acc*

Dianthera americana *a flava* Forsk. Fl. Aeg.-Arab. Desc. Pl. 9 (1775).

D. flava (Forsk.) Vahl (1790).

Justicia palustris of Oliv. in Trans. Linn. Soc., ser. 2, 2: 345; Lindau in E. & P. Pflanzenf. 4, 3B: 349 (Baumann 164), not of (Hochst.) T. Anders.

Herb, erect or straggling 1-4 ft., with pubescent sulcate stems and yellow dark-streaked flowers 1/3-1/2 in. long in pubescent spikes 2-6 in. or more long.

Sen.: Niayes Chev. 2799. **Guin.:** Iles de Los (ft. Nov.) Schnell 2073! Kouria Caille in Hb. Chev. 14720! 14908; 14910bis. Nzo (fr. Oct.) Schnell 3859! Nzérékoré (fl. & fr. Oct.) Baldwin 9737! **S. L.:** Binkolo (Aug.) Deighton 1278! Gbap (fl. & fr. Oct.) Jordan 627! Kokupr (fl. & fr. Dec.) Jordan 747! Kasawe F.R. (fr. Dec.) King 57b! Musaia (Dec.) Deighton 4450! **Lib.:** Gbanga (fl. & fr. Oct.) Linder 1264! Yratoke (July) Baldwin 6244! **Iv. C.:** Bingerville (fr. Dec.) Chev. 15568! 16039! de Wilde 500! Nekaougnié to Grabo Chev. 19591. Adiopodoumé (fl. & fr. Oct.) Leeuwenberg 1722! Grand Bassam (fl. & fr. Sept.) de Wit 7110! Cape Coast (July) T. Vogel! **Ghana:** Swedru (fl. Feb.) Dalz. 8278! Dunkwa (fl. & fr. Aug.)

Sampeney 711! Apampam (fr. Jan.) Morton GC 6403! Red Volta R. (fr. Dec.) Adams & Akpabla 4292! Tamale (fr. Dec.) Morton GC 6187! **Togo Rep.:** Baumann 164. Büttner 258! Lomé Warnecke 443! Talessou (fr. Oct.) Gironcourt 258! **Dah.:** Niaouli to Allada (fr. Mar.) Chev. 23141! **N. Nig.:** Quorra (= Niger) (Sept.) T. Vogel 167! Benue R. T. Vogel! Patti Lokoja (fr. Oct.) Dalz. 136! Alkalire (fl. & fr. Nov.) Lely 646! Damisa, Zaria Prov. (Nov.) Keay & Onochie FHI 21720! **S. Nig.:** Lagos (fr. Mar.) Millen 37! Orosun, Idanre Hills (fr. Oct.) Keay FHI 25509! Aguku Dist. Thomas 769! Onitsha Barter 619! 1779! Degema Talbot 3659! **[Br.] Cam.:** Vogel Peak, Adamawa (fl. & fr. Nov.) Hepper 1367!

Throughout tropical Africa.

8. **Justicia tenella** (Nees) T. Anders. in J. Linn. Soc. 7: 4 (1863); F.T.A. 5: 187 (for full synonymy); Chev. Bot. 501; Berhaut Fl. Sén. 95. **APD acc**

Rostellaria tenella Nees in DC. Prod. 11: 369 (1847).

Rungia baumannii Lindau in Engl. Bot. Jahrb. 22: 120 (1895).

A slender nearly glabrous herb, erect 6-12 in. high, creeping and rooting at the lower nodes, with small white and lilac or pink-tinged flowers in short 4-sided spikes with pale green broad bracts.

Sen.: Heudelot 327! Tambacounda Berhaut 1287! Badi (fr. Nov.) Berhaut 1930! **Mali:** Kita (fr. Oct.) Jaeger 3445! **Guin.:** Kouria (fr. Dec.) Caille in Hb. Chev. 14640! Bouria (fl. & fr. Nov.) Caille in Hb. Chev. 14956! Farmar 190! **Port. G.:** Brene, Bissau (fr. Feb.) Esp. Santo 1731! **S. L.:** Njala (fl. & fr. Sept.) Deighton 2081! Makump (fr. Aug.) Deighton 1375! Kambui Hills (fl. & fr. Dec.) Small 847! Rokupr (fl. & fr. Oct.) Jordan 653! Kabala (fl. & fr. Oct.) Deighton 4194! **Lib.:** Gbanga (fl. & fr. Sept.) Linder 570! Gbau (fl. & fr. Sept.) Baldwin 9417! Tawata (fr. Nov.) Baldwin 10320! 10321! Yratoke (fl. & fr. July) Baldwin 6263! **Iv. C.:** Bingerville Chev. 15587! Alépé Chev. 17474! Grabo Chev. 19748! Banco (fl. & fr. July) de Wit 7109! Tonkoui (fr. Aug.) Boughey 18332! Taï to Tabou (fl. & fr. Aug.) Boughey GC 14948! **Ghana:** Aburi Brown 384! Apampam (fl. & fr. Jan.) Mortem GC 6401! **N. Nig.:** Kontagora (fr. Dec.) Dalz. 185! **S. Nig.:** Sapoba Kennedy 1767! 2699! Usonigbe F.R., Benin (fr. Oct.) Keay FHI 21680! Owan, Benin (fr. Nov.) Latilo FHI 35357! Idanre (fr. Jan.) Brenan 8700! Oban Talbot 378! Afi River F.R., Ikom (Dec.) Keay FHI 28246! **[Br.] Cam.:** Victoria (fr. Nov.) Maitland 776! Lus, Nkambe Div. (fl. & fr. Feb.) Hepper 1868! Mayo Selbe, 1,600 ft., Gashaka Dist. (fl. & fr. Jan.) Hepper 1636! Vogel Peah, 2,500 ft., Adamawa (fl. & fr. Nov.) Hepper 1469! **F. Po:** El Pico (fl. & fr. Dec.) Boughey 181!

Throughout tropical Africa.

9. **Justicia glabra** Koenig ex Roxb. Fl. Ind., ed. Carey & Wall., 1: 132 (1820); Hort. Beng. 4 (1814), name only; F.T.A. 5: 208; Milne-Redhead in Mem. N.Y. Bot. Gard. 9: 24 (1954); Aké Assi, Contrib. 1: 216.

APD: *Synonym of Justicia scandens Vahl*

Erect or straggling herb about 6 ft. high; flowers greenish-yellow.

Iv. C.: Béoumi to Toumodi-Sakasso Aké Assi IA 3450. **N. Nig.:** Kwakuti, Niger Prov. (fl. & fr. Dec.) Keay FHI 37308! Lokoja (Oct.) Parsons L87! **[Br.] Cam.:** Vogel Peak, 4,800 ft., Adamawa (fl. & fr. Dec.) Hopper 1584!

Throughout tropical Africa, and India.

10. **Justicia tenuipes** S. Moore in Cat. Talb. 82 (1913). **APD acc**

Rhinacanthus tenuipes (S. Moore) Aké Assi, Contrib. 1: 221 (1961), excl. t. 17 and Iv. C. specimens.

A short-stemmed herb, creeping and rooting below, densely pubescent, with wrinkled leaves and narrow flowers 1/2-2/3 in. long in a glandular-pubescent loose panicle, sometimes reduced to 1 or 2 flowers.

S. Nig.: Oban Talbot 1327! 1483!

Only known from the type collections.

11. **Justicia laxa** T. Anders. in J. Linn. Soc. 7: 43 (1863); F.T.A. 5: 205; F.W.T.A., ed. 1, 2:266, partly (T. Vogel 144 Preuss 1350). **APD acc**

Adhatoda paniculata Benth. (1849).

Duvernoya paniculata (Benth.) Lindau (1894), not *Justicia paniculata* Burm. f. (1768), nor Forsk. (1775).

Herbaceous undershrub 4-5 ft. or more high or more or less straggling, with fairly large leaves and more or less dense terminal panicles or spike-like inflorescences of greenish-white flowers 1/2-2/3 in. long.

S. Nig.: Oban Talbot 70! 102! 978! [**Br.**] **Cam.:** Preuss 1350! Bafla, Victoria (Feb.) Keay FHI 37534! Kumba, crater lake (fr. Dec.) Morton K818! **F. Po:** (Nov.-Dec.) T. Vogel 144! Mann 63!

Also in **Cameroun** and **Gabon**.

12. *Justicia extensa* T. Anders. in J. Linn. Soc. 7: 44 (1863); F.T.A. 5: 206. *APD acc*

***Justicia talbotii* S. Moore** in Cat. Talb. 83 (1913).

***Justicia thyrsoiflora* S. Moore** l.c. 84 (1913); F.W.T.A., ed. 1, 2: 266, not of Roxb. (1820).

Justicia laxa of F.W.T.A., ed. 1, 2: 266, partly (excl. T. Vogel 144, Preuss 1350), not of T. Anders.

Herbaceous undershrub up to 10 ft. high, sometimes climbing, densely pubescent on the young stems, with small pale green pink-purple-spotted flowers ¼ in. long in short-branched tawny-pubescent terminal inflorescences up to 1 ft. long.

Guin.: Konkouré Mt. (Nov.) Pobéguin 1479! Kouria (Nov.) Caille in Hb. Chev. 14709! **S. L.:** Kwaoma (fr. Jan.) Deighton 3883! Male R. ferry (Dec.) Deighton 3567! Kenema (fl. & fr. Jan., Mar.) Thomas 7483! Lane-Poole 444! Bumbuna (Oct.) Thomas 3933! Giewahun (Nov.) Deighlon 358! **Lib.:** Monrovia (Oct.) Dinklage 2916! Whyte! Kakatown Whyte! Moala (Nov.) Linder 1376! Peahtah (Dec.) Baldwin 10613! Pronyon Bunting 64! **Iv. C.:** Morénou (Nov.) Chev. B22425! Singrobo (Nov.) Aké Assi 4459! Kassa (Oct.) Aké Assi 5504! **Ghana:** Shai Plains (Jan.) Johnson 582! Agogo (fl. & fr. Dec.) Chipp 610! Banka S. (Sept.) Vigne FH 1373! Apampam (fl. & fr. Nov.) Vigne FH 4274! Ankasa Taylor FH 5446! Wudidi, Togo Plateau (fl. & fr. Nov.) Morton A3445! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7274! **Dah.:** Sakété (Jan.) Chev. 22812! Sakété to Pedjilé (fr. Feb.) Chev. 22893! **S. Nig.:** Eppah, Lagos Barter 3301! 3396! Etemi to Etemi Odo, Ijebu (Oct.) Tamajong FHI 20991! Degema Talbot 3654! Eket Talbot 1425! Oban Talbot 976! 1371! 1408! Aboabam, Ikom (Dec.) Keay FHI 28211! Iso Bendiga to Afi River F.R. (Dec.) Keay FHI 20991! [**Br.**] **Cam.:** Mamfe (fl. & fr. Dec.) Morton K681!

Also in **Cameroun**, **Gabon**, **Ubangi-Shari** and **Congo**.

44. MONECHMA

***Hochst.*-F.T.A. 5: 212.**

- 1** Bracts with long white bristles, lanceolate, leafy, about 1.5 cm. long; leaves linear or narrowly linear-lanceolate, up to 12 cm. long and 1.5 cm. broad, more or less pilose; spikes short; calyx-segments sub-equal, linear, hispid; corolla 1.5 cm. long; fruit 1 cm. long [1. *ciliatum*](#)
- Bracts without stiff white bristles, elliptic-oblong to lanceolate, leaves elliptic to oblong-lanceolate: **2**
- 2** Leaves lanceolate, usually long-cuspidate, acuminate, up to 10 cm. long and 3 cm. broad; pilose on the nerves beneath; spikes up to 6 cm. long; bracts acute, sometimes nearly glabrous, with pale margins, up to 12 mm. long and 4 mm. broad [2. *depauperatum*](#)
- Leaves oblong-lanceolate, obtusely acuminate or rounded at apex, 3-3.5 cm. long and 0.8-1 cm. broad, puberulous, spikes up to 10 cm. long; bracts puberulous, mostly obtuse, 7-10 mm. long and 2-3 mm. broad (but in forms sometimes much larger), with no pale margins [3. *ndellense*](#)

1. *Monechma ciliatum* (Jacq.) Milne-Redhead in Kew Bull. 1934: 304; l.c. 5: 381 (1951) (both for full synonymy). *APD acc*

***Justicia ciliata* Jacq.** Hort. Vind. 2, 47, t. 104 (1772).

***Monechma hispidum* Hochst.** (1841)-F.T.A. 5: 213; F.W.T.A., ed. 1, 2: 266; Benoist in Bol. Soc. Brot., sér. 2, 24: 39; Aké Assi, Contrib. 1: 219; Berhaut Fl. Sen. 93.

***Justicia togoensis* Lindau** (1894).

***J. buettneri* Lindau** (1894).

***Hygrophila lutea* T. Anders.** (1863)-F.T.A. 5: 32; F.W.T.A., ed. 1, 2: 247.

Herb 1-2 ft. high, coarsely whitish-hairy, woody below, with 2-lipped cream-white flowers purple- and orange-streaked; **in savanna and fields.**

Sen.: Perrottet 639! Heudelot 167! 505! Berhaut 551. Thiès to Soussoune (Sept.) Trochain 1680! **Gam.:** Brown-Lester 251! Uyambai forest, Kombo Central Frith 238! **Mali:** San (Sept.) Chev. 2792! Dioura Davey 025! **Port. G.:** Esp. Santo 834.

Guin.: Koumi Pobéguin 4193! Mamou Jac.-Fél. 2198! **S. L.:** Boyaboya (fr. Feb.) Sc. Elliot 4588! **Iv. C.:** Morenou (fr. Dec.) Chev. 22498! Ferkessedougou Aubrév. 2557! Mankono, near R. Manakone (fr. Nov.) de Wilde 964! Namboukaha to

Ouronautiakara (fr. Nov.) Leeuwen-berg 1981! Bouaké (fl. & fr. Nov.) Leeuwenberg 2068! **Ghana:** Banda to Luenji (fr. Dec.) Morton GC 25119! GC 25253! Paliba (fr. Dec.) Adams & Akpabla 4117! Tate to Daboya (fr. Dec.) Morton GC 6207! Damongo (fl. & fr. Nov.) Rose Innes GC 30189! **Togo Rep.:** Kitschenke (Aug.) Büttner 148! Misahöhe (fl. & fr. Oct.-Nov.) Baumann 326! Mildbr. 7236! Schroeder 99! 104 (partly, mixed with *Hypoestes strobilifera* var. *tisserantii*)! **Dah.:** Agouagon to Savé (fr. May) Chev. 23556! **Niger:** Zinder (fr. Dec.) Vaillant 899! Kolo (fr. Jan.) Vaillant 668! Niamey (fr. Oct.) Hagerup 468! **N. Nig.:** Zaria (Aug., Sept.) Keay FHI 28016! Olorunfemi FHI 24357! Dogon Kurmi, Jemaa Div. (Nov.) Keay FHI 21038! Katagum Dalz. 101! Jos Plateau (July) Lely P342! Katsina (fr. & galls Dec.-Jan.) Kennedy 3019! **S. Nig.:** Lagos (fr. Sept.) Dodd 426! Onitsha Barter 1163! (galled) [**Br.**] **Cam.:** Dikwa (fr. Dec.) McClintock 52!

Throughout tropical Africa.

2. **Monechma depauperatum** (*T. Anders.*) *C. B. Cl.* in F.T.A. 5: 217 (1900); Aké Assi, Contrib. 1: 218.

APD acc

Justicia depauperata *T. Anders.* in J. Linn. Soc. 7: 40 (1863).

J. barteri *T. Anders.* l.c. 39 (1863).

Monechma scabridum (*S. Moore*) *C. B. Cl.* in F.T.A. 6: 217 (1900); Berhaut Fl. Sén. 88.

Justicia scabrida *S. Moore* (1880).

Monechma marginatum (*Lindau*) *C. B. Cl.* in F.T.A. 5: 217 (1900).

Nicoteba marginata *Lindau* (1895).

An erect, very variable, branched undershrub several ft. high (in grass) with pubescent angled stems, and white purple-streaked flowers 1/2 in. long; **in wet grassland.**

Sen.: Berhaut 1679. Niokolo-Koba (fr. Jan.) Berhaut 4594! **Mali:** Bamako (Sept.) Waterlot 1312! 1369! **Guin.:** Kouroussa (fl. & fr. Sept., Oct.) Pobéguin 448! 570! 1834bis! Mamou to Timbo (fl. & fr. Oct.) Jac.-Fél. 1897! Loura Mt., Mali (fr. Oct.) Jac.-Fél. 1977! Diaguissa to Boulivel (Sept.) Chev. 18601! Kouria to Trébéléya (fr. Sept.) Chev. 18233! **S. L.:** Musaia (fl. Dec., Feb., fr. Mar.) Deighton 4197! 4449! 5434! Lomaburu (fr. Feb.) Sc. Elliot 5035! **Iv. C.:** Séguéla (fl. & fr. Aug.) Boughey GC 18483! Ouronautiakara (Nov.) Leeuwenberg 1998! **Ghana:** Accra (fr. Dec.) Morton A2838! Afram Plains (fr. Jan.) Irvine 621! Ejura (fr. Dec.) Morton GC 9478! Mampong (fl. & fr. Nov.) Vigne FH 3428! **Togo Rep.:** Schroeder 99! Büttner 202. **Dah.:** Atacora Mts. Chev. 24092! **N. Nig.:** Naraguta (fl. & fr. Oct.-Dec.) Coombe 39! Hepper 1166! Jos Plateau Batten-Poole 174! Kurmin Damisa, Jemaa (fl. & fr. Nov.) Keay & Onochie FHI 21543! **S. Nig.:** Lagos Dalz. 1243! Sapoba Ejiofor FHI 24617! Benin F.R. (Nov.) Obomanu & Ajayi FHI 26929! Olokemeji (Nov.) Onochie FHI 8122! Obaseki FHI 23839! Onitsha Barter 592! 1300!

Also in **Cameroun** and in **Angola**.

3. **Monechma ndellense** (*Lindau*) *Miège & Heine* in Ann. Fac. Sci. Univ. Dakar 6: 121, fig. 1 (1961).

APD acc

Justicia ndelleniss *Lindau* in Mém. Soc. Bot. Fr. 2. 8: 52 (1907); Chev. in Etud. Fl. Afr. Centr. fr. 1: 238 (1913).

A small shrub to 2 ft. high, often with a thick woody stem, greyish pubescent stems and leaves; **in fissures of sandstone rocks of high plateaux, etc.**

Sen.: Banharé, Niokolo-Koba (fr. Dec.) J. & A. Raynal 6951! **Mali:** Scaëtta 3335! Bandiagara, Sanga (fr. Jan.) Ganay 123! Kita Jaeger 1! Sikasso to Bodo Maire! **Guin.:** Dinguiraye, Mafadié to Tamba (fr. Dec.) Jac.-Fél. 1463! **Ghana:** Aboma F.R., Ashanti (fl. & fr. Nov.) Vigne FH 3443!

Also in **Ubangi-Shari** and **Sudan**.

45. RUNGIA

Nees-F.T.A. 5: 252.

- 1 Bracts dimorphic (sterile bracts elliptic-lanceolate, fertile bracts cordate, with emarginate apex and a sharp acumen in the sinus), but dimorphism sometimes not very conspicuous:2
- Bracts uniform, with a green middle portion and broad pale hyaline margins:3
- 2 Bracts small, up to 9 mm. long and in the broadest part 8 mm. broad (at the base 2 mm. broad), with a well-marked hyaline, sometimes pinkish margin up to 1.5 mm. broad, ciliate with multicellular hairs *1. paucinervia*
- Bracts 10-15 mm. long and 6-8 mm. broad, with obscure, or sometimes lacking, hyaline margins, ciliate with few-cellular hairs *2. dimorpha*
- 3 Bracts rounded or emarginate at apex:4

- Bracts more or less pointed:5
- 4 Bracts woolly-tomentose outside, about 8 mm. long; inflorescence strobilate, 5-6 cm. long, about 1.5 cm. diam.; leaves lanceolate, 2 cm. long, shortly pubescent [3. *eristachya*](#)
- Bracts thinly setose outside and long-ciliate, 8-10 mm. long; inflorescence up to 4 cm. long; leaves broadly oblanceolate, acuminate, acute at base, 8-14 cm. long, thinly pubescent [4. *paxiana*](#)
- 5 Bracts about 5 mm. long, minutely setulose outside; inflorescence 2-3 cm. long; leaves narrowly obovate, obtusely pointed, 3-6 cm. long, 10-2.5 cm. broad, glabrous, with 3-4 pairs of lateral nerves [5. *congoensis*](#)
- Bracts 1.5 cm. long, ovate or ovate-lanceolate, slightly pubescent outside; inflorescence up to 12 cm. long; leaves obovate or elliptic and pointed at both ends, up to 18 cm. long and 7 cm. broad, with 8-10 pairs of lateral nerves; petiole long [6. *grandis*](#)

1. **Rungia paucinervia** (*T. Anders. ex C. B. Cl.*) Heine in Kew Bull. 16: 181 (1962).

APD: Synonym of Ascotheca paucinervia (T. Anderson ex C.B. Clarke) Heine

Justicia paucinervia *T. Anders. ex C. B. Cl.* in F.T.A. 5: 186 (1899).

Rungia obcordata *Lindau* in Engl. Bot. Jahrb. 38: 71 (1905).

Slender herb up to 12 in. high, rooting at lower nodes; stems dark red; bracts pale green with purple edges.

S. Nig.: Oban F.R. (Jan.) Onochie & Olorunfemi FHI 36124x!

Also in **Cameroun** and **Gabon**.

2. **Rungia dimorpha** *S. Moore* in Cat. Talb. 89 (1913). *APD acc*

Erect branched herb or undershrub, stems pubescent at first, soon glabrous, drying blackish, with greenish flowers about 1/2 in. long in spikes with half-imbricate bracts

S. Nig.: Oban Talbot 1528!

[Only known from the type collection and perhaps conspecific with the preceding species-H.H.]

3. **Rungia eriostachya** *Hua* in Bull. Mus. Hist. Nat. 11: 62 (1905).

Rungia pobeguinii *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 267 (1931)

Undershrub with pubescent woody stems and leaves, and woolly spikes of small flowers hidden in closely imbricate membranous-edged bracts.

Port. G.: Boé, Madina (Jan.) Esp. Santo 2366! **Guin.:** Kouroussa (Sept.) Pobéguin 447! Friguiaghé to Bambaya (fl. & fr. Dec.) Pobéguin 36! Fouta Djallon (Sept.) Chev. 18443! Schnell 7021!

4. **Rungia paxiana** (*Lindau*) *C. B. Cl.* in F.T.A. 5: 253 (1900).

APD: Synonym of Justicia paxiana Lindau

Justicia paxiana *Lindau* in Engl. Bot. Jahrb. 20: 63 (1894).

Herbaceous, branched, 4-6 ft. high in **forest undergrowth**; more or less pilose, woody below, with light-purple flowers less than 1/2 in. long in spikes with thin papery bracts.

Guin.: Macenta, 2,000-2,500 ft. (Sept., Oct.) Baldwin 9783! Jac.-Fél. 1178! Nimba Mts. (Sept.) Schnell 3566! **Iv. C.:** Port Bouet to Grand Bassam (fr. Dec.) de Wilde 990! Mt. Tonkui (Sept., Oct.) Schnell 1711! Hallé 131! **S. Nig.:** Sonkwala area, Ogoja Prov. Savory & Keay FHI 25041! **[Br.] Cam.:** Cam. Mt., 3,000-4,000 ft. (Nov.) Mann 1968! Dunlap 10! Buea, 4,000 ft. (Nov., Jan.) Migeod 18! Maitland 258! below Hut I (fr. Dec.) Morton K701! **F. Po:** 3,000-4,000 ft. (Dec.) Mann 588! Boughey 71!

Also in **Cameroun**.

5. **Rungia congoensis** *C. B. Cl.* in F.T.A. 5: 254 (1900). *APD acc*

A half-woody herb about 1 ft. high, with shortly pubescent branches, and very small flowers in short spikes with whitish-edged bracts.

S. Nig.: Olokemeji F.R. Meikle 920! Oban Talbot 1391! [**Br.**] **Cam.:** Victoria Bot. Gard. (Jan., Feb.) Keay FHI 28660! Mortan K901!

Extends to Congo.

6. **Rungia grandis** *T. Anders.* in J. Linn. Soc. 7: 46 (1863); F.T.A. 5: 252; Benoist in Bol. Soc. Brot., sér. 2a, 24: 39.

APD: Synonym of Justicia grandis (T. Anderson) Vollesen

Justicia grandis (*T. Anders.*) *Lindau* in Schlechter Westafr. Kautschuk-Exp. 317 (1900); Chev. Bot. 500.

Herbaceous undershrub up to 10 ft. high, woody below, with white, purple-veined flowera 3/4 in. long in conspicuous spikes with broad green bracts with whitish papery edges.

Mali: Moussaia (fr. Feb.) Chev. 459! **Port. G.:** Prábis, Bissau (Feb.) Esp. Santo 2242! Mansaba Esp. Santo 762. **Guin.:** Farmar 208! Kindia Chev. 13145! Jac.-Fél. 2168! Mamou (Jan.) Chev. 20376! **S. L.:** Mt. Horton (fr. Jan.) T. S. Jones 301! Sugar Loaf Mt. (fl. & fr. Dec.) Sc. Elliot 3964! Kasawe F.R. (Dec.) Kiwi 56b! Mayogbo (fl. & fr. Feb.) Marmo 180! Koflu Mt. (Jan.) Sc. Elliot 4616! **Lib.:** Sanokwele (May) Harley 1432! **Ghana:** Krachi Dist. (Nov.) Mortor A4074! **Dah.:** Pobé to Adjaouéré, Zagnanado (Feb.) Chev. 22934! **S. Nig.:** Ibadan (fl. & fr. Jan.) Meikle 931! Benin (fr. Nov.) Keay FHI 25589! Okomu F.R., Benin (fl. & fr. Feb.) Richards 5069! Idanre (fl. & fr. Jan.) Brenan 8674! Omo F.R., Ijebu (Feb.) Jones & Onochie FHI 16717! Oban Talbot 1394!

Extends to Congo and **Uganda**.

46. HYPOËSTES

Soland. ex R. Br. -F.T.A. 5: 244; Benoist in Notulae Syst. 10: 24! (1942).

- 1 Flowers in slender more or less unilateral spikes or substrobiliform:.....2
Flowers in whorls or clusters:.....5
- 2 Bracts densely long yellow setose-ciliate; inflorescence strobiliform, terminal:.....3
Bracts not yellow setose-ciliate; inflorescence more or less spicate:.....4
- 3 Bracts linear-lanceolate with a linear tail 2-5 mm. long; inflorescences up to 4 cm. long and 2 cm. broad; leaves linear-lanceolate, acute, 3-6 cm. long, 0.5-1 cm. broad; corolla about 1.3 cm. long; fruit 6 mm. long, glabrous [1. cancellata](#)
Bracts broadly ovate, acuminate, but without tail, closely imbricate; inflorescences up to 3 cm. long and 1.5 cm. broad; leaves linear-oblong, base often rounded, up to 14 cm. long and 1.5 cm. broad; corolla about 1.7 mm. long; fruit up to 7 mm. long [2. strobilifera](#) var. [tisserantii](#)
- 4 Upper lip of the corolla rhomboid, sometimes marked with purple, corolla white, often cream-coloured; external bracts of the involucre united up to the middle, sometimes marked with purple; an extremely variable and polymorphic plant [3. verticillaris](#)
Upper lip of the corolla regularly ovate, oblong to linear, corolla almost rose or purplish; external bracts of the involucre only united at the base [4. rosea](#)
- 5 Bracts with long slender tails at the apex, slightly pubescent, up to 1.5 cm. long; corolla-tube 1.5 cm. long; stamens long-exserted; leaves ovate-elliptic, gradually acuminate, broadly cuneate at base, up to 15 cm. long and 5 cm. broad, thinly pilose on the midrib beneath [5. aristata](#)
Bracts without tails at the apex:.....6
- 6 Inflorescences more or less sessile; floral leaves small, lanceolate, acuminate, up to 8 mm. long, often with long slender hairs in the upper part [3. verticillaris](#)
Inflorescences often apparently terminal on lateral branches, 1.2-5 cm. long; floral leaves obovate to oblanceolate, up to 1 cm. long and 4 mm. broad, shortly setose-pilose; leaves broadly ovate, acuminate, 3-5 cm. long and 1.5-3 cm. broad, setose-pilose on both surfaces; petiole slender, up to 3 cm. long:7
- 7 Floral leaves rounded at apex, about 10 mm. long and 4 mm. broad; flowers almost whitish, upper lip sometimes spotted with purple [6. triflora](#)
Floral leaves markedly acuminate, usually 12 nun. long and 3 mm. broad; flowers pinkish, magenta or mauve [7. consanguinea](#)

1. **Hypoëstes cancellata** *Nees* in DC. Prod. 11: 505 (1847); F.T.A. 5: 246; Chev. Bot. 501; Benoist l.c. 242, Bol. Soc. Brot., sér. 2, 24: 39; Berhaut Fl. Sén. 85. *APD acc APD acc*

Herb 1-3 ft. high, with slightly pubescent sulcate stems and flowers 2/3 in. long, bright red, red- or blue-purple.

Sen.: Niokolo-Koba Berhaut 1441. **Port. G.:** Cacine Esp. Santo 722. **Guin.:** Boulivel to Dalaba Chev. 18673bis. Timbo (fr. Nov.) Maclaud 26! Kouroussa Pobéguin 1837! **S. L.:** Leicester Peak (fl. & fr. Dec.) Sc. Elliot 3843! Kasawe F.R. (Dec.) King 20b! Musaia (Dec.) Deighton 4448! Waïlla (fl. & fr. Feb.) Sc. Elliot 4265! Kumrabai (Dec.) Thomas 6747! 6832! 7093! Yalamba (fr. Jan.) Jaeger 3948! **Iv. C.:** Touba (Nov.) Aké Assi 2814! **[Br.] Cam.:** Kwagiri to Gangumi, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28787! Vogel Peak, 3,850 ft., Adamawa (Nov.) Hepper 1336!

Also in **Congo**.

2. **Hypoëstes strobilifera** *S. Moore* in J. Bot. 18: 40 (1880); F.T.A. 5: 248; Benoist l.c. 242 (1942). *APD acc APD acc*

var. *strobilifera* occurs in **Congo**, **Sudan**, and **tropical E. Africa**.

Hypoëstes strobilifera var. **tisserantii** *Benoist* l.c. (1942); Monod in Mém. I.F.A.N. 18: 13 (1952). *APD acc APD acc*

An erect herb up to 3 ft. high; flowers bright mauve, in strobiliform inflorescences; **in open savanna**.

Togo Rep.: Sokodé-Basari Schroeder 104 (partly, mixed with *Monechma hispidum*)! **N. Nig.:** Dogon Kurmi, Jemaa Div. (fl. A fr. Nov.) Keay FHI 37222! Naraguta & Jos (Sept.) Lely 569! Kwa Plantations, Plateau Prov. (Nov.) Keay FHI 21029! Damisa, Jemaa (fl. & fr. Nov.) Keay & Onochie FHI 21653! **[Br.] Cam.:** Ndop to Kumbo road (fr. Dec.) Boughey GC 11179! Vogel Peak, Adamawa (fl. & fr. Nov.) Hepper 1411!

Also in **Ubangi-Shari** and **Congo**.

3. **Hypoëstes verticillaris** (*Linn. f.*) *Soland. ex Roem. & Schult.* Syst. Veg. 1: 140 (1817); F.T.A. 5: 250; Chev. Bot. 502; Benoist l.c. 247; Milne-Redhead in Mem. N.Y. Bot. Gard. 9, 1: 26 (1954); Berhaut Fl. Sén. 22.

APD: Synonym of Hypoëstes forskalii (Vahl) R. Br.

APD: Synonym of Hypoëstes aristata (Vahl) Sol. ex Roem. & Schult. var. aristata

APD: Synonym of Hypoëstes forskalii (Vahl) R. Br.

APD: Synonym of Hypoëstes aristata (Vahl) Sol. ex Roem. & Schult. var. aristata

Justicia verticillaris Linn. f. (1781).

Hypoëstes preussii Lindau (1894)-F.T.A. 5: 251.

Hypoëstes violaceo-tincta Lindau (1897)-F.T.A. 5: 251; F.W.T.A., ed. 1, 2: 268.

Hypoëstes forskalei (Vahl) *Soland. ex Roem. & Schult.* (1817).

Justicia forskalei Vahl (1790).

Hypoëstes paniculata (Forsk.) Schweinf. (1912)-Christensen in Dansk Bot. Arkiv 4: 10 (1922); Robyns in Fl. Parc. Nat. Alb. 2: 298.

Justicia paniculata Forsk. (1775), not of Burm. f. (1768).

Hypoëstes verticillaris var. *forsskalei* (R. Br.) Benoist l.c. 246-247 (1942).

Hypoëstes verticillaris var. *hildebrandtii* (Lindau) Benoist l.c. 246-247 (1942).

Hypoëstes verticillaris var. *mollis* (T. Anders.) Benoist l.c. 246-247 (1942).

Hypoëstes verticillaris var. *violaceo-tincta* (Lindau) Benoist, l.c. 246-247 (1942).

Erect tufted herb 2-3 ft. high; **in open places in various habitats**.

Sen.: Heudelot 552! "Ravin des Voleurs" Berhaut 1587. **Mali:** Badinko Chev. 114. Balani Chev. 147. Djenne Chev. 2788. Kara (Dec.) Davey 194! **Port. G.:** Suzana, Praira Varela (fr. Mar.) Esp. Santo 2247! **Guin.:** Mali (Jan.) Roberty 16573! Santa to Timbo Chev. 12591. **S. L.:** Yiraia (Jan.) Glanville 482! Gbwema (Dec.) King 102b! Bumhuna (fr. Jan.) Deighton 3599! Senge, Tunkia (Jan.) Deighton 3864! Mamansu (Feb.) Deighton 4063! Bafodeya (Apr.) Sc. Elliot! **Iv. C.:** Oroumba-Boca (Aug.) de Wit 5692! Bemouni (Jan.) de Wit 7974! **Ghana:** Kpeve (Nov.) Adams & Akpabla 4003! Bamboi to Wenchi (Dec.) Adams & Akpabla 4508! Krepi Plains (Jan.) Johnson 543! Agogo (Dec.) Irvine 575! Kaasi, Kumasi (Feb.) Darko 514! **Togo Rep.:** Misahöhe (Apr., Nov.) Baumann 476! Mildbr. 7315! Alafayo Krause! **N. Nig.:** Kontagora (Oct.) Dalz. 187! Naraguta (Nov.) Lely 702! Vom, 3,000-4,500 ft. Dent Young 198! Jos (Nov.) Keay FHI 21745! **S. Nig.:** Lagos (Mar.) Millen 54! Awka Dist. Thomas 28! Owo Burton 6! Eket Talbot! Oban Talbot 1373! Cross R. Johnston! **[Br.] Cam.:** Cam. Mt., Buea Preuss 755! Bafut-Ngemba F.R.. (Jan.-Feb.) Tiku FHI 22161! Keay & Lightbody FHI 28371! Bamenda, 6,500-8,000 ft. (Jan.) Miyeod 339! 414! Kumbo (Feb.) Hepper 1978! Vogel Peak, Adamawa (Nov.) Hepper 1459!

Widespread in Africa, and in [Arabia](#).

4. **Hypoestes rosea** *P. Beauv.* Fl. Oware 2: 66, t. 100 (1818); F.T.A. 5: 248 (1900), partly (excl. syn. *H. consanguinea* Lindau, Preuss 599); F.W.T.A., ed. 1, 2: 268, partly (excl. Preuss 599); Milne-Redhead in Kew Bull. 1940: 64. *APD acc APD acc*

Hypoestes barteri *T. Anders.* (1864)-F.T.A. 5: 246; F.W.T.A., ed. 1, 2: 268.

Hypoestes aristata var. **barteri** (*T. Anders.*) *Benoist* l.c. 244 (1942).

Hypoestes triticea *Lindau* (1894).

Hypoestes talbotii *S. Moore* in Cat. Talb. 88 (1913).

Erect herb 11/2-3 ft. high; gregarious in [forest](#).

S. Nig.: Lagos (fl. & fr. Mar.) Millen 35! Barter 3285! Benin to Sapele (Jan.) Latilo FHI 27334! Ojogba to Uku, Benin (Jan.) Okon FHI 22751! Ubulubu (Dec.) Thomas 2093! Idumuye (Dec.) Thomas 2117! Oban Talbot 2006! 2020! Calabar (Feb.) Onochie FHI 39338! **[Br.] Cam.:** Victoria (Feb.) Dalz. 8220! Buea, 3,000 ft. (Jan.) Maitland 235! Dunlap 130! Crater L., Kumba Morton K819! Oku, 7,000 ft. (Feb.) Hepper 2718!

5. **Hypoestes aristata** (*Vahl*) *Soland. ex Roem. & Schult.* Syst. Veg. 1: 140 (1817); F.T.A. 5: 245; *Benoist* l.c. 243; Milne-Redhead in Mem. N.Y. Bot. Gard. 9: 26 (1954). *APD acc APD acc*

Justicia aristata *Vahl* Symb. Bot. 2: 2 (1791).

Hypoestes insularis *T. Anders.* (1863)-F.T.A. 5: 246.

Hypoestes aristata var. **insularis** (*T. Anders.*) *Benoist* l.c. 244 (1942).

Hypoestes staudtii *Lindau* (1895)-E.T.A. 5: 246.

Hypoestes aristata var. **staudtii** (*Lindau*) *Benoist* l.c. 244 (1942).

Erect herb about 3 ft. high; flowers pale mauve with darker markings; [in forest](#).

N. Nig.: Dogon Kurmi, Jemaa Div. (Nov.) Keay & Onochie FHI 21536! Ropp (Dec.) W. D. MacGregor FHI 405! **S. Nig.:** Oban Talbot 1409! 2019! Old Ndebiji, Calabar (fr. Feb.) Aninze FHI 15414! Unya, Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25018! Cross R. (Dec.) Holland 182! **[Br.] Cam.:** Cam. Mt., 2,500 ft. (Dec.) Mann 1951! Buea, 3,000 ft. (Dec.) Maitland 143! Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35069! Bamenda Morton K162! **F. Po:** (Jan.) Mann 179! Moka, 4,000-5,000 ft. (Jan.) Exell 779!

6. **Hypoestes triflora** (*Forsk.*) *Roem. & Schult.* Syst. Veg. 1: 141 (1817); F.T.A. 5: 247; Chev. Bot. 602; *Benoist* l.c. 243; Milne-Redhead l.c. 27. *APD acc APD acc*

Justicia triflora *Forsk.* Fl. Aegypt.-Arab. Descr. Pl. 4 (1775).

Straggling herb 2-3 ft. high, laxly branched, sometimes with viscid hairs; [in montane forest](#).

Guin.: Diaguissa Plateau Chev. 12680. **Ghana:** Shiare (fl. & fr. Apr.) Hall 1433! **[Br.] Cam.:** Cam. Mt., 3,000-7,000 ft. (fl. & fr. Feb.-Mar.) Mann 1979! Preuss 745! Maitland 257! 826! Brenan & Onochie PHI 9397! Ctembu, 4,500 ft., Mambila Plateau (Jan.) Hepper 1834! **F. Po:** Clarence Peak, 5,000 ft. (Dec.) Mann 580! Moka, 4,000-4,500 ft. (Feb.) Exell 867! near Pico Biao (Sept.) Wrigley 591!

Extends to [Ethiopia](#), E. Africa and [Angola](#).

7. **Hypoestes consanguinea** *Lindau* in Engl. Bot. Jahrb. 20: 50 (1894).

APD: Synonym of *Hypoestes triflora* (*Forssk.*) *Roem. & Schult.*

APD: Synonym of *Hypoestes triflora* (*Forssk.*) *Roem. & Schult.*

Hypoestes rosea of F.T.A. 5: 248, partly (excl. Beauvois, Don), not of P. Beauv.; Milne-Redhead in Kew Bull. 1940: 64.

Erect, laxly branched herb, 2-3 ft. high; flowers pale pink or whitish with mauve markings on lip; [in montane forest](#).

Togo Rep.: Bismarckburg (Oct., Nov.) Büttner 315! Kling 1889! **S. Nig.:** Sonkwala area, 3,800-4,000 ft., Obudu Div. (Dec.) Savory & Keay FHI 25039! 25195! **[Br.] Cam.:** Buea (Jan.) Preuss 599! Lakom, 6,000 ft., Bamenda (fl. & fr. Apr.) Maitland 1687! Mbakokeka Mt., 7,000 ft. (Jan.) Keay FHI 28393! Kumbo (fl. & fr. Jan., Feb.) Keay FHI 28452! Hepper 2841! Oku, 6,000 ft. (Feb.) Hepper 2032!

Nees-F.T.A. 5: 177.

- 1 Branches glabrescent; leaves subequal, ovate, broadly acuminate, very shortly cuneate at base, about 10 cm. long and 6 cm. broad, ciliate, with numerous very minute short cystoliths beneath; spikes sessile, dense, up to 7 cm. long; bracts with very long ciliate tails; calyx-segments about 1.5 cm. long, linear-subulate; corolla 3 cm. long; stamens 2, anthers 1-celled; fruit 1 cm. long [longiflorus](#)

Brachystephanus longiflorus *Lindau* in Engl. Bot. Jahrb. 20: 53 (1894); F.T.A. 5: 178. *APD acc*

Herbaceous undershrub 3 ft. high, with slender purple flowers nearly 1 in. long in dense spike-like panicles.

S. Nig.: Ikwette Plateau, 5,600 ft., Obudu Div. (Aug.) Stone 77! **[Br.] Cam.:** Buea Preuss 890! Cam. Mt., grassland 1,000 ft., Hut II (fr. Dec.) Gregory 229! **F. Po:** 3,000 ft. (fl. & fr. Dec.) Mann 589! Lago Biao, 4,000 ft. (Sept.) Wrigley 671! Monte Balea (fr. Dec.) Guinea 446!

48. RUSPOLIA

Lindau in E. & P. Pflanzenfam. 4, 3B: 354 (1895); Milne-Redhead in Kew Bull. 1936: 268.

Eranthemum of F.T.A. 5:169, partly; and of F.W.T.A., ed. 1, 2: 262, partly, not of Linn.

- 1 Flowers in shortly stalked cymules; calyx-lobes broadly subulate-lanceolate; corolla-tube 2.5 cm. long; anthers exerted, 1-celled; leaves ovate or elliptic, broadly acuminate, 5-12 cm. long, 3-5 cm. broad, nearly glabrous; fruit 4 cm. long, stoutly club-shaped [hypocrateriformis](#)

Ruspolia hypocrateriformis (*Vahl*) *Milne-Redhead* in Kew Bull. 1936: 270; Benoist in Bol. Soc. Brot., sér. 2, 24: 39.

Justicia hypocrateriformis *Vahl* Enum. 1: 165 (1805).

Eranthemum hypocrateriforme (*Vahl*) *Roem. & Schult.* (1817)-F.T.A. 5: 171; F.W.T.A., ed. 1, 2: 262.

Pseuderanthemum hypocrateriforme (*Vahl*) *Radlk.* (1883)-F.W.T.A., ed. 1, 2: 608; Berhaut Fl. Sén. 116.

P. decurrens of Chev. Bot. 500, not of Radlk.

A shrubby plant 3-4 ft. high, with stiff pithy angled branches, and slender tubular flowers 1 1/2 in. long coral-red with a darker centre forming a rather dense linear panicle 2-7 in. long.

Sen.: Dakar (Dec.) Vigne FH 1773! Berhaut 1151. Casamance, Carabane (Jan.) Chev. 2795! **Mali:** Kita (fl. & fr. Oct.) Jaeger 2964! 3353! **Port. G.:** Bissau Esp. Santo 1224. Cusselinta (fr. Dec.) Esp. Santo 3174! **Guin.:** Kindia to Forécariah (fl. & fr. Oct.) Jac.-Fél. 2113! **S. L.:** T. Vogel 159! Smeathmann! Kent (Nov.) Tindall 11! Deighton 5536! Picket Hill, 2,300 ft. (Nov.) Jones 207! Sugar Loaf Mt., 1,000 ft. (Aug.) Midville & Hooker 360! Wallia (Jan.) Sc. Elliot 4451! **Ghana:** Farmar 469! Accra (Jan.-Mar.) Deighton 617! Dalz. 72! Achimota (Apr., Dec.) Bally 12! Andoh 4471! Aburi (Nov.) Howes 1015! Williams 288! (fl. & fr. Jan.) de Wit & Morton A2857! **Togo Rep.:** Lomé Warnecke 386! 387! 388! **N. Nig.:** Wana, Plateau Prov. (fl. & fr. Dec.) Hepburn 150! **S. Nig.:** Eruwa rocks, Oyo Rowland! Hoskyns-Ahrahall FHI 25657! **[Br.] Cam.:** Gashaka Dist. (Nov.) Latilo & Daramola FHI 28729! Vogel Peak, 4,800 ft., Adamawa (Dec.) Hepper 1588!

Also in **Congo** and **Angola**.

Only the type variety occurs in our area; var. *australis* Milne-Redhead occurs in **Transvaal**.

49. OREACANTHUS

Benth.-F.T.A. 5: 176.

- 1 Branches shortly pubescent, with long internodes; leaves subequal in each pair, elliptic, narrowed at both ends, long-acuminate, 15-20 cm. long, 4-7 cm. broad, thin, pubescent on the numerous lateral nerves beneath; petiole pubescent; panicle large and pyramidal; calyx-lobes linear, 4 mm. long, viscid; corolla 2-lipped, about 1.3 cm. long, the posticous subentire, the anticous 3-lobed; stamens 2, long-exserted; anthers 1-celled; fruit 1.5 cm. long [mannii](#)

Oreacanthus mannii *Benth.* l.c. (1876); F.T.A. 5: 177.

APD: Synonym of Brachystephanus giganteus Champl.

Shrub 8-12 ft. or more high, with stems constricted and brittle above the nodes, and numerous white or light purple flowers 1 in. long.

[Br.] Cam.: Cam. Mt., 7,000 ft. (fl. & fr. Dec.) Mann 1259! 8,000 ft. (fl. Dec., fl. & fr. Feb.) Johnston 64! 65! Kalbreyer 132! Preuss 1078! Dunlap 50! Keay FHI 3703! Mimbria, 5,000 ft. (fr. Mar.) Brenan 9339! F. Po: El Pico, 7,000 ft. (Dec.) Boughey 118! 195!

Also in Cameroun.

VERBENACEAE

Herbaceous or woody, often with quadrangular branchlets. Leaves usually opposite or whorled, simple or compound; stipules absent. Flowers hermaphrodite, zygomorphic. Calyx 4-5-lobed or toothed, persistent. Corolla gamopetalous, tubular, 4-5-lobed, lobes imbricate. Stamens on the corolla, 4 or rarely 2 or 5; anthers 2-celled, cells often divergent, opening lengthwise. Ovary superior, 2-8-celled, often 4-celled. Style terminal, simple. Fruit a drupe or berry. Seeds with straight embryo and scanty or no endosperm.

- 1 Perfect stamens 2, staminodes 2; flowers in slender spikes, more or less immersed in the soft swollen rhachis; herbs or undershrubs [1. Stachytarpheta](#)
- Perfect stamens 4, often didynamous: [2](#)
- 2 Flowers spicate or racemose; leaves always simple; herbs or undershrubs: [3](#)
- Flowers cymose; shrubs or trees: [8](#)
- 3 Ovary 4-celled: [4](#)
- Ovary 2-celled; fruit of! or 2, 1-seeded pyrenes: [5](#)
- 4 Calyx in fruit open, not inflated; pyrenes 4 [2. Verbena](#)
- Calyx closed over the fruit as a small bladder; pyrenes 2 [3. Priva](#)
- 5 Epicarp fleshy; corolla-tube usually much exceeding calyx [4. Lantana](#)
- Epicarp dry; [6](#)
- 6 Trailing herbs rooting at the nodes; corolla-tube only a little longer than the calyx [5. Phyla](#)
- Erect herbs or undershrubs: [7](#)
- 7 Lower stems not corky; corolla-tube only a little longer than the calyx; savanna herbs or subshrubs [6. Lippia](#)
- Lower stems with soft corky bark; corolla-tube twice as long as calyx; undershrub in semi-desert [7. Chascanum](#)
- 8 Fruit dry; leaves always simple: [9](#)
- Fruit a fleshy drupe; leaves usually digitately compound; mostly trees [10. Vitex](#)
- 9 Pyrenes 4, 1-celled; shrubs [8. Premna](#)
- Pyrene 1, 4-celled; mostly climbing shrubs [9. Clerodendrum](#)

Gmelina arborea Roxb.

From tropical Asia.

As plantation trees.

Tectona grandis Linn. f.

From tropical Asia.

As plantation trees; Teak.

Duranta repens Linn.

From Tropical America.

As ornamental shrubs.

Holmskioldia sanguinea Retz.

From India.

As ornamental shrubs.

Petrea volubilis Linn.

From Tropical America.

As ornamental shrubs.

1. STACHYTARPHETA

Vahl-F.T.A. 5: 283; Brenan in Kew Bull. 5: 223 (1950) .4

- 1 Calyx, when seen from the anticus [out-]side, showing 4 prominent teeth at apex, the two central ones equalling in length or rather shorter than the laterals; leaves broad, ovate to elliptic or oblong-elliptic, teeth on the well-developed stem leaves rather close and numerous (10-)11-18 on each margin:.....2

Calyx, when seen from the anticus [out-]side, appearing bifid at apex, the 2 central teeth reduced to small inconspicuous denticles on the side of much larger lateral teeth; inflorescences up to 25 cm. long in fruit; leaves usually narrow, oblanceolate to linear-oblanceolate, 3-8(-13) cm. long, 0.5-2(-6) cm. broad, with 4-9(-10) large distinct teeth on each margin; plant herbaceous, rather fleshy3. *angustifolia*

- 2 Plant shrubby, with woody stems at least below; inflorescences up to 20 cm. long in fruit, almost always sparsely but distinctly pubescent; calyx 5 mm. long; corolla-tube 4-5 mm. long, lobes 1.5 mm. long; leaves 2-8 cm. long, 1-3.5 cm. broad, marginal teeth rather small1. *cayennensis*

Plant herbaceous; inflorescences up to 40 cm. long in fruit, glabrous; calyx 6.5 cm. long; corolla-tube about 10 mm. long, lobes about 3 mm. long; leaves 4-11 cm. long, 2-4.5 cm. broad, marginal teeth rather large 2. *indica*

1. *Stachytarpheta cayennensis* (L. C. Rich.) Schau. in DC. Prod. 11: 562 (1847) (as *Stachytarpha*); Danser in Ann. Jard. Bot. Bultenz. 40: 2 (1929), Brenan in Kew Bull. 5: 223 (for other refs. and synonymy). *APD acc*

Verbena cayennensis L. C. Rich. (1792).

Stachytarpheta indica of F.T.A. 5: 284, partly (Sc. Elliot 4162), not of (Linn.) Vahl.

Stachytarpheta jamaicensis of F.W.T.A., ed. 1, 2: 277, partly (Sc. Elliot 4162, Dawodu 364, Dennett 502), not of (Linn.) Vahl.

A slender-branched undershrub 3-6 ft. high, with narrow spreading spikes; flowers white or pale blue with white centre; *roadsides and waste places*.

S. L.: Sc. Elliot 4162! Freetown (June) Deighton 2716! Leicester (Mar.) Hepper 2484! Regent (Oct.) Jordan 947! Kenema (Apr.) Deighton 4291! Dambye, Nongowa (Feb.) Bakshi 21! **Lib.:** Monrovia (June) Barker 1341! **Ghana:** Benso, Tarkwa Dist. (June) Andoh FHI 5526! **S. Nig.:** Lagos (June) Dennett 502! Dawodu 364! Idanre, Ondo Prov. (Jan.) Brenan 8709! Ibadan Meikle 516! Olokemeji F.R. (Aug.) Keay FHI 37152! Eket Dist. Talbot!

A native of tropical America now widely introduced into other parts of the tropics.

2. *Stachytarpheta indica* (Linn.) Vahl Enum. Pl. 1: 206 (1805); F.T.A. 5: 284, mostly; Danser l.c. 5; Chev. Bot. 503; Brenan l.c. 225. *APD acc*

APD: Synonym of Stachytarpheta jamaicensis (L.) Vahl

Verbena indica Linn. (1762).

Stachytarpheta jamaicensis of F.W.T.A., ed. 1, 2: 277, partly (T. Vogel 30, Mann 89, Sc. Elliot 3833, Johnston).

A well-branched herb 2-3 ft. high with very long narrow spikes; flowers deep blue with white centre; *a weed*.

S. L.: Sc. Elliot 3833! No. 2 River F.R. (Apr.) Hepper 2525! Makumri (June) Thomas 532! Njala (Oct.) Deighton 2545! Rokupr (Feb.) Deighton 4173! **Lib.:** Johnston! Monrovia (May, Nov.) Barker 1315! Linder 1567! **iv. C.:** fide Chev. l.c. **Ghana:** Chipp 48! Ankobra Junction (Feb.) Kitson 1028! Cape Coast T. Vogel 30! **S. Nig.:** Ilesha to Akure (Oct.) Keay FHI 25455! Usonigbe F.R., Sapoba (Nov.) Meikle 612! Oban Talbot 307! Orem, Calabar (Jan.) Onochie & Daramola FHI 36180x! Old Calabar (Jan.) Holland 15! **F. Po:** (Dec.) Mann 89!

Also in **E. Africa** and **tropical Asia**.

3. *Stachytarpheta angustifolia* (Mill.) Vahl Enum. Pl. 1: 205 (1805); F.T.A. 5: 284 (1900); Chev. Bot. 503; F.W.T.A., ed. 1, 2: 277; Brenan l.c. 226; Berhaut Fl. Sén. 72.

APD: Synonym of Stachytarpheta indica (L.) Vahl

Verbena angustifolia Mill. (1768).

A herb about 1 ft. (sometimes up to 4 ft.) high, simple or slightly branched, often rather succulent; flowers pale blue with or without a white centre; **in moist places.**

Sen.: Perrottet 650! Berhaut 789. **Gam.:** Hayes 549! **Mali:** Kabarah (Aug.) Chev. 1322! Timbuktu (Aug.) Hagerup 257! Bamako (Apr.) Hagerup 32! Niger R., E. of Macina Lean 17! Dogo (fl. & fr. Apr.) Davey 567! **Port. G.:** Povoação, Buba Esp. Santo 1241! Buba (June) Esp. Santo 2489! Madina, Boé (June) Esp. Santo 2934! **Guin.:** Kouroussa (June) Pobéguin 298! **S. L.:** Bulom (Feb.) T. S. Jones 400! Rokupr (Feb.) Deighton 4172! Kabala (fl. & fr. Sept.) Thomas 2181! **Iv. C.:** Alépé to Malamalasso Chev. 17508. Daloa (Aug.) Schnell 5953! **Ghana:** Achimota (Apr.) Akpabla 18! Prampram Robertson 38! Nungua, Accra Plains (May, June) Ankrah GC 20146! 20186! Otisu ferry (Apr.) Goodall GC 16628! Salaga Krausel **Togo Rep.:** Lomé Warnecke 259! Sokode Schroeder 121! **Dah.:** Burton! **Niger:** Gao (Aug) Popov 99! **N. Nig.:** Aguji, Ilorin Thornton! Jebba Barter! Nupe Barter 1200! Gwari Hill near Minna (Dec.) Meikle 702! Lemme (May) Lely 142! Gindiri, Jos Plateau (Oct.) Hepper 1149! **S. Nig.:** Lagos Dawodu 224! Ogun R., Olokemeji (Mar.) Meikle 1245! Nkisi Bridge, Onitsha (May) Killick 117! Otu Enenia, Onitsha (June) Onochie FHI 35858! **[Br.] Cam.:** Rio del Key Johnston! Gwoza, Dikwa Div. (Nov.) McClintock 62!

Scattered in other parts of tropical Africa; also in tropical America.

2. VERBENA

Linn.-F.T.A. 5: 286.

- 1 A densely pubescent annual with several stems arising from near the base and branched above; leaves deltoid in outline, bipinnatifid, 1-4 cm. long, 5-15 mm. broad; inflorescences terminal and axillary, dense at first, elongating considerably in fruit; calyx 2 mm. long, pilose; corolla-tube 3-4 mm. long, lobes 1 mm. long; fruits 4-celled, oblong, 2 mm. long [supina](#)

Verbena supina *Linn. Sp. Pl. 21 (1753); F.T.A. 5: 286; Berhaut Fl. Sén. 65. APD acc*

A small annual herb 2-12 ins. high, appearing grey-green; flowers very small, lilac; **in seasonally flooded ground.**

Maur.: Aftout es Sahéli Region (fl. & fr. Apr.) Popov 15! **Sen.:** Richard Toll Berhaut 554. **Mali:** Koubita (fl. & fr. Feb.) Davey 440!

Also in **Sudan**, **Ethiopia**, and around the Mediterranean.

Verbena tenera *Spreng.*

A creeping herb with very dissected leaves and white or violet flowers.

Nigeria: Obubra Dist., FHI 43964.

A native of S. America, has been introduced.

Verbena officinalis *Linn.*

Is reported by De Miré & Gillet (in J. Agric. Trop. 3: 721 (1956)) from Air, **Niger Republic**, on the northern limit of our area.

3. PRIVA

Adans.-F.T.A. 5: 285; Moldenke in Fedde Rep. 41: 1-76 (1936).

- 1 A perennial herb 15 (-100) cm. high; stems acutely 4-angled, slightly pubescent especially at the nodes; leaves ovate, acute or acuminate at apex, truncate at base, 1-4 (-14.5) cm. long, 1-2 (-8.5) cm. broad, margins coarsely serrate, with scattered white bulbous-based hairs above, more or less pubescent beneath; petioles 0.5-3 cm. long; inflorescences terminating the stems and branchlets, racemose with rather widely spaced flowers; calyx tubular-campanulate, about 2 mm. long, inflating in fruit and about 6 mm. long, densely pubescent; corolla 2-lipped, 5-lobed, 2-3 mm. diam., fruits with 2 pyrenes, each with 2 seeds [lappulacea](#)

Priva lappulacea (*Linn.*) *Pers. Syn. Pl. 2: 139 (1806); Moldenke l.c. 24. APD acc*

A perennial **weed** with spreading and decumbent or erect stems, markedly 4-angled; flowers small, the corolla violet with paler stripes.

Ghana: Asebu, near Cape Coast (fl. & fr. Apr.) Hall 1891!

A native of the warmer parts of America and the West Indies; introduced into Java and possibly elsewhere, but not previously recorded from Africa.

4. LANTANA

Linn.-F.T.A. 5: 275.

- 1 Bracts narrow, linear; flowers showy, white, yellow, red, orange or pink; corolla much longer than subtending bract; foliage turning blackish on drying:.....**2**
- Bracts broader, ovate or ovate-lanceolate; flowers not showy; foliage not turning black on drying:**3**
- 2 Leaves, petioles and peduncles pilose or strigose, not or very sparsely glandular; stems usually armed with short recurved prickles[1. camara](#)
- Leaves, petioles and peduncles densely glandular; stems unarmed[2. glandulosissima](#)
- 3 Corolla distinctly longer than the subtending bract, 3-5 mm. wide at apex; peduncle usually long and slender, longer than the fruiting spike:**4**
- Corolla scarcely longer than subtending bract, 1-2 mm. wide at apex; peduncle usually shorter than fruiting spike; bracts of fruiting spike broadly ovate; flowers usually magenta or purple[5. rhodesiensis](#)
- 4 Leaves (except on the weakest growths) in threes; lower floral bracts ovate-lanceolate, gradually narrowing to a slender acumen; flowers pink or mauve[3. trifolia](#)
- Leaves opposite; lower floral bracts broadly ovate with a short cuspidate apex; flowers white[4. viburnoides](#)

1. *Lantana camara* *Linn. Sp. Pl. 2: 627 (1753); F.T.A. 5: 275; Chev. Bot. 502. APD acc*

Lantana antidotalis *Thonning (1827)-F.T.A. 5: 276.*

Erect or spreading much-branched, square-stemmed shrub, usually with short prickles (var. *aculeata* (Linn.) Moldenke) and showy flowers in convex heads 1-2 in. across.

Sen.: Lelièvre. **Port. G.:** Balama (fl. & fr. Apr.) Esp. Santo 1917! **S. L.:** Barter! Kirk 44! Freetown (Jan.) Johnston 1! Magbile (Dec.) Thomas 6420! Nyanyahun (Apr.) Deighton 1613! Sumbuya (Apr.) Deighton 1693! Makump (May) Deighton 1704! **Lib.:** Monrovia Johnston! **iv. C.:** Adiopodoumé (Oct.) Leeuwenberg 1723! 2122! **Ghana:** Thonning. Cape Coast (July) T. Vogel 69! Accra (Mar., Oct.) Deighton 599! Marton GC 6005! Dawa (May) Howes 906! Kumasi (Aug.) Darko 698! Asabotchway (Nov.) Rose Innes GC 30092! **Togo Rep.:** Lomé Warnecke 23! Mildbr. 7474! **S. Nig.:** Lagos Barter 3318! Moloney! Ogwashi (fl. Nov.) Thomas 2033! Ezi (Feb.) Thomas 2334! Ibadan (fl. & fr. Jan.) Meikle 1125! Port Harcourt (Oct.) Stubbings 62! Calabar (Jan.) Holland 18! **[Br.] Cam.:** Gwoza, Dikwa Div. (Jan.) McClintock 152!

Cultivated throughout the tropics and commonly found as an escape, or a relic of cultivation.

2. *Lantana glandulosissima* *Hayek in Fedde Rep. 2: 161 (1906); Moldenke, Resumé of Verbenac. 138 (1958). APD acc*

Very similar to the last but with densely glandular stems, leaves etc. and without prickles; flowers yellow or orange.

Mali: near Djimal, Douentza (fr. Oct.) Jaeger 5522! **N. Nig.:** Naraguta, Jos Plateau (fl. & fr. July) Lely 540! 547!

A native of Mexico.

3. *Lantana trifolia* *Linn. Sp. Pl. 2: 626 (1753); F.T.A. 5: 277. APD acc*

Lantana mearnsii *Moldenke in Phytologia 1: 421 (1940).*

A woody herb or subshrub, to about 6 ft. high, sparsely branched, with hairy stems and rugose scabrid leaves in threes; flowers pink or mauve; fruits purple.

S. Nig.: Lagos Rowland!

A native of tropical America now widely naturalized in the Old World and a pest in some areas, but apparently rare in our area.

4. *Lantana viburnoides* (*Forsk.*) *Vahl Symb. Bot. 1: 45 (1790); F.T.A. 5: 276, partly. APD acc*

APD: Synonym of Lantana camara L.

Lantana salvifolia of F.T.A. 5: 276, partly; F.W.T.A., ed. 1, 2: 269, partly, not of Jacq.

Aromatic straggling subshrub or woody herb to about 3 ft. high; peduncles long, usually exceeding the leaves; flowers relatively large, white.

N. Nig.: Yola (fl. & fr. July) Dalz. 114!

Widely distributed in the drier areas of tropical and subtropical Africa, also in **Arabia** and eastwards to India.

5. *Lantana rhodesiensis* Moldenke in Phytologia 3: 269 (1960).

APD: Synonym of Lantana ukambensis (Vatke) Verdc.

Lantana viburnoides of F.T.A. 5: 276, partly, not of (Forsk.) Yahl.

Lantana salvifolia of F.T.A. 5: 276, partly; F.W.T.A., ed. 1, 2: 269, partly, not of Jacq.

Lantana mearnsii var. *latibracteolata* Moldenke in Phytologia 2: 313 (1947).

A woody herb of **open grassland**, 1-6 ft. high with leaves in threes or occasionally opposite; peduncles short; flowers minute usually magenta or purple; fruits crimson or purple.

Port. G.: Pirada (June) Esp. Santo 3023! Piche to Paiama (fl. & fr. Oct.) Esp. Santo 3472! **Guin.:** Timbo (fl. & fr. Oct.) Jac.-Fél. 1876! **S. L.:** Yetaya (Sept.) Thomas 2438! Kanya (fl. Oct.) Thomas 303! Bintumane (fl. Jan.) Glanville 461! Musaia (fl. Apr.) Deighton 4589! **Ghana:** Accra Plains (fl. & fr. Mar.) Howes 1132! Nchenenchene to Kwahu Tafo (fl. & fr. May) Kitson 1151! Damongo (fl. & fr. July) Andoh 5205! Prang (fl. & fr. Sept.) Darko WACRI 989! Salaga Krause! Dalz. 56! **N. Nig.:** Nupe Barter 1286! Lokoja (Oct.) Parsons 11! 122! Jos Plateau Batten-Poole 177! 318! Anara F.R., Zaria (May) Keay FHI 22938! Abinsi (Mar.) Dalz. 695! Biu, Bornu (fl. & fr. Aug.) Noble 14! **S. Nig.:** Lagos Dawodu in Hb. MacGregor 182! Olokemeji (Apr.) Savory UCI 87!

Widely distributed in the savanna regions of tropical Africa.

[The following specimens should probably be assigned to this species though differing somewhat in their rather larger, paler (pink or mauve) flowers and in their smaller floral bracts: Ghana: Assuantsi Road (fl. & fr. Jan.) Fishlock 27! Adaiso (fl. & fr. Nov.) Morton 6147! Amedzofe (fl. Nov.) Morton GC 9383! **N. Nig.:** Jos Plateau (July) Lely P358! Pankshin (fl. & fr. July) Lely 431! **S. Nig.:** Shaki, Oyo (fl. & fr. Nov.) Olorunfemi FHI 40306! [Br.] Cam.: Vogel Peak, Adamawa (fl. & fr. Dec.) Hepper 1536! Hybrids occur in the genus, and it is just possible that some of these aberrant specimens may be of hybrid origin, a possibility which should be borne in mind by collectors-R.D.M.]

5. PHYLA

Lour. Fl. Cochinch. 66 (1790); Greene in Pittonia 4: 48 (1899).

- 1 Rootstock woody; stems slender herbaceous, rooting at the nodes; leaves opposite, oblanceolate or obovate, 1-5-4 cm. long, 0.5-3 cm. broad, with an entire cuneate base and an acute serrate apex, glabrous or thinly clothed with appressed medifixed hairs; inflorescence a long-stalked, dense, bracteate cylindrical spike; calyx dorsiventrally flattened, cleft almost to base abaxially and to about the middle adaxially; corolla small, unequally 4-lobed; stamens 4, didynamous; stigma obliquely capitate; pyrenes 2 [nodiflora](#)

Phyla nodiflora (Linn.) Greene in Pittonia 4: 46 (1899). *APD acc*

Verbena nodiflora Linn. (1753).

Lippia nodiflora (Linn.) Michx. (1803)-F.T.A. 5: 279; F.W.T.A., ed. 1, 2: 270.

A prostrate creeping herb of **moist places**; leaves and bracts often tinged purple; flowers mauve or pink.

Sen.: Heudelot! Dakar (May) Baldwin 5738! L. Retbo, near Cape Verde (Apr.) Giovanetti! **Mali:** Grand Daouna (fl. Aug.) Chev. 2752! Modou to Berivem (Sept.) Chev. 10155! Timbuktu (Aug.) Hagerup 254! side of L. Faguibini (Oct.) Monad 4047! **Port. G.:** Bananto to Conjabarim (June) Esp. Santo 2396! **Lib.:** Grand Cess (Mar.) Baldwin 11621! **Ghana:** Busua Bay (Mar.) Morton A305! Pui, Keta Dist. (Julv) Akpabla 40! Keta (Mar.) Morton GC 6533! **N. Nig.:** Sokoto (July) Dalz. 366! Katsina to Daura (Apr.) Meikle 1361! Kalkala (fl. Mar.) Guynn 101! S. of Yo, Bornu (fl. & fr. Dec.) Elliott 147! Baga, Seyoram (Oct.) Golding 24! Bindawa (Aug.) Grove 8! **S. Nig.:** Lagos (fl. & fr. Sept.) Stubbings 8!

Widespread in the tropics and subtropics.

6. LIPPIA

Linn.-F.T.A. 5: 278, partly.

- 1 Flower-heads in spreading, much-branched corymbose cymes:.....2
- Flower-heads in narrow, elongate terminal and axillary verticels or spikes:3
- 2 Upper surface of leaves smooth to the touch, venation obscure; stems subglabrous or sparsely appressed-pubescent; apex of floral bracts very obtuse, shortly mucronate[1. multiflora](#)
- Upper surface of leaves rough to the touch, venation prominently rugose-reticulate; stems usually distinctly appressed-pubescent; apex of floral bracts acute or cuspidate[2. rugosa](#)
- 3 Floral bracts obtuse or shortly cuspidate; leaves smooth or slightly scabridulous; stems subglabrous or sparsely appressed-pubescent[3. chevalieri](#)
- Floral bracts acute; leaves strongly scabrid; stems densely pubescent or pilose[4. savoryi](#)

1. *Lippia multiflora* Moldenke in *Phytologia* 3: 168 (1948). *APD acc*

Lippia adoensis of F.T.A. 5: 280, partly; F.W.T.A., ed. 1, 2: 270, partly, not of Hochst.

Robust woody perennial up to 12 ft. high with large oblong-lanceolate bluish-green leaves; pleasantly aromatic flowers; small, whitish in branched inflorescences; [in savanna](#).

Guin.: Boulivel, Mamou Mission Pharm. A.O.F. 2! Kindougou Martine 188! **S. L.:** R. Scarcies, Wallia Sc. Elliot. 4262! Duunia, Talla Hills (Feb.) Sc. Elliot 4878! Madina (fl. & fr. Aug.) Smythe 121! Kamaramka (Feb.) Deighton 4089! Kabala (fl. & fr. Jan.) King 190b! Falamba (fl. & fr. Jan.) Jaeger 3944! **iv. C.:** 30 km. N. of Bouaké (Nov.) Leeuwenberg 2066! **Ghana:** Krepi Plains (Jan.) Johnson 542! Esuosa (Feb.) Vigne FH 1813! Kpere (Jan.) Irvine 1743! Salaga (fl. & fr. June) Vigne FH 3881! Ejura (Dec.) Morton GC 9551! Tamale (Dec.) Morton GC 9911! Apepesu F.R., Hohoe (Nov.) Enti FH 6848! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7238! **Dah.:** Poisson! **N. Nig.:** Borgu Barter. 768! Minna (Dec.) Meikle 722! Bosso, Minna (Feb.) Meikle 1231! N. of Bukuru (Nov.) Keay FHI 21040! Biu, Bornu (Nov.) Noble 40! **S. Nig.:** Lagos Millen 143! Olokemeji Foster 133! Awba Hills F.R. (Dec.) Keay & Jones FHI 14810! Igboho, Oyo (Feb.) Keay FHI 23433! Akure (Oct.) Latilo FHI 27331!

Also in [Rio Muni](#), [Gabon](#), [Congo](#), [Sudan](#) and [Ubangi-Shari](#).

2. *Lippia rugosa* A. Chev. in *Mém. Soc. Bot. Fr.* 2, 8: 191 (1912); Chev. Bot. 503. *APD acc*

Lippia adoensis of F.W.T.A., ed. 1, 2: 270, partly, not of Hochst.

Lippia nigeriensis Moldenke in *Phytologia* 3: 272 (1950).

Similar to the last in general habit, but with scabrid leaves and prominent leaf-venation.

Guin.: Tagania, Faranah (fl. & fr. Jan.) Chev. 20410! **N. Nig.:** Funtua (fl. & fr. Dec.) Meikle 824! Anara F.R., Zaria (Nov.) Latilo FHI 37974! Naraguta & Jos (fl. Sept-Dec.) Lely 582! Monod 9361! 9872! Coombe 9! Pankshin (Dec.) MacGregor 429! Gindiri (Oct.) Hepper 1092! Sokoto Lely 115! **S. Nig.:** Aku Rock (Nov.) Hamblar 586! **[Br.] Cam.:** Bamenda (May) Maitland 1697! 10km. N. of Bafut (fl. & fr. Jan.) Keay FHI 28622! Gangumi, Adamawa (Dec.) Latilo & Daramola FHI 28795! Gurum, Vogel Peak area (Nov.) Hepper 1269!

3. *Lippia chevalieri* Moldenke in *Phytologia* 2: 313 (1947). *APD acc*

Lippia adoensis of F.T.A. 5: 280, partly; F.W.T.A., ed. 1, 2: 270, partly, not of Hochst.

An erect aromatic subshrub to about 3 ft. high; floral bracts covered with whitish or silvery-grey tomentum often becoming bright yellow on drying; flowers minute, whitish with a yellow throat.

Sen.: Heudetot 103! M'Bidjem Thierry 227! Sanyako, Toubacouta (Oct.) Monod 8681! **Gam.:** Ingram! Brown-Lester 4! 28! Dawe 30! Saunders 108! Genieri (Feb.) Fox 48! **Mali:** Toukota (Dec.) Chev. 67! **Port. G.:** Sonaco to Gabu (Dec.) Esp. Santo 2341! Nova Lamego to Canjufa (Oct.) Esp. Santo 3552! **Guin.:** Timbo, Kouria etc. Caille in Hb. Chev. 14772! Boulivel, Mamou (Nov.) Mission Pharm. A.O.F. 3/1934! Ditinn (Oct.) Schnell 7411! **S. L.:** Wallia, Scarcies (Feb.) Sc. Elliot 4285! **N. Nig.:** Zaria (fl. & fr. Dec.) Meikle 289! Samaru (Aug.) Keay FHI 28012! Gwaram, Farin Dutse F.R. (Nov.) Onwudinjoh FHI 24037!

4. *Lippia savoryi* Meikle in *Kew Bull.* 17: 173 (1963). *APD acc*

Lippia multiflora var. *pubescens* Moldenke in *Phytologia* 3: 271 (1950).

Lippia africana var. *sessilis* l.c. 271 (1950).

Lippia nigeriensis var. *brevipedunculata* Moldenke l.c. 272 (1950).

Lippia adoensis of F.W.T.A., ed. 1, 2: 270, partly, not of Hochst.

Erect woody perennial or subshrub to about 5 ft. high; leaves greyish-green, very scabrid; floral bracts pale green, densely white villose; flowers white with a yellow throat.

Ghana: Bole (fl. Nov.) Harris! **N. Nig.:** Jos and Naraguta (May-Jan.) Lely 69! 241! 320! P40! Shere Hills (Dec.) Coombe 112! Kafenkya to Jos (Apr.) Gregory 281! Kontagora (Oct.) Dalz. 177! Ukata to Kontagora (fl. & fr. Jan.) Meikle 1059! Birnin Gwari (secondary growth, fl. Mar.) Meikle 1344! Kurra Falls Savory UCI 108! Assob (fr. Feb.) McClintock 244!

7. CHASCANUM

E. Mey. Comm. Pl.Afr. Austr. 275 (1837); Moldenke in Fedde Rep. 45: 114 (1938).

Bouchea of F.T.A. 5: 281, not of Cham.

- 1 Small shrub or perennial herb; lower stems with soft corky bark, branchlets densely puberulous, hairs about 1 mm. long; leaves ovate, broadly elliptic or suborbicular, obtuse at apex, truncate or broadly cuneate at base, 0.5-4.5 cm. long, 0.5-3 cm. broad, coarsely dentate, puberulous on both sides, venation prominent beneath; petioles usually about 1 cm. long; inflorescences terminal-spikes 3-35 cm. long; calyx about 6 mm. long, less than twice as long as bract; corolla-tube about 12 mm. long, lobes 5, subequal, 2 mm. diam.; fruits dry, included in calyx-tube, linear, dividing into two pyrenes[marrubiifolium](#)

Chascanum marrubiifolium Fenzl ex Walp. Repert. 4: 38 (1845); Moldenke l.c. 135; Gillett in Kew Bull. 10: 133 (1955). *APD acc*

Bouchea marrubiifolia (Fenzl ex Walp.) Schau. in DC. Prod. 11: 558 (1847); F.T.A. 5: 282; De Miré & Gillet in J. Agric. Trop. 3: 720.

A branched herb or small shrub up to 3 ft. high, with white-pubescent foliage; flowers white in narrow spikes; *in semi-desert*.

Maur.: Oualata to Néma Jumelle. **Guin. (?)**: Upper Senegal & Niger Buchanan. **Mali:** Gao (fl. & fr. Sept.) Hagerup 345! **Niger:** Agadez, Air Mta. Petit- Lagrange 60; 66. Taraouadji massif, Air Gillet 1057; 1066. Elmiki, Air De Mire N2-96.

Distributed across N. tropical Africa to *Arabia* and Pakistan.

8. PREMNA

Linn.-F.T.A. 5: 287.

- 1 Leaves narrowed to the base:2
Leaves rounded to cordate at base:4
- 2 Lamina pilose-pubescent beneath:3
Lamina glabrous beneath, oblong, acutely acuminate, 7-8 cm. long, 2.5-3 cm. broad, with about 4 pairs of lateral nerves; petiole 1.5-2 cm. long; corymbs small, few-flowered[3. milnei](#)
- 3 Leaves broadly obovate, acutely acuminate, up to 20 cm. long and 10 cm. broad, with 8-10 pairs of lateral nerves; corymbs terminal, many-flowered; calyx pubescent, enlarging and nervose in fruit; fruit obovoid, 1 cm. long.[1. hispida](#)
Leaves elongate-obovate-oblongate, long and acutely acuminate, 25-30 cm. long, 6-9 cm. broad, thin, denticulate in the upper half, pilose especially on the midrib beneath, with 10-14 pairs of lateral nerves; petiole 1 cm. long, hirsute; cyme small and subsessile, rusty-pilose except the pedicels; calyx very small, glabrous[2. grandifolia](#)
- 4 Lamina ovate, usually in whorls of 4; calyx truncate or slightly bilobed:5
Lamina broadly oblong to oblong-elliptic, rounded (or sometimes slightly cordate) at base, 5-9 cm. long, 2-6 cm. broad, glabrous to softly pubescent beneath; frequently with reflexed arrested axillary branches terminating in a pair of leaves and a small inflorescence about 1 cm. diam.; principal inflorescence terminal, a rather dense corymb about 5 cm. diam.; calyx with small teeth[6. lucens](#)
- 5 Leaves entire, 9-14 cm. long, 6-12 cm. broad, glabrous or finely pubescent mainly on the nerves beneath; petioles 3-6 cm. long, glabrous or pubescent; inflorescence glabrous or finely and densely pubescent, terminal, becoming lax and expansive, about 20 cm. diam., with numerous small flowers[4. angolensis](#)

Leaves coarsely crenate, 7-11 cm. long, 4-7-5 cm. broad, softly pubescent beneath; petioles 2-3 cm. long, pubescent; inflorescence finely and densely pubescent, terminal, pyramidal, about 12 cm. long and 10 cm. across the base, with numerous small flowers [5. quadrifolia](#)

1. **Premna hispida** *Benth.* in Fl. Nigrit. 485 (1849); F.T.A. 5: 290; Chev. Bot. 504; Berhaut Fl. Sén. 109, 119; Aubrév. Fl. For. C. Iv., ed. 2, 3: 236, t. 339. *APD acc*

A straggling shrub or small tree up to 20 ft. high; flowers greenish-white, fruits orange; **often in secondary forest.**

Sen.: Leprieur! Heudelot 61. Koulaye, Casamance Chev. 2770. **Port. G.:** Bissau (fl. & fr. Mar.) Esp. Santo 1157! 1843! 1870! **Guin.:** Heudelot 761! Conakry Chev. 15408. Kindia Chev. 12791; 13383. Mamou (Mar.) Dalz. 8401! Farmar 302! **S. L.:** Sugar Loaf Mt. (fr. Mar., May) Barter! Hepper 2490! Njala (Sept.) Deighton 2113! Mabonto (Feb.) King-Church 17! Bonganema (fr. May) Deighton 5948! Sasseni, Scarcies (Jan.) Sc. Elliot 4521! **Lib.:** Sodu (Jan.) Bequaert 49! Since Basin Whyte! Kakatown Whyte! Gbanga (fr. Sept.) Linder 489! Buchanan (Mar.) Baldwin 11171! Suacoco (fr. Feb.) Konneh 126! **Iv.C.:** Bingerville Chev. 15408; 15560. Bingerville to Potou lagoon Chev. 20086. Diamancrou, Nzi Croux in Hb. Chev. 20129. Mt. Tonkoui, Man (fr. Mar.) Leeuwenberg 2935! **Ghana:** Nsemre F.R., near Wenchi (Dec.) Adams 5369! Twindorase, Kwahu Plateau (Mav) Kitson 1192! Aboma F.R. (Jan.) Andoh FH 5452! Amedzofe (fr. Feb.) Irvine 17!

2. **Premna grandifolia** *A. Meeuse* in Blumea 5: 72 (1942). *APD acc*

Premna macrophylla *A. Chev. ex Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 272 (1931); Chev. Bot. 505, name only; not of Wall. ex Schau. (1847), nor of H. J. Lam (1919).

A shrub 2-3 ft. high, densely rusty-pilose on the branchlets and midribs, with long leaves and small white flowers.

Iv. C.: Kéeta, Mid. Cavally (July) Chev. 19366. Grabo, Cavally Basin Chev. 19654.

3. **Premna milnei** *Bak.* in F.T.A. 5: 291 (1900). *APD acc*

A shrub with glabrous branchlets and small white flowers in a pubescent slender-branched corymbose panicle.

S. Nig.: Calabar Robb! **F. Po:** Milne!

4. **Premna angolensis** *Gürke* in Engl. Bot. Jahrb. 18: 165 (1893). *APD acc*

Premna zenkeri *Gürke* l.c. 33: 292 (1903); F.W.T.A., ed. 1, 2: 272; Berhaut Fl. Sén. 100, 119.

A small tree up to 40 ft. high or (?) climbing shrub, flowers white, very small in copious panicles.

Sen.: " gallery forest " Berhaut 596. **Guin.:** Timbo Pobéguin 741! **S. L.:** Bumbuna (fr. Oct.) Thomas 3171! Pujehun (July) Deighton 5802! Sumbuya, near Mattru (June) Deighton 4774! **Ghana:** Komenda, Cape Coast (July) Andoh 5737! **Togo Rep.:** Basari (July) Kersting 11121! **N. Nig.:** summit of Gwalor Hill, Niger Prov. (June) Onochie, Latilo & Okeke FHI 40176! **S. Nig.:** Ibadan South F.R. (Apr.) Keay FHI 22818! Iyamoyong, Obubra Dist. (fr. Aug.) Adebuseyi FHI 43976! **[Br.] Cam.:** Buea, 3,200 ft. (fr. May) Mailland 661! Ainsley 283! Su, 3,000-4,000 ft., Bamenda (May) Maitland!

Widespread in tropical Africa.

[The Sierra Leone specimens and Keay FHI 22818 are cited with caution since they are described as climbing shrubs, and their inflorescences are usually smaller than typical *P. angolensis*. The diagnostic character of bilobed calyx attributed to *P. zenkeri* is only visible in young buds and it cannot be maintained as a distinct species; amounts of indumentum are very variable-F.N.H.]

5. **Premna quadrifolia** *Schum. & Thonn.* Beskr. Guin. Pl. 275 (1827); F.T.A. 5: 289; Chev. Bot. 505. *APD acc*

Gaertnera ferruginea *A. Chev.* Bot. 444, name only.

A shrub up to 10 ft. high, aromatic; flowers white; **in thickets.**

Port. G.: Catio, N'emberem to Quélu (June) Esp. Santo 2078! **Iv. C.:** Mt. Niénokoué, Mid. Cavally (July) Chev. 19457! Orodougou, Sifié to Séguéla Chev. 21819. **Ghana:** Accra (June) Dalz. 144! (Mar.) Deighton 594! Nungua, Accra Plains (May) Rose Innes GC 30063! Legon Hill (Dec.) Adams 3597! Achimota (Feb.) Dalz. 8263! Aburi Hill (June) Williams 296! **S. Nig.:** T. Vogel! Okpauani A.E. Kitson! Abeokuta Barter 3358!

6. *Premna lucens* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 192 (1912); Chev. Bot. 505. *APD acc**Premna quadrifolia* of F.W.T.A., ed. 1, 2: 272, partly (syn. and Chev. 22392).*Premna gracilis* A. Chev. l.c. 191 (1912); Chev. Bot. 504.

A climber with clusters of white flowers and red fruits.

Guin.: Comoe waterfalls, near Banfora (Sept.) Jaeger 5258! **S. L.:** Nganyama (fr. Nov.) Deighton 5264! **Lib.:** Mecca, Boporo Dist. (Nov.) Baldwin 10415! Peahat (Oct.) Linder 916! Gbau, Sanokwele Dist. Baldwin 9411! Totokwelli (fr. Oct.) Linder 1284! Tappita Baldwin 9098! **iv. C.:** Diahbo, Baolé-Nord (July) Chev. 22071! Bouaké to Mt. Lémélébou Fleury in Hb. Chev. 22101! Touminiarié to Angouakoukro (Aug.) Chev. 22392! **Ghana:** Odomi River F.R. (Oct.) St. C.-Thompson FH 3637!

9. CLERODENDRUM

Linn.—F.T.A. 5: 292; B. Thomas in Engl. Bot. Jahrb. 68: 1 (1936).

- 1 Calyx-lobes obtuse and semi-orbulate to semi-elliptic; corolla-tube zygomorphic, lobes longer than the tube; fruit 4-lobed, not breaking into pieces at maturity; inflorescences always terminal:2
- Calyx-lobes acute or acuminate; corolla-tube actinomorphic or slightly zygomorphic, the lobes shorter than the tube; fruit breaking into 2 or 4 pieces at maturity:5
- 2 Leaves sessile, entire or serrate, mostly verticillate, obovate-elliptic to obovate-lanceolate, 7-14 cm. long, 2.5-6 cm. broad, glabrescent or shortly puberulous; stems erect, subherbaceous*1. alatum*
- Leaves distinctly petiolate, mostly entire:3
- 3 Leaves quite glabrous on both sides except for a minute pubescence on the nerves beneath; leaves thinly membranaceous, ovate, elliptic or oblong, 5-12 cm. long, 3-10 cm. broad; straggling or climbing shrub*2. violaceum*
- Leaves pubescent or tomentose, at least all over the undersurface; leaves almost coriaceous and very fragile when dry (probably slightly fleshy when alive):4
- 4 Leaves sparsely puberulous and when dry blackish-green on their upper side, puberulous but not tomentose beneath; leaves opposite, broadly ovate to ovate-lanceolate, 3-12 cm. long, 1-10 cm. broad; calyx lobed to about 1/2 or more of its length*3. carnosulum*
- Leaves thinly tomentellous and when dry grey to dull brown above, densely tomentellous beneath; opposite or in whorls of 3, broadly ovate to elliptic, 3-6 cm. long and 2-4 cm. broad; calyx lobed to about 1/3 of its length*4. tomentellum*
- 5 Fruit breaking into 2 halves at maturity; inflorescences axillary, pedunculate, few-flowered, becoming spinescent; corolla-tube about 1.5 mm. long; introduced erect spiny shrub with rather small ovate, elliptic or oblong leaves, cuneate at base, entire, 1.5-5 cm. long, 5-20 mm. broad, glabrous or almost so; young branches and peduncles puberulous; branches solid*5. aculeatum*
- Fruit breaking into 4 quarters at maturity; inflorescences axillary or terminal, never spinescent:6
- 6 Corolla-tube 1.4-12 cm. long; branches hollow or solid (to p. 440):7
- Corolla-tube up to 1 cm. long; calyx-teeth not more than 3 mm. long; branches solid (except No. 28 with hollow internodes):26
- 7 Calyx-teeth 5-30 mm. long:8
- Calyx-teeth up to 4 mm. long:19
- 8 Branches deeply sulcate, hollow in the internodes; calyx 1-1.5 cm. long, lobed almost to the base, segments linear, less than 2 mm. broad; corolla-tube about 3 cm. long; leaves deltoid-ovate, acuminate, 6-9 cm. long, 4-6 cm. broad, crenate, long-petiolate, puberulous beneath*6. eupatorioides*
- Branches not sulcate:9
- 9 Flowers in branched, ample, corymbose, terminal inflorescences, never clustered; corolla-tube 1.4-5 cm. long (to p. 440):10
- Flowers in head-like clusters, peduncled or sessile, terminal or axillary:14
- 10 Leaf-margin entire, leaves ovate or elliptic; African species:11
- Leaf-margin crenate, dentate or undulate-sinuate, leaves broadly ovate or deltoid, branches solid; introduced species:13
- 11 Calyx-teeth 5 mm. long or longer, deltoid; leaves herbaceous, ovate, 6-20 cm. long, 3.5-11 cm. broad, rounded or very often slightly cordate at base, glabrous or frequently minutely puberulous; lower leaves long-petiolate, petiole 2-8 cm. long; corolla-tube puberulous*7. umbellatum*

- Calyx 12 mm. or more long, lobed to 2/3 or more of its length; corolla-tube up to 1.5 times longer than calyx; calyx glabrous or hairy: **12**
- 12** Leaves, branches and calyx glabrous; leaves thinly membranaceous, ovate, 6-18 cm. long, 3.5-8 cm. broad; calyx white, 14-30 mm. long; corolla crimson [8. thomsonae](#)
- Leaves, branches and calyx long-hirsute (hairs 2-5 mm. long); leaves ovate, 6-10 cm. long and 2.5-6 cm. broad; calyx 12-15 mm. long; white or yellowish with a red centre [9. buettneri](#)
- 13** Inflorescence a divaricate panicle; calyx (3-)6 mm. long; corolla deep red, its tube 5-7 times longer than calyx; leaves broadly ovate-cordate, 5-25 cm. long, almost as broad, tomentose beneath; climbing shrub, [10. speciosissimum](#)
- Inflorescence a dense head; calyx 1.1-5 cm. long (including teeth); corolla-tube a little longer than the calyx; leaves deltoid, 7-20 cm. long and almost as broad, shortly pilose, especially beneath; erect undershrub; flowers usually double [11. japonicum](#)
- 14** Branches hollow in the internodes; calyx lobed to 3/4 of its length or deeper, 12-20 mm. long, the segments lanceolate, 4-8 mm. broad; corolla-tube 4-12 cm. long: **15**
- Branches solid; calyx lobed to about 1/2 its length, 6-14 mm. long; corolla-tube 1.5-5 cm. long: **18**
- 15** Bracts linear-filiform; inflorescences only lateral on old leafless branches; flowering branches mostly about 1 cm. diam.; leaves glabrous on both sides, large, elliptic, 15-25 cm. long, 6-12 cm. broad, with 5-9 pairs of lateral nerves, entire or indistinctly and obtusely dentate; inflorescences more or less sessile, many-flowered [12. globuliflorum](#)
- Bracts ovate-acuminate or ovate-lanceolate; inflorescences terminal or terminal and lateral on young branches; not cauliflorous: **16**
- 16** Leaves with 3-6 pairs of lateral nerves; corolla-tube 4-8 cm. long; leaves ovate or elliptic, 7-20 cm. long, 4-10 cm. broad, short- to long-petiolate; **17**
- Leaves with 7-10 pairs of lateral nerves; corolla-tube 8-10 cm. long; leaves elliptic-oblong, 15-17 cm. long, 5-6 cm. broad, margin entire, glabrous except the sparsely pubescent midrib beneath; petioles up to 1 cm. long; young branches densely and shortly pubescent; calyx segments ciliate [14. whitfieldii](#)
- 17** Calyx-segments ciliate or fimbriate on the margins; young branches patent-pilose or hispid; leaves scabrid or glabrescent above, pilose beneath especially on the midrib and lateral nerves, rarely on the midrib only; leaves entire or coarsely sinuate-dentate, shortly cuneate to slightly cordate at base [13. capitatum var. capitatum](#)
- Calyx-segments quite glabrous, as well as the young branches and leaves; leaves always entire, shortly cuneate or rounded at base [13a. capitatum var. cephalanthum](#)
- 18** Branches, leaves and inflorescences whitish-tomentose when young; leaves rather small 1.5-7 cm. long, 0.7-4 cm. broad, broadly ovate to ovate-lanceolate, petiolate; flowers in lateral and terminal, peduncled, head-like clusters; calyx-lobes lanceolate; corolla-tube 1.5-2.5 cm. long [15. acerbianum](#)
- Branches yellowish-brown pubescent; leaves rather large, ovate, cordate or truncate at base, 10-18 cm. long and 7-12 cm. broad, short- or long-petiolate; flowers in solitary terminal subcapitate inflorescences; calyx-lobes deltoid; corolla-tube 3-5 cm. long [16. welwitschii](#)
- 19** Corolla-tube 6-12 cm. long; leaves opposite, broadly lanceolate, acuminate, gradually attenuate to base and scarcely petiolate, 6-14 cm. long, 1.5-5 cm. broad, coarsely dentate; stem erect, herbaceous [17. incisum](#)
- Corolla-tube up to 4 cm. long; leaves distinctly petiolate: **20**
- 20** Calyx-tube 3-5 times longer than the teeth; teeth usually glabrous; frequently cauliflorous: **21**
- Calyx-tube shorter to about as long as the teeth, if longer than the teeth then distinctly pilose: **22**
- 21** Inflorescence an elongate, leafless panicle, frequently cauliflorous; rhachis 5-30 cm. long; corolla-tube up to 2.5 cm. long, (1.2-)2-3 times longer than the calyx; leaves elliptic or ovate, entire, 8-20 cm. long, 3-10 cm. broad, glabrous [18. buchholzii](#)
- Inflorescence capitate, with the rhachis abbreviated, 0.5-1 (-2) cm. long; corolla-tube 3-4 cm. long, 5-8 times longer than the calyx; leaves elliptic, 9-20 cm. long, 4-9 cm. broad, glabrous or minutely puberulous beneath, entire or frequently dentate [19. schweinfurthii](#)
- 22** Inflorescence a solitary, terminal, densely head-like cluster; corolla-tube at most 1.5 cm. long: **23**
- Inflorescence laxly branched or if clustered not contracted into a single head: **25**
- 23** Corolla-tube 3-4 times longer than the calyx; calyx-teeth deltoid; (other characters as above) [16. welwitschii](#)
- Corolla-tube 1-1.5 times longer than the calyx; calyx-teeth lanceolate to subulate: **24**
- 24** Calyx 10-15 mm. long, with the teeth ciliate; leaves deltoid; flowers usually double; introduced erect undershrub; (other characters as below) [11. japonicum](#)
- Calyx 6-9 mm. long, pilose all over; leaves broadly ovate or elliptic, all of margin serrate or obscurely dentate, scabrous-pubescent above, yellow-tomentose to greyish-pubescent beneath; corolla-tube 10-14 mm. long; native climbing shrub [20. sinuatum](#)
- 25** Inflorescence on young, leafy branches, terminal or axillary; calyx-teeth 2-4 mm. long; leaves elliptic or ovate,

- rounded, subcordate or subcuneate at base, 6-20 cm. long, 4-10 cm. broad, glabrous on both sides; petiole 3-20 mm. long [21. splendens](#)
- Cauliflorous; inflorescence leafless, much-branched; calyx-teeth about 1 mm. long; corolla-tube about 1.5 cm. long or perhaps longer, puberulous, about 1 mm. broad when pressed; leaves elliptic, 10-20 cm. long, 4-8 cm. broad, glabrous [22. bipindense](#)
- 26** Leaves opposite or subopposite: **27**
 Leaves in whorls of mostly 3; inflorescence always terminal:
- 27** Calyx 5 mm. long or longer, the tube 3-5 times longer than the teeth; frequently cauliflorous; leaves glabrous; (see also above) 18. buchholzii **28**
 @
- 28** Calyx less than 5 mm. long or if longer then leaves markedly pilose:
 Calyx-lobes as broad as or broader than long, usually spreading; pedicels slender, mostly more than 5 mm. long; leaves glabrous: **29**
 Calyx-lobes longer than broad, mostly erect; pedicels short, usually less than 5 mm. long; inflorescence frequently clustered; leaves usually pilose, especially on the nerves beneath: **32**
- 29** Whole plant turning black when dry; petiole fairly long, more than 3 cm. long, lamina ovate, cordate at base, 6-10 cm. long and almost as broad; corolla-tube glabrous or nearly so, less than 1 cm. long, usually less than 1 mm. broad when pressed; corolla-lobes 2-3 mm. long; inflorescence terminal [23. melanocrater](#)
- Plant not turning black when dry; petioles short, up to about 2 cm. long; corolla-lobes longer; corolla-tube 6-10 mm. long; inflorescence terminal: **30**
- 30** Branches puberulous; inflorescence elongate, the internodes of the rhachis usually 2 cm. or more long; corolla-tube 2 mm. or more broad when pressed, densely pilose; leaves ovate or elliptic, acuminate, 6-14 cm. long, 3-7 cm. broad [24. thyrsoidium](#)
- Branches glabrous; inflorescence short, usually subcorymbose, the internodes of the axis less than 1 cm. long; corolla-tube less than 1 mm. diam. when pressed, almost glabrous; leaves ovate or elliptic, acuminate, 5-15 cm. long, 2-7 cm. broad [25. volubile](#)
- 31** Calyx and the whole inflorescence hairy all over, 5-7 mm. long; leaves opposite, 12-18 cm. long, 7-12 cm. broad, broadly ovate, pubescent on both surfaces; inflorescences composed of few rather large head-like clusters [26. inaequipetiolatum](#)
- Calyx minutely puberulous to almost glabrous, 2-4 mm. long; leaves mostly opposite, rarely in whorls of 3, rounded or sometimes cuneate at base, elliptic to ovate, glabrous above or slightly pubescent on the midrib only, pubescent on the midrib and nerves beneath; corolla-tube about 5 mm. long [27. dusenii](#)
- 32** Branches hollow in the internodes; leaves acuminate at apex, usually short-cuneate at base, elliptic, 4-10 cm. long, 2-5 cm. broad, quite glabrous (except sometimes midrib beneath); calyx 2-3 mm. long; corolla-tube very short, 4-5 mm. long; axis of inflorescence short, branches long and almost horizontally spreading [28. formicarum](#)
- Branches solid; leaves glabrous, puberulous or pilose:
- 33** Flowers in head-like clusters or on almost horizontally spreading branches; leaves ovate, truncate or mostly subcordate at base, 7-15 cm. long, 4-10 cm. broad, entire, pubescent above; branches with yellow indumentum [29. polycephalum](#)
- Flowers in terminal, subcorymbose, thyrsoid inflorescences; calyx 2-3 mm. long, teeth very acute, minutely puberulous outside; corolla-tube 5-8 mm. long; leaves ovate, acuminate at apex, short-cuneate at base, smooth, 3-14 cm. long, 2-6 cm. broad, glabrous or finely whitish-tomentellous [30. glabrum](#)

1. *Clerodendrum alatum* Gürke in Engl. Bot. Jahrb. 18: 182 (1893); F.T.A. 5: 311; Thomas l.c. 83.

*APD: Synonym of *Rothea alata* (Gürke) Verdc.*

Clerodendrum fleuryi A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 191 (1911); Chev. Bot. 508; F.W.T.A., ed. 1, 2: 273; Thomas l.c. 83.
Clerodendrum lelyi Hutch. & Dalz. in Kew Bull. 1921: 395.

An erect subherbaceous plant, 2-4 ft. high; flowers blue-purple with the upper corolla-lobes white; inflorescence a thyrsoid panicle.

IV. C.: Langouassou to Fétékro, Boualé-Nord (July) Chev. 22160! **N. Nig.:** Ropp (July) Keay FHI 37099! Vom, Jos Plateau Dent Young 205! Mongu, 4,300 ft. (fr. July) Lely 384! Kilba country (July) Dalz. 119! Biu, Bornu Prov. (fl. & fr. Sept.) Noble 18!

Also **Cameroun, Congo, Egypt, Sudan** and **Ethiopia**.

2. *Clerodendrum violaceum* Gürke l.c. 28: 303 (1900); F.T.A. 5: 520; Thomas l.c. 82.

APD: Synonym of Rothea violacea (Gürke) Verdc. subsp. violacea

Clerodendrum kalbreyeri Bak. in F.T.A. 5: 311 (1900).

Clerodendrum noiroti A. Chev. Bot. 508, name only.

A straggling or climbing shrub with almost glabrous leaves and conspicuous violet, violet and white or greenish flowers up to 1 in. across; inflorescence a terminal panicle.

Guin.: Labé Chev. 12393! Mamou to Labé (Mar.) Jac.-Fél. 796! Dalaba (Mar.) Dalz. 8403! Macenta (Oct.) Baldwin 9770! **S. L.:** Hill Station Smythe 105! Koinadugu (fr. Apr.) Glanville 198! Kondembaia to Dalakuru (Apr.) Deighton 5071! N. Kabala (Mar.) Roberty 17254! Dodo (Apr.) Deighton 3905! **Iv. C.:** Lower Comoé (Mar.) Chev. 17566! **Ghana:** Manso (fl. & fr. Apr.) Scholes 269! Bobiri F. R. (fr. Mar.) Andoh 4954! Begoro, Akim (fl. & fr. Apr.) Irvine 1353! Mampong Scarp (Mar.) Vigne FH 1066! Asamankese (fl. & fr. Mar.) Vigne FH 4375! **S. Nig.:** Lagos Rowland! Gambari W. D. MacGregor 589! Owo F.R., Ijebu (May) Tamajong FHI 23260! Ibadan South F.R. (Apr.) Keay FHI 22541! Iyamoyong F.R., Obubra Dist. (Apr.) Binuyo FHI 41222! **[Br.] Cam.:** Bolifambo (fl. & fr. Mar.) Maitland 554! Kumba (Apr.) Hutch. & Metcalfe 159! Cam. Mt. (July) Kalbreyer 94!

Also in **Cameroun**, **Congo** and **N. Rhodesia**.

3. *Clerodendrum carnosulum* Bak. in F.T.A. 5: 311, 520 (1900); Thomas l.c. 81.

APD: Synonym of Rothea sansibarensis subsp. caesia (Gürke) Steane & Mabb.

Erect or climbing shrub with drooping branches; calyx crimson, corolla light blue.

[Br.] Cam.: Johann-Albrechtshöhe (= Kumba) Staudt 872. Bamenda (fl. Mar., Apr., fr. Apr.) Onochie FHI 34885! Ujor FHI 30023! Bamenda Nkwe (Mar.) Daramola FHI 40539! Bambui (Apr.) Maitland 1648!

Also in **Cameroun**, **Congo** and **Angola**.

4. *Clerodendrum tomentellum* Hutch. & Dalz. F.W.T.A., ed. 1, 2: 272, 273 (1931); Thomas l.c. 83.

APD acc

Erect shrub or small, tortuous tree with the young parts densely tomentose; flowers large, up to 1 in. across, with 4 white and 1 mauve corolla-lobes; inflorescence a terminal panicle.

N. Nig.: Vom, Jos Plateau Dent Young 205a! Jos Plateau (May) Lely P264! Naraguta F.R. (June) Kennedy 7255! Heipang Tabo, 4,300 ft. (fl. & fr. Jan.) Wimbush FHI 41824!

5. *Clerodendrum aculeatum* (Linn.) Griseb. Fl. Brit. W. Ind. 500 (1864); Thomas l.c. 90; Berhaut Fl. Sén. 97, 98, 109.

APD: Synonym of Volkameria aculeata L.

Volkameria aculeata Linn. (1753).

Erect shrub; branches with small opposite conical thorns; flowers white, in few-flowered inflorescences from the upper nodes.

Sen.: Farmar! near Hann beach, Dakar (May) Baldwin 5743! St. Louis (cult.) Brunner 36! Manulea Rufisque Chev.! **Port. G.:** Cacheu (cult., Oct.) Esp. Santo 2276!

A native of the W. Indies; introduced into Africa.

6. *Clerodendrum eupatorioides* Bak. in F.T.A. 5: 295 (1900); Thomas l.c. 55.

APD: Synonym of Eremomastax speciosa (Hochst.) Cufod.

Stem erect, herbaceous, 4-6 ft. high, glandulose-pilose; flowers white, in dense terminal cymes.

[Br.] Cam.: Cam. Mt., 2,000 ft. (Dec.) Mann 1295!

[This plant, the fruits of which are unknown, must be regarded as doubtfully belonging to *Clerodendrum*.]

7. *Clerodendrum umbellatum* Poir. Encycl. Meth. Bot. 5: 166 (Jan. 1804). *APD acc*

Clerodendrum scandens P. Beauv. Fl. Oware 1: 52, t. 62 (Sept.-Oct. 1804); F.T.A. 5: 304; F.W.T.A., ed. 1, 2: 274; Thomas l.c. 58

(incl. vars. *asperifolium* B. Thomas l.c. 59 (1936), and *speciosum* (Teysm. & Binn.) B. Thomas l.c. (1936)); Chev. Bot. 508.

A climbing shrub up to 20 ft. high, or sometimes suberect; flowers white, sometimes with a pink throat, calyx green below and white above.

Sen.: Heudelot 519! **Guin.:** Farmar 177! Santa to Timbo Chev. 12812 ter! Bowali Caille in Hb. Chev. 14705. **S. L.:** Freetown (fl. & fr. Feb.) Dalz. 978! New England (fl. Dec.) Small 810! Kambia (Dec.) Deighton 894! Roruks (fr. Nov.) Thomas 5687! Musaia (Nov.) Deighton 5962! **Lib.:** Monrovia (Nov.) Okeke 62! Cape Palmas (July) T. Vogel 53! Moala-Suen (Nov.) Linder 1382! Zigida, Vonjama Dist. (Oct.) Baldwin 10020a! Ganta (May) Harley! **Iv. C.:** Bingerville Chev. 16069. Makougné Chev. 16992 bis. Bouroukrou Chev. 16748; 16798. Adiopodoumé (Oct.) Leeuwenberg 1774! Niapidou (Jan.) Leeuwenberg 2476! **Ghana:** Dixcove (fr. Jan.) Deakin 67! Aburi Scarp (fl. & fr. Jan.) Morton GC 6343! Kumasi (Jan.) Vigne FH 1798! Akroso (Aug.) Howes 952! Takasi to Jaware (Dec.) Adams 2160! **Togo Rep.:** Baumann 373. Misahöhe Busse 3414. Agome Mts. Busse 3436. Atakpame Doering 226. **S. Nig.:** Lagos (fl. & fr. July) Dalz. 1403! Sapoba Thompson 3! Mt. Koloishe, 4,800 ft. (Dec.) Savory & Keay FHI 25126! Oban Talbot! Opoba (Sept.) Holland 143! **[Br.] Cam.:** Victoria (fl. & fr. Apr.) Dundas FHI 20501! 20503! Eyang, Mamfe Dist. (Dec.) Tamajong FHI 22135! Bali to Bamoa, Bamenda (fr. Feb.) Migeod 503! 505! Maitland! Kakara, 4,900 ft., Mambila Plateau (Jan.) Hepper 1799! Gangumi, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28796! **F. Po:** Ansekk! (Dec.) Mann 83! near Clarence (Nov.) Buchholz! Barter 2058! T. Vogel 98! Musola (Jan.) Guinea 975!

Also in **Cameroun**, **Ubangi-Shari**, **Uganda**, **Tanganyika** and **Congo**.

[Note: B. Thomas (l.c.) indicates *C. congensis* Engl. (Bot. Jahrb. 8: 65 (1887)) for Sierra Leone (Afzelius s.n., Bastian s.n.). *C. congensis* is said to differ from *C. umbellatum*: 1) in having the glandular spots of the undersurface of the leaves shining golden, a feature which, however, may also be observed exceptionally in *C. umbellatum*: 2) in having the branches grey-brown, and 3) in the almost glabrous corolla tube. I have not seen any West African material with these characters-H. Huber.]

8. *Clerodendrum thomsonae* Balf. f. in Trans. Bot. Soc. Edinb. 7: 265, t. 7 and 580, t. 16 (1868); F.T.A. 5: 303; Thomas l.c. 60. *APD acc*

An almost glabrous climbing shrub, with a large white calyx and bright crimson flowers.

Sen.: Dakar Chev. 3437! **S. L.:** Njala (cult. Dec.) Deighton 5282! **Ghana:** Achimota (cult., Dec.) Irvine 1651! **N. Nig.:** Koton Karifa (fr. Dec.) Elliott 219! Lokoja (July) Parsons L159! Oduape, Kabba (fr. Oct.) Parsons L111! **S. Nig.:** Ifon, Ondo Prov. (June) Foster 200! Sapoba Kennedy 426! Angiama Barter 2093! Eket Talbot 3037! Calabar (Feb.) Mann 2327! (cult.) Thomson! Umon-Ndealichi, Itu Dist. (June) Ujor FHI 27995! **[Br.] Cam.:** Buchholz. Lips. Buea Deistel 547.

Also in **Cameroun**.

9. *Clerodendrum buettneri* Gürke in Engl. Bot. Jahrb. 18: 174 (1893); F.T.A. 5: 302; Thomas l.c. 61. *APD acc*

A shrub, probably climbing, with leaves and branches brown-hispid; flowers white or yellowish with a red centre.

S. Nig.: Afi River F.R., Ikom Dist. (May) Latilo FHI 31813!

Also in **Cameroun**, **Rio Muni** and **Gabon**.

10. *Clerodendrum speciosissimum* Paxt. Mag. Bot. 3: 217 (1837). *APD acc*

Clerodendrum fallax Lindl. Bot. Reg. 1844: sub. t. 19; Thomas l.c. 59.

Clerodendrum greyi Bak. in F.T.A. 5: 308 (1900); F.W.T.A., ed. 1, 2: 274.

An introduced decorative climber with blood-red flowers in ample panicles.

W. Africa: without precise locality, 1860, Grey! **S. L.:** Njala (cult., Apr.) Deighton 2494! **Ghana:** Achimota (cult. fl. & fr. Mar.) Asamany 27! **S. Nig.:** Lagos (cult., Mar.) Lugard!

A native of Java.

11. *Clerodendrum japonicum* (Thunb.) Sweet Hort. Brit., ed. 1, 322 (1827).

APD: *Synonym of Clerodendrum chinense (Osbeck) Mabb.*

Volkameria japonica Thunb. Fl. Jap. 255 (1784).

Volkmannia japonica Jacq. (1797-1801).

Clerodendrum fragrans Vent. Jard. Malm. 2, t. 70 (1804), (in syn. under *Volkameria fragrans* Vent.).

A small erect subherbaceous shrub with white or pink flowers in dense terminal heads; **introduced and occasionally naturalised**.

S. L.: Bathurst, Freetown (cult., June) Deighton 2710! Bahama, Bo Disk. (Feb.) Marmo 184! Momaia (cult., Aug.) Adames 65! Baoma (cult., Apr.) Small 904! **Ghana:** Aburi (cult., June) Irvine 34! **S. Nig.:** Oban Talbot! **[Br.] Cam.:** Victoria (Jan.) Ndi FHI 50351!

A native of China and Japan; the double-flowered form is extensively grown in warmer countries.

12. *Clerodendrum globuliflorum* B. Thomas l.c. 63, 99 (1936). *APD acc*

A shrub about 6 ft. high, glabrous on branches and leaves, with thick globose inflorescences on the older wood; flowers white; calyx violet to brownish-purple.

S. Nig.: Sapoba Mutch FHI 21853! Okomu F.R., Benin (Jan.) Brenan 8829! Onochie FHI 40414! Oban Talbot! Obutong, Oban F.R. (Mar.) Onyeagocha FHI 7707! **[Br.] Cam.:** Rio del Bey Johnston! Cam. Mt. Weberbauer 58. Bangwe Conrau 249. Bafla (Feb.) Keay FHI 37536! Bamenda (Jan.) Daramola FHI 40612! **F. Po:** St. Isabel Peak Mildbr. 6345.

Also in **Cameroun**.

13. *Clerodendrum capitatum* (Willd.) Schum. & Thonn. var. *capitatum*-Beskr. Guin. Pl. 61 (1827); F.T.A. 5: 305; Chev. Bot. 507; Thomas l.c. 64; Berhaut Fl. Sén. 107. *APD acc*

Volkameria capitata Willd. Sp. Pl. 3: 384 (1800).

Clerodendrum obanense Wernham in Cat. Talb. 91 (1913).

Clerodendrum talbotii Wernham l.c. (1913).

Clerodendrum capitatum var. *talbotii* (Wernham) B. Thomas l.c. 63, 65 (1936).

Clerodendrum capitatum var. *conglobatum* B. Thomas l.c. (1936).

Clerodendrum frutectorum S. Moore in J. Bot. 57: 249 (1919), partly.

Erect or scrambling shrub with long petiolar thorns and white flowers in globose terminal heads.

Sen.: Berhaut 423; 3157. M'Bidjem Thierry 4! **Gam.:** Brooks 8! Ingram! Hayes 502! Nyumbai Forest Frith 125! **Mali:** Kangala Chev. 832bis. Dio Chev. 2573. Grand Daoua Ches. 2751. Fodibougou, Kita Massif (Oct.) Jaeger 11! **Port. G.:** Suzana to Casselol, S. Domingos (Aug.) Esp. Santo 3088! **Guin.:** Timbo Jac.-Fél. 1880! Doune Caille in Hb. Chev. 14678! **S. L.:** Dansogoria (Jan.) King 156b Yakala (Sept.) Thomas 2379! Kabala Thomas 2233! Dogoloia, near Musaia (Sept.) Miszewski 47! R. Maleki (Nov.) Marmo 289! **Lib.:** Busi (Dec.) Harley 792! **Iv. C.:** Mankono Chev. 21938. **Ghana:** Accra (July) Dalz. 143! Achtmota (fl. & fr. July) Irvine 748! Aquapim T. Vogel! Dodowa (Feb.) Irvine 1973! Tafo (July) Darko WACRI 890! **Togo Rep.:** Sokode Kersting A65. Difale Kersting A191! **N. Nig.:** Ikoja Barter! Naraguta (Aug.) Lely 497! Pankshin, 5,100 ft. (July) Lely 435! Katagum (Nov.) Dalz. 107! Bui (Aug.) Noble 6! **S. Nig.:** Lagos (Oct.) Punch 42! Ibadan (Aug.) Newberry 60! Owo F.R. (July) Onochie FHI 33354! Onitsha Barter 342! Degema Talbot! Oban Talbot 341! **[Br.] Cam.:** Cam. Mt., 3,000 ft. (Dec.) Mann 1975!

Also in **Cameroun, Congo, Angola, Egypt** and E. Africa from **Sudan** to N. Rhodesia and Nyasaland.

13a. *Clerodendrum capitatum* var. *cephalanthum* (Oliv.) H. Huber in Kew Bull. 16: 174 (1963).

APD: *Synonym of Clerodendrum cephalanthum Oliv. subsp. cephalanthum*

Clerodendrum cephalanthum Oliv. in Hook. Ic. Pl. 16, t. 1550 (1887); Thomas l.c. 66.

S. L.: Mano (Sept.) Deighton, 3790! Taiama (Aug.) Deighton 3523! Gbonge (Sept.) Deighton 6113! Yetaya (Sept.) Thomas 2296! **Lib.:** Ganta (Sept.) Baldwin 9303! Bilimu (Aug.) Harley 1453! **Iv. C.:** Baléko (Sept.) Aké Assi 3196! **Ghana:** Suhum (Sept.) Deighton 3417! Ampunyase (Aug.) Andoh 4237!

Also in **Kenya** and **Tanganyika**.

14. *Clerodendrum whitfieldii* Seem. in Bonplandia 10: 250 (1862); Thomas l.c. 64. *APD acc*

S. L.: Whitfield!

This species is known only from a single specimen.

15. *Clerodendrum acerbianum* (Vis.) Benth. & Hook. Gen. Pl. 2: 1156 (1876); F.T.A. 5: 295; Thomas l.c. 89; Berhaut Pl. Sén. 98, 100, 119.

APD: *Synonym of Volkameria acerbiana Vis.*

Volkameria acerbiana Vis. Ic. Pl. Aegypt. Nub. 23, t. 4 (1836).

Erect or scrambling shrub, densely pubescent to tomentose; flowers white in lateral and terminal, long-peduncled clusters.

Gam.: Pirie 46! Ouassadon Berhaut 794. **Port. G.:** Piche to Buruntuma (July) Esp. Santo 2707!

Widespread through **Egypt**, **Sudan**, and the drier parts of E. Africa from Somaliland to **Tanganyika**.

16. *Clerodendrum welwitschii* Gürke in Engl. Bot. Jahrb. 18: 174 (1893); F.T.A. 5: 308; Thomas l.c. 60. *APD acc*

Clerodendrum eketense Wernham in J. Bot. 52: 32 (1914); F.W.T.A., ed. 1, 2: 273.

A climbing shrub with large leaves and brown-pubescent branches; flowers white in dense terminal inflorescences.

S. Nig.: Eket Talbot 3033! Ikette Plateau, 5,200 ft., Obudu Div. (Dec.) Savory & Keay FHI 25189!

Also in **Cameroun**, **Congo** and **Angola**.

17. *Clerodendrum incisum* Klotzsch in Peters Reise Mossamb. Bot. 257 (1862); F.T.A. 5: 307; Thomas l.c. 78.

APD: Synonym of Rothea incisa (Klotzsch) Steane & Mabb.

An erect, subherbaceous plant with very long-tubular flowers in rather few-flowered, dense terminal inflorescences.

S. Nig.: Benin Kennedy 1420! Sapoba Kennedy 2640!

Distributed from **Somalia** to Mozambique; probably only introduced into our area.

18. *Clerodendrum buchholzii* Gürke in Engl. Bot. Jahrb. 18: 176 (1893); F.T.A. 5: 301; Thomas l.c. 69.

APD: Synonym of Clerodendrum silvanum var. buchholzii (Gürke) Verdc.

Clerodendrum preussii Gürke l.c. 175 (1893); F.T.A. 5: 302; Thomas l.c. 69.

Clerodendrum schifferi A. Chev. Bot. 509, name only.

A glabrous woody climber up to 30 ft. high with petiolar thorns; frequently cauliflorous; flowers white, fragrant; fruits red, with the calyx enlarged, white.

Guin.: Dalaba (Sept.) Schnell 6871! Kouria (Sept., Oct.) Caille in Hb. Chev. 14899; 15049! **S. L.:** Bumba (Sept.) Thomas 1921! Gbangbama (fr. Nov.) Deighton 2358! Rokupr (Sept.) Jordan 124! Njala (fr. Oct.) Deighton 2530! Loma Mts. (Sept.) Jaeger 1634! **Lib.:** Du R. (July, Aug.) Linder 184! 252! Gbanga (Sept.) Linder 730! Browntown, Tchien Dist. (Aug.) Baldwin 7082! **Iv. C.:** Kéeta (July) Chev. 19320. Bingerville Chev. 16009; 16010; 20150. **Ghana:** Aburi (July-Sept.) Johnson 169! Gould! Kibi (Sept.) Vigne FH 4256! Akwapim (Aug.) Johnson 771! Tafo (Aug.) Darko WACRI 946! **S. Nig.:** Lagos Punch! Olode Oshonde, Ibadan (Oct.) Moses & Jonathan FHI 19181! Ama Ekpelima (Sept.) Jones FHI 6721! Ukon F.R., Obubra Dist. (July) Latilo FHI 31876! Oban Talbot! **[Br.] Cam.:** Cam. Mt., 3,000-6,000 ft. (fl. & fr. Jan., fr. Apr.) Maitland 311! Hutch. & Metcalfe 5! Keay FHI 28580! S. Bakundu F.R., Kumba (Apr.) Olorunfemi FHI 30520! Likomba (Oct.) Mildbr. 10507! Mamfe (Mar.) Onochie FHI 34838! Bamenda to Bafut (Aug.) Savory UCI 322! **F. Po:** (fr. Nov.) T. Vogel 157! Moka, 4,000 ft., Plateau area (Dec.) Boughey 62! Mt. Balea (Dec.) Guinea 424! Musola (Sept.) Wrigley 684!

Also in **Cameroun**, **Gabon**, **E. Africa**, **N. Rhodesia** and **Angola**.

[Note: The corolla is frequently transformed by insect activity into a gall; thus the corolla, normally with a very narrow tube, becomes enlarged, the tube broadly cylindric-campanulate, about 2 cm. long and 1-1.5 cm. in diameter, the lobes semi-elliptic, 5-7 mm. long, the corolla resembling a flower of *Digitalis purpurea*.]

19. *Clerodendrum schweinfurthii* Gürke in Engl. Bot. Jahrb. 18: 177 (1893); F.T.A. 5: 296; Thomas l.c. 70. *APD acc*

Clerodendrum bakeri Gürke l.c. 175 (1893); F.T.A. 5: 296; Chev. Bot. 507.

Clerodendrum schweinfurthii var. *bakeri* (Gürke) B. Thomas l.c. 71 (1936).

Small shrub, 2-7 ft. high with a creeping rhizome; inflorescences capitate, mostly produced from the rhizome; flowers white, fragrant.

S. L.: Freetown (cult., May) Deighton 2900! Panguma (Mar.) Lane-Poole 68! Musaia and Falaba (Mar.) Sc. Elliot 5201! 5309! Gaahun (Apr.) Deighton 3933! **IV. C.:** Mid. Sassandra to Mid. Cavally (July) Chev. 19237. [**Br.**] **Cam.:** Kimbi Bridge, Wum Div. (Feb.) Hepper 1924!

Also in **Cameroun**, **Ubangi-Shari**, **Uganda**, **Congo**, **Egypt**, **Sudan**, **Tanganyika** and **Angola**.

20. **Clerodendrum sinuatum** *Hook.* in Bot. Mag. 72: t. 4255 (1846); F.T.A. 5: 295; Chev. Bot. 509; Thomas l.c. 74; Berhaut Fl. Sén. 108 (1954), incl. var. aureum Berhaut, French descr. only. **APD acc**

A climbing shrub, often with dense yellowish-brown indumentum; flowers white, in dense, terminal heads.

Sen.: Ouassadou Berhaut 799; 3087; 3088; 3089. **Gam.:** Genieri (July) Fox 175! Kuntaur Ruxton 139! **Guin.:** Timbo Chev. 12533. Timbo to Faranna Chev. 13328. **S. L.:** Whitfield! foot of Da Bulen, Loma Mts. (fr. Aug.) Jaeger 1317! Yetaya (Sept.) Thomas 2452! **Ghana:** Mampong Scarp (June) Morton! Vigne FH 1133! Akrodum (July) Vigne FH 4415! Dawa (May) Howes 908! Kotanfo (Apr.) Andoh FH 5483! Koforidua to Aburi (Apr.) Morton A504! **S. Nig.:** Lagos Foster 102! Millen 151! Abeokuta Harrison 2!

21. **Clerodendrum splendens** *G. Don* in Edinb. Phil. Journ. 11: 349 (1824); F.T.A. 5: 300; Chev. Bot. 509; Thomas l.c. 91; Berhaut Fl. Sén. 97. **APD acc APD acc**

A climbing, glabrous shrub, mostly fairly low, with deep red flowers in corymbose inflorescences; fruits black and shining; **in forest**.

Sen.: Farmar 149! Mampalogou, Casamance (Feb.) Chev. 2763! **Port. G.:** Pussubé, Bissau (Apr.) Esp. Santo 1169! Brene, Bissau (Jan.) Esp. Santo 1715! **Guin.:** Conakry (Feb.) Chev. 12157! Kindia Chev. 12792. **S. L.:** Don! Freetown (Jan.) Dalz. 935! Taïama (Mar.) Deighton 3371! Kambui Hills (fl. A fr. Mar.) Small 520! Kenema (fr. Apr.) Jordan 2052! **Lib.:** Monrovia (Nov.) Linder 1411! Kailahun (Feb.) Bequaert 62! Brewerville (June) Barter 1203! 1332! Jaurazon, Sinoe (fr. Mar.) Baldwin 11444! Barclayville (Mar.) Baldwin 11120! **IV. C.:** Bouroukrou Chev. 16548; 16570. Accrédou Chev. 17064. Yaou, Sanvi Chev. 17781. Abouabou (Jan.) Leeuwenberg 2398! **Ghana:** W. Afao Hills F.R., Awaso (Feb.) Darko 758! **N. Nig.:** Ankpa Bassa (Feb.) Lamb 24! **S. Nig.:** Lagos (Dec.) Hagerup 756! Ibadan (Feb.) Meikle 1135! Okomu F.R., Benin (Jan.) Brenan 8758! Asaba (Jan.) Chizea FHI 8252! Onitsha Barter! Calabar (Apr.) Espley 6! [**Br.**] **Cam.:** Bali to Bamoa, Bamenda Prov. (Feb.) Migeod 504! Victoria to Kumba (fl. & fr. Apr.) Hutch. & Metcalfe 143! Buea to Kumba (Feb.) Dundas FHI 13986! S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 351591

Also in **Cameroun**, **Rio Muni**, **Ubangi-Shari**, **Gabon**, **Angola** and **Congo**.

22. **Clerodendrum bipindense** *Gürke* in Engl. Bot. Jahrb. 28: 296 (1900); F.T.A. 5: 516; Thomas l.c. 72. **APD acc**

A slender liane to 20 ft. high with very ample, much-branched inflorescences from the leafless part of the stem near the ground; flowers yellow or cream.

S. Nig.: Afi River F.R., Ikom Dist. (Dec.) Keay FHI 28182! Oban Talbot 1530; 2058! [**Br.**] **Cam.:** Victoria (Nov.) Maitland 783! Preuss 1358! Likomba (Nov.) Mildbr. 10706! S. Bakundu F.R., Kumba (fr. Jan.) Binuyo & Daramola FHI 35082! **F. Po:** (Dec.) Mann 71!

Also in **Cameroun**.

23. **Clerodendrum melanocrater** *Gürke* l.c. 18: 180 (1893); F.T.A. 5: 299; Thomas l.c. 72. **APD acc**

A small climbing shrub; calyx white and flowers brownish-yellow, fragrant, uniformly black, when dry.

[**Br.**] **Cam.:** Likomba (Oct.) Mildbr. 10510! **F. Po:** Conception (Sept.) Melville 445!

Also in **Cameroun**, **Congo**, **Uganda** and **Tanganyika**.

24. **Clerodendrum thyrsoides** *Gürke* l.c. 28: 293 (May 1900); F.T.A. 5: 516; Thomas l.c. 73, not of Bak. (June 1900). **APD acc**

APD: *Synonym of Clerodendrum mannii Baker*

Clerodendrum streptocaulon *Hutch. & Dalz.* F.W.T.A., ed. 1, 2: 273, 274 (1931).

Climbing shrub 3-60 ft. high with puberulous branches and thyrsoïd inflorescences; flowers greenish, yellowish or white.

Gam.: Genieri (fr. Feb.) Fox 71! **Port. G.:** Esp. Santo 275! Nova Lamego to Canjufa (fl. & fr. Oct.) Esp. Santo 3548! Bangacia, Bafata (fr. Jan.) Esp. Santo 2872! **Guin.:** Pita (Jan.) Jac.-Fél. 741! **S.L.:** Wellington (fr. Feb.) Deighton 5007! Njala (Dec.) Deighton 2576! Funkadeh (fl. & fr. Jan.) Jordan 186! Rokupr (fr. Jan.) Deighton 2954! Kitchom (Jan.) Deighton 962! **Lib.:** Monrovia (fl. & fr. Dec.) Okeke 76! Dinklage 2981. **S. Nig.:** Apapa (Nov.) Keay FHI 22452! Ikoyi Plains, Lagos (Dec.) Dalz. 1249! Igboedun, Ogun R., Ikeja Dist. (Dec.) Onochie FHI 26690!

Also in **Cameroun**, **Ubangi-Shari** and **the Congo**.

25. **Clerodendrum volubile** *P. Beauv.* Fl. Oware 1: 52, t. 32 (1804); F.T.A. 5: 297; Chev. Bot. 509; Thomas l.c. 72; Berhaut Fl. Sén. 56. *APD acc*

Climbing shrub up to 10 ft. high, with petiolar-thorns; glabrous except the inflorescences; flowers in dense, subcorymbose, mostly terminal inflorescences.

Sen.: Badi Berhaut 1611. **Mali:** Bafaga (Apr.) Chev. 709! **Guin.:** Kindia Chev. 12794; 13870. Bilima Caille in Hb. Chev. 14739. Konkouré Caille in Hb. Chev. 14857. Nzérékoré (Sept.) Jac.-Fél. 1156! **S. L.:** Don! Waterloo to York Pass (Jan.) Tindall 27! Port Loko (Dec.) Thomas 6574! Njala (Feb.) Dalz. 8109! Gbinti (Jan.) Deighton 5901! Kambia (Jan.) Sc. Elliot 4424! **Lib.:** Kle, Boporo Dist. (Dec.) Baldwin 10631! Peahtah, Salala Dist. (Dec.) Baldwin 10580! Robertsport (Dec.) Baldwin 10959! **iv. C.:** Bouroukrou Chev. 16893. Makougnie Chev. 16980. Bliéron Chev. 19901. Tabou to Bériby Chev. 19976. Abouabou (Jan.) Leeuwenberg 2345! **Ghana:** Atwabo (fl. & fr. Feb.) Irvine 2293! Kwahu Prasu (Feb.) Vigne FH 1627! Irvine 1683! Tafo (Nov.) Robertson K8! Ho Schröder 13. Amedzofe (fr. Feb.) Irvine 161! **Togo Rep.:** Schröder 189. Nedéme Busse 3448. Lavanyo Baumann 370. **N. Nig.:** Gudi, S. Plateau Div. Thornewill 60! **S. Nig.:** Lagos, Eppah Barter 3275! Gambari F.R. (Mar.) Hepper 2288! Ibadan (Dec.) Meikle 928! Onochie FHI 34138! Okomu F.R., Benin (Dec.) Brenan 8510! Port Harcourt (Nov.) Stubbings 187! Eket Talbot! **F. Po:** Mann 71.

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo** and **Angola**.

26. **Clerodendrum inaequipetiolatum** *Good* in J. Bot. 68, Suppl. 2: 141 (1930); Thomas l.c. 75. *APD acc*

Scrambling shrub up to about 10 ft. high, with yellowish-brown indumentum and white flowers; similar and closely akin to *C. sinuatum*.

[**Br.**] **Cam.:** Metchen R., Bamenda (Aug.) Savory UCI 305! Wum to Bamenda (July) Ujor FHI 30489!

Also in **Cameroun** and **Angola**.

27. **Clerodendrum dusenii** *Gürke* in Engl. Bot. Jahrb. 28: 293 (1900); F.T.A. 5: 518; Thomas l.c. 76. *APD acc*

Clerodendrum barteri *Bak.* in F.T.A. 5: 298 (1900).

Premna macrosiphon *Bak.* in F.T.A. 5: 290 (1900).

Clerodendrum macrosiphon (*Bak.*) *Pieper* in Engl. Bot. Jahrb. 62, Beibl. 141 (as 142): 80 (1928), not of Hook.

Clerodendrum intermedium *B. Thomas* l.c. 76 (1936).

Clerodendrum premnoides *Meeuse* in Blumea 5: 74 (1942).

A scrambling shrub with the young branches and the petioles brownish-puberulous; flowers small, white, in branches, mostly subcorymbose thyrsi.

S. Nig.: Nun R. (Sept.) Mann 486! Brass Barter 51! Okomu F.R., Benin (Feb.) Brenan 9016! Oban Talbot 1491! Eket Talbot 3122! Calabar Thomson 28! [**Br.**] **Cam.:** Tiko (Feb.) Maitland 980! Bolifambo (Mar.) Maitland 531!

Also in **S. Tomé**, **Cameroun** and **Angola**.

28. **Clerodendrum formicarum** *Gürke* in Engl. Bot. Jahrb. 18: 179 (1893); F.T.A. 5: 297; Thomas l.c. 74 (incl. var. *sulcatum* B. Thomas l.c. 74 (1936)). *APD acc*

A climbing shrub with minute flowers and horizontally branched inflorescences.

Guin.: near Macenta (Sept.) Jac.-Fél. 1175! **Lib.:** Harley 1237! **iv. C.:** Mt. Tonkoui (Aug.) Aké Assi 5423! **S. Nig.:** Sapoba Kennedy 1408! Ugo, Benin (Aug.) Okeke & Emwiogbon FHI 30142! Eket Talbot 3077! Calabar (July) Holland 53! [**Br.**] **Cam.:** Ngel Nyaki, 5,400 ft., Mambila Plateau (Jan.) Hepper 1726!

Also in **Cameroun**, **Rio Muni**, **Gabon**, **Congo**, **Angola**, **Egypt**, **Sudan**, **Uganda**, **Tanganyika** and **N. Rhodesia**.

29. *Clerodendrum polycephalum* Bak. in Kew Bull. 1895: 116; F.T.A. 5: 300; Thomas l.c. 75 (as *C. polycephalum*); Chev. Bot. 508. *APD acc*

Climbing or erect shrub up to 15 ft. high; leaves and branches yellow- or brown-pilose; flowers small, white, arranged in headlike clusters.

Guin.: Nzérékoré (May) Roberty 18024! Nzérékoré to Macenta (Oct.) Baldwin 9741! Macenta (fr. Oct.) Baldwin 9774! **S. L.:** Falaba to Musaia (Sept.) Small 329! Gberia Fotombu (Sept.) Small 295! Kayima Dawe 525! **iv. C.:** Dialakoro to Kénégué Chev. 21976. Bouake Chev. 22141. Man (Aug.) Boughey GC 18401! **Ghana:** Mampong, Ashanti (Apr., July) Darko 6881 Vigne FH 1921! Techeri, Ashanti (June) Chipp 475! Nsuta (May) Vigne FH 1730! Bame Pass (Dec.) Adams 4487! **Togo Rep.:** Misahöhe Mildbr. 7325. Basari Kersting 135. Losso Kersting 463. Paratau Büttner 606. **N. Nig.:** (May to Oct.) Thornewill 77! Bonu F.R., Gwari Dist. (June) Onochie FHI 40213! **S. Nig.:** Lagos Millen 12! 153! 157! Phillips 39! Ogbomosho Rowland! Keay FHI 19190! Old Oyo F.R. (Sept.) Latilo FHI 23549!

Also in **Cameroun**.

30. *Clerodendrum glabrum* E. Mey. Comm. Pl. Afr. Austr. 273 (1837); F.T.A. 5: 297; Thomas l.c. 76.

APD: Synonym of Volkameria glabra (E. Mey.) Mabb. & Y.W. Yuan

A glabrous to minutely tomentellous shrub with small, white flowers in dense, subcorymbose inflorescences; **introduced into our area as a hedge plant.**

S. L.: Freetown (cult., June) Deighton 4623! Newton (cult., Nov.) Deighton 3349!

From Mombasa southwards to the eastern Cape Province; also in **Angola**.

10. VITEX

Linn.-F.T.A. 5: 315; Pieper in Engl. Bot. Jahrb. 62, Beibl. 141 (as "142"): 1-91 (1928); Moldenke in Phytologia 5 & 6 (1955-58).

- 1 Cymes arranged in terminal or terminal and axillary panicles; fruit globose, up to about 5 mm. diam.; leaves 5-foliolate, leaflets broadly obovate to elliptic, acuminate, puberulous beneath on the nerves, otherwise glabrous and densely dotted with yellow glands; central leaflets with petiolule 5-18 cm. long, 3-5-9 cm. broad; calyx truncate, with obsolete teeth; corolla with a right-angle bend, about twice as long as the calyx [1. thyriflora](#)
Cymes axillary or axillary and terminal, arranged in compound dichasia; fruits obovoid to sub-globose, 1 cm. or more long: [2](#)
- 2 Calyx and pedicels minutely puberulous (hairs shorter than 1/3 of the diam. of the pedicel); leaves glabrous beneath or pubescent only on the nerves, 5-7-foliolate: [3](#)
Calyx and pedicels distinctly pilose to tomentose (hairs at least half as long as, mostly longer than, the diameter of the pedicel): [8](#)
- 3 Leaflets crenate or dentate, at least in the apical 1/3, acuminate; central leaflet with 9-10 pairs of lateral nerves; ovary glabrous: [4](#)
Leaflets entire: [5](#)
- 4 Calyx and pedicels with short, appressed indumentum; flowers about 6 mm. long; leaflets obovate-cuneate to oblanceolate, shortly acuminate, the middle one 2-5-10 cm. long, 1-3 cm. broad [2. micrantha](#)
Calyx and pedicels with short, patent indumentum; flowers about 7 mm. long; leaflets obovate to obovate-oblong, mostly long-acuminate, the middle ones 8-25 cm. long, 2-5-8 cm. broad [3. oxycuspis](#)
- 5 Peduncle 10-20 cm. long; ovary glabrous, with sessile glands; corolla less than 1 cm. long: [6](#)
Peduncle 0-5-8 cm. long; ovary densely pilose at apex with erect hairs; corolla mostly 1-2 cm. long: [7](#)
- 6 Middle leaflets with 4-8 pairs of lateral nerves, leaflets obovate-cuneate, abruptly acuminate at apex, narrowly cuneate at base, central ones 12-25 cm. long, 4-5-10 cm. broad; calyx 3-5 mm. long [4. lehmbachii](#)
Middle leaflets with 12-20 pairs of lateral nerves, leaflets elliptic, elliptic-oblong or broadly lanceolate, acuminate at apex, shortly cuneate at base, central ones 8-18 cm. long, 3-6 cm. broad; calyx about 1-1-5 mm. long [5. rivularis](#)
- 7 Leaflets obtuse or broadly deltoid or rarely shortly apiculate at apex, obovate to elliptic, the middle ones 5-18 (rarely 20) cm. long including the petiolule, 4-10 cm. broad, with the petiolule 1-2-5 cm. long; peduncle 2-8 cm. long; calyx 3-4 mm. long; inflorescences congested [6. doniana](#)
Leaflets abruptly short- to long-acuminate at apex, obovate-cuneate, the middle ones usually 13-40 cm. long, 6-

- 20 cm. broad, very gradually and narrowly attenuated into a usually very short petiolule, rarely exceeding 1 cm. in length; peduncle 0.5-5 cm. long [7. grandifolia](#)
- 8 Ovary glabrous or with very few solitary hairs on the top, with sessile glands; calyx-teeth 0.4-1.5 mm. long; peduncles 4-16 cm. long;..... [9](#)
- Ovary densely pilose with erect hairs; calyx 4-5 mm. long, actinomorphic, with the teeth mostly 2-3 mm. long; peduncles wanting or up to 6 cm. long; middle leaflet with 8-20 pairs of lateral nerves:..... [12](#)
- 9 Leaves 5(-7) foliolate, middle leaflet mostly with 10-12 pairs of lateral nerves; calyx 1-2 mm. long, actinomorphic:..... [10](#)
- Leaves 1-3(-5)-foliolate; calyx 2.5 mm. long, bilabiate; indumentum greyish-white to pale yellow; lateral nerves (when leaves compound of the middle leaflet) 5-12(-14) pairs:..... [11](#)
- 10 Inflorescence and petioles glabrous or glabrescent; leaflets glabrous or glabrescent beneath except on the nerves; indumentum (distinct only in very young parts) greyish to yellowish-white (other characters as above)[5. rivularis](#)
- Inflorescence, petioles, undersurface of the leaves and young branches densely villous with long rust-red to orange-brown hairs; peduncles 4-16 cm. long; leaflets obovate, the middle one 9-16 cm. long, 4-7.5 cm. broad, usually with 10-16 pairs of lateral nerves[8. phaeotricha](#)
- 11 Leaves all 3(-5) foliolate, obovate, obovate-oblong to lanceolate, entire or crenate on the margin, at first tomentose beneath, later frequently glabrescent except on the nerves; middle leaflet 1.5-4 times as long as broad, 5-15 cm. long and 2.5-9 cm. broad, with 8-12(-14) pairs of lateral nerves; calyx often irregularly pilose[9. madiensis](#)
- Leaves in the floral region undivided or with a few ternate ones among them; simple leaves broadly ovate to ovate-acuminate, persistently tomentose beneath, margins entire, in compound leaves the middle leaflet obovate; leaf 1-2 times as long as broad, 5-14 cm. long and 3.5-10 cm. broad, with 5-10 pairs of lateral nerves; calyx densely tomentose with flexuous hairs[10. simplicifolia](#)
- 12 Peduncles 0-2 cm. long; fruit glabrous when mature except at the apex; inflorescence and young leaves frequently with a dark greyish-yellow pubescence; leaves 5-7 foliolate, leaflets long-acuminate, obovate to elliptic, entire or often crenate, pubescent beneath, the central one 5-14 cm. long and 2-5 cm. broad, with 10-12 pairs of lateral nerves [11. ferruginea](#)
- Peduncles 2-6 cm. long; fruit yellowish-puberulous all over even when ripe; inflorescence and undersurface of leaves persistently tomentose with greyish-white to pale-yellow indumentum; leaves 3-5-foliolate, leaflets obtuse or triangular at apex, obovate or elliptic, entire or frequently crenate, central ones 5-12 cm. long and 2.5-5 cm. broad, with 8-14 pairs of lateral nerves [12. chrysocarpa](#)

1. *Vitex thyrsoflora* **Bak.** in Eew Bull. 1895: 152; F.T.A. 5: 319; Pieper l.c. 54; Aubrév. Fl. For. C. Iv., ed. 2, 3: 233; Moldenke in Phytologia 6: 152. **APD acc**

Vitex staudtii **Gürke** in Engl. Bot. Jahrb. 33: 299 (1904).

Vitex obanensis **Wernham** in Cat. Talb. 92 (1913).

Vitex agraria **A. Chev.** Bot. 505, name only.

An undershrub or small tree with glabrous branches, 5-foliolate leaves and small white flowers in terminal panicles; **in forest**.

Guin.: Faranna Chev. 13199. Kaba to Upper Mamou Chev. 13267. Macenta (Apr.) Jae.-Fél. 852! Dyeke (fr. Oct.) Baldwin 9669! **S. L.:** Binkolo (fr. Aug.) Thomas 1692! Bumba (Sept.) Thomas 1953! Segbwema (July) Deighton 3747! **Lib.:** Vonjama (fr. Oct.) Baldwin 9945! Ganta (fr. Oct.) Harley! Sanokwele (fr. Sept.) Baldwin 9510! Suacoco, Gbanga (May) Konneh 175! Hyaake, Webo (June) Baldwin 6172! **Iv. C.:** Atteou Chev. 17055; 17140! Kéeta Chev. 19340. Taté Chev. 19805. **Togo Rep.:** Baumann 564. **N. Nig.:** Dogon Kurmi, Jemaa Div. Killick 67! **S. Nig.:** W. Lagos Rowland! Abeokuta Harrison 5! Aponmu, Akure Dist. (fr. July) Symington FHI 5052! Ojogba-Ugun F.R., Ishan Dist. (June) Olorunfemi FHI 38057! Oban Talbot! **[Br.] Cam.:** Bulejambo, Buea (Mar.) Maitland 565! Talanganji, Kumba Dist. (June) Olorunfemi FHI 30608! Bamenda to Kentu (June) Maitland 1577! Tinaberi, Wum Dist. (fr. July) Ujor FHI 29288!

Extends to Congo.

2. *Vitex micrantha* **Gürke** in Engl. Bot. Jahrb. 18: 170 (1894); F.T.A. 5: 324; Pieper l.c. 56; Aubrév. Fl. For. C. Iv., ed. 2, 3: 232, t. 336, 1-3; Chev. Bot. 507; Moldenke in Phytologia 5: 473. **APD acc**

Vitex longeacuminata **A. Chev.** Bot. 506, name only.

Forest tree, 15-80 ft. high, with fairly small, mostly 5-foliolate leaves and small white flowers in poor, long-pedunculate cymes.

Guin.: Macenta (fl. & fr. Apr.) Jac.-Fél. 845! **S. L.:** Bagroo R. (Apr.) Mann 860bis! Newton (fr. June) Deighton 3010! Njala (May) Deighton 658! Falaba (Apr.) Aylmer 46! **Lib.:** Dukwia R. (fr. Apr.) Cooper 70! Du R. (fr. Aug.) Linder 279!

Tubman Bridge (Mar.) Barker 1230! Gbanga (fr. Dec.) Baldwin 10531! Nyaake, Webo (fr. June) Baldwin 6114! **Iv. C.:** Abidjan (fr. Julv) Aubrév. 54! Chev. 15409! Alépé Chev. 16229. Ahiamé Chev. 17808. Mt. Momi, Dans Massif Aubrév. 907! 1171! Tai (fr. Aug.) Schnell 6082! **Ghana:** Ankobra Junction Kitson 1001! Kumasi Cummins 74! Axim (fl. & fr. Feb.) Irvine 2128! Simpa, near Tarkwa (Feb.) Vigne FH 2798! Kinloch FH 3234!

According to Moldenke (l.c. 474) also in Cameroun.

3. **Vitex oxycuspis** *Bak.* in F.T.A. 5: 326 (1900); Pieper l.c. 56; Moldenke l.c. 6: 31; Aubrév. Fl. For. C. Iv., ed. 2, 3: 232, t. 336, 4. **APD acc**

Forest tree 15-35 ft. high, similar to the above.

S. L.: Unwin & Smythe 37! Gola Forest Small 613! **Lib.:** Dukwia R. Cooper 321! **Iv. C.:** Tai Boughey GC 14858! **S. Nig.:** Sapoba A. F. Ross 234! Abeokuta Jones & Keay FHI 14236! Calabar R. (Feb.) Mann 2243! Oban F.R. (Jan.) Onochie FHI 36163! Oban Talbot 2061bis!

Also in **Angola**.

4. **Vitex lehmbachii** *Gürke* in Engl. Bot. Jahrb. 33: 297 (1904); Pieper l.c. 56; Moldenke l.c. 5: 435. **APD acc**

Shrub or small tree up to 30 ft. high with glabrous branches and leaves, and long-peduncled cymes of pale pink or white flowers.

[**Br.**] **Cam.:** Barike to Many, Kumba (June) Olorunfemi FHI 30629! Buea Lehmbach 11. Reder 687; 1087; 1384. Bum, Bamenda (June) Maitland 1725!

Also in **Cameroun**.

5. **Vitex rivularis** *Gürke* in Engl. Bot. Jahrb. 33: 297 (1904); Pieper l.c. 56; Moldenke l.c. 6: 114; Aubrév. l.c. 233, t. 336, 5-7. **APD acc**

Vitex cilio-foliolata *A. Chev.* Bot. 506, name only.

Forest tree 30-40 ft. high with long-petioled, 5-7 foliolate leaves and very small white flowers tinged with purple in rich, long-stalked cymes.

Lib.: Diebla, Webo Dist. (fr. July) Baldwin 6285! Jabroke, Webo Dist. (fr. July) Baldwin 6491! **Iv. C.:** Guidéko Chev. 19097! **Ghana:** Dunkwa Vigne FH 895! Agogo (Apr.) Vigne FH 1094! Irvine 951! Adiembra (May) Vigne FH 865! **S. Nig.:** Kennedy 910! Afi River F.R., Ogoja Prov. (May) Jones & Onochie FHI 18760! [**Br.**] **Cam.:** Likomba (fr. Oct.) Mildbr. 10535!

Also in **Cameroun** and **Congo**.

6. **Vitex doniana** *Sweet* Hort. Brit., ed. 1: 323 (1827); F.T.A. 5: 323; Pieper l.c. 64; Moldenke l.c. 5: 322, not of Hiern (1900). **APD acc**

Vitex umbrosa *G. Don ex Sabine* (1824) not of Swartz (1788).

Vitex cuneata *Schum. & Thonn.* Beskr. Guin. Pl. 289 (1827); F.T.A. 5: 328; Chev. Bot. 506; Aubrév. Fl. For. Soud.-Guin. 504, t. 113, 1-2; Fl. For. C. Iv., ed. 2, 3: 230, t. 335, fig. 1-2; Berhaut Pl. Sén. 21.

Vitex cienkowski *Kotschy & Peyr.* (1867)-F.T.A. 5: 328.

Tree 30-60 ft. high, with glabrous branches and 5-foliolate, coriaceous leaves; **savanna woodland and open country**.

Sen.: Casamance Heudelot 379! Floup-Fedyan Chev. 2757. Tambanaba Chev. 2758. **Mali:** San (Mar.) Davey 500/102! Sékoba, Kita Massif (fr. Nov.) Jaeger 17! Mopti Chev. 2769! Diafarabé Chev. 2766. Négala Chev. 164bis. **Port. G.:** Brene, Bissau (Feb.) Esp. Santo 1735! **Guin.:** Kouroussa Pobéguin 682! Bobengali, Kouria (Dec.) Caille in Hb. Chev. 14799! Faranna (fl. & fr. Mar.) Sc. Elliot 5211! Kollangui chev. 12866. **S. L.:** Jigaya Thomas 2824! Yisai (Apr.) Lane-Poole 1! Batkanu Deighton 2841! Musaia (Mar.) Miszewski 33! Tabe (fr. Sept.) Deighton 3052! **Iv. C.:** Dimbokro Aubrév. 428bis. Baoulé Aubrév. 806. Touba Aubrév. 1244. **Ghana:** Achimota Irvine 194! Ho to Adidome Ankrah GC 20347! Ejura (fr. Aug.) Chipp 727! 744! Kumawo, Ashanti (fr. June) Chipp 463! Yeji (fl. & fr. Apr.) Sounders 3! **Togo Rep.:** Lomé Warnecke 156! **Dah.:** Poisson. **N. Nig.:** Nupe Barter 1108! Agaie (Apr.) Yates 59! Lafia, Benue Prov. (Feb.) Jones FHI 675! Kargi, Zaria Prov. (Mar.) Lafia FHI 7758! Jos Plateau (Jan.) Lely P134! **S. Nig.:** Lagos Millen 118! Ogun R., Oyo to Iseyin (Feb.) Brenan 8956! Ori (Feb.) A. F. Ross R71! Onitsha D. F. Chesters 190! Milliken Hill, Enugu (Mar.) Hepper 2225! [**Br.**] **Cam.:** Bamenda (Feb.) Daramola FHI 40485! Bum, Wum Div. (Feb.) Hepper 1921! Mai Idoanu, Gashaki Dist.

(Feb.) Latilo & Daramola FHI 34485! Jamtari, Gashaka Dist. (fr. Dec.) Latilo & Daramola FHI 28927! Bama, Dikwa Div. (Jan.) McClintock 175!

Widespread in tropical Africa extending to the Comoro Islands.

7. *Vitex grandifolia* Gürke in Engl. Bot. Jahrb. 18: 169 (1894); F.T.A. 5: 324; Moldenke l.c. 5: 885, 404; Aubrév. Fl. For. 0. Iv., ed. 2, 3: 234, t. 337B; and var. *bipindensis* (Gürke) Pieper l.c. 73 (1928).

APD acc

Vitex bipindensis Gürke in Engl. Bot. Jahrb. 33: 295 (1904).

Vitex lutea A. Chev. Bot. 506 (1920), name only.

A small tree 20-30 ft. high with large 5-foliolate leaves and pale-yellowish to brownish-yellow flowers in short-peduncled cymes at the base of the leaves; **in high or secondary forest.**

S. L.: Bagroo R. (Apr.) Mann 880! Luseniya, Samu Sc. Elliot 4327! Gbangbama (fr. Nov.) Deighton 2386! Baiima (fr. Sept.) Deighton 3078! Gola Forest (fr. May) Small 696! **Lib.:** Monrovia (fr. June) Baldwin 5908! Taninewa (Mar.) Bequaert 152! Sinoe Basin Whyte! Peahtah (fr. Oct.) Linder 966! Nyaaake, Webo (June) Baldwin 6171! **Iv. C.:** Dabou (fr. Apr.) Roberty 15559! Chev. 15470. Adiopodoumé (fr. Nov.) Leeuwenberg 1922! Bingerville Chev. 17275. Soubré Chev. 19091. **Ghana:** Ankobra R., Axim (Mar.) Morton A379! Akwapim (Mar.) Murphy 676! Benso Andoh FH 5488! Kumasi (Feb.) Vigne FH 1041! Nkwatia to Mpraeso, Kwahu Plateau (fr. May) Kitson 1182! **S. Nig.:** Lagos Barter 2180! Nun R. Barter 2098! Sapoba (Feb.) Onochie FHI 27686! Ibadan (fl. & fr. Aug.) Keay FHI 25362! Oban Talbot 2057! **[Br.] Cam.:** Victoria (Feb.) Maitland 361!

Also in **Cameroun**, **Rio Muni** and **Gabon**.

8. *Vitex phaeotricha* Mildbr. ex Pieper in Fedde Rep. 26: 163 (1929); Moldenke l.c. 6: 57. *APD acc*

Vitex monroviae Pieper l.c. (1929); Moldenke l.c. 118.

Vitex rufa A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 275 (1931); Chev. Bot. 501, name only; Cavaco in Bull. Mus. Hist. Nat. sér. 2, 27: 91 (1955); Aubrév. Fl. For. C. Iv., ed. 2, 3: 232, t. 335, 4-6.

A **forest** tree 40-45 ft. high with long abundant, rust-coloured indumentum; flowers small, white with purple.

S.L.: Edwardson 221! Kambui Wallace SLFD 74! **Lib.:** Harbel (Apr.) Harley 1480! Monrovia Dinklage 2194. White Plains (June) Dinklage 3058! Dukwai R. (fr. Mar.) Cooper 67! Palilah, Gbanga Dist. (fr. Aug.) Baldwin 9155! **Iv. C.:** Grabo, Cavally Chev. 19712. Aubrév. 4076. Dakpadou F.R. Aubrév. 95.

Also in **Cameroun**.

9. *Vitex madiensis* Oliv. in Trans. Linn. Soc. 29: 35, t. 131 (1890); F.T.A. 5: 322; Pieper in Engl. Bot. Jahrb. 62, Beibl. 141 (as 142): 61; Moldenke l.c. 5: 451; Aubrév. Fl. For. Soud.-Guin. 504, 507, t. 115, 1-2. *APD acc*

Vitex camporum Büttm. (1890)-F.T.A. 5: 323; F.W.T.A., ed. 1, 2: 276, partly, and Chev. Bot. 505, partly (excl. Chev. 12467, which is *Harrisonia abyssinica*, Oliv.).

Vitex barbata Planch. ex Bak. in F.T.A. 5: 323 (1900); Pieper l.c. 61; F.W.T.A. ed. 1, 2: 276; Berhaut Fl. Sén 21; Aubrev. l.c. t. 115, 4.

Vitex pobeguini Aubrév. l.c. 506, 507, t. 115, 3 (1950), French, descr. only.

Shrub or small tree with the young parts densely pubescent; flowers pilose, yellowish and blue-purple in long-peduncled cymes; **in savanna.**

Sen.: Perrottet 658! Heudelot 30! Berhaut 106. **Gam.:** Ingram! Marremba, Central Div. (fr. July) Frith 77! Sukuko Dalz. 8061! **Mali:** Koulikoro Vuillet 618. Medinani Chev. 510bis; 511. **Port. G.:** Gabu, Pirada (fr. June) Esp. Santo 3030! Bissau (fr. Feb.) Esp. Santo 1142! Buba (fr. May) Esp. Santo 2484! **Guin.:** Banancoro Chev. 496. Kade Pobéguin 2007. Dinguiraye Maclaud 64. **S. L.:** Mt. Gonkwi, Talla Hills (Feb.) Sc. Elliot 4881! Laminaia (fr. Apr.) Thomas 152! 160! Falaba (Mar., Apr.) Sc. Elliot 5189! Deighton 5430! **Iv. C.:** Dimbokro (July) Serv. For. 428bis! **Ghana:** Bujan to Sekaii Kitson 689! Gurumbele to Bantala (Apr.) Kitson 835! Tumu (Apr.) Vigne FH 3786! **N. Nig.:** Jos Plateau Lely 14!

In savanna areas of Cameroun, Gabon, Ubangi-Shari, Sudan, Uganda, Congo, N. Rhodesia, Mozambique and Angola.

10. *Vitex simplicifolia* Oliv. in Trans. Linn. Soc. 29: 113 (1875); F.T.A. 5: 320; Pieper l.c. 64, incl. var. *vogelii* (Bak.) Pieper (1928); Moldenke l.c. 6: 133.

APD: Synonym of Vitex madiensis Oliv. subsp. madiensis

Vitex diversifolia Bak. in F.T.A. 5: 323 (1900); Chev. Bot. 506; F.W.T.A., ed. 1, 2: 276; Aubrév. Fl. For. Soud.-Guin. 506, 507, t. 114, 1-2, not of Kurz (1870).

Vitex schweinfurthii Bak. l.c. 322 (1900).

Vitex vogelii Bak. l.c. 319 (1900); Aubrév. l.c. t. 114, 5.

(?) **V. cordata** Aubrév. l.c. 506 (1950), French descr.

A small tree or shrub with dense, pale indumentum and mauve flowers; **in savanna**.

Mali: Sansanding Chev. 2767. Bandiagara de Ganay 22. Bobo-Dioulasso Aubrév. 1868. **Iv. C.:** Aubrév. 1967-1969. Ouangolo Aubrév. 1394, Ferkéssédougou Aubrév. 1540. Dimbroko Aubrév. 428. **Dah.:** Savalou Aubrév. 46d; 57d **N. Nig.:** Sokoto (fl. & fr. Mar.) Lely 849! Kontagora (Jan.) Dalz. 176! Meikle 1070! Jos Plateau (fr. Mar.) Lely P197! Vom Dent Young 206! Nupe Barter 1644! Makurdi South (Feb.) Trueblood FHI 4319! **S. Nig.:** Yoruba country Barter 1096! [**Br.**] **Cam.:** Serti to Goje, Gashaka Dist. (Feb.) Latilo & Daramola FHI 34490!

Also in **Cameroun**, **Uganda** and extending to **Egypt** and **Sudan**.

11. **Vitex ferruginea** Schum. & Thonn. Beskr. Guin. Pl. 62 (1827); F.T.A. 5: 324; Pieper l.c. 70. *APD acc*

Vitex fosteri Wright in Kew Bull. 1908: 437; Pieper l.c. 68; F.W.T.A., ed. 1, 2: 276; Aubrév. Fl. For. C. Iv., ed. 2, 3: 233, t. 337 A; Moldenke l.c. 5: 334.

Tree 15-50 ft. high with ochre indumentum on inflorescences and young parts; flowers pink to purple, sometimes almost cauliflorous; **in closed forest**.

Port. G.: Catio, Guebil (May) Esp. Santo 2059! Canchungo, Empacaca Esp. Santo 1948! **Guin.:** Dyeke (fr. Oct.) Baldwin 9878! **S. L.:** Mano (Apr.) Deighton 3128! Njala (fr. Apr., July) Deighton 3520! 3534! Baiima (fr. Sept.) Deighton 3077! Tabe (fl. Aug.) Deighton 6085! **Lib.:** Gbau, Sanokwele Dist. (fr. Sept.) Baldwin 9433! **Iv. C.:** Basso Aubrév. 154! Agboville Aubrév. 421! Man Aubrév. 938! **Ghana:** Cape Coast (fr. July) Hall 1509! Kumasi (Apr.) Vigne FH 1893! Kwahu Praso (fr. June) Vigne FH 1761! Banka (Mar.) Vigne FH 1878! Ashanti (Mar.) Thompson 37! **S. Nig.:** Lagos Foster 34! Ikoyi Plains (Apr.) Dalz. 1246! Wright R135! "E. Prov." (Mar.) Unwin 9! Itu, Cross R. (Apr.) Ainslie 129! Aro Chuku, Calabar Prov. (Apr.) Ainslie 139!

Also in **Congo**.

12. **Vitex chrysocarpa** Planch. ex Benth. in Fl. Nigrit. 486 (1849); F.T.A. 5: 325; Chev. Bot. 506; Pieper l.c. 68; Moldenke l.c. 5: 269. *APD acc*

Vitex pseudochrysocarpa Pieper in Fedde Rep. 26: 164 (1929).

Small shrub or spreading tree, especially on **banks of rivers**; indumentum mostly pale yellow, flowers violet, in peduncled cymes.

Mali: Nyamina to Koulikoro Chev. 2756. Koulikoro Vuillet 611. Bamako Waterlot 1116. Jaeger 6! Mopti to Djenné Chev. 2765. **Guin.:** Kouroussa Pobéguin 232. Siguiri Chev. 2768. **Iv. C.:** Black Volta Serv. For. 2408. Diébougou Serv. For. 2736. **Ghana:** Yeji (Apr.) Vigne FH 1688! Bugiyenga to Loggoda (May) Kitson 688! Kete Krachi (Dec.) Adams 4567! Tamale (Apr.) Williams 160! Yendi (Apr.) Dalz. 2! **Togo Rep.:** Sansanné Mango Aubrév. 78d. **Niger:** Gourma Chev. 24394. **N. Nig.:** Nupe Barter 1214! 1651! Jebba (fr. June) Onochie FHI 18669! Lokoja Barter 388! Badeggi-Lapai, Lapai Disk. (fr. June) Onochie FHI 40236! Yola Dalz. 115! **S. Nig.:** "Quorra" (= R. Niger) T. Vogel 142! Olokemeji (Jan.) Kennedy 58! Obaseki FHI 23825!

Vitex agnus-castus L.

An ornamental shrub from the Mediterranean region,

Is occasionally cultivated in our area.

Vitex milnei Pieper in Engl. Bot. Jahrb. 62, Beibl. 141 (as 142): 71 (1928); Moldenke in Phytologia 5: 475 (1957).

Vitex divaricata Bak. in F.T.A. 5: 327 (1900), not of Sweet (1788).

Vitex cienkowskii of F.W.T.A., ed. 1, 2: 276, partly (syn. & Milne).

F. Po: Milne!

Further material is required in order to decide the status of this plant. It differs from *V. doniana* in having a smaller calyx (2 mm. long) and a laxer inflorescence, and when better known it may prove to be recognisable as a distinct infraspecific taxon of that species. Pieper also cites Isert, and Warnecke 156a from Togo.

Vitex sp. A.

Trees with large digitate leaves and rather membranaceous leaflets.

S. Nig.: Okomu F.R., Benin Brenan 9188! **[Br.] Cam.:** Bambuko F.R., Kumbo Olorunfemi FHI 30751!

Flowers are required to decide if these are distinct from *V. grandifolia* or whether they are referable to the Cameroun species *V. zenkeri* Gürke (in Engl. Bot. Jahrb. 33: 293 (1903)).

Vitex sp. B.

A tree close to *V. rivularis* from which it differs by having the leaves more scabridulous on both sides, obtuse or shortly deltoid at the apex, and the central leaflet with 9-10 pairs of lateral nerves.

[Br.] Cam.: S. Bakundu F.R., Kumba (fr. Aug.) Olorunfemi FHI 30712!

AVICENNIACEAE

Shrubs or trees, branches terete. Leaves opposite and decussate, simple, entire; stipules absent. Inflorescences axillary or terminal; flowers sessile, hermaphrodite, actinomorphic. Calyx very deeply 5-lobed, lobes imbricate, subtended by a pseudo-involucre composed of a scale-like bractlet and 2 alternate scale-like prophylla. Corolla gamopetalous, campanulate-rotate, actinomorphic, deeply 4-lobed. Stamens 4, inserted in throat of the corolla-tube, equal or subdidynamous. Ovary superior, with 2 united carpels, placenta free, central. Style shortly divided. Ovules 4, pendulous. Fruit dehiscent by 2 valves, usually only 1 seed develops. Seed with 2 cotyledons, embryo viviparous.

A monogeneric family, formerly in Verbenaceae, inhabiting the maritime regions of the tropics and subtropics around the world and forming characteristic mangrove thickets.

AVICENNIA

Linn.-F.T.A. 5: 287; Moldenke in Phytologia 7: 123, 179, 259 (1960). *APD acc*

- 1 Branchlets puberulous; leaves lanceolate to oblong-lanceolate, or rarely narrowly elliptic, subacute, acute at the base, up to 18 cm. long and 8 cm. broad, minutely and closely pitted above, with a close grey scurf beneath; lateral nerves 10-12 pairs, looped and forming an ultra-marginal nerve, raised on both surfaces; flowers crowded at the end of short peduncles, these often forming a small panicle; bracts imbricate, ovate, shortly pointed, about 4 mm. long, tomentellous; fruit obliquely ellipsoid, 2.5 cm. long, beaked, tomentellous [africana](#)

Avicennia africana *P. Beauv.* Fl. Oware 1: 80, t. 47 (1809); F.T.A. 5: 331; Chev. Bot. 510; Exell Cat. S. Tomé 265; De Sousa in Anais Jun. Inv. Col. 3: 52 (1949); Moldenke in Phytologia 7: 146 (1960).

APD: *Synonym of Avicennia germinans (L.) L.*

Avicennia nitida of F.W.T.A., ed. 1, 2: 270; Berhaut Fl. Sén. 113, 116; Aubrév. Fl. For. C. Iv. 3: 234, t. 338, not of Jacq.

A shrub or tree up to 50 ft. high with pneumatophores covering the ground round about but stilt roots absent; flowers white with yellow centre; [in mangrove thickets](#). The black mangrove.

Maur.: St. Louis (Feb.) Döllinger 73, partly! **Sen.:** Joul (fr. Jan.) Döllinger 73, partly! Hann beach (May) Baldwin 5753! Rufisque Chev. 2759. Ile de Jafal Leprieur. Carabane Chev. 2760! **Gam.:** Brumen ferry (Feb.) Frith 34 1 Kuntaur Ruxton! Cape St. Mary (Mar.) Pitt 693! Koto stream area (May) Fox 106! **Port. G.:** Bissau Esp. Santo 1219; 1766! **Guin.:** Debeaux. **S. L.:** Don. 168! Yele, Turtle Is. Deighton 2362! opposite York Isl., Bonthe Dist. (Jan.) T.S. Jones 410! Waterloo (Jan.) Lane-Poole 320! Mambolo (Apr.) Gtanville 246! Kumrabai (Dec.) Thomas 7070! **Lib.:** Dinklaga 1910. Grand Bassa (fl. & fr. July) T. Vogel 101! Bushrod Isl. (fl. & fr. Aug.) Baldwin 13050! Sinoe Basin Whyte! **Iv. C.:** Bliéron Chev. 19908. **Ghana:** Elmina (fl. & fr. Apr.) Morton A494! Accra (Oct.) Johnson 984! Irvine 754! Ada (Jan.) de Wit & Morton A2971! Dwira Akyinim (fl. & fr. Jan.) Andoh 5604! Bushua (fl. & fr. Apr.) Chipp 175! **Togo Rep.:** Lomé Warnecke 63. **S. Nig.:** Lagos (fl. & fr. Feb.) MacGregor 341! Forcados (fl. & fr. July) Unwin 56! Niger Delta Barter 46! Bamuso (fr. Oct.) Rosevear 16! Eket Dist. Talbot 1 **[Br.] Cam.:** Victoria (fr. July) Maitland 30! **F. Po.:** Mann 231! Milne!

Extends along the coast of western Africa to Cabinda and Congo; also in S. Tomé.

If this plant is regarded as conspecific with similar ones in [America](#), as does Compere in Taxon 12: 150-162 (1963), the correct name appears to be *A. germinans* (Linn.) Linn.

LABIATAE

Herbaceous or rarely woody, often odoriferous. Stems usually quadrangular. Leaves opposite or whorled, simple; stipules absent. Flowers hermaphrodite, zygomorphic, rarely almost actinomorphic, axillary, whorled, racemose or paniculate. Calyx persistent, of 5 variously united sepals, often 2-lipped. Corolla gamopetalous, hypogynous, tubular; lobes 4-5, imbricate, often forming 2 lips or rarely 1 lip. Stamens inserted in the corolla-tube, 4 or 2; anthers 2-celled, cells often divergent, opening lengthwise. Ovary superior, of 2 deeply lobed carpels, the style (gynobasic) arising from the inner base of the lobes; stigmas mostly bifid. Ovules 4 in each ovary, erect. Fruit of 4 achene-like nutlets, free or cohering in pairs. Seeds with usually straight embryo without endosperm, or the latter very scanty.

A large cosmopolitan family of herbs or undershrubs.

Recognised by the usually 4-angled stems, opposite (very rarely alternate) leaves, commonly glandular and odoriferous, deeply lobed ovary with gynobasic style, and by the fruit of 4 nutlets.

- 1 Calyx with all the teeth equal, or nearly equal, in size and shape without a distinct lip: [2](#)
 Calyx with teeth of different size and shape, or bilabiate, or truncate or (in No. 11) nearly so: [13](#)
- 2 Lower lobe of the corolla considerably larger than the upper: [3](#)
 Lower lobe of the corolla not much larger than the upper: [8](#)
- 3 Lower lip of corolla flat or very nearly so: [4](#)
 Lower lip of corolla keeled: [5](#)
- 4 Lower lip of corolla 3-lobed, with central lobe larger and emarginate; calyx campanulate; flowers whorled .. [26](#).
 [Stachys](#)
 Lower lip of corolla entire; mature calyx ventricose, tube curved; flowers in axillary panicles of dichotomous cymes [15. Homalochaelos](#)
- 5 Calyx tube bent near the top [16. Leocus](#)
 Calyx tube straight: [6](#)
- 6 Teeth of calyx very long and spiny [13. Pycnostachys](#)
 Teeth of calyx lanceolate, acuminate or triangular, not spiny: [7](#)
- 7 Mature calyx up to 4 mm. long; slender delicate plants [18. Englerastrum](#)
 Mature calyx 8-10 mm. long; large, stout erect plant [19. Isodictyophorus](#)
- 8 Mature calyx dry; stamens 4: [9](#)
 Mature calyx forming an orange berry about 8 mm. diam.; stamens 2 [10. Hoslundia](#)
- 9 Calyx teeth 4 [5. Geniosporum](#)
 Calyx teeth 5: [10](#)
- 10 Calyx teeth subulate [21. Hyptis](#)
 Calyx teeth not subulate, either triangular, lanceolate, or lanceolate-acuminate: [11](#)
- 11 Calyx with teeth as long as, or longer than, the tube [20. Neohyptis](#)
 Calyx with teeth much shorter than the tube: [12](#)
- 12 Calyx teeth narrow, lanceolate, long-acuminate [22. Satureja](#)
 Calyx teeth broad, triangular, not acuminate [25. Achyrospermum](#)
- 13 Calyx circumscissile in fruit: [14](#)
 Calyx not circumscissile: [15](#)
- 14 Leaves opposite; rootstock annual and fibrous or perennial and creeping [11. Aeolanthus](#)
 Leaves alternate; rootstock perennial, tuberous, not creeping [12. Icomum](#)
- 15 Calyx with 8-10 teeth: [16](#)
 Calyx with up to 5 teeth: [17](#)
- 16 Upper and lower lips of corolla about equal in length; middle lobe of lower lip larger than the lateral ones [27](#).
 [Leucas](#)
 Upper lip of corolla much longer than the lower; middle lobe of lower lip scarcely longer than the lateral ones [28](#).

Leonotis

- 17 Calyx bladder-like in fruit [29. Tinnea](#)
 Calyx not bladder-like in fruit: 18
- 18 Calyx distinctly 2-lipped: 19
 Calyx not 2-lipped, though frequently with one lobe larger than the others and forming a single lip: 23
- 19 Inflorescences of dense, globose, terminal heads, frequently with large coloured bracts [9. Haumaniastrum](#)
 Inflorescences not as above: 20
- 20 Corolla markedly zygomorphic, with lower lip deeply concave: 21
 Corolla not markedly zygomorphic; lower lip not deeply concave: 22
- 21 Inflorescence with 2 flowers at each node [24. Scutellaria](#)
 Inflorescence with many flowers at each node [17. Solenostemon](#)
- 22 Calyx-tube much longer than broad; flowers dark pink [3. Endostemon](#)
 Calyx-tube about as long as broad; flowers more or less white [4. Platostoma](#)
- 23 Calyx with 3 broadly triangular or ovate lobes: 24
 Calyx not as above, at least some of the teeth lanceolate-acuminate or subulate: 25
- 24 Inflorescences in rather lax racemes; stamens 2 [23. Salvia](#)
 Inflorescences dense, conical or oblong; stamens 4 [25. Achyrospermum](#)
- 25 Upper calyx-lobe oblong or lanceolate: 26
 Upper calyx-lobe broadly ovate or triangular: 27
- 26 Upper calyx-lobe longer than the others [16. Leocus](#)
 Upper calyx-lobe not longer than the others [22. Satureja](#)
- 27 Calyx with dense fringe of short white cilia between the teeth [2. Becium](#)
 Calyx not as above: 28
- 28 Inflorescence with large, pink, ovate or rotund bracts enveloping the flowers [8. Hemizygia](#)
 Inflorescence not as above: 29
- 29 Lower lip of corolla much enlarged and keeled: 30
 Lower lip of corolla not enlarged or keeled: 31
- 30 Calyx with median teeth deltoid or obsolete [17. Solenostemon](#)
 Calyx with median teeth well developed and acuminate [14. Plectranthus](#)
- 31 Mature calyx up to 2 mm. long, upper lip not or slightly decurrent on the tube [6. Basilicum](#)
 Mature calyx 5 mm. or more long, upper lip decurrent on the tube: 32
- 32 Stigma capitate [7. Orthosiphon](#)
 Stigma deeply bifid [1. Ocimum](#)

Mentha

(? *M. × gentilis* Linn.). Species of *Mentha* are occasionally cultivated as herbs but apparently do not flower in these latitudes.

1. OCIMUM

Linn.-F.T.A. 5: 334.

- 1 Calyx twice as long as broad when viewed from above; perennials: 2
 Calyx orbicular when viewed from above; leaves at most shallowly serrate; annuals; stems square; leaves distinctly petiolate, thin, ovate to obovate, cuneate at base, acuminate; inflorescence lax, elongate; calyx with upper lobe orbicular and much longer than the very short tube, lower lobes deltoid-mucronate, slightly exceeding the upper; stamens slightly exserted: 5
- 2 Calyx dull, densely woolly; spikes dense, whorls continuous except at base; calyx 7 mm. long in fruit, upper lip ovate, apiculate, lower teeth small, deltoid; leaves pubescent, ovate to ovate-lanceolate, acutely acuminate, 7-10 cm. long, 2-4 cm. broad; petiole 1-3 cm. long [1. suave](#)
 Calyx glossy, glabrous or nearly so; spikes rather lax: 3

- 3 Leaves linear, about 3 cm. long and 3 mm. broad, or less, glabrous with a slightly wavy margin, gland-dotted; stems stiff, erect, glabrous, leafy; inflorescence a lax terminal raceme, bracts minute; pedicels about half as long as the fruiting calyx, arcuate, puberulous; fruiting calyx 8 mm. long, tube twice as long as the teeth, thinly gland-dotted; upper lip recurved, deltoid; lower teeth ovate, subulate [2. *irvinei*](#)
- Leaves ovate: [4](#)
- 4 Calyx about 6 mm. long in fruit; leaves 6-12 cm. long and 3 cm. broad, ovate to obovate, cuneate at base, acutely acuminate, subglabrous beneath but gland-pitted and slightly pubescent on the nerves; whorls only continuous in flower, interrupted in fruit; pedicels puberulous; calyx 2-lipped, upper lip broadly ovate and mucronate, lower lip oblong with 2 teeth [3. *gratissimum*](#)
- Calyx about 10 mm. long in fruit; leaves 2-5 cm. long ovate, acute, petiolate, pubescent beneath; spikes long, lax, often branched at base; bracts bright-coloured; calyx with upper lip ovate, obtuse, lower lip with 2 large teeth; stamens long-exserted [4. *lamiifolium*](#)
- 5 Mature calyx about 6 mm. diam.; corolla large, twice as long as the calyx or more; plant bushy, 50 cm. or more in height, usually subglabrous [5. *basilicum*](#)
- Mature calyx about 4 mm. diam.; corolla small, hardly exceeding the calyx; plant smaller, 30-45 cm. high, pubescent [6. *canum*](#)

1. ***Ocimum suave* Willd.** Enum. Pl. Hort. Berol. 629 (1809); F.T.A. 5: 338.

APD: Synonym of *Ocimum gratissimum* L. var. *gratissimum*

Ocimum trichodon Bak. ex Gürke (1895)-F.T.A. 5: 338; F.W.T.A., ed. 1, 2: 286.

Ocimum dalabaense A. Chev. (1909)-Chev. Bot. 511.

Ocimum caillei A. Chev. Bot. 511, name only.

A branched, erect, pubescent, aromatic shrub reaching several feet in height with dense spikes of small greenish-white flowers.

Guin.: Fouta Djallon 3,000-3,500 ft. (Sept.) Chev. 18382! 18637! Labé (Mar.) Chev. 12382! Mali to Kédougou (Apr.) Pilot T51-1180! Dalaba (Oct.) Adam 12583! Niguelandé (Mar.) Adam 11632! **N. Nig.:** Jos Plateau (Oct.) Lely P798! Ropp Morton A2043! **[Br.] Cam.:** Mambila Plateau (Jan.) Hepper 1689!

Also in **Cameroun**, **Congo** and **E. Africa**, and widespread in tropical Asia.

2. ***Ocimum irvinei* J. K. Morton** in J. Linn. Soc. 58: 266, t. 1 (1962). *APD acc*

An erect herb about 18 in. high; stems several from a perennial woody rootstock with thick roots; flowers pink rarely white; **in seasonally marshy savanna.**

Ghana: N.W. Ashanti: near Nwereme (May) Irvine 2498! New Drobo (Nov.-Apr.) Harris! Morton A3876! A3877! Dwinim (fr. Dec.) Adams 5294! Adamsu (Apr.) Morton A3238! W. of Bimbila, Dagomba Dist. (Jan., Mar.) Hepper & Morton A3096! Akpabla 1853!

3. ***Ocimum gratissimum* Linn.** Sp. Pl. 2: 1197 (1753); Chev. Bot. 511 (as var. *macrophyllum* Briq.); Morton l.c. 232 (1962). *APD acc*

Ocimum viride Willd. (1809)-F.T.A. 5: 337; Chev. Bot. 512; F.W.T.A., ed. 1, 2: 285.

Ocimum guineense Schum. & Thonn. (1827).

Similar to *O. suave* but subglabrous; **usually occurring around villages.** The Tea Bush.

Gam.: Albredaar (Nov.) Gardiner 37! **Port. G.:** Gidade, Bissau (Oct.) Esp. Santo 945! **Guin.:** Korse (Mar.) Adam 11706! Beyla (Mar.) Chev. 20901! **S. L.:** Kuntara (June) Thomas 417! **Lib.:** Ganta Harley! **Iv. C.:** Abidjan Chev. 15386; 15410. Tiebissou to Languira (July) Chev. 22199. **Ghana:** Suhum (Dec.) Morton GC 6335! Akuse (Oct.) Morton A12! **Dah.:** Dassa-Zoume (May) Chev. 23627. **N. Nig.:** Abinsi (Mar.) Dalz. 773! **S. Nig.:** Sapoba Kennedy 1771! **[Br.] Cam.:** Victoria (Apr.) Schlechter 12570! Buea (Dec., Apr.) Morton K646! K836! **F. Po.:** (Oct.) T. Vogel 4!

Probably originally introduced from Asia, now widespread in tropical Africa. (Sec Appendix, p. 462.)

4. ***Ocimum lamiifolium* Hochst. ex Benth.** in DC. Prod. 12: 37 (1848); F.T.A. 5: 346. *APD acc*

An erect, hairy perennial several foot in height; flowers white, in long lax racemes.

[Br.] Cam.: Bamenda, 5,000 ft. (May, July) Maitland 1438! Ujor FHI 30460!

Extends to **Ethiopia** and **Tanganyika**.

5. *Ocimum basilicum* Linn. Sp. Pl. 2: 597 (1753); F.T.A. 5: 336. *APD acc*

Ocimum americanum Linn. (1763)-F.W.T.A., ed. 1, 2: 285, partly.

Ocimum lanceolatum Schum. & Thonn. (1827).

Ocimum dichotomum Hochst. ex Benth. (1848)-F.T.A. 5: 346.

Ocimum menthaefolium of Chev. Bot. 512, not of Hochst. ex Benth.

A stout, bushy, aromatic herb, with white flowers in loose racemes; **commonly cultivated for culinary purposes**; tetraploid.

Sen.: Tamboukane (Dec.) Chev. 2780! **Mali:** Dogo (Apr.) Davey 6091 **Port. G.:** Bafata (Aug.) Esp. Santo 3291! **S. L.:** (Oct.) Thomas 2652! 9071! Mt. Aureol, Freetown (Aug.) Melville 97! **Lib.:** Peahtah (Oct.) Linder 1057! **Ghana:** Legon (.Nov.) Morton A981! Denu (May) Morton A2201! **N. Nig.:** Zungeru (June) Dah. 137! **S. Nig.:** Lagos (May) Denton 58! **F. Po:** (Dec.) Guinea 563!

Probably introduced from Asia, now widespread in the tropics.

[This species is not always readily distinguishable from the next.]

6. *Ocimum canum* Sims Bot. Mag. 51: t. 2452 (1823); F.T.A. 5: 337; Chev. Bot. 511.

APD: Synonym of Ocimum americanum L. var. americanum

Ocimum americanum of F.W.T.A. ed. 1, 2: 285, partly.

Ocimum hispidulum Schum. & Thonn. (1827).

Ocimum thymoides Bak. in F.T.A. 5: 344 (1900).

Similar to *O. basilicum* but smaller in all its parts and having a more pungent odour; **commonly cultivated for medicinal purposes**; **perhaps not native**; diploid.

Maur.: Tichoten (July) Charles in Hb. Chev. 28696. Niemelane (July) Charles in Eb. Chev. 28713. **S. L.:** Kanno (July-Aug.) Dawe 523! **Lib.:** Gletown (July) Baldwin 6794! **Iv. C.:** fide Chev. l.c. **Ghana:** Achimota (Feb.) Morton GC 25350! Tumu (Mar.) GC 8884! **Togo Rep.:** Lomé Warnecke 269! **Dah.:** Dassa-Zoume (May) Chev. 23622. Atacora Mts. (June) Chev. 24124. **N. Nig.:** Jos Plateau (July) Lely P525! Maiduguri (Oct.) Noble A13! **S. Nig.:** Oban (Feb.) Talbot 228! **[Br.] Cam.:** Gurum, Adamawa (Nov.) Hepper 1293! **F. Po:** (Oct.) T. Vogel 32!

Widespread in the tropics.

2. BECIUM

Lindl. Bot. Reg. 28: Misc. 42 (1842). APD acc

- 1** Whole plant glabrous, thinly puberulous to rather densely puberulous; leaves linear to narrowly elliptic or obovate-lanceolate, subsessile or shortly petiolate, thick and prominently veined, acute to obtuse, tapered to base, 3-8 cm. long, 5-20 mm. broad, more or less crenate towards apex, inflorescence terminal, dense when young, elongating and interrupted in flower and fruit; pedicels very short, stout, puberulous; calyx accrescent, whitish-pubescent when young, mature calyx subglabrous to pubescent 8-10 mm. long, upper lip ovate, shortly apiculate, lower teeth up to 2 mm. long, subulate, upcurved; corolla 7-14 mm. long, distinctly 2-lipped, puberulous; stamens long-exserted [*obovatum*](#)

Becium obovatum (E. Mey.) N. E. Br. in Fl. Cap. 5, 1: 230 (1910).

APD: Synonym of Ocimum obovatum E. Mey. ex Benth. var. obovatum

APD: Synonym of Ocimum filamentosum Forssk.

Ocimum obovatum E. Mey. (1837).

Ocimum knyanum of F.T.A. 5: 346; of F.W.T.A., ed. 1, 2: 286, not of Vatke.

O. knyanum var. *astephanum* Bak. in F.T.A. 5: 346 (1900).

O. odontopetalum C. H. Wright in Kew Bull. 1907: 54.

O. affine of Chev. Bot. 510, not of Hochst.

Becium knyanum (Vatke) G. Tayl. in J. Bot. 69, Suppl. 2, 146 (1931), partly.

Rootstock swollen, woody, perennial, producing erect, branched or unbranched flowering shoots 6 in.-2 ft. high, bearing compact or elongate inflorescences of attractive pink (rarely white) flowers with very

long stamens. Very variable in habit, leaf shape, pubescence and inflorescence but intermediates appear to connect all the W. African forms.

Guin.: Farmar 289! Kéméné (Mar.) Chev. 12935. Timbo to Ditinn (Sept.) Chev. 18400. Labé (Apr.) Adam 11816! Fouta Djallon (fr. June) Adam 14496! 14666! **Ghana:** Bimbila (Jan.-Mar.) Hepper & Morton A3069! Morton A3740! Akpabla 1857! Shiare to Chilinga, Transvolta (fr. May) Morton A3985! **N. Nig.:** Kennedy 2908! Vom (Apr.) Morton K347! K392! K398! Iyatawa, Zaria (July) Keay FHI 25945! Ropp, 4,600 ft., Jos Plateau (Apr., July) Lely 444! Morton K372! Nupe Barter 1283! Sokoto (Nov.) Lely 113! **[Br.] Cam.:** Binka, Nkambe Div. (Feb.) Hepper 1886!

Widespread in tropical Africa.

3. ENDOSTEMON

N. E. Br. in Fl. Cap. 5, 1: 295 (1910); Ashby in J. Bot. 74: 121 (1936).

- 1 Leaves linear-lanceolate, distantly serrate, 3-6 cm. long, 0.5-1 cm. broad, shortly pubescent; racemes composed of distinct whorls with leafy bracts; axis, pedicels and calyx setulose-pubescent with white hairs; calyx narrowly tubular, the upper lip suborbicular with recurved margin [tereticaulis](#)

Endostemon tereticaulis (Poir.) M. Ashby in J. Bot. 74: 129 (1936). *APD acc*

Ocimum tereticaule Poir. (1810)-F.T.A. 5: 347; F.W.T.A., ed. 1, 2: 285; Chev. Bot. 512.

O. thonningii Schumacher. (1827).

A low bushy herb up to about 1 ft. high, woody below, strongly aromatic, with magenta flowers.

Sen.: Heudelot 168! Perrottet 670. **Mali:** Dioura (Aug.) Davey 83! **Iv. C.:** Ouahigouya (Aug.) Chev. 24774; 24780. **Ghana:** Legon (Nov.) Morton. GC 6004! Nungua, Accra (Oct.) Morton GC 7887! Accra (May) Dalz. 26! Irvine 658!

Extends to **Ethiopia**, Somaliland, E. Africa, S. Rhodesia, Bechuanaland and Transvaal.

4. PLATOSTOMA

P. Beauv. Fl. Oware 2: 61 (1818); F.T.A. 5: 349, as Platystoma.

- 1 A slender erect annual; stems slightly pubescent between the rounded angles; leaves long-petiolate, ovate, about 5 cm. long and 2.5 cm. broad, serrate except for the broad cuneate base, glabrous or nearly so; racemes numerous, axillary, rather loose, many-flowered; bracts persistent, broadly ovate to obovate, foliaceous, nearly as long as the whorl, often reflexed and coloured; pedicels short, puberulous [africanum](#)

Platostoma africanum P. Beauv. l.c. t. 95, fig. 2 (1818); F.T.A. 5: 349; Chev. Bot. 513. *APD acc*

Ocimum sylvaticum Thonning (1827).

Platostoma djalonense A. Chev. Bot. 613, name only.

A branched slender herb up to about 2 ft. high, with slender racemes of very small flowers; corolla white, spotted with mauve; **in damp places.**

Sen.: Niokolo-Koba (Oct.) Adam 15576! **Mali:** Koulikoro (Oct.) Chev. **Port. G.:** Fulacunda (Sept.) Esp. Santo 2185! Bafata (Sept.) Esp. Santo 2766! **Guin.:** Gangan, Kindia (Apr.) Adam 11938! Tossékéré, Fouta Djallon (Oct.) Adam 12753! **S. L.:** Sefadu (Nov.) Deighton 4664! Freetown (Sept.) Hepper 914! **Lib.:** Cape Palmas (Mar.) Hale 20! Gbanga (Aug.) Freeman 3! **Iv. C.:** Nieki (Oct.) Roberty 12416! Adiopodoumé (July) Boughey GC 14512! **Ghana:** Nwereme Morton! Accra to Nsawam (Sept.) Morton A10! Kpandu (Apr.) Asamang 166! Axim (Mar.) Morton GC 8443! **Togo Rep.:** Lomé Warnecke 440! **N. Nig.:** Abinsi (Aug.) Dalz. 795! **S. Nig.:** Onitsha (Sept.) Onochie FHI 33447! **[Br.] Cam.:** above Buea (Mar.) Morton GC 6742! K454! Gurum, Adamawa (Nov.) Hepper 1381! **F. Po.:** (Jan.) Guinea 1084! Estrada (Jan.) Akpabla GC 11486!

Widespread in tropical Africa and in India.

5. GENIOSPORUM

APD: Synonym of *Platostoma* P. Beauv.

Wall. ex Benth.-F.T.A. 5: 350.

- 1 Stems stout, woody, grooved, densely ferrugineous-pubescent; leaves subrotund to broadly lanceolate, slightly acuminate, usually acute, rounded at base, shortly petiolate, crenulate, 2-5 cm. long, 1-3 cm. broad, pubescent above, densely ferrugineous-pubescent beneath, coriaceous; inflorescences several, dense, cylindrical, 2.5-10 cm. long, 1-2 cm. broad; bracts broadly ovate, exceeding calyx, lower ones larger, white; corolla twice as long as calyx, lobes subequal, not concave, slightly bilabiate; anthers and stigma exserted; calyx about 4 mm. long when mature, tubular with 4 teeth, the lower one much broader, obtuse or emarginate and incurved or reflexed [rotundifolium](#)

Geniosporum rotundifolium *Briq.* in Engl. Bot. Jahrb. 19: 163 (1894); F.T.A. 5: 351.

APD: Synonym of Platostoma rotundifolium (Briq.) A.J. Paton

Geniosporum paludosum *Bak.* in F.T.A. 5: 352 (1900); F.W.T.A., ed. 1, 2: 286; Robyns Fl. Sperm. Parc Nat. Alb. 2: 194, t. 18.

Ocimum konianense *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 198 (1912); Chev. Bot. 511.

O. paludosum (*Bak.*) *Roberty* in Bull. I.F.A.N. 16, 1: 329 (1954).

A stout, erect, perennial, several feet in height, with a densely pubescent stem and conspicuous white or mauve-tinged bracts; **in damp grassland at high altitudes.**

S. L.: Bintumane, 4,500 ft. (Jan.) Glanville 468! **iv. C.:** Beyla (Mar.) Chev. 20869! **N. Nig.:** Bukuru to Hephram, 4,300 ft. (Aug.) Lely 345! Vom, 3,000-4,500 ft. Dent Young 210! **S. Nig.:** Ikwette Plateau, 4,000-5,600 ft., Obudu (Aug.-Dec.) Keay & Savory FHI 25035! I Stone 52! **[Br.] Cam.:** Bamenda, 5,800-6,000 ft. (Apr.) Maitland 1668! Morton K283! Mambila Plateau (Jan.) Hepper 1665! Vogel Peak, Adamawa (Nov.) Hepper 1366!

Also in **Congo**, **Angola** and **E. Africa**.

6. BASILICUM

Moench Suppl. Meth. Pl. 143 (1802). *APD acc*

- 1 Stems quadrangular, glabrous; leaves long-petiolate, broadly ovate, cuneate and entire at base, long- and gradually-acuminate, up to 6 cm. long and 3 cm. broad, margin crenate-serrate, closely and minutely gland-dotted; racemes slender, axillary, whorls about 6-flowered, rather lax; pedicels short, puberulous, articulating at the top; bracts minute; calyx gland-dotted [I. polystachyon](#)

Basilicum polystachyon (*Linn.*) *Moench* l.c. (1802); F.W.T.A., ed. 1, 2: 608. *APD acc*

Ocimum polystachyon *Linn.* (1771).

Moschosma polystachyon (*Linn.*) *Benth.* (1831)-F.T.A. 5: 353; Chev. Bot. 515; F.W.T.A., ed. 1, 2: 287.

Ocimum dimidiatum *Schum. & Thonn.* (1827).

A branched, erect, subglabrous herb, 1-3 ft. high, with very small, pale mauve, almost white flowers; **in damp places.**

iv. C.: Assinie (Apr.) Chev. 17871; 17874; 17882. Gottoro to Diahbo, Baoule-Nord (July) Chev. 22035. **Ghana:** Accra to Nsawam (July) Morton GC 9324! Tumu, N.R. (May) Morton GC 7571! Cape Coast (July) T. Vogel 44! **Dah.:** Abbo to Massé (Feb.) Chev. 22988. Abomey (Feb.) Chev. 23189. Aguégue (Mar.) Chev. 23320. **N. Nig.:** Nupe Barter 1157! Jebba (Dec.) Hagerup 678! Katagum (Nov.) Dalz. 111! **S. Nig.:** Lagos Rowland! Dalz. 1402! Ogun River F.R., Lagos (Mar.) Hepper 2261! Idanre, Ondo Prov. (Jan.) Brenan & Jones 8735!

Widespread in the Old World tropics.

7. ORTHOSIPHON

Benth.-F.T.A. 5: 365.

- 1 Root tuberous, woody, perennial; stems stiff, erect; calyx 9-10 mm. long when mature, usually bright pink, setose, upper lip reflexed, deltoid and slightly mucronate, lower teeth ovate with a long acumen, tube twice as long as the teeth; corolla 1 cm. long or more, conspicuous; leaves 5-8 cm. long, including the petiole, 1-3 cm. broad, cuneate at base, rounded-obtuse at apex, lanceolate, unevenly crenate-serrate on margins, thick, subglabrous to pubescent, glaucous and distinctly veined beneath; inflorescence elongate, many-flowered with

- 4-6 flowers per whorl [1. *rubicundus*](#)
- Root fibrous; calyx 5-7 mm. long, either greenish or dark purple; leaves small, less than 5 cm. long including the petiole:..... **2**
- 2** Calyx 5 mm. long, pale green; upper lip ovate, obtuse, lower teeth ovate, subulate; leaves up to 3.5 cm. long including the long petiole, and 2 cm. broad, but usually much smaller, lanceolate, subacute to obtuse, crenate-serrate; stems square, recurved-pubescent; corolla small, pale greenish [2. *incisus*](#)
- Calyx 7 mm. long, usually tinged with dark purple; upper lip deltoid, apiculate, teeth ovate, subulate; leaves up to 5 cm. long and 4 cm. broad, broadly ovate-triangular, long-petiolate, coarsely serrate, glabrous except for a few appressed hairs on the veins, minutely glandular-punctate beneath; stems square, subglabrous, slender; inflorescence elongate, lax, thinly pubescent, whorls about 6-flowered; corolla small, pale violet [3. *suffrutescens*](#)

1. *Orthosiphon rubicundus* (D. Don) Benth. in Wall. Pl. As. Rar. 2: 14 (1831). APD acc

Plectranthus rubicundus D. Don (1825).

Orthosiphon salagensis Bak. in F.T.A. 5: 368 (1900); F.W.T.A., ed. 1, 2: 286, partly.

Orthosiphon coloratus Vatke (1881)-F.T.A. 5: 372.

Orthosiphon xylorrhizus Briq. (1917)-Chev. Bot. 515.

Ocimum affine var. *bafingensis* A. Chev. Bot. 510, name only.

An attractive erect aromatic perennial herb about 1 1/2-2 ft. high; flowers white or pink; inflorescence usually pink; calyx accrescent; **common in savanna woodland.**

Mali: Bama to Samandini (June) Chev. 944. **iv. C.:** junction of R. Sassandra and R. Bafing (May) Chev. 21776 bis!

Ghana: Salaga (Aug.) Morton GC 7191! Krause! Banguon, Lawra (May) Vigne FH 3816! Yendi (May) Akpabla 516!

Dah.: Pobégou to Birni, Atacora Mts. (June) Chev. 23944! **N. Nig.:** S.W. of Wamba (Apr.) Morton K419! Naraguta (Oct.) Hepper 1163! Zaria (May) Keay FHI 25796! Dutsin Makurdi (June) McElderry FHI 16377!

Also in Congo, E. and S. tropical Africa and in India.

2. *Orthosiphon incisus* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 199 (1912); Chev. Bot. 515.

APD: *Synonym of Orthosiphon pallidus Royle ex Benth.*

Orthosiphon salagensis of Chev. Bot. 515; of F.W.T.A., ed. 1, 2: 286, partly; not of Bak.

A small, annual, pubescent, bushy, aromatic herb, under 12 in. high.

Mali: Ouagadougou to Ouahigouya (Aug.) Chev. 24698. **Ghana:** Accra (Dec.) Morton GC 6135! Prampram (Oct.) Morton GC 6083! Accra to Ada (June) Morton GC 9237! N. of Nangodi (Dec.) Morton A1261! **Dah.:** Somba, Atacora Mts. (June) Chev. 24120!

3. *Orthosiphon suffrutescens* (Thonning) J. K. Morton in J. Linn. Soc. 58: 266 (1962).

APD: *Synonym of Orthosiphon thymiflorus (Roth) Sleesen*

Ocimum suffrutescens Thonning in Kongel. Dansk. Vid. Selsk. 4: 330 & Bettelser (1829).

Orthosiphon thoningii Thonning Beskr. Guin. Pl. 269 (1827), not O. thonningii Schum. & Thonn. l.c. 265 (1927).

Orthosiphon australis Vatke (1876)-F.T.A. 5: 373.

Orthosiphon rabaiensis var. *parvifolia* S. Moore in J. Bot. 44: 26 (1906).

A slender straggling subglabrous perennial herb of **deciduous and dry forest and thicket**, frequently purple-tinged on the stem, leaves and inflorescence.

Ghana: Mampong Scarp, Akwapim (June) Morton GC 9325! Afram Mankrong F.R. (Dec.) Adams 4935! Swedru (Feb.) Dalz. 8279! Asafo road junction, Accra to Cape Coast (Mar.) Morton A251! Fume, Transvolta (Nov.) Morton A959! **S. Nig.:** (Oct.) Foster 348!

Also in **Congo** and widespread in E. Africa.

[Very closely allied to, and probably only racially distinct from O. glabratus Benth. in India.]

8. HEMIZYGIA

APD: *Synonym of Syncolostemon E. Mey.*

(*Benth.*) *Briq.* in E. & P. Pflanzenfam. 4, 3A: 368 (1897); Ashby in J. Bot. 73: 312 (1935).

Bouetia A. Chev. (1912).

- 1 Leaves linear-lanceolate, 5-15 cm. long, 1-2.5 cm. broad, narrowly acute at apex, gradually cuneate at base, sessile or shortly petiolate, hairy on both surfaces; racemes long, lax, hairy; flowers 4-6 in a whorl; pedicels short; upper bracts large, narrowly ovate-lanceolate, reddish, membranous; calyx 7-8 mm. long in fruit, upper lip orbicular, lower teeth long and subulate; corolla twice as long as the calyx, 2-lipped; stamens long-exserted; whole plant covered densely with long, straight hairs [1. *bracteosa*](#)

Leaves ovate to ovate-lanceolate, 2.5-5 cm. long, 1-2.5 cm. broad, broadly acute at apex, rounded to cuneate at base, sessile or nearly so, pubescent; racemes shorter and denser, hairy; flowers 6 in a whorl; pedicels short, stout, pubescent; upper bracts large ovate-orbicular, reddish, membranous; calyx about 10 mm. long in fruit, upper lip broadly ovate, lower teeth long and subulate; corolla and stamens as above; whole plant covered fairly densely with crispate hairs [2. *welwitschii*](#)

1. *Hemizygia bracteosa* (*Benth.*) *Briq.* in Ann. Jard. Gen. 2: 248 (1898); Ashby in J. Bot. 73: 318, 350 (q.v. for syn.).

APD: *Synonym of Syncolostemon bracteosus* (*Benth.*) D.F. Otieno

Ocimum bracteosum Benth. (1832).

Orthosiphon bracteosus (*Benth.*) Bak. in F.T.A. 5: 375 (1900); F.W.T.A. ed. 1, 2: 286.

Hemizygia nigrifolia S. Moore (1909).

Bouetia ocymoides A. Chev. (1912)-Chev. Bot. 513.

An erect greyish pubescent annual up to 3 ft. high, with pale pink flowers and clusters of pink bracts at the top of the inflorescence; in marshy grassland.

Sen.: Heudelot 396! **Dah.:** Agouagon (May) Chev. 23546! Pobégou to Birni, Atacora Mts. (June) Chev. 23945! **N. Nig.:** Nupe Barter 946! Alagbede, Ilorin (Feb.) Ejiofor FHI 19807a! Yola (May) Dalz. 108! **S. Nig.:** "W. Prov." Kitson! [**Br.**] **Cam.:** Alantika Mts., Adamawa (Dec.) Hepper 1606!

Widespread in tropical and S. Africa.

2. *Hemizygia welwitschii* (*Rolfe*) M. Ashby in J. Bot. 73: 318, 350 (1935). *APD acc*

Orthosiphon wetwitschii Rolfe (1893)-F.T.A. 5: 376.

O. bracteosus of F.W.T.A., ed. 1, 2: 286, partly.

A bushy, aromatic perennial, up to 2 ft. high, with white flowers and terminal clusters of pink bracts; growing in clumps in dry stony grassland.

N. Nig.: Kafanchan (May) Jones FHI 14106! Zaria (Apr.) Dalz. 285! Jos (Jan., Mar.) Hill 19! Lely P112! Batten-Poole 379! Vom (Feb.) McClintock 198! Gindiri, Pankshin Div. (Oct.) Hepper 1130! [**Br.**] **Cam.:** Bamenda (Apr.-Mar.) Maitland 1599! Morton K190! Ndop to Bamenda (Dec.) Adams GC 11252! Ndop (Dec.) Boughey GC 11141!

Also in **Ubangi-Shari**, **Congo**, **Angola** and **S. Rhodesia**.

9. HAUMANIASTRUM

Duvign. & Plancke in Biol. Jaarb. 27: 222 (1959); Morton in J. Linn. Soc. 58: 239 (1962).

Acrocephalus Benth. (partly)-F.T.A. 5: 354; F.W.T.A., ed. 1, 2: 288.

- 1 Leaves broad, ovate to lanceolate or broadly oblanceolate: **2**
 Leaves narrow, linear to linear-lanceolate or narrowly oblanceolate: **3**
- 2 Leaves sessile, ovate, rounded at base, acutely acuminate, sharply serrate, 2-4 cm. long, 1-2 cm. broad, thick; flower-heads numerous, corymbose; bracts ovate-reniform, broadly apiculate, densely tomentose outside with glabrescent margins [1. *alboviride*](#)
- Leaves distinctly petiolate, ovate-lanceolate to oblanceolate, cuneate at base, subacute, serrulate, 3-6 cm. long, 1-2 cm. broad, thinly pilose on both surfaces; flower-heads few or subsolitary, small, globose, subtended by normal, non-coloured leaves [2. *galeopsifolium*](#)
- 3 Stem and leaves glabrous or nearly so; leaves erecto-patent, narrow, sessile, 3-5-5 cm. long, 3-5 mm. broad, obscurely dentate, densely gland-dotted on both surfaces, with a few hairs on the veins beneath; stem wiry,

- square, purple; flower-heads few, rather large; outer bracts coloured, with a long cusp; inner bracts broadly ovate, lanate [3. *quarrei*](#)
- Stem and leaves densely pubescent; leaves spreading; flower-heads numerous: **4**
- 4** Stem with long spreading pubescence; leaves linear to linear-lanceolate, acute, up to 10 cm. long and 1 cm. broad, usually less, obscurely dentate, thinly to densely long-pubescent and gland-dotted on both surfaces; outer bracts frequently with a white or coloured crenate margin and a short to medium cusp; inner bracts broadly ovate, lanate throughout [4. *lilacinum*](#)
- Stem with closely appressed short pubescence: **5**
- 5** Flower-heads small; inner floral bracts with subglabrous brown margin, lanate below; outer bracts with narrow base, without coloured crenate margin; leaves oblanceolate, acute, subentire, 7 cm. long and 1 cm. broad or less, densely silvery appressed-pubescent especially on the veins beneath [5. *buettneri*](#)
- Flower-heads medium to large; inner floral bracts lanate throughout; outer bracts usually with a broad crenate white or coloured base and a medium to short cusp; leaves linear to linear-lanceolate, acute, more or less dentate, up to 12 cm. long and 2 cm. broad, but usually much less, shortly appressed-pubescent at least on the veins and gland-dotted on both surfaces. [6. *caeruleum*](#)

1. *Haumaniastrum alboviride* (Butch.) Duvign. & Plancke in Biol. Jaarb. 27: 224 (1959). *APD acc*

Acrocephalus alboviridis Hutch. in Kew Bull. 1921: 396; F.W.T.A., ed. 1, 2: 287.

An erect woody plant, 3-4 ft. high, with dark purple stems and pale violet flowers.

Ghana: Shiare to Chilinga, 2,000 ft., Transvolta (fl. Nov., fr. Apr.) Hall 1441! Morton A3959! A3960! A4101! **N. Nig.:** Jos Plateau (Oct.) Lely P847! Vom, 3,000-4,500 ft. Dent Young 207! Ropp (Aug.) Leiy 456! [**Br.**] **Cam.:** Kdop, 5,000 ft., Bamenda (Dec.-Apr.) Adams 1513! Maitland 1522! Vogel Peak (Nov.) Hepper 1421!

2. *Haumaniastrum galeopsifolium* (Bak.) Duvign. & Plancke l.c. 225 (1959).

APD: *Synonym of Haumaniastrum villosum* (Benth.) A.J. Paton

Acrocephalus galeopsifolius Bak. in F.T.A. 5: 356 (1900).

A. ramosissimus A. Chev. in Journ. de Bot., sér. 2, 2: 120 (1909); Chev. Bot. 514; F.W.T.A., ed. 1, 2: 288.

A slender erect, branched, pilose herb, up to about 2 ft. high, with pale mauve flowers in small heads about 1/3 in. diam.

Guin.: Dalaba-Diaguissa Plateau, 3,000-4,000 ft. (Oct.) Chev. 18698! 18898! 18899! Niguelandé (Mar.) Adam 11652! **N. Nig.:** Jos Plateau (Sept.-Nov.) Lely 577! P746! P809! Vom Dent Young 208! Anara F.R., Zaria (Oct.) Keay FHI 5471!

Widespread in tropical Africa.

3. *Haumaniastrum quarrei* (Robyns & Lebrun) J. K. Morton in J. Linn. Soc. 58: 266 (1962).

APD: *Synonym of Haumaniastrum caeruleum* (Oliv.) P.A. Duvign. & Plancke

Acrocephalus quarrei Robyns & Lebrun in Ann. Soc. Sci. Brux. sér. B, 48: Mém. 196 (1928).

A stiffy erect, little-branched, subglabrous herb, up to 4 ft. high, with pale violet flowers and conspicuous floral bracts; **in marshy savanna.**

Ghana: W. of Bimbila (Jan., Dec.) Morton GC 6273! A1416!

Also in **Congo.**

4. *Haumaniastrum lilacinum* (Oliv.) J. K. Morton l.c. 266 (1962).

APD: *Synonym of Haumaniastrum caeruleum* (Oliv.) P.A. Duvign. & Plancke

Acrocephalus lilacinus Oliv. in Trans. Linn. Soc. 29: 135 t. 134 (1875); F.T.A. 5: 359; F.W.T.A., ed. 1, 2: 288.

A. polytrichus Bak. in F.T.A. 5: 358 (1900).

A. centratheroides Bak. in F.T.A. 5: 356 (1900).

A. crinitus Briq. in Mém. Soc. Bot. Fr. 2, 8: 195 (1912); Chev. Bot. 514.

A. sordidus Briq. l.c. (1912); Chev. Bot. 514.

An erect, branched often bushy, pilose herb, 1-4 ft. high, with violet flowers in pubescent heads about 1/2 in. diam.; **in damp savanna areas.**

Sen.: Niokolo-Koba (Oct.) Adam 15882! Tambanaba, Casamance (Feb.) Chev. **Mali:** Koulikoro Chev. 2781! **Port. G.:** Gabu (Oct.) Esp. Santo 3511! 3536! **S. L.:** Glanville 378! **Iv. C.:** Bouaké Leeuwenberg 20711 **Ghana:** Tall, Tamale (Dec.) Morton GC 9929! Tumu, N.R. (May) Morton GC 7524! Pong Tamale (Nov.) Akpabla 376! Kpeve (Jan.) Irvine 1745! Bimbila (Dec.) Morton A1418! **N. Nig.:** Bukuru to Barakin Ladi, Plateau Prov. (Nov.) Keay FHI 21444! Jos (Apr.) Morton K352! Nupe Barter! **S. Nig.:** Emiwo, Ilorin (Jan.) Ujor FHI 31605!

Also in **E. Africa**.

5. **Haumaniastrum buettneri** (Gürke) J. K. Morton l.c. 267 (1962). *APD acc*

Acrocephalus buettneri Gürke in Engl. Bot. Jahrb. 19: 198 (1894); F.T.A. 5: 360; Chev. Bot. 514; F.W.T.A., ed. 1, 2: 288.

A stout, erect, woody, silvery-pubescent plant, growing in clumps, up to 4 ft. high; flowers pale violet; in upland savanna.

Sen.: Niokolo-Koba (Oct.) Adam 15957! **Port. G.:** Bafata (Nov.) Esp. Santo 2853! Gabu (Oct.-Dec.) Esp. Santo 3512! 3767! **Guin.:** Kissidougou (Dec.) Martine 185! Madina Tossékéré Adam 12526! **S. L.:** Musaia (Dec.) Deighton 4521! Bambaye to Keressadji (Jan.) Jaeger 3884! **Ghana:** Amedzofe (Nov.) Morton GC 9404! De Wit & Morton A2878! **Togo Rep.:** Bismarckburg Büttner 304! **Dah.:** Kétou, Zagnanado (Feb.) Chev. 23001; 23043. **[Br.] Cam.:** Ndop, 5,400 ft., Bamenda (Dec.) Boughey GC 10477!

[Plants from the W. of our area have narrower leaves with a thinner pubescence and smaller flower-heads.]

6. **Haumaniastrum caeruleum** (Oliv.) J. K. Morton l.c. 267 (1962). *APD acc*

Acrocephalus caeruleus Oliv. in Trans. Linn. Soc. 19: 135, t. 133 (1875); F.T.A. 5: 359.

A. heudelotii Briq. (1894)-F.T.A. 5: 361; Chev. Bot. 514; F.W.T.A., ed. 1, 2: 288.

A. lagoensis Bak. (1895)-F.T.A. 5: 360; Chev. Bot. 514; F.W.T.A., ed. 1, 2: 288.

A stout, erect, branched, often bushy, shortly pubescent herb, with pale violet flowers in villous heads and usually with conspicuous whitish bracts; in damp savanna.

Sen.: Tambanaba, Casamance (Feb.) Chev. 2775. Niokolo-Koba (Oct.) Adam 15912! **Mali:** Koundian (Feb.) Chev. 419! Sotuba to Bamako (Dec.) Adam 11273! **Guin.:** Rio Nunez Heudelot! Madina Tossékéré (Mar.) Adam 11620! Erimakuna (Mar.) Sc. Elliot 5262! **Iv. C.:** Aboumaba (Nov.) Chev. 22390. **Ghana:** Attabubu (Dec.) Morton GC 6185! Gonja (Dec.) Morton GC 25043! Yendi to Zabzugu (Dec.) Morton A1470! Dzolo Kpuita (Jan.) De Wit & Morton A2911! **S. Nig.:** Western Lagos Rowland! Olokemeji to Eruwa (Nov.) Latilo FHI 26747! **[Br.] Cam.:** Bamenda (Jan.) Migeod 306! 423! Ndop, 5,400 ft. (Dec.) Boughey GC 10477! Wum (Dec.) Boughey s.n.! GC 10957! Vogel Peak (Nov.) Hepper 1440!

Also in **Congo** and **E. Africa**.

[Plants intermediate between two or more of the above species often occur, probably as the result of hybridity-J.K.M.]

10. HOSLUNDIA

Vahl-F.T.A. 5: 377.

- 1 Young stems puberulous; leaves paired or ternate narrowly ovate-lanceolate, gradually acuminate, cuneate at base, about 10 cm. long and 4 cm. broad, crenulate-serrulate, puberulous on the nerves above and sometimes sub-scabrid, minutely glandular beneath; panicle terminal, many-flowered, puberulous; pedicels slender, articulate at the top; calyx very small in flower, campanulate, regular, with 5 small teeth, puberulous, enlarging in fruit, fleshy and berry-like *opposita*

Hoslundia opposita Vahl Enum. Pl. 1: 212 (1805); F.T.A. 5: 377, incl. var. verticillata (Vahl) Bak.; Chev. Bot. 515. *APD acc*

Hoslundia oppositifolia P. Beauv. Fl. Oware 1: 53, t. 33 (1805); Chev. Bot. 516.

Hoslundia verticillata Vahl (1805)-Chev. Bot. 516.

An erect or half-climbing, odorous shrub, up to 10 or 15 ft. high, with small greenish-cream flowers in copious panicles and orange-yellow succulent fruits 1/4 in. across.

Sen.: Heudelot 41! **Gam.:** Skues! Genieri (July) Fox 168! **Mali:** Guiri (May) Chev. 884. **Port. G.:** Bissau (Mar.) Esp. Santo 1869! **Guin.:** Kaba (May) Chev. 13169. Kouria to Longuery (Aug.) Caille in Hb. Chev. 14624. **S. L.:** Koinadugu (Aug.) Dawe 500! **Lib.:** Jabroke (July) Baldwin 6470! **Iv. C.:** Bouroukrou (Dec.) Chev. 16601. Makougne (Jan.) Chev. 16995. Zaranou (Mar.) Chev. 17633. **Ghana:** Burufu, Lawra (May) Morton GC 7639! Bomase A. S. Thomas D195! Dixcove

(Mar.) Morton A287! Djodje (July) Akpabla 47! **Togo Rep.:** Lomé Warnecke 388! **Niger:** Fada to Koupela (July) Chev. 24527. **N. Nig.:** Jos Plateau (May) Lely P276! Cece F.R., Bida Div. (June) E. W. Jones 260! **S. Nig.:** Ibadan (Aug.) Newberry 56! **[Br.] Cam.:** below Buea (Jan.) Morton K919! **F. Po:** Mann 264!

Widespread in tropical Africa, S. Africa and Madagascar.

11. AEOLANTHUS

Mart.-F.T.A. 5: 388. APD acc

- 1 Leaves long-petiolate, spatulate-oblong or spatulate-lanceolate, broadly cuneate at base, rounded at apex, up to 6 cm. long and 2.5 cm. broad, including the rather long petiole, subentire, minutely glandular-punctate; cymules forming a lax leafy panicle, the lateral branches trifurcate, branches slender, spicate up to 6 cm. long; calyx hardened, cupular [1. pubescens](#)
- Leaves sessile, narrower than above: [2](#)
- 2 A rather small herb with a prostrate woody perennial stock; leaves about 2 cm. long and 7 mm. broad, acute, entire, thick, villose; panicle 5-15 cm. long, little-branched, spikes 1-2.5 cm. long, rhachis and small lanceolate bracts pubescent; calyx pubescent, truncate [2. repens](#)
- A robust erect much-branched annual; leaves about 5 cm. long and 1.5 cm. broad, obtuse, entire or obscurely crenate, thin, subglabrous; panicle large, much-branched, spikes 2-5 cm. long, rhachis and very small narrowly-oblong bracts densely villose; calyx hardened, disk-like [3. heliotropioides](#)

1. *Aeolanthus pubescens* Benth. in DC. Prod. 12: 80 (1848); F.T.A. 5: 394; Chev. Bot. 521. *APD acc*

Aeolanthus buettneri Gürke (1894)-F.T.A. 5: 396.

Aeolanthus chevalieri Briq. in Mém. Soc. Bot. Fr. 2, 8: 197 (1912); Chev. Bot. 521.

Aeolanthus pubescens var. *nuda* A. Chev. l.c. 201 (1912).

Solenostemon pubescens A. Chev. Bot. 518, name only.

An erect, branched, strongly aromatic, slightly fleshy annual, 1-3 ft. high, with small violet sessile flowers; [sometimes cultivated](#).

Mali: Koulikoro (Oct.) Chev. 2778! **Guin.:** Kouroussa Pobéguin! Fouta Djallon (Sept.) Chev. 18408! Madina Tossékéré, 3,000 ft. (Oct.) Adam 12557! **S. L.:** Kanya (Oct.) Thomas 3044! **Lib.:** Gbau (Sept.) Baldwin 9444! **Ghana:** Jaketi to Ajena (Oct.) Morton A13! Kintampo (Dec.) Morton A1146! Togo Plateau F.R. (Oct.) St. C.-Thompson FH 1515! **Togo Rep.:** Bismarckburg (fl. & fr. Sept.) Büttner 250! **N. Nig.:** Patti Lokoja T. Vogel 174! Jebba Barter! Fuka, Minna (Oct.) Hepper 962! Yola Dalz. 302! **S. Nig.:** Akure F.R. (Nov.) Ajayi FHI 26920! Abeokuta Irving 112!

2. *Aeolanthus repens* Oliv. in Trans. Linn. Soc. 29: 137, t. 136, fig. A (1875); F.T.A. 5: 395. *APD acc*

APD: Synonym of Aeollanthus cucullatus Ryding

A small creeping herb, with erect flowering stems bearing a few small bluish flowers about 1/4 in. long; [in moist rocky situations and exposed rock-crevices at high elevations](#).

[Br.] Cam.: Bamenda, 4,000-7,000 ft. (Aug.-Feb.) Migeod 495! Savory UCI 377! Ujor FHI 29962! 30222! Maitland 1642! Vogel Peak, Adamawa (Nov.) Hepper 1356!

Also in **Sudan** and **E. Africa**.

3. *Aeolanthus heliotropioides* Oliv. l.c. 137, t. 82 (1875); F.T.A. 5: 393.

APD: Synonym of Aeollanthus suaveolens Mart. ex Spreng.

An erect much-branched, robust aromatic annual, about 2 ft. high, with dense panicles of small violet flowers.

N. Nig.: cult. in Munchi farms, R. Benue Sampson 35! **[Br.] Cam.:** Vogel Peak, Adamawa (Nov.) Hepper 1420!

Also in **Sudan** and **E. Africa**.

12. ICOMUM

Hua-F.T.A. 5: 387.

- 1 Stems short, slender, simple or sparingly branched towards the top, subterete and softly pubescent when young; leaves alternate, linear, entire, up to 3.5 cm. long, sessile, ascending, glandular-punctate; spikes short, dense, forming a small terminal panicle; bracts broadly linear; calyx campanulate, pubescent, teeth minute; corolla-tube cylindrical, pubescent, much exceeding the calyx, lobes small, the lower shallowly saccate [1. paradoxum](#)

Stems very short, softly tomentose when young; young leaves oblong, with small glandular teeth, softly tomentellous; bracts subulate-linear [2. gambicola](#)

1. **Icomum paradoxum** *Hua* in Bull. Mus. Hist. Nat. 3: 329 (1897); F.T.A. 5: 387; Chev. Bot. 513.

APD: *Synonym of Aeollanthus paradoxus (Hua) Hua & Briq.*

Icomum foutadjalensis De Wild. (1928).

Aeollanthus foutadjalense (De Wild.) De Wild. (1928).

Stems 1/4 in. long; corolla white with rose-spotted lip.

Guin.: Moussaia (June) Pobéguin 705! Fouta Djallon (May) Chev. 12750! Timbo (May, July) Miquel 43! Pobéguin 738! Sineya and Toumanea (June) Pobéguin 709!

2. **Icomum gambicola** A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 282 (1931); Chev. Bot. 513 (1920), name only.

APD: *Synonym of Aeollanthus paradoxus (Hua) Hua & Briq.*

Plant only of a few inches high from a perennial base, with ovoid, fragrant tuber 2-2 1/2 in. long; corolla white.

Guin.: at sources of the Gambia R., 3,300 ft., Fouta Djallon (Apr.) Chev. 13573!

[Perhaps not distinct from *I. paradoxum* Hua-J.K.M.]

13. PYCNOSTACHYS

Hook.-F.T.A. 5: 379; Perkins in Notizbl. Bot. Gart. Berl. 8: 63 (1921); E. A. Bruce in Kew Bull. 1939: 563.

- 1 Leaves ovate-lanceolate to lanceolate, distinctly crenate-serrate; shrubs; spines on calyx sharp to the touch: [2](#)
Leaves linear to linear-lanceolate, serrulate; herbs, sometimes woody; spines on calyx not very sharp to the touch: [3](#)
- 2 Mature calyx densely tomentose, teeth slender, short, about 2.5 mm. long, pale brown; spikes narrow, about 1.5 cm. broad and 2.5-5 cm. long; leaves about 10 cm. long and 4 cm. broad, cuneate at base into a long petiole about 1/3 length of the lamina, thin, shortly pubescent on both surfaces, glandular-punctate beneath [1. eminii](#)
Mature calyx shortly and rather thinly pubescent, teeth stout, about 5 mm. long, dark reddish-brown; spikes stout, 2.5 cm. or more broad, 3-5 cm. long; leaves similar to last species but thicker, densely pubescent and with a shorter petiole [2. meyeri](#)
- 3 Leaves small, up to 3 cm. long and 2 mm. broad, pseudo-whorled and numerous; stems strongly sulcate [3. pallide-caerulea](#)
Leaves large, up to 10 cm. long and 15 mm. broad, sessile, opposite or in whorls of 3, glandular punctate beneath: [4](#)
- 4 Leaves thin, flaccid, opposite with smaller leafy axillary shoots, thinly scabrid up to 10 cm. long and 6 mm. broad; spikes on long slender peduncles, ovoid, 2 cm. diam., with small reflexed bracts at base; stems slender with many spreading branches; corolla about 14 mm. long [4. schweinfurthii](#)
Leaves thick, ascending, 3 in each whorl, 4-10 cm. long, 4-15 mm. broad, appressed-puberulous on veins beneath, otherwise glabrous; spikes solitary, terminal on short stout peduncle, conical, about 3 cm. diam. with spreading leafy bracts at base; stems stout, erect, branches few, ascending; corolla about 13 mm. long [5. reticulata](#)

1. **Pycnostachys eminii** Gürke in Engl. Bot. Jahrb. 22: 145 (1895); F.T.A. 5: 385; E. A. Bruce in Kew

Bull. 1939: 589. *APD acc*

A pubescent aromatic shrub several feet high with cylindrical spikes of pale blue flowers.

[Br.] Cam.: Bambui, 6,300 ft., Bamenda (Dec.) Adams GC 11304! Bamenda, 4,300-5,000 ft. (fl. Feb., May, fr. Mar.) Migeod 475! Morton K105! K137! Vogel Peak, Adamawa (Nov.) Hepper 1489!

Also in [Congo](#) and [E. Africa](#).

2. *Pycnostachys meyeri* Gürke in Engl. Hochgebirgsfl. Afr. 362 (1892); F.T.A. 5: 384; E. A. Bruce l.c. 591. *APD acc*

Pycnostachys volkensii Gürke (1895)-F.T.A. 5: 384; F.W.T.A., ed. 1, 2: 288.

Pycnostachys bowalensis A. Chev. in Journ. de Bot., sér. 2, 2: 126 (1909); Chev. Bot. 521.

Pycnostachys aff. *bowalensis* A. Chev. Bot. 521.

Coleus urticaefolius (Hook. f.) Roberty in Bull. I.F.A.N. 16, 1: 330 (1954), partly.

Similar to the last species but with stouter spikes of bluish-purple flowers.

Guin.: Fouta Djallon, 3,500 ft. (fl. Sept.-Oct., fr. Jan.) Chev. 18544! 18591! 18707! 18853! 20345! Schnell 7081! Labé (Jan.) Roberty 16402! S. Nig.: Koloishe Mt., Obudu Div. (Dec.) Keay & Savory FHI 25075! [Br.] Cam.: Cam. Mt., 8,100 ft. (Jan.) Keay FHI 28598! Boughey GC 12685! Bamenda, 7,500 ft. (Jan.) Keay FHI 28405! Nchan, Bamenda (fl. & fr. June) Maitland 1563! F. Po: Clarence Peak, 7,000 ft. Mann 280! (Dec.) Soughey GC 12685!

Also in [Congo](#) and [E. Africa](#).

3. *Pycnostachys pallide-caerulea* Perkins in Notizbl. Bot. Gart. Berl. 8: 67 (1921); E. A. Bruce l.c. 581. *APD acc*

[Br.] Cam.: Kumbo, Bansa Mts., 6,000 ft. (Oct.) Ledermann 5738!

4. *Pycnostachys schweinfurthii* Briq. in Engl. Bot. Jahrb. 19: 191 (1894); F.T.A. 5: 380; E. A. Bruce l.c. 586. *APD acc*

Pycnostachys togoensis Perkins (1921)-F.W.T.A., ed. 1, 2: 288.

Coleus urticaefolius (Hook. f.) Roberty in Bull. I.F.A.N. 16, 1: 330 (1954), partly.

A slender fast-growing often bushy annual herb up to 4 ft. high; [in marshy savanna](#).

Ghana: Dubwesein Chipp 621! Afram Plains Irvine 890! Yeji (Nov.) Morton A2704! Ejura (Dec.) Morton GC 9490! 9825! Yendi to Zabzugu (Dec.) Morton A1456! Kete Krachi to R. Volta (Jan.) Baumann 404! Krakye Krause!

Also in [Sudan](#) and [Tanganyika](#).

5. *Pycnostachys reticulata* (E. Mey.) Benth. in DC. Prod. 12: 83 (1848); F.T.A. 5: 382; E. A. Bruce l.c. 584. *APD acc*

Echinostachys reticulata E. Mey. (1837).

An erect half-woody, perennial herb with short spikes of blue flowers; [in marshy grassland](#).

[Br.] Cam.: Gurum, Vogel Peak area, Adamawa (Nov.) Hepper 1600!

Also in [East and Central Africa](#).

14. PLECTRANTHUS

L'Hérit. Stirp Nov. 1: 84 (1784); Morton in J. Linn. Soc. 58: 242 (1962). Nom. cons.

- | | | |
|---|--|---|
| 1 | Mature calyx small, 3-5 mm. long:..... | 2 |
| | Mature calyx large, 5-20 mm. long: | 7 |
| 2 | Flowers in sessile fascicles:..... | 3 |
| | Flowers not fascicled; inflorescence a panicle with the lateral branches dichotomous or racemose: | 5 |
| 3 | Inflorescence a dense broad panicle with lateral branches about 15 cm. long and 1 cm. broad; mature calyx 3 mm. long, upper lip triangular, slightly broader and shorter than the other lanceolate teeth; corolla 6 mm. long; leaves broadly ovate, about 6 cm. long and 5-5 cm. broad, truncate, obtuse, deeply and coarsely crenate with a | |

- dense soft pubescence on both surfaces [1. cyaneus](#)
- Inflorescence racemose: **4**
- 4** Mature calyx 3-4 mm. long, upper lip ovate, acute, median and lower teeth slightly longer, narrowly lanceolate-acuminate; corolla up to 5 mm. long; inflorescence branched below, up to 15 cm. long, 1 cm. broad; pedicels 4-5 mm. long, unbranched; leaves broadly ovate-triangular, 4 cm. long and broad, truncate to slightly cordate, long-petiolate, coarsely crenate, pubescent on both surfaces; stems with a long soft pubescence [2. hallii](#)
- Mature calyx 5-6 mm. long; corolla up to 1 cm. long; inflorescence up to 35 cm. long and 2-2.5 cm. broad; pedicels 10 mm. long; leaves 2.5-5 cm. long and broad, truncate to abruptly cuneate, subglabrous to pubescent; stems glabrous to shortly pubescent [3. assurgens](#)
- 5** Lateral branches of inflorescence with first node dichotomous, racemose above; inflorescence lax, up to 7 cm. broad; mature calyx 5 mm. long, upper lip ovate, teeth slightly exceeding it; corolla about 1 cm. long; leaves ovate, twice as long as broad, 3.5-7 cm. long, finely crenate, rounded cuneate at base into a short petiole up to 1/2 as long as the lamina, subglabrous [4. peulhorum](#)
- Lateral branches of inflorescence racemose: **6**
- 6** Stems pubescent, slender; leaves lanceolate, acute at apex, gradually cuneate at base, sessile or shortly petiolate, 0.5-6 cm. long, a third as broad, crenate, thinly pubescent; mature calyx 3-4 mm. long, upper lip triangular-acute, teeth subulate, subequal; corolla 8 mm. long [5. tenuicaulis](#)
- Stems covered with narrowly lanceolate brown scales 4-5 mm. long, stout; leaves ovate to ovate-lanceolate, acute, more or less acuminate, decurrent into a long petiole, up to 16 cm. long and 8 cm. broad, usually less, coarsely crenate, subglabrous above, appressed-puberulous on veins beneath; inflorescence a fairly dense terminal panicle about 20 cm. long and 6 cm. broad; pedicels very slender, about 3 mm. long, each with a minute bract; mature calyx similar to No. 5; corolla about 1 cm. long [6. harrisii](#)
- 7** Leafless at time of flowering: **8**
- Flowering stems leafy: **9**
- 8** Large woody undershrub; inflorescence a very lax ample racemose panicle with ultimate branches 15-30 cm. long or smaller and on the older wood; mature calyx 2 cm. long, teeth very unequal, lower long and subulate; corolla 2 cm. long; leaves narrowly obovate-elliptic, acuminate, gradually cuneate into a short petiole, 15-25 cm. long and 6-10 cm. broad, pubescent on the veins, finely serrate [7. insignis](#)
- Perennial herb with edible tuberous roots; inflorescence a much-branched panicle; mature calyx 8 mm. long; corolla 1.5 cm. long; leaves oblong-lanceolate, sessile, rounded at apex, entire to somewhat crenate, setulose on the veins beneath [8. esculentus](#)
- 9** Leaves cordate, not decurrent on the long petiole: **10**
- Leaves cuneate to truncate, decurrent on the petiole: **11**
- 10** Flowers fascicled on the main axis or on a very short common peduncle; inflorescence little-branched; leaves ovate, acutely acuminate, up to 11 cm. long and 9 cm. broad, evenly and coarsely crenate, crenations broader than deep, glandular-punctate and with long white articulate hairs on the veins of both surfaces; mature calyx 8 mm. long, with a long white pubescence; upper lip ovate, acute, lower teeth lanceolate acuminate, exceeding upper lip, middle teeth similar but a little shorter; whole plant densely pubescent with long white jointed more or less glandular hairs [9. kamerunensis](#)
- Flowers in pedunculate cymes on the main axis; inflorescence a much-branched lax pyramidal panicle; branches of cymes slender, elongate, pubescent, straight; leaves ovate, acutely acuminate, up to 15 cm. long and 13 cm. broad, with very uneven double or treble rather small crenations, glandular-punctate, subglabrous or pubescent on the veins; mature calyx 9 mm. long, upper lip ovate acute, lower teeth lanceolate, long-acuminate, much exceeding upper lip, middle teeth similar but shorter, glabrous or minutely puberulous on the veins, gland-dotted; whole plant densely pubescent with short glandular hairs [10. glandulosus](#)
- 11** Plants producing fusiform, densely brown-villose bulbils in the axils of the inflorescence and branches; leaves shortly petiolate, elliptic-lanceolate, cuneate at base, long-acuminate, about 7 cm. long and 3 cm. broad, coarsely crenate, rusty-pubescent on veins beneath, subglabrous above; inflorescences axillary and terminal, flowers in sessile fascicles; pedicels about 7 mm. long, puberulous; mature calyx glandular, about 7 mm. long, upper lip ovate, acute, teeth narrowly lanceolate, subequal, 1/4 to 1/3 of the length of the tube; corolla 1 cm. long, pubescent [11. luteus](#)
- Plant without bulbils in axils of branches: **12**
- 12** Leaves sessile or nearly so, ovate to ovate-lanceolate, obtuse to subacute, serrate-crenate; stems angular; inflorescence of several whorls, dense in flower, elongate in fruit; calyx with ovate upper lip and narrowly lanceolate upcurved teeth, pubescent and gland-dotted, exceeding the pedicels: **13**
- Leaves distinctly petiolate: **14**
- 13** Corolla about 7 mm. long; mature calyx 7-8 mm. long; leaves broadly ovate, 2-4 cm. long, 1.5-3 cm. broad, shortly petiolate; plant subglabrous to pubescent with short woolly hairs [12. punctatus subsp. punctatus](#)
- Corolla about 1.5 cm. long; mature calyx 8-10 mm. long; leaves ovate-lanceolate, up to 7.5 cm. long and 4 cm. broad, sessile; whole plant with a dense long woolly indumentum [12a. punctatus subsp. lanatus](#)
- 14** Mature calyx 5-6 mm. long (for other characters see above) [3. assurgens](#)

Mature calyx 8-10 mm. long: **15**

- 15** Leaves nearly as long as broad, ovate-rotund, abruptly cuneate, coarsely crenate, thin, 4-6 cm. long, glabrous above, thinly pubescent on the veins beneath; petiole about as long as lamina; inflorescence racemose, lax, simple; mature calyx about 8 mm. long, lower teeth long-acuminate, exceeding the others; corolla 1-1.5 cm. long, blue [13. dissitiflorus](#)

Leaves at least twice as long as broad, ovate-lanceolate, up to 16 cm. long and 7 cm. broad, gradually cuneate and decurrent on a long petiole, crenate-serrate, thin, subglabrous except for a short, brown pubescence on the veins; inflorescence elongate, racemose, lax; pedicels shorter than the mature calyx; mature calyx 9-10 mm. long, upper lip orbicular, teeth long-acuminate; corolla 10-15 mm. long, yellow [14. decurrens](#)

1. *Plectranthus cyaneus* Gürke in Engl. Bot. Jahrb. 19: 208 (1894); F.T.A. 5: 409. *APD acc*

A densely pubescent bushy herb with woody stems and copious panicles of small violet flowers.

[Br.] Cam.: Jada, Adamawa (Nov.) Hepper 1362!

Also in [Uganda](#), [Kenya](#) and [Tanganyika](#).

2. *Plectranthus hallii* J. K. Morton in J. Linn. Soc. 58: 267 (1962). *APD acc*

An erect annual branched delicate herb up to about 1 ft. high with loose spikes of very pale blue flowers; [under trees in rocky savanna](#).

[Ghana](#): Gambaga Scarp (fl. Sept., fr. Nov.) Hall 790! Morton A2749! A3791!

3. *Plectranthus assurgens* (Bak.) J. K. Morton l.c. 267(1962). *APD acc*

Coleus assurgens Bak. in F.T.A. 5: 428 (1900).

A much-branched, rather slender herb with long straggling stems thin subglabrous leaves and many-flowered whorls of bluish-purple flowers.

[S. Nig.](#): Mt. Koloishe, 5,000 ft., Obudu Div. (Dec.) Keay & Savory FHI 25067! [Br.] Cam.: path to Mann's Spring, 3,800 ft., Cam. Mt. (Dec.) Adams 1671! Morton K835! L. Oku, Bamenda (Jan.) Keay & Lightbody FHI 28508! [F. Po.](#): (Dec.) Monad 10427!

Also in [E. Africa](#).

4. *Plectranthus peulhorum* (A. Chev.) J. K. Morton l.c. 268 (1962). *APD acc*

Coleus peulhorum A. Chev. in Journ. de Bot. 12: 123 (1909); Bot. 519.

An erect annual herb 1-1 1/2 ft. high, with a rather slender, branched, thinly puberulous stem and pale blue flowers 1/3 in. long.

[Guin.](#): Fouta Djallon (Oct.) Chev. 18424! 18566! 18895! [N. Nig.](#): Jos Plateau (Sept.) Lely P741! Batten-Poole 167! [Br.] Cam.: Bafut-Ngemba F.R., 5,000-6,500 ft., Bamenda (Sept.-Nov.) Lightbody FHI 26263! Savory UCI 379!

5. *Plectranthus tenuicaulis* (Hook. f.) J. K. Morton l.c. 268 (1962). *APD acc*

Coleus tenuicaulis Hook. f. in J. Linn. Soc. 7: 211 (1864); F.T.A. 5: 443.

Plectranthus minimus Gürke (1894)-F.T.A. 5: 403; F.W.T.A., ed. 1, 2: 289.

A usually small erect, branched, slender pubescent herb 2-36 in. high with lax panicles of small blue flowers.

[Br.] Cam.: Cam. Mt., 6,000-7,500 ft. (fl. Sept-Dec., fr. Nov.-Jan.) Mann 1939! Preuss 1019! Morton K529! K716! K741! K846! Bamenda Dist. (fr. Dec.) Boughey GC 10585!

6 *Plectranthus harrisii* J. K. Morton l.c. 267, t. 5 (1962). *APD acc*

A stout, erect unbranched herb to 8 ft. high with perennial rootstock and narrow panicles of yellow flowers heavily suffused with purple; [in hill savanna and woodland at the forest edge](#).

[Ghana](#): Togo Plateau, 2,000 ft. (fl. Dec.-Jan.) Morton A3528! A3830! Adams 1842!

7. *Plectranthus insignis* Hook. f. in J. Linn. Soc. 7: 210 (1864); F.T.A. 5: 404. *APD acc*

A large shrub 10-15 ft. high, with soft wood and inflorescences in a very loose panicle or raceme; flowers yellow suffused with purple; usually leafless at time of flowering; **in montane forest**.

[Br.] Cam.: Cam. Mt., 6,000-7,000 ft. (Jan.-Dec.) Preuss 991! Dunlap 4! 51! Mann 1257! Morton K497! K697! Bafut-Ngemba F.R., Bamenda (Feb.) Hepper 2162!

8. **Plectranthus esculentus** *N. E. Br.* in Kew Bull. 1894: 12. *APD acc*

Coleus esculentus (*N. E. Br.*) *G. Tayl.* (1931).

C. dazo *A. Chev.* (1904)-Chev. & Perrot. in Vég. Util. Afr. Trop. Fr. 1: 126 (1905); F.W.T.A., ed. 1, 2: 292.

C. langouassiensis *A. Chev.* (1905)-Chev. Bot. 519.

Perennial with herbaceous erect stems, rather coarsely pilose with whitish hairs; flowers yellow 1/2-2/3 in. long; root elongated-tuberos; **often cultivated**.

Mali: Tangaye to Lozitenga, Mossi (July) Chev. 24579. **N. Nig.:** Bukuru, Jos (Jan.) Keay & Russell FHI 28448! [Br.]

Cam.: Kumbo (Feb.) Hepper 1975!

Also in **Angola**, **Ubangi-Shari**, **Congo** and extending to **Angola** and Natal.

9. **Plectranthus kamerunensis** *Gürke* in Engl. Bot. Jahrb. 19: 202 (1894); F.T.A. 5: 408; F.W.T.A., ed. 1, 2: 289. *APD acc*

Plectranthus mannii *Bak.* in F.T.A. 5: 408 (1900); F.W.T.A., ed. 1, 2: 289.

A straggling woolly herb with erect flowering branches some 3 ft. in height; flowers violet.

S. Nig.: Ikwette Plateau, 5,200 ft., Obudu Div. (Dec.) Keay & Savory FHI 25253! [Br.] **Cam.:** Cam. Mt. 3,000-4,000 ft. (Nov., Dec.) Mann 1947! Migeod 65! Morton K500! K705! path to Mann's Spring, 5,600 ft. (Dec.) Adams 1665! Morton K642! Bamenda (Jan., Mar.) Migeod 415! Boughey GC 10533! GC 10575! Morton K43! Bafut-Ngemba F.R. (Feb.) Hepper 2145!

10. **Plectranthus glandulosus** *Hook. f.* in J. Linn. Soc. 6: 17 (1861); F.T.A. 5: 411. *APD acc*

APD: *Synonym of Solenostemon autranii (Briq.) J. K. Morton*

Plectranthus hylophilus *Gürke* (1894)-F.T.A. 5: 413.

Plectranthus urticoides *Bak.* in F.T.A. 5: 412 (1900); F.W.T.A., ed. 1, 2: 289.

Plectranthus almamii *A. Chev.* (1909)-Chev. Bot. 516.

C. laxiflorus (*Benth.*) *Roberty* in Bull. I.F.A.N. 16, 1: 331 (1954), partly.

A coarse scrambling to erect glandular strongly aromatic herb up to 10 ft. high with copious loose panicles of violet flowers; **in openings in the montane forest and amongst scrub**.

Mali: Nianguere (Mar.) Adam 11606! Madina Tossékéré (Mar.) Adam 11722! **Guin.:** Fouta Djallon (Sept.) Chev. 18609!

N. Nig.: Jos Plateau (Sept.) Lely P722! **S. Nig.:** Mt. Koloishe, 4,800 ft. Obudu Div. (Dec.) Keay & Savory FHI 25122!

[Br.] **Cam.:** Cam. Mt., 5,000 ft. Morton GC 6908! K946! K719! K893! Mann's Spring, 7,200 ft. (Dec.-Mar.) Preuss 815!

Mann 2029! Bamenda (Jan., Mar.) Morton K185! Keay & Lightbody FHI 28379! Maisamari, 4,600 ft., Mambila Plateau

(Jan.) Hepper 1680! Vogel Peak, 4,900 ft. (Dec.) Hepper 1561! **F. Po:** (Dec., Mar.) Guinea 2966! Mann 318! Monod

10429! Boughey 11! 178!

11. **Plectranthus luteus** *Gürke* in Engl. Bot. Jahrb. 28: 468(1900); F.T.A. 5: 524.

APD: *Synonym of Plectranthus melleri Baker*

Coleus luteus (*Gürke*) *Staner* (1934)

Coleus entebbensis *S. Moore* (1906).

A branched woody herb, about 3 ft. high, with orange-yellow flowers 1 cm. long.

Lib.: Mt. Wologwisi, 4,500 ft., Pandonai (Dec.) Bequaert 105!

Also in **Congo** and **E. Africa**.

12. **Plectranthus punctatus** *L'Hérit. subsp. punctatus* -Stirp. Nov. 87, t. 42 (1784). *APD acc*

Coleus glandulosus *Hook. f.* in J. Linn. Soc. 7: 211 (1864); F.T.A. 5: 425; F.W.T.A., ed. 1, 2: 292.

An erect, glandular-pubescent herb about 1 ft. high; flowers bluish-purple, small; [in montane grassland](#).

[Br.] Cam.: Cam. Mt., 2,700-7,000 ft. (Nov., Dec.) Mann 1301! 1988! Mann's Spring, 7,500 ft. (Apr., Dec.) Boughey GC 10691! Morton GC 6796! K594! F. Po: summit grassland (July) Boughey GC 10968!

12a. *Plectranthus punctatus* subsp. *lanatus* J. K. Morton in J. Linn. Soc. 58: 268, t. 14 (1962). *APD acc*

Larger than the type subspecies, with large showy, royal-blue flowers.

[Br.] Cam.: Bamenda Prov.: Bambui, 6,300 ft. (Dec.) Adams GC 11322! Bamenda, 6,000ft (June) Maitland 1724! Ndu, Banso (Sept.) Savory UCI 386! ridge N. of L. Oku (Jan.) Keay & Lightbody FHI 28464!

[Similar to the E. African *Coleus edulis* Vatke which has tuberous roots and is subglabrous.]

13. *Plectranthus dissitiflorus* (Gürke) J. K. Morton l.c. 267 (1962). *APD acc*

Coleus dissitiflorus Gürke in Engl. Bot. Jahrb 19: 217 (1894); F.T.A. 5: 444; F.W.T.A., ed. 1, 2: 292.

A perennial herb with glandular-pubescent stems up to 3 or 4 ft, long and blue-purple flowers 3/4 in. long.

[Br.] Cam.: Buea to Bimbia (fl. & fr. Oct.) Preuss 1055!

14. *Plectranthus decurrens* (Gürke) J. K. Morton l.c. 267 (1962). *APD acc*

Coleus decurrens Gürke l.c. 215 (1894); F.T.A. 5: 427; F.W.T.A., ed. 1, 2: 292.

C. elatus Bak. in F.T.A. 5: 427 (1900).

A herb up to 6 ft. high, with pubescent stems and large leaves: flowers either red or yellowish, about 1/2 in. long.

S. Nig.: Oban Talbot 369! [Br.] Cam.: near Buea, 3,000 ft. (fl. & fr. Sept.) Preuss 948! Northern Korup F.R., Kumba (July) Olorunfemi FHI 30688! F. Po: (Dec.) Mann 584!

Extends to Gabon.

15. HOMALOCHEILOS

J. K. Morton in J. Linn. Soc. 58: 268 (1962).

- 1 Inflorescence a panicle of many-flowered dichotomous cymes borne in the axils of leafy bracts; stems straggling, square, pubescent; leaves ovate, rounded to cuneate at base, acute at apex, up to 7 cm. long and 4 cm. broad, crenate, thinly pubescent and dark-green above, densely pubescent, gland-dotted and pale-green beneath, distinctly petiolate; calyx densely pubescent, 4 mm. long, tube declinate, ventricose, teeth subequal, short, triangular; corolla 5 mm. long, upper lip very small, recurved, lower lip small, almost flat, deflexed in flower [ramosissimus](#)

***Homalocheilos ramosissimus* (Hook. f.) J. K. Morton** l.c. 268, t. 6 (1962).

*APD: Synonym of *Isodon ramosissimus* (Hook. f.) Codd*

Plectranthus ramosissimus Hook. f. in J. Linn. Soc. 6: 17 (1862); F.T.A. 5: 418; F.W.T.A., ed. 1, 2: 289.

Coleus ramosissimus (Hook. f.) Roberty in Bull. I.F.A.N. 16, 1: 330 (1954), partly.

A straggling to erect herb, with sharply angled pilose stems up to 12 ft. long and copious glandular-pubescent inflorescences of small white flowers with mauve marks in the throat of the corolla.

S. L.: Loma Mt. Jaeger 1628! S. Nig.: Koloishe Mt., 5,000 ft., Obudu Div. (Dec.) Keay & Savory FHI 25074! [Br.] Cam.: Cam. Mt., 7,000-7,500 ft. (Jan., Apr.) Dunlap 213! Mann 1320! Morton GC 7099! Bamenda, 7,000 ft. (Jan., Mar.) Morton K138! Keay & Lightbody FHI 28367! Mambila Plateau (Jan.) Hepper 1675! Vogel Peak, Adamawa (Nov.) Hepper 1551! F. Po: (Mar., Dec.) Monod 10430! Guinea 1266! 1979!

Also on the [Sudan-Uganda border](#) and in [S. Rhodesia](#).

16. LEOCUS

A. Chev. in Journ. de Bot., sér. 2, 2: 125 (1909), incl. Briquetastrum Robyns & Lebrun in Ann. Soc. Sci. Brux., sér. B, 49, Mém. 102 (1929).

- 1 Erect more or less unbranched herb with quadrangular pubescent stems bearing a single terminal inflorescence, leafless above the middle; leaves lyrate-oblongate, crenate above and entire below the middle, acute, more or less auricled on the stem, about 10 cm. long, 3-4 cm. broad, densely crispate-pubescent beneath especially on the veins, setose above; inflorescence dense, cylindrical about 6 cm. long and 1-7 cm. broad, bracts small, inconspicuous, lanceolate, caducous; calyx purple, pubescent, prominently veined, 6 mm. long in fruit, tube bulbous, rotund, equalling the 4 lanceolate shorter teeth, upper tooth larger, narrowly lanceolate, acuminate; corolla pubescent, 8 mm. long [1. lyratus](#)
- Shrubby plants with woody stems; leaves lanceolate to ovate, distinctly petiolate; inflorescences several to numerous, terminal on the branches, cylindrical with conspicuous ovate to rotund apiculate or acuminate bracts at least when in bud, bracts often caducous in flower: [2](#)
- 2 Leaves oblong-lanceolate slightly cuneate at base, about 15 cm. long and 4 cm. broad, undulate-crenate, puberulous above, softly tomentellous and closely reticulate beneath; petiole 1-2 cm. long; stems grooved, softly tomentellous; inflorescence of 3 long-pedunculate cylindrical spikes 6-10 cm. long, 1-5-2-5 cm. broad, bracteate in bud; calyx campanulate, with the adaxial lip large, oblong-elliptic, forming a hood over the other 4 small ovate teeth, nervose; corolla 6 mm. long, tomentellous [2. africanus](#)
- Leaves ovate: [3](#)
- 3 Bracts persistent, membranous, 1-2 cm. diam., rotund, apiculate; calyx 6 mm. long, teeth narrowly lanceolate, acuminate, shortly scabrid-pubescent, stems stout woody, terete, tomentellous when young; leaves ovate, serrate, cuneate and petiolate at base, obtuse at apex, about 8 cm. long and 4-5 cm. broad, thinly pubescent above, tomentellous and gland-dotted beneath; plant leafless when in flower [3. membranaceus](#)
- Bracts caducous at time of flowering, not membranous, ovate-lanceolate, acuminate; calyx prominently veined, about 4-5 mm. long in fruit, tube longer than broad, exceeding the long-lanceolate upper tooth, other teeth short and triangular; corolla pubescent; leaves ovate to ovate-triangular acutely acuminate or obtuse, rounded at base, distinctly petiolate, about 8 cm. long and 5 cm. broad, coarsely crenate, finely tomentellous on both surfaces, whitish beneath: [4](#)
- 4 Corolla 7-10 mm. long; calyx rather thinly and shortly pubescent [4. caillei](#)
- Corolla about 15 mm. long; calyx villose-tomentose [5. pobeguini](#)

1. Leocus lyratus **A. Chev.** in Journ. de Bot., sér. 2, 2: 126 (1909); Chev. Bot. 520.

APD: *Synonym of Plectranthus betonicifolius Baker*

Coleus lyratus (**A. Chev.**) **Roberty** in Bull. I.F.A.N. 16, 1: 330 (1954).

An erect perennial herb, about 3 ft. high, with dense terminal spike-like inflorescences of bluish-purple flowers.

Guin.: Dalaba-Diaguissa Plateau, 3,000-4,000 ft. (Sept.-Oct.) Chev. 18824! Tinka Mt., 4,000 ft., Dalaba (Sept.) Chev. **S. L.:** Loma Mt. (Sept.) Jaeger 1879! Warantamoa (Oct.) Small 348! Musaia (Sept.) Small 245! Falaba (Sept.) Deighton 5168!

Also in **N. & S. Rhodesia**.

2. Leocus africanus (**Bak. ex Sc. Elliot**) **J. K. Morton** in J. Linn. Soc. 58: 270 (1962).

APD: *Synonym of Plectranthus africanus (Baker ex Scott-Elliot) A.J. Paton*

Anisochilus africanus **Bak. ex Sc. Elliot** in J. Linn. Soc. 30: 94 (1 Feb. 1894); F.T.A. 5: 446; Chev. Bot. 521; F.W.T.A., ed. 1, 2: 292.

A. engleri **Briq.** in Engl. Bot. Jahrb. 19: 190 (13 Apr. 1894).

Geniosporum congoense **Gürke** (1900), name only.

Briquetastrum africanum (**Bak. ex Sc. Elliot**) **Robyns and Lebrun** (1929).

Coleus africanus (**Bak. ex Sc. Elliot**) **Roberty** l.c. (1954).

A woody perennial herb of **savanna swamps**, 4-5 ft. or more in height, dull ochrey-pubescent, with pale blue flowers arranged in dense cylindrical spikes.

Guin.: Télimélé (Apr.) Pitot T51-873! Dalaba fide Roberty. Faranna (Jan.) Chev. 20411! 20442! **S. L.:** Lomaburn (Feb.) Sc. Elliot 5033! near Koinadugu (Dec.) Glanville 457! Kiridoy to Kamaro (Jan.) Jaeger 3897! **N. Nig.:** Kontagora (Nov.) Dalz. 133! Meikle 1087! Vom Dent Young 213! Rafin Bauna North F.R., Jos (Oct.) Hepper 1187! **S. Nig.:** Koloishe Mt.,

5,000 ft., Ogoja Prov. (Dec.) Keay & Savory FHI 25134! [Br.] Cam.: Buea (May) Mildbr. 9483! Mai-Idoanu, Adamawa (Jan.) Latilo & Daramola FHI 28984! Mambila Plateau (Jan.) Hepper 1649!

Also in Cameroun, Ubangi-Shari, Chad, Congo and Uganda.

3. *Leocus membranaceus* J. K. Morton l.c. 270, t. 7 (1962).

APD: *Synonym of Plectranthus humulopsis* B. J. Pollard

An aromatic bush several feet high, with thick, rather succulent stems, bearing many terminal spike-like inflorescences of pale blue flowers with large whitish or purple bracts; in rock crevices in savanna country.

Guin.: Mali (fl. Jan., fr. Apr.) Adam 12174! Roberty 16533! Mt. Loura, 4,700 ft., Fouta Djallon (fr. June) Adam 14526! Iv. C.: Pouake, Mt. Lemelebou Chev. 22103! Ghana: Kintampo (fl. Dec.-Jan., leaf Apr.-June) Morton A2585! Akpabla 1942! N. Nig.: near Zaria Keay FHI 28025! Meikle 1141! Anara F.R., Zaria (May) Keay FHI 22922! Naraguta Hills (Dec.) Coombe 8! Ropp (leaf May-July) Keay & King FHI 37103! S. Nig.: Carter's Peak, Idanre (fl. Jan., leaf Oct.) Brenan 8639! Keav FHI 22651!

4. *Leocus caillei* (A. Chev. ex Hutch. & Dalz.) J. K. Morton l.c. 270 (1962).

APD: *Synonym of Plectranthus caillei* (A. Chev. ex Hutch. & Dalziel) B. J. Pollard

Coleus caillei A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 292 (1931); Chev. Bot. 518, name only.

A stout erect undershrub, 2-3 ft. high with dense oblong spikes of bright blue flowers.

Guin.: Longuery (Dec.) Caille in Hb. Chev. 14864! S. L.: Bintumane, 5,000 ft. (Jan.) Glanville 477! N. Nig.: Naraguta (Oct.) Hepper 1170! Sara Hills, Bauchi Div. (Oct.) Hepper 1128! Kadun Peak, Pankshin Div. (Oct.) Wimbush 17! [Br.] Cam.: Vogel Peak, Adamawa (Nov.) Hepper 1553!

5. *Leocus pobeguinii* (Hutch. & Dalz.) J. K. Morton l.c. 270 (1962). APD acc

Coleus pobeguinii Hutch. & Dalz. F.W.T.A., ed. 1, 2: 292 (1931).

A stout undershrub with woody stems 1/4 in. thick and 3-6 ft. high; flowers rich bluish-purple in dense oblong heads about 1 in. long, forming a stiff, branched panicle.

Guin.: Kouroussa (Oct.) Pobéguin 556! 996! Mali to Kédougou, Fouta Djallon (fr. June) Adam 14443! S. L.: Glanville 385!

17. SOLENOSTEMON

APD: *Synonym of Plectranthus L'Hér.*

Thonning-F.T.A. 5: 420; Morton in J. Linn. Soc. 58: 251 (1962).

- 1 Median teeth of calyx deltoid, not acuminate;2
Median teeth of calyx lanceolate, acute or acuminate:4
- 2 Inflorescence a terminal umbellate cyme of about 4-6 short racemes 3-4 cm. long; calyx 6 mm. long, upper lip ovate-rotund, decurrent, lower lip exceeding upper with 2 very long mucronate curved teeth, median lobes lanceolate blunt short; stems creeping, pubescent; leaves long-petiolate, broadly ovate, 2-3 cm. long and broad, obtuse, cuneate, coarsely crenate, thin, setose-pubescent [1. repens](#)
Inflorescence pseudo-racemose, paniculate or spicate, not umbellate:3
- 3 Plant perennial producing numerous underground edible tubers 1-6 cm. long; inflorescence narrow, about 1 cm. broad, elongate and lax; mature calyx 2-3 mm. long, upper lip ovate, lower lip oblong with 2 small teeth, median teeth very small and triangular; corolla 4-8 mm. long; leaves thick, half-succulent, ovate, up to 6 cm. long and 4 cm. broad, shallowly crenate, cuneate into a petiole, shortly pubescent, gland-dotted beneath [2. rotundifolius](#)
Plant annual not producing underground tubers, roots fibrous; erect or creeping herb, subglabrous to long-pubescent; inflorescence lax, interrupted, elongate, up to 30 cm. long in fruit and 1-2.5 cm. broad; corolla 7-15 mm. long; mature calyx 3-6 mm. long, upper lip broadly ovate, lower lip strap-shaped with 2 sharp teeth, exceeding upper, median lobes deltoid-rotund; leaves thin to somewhat fleshy, linear-lanceolate to ovate,

- truncate to cuneate, 1.5-8 cm. long and 1-5 cm. broad, crenate, long-petiolate [3. latifolius](#)
- 4 Pedicels much exceeding mature calyx, often branched: 5
- Pedicels about equalling the mature calyx: 8
- 5 Lower surface of leaves obscured by a dense even felt of hairs, upper surface with dense tufts of hairs obscuring all but the veins; leaves broadly triangular-ovate, 3-4 cm. long, cuneate at base; inflorescence elongate, lax, simple, about 30 cm. long, few-flowered, cymes stalked, distant; mature calyx 4 mm. long, lower lip ovate, emarginate; corolla 10-14 mm. long [4. koualensis](#)
- Lower surface of leaves pubescent to glabrous, not obscured by hairs: 6
- 6 Leaves lanceolate, somewhat fleshy, 2-8 cm. long, 1/2-3 cm. broad, acute, gradually cuneate at base, almost sessile, dentate except towards base, thinly puberulous above and on the veins beneath; annual erect bushy herb; inflorescence lax, 1-15 cm. long, 3-5 cm. broad; mature calyx globose, about 5 mm. diam., tube very short, upper lip very broadly ovate, lower emarginate; corolla about 7 mm. long [5. chevalieri](#)
- Leaves ovate; perennial herbs: 7
- 7 Small herb 10-30 cm. high with decumbent stem bases and thick fleshy leaves; leaves 1-2.5 cm. long, 7-15 mm. broad, triangular, bluntly acute, coarsely crenate, with a broad cuneate base and a short petiole, gland-dotted and pubescent on the veins beneath, thinly pubescent above; inflorescence 5-15 cm. long, rather dense, fascicles of flowers sessile, pedicels simple; mature calyx 3-5 mm. long, pubescent, both lips rotund, upper shortly apiculate; corolla 1-1.5 cm. long [6. decumbens](#)
- Large climbing or bushy herbs; leaves thin to fleshy, completely subglabrous to densely pubescent on the veins beneath, ovate, 4-15 cm. long, crenate, acutely acuminate, long-petiolate, cuneate at base; inflorescence rather dense, copiously flowered, 3-4 cm. broad and up to 25 cm. or more long in fruit; calyx 4-5 mm. long, puberulous, upper lip ovate, lower slightly emarginate; corolla 1-5 cm. long [7. manni](#)
- 8 Leaves linear, about 8 cm. long and 5 mm. broad, sessile, dentate, scabrid above, appressed-pubescent on the veins beneath and gland-dotted; stems wiry, 4-angled, thinly appressed-pubescent; inflorescence simple, elongate, lax; bracts ovate, acuminate, about 3 mm. long, caducous; pedicels puberulous, shorter than the mature calyx; mature calyx inflated, thin and papery, about 5 mm. long and 3-7 mm. broad, thinly puberulous and gland-dotted; corolla 6-8 mm. long [8. linearifolius](#)
- Leaves lanceolate, ovate, or rotund: 9
- 9 Leaves rugose, densely pubescent, especially on the veins beneath, thick; perennials; stems rounded quadrangular, tomentose: 10
- Leaves not rugose: 11
- 10 Erect bushy woody herb 1 m. or more high; leaves ovate, acute, subsessile; inflorescence dense, long and spicate, subcontiguous even in fruit, 15-40 cm. long, 1-5 cm. broad, bracts ovate-acuminate about 5 mm. long, reflexed in flower, persistent until fruit is mature; pedicels often branched at base; mature calyx 4-4.5 mm. long, pubescent and gland-dotted, lips divergent, upper ovate slightly apiculate, lower oblong emarginate; corolla 10-12 mm. long, lower lobe 5 mm. broad [9. graniticola](#)
- Stems decumbent forming a mat over rocks; flowering shoots erect 30-40 cm. high; leaves ovate to ovate-rotund, obtuse, about 3 cm. long and 2 cm. broad, petiolate; inflorescence whitish-pubescent when young, dense in flower but elongate and interrupted in fruit, 10-30 cm. long, 1 cm. broad, bracts slightly broader than above and caducous as the flower opens; pedicels simple; mature calyx as above but 3-3.5 mm. long; corolla about 7 mm. long, lower lobe 3 mm. broad [11c. monostachyus subsp. marrubiifolius](#)
- 11 Small creeping herb with decumbent branched stems pubescent on the angles; leaves ovate-triangular, acutely acuminate, 1.5-3 cm. long, 1-2.5 cm. broad, coarsely crenate, with purple blotch in centre, pubescent on both surfaces, cuneate into a petiole almost equal to the lamina; inflorescence fairly dense, elongate, 10-25 cm. long, up to 2 cm. broad; mature calyx 3 mm. long, reticulate, lower lip oblong-rotund, median teeth small and acute, upper lip exceeding lower, ovate; corolla about 7 mm. long. [10. minor](#)
- More or less erect, sometimes bushy herbs, not creeping: 12
- 12 Inflorescence dense in flower, subcontiguous in fruit, with large persistent broadly ovate-acuminate bracts which are reflexed in flower, about 1 cm. long and broad or larger; corolla 10-15 mm. long, lower lip about 9 mm. long and 3 mm. broad; mature calyx 6 mm. long; stems stout woody, erect, shortly crispate pubescent; leaves coriaceous, ovate 8-12 cm. long, 4-5-7 cm. broad, cuneate into a short petiole 1-2 cm. long, finely and thinly appressed-puberulous above, densely and shortly crispate-pubescent on the veins beneath [11b. monostachyus subsp. lateriticola](#)
- Inflorescence rather dense in flower but elongate and interrupted in fruit, bracts about 5 mm. long, lanceolate, usually caducous in flower; corolla 5-10 mm. long, lower lip up to 6 mm. long and 2 mm. broad; mature calyx 4-5 mm. long; stems slender or stout and fleshy, erect and bushy or decumbent at base; leaves thin to somewhat succulent, petiole exceeding half length of lamina: 13
- 13 Annual herb with rather fleshy acutely angled stems; leaves broadly ovate, usually obtuse, sharply cuneate and long-petiolate at base, up to 10 cm. long and 8.5 cm. broad, thin, coarsely crenate, shortly pubescent above and on the veins beneath; inflorescence 5-40 cm. long, 1.5-1.7 cm. broad in fruit; mature calyx 4-5 mm. long, pubescent; corolla about 5 mm. long [11. monostachyus subsp. monostachyus](#)

Perennial herb with small tuberous stem-base; leaves lanceolate to ovate-lanceolate up to 9 cm. long and 5 cm. broad, bluntly acute, abruptly cuneate into petiole as long as the lamina, somewhat fleshy, subglabrous apart from a minute pubescence on the veins; inflorescence very elongate and lax, 20-50 cm. long, 1-2 cm. broad, whorls distant; corolla about 9 mm. long *Ila. monostachyus subsp. perennis*

1. *Solenostemon repens* (Gürke) J. K. Morton in J. Linn. Soc. 58: 272 (1962).

APD: *Synonym of Plectranthus epilithicus B. J. Pollard*

Coleus repens Gürke in Engl. Bot. Jahrb. 19: 213 (1894); F.T.A. 5: 439; F.W.T.A., ed. 1, 2: 292.

C. carnosus A. Chev. in Journ. de Bot., sér. 2, 2: 125 (1909), incl. var. *lamiifolius* A. Chev. Bot. 518.

A small creeping herb a few inches high, with lax cymes of greenish-white flowers; **in dense wet forest particularly on rocks and decaying tree-trunks.**

Guin.: Fassakoidou (Feb.) Chev. 20806! Nzo Mts. (Mar.) Chev. 21077! **S. L.:** Baoma (Dec.) Deighton 8806! **Lib.:** Ganta to Sanokwele (Sept.) Baldwin 13262! **Iv. C.:** Davo to Gaouloubre (May) Chev. 17985 bis! Moyen-Cavally (June-July) Chev. 19221! 19254! 19403! **Ghana:** Begoro waterfall (Nov.) Morton A43! Akim (Dec.) Johnson 787! Puso Puso Ravine, Kibbi (Dec.) Morton GC 8216! [**Br.**] **Cam.:** near Buea, 4,000 ft. Preuss 949! **F. Po:** Moka (Dec.) Boughey 75!

2. *Solenostemon rotundifolius* (Poir.) J. K. Morton l.c. 272 (1962). APD acc

Germanea rotundifolia Poir. (1812).

Coleus rotundifolius (Poir.) A. Chev. & E. Perrot. in Vég. Util. Afr. Trop. Fr. 1: 101, 119 (1905); Chev. Bot. 520, incl. var. *nigra* A. Chev.

C. dysentericus Bak. in Kew Bull. 1894: 10; F.T.A. 5: 437; F.W.T.A., ed. 1, 2: 292.

C. salagensis Gürke (1894).

Plectranthus coppinii Cornu (1901).

Coleus pallidiflorus A. Chev. (1909)-Chev. Bot. 519.

An erect nearly glabrous half-succulent herb with square stems, branched at base, tuberous roots and tiny blue flowers 4-5 mm. long; **cultivated in the drier savanna areas.**

Sen.: Casamance (Feb.) Chev. 2813! **Guin.:** Kouria (Nov.) Caille in Hb. Chev. 14878! Camayenne (June) Chev. 4418! Kouria (Nov.) Chev. 14838; 14858. Conakry (Oct.) Chev. 18908! **Iv. C.:** Upper Sassandra (May) Chev. 21532! **Ghana:** Johnson 794! Director of Agric. 1912! Salaga, cult. (Oct.) Morton! **N. Nig.:** (Dec.) Lamb 67! Lokoja (Nov.) Dalz. 103! **S. Nig.:** Yoruba country Barter 846!

3. *Solenostemon latifolius* (Hochst. ex Benth.) J. K. Morton l.c. 271 (1962).

APD: *Synonym of Plectranthus bojeri (Benth.) Hedge*

Coleus latifolius Hochst. ex Benth. in DC. Prod. 12: 74 (1848); F.T.A. 5: 437.

C. copiosiflorus Briq. (1917)-Chev. Bot. 519.

C. phymatodes Briq. (1917)-Chev. Bot. 520.

C. splendidus A. Chev. in Journ. de Bot., sér. 2, 2: 122 (1909).

C. djalonsensis A. Chev. l.c. 123 (1909).

C. peulhorum var. *violacea* A. Chev. l.c. 124 (1909); Chev. Bot. 519, 520.

C. laxiflorus (Benth.) Roberty in Bull. I.F.A.N. 16, 1: 331 (1954), partly.

Plectranthus bongensis Baker in F.T.A. 5: 410 (1900).

An erect, or rarely creeping, branched annual herb up to 3 ft. high with cylindrical inflorescences of violet flowers; **amongst rocks.**

Mali: Koulikoro (Oct.) Chev.! **Guin.:** Bilima (Sept.) Caille in Hb. Chev. 15042! Fouta Djallon (Sept.-Oct.) Chev. 18274! 18297! 18327! 18895! Schnell 7019! Kita massif (Oct.) Jaeger 32! **S. L.:** Kabala, 2,000 ft. (Apr.) Glanville 254! 359! Falaba (Sept.) Deighton 5167! Warantamba Fotombu (Oct.) Small 369! 381! Musaia (Aug.) Deighton 5130! **Iv. C.:** Nimba Mts., 2,000 ft. (Aug.) Boughey GC 18145! Roberty 3108! Schnell 6238! **Ghana:** Banda, N.W. Ashanti (Nov.) Harris! Gambaga Scarp (fl. Sept., fr. Nov.) Hall 789! Morton! Bongo Hills, Bolgatanga (fr. Nov.) Morton! **N. Nig.:** Naraguta to Jos (fl. Sept., fr. Oct.) Lely 575! Hepper 1076! [**Br.**] **Cam.:** Bamenda Ujor FHI 29985!

Widespread in tropical Africa.

Very variable and probably containing several taxa.

4. *Solenostemon koualensis* (A. Chev. ex Hutch. & Dalz.) J. K. Morton l.c. 270 (1962).

APD: Synonym of Plectranthus koualensis (A. Chev. ex Hutch. & Dalziel) B. J. Pollard & A.J. Paton

Coleus koualensis A. Chev. Bot. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 291 (1931); Chev. Bot. 519, name only.

A slender erect plant with woody stems 2-3 ft. high and blue flowers.

Iv. C.: Mt. Dourou, summit 3,400 ft., Upper Sassandra (May) Fleury in Hb. Chev. 21715!

5. Solenostemon chevalieri Briq. in Mém. Soc. Bot. Fr. 2, 8: 286 (1917); Chev. Bot. 517.

APD: Synonym of Plectranthus chevalieri (Briq.) B. J. Pollard & A.J. Paton

Coleus nigericus A. Chev. Bot. 519, name only.

An erect, branched annual herb about 1 ft. high with broad inflorescences of small pale violet flowers.

Mali: Niokolo-Koba (fr. Oct.) Adam 15608! Koulikoro (Oct.) Chev. 2779!

6. Solenostemon decumbens (Hook. f.) Bak. in F.T.A. 5: 421 (1900).

APD: Synonym of Plectranthus decumbens Hook. f.

Plectranthus decumbens Hook. f. (1864).

A small aromatic herb with ascending flowering shoots and decumbent stems: flowers pale blue.

[Br.] Cam.: Cam. Mt., 7,000-8,000 ft. (Nov.-Jan.) Johnston 79! Maitland 923! Mann 2002! Boughey GC 10624! Morton K740! K583! Bamenda, in bamboo thicket, 7,500 ft. (fr. Apr.) Morton K218!

7. Solenostemon mannii (Hook. f.) Bak. in F.T.A. 5: 422 (1900).

APD: Synonym of Plectranthus occidentalis B. J. Pollard

Coleus mannii Hook. f. (1864).

Solenostemon cymosus Bak. in F.T.A. 5: 422 (1900); F.W.T.A., ed. 1, 2: 290.

A herbaceous or somewhat woody perennial **growing in wet forest or amongst scrub at higher altitudes**, with climbing or erect and bushy square stems and long, rather dense racemes of rich bluish-purple flowers.

S. L.: Linbaia, near Falaba (Oct.) Small 429! **Lib.:** Sanokwele (Sept.) Baldwin 9517! **Ghana:** Begoro (Nov.) Morton A45! Kibbi (Dec.) Morton GC 8217! **S. Nig.:** Sonkwala, 1,000 ft., Obudu (Dec.) Carpenter 713! Ikom (Dec.) Keay FHI 28175! **[Br.] Cam.:** Cam. Mt., 1,000-4,500 ft. (Nov.-Dec.) Mann 1251! 1967! Morton K891! Maitland 137! Bamenda, 3,600-6,500 ft. (fl. Dec., fr. Apr.) Boughey GC 1126! Morton K240! Keay & Lightbody FHI 28364! **F. Po:** Boughey!

[The erect bushy forms represented by Morton K240 and Keay & Lightbody FHI 28364 may be distinct.]

8. Solenostemon linearifolius J. K. Morton in J. Linn. Soc. 58: 271, photo. 2 (1962).

APD: Synonym of Plectranthus linearifolius (J. K. Morton) B. J. Pollard & A.J. Paton

An erect annual herb about 1 ft. high with whorls of violet flowers in lax erect racemes.

Guin.: Diendiou (Mar.) Pobéguin 1920!

9. Solenostemon graniticola A. Chev. in Journ. de Bot., sér. 2, 2: 121 (1909); Chev. Bot. 517.

APD: Synonym of Plectranthus monostachyus subsp. marrubifolius (Brenan) B. J. Pollard

APD: Synonym of Plectranthus saxicola B. J. Pollard & A.J. Paton

Solenostemon monostachyus var. **graniticola** (A. Chev.) Brenan in Kew Bull. 5: 231 (1950).

A densely whitish pubescent rather fleshy shrub about 3 ft. high with showy dense inflorescences of large purple flowers; **on granite rocks**.

Lib.: Zwedru (Aug.) Baldwin 7068! **Iv. C.:** Mt. Nienokue (July) Chev. 19469! Issa, Daloa to Abidjan (Dec.) Boughey GC 13598! GC 14708!

10. *Solenostemon minor* J. K. Morton l.c. 271 (1962).

*APD: Synonym of *Plectranthus decumbens* Hook. f.*

A creeping herb, rooting at the nodes and tuberous at the base; flowering stems 6-18 in. high; flowers purple; **on wet granite rocks**.

N. Nig.: W. Kagoro Hills, 3,700 ft., Jos Plateau (Aug.) Killick 15! **S. Nig.:** Mt. Koloishe, 5,500 ft., Obudu Div. (Dec.) Keay & Savory FHI 25086!

11. *Solenostemon monostachyus* (P. Beauv.) Briq. subsp. *monostachyus*-in E. & P. Pflanzenfam. 5, 3A: 359 (1897); Chev. Bot. 517; Morton in Bull. Soc. Bot. Fr. 104: 164 (1957) (fig. citations reversed).

*APD: Synonym of *Plectranthus monostachyus* (P. Beauv.) B. J. Pollard subsp. *monostachyus**

Ocimum? monostachyum P. Beauv. Fl. Oware 2: 60, t. 95, fig. 1 (1818).

Solenostemon ocymoides Schum. & Thonn. (1827)-F.T.A. 5: 420; Chev. Bot. 518; F.W.T.A., ed. 1, 2: 290.

Solenostemon ocymoides var. **monostachyus** (P. Beauv.) Bak. in F.T.A. 5: 421 (1900).

An erect, branched, pubescent, annual weedy herb with long rather dense inflorescences of small, pale violet flowers; frequently with a purple blotch in the centre of the leaves. Diploid.

Sen.: Unknown collector! **Mali:** Penia, (May) Chev. 825. Mossi (Aug.) Chev. 24621. **Port. G.:** Gabu (Oct.) Esp. Santo 3403! **Guin.:** Conakry (Oct.) Adam 12579! Kaba (May) Chev. 13169. Longuery Caille in Hb. Chev. 14624. **S. L.:** Heddles Farm, Freetown Sc. Elliot 3908! **Lib.:** Monrovia Barker 1459! Cape Palmas (Aug.) Hale 122! Buchanan (Nov.) Adam 16038! **Iv. C.:** Abidjan Chev. 15359; 15484; 15567; 15598. **Ghana:** Aburi (Sept.) Morton GC 9274! Amedzofe (Oct.) Morton A1996! Achimota (Mar.) Morton A1944! **Dah.:** Cotonou (July) Chev. 4493. **N. Nig.:** Lokoja Parsons 29! **S. Nig.:** Lagos (Sept.) Dawodu 27! Ibadan Newberry 64! **[Br.] Cam.:** Victoria (Dec.) Morton K690! Kumba Hutch. & Metcalfe 156! **F. Po:** Mann 404!

Widespread in tropical Africa.

11a. *Solenostemon monostachyus* subsp. *perennis* J. K. Morton l.c. 272 (1962).

*APD: Synonym of *Plectranthus monostachyus* subsp. *perennis* (J. K. Morton) B. J. Pollard & A.J. Paton*

An erect, sometimes branched, slender, thinly pubescent herb with somewhat fleshy leaves and very long lax inflorescences; flowers rich purple; whole plant usually purplish, perennating by means of the fleshy swollen stem base; **in rocky savanna**. Tetraploid.

Iv. C.: Sindou Adam 18173! **Ghana:** Damongo Scarp (fl. Sept., fr. Nov.) Rose Innes 366! Harris! Morton A1242! **N. Nig.:** Naraguta Lely 540! Jos Plateau Summerhayes 11! Kilba country, Yola Dalz. 101! Abinsi Dalz. 799! **S. Nig.:** Gawu Hills, Niger Prov. Onochie FHI 35722!

[Specimens apparently intermediate with the type subspecies and subsp. *perennis* occur.]

11b. *Solenostemon monostachyus* subsp. *latericola* (A. Chev.) J. K. Morton l.c. 271 (1962).

*APD: Synonym of *Plectranthus monostachyus* subsp. *latericola* (A. Chev.) B. J. Pollard*

Solenostemon latericola A. Chev. in Journ. de Bot. 1909: 121; Chev. Bot. 517.

Coleus latericola A. Chev. Bot. 519, name only.

A stout erect herb some 3 ft. high with dense spikes of purple flowers and purplish stems and leaves.

Guin.: Faranna Chev. 13410. Ditinn 2,600 ft. (fr. Apr.) Chev. 13563! ut Foa Djalou (fl. Sept.-Oct.) Chev. 18231! 18254! 18300! 18381! 18884! 18893! **S. L.:** Mt. Loma (bud July) Jaeger!

11c. *Solenostemon monostachyus* subsp. *marrubiifolius* (Brenan) J. K. Morton l.c. 272, photo. 1 (1962).

APD: Synonym of Plectranthus monostachyus subsp. marrubifolius (Brenan) B. J. Pollard

Solenostemon monostachyus var. *marrubifolius* Brenan in Kew Bull. 5: 231 (1950).

Solenostemon graniticola J. K. Morton in Bull. Soc. Bot. Fr. 104:164 (1957), partly, with fig. (fig. citations reversed).

Solenostemon gouanensis A. Chev. Bot. 517, name only.

A densely hairy, fleshy herb with perennial creeping branched woody stems and erect loose inflorescences of medium-sized rich purple flowers; on flat rocks. Diploid.

Iv. C.: Cavally (Apr.) Fleury in Hb. Chev. 21324! **Ghana:** Kwahu-Tafo (Apr.) Morton A689! A1693! Irvine 1720! Kumasi (Dec.) Morton GC 9688! Trumeso, Chira to Wenchi (Dec.) Adams GC 5110!

S. Nig.: Carter Peak, Idanre Hills (Oct.) Keay FHI 22585! Ado Rock (Oct.-Nov.) Hambler 510! Keay FHI 37181!

[Plants intermediate with the type subspecies occasionally occur in rocky places-e.g. Morton A3526, from Togo Plateau, Ghana, and Keay FHI 22561, from rock-outcrop near Ondo, S. Nigeria.]

18. ENGLERASTRUM

Briq.-F.T.A. 5: 445; Hutch. & Dandy in Kew Bull. 1926: 479.

- 1 Plant creeping, perennial; leaves persistent, ovate, cuneate at base, obtuse at apex, about 2.5 cm. long and 1.5 cm. broad, obscurely crenate, very thin, thinly pubescent on the veins, petiolate; stems slender, pilose; inflorescences axillary on long slender peduncles, racemose; calyx pubescent, broadly campanulate, 3 mm. long, teeth short and triangular, equal; pedicels short [1. schweinfurthii](#)
- Plant erect, annual; leaves falling before time of flowering, lanceolate, cuneate at base, dentate, sessile, up to 10 cm. long and 3 cm. broad, thinly pilose chiefly on the veins: **2**
- 2 Pedicels very long and slender, several times as long as the calyx; inflorescence lax [2. gracillimum](#)
- Pedicels about equal to the calyx; inflorescence dense [3. nigericum](#)

1. Englerastrum schweinfurthii Briq. in Engl. Bot. Jahrb. 19: 178, t. 3, fig. A (1894); F.T.A. 5: 445.

APD acc

Englerastrum djalense A. Chev. (1909)-F.W.T.A., ed. 1, 2: 290.

Englerastrum hutchinsonianum Alston (1926)-F.W.T.A., ed. 1, 2: 290.

Coleus englerastrum Roberty in Bull. I.F.A.N. 16, 1: 330 (1954), partly.

A slender creeping herb with small, pale blue flowers; **usually in marshy savanna.**

Sen.: Niokola-Koba (Jan.) Berhaut 4620! **Mali:** Bamako, R. Niger (Dec.) Adam 11188! Diaka (Nov.) Monod! **Guin.:** Fouta Djallon (Sept.) Chev. 18495! **Ghana:** foot of Ejura Scarp (Dec.-Jan.) Morton A1554! GC 9598! Wenchi to Sampa (Dec.) Morton A2603! Yendi to Zabzugu (Dec.) Morton A1462! **Togo Rep.:** Sokode Schröder 66. **N. Nig.:** Patti Lokoja (Nov.) Dalz. 105!

Also in **Sudan** and **Congo**.

2. Englerastrum gracillimum Th. C. E. Fries in Notizbl. Bot. Gart. Berl. 9: 69, t. 1b, 2a (1924); Milne-Redhead in Kew Bull. 5: 380 (q.v. for syn.).

APD: Synonym of Plectranthus gracillimus (T.C.E. Fr.) Hutch. & Dandy

Englerastrum diffusum Alston (1926).

Plectranthus tenuis Hutch. & Dandy (1926)-F.W.T.A., ed. 1, 2: 289.

P. ramosissimus of Chev. Bot. 516, not of Hook. f.

Coleus ramosissimus (Hook. f.) Roberty l.c. (1954), partly.

An erect, slender, branched, annual herb with racemes or panicles of small blue flowers borne on long slender pedicels, leafless when in fruit.

Mali: Po, Upper Volta (Nov.) Darko 458! **S. L.:** Musaia (Dec.) Deighton 4411! 4473! Soremadou (Jan.) Chev. 20567! **Ghana:** Damongo Scarp (Dec.) Morton GC 25068! Gambaga (Dec.) Morton A1391! Dutukpene (Dec.) Adams 4544! **N. Nig.:** Nupe Barter! Mokwa, Niger Prov. (Nov.) Mutch FHI 27965! Wana, Mada Hills (May) Hepburn 92! Vom (Nov.) Morton! **[Br.] Cam.:** Gangumi, Adamawa (Dec.) Latilo & Daramola FHI 28855! Jada (Nov.) Hepper 1302!

3. Englerastrum nigericum Alston in Kew Bull. 1926: 298; F.W.T.A., ed. 1, 2: 290. *APD acc*

Plectranthus denudatus A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 289 (1931); Chev. Bot. 516 (1920), name only.
Coleus englerastrum Roberty in Bull. I.F.A.N. 16, 1: 330 (1954), partly.

An erect, slender, branched herb, about 1 ft. or more high, with small bluish flowers in more or less compressed one-sided racemes.

Sen.: Floup-Fedyan, Casamance (Jan.) Chev. 2815! **Guin.:** Kondika (Jan.) Roberty 16736! **Port. G.:** Pussube (Dec.) Esp. Santo 1087! Bafata (Sept.) Esp. Santo 3388! **S. L.:** Njala (Jan.) Deighton 1569! **N. Nig.:** Katagum (Oct.) Dalz. 109! Naraguta (Oct.) Hepper 1005! Vom (Oct.) Hepper 1156!

19. ISODICTYOPHORUS

Briq. in Mém. Soc. Bot. Fr. 2, 8: 285 (1917).

- 1 Leaves lanceolate, up to 15 cm. or more long, petiolate, crenulate, glabrous above, pubescent and glandular-punctate beneath; inflorescence lax, spreading; pedicels slender, puberulous, crowded at the nodes, often branched, 2-3 cm. long in fruit; mature calyx broadly campanulate, 8-10 mm. long, actinomorphic, teeth triangular, about equalling the tube; corolla 17 mm. long *reticulatus*

Isodictyophorus reticulatus (A. Chev.) J. K. Morton in J. Linn. Soc. 58: 272 (1962).

APD: *Synonym of Plectranthus reticulatus* (A. Chev.) B. J. Pollard

Coleus reticulatus A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 200 (1912); Chev. Bot. 520.
Isodictyophorus chevalieri Briq. l.c. (1917); Chev. Bot. 524.
Coleus casamanicus A. Chev. ex Hutch. & Dalz. F.W.T.A., ed. 1, 2: 291 (1931); Chev. Bot. 518, name only.

An erect undershrub with quadrangular stems, whitish-woolly when young, and large bright-blue flowers in racemes up to 1 ft. long.

Sen.: Tambanaba (Feb.) Chev. 2777; s.n.! **Port. G.:** Mancrossé, Bafata (Jan.) Esp. Santo 433! Bafata (Nov.-Dec.) Esp. Santo 2343! 2822! **Guin.:** Farana, between Kaba and Tonfili (Jan.) Chev. 20393! **N. Nig.:** Jos Plateau (Sept.) Lely P718! **S. Nig.:** Balinge to Ikwette, Obudu Div. (Dec.) Keay & Savory FHI 25154!

20. NEOHYPTIS

J. K. Morton in J. Linn. Soc. 58: 272 (1962). *APD acc*

- 1 Stem slender erect, little branched, sharply quadrangular, grooved, shortly pubescent; leaves oblong to ovate-lanceolate, subsessile, subacute, obscurely crenate, up to 3 cm. long and 1 cm. broad, glabrous, minutely appressed-puberulous on veins beneath, veins arising from base, curved, prominent; inflorescences terminal and lateral, sessile or shortly stalked, oblong, dense, spike-like racemes 1-3 cm. long, about 8 mm. broad; bracts small; mature calyx 2.5-3 mm. long with 5 subequal lanceolate teeth, finely pubescent; corolla twice as long as calyx *paniculata*

Neohyptis paniculata (Bak.) J.K. Morton l.c. 273, t. 10 (1962). *APD acc*

Geniosporum paniculatum Bak. in F.T.A. 5: 351 (1900); F.W.T.A., ed. 1, 2: 286.
Plectranthus guerkei Briq. (1904).
Hyptis quadrialata A. Chev. Bot. 522, name only.

A slender, erect perennial herb, 1-3 ft. high; corolla small, white with purple dots; *growing in savanna swamps.*

Port. G.: Bafata (Dec.) Esp. Santo 3802! Farim (Nov.) Esp. Santo 3639! **Guin.:** Mansonia, Kissi (Feb.) Chev. 20684! **S. L.:** Falaba (Mar.) Sc. Elliot 5100! **Ghana:** Sampa, N. W. Ashanti (Apr.) Morton A2619! **N. Nig.:** Kontagora (Nov.) Dalz. 134! Vom Dent Young 211! Rafin Bauna F.R., Jos (Oct.) Hepper 1183! **S. Nig.:** Ikwette Plateau, 5,000 ft., Obudu Div. (Dec.) Keay & Savory FHI 25175! [**Br.**] **Cam.:** Bamenda (June) Maitland 1382! Mambila Plateau (Jan.) Hepper 1668!

Also in *Angola* and *E. Africa*.

21. HYPTIS

Jacq.-F.T.A. 5: 447; Epling in Kew Bull. 1936: 278. Nom. cons.

- 1 Inflorescence terminal:2
 Inflorescence of axillary heads of few-flowered cymes:3
- 2 Inflorescence a dense cylindrical or ovoid-cylindrical spike up to 9 cm. long; bracts linear-filiform, ciliate; mature calyx 5 mm. long, strongly 10-ribbed, pubescent, but lacking conspicuous tufts of white hairs between the subulate teeth; leaves lanceolate, acute, up to 8 cm. long and 3 cm. broad, closely gland-dotted beneath .[1. spicigera](#)
 Inflorescence much-branched, not leafy, flowers secund, numerous; mature calyx 3 mm. long, 10-ribbed, pubescent, with conspicuous tufts of white hairs between the subulate teeth; leaves ovate-elliptic, up to 8 cm. long and 4 cm. broad, toothed, softly tomentose, long-petiolate [2. pectinata](#)
- 3 Inflorescence lax, consisting of few-flowered axillary cymes; calyx broadly campanulate, strongly 10-ribbed, accrescent in fruit, about 11 mm. long when mature, teeth subequal, subulate; leaves broadly ovate, rounded at base, 4-5 cm. long, up to 4 cm. broad, pubescent above, white-tomentose especially on the veins beneath, very long-petiolate [3. suaveolens](#)
 Inflorescence dense, globose, many-flowered; calyx narrow and tubular:4
- 4 Mature calyx 7 mm. long, tube truncate at apex, teeth linear-filiform; leaves ovate-lanceolate to ovate, cuneate at base, up to 5 cm. long and 2 cm. broad, crenate, densely gland-dotted beneath and setose on the nerves, petiolate [4. atrorubens](#)
 Mature calyx 4-5 mm. long, tube not truncate, the subulate-triangular teeth with a V-shaped sinus between; leaves lanceolate, cuneate at base, up to 11 cm. long and 3-5 cm. broad, but usually smaller, serrate, subglabrous, gland-dotted beneath, shortly petiolate [5. lanceolata](#)

1. **Hyptis spicigera** Lam. Encycl. Méth. Bot. 3: 185 (1789); F.T.A. 5: 448; Chev. Bot. 523; Epling in Kew Bull. 1936: 278. *APD acc*

A tall, erect, aromatic, rather scabrid herb; flowers very small, corolla white with mauve marks on the lip; a weed of roadsides and cultivated land, often occurring in damp places.

Sen.: Perrottet 676! **Gam.:** Basse and Kudang (Mar.) Todd 15! Genieri (Feb.) Fox 47! **Mali:** Garango, Upper Volta (Oct.) Grost! Koulikoro (Oct.) Chev. 2782! Kara (Oct.) Davey 188! **Port. G.:** Bafata (Nov.) Esp. Santo 2967! **Guin.:** Bordo, Kankan (Apr.) Adam 12132! **S. L.:** Musaia (Dec.) Deighton 4451! **Ghana:** Gonja (Dec.) Morton GC 25029! Yendi (Dec.) Adams & Akpabla 4079! **Niger:** Niamey (Oct.) Hagerup 548! **N. Nig.:** Kontagora (Nov.) Dalz. 136! [**Br.**] **Cam.:** Jada, Adamawa (Nov.) Hepper 1223!

Perhaps a native of Brazil, but now widespread in Africa and Asia.

2. **Hyptis pectinata** (Linn.) Poit. in Ann. Mus. Paris 7: 474, t. 30 (1806); F.T.A. 5: 448; Chev. Bot. 522; Epling l.e. *APD acc*

Nepeta pectinata Linn. (1759).

Bystropogon coarctatus Schum. & Thonn. (1827).

A tall, erect, aromatic, woody herb with a dense, much-branched inflorescence of very small flowers; corolla pale yellowish-green with mauve marks on the lip.

Guin.: Niguelandé (Mar.) Adam 11631! **S. L.:** Kukuna (Jan.) Sc. Elliot 4667! **Iv. C.:** Toumodi (Dec.) Boughey GC 14423! **Ghana:** Gonja, N.T. (Dec.) Morton GC 9943! Weija, Accra (Nov.) Morton A996! Butre, Western Region (Mar.) Morton A435! Kete Krachi (Apr.) Morton GC 9127! **Togo Rep.:** Lomé Warnecke 16! **Dah.:** Zagnanado (Feb.) Chev. 22983. Lahama (Feb.) Chev. 23257. **N. Nig.:** Naraguta (Aug.) Lely 551! **S. Nig.:** Lagos Dawodu 207! [**Br.**] **Cam.:** Preuss 1100!

A weed native in tropical America, now in tropical Africa, Madagascar and Asia.

3. **Hyptis suaveolens** Poit. l.c. 472, t. 29 (1806); F.T.A. 5: 449; Chev. Bot. 523; Epling l.c. *APD acc*

A stout bushy, strongly aromatic, pubescent herb with large 1/4 in. blue flowers; a weed of roadside and cultivated land.

Sen.: Farmar 156! **Gam.:** (July) Brooks 22! **Port. G.:** Bissau, Pelum (Jan.) Esp. Santo 1614! **Guin.:** Conakry Chev. 12064! Debeaux 142! **S. L.:** Mafwe (Apr.) Deighton 1691! Freetown (Sept.) Hepper 916! **Lib.:** Monrovia (Nov.) Linder 1572! Cape Palms (Apr.) Todd 33! **Ghana:** Achimota (Feb., Oct.) Morton GC 25383! A14! Winneba (May) Adams 311! **N. Nig.:** Bichikki (July) Lely 183! **S. Nig.:** Lagos (July) Dalz. 1366!

Native in tropical America, now widespread in tropical Africa and Asia and in Queensland.

4. **Hyptis atrorubens** *Poit.* l.c. 466, t. 27 f. 3 (1806); F.T.A. 5: 447; Chev. Bot. 522; *APD acc*

Hyptis atrorubens var. **african** *Epling* l.c. 279 (1936).

A straggling, aromatic herb with globose, terminal and axillary heads 3/4 in. diam. of small flowers; corolla white with mauve marks on the lip.

Guin.: Heudelot 922! Dalaba-Diagulssa Plateau (Oct.) Chev. 18891; 20214. Macenta (Oct.) Baldwin 9808! **S. L.:** Kitchom (Dec.) Sc. Elliot 4343! Musaia (Dec.) Deighton 4447! Yetaya (Sept.) Thomas 2329! **Lib.:** Cape Palmas (Dec.) Hale 70a! Gbau (Sept.) Baldwin 9448! **Iv. C.:** Grabo, Cavally basin (July) Chev. 19619. Mt. Oroumba Boka, Toumodi (Dec.) Boughey 14418! **Ghana:** Essiama (May, Dec.) Morton A2118! A2526!

Also in tropical America.

[Epling named our West African plant var. *africana* because of its slightly larger calyx, but it differs little from the American plant.]

5. **Hyptis lanceolata** *Poir.* in Lam. Encycl. Méth. Bot., Suppl. 3: 114 (1813); Epling l.c. 279. *APD acc*

Hyptis brevipes of F.T.A. 5: 447; Chev. Bot. 522; F.W.T.A., ed. 1, 2: 284, not of *Poit.*

Hyptis lanceifolia *Thonning* (1827)-Epling l.c. 280.

An erect, branched, aromatic herb of damp places, with axillary globose inflorescences 1/2 in. across of very small flowers; corolla white with pale mauve marks on the lip.

Sen.: Perrottet 673! **Gam.:** Kuntaur Ruxton 128! **Mali:** Dendela (Mar.) Chev. 632. **Guin.:** Kindia (Mar.) Chev. 13074. Fouta Djallon (Sept.) Chev. 18251; 18587. **S. L.:** Gbundapi (Mar.) MacDonald 5! Kokupr (Apr.) Hepper 2666! **Lib.:** Suacoco (Jan.) Daniel 87! Cape Palmas (Dec.) Hale 70! **Iv. C.:** Grand Basaam (Aug.) Jaeger 4850! Guitry (Dec.) Boughey GC 13532! **Ghana:** Kpong to Akuse (Oct.) Morton All! Essiama (Dec.) Morton A2485! Yendi (Apr.) Morton GC 9075! **Dah.:** Porto-Novo (Mar.) Chev. 23307. Atacora Mts. (June) Chev. 24121. **N. Nig.:** Abinsi (Apr.) Dalz. 697! **S. Nig.:** Lagos (May) Dalz. 1245! Dawodu 316! **[Br.] Cam.:** Victoria (Sept.) Boughey X1175! Kumba to Mamfe (Jan.) Morton! Mamfe (Jan.) Keay FHI 28547! **F. Po.:** (June) Barter! (Dec.) Monod 10489!

Apparently native in our area; widespread in tropical Africa and America.

22. SATUREJA

Linn. Sp. Pl. 2: 567 (1753); Brenan in Mem. N.Y. Bot. Gard. 9: 45 (1954).

- 1 Older leaves 4-10 mm. long, ovate, rounded at base with several ascending nerves, scabrid above, dotted with large glands beneath, subsessile, entire; flowers few together, in axillary whorls; pedicels very short; calyx tubular, 4 mm. long, strongly 12-15-ribbed, minutely setulose, teeth subequal, subulate, straight; corolla twice as long as calyx; stamens 4, anthers 2-celled; a small woody herb with perennial base; stems pubescent with long and short recurved hairs [1. punctata](#)

Older leaves 15-35 mm. long, crenate: **2**

- 2 Inflorescence of distant axillary whorls; a small slender, straggling herb branched from the base; stems softly pubescent and pilose; leaves subsessile, broadly ovate, rounded at base, up to 2 cm. long and nearly as broad, setose on the nerves beneath, crenulate; flowers about 6 in a whorl; pedicels up to 5 mm. long, pilose; calyx broadly tubular, about 12-nerved, 6-8 mm. long in fruit, teeth lanceolate, acuminate, subequal, pilose, curved upwards; corolla nearly twice as long as the calyx [2. pseudosimensis](#)

Inflorescence of many, dense, terminal, broad, sessile spikes, up to about 5 cm. long, rarely more; a stout, erect, branched, woody herb; branchlets very leafy, bristly-pubescent; leaves ovate-rotund, on the main shoots about 3.5 cm. long and on the terminal shoots about 1.5 cm. long, rounded or slightly cordate at base, sessile, crenate, strongly nerved beneath; mature calyx 4-5 mm. long, 13,15-ribbed, teeth subulate, short, equal, straight, shortly setose-pubescent; corolla shortly exerted from calyx [3. robusta](#)

1. **Satureja punctata** (*Benth.*) *Briq.* in E. & P. Pflanzenfam. 4, 3A: 299 (1896); Brenan in Mem. N.Y. Bot. Gard. 9: 45.

APD: *Synonym of Micromeria imbricata* (Forssk.) C. Chr. var. *imbricata*

Micromeria punctata *Benth.* (1834).

M. biflora of F.T.A. 5: 452; of F.W.T.A., ed. 1, 2: 278, not of (Buch.-Ham. ex D. Don) Benth.

M. purtschelleri *Gürke* (1891)-E. & K. Walther in Mitt. Thur. Bot. Ges. 1, 4: 10 (1957).

An erect or spreading heath-like plant with wiry stems up to 1 ft. or more high; flowers small, corolla rich pink; [growing in montane grassland](#).

[Br.] Cam.: Cam. Mt., 6,000-13,000 ft. (Dec.-Apr.) Dundas FHI 20358! Morton GC 6866! K746! Mann 1292! 1981! Bamenda, above 5,000 ft. (Dec.-Apr.) Richards 5296! Morton K18! 253! Jakiri (Feb.) Hepper 2071! Mambila Plateau (Jan.) Hepper 1682!

Extends to [Sudan](#), Congo, E. and S. Africa.

2. *Satureja pseudosimensis* *Brenan* l.c. 50 (1954).

APD: *Synonym of Clinopodium uhligii* var. *obtusifolium* (*Avetta*) *Ryding*

Calamintha simensis of F.T.A. 5: 455; of F.W.T.A., ed. 1, 2: 282; of Robyns Fl. Sperm. Parc Nat. Alb. 2: 163; not of Benth.

A much-branched, perennial, weak straggling herb, 6 in. to 2 ft. high, with mauve flowers about 1/3 in. long; the calyx frequently purple tinged; [in montane grassland and thicket](#).

[Br.] Cam.: Cam. Mt., 6,000-13,000 ft. (Dec.-Apr.) Duntap 241! Dalz. 8309! Mann 1292! 1981! Morton GC 6884! 7002! K588! Plumtre 230! Bamenda, above 6,000 ft. (Dec.-Apr.) Adams GC 11307! Morton K226! K256! Maitland 1392! 1487! F. Po: 8,500 ft. (Mar., Dec.) Mann 617! Guinea!

Also in the [Congo](#), [Sudan](#), [E. Africa](#) and [Nyasaland](#).

3. *Satureja robusta* (*Hook.f.*) *Brenan* l.c. 48 (1954).

APD: *Synonym of Clinopodium robustum* (*Hook. f.*) *Ryding*

Nepeta robusta *Hook. f.* (1864)-F.T.A. 5: 460; F.W.T.A., ed. 1, 2: 280.

An erect, branched, robust, aromatic perennial, 3-4 ft. or more high, with small flowers about 1/4 in. long; corolla white with mauve marks on the lip; [in montane grassland and scrub](#).

[Br.] Cam.: Cam. Mt., above 6,000 ft. (Dec.-Apr.) Dundas FHI 20357! Morton GC 6937! 6998! Plumtre 222! Bamenda, above 6,000 ft. (Dec.-April.) Ujor FHI 30021! Keay & Lightbody FHI 28354! Morton K156! Ndu, Nkambe Div. (Feb.) Hepper 1941! 1942! (See Appendix p. 462.)

[Thomson s.n. at Kew labelled " Old Calabar " presumably came from the slopes of Cam. Mt. on the Calabar side.)

23. SALVIA

Linn.-F.T.A. 5: 456.

- 1 Calyx truncate, not prominently lobed, densely white tomentellous, about 6 mm. long in fruit; corolla blue, about 15 mm. long, tube 7 mm. long; stamens not exerted; leaves lanceolate, about 5 cm. long and 2 cm. broad, acute, cuneate and long-petiolate at base, serrate, puberulous on the veins, gland-dotted beneath; stems sulcate puberulous, woody at base [1. *farinacea*](#)

Calyx distinctly 3-lobed, shortly pubescent; corolla usually red, sometimes pink, yellow or white: **2**

- 2 Calyx scarlet, inflated, large, 15 mm. long in flower, lobes ovate, mucronate; leaves ovate, acuminate, cuneate and long-petiolate at base, serrate, about 7 cm. long and 4 cm. broad, glabrous; stems sulcate, glabrous, woody below; corolla about 25 mm. long; stamens exerted [2. *splendens*](#)

Calyx green, not inflated, about 8 mm. long in flower, lobes ovate, acute not mucronate; leaves ovate, obtuse or acute, truncate at base, long-petiolate, 3-6 cm. long and 2-4 cm. broad, puberulous above, pubescent on the nerves beneath, serrate-crenate; stems sulcate, pubescent with long and short hairs; corolla about 23 mm. long; stamens long-exserted [3. *coccinea*](#)

1. *Salvia farinacea* *Benth.* Lab. Gen. & Sp. 274 (1833). APD acc

A perennial, bushy herb, several feet high, with blue flowers; [commonly cultivated and occasionally occurring as a garden throwout, etc.](#)

S. L.: Njala (Oct.) Deighton 2423! [Ghana](#): Legon (Dec.) Morton A2645!

Native of tropical America.

2. *Salvia splendens* Ker-Gawl. in Bot. Reg. 8: t. 687 (1823). *APD acc*

An erect, perennial, bushy herb several feet high, with scarlet flowers and calyx; commonly cultivated and occasionally escaping in our area.

Ghana: Achimota Irvine 454! (Jan.) Akpabla 1907! Amedzofe fide Morton. Aburi (July) Sampram 121! **S. Nig.:** Ibadan fide Morton.

A native of Brazil; commonly cultivated and occasionally escaping in our area.

3. *Salvia coccinea* Buc'hoz ex Ettl. *Salvia* 23 (1777); F.T.A. 5: 459; G. Taylor in Exell Cat. S. Tomé 267. *APD acc*

An erect bushy herb, up to 2 ft. high, with a green calyx and scarlet or more rarely yellow, pink or white flowers; commonly cultivated and frequently occurring as a weed on waste ground etc.

Mali: Ségou fide Roberty. **S. L.:** Freetown (Oct.) Deighton 1977! **Ghana:** Achimota Anoff! Akwei 2! Attoh 43! Morton A2446! Kumasi Kyei! Tamale fide Roberty.

A native of tropical America.

24. SCUTELLARIA

Linn.-F.T.A. 5: 461.

- 1 Inflorescence subglabrous to shortly pubescent, racemose, flowers paired at the nodes, with small leafy bracts; stems shortly pubescent; leaves ovate to lanceolate, shortly petiolate, small at time of flowering but up to 7 cm. long when mature, rounded-cordate at base, crenulate, puberulous on the nerves and slightly gland-dotted; pedicels short and pubescent; mature calyx shortly campanulate, about 1 cm. long, upper and lower lips broadly deltoid; corolla about 1.7 cm. long, pubescent, not glandular *1. paucifolia*

Inflorescence densely tomentose and glandular-pubescent, racemose; stems woody, pubescent; leaves full-grown at time of flowering, ovate-lanceolate, rounded or sub-cordate at base, crenate, about 5 cm. long and 2.5 cm. broad, petiolate, glandular-punctate, beneath; corolla about 1.3 cm. long, pubescent *2. violascens*

1. *Scutellaria paucifolia* Bak. in Kew Bull. 1895: 292; F.T.A. 6: 462.

APD: Synonym of Scutellaria schweinfurthii subsp. paucifolia (Baker) A.J. Paton

Scutellaria briguetii A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 198 (1912); Chev. Bot. 523.

Rootstock of fusiform tubers producing erect, 4-angled stems up to 1 ft. high, with dark purple flowers appearing after grass-burning; the main leafy shoots develop later in the season and are straggling.

Guin.: Kindia (Aug.) Pobéguin 1520! Dabola (Mar.) Pobéguin 986! Fouta Djallon (Apr.) Chev. 12648! **S. L.:** Bintumane (Jan., Feb.) Glanville 476! Jaeger 4285! **Ghana:** Banda, Wenchi Dist. (Mar.) Morton GC 8612! A3273! A1094! Asare! **N. Nig.:** Jos Plateau (Apr.) Lely P245! S.W. of Jos (Dec.) Monod 9762!

Widely distributed in E. Africa.

2. *Scutellaria violascens* Gürke in Engl. Bot. Jahrb. 30: 392 (1901). *APD acc*

A shrub about 3 ft. high with stiff racemes of purple flowers.

[Br.] **Cam.:** Bamenda, 5,500 ft. (Jan., Aug.) Migeod 445! Ujor FHI 29991!

Also in **Cameroun** and **E. Africa**.

25. ACHYROSPERMUM

Blume-F.T.A. 5: 463; Perkins in Notizbl. Bot. Gart. Berl. 8: 78 (1921); E. A. Bruce in Kew Bull. 1936: 47. APD acc

- 1 Calyx irregular with 5 unequal teeth, 3 of which are partially united to form a broad lobe: **2**

- Calyx regular with 5 equal teeth, 8-10 mm. long when mature:**3**
- 2** Mature calyx 4-5 mm. long, ciliate, with 2 subacute teeth and a broad lobe with 3 very short obtuse triangular teeth, divided to near middle on one side; corolla 3-4 mm. long; inflorescences terminal and axillary 5 cm. long and 1 cm. broad or less; leaves ovate, shortly acuminate at apex, cuneate at base, up to 8 cm. long and 5 cm. broad, crenate; petiole about 1.5 cm. long; whole plant covered with a long soft pubescence [1. *dasytrichum*](#)
- Mature calyx about 7 mm. long, minutely puberulous, margin thinly ciliate, with 2 narrow triangular lobes and one broad lobe having 3 acute teeth; inflorescences lateral, about 2 cm. long; stem tomentose; leaves narrowly obovate-elliptic, acuminate, gradually narrowed to base, up to 15 cm. long and 6 cm. broad, crenate, subglabrous except for fine appressed pubescence on the veins beneath; petiole up to 1-5 cm. long**2.**
[schlechteri](#)
- 3** Calyx teeth as broad as long, ciliate around margin, green; inflorescence terminal 3-5 (-10) cm. long, 2 cm. broad; bracts broadly ovate, ciliate; leaves narrowly obovate-elliptic, acuminate at apex, cuneate and entire at base, 10-18 cm. long and up to 8 cm. broad, crenate, appressed-pubescent on nerves beneath; petiole 1-3 cm. long**3. *oblongifolium***
- Calyx teeth twice as long as broad; leaves ovate, sharply acuminate, rounded at base, cuneate, about 15 cm. long and 8 cm. broad, crenate-serrate; petiole up to 5 cm. long:**4**
- 4** Stem and leaves with long spreading pubescence; inflorescences terminal and lateral, elongate, conical, terminal inflorescences 8-12 cm. long and 1.5 cm. broad, lateral smaller; bracts broadly ovate, about 8 mm. long, green, pubescent with densely ciliate margin, deep pink; corolla exceeding calyx, pubescent, magenta with white throat; stamens exserted**4. *africanum***
- Stem and leaves thinly appressed-puberulous; inflorescences shorter and broader, 3-6 cm. long and 1-2 cm. broad (without the corolla); bracts almost orbicular, abruptly apiculate, membranous; bracts, calyx and corolla dark red **5. *erythrobotrys***
- 1. *Achyropermum dasytrichum* Perkins** in Notizbl. Bot. Gart. Berl. 8: 81 (1921). *APD acc*
- A small woody perennial with a creeping rhizome and erect aerial shoots; corolla cream; [occurring in forest farms](#).
- Ghana:** Kade Agric. Sta. (Dec.) Morton A3639!
- Also in **Cameroun**.
- 2. *Achyropermum schlechteri* Gürke** in Engl. Bot. Jahrb. 36: 127 (1905); E. A. Bruce in Kew Bull. 1936: 53. *APD acc*
- A woody perennial, with lateral inflorescences usually on the one year old shoots.
- S. Nig.:** Oban Talbot! **[Br.] Cam.:** Buea, 2,500 ft. Schlechter 12850!
- 3. *Achyropermum oblongifolium* Bak.** in F.T.A. 5: 464 (1900); Bruce l.c. 55; G. Taylor in Exell Cat. S. Tomé 266 *APD acc*
- Ocimum sassandrae* A. Chev.** Bot. 512, name only.
- An erect, little-branched undershrub, 1-2 ft. high, with tomentose stems and dense terminal spikes of greenish-white flowers; [in forest and bamboo thicket](#).
- Guin.:** Fassakoidou to Késséridou (Feb.) Chev. 20814! Ntongon Mt., 3,150 ft. (Mar.) Chev. 20926! **S.L.:** Kenema (Jan.) Thomas 7572! York Pass (Dec.) Deighton 3310! **Lib.:** Vahum, W. Prov. (Kov.) Baldwin 10212! **Iv. C.:** Mid. Sassandra & Mid. Cavally (June-July) Chev. 19244! Oroumba Boka (Dec.) Schnell! Boughey GC 14438! **Ghana:** Apapam (Dec.) Morton GC 8161! Mpraeso (Apr.) Morton A690! Bosumkese (Dec.) Adams GC 6147! **S. Nig.:** Aboabam, Ikom Div. (Dec.) Keay FHI 28195! **[Br.] Cam.:** Bamenda, 6,000-7,000 ft. (Apr.) Morton K211! Adams GC 11222! **F. Po:** (June, Dec.) Barter 1697! Boughey 164!
- Also in **S. Tomé**, **Cameroun** and **Cabinda**.
- 4. *Achyropermum africanum* Hook. f. ex Bak.** in F.T.A. 5: 465 (1900). *APD acc*
- Achyropermum schimperi* Perkins** l.c. 79 (1921), partly.
- Ocimum peulhorum* A. Chev.** Bot. 512, name only.
- Achyropermum peulhorum* E. A. Bruce** l.c. 59 (1936).
- An erect, herbaceous undershrub up to about 8 ft. high; with dense spikes of purplish or purple-marked flowers.

Guin.: Dalaba to Mamou (Jan.) Chev. 20347! Dalaba (Jan.) Roberty 16478! **N. Nig.:** Sanga River F.R., Zaria Prov. (Nov.) Keay FHI 37240! [**Br. Cam.:** Cam. Mt., 2,000-4,600 ft. (Dec.-Jan.) Morton K700! Adams GC 11294! Keay FHI 28650! Mann 1297! Mann 1949! Buea (Jan., Mar.) Maitland 267! 546! Mbakokeke Mt., Bamenda (Mar.) Richards 5326! Abonando Rudatis!

5. *Achyrosporum erythrobotrys* *Perkins* in Notizbl. Eot. Gart. Berl. 8: 80 (1921); Bruce l.c. 56. *APD acc*

A much-branched shrub, up to about 6 ft. high, with dark red flowers and inflorescences.

S. Nig.: Ikwette Plateau, 5,200 ft., Obudu Div. (Dec.) Keay & Savory FHI 25211! [**Br. Cam.:** near L. Bambulue, 6,200 ft., Bamenda (Jan.) Keay & Lightbody FHI 28363!

Also in **Cameroun**.

[Note: *A. erythrobotrys* may only be a form of *A. africanum*, Keay & Savory FHI 25024! from Ijua, Ogoja Prov., S. Nigeria, is intermediate-J.K.M.,]

26. STACHYS

Linn.-F.T.A. 5: 465.

- 1 Stout erect or scrambling herbs; calyx 7-10 mm. long; corolla about 10 mm. long:2
Small annual, erect, branched herb 10-25 cm. high; stem hirsute; leaves 1.5-3 cm. long, ovate, truncate or cordate, crenate-serrate, petiolate; inflorescence a very lax spike, much interrupted below; whorls 2-6-flowered with foliose bracts which are smaller and subsessile above; calyx 4-6 mm. long, tubular-campanulate, hirsute with triangular mucronate teeth; corolla 6-7 mm. long3. *arvensis*
- 2 Leaves abruptly cuneate at base into a petiole 1 cm. or more long, ovate, acute at apex, about 5.5 cm. long and 4.5 cm. broad, unevenly and rather coarsely crenate-serrate, softly pubescent above, densely ferrugineous-hairy on veins beneath; stems softly and densely pubescent, stout, square; inflorescences terminal, contiguous, with numerous, crowded many-flowered whorls about 3.5 cm. diam. in fruit forming a dense pyramidal spike, with small leafy bracts which are densely pubescent with long eglandular and short glandular hairs; bracteoles small, subulate, pubescent; mature calyx 1 cm. long, campanulate, teeth lanceolate, 1/2 as long as the tube, densely pubescent; corolla about 1 cm. long1. *pyramidalis*
Leaves cordate at base, ovate-triangular, acute at apex, up to 5.5 cm. long and 4.5 cm. broad but usually less, evenly crenate, pilose above, whitish-pubescent especially on the veins beneath; petiole as long as the lamina, pilose; flowers in distant several-flowered whorls up to 2 cm. diam. in fruit, with leafy bracts; stems with stiff prickly bristles and short glandular hairs; mature calyx about 7 mm. long, campanulate, teeth lanceolate, 1/3 to 1/2 as long as the tube, densely pubescent; corolla about 1 cm. long2. *aculeolata*

1. *Stachys pyramidalis* *J. K. Morton* in *J. Linn. Soc.* 58: 273 (1962). *APD acc*

A stout, erect, branched herb with square grooved, densely hairy stems, and dense many-flowered, terminal, inflorescences.

N. Nig.: Lokoja (Oct.) Dalz. 104!

2. *Stachys aculeolata* *Hook. f.* in *J. Linn. Soc.* 6: 18 (1861); *F.T.A.* 5: 466; Th. C. E. Fries in Notizbl. Bot. Gart. Berl. 8: 629, fig. 1 & 2, incl. var. *camerunensis* Th. C. E. Fries (1923). *APD acc*

A perennial prickly herb with straggling, scrambling, rather slender stems and axillary whorls of flowers in the upper parts; corolla white or pale pink with dark pink markings; in openings in montane forest and in gullies in the grassland.

[**Br. Cam.:** Cam. Mt. (Jan.-Dec.) Maitland 926! Johnston 71! Keay FHI 28600! Morton GC 6707! 7003! Adams GC 11779! Bamenda (Dec.-Apr.) Maitland 1654! Richards 5320! 5323! Morton K102! K259! K306! **F. Po:** 9,000ft. (Dec.) Mann 319! Monod 68!

Also in the mountainous parts of **Cameroun**, **Congo**, **Ethiopia**, **Uganda** and **Kenya**.

3. *Stachys arvensis* (*Linn.*) *Linn. Sp. Pl.*, ed. 2, 2: 814 (1763); Chev. Bot. 523. *APD acc*

Glecoma arvensis *Linn. Sp. Pl.* 578 (1753).

A [weed of cultivated land](#); flowers pale purple.

Mali: Goundam, Timbuktu Chev. 2776!

Also occurring in N. Africa and widespread in Europe.

[A specimen in the British Museum labelled " Senegal 1848 " probably belongs to another species but is too poor for identification.]

28. LEONOTIS

(*Pers.*) *R. Br.*-F.T.A. 5: 490.

- 1 Corolla orange-brown, villous; stems tomentellous; leaves long-petiolate, ovate-triangular, broadly cuneate at base, the largest about 12 cm. long and 6 cm. broad, softly puberulous on both surfaces, coarsely serrate; flowers in globose whorls at the upper nodes; bracts crowded at base, linear, subulate, stiff, about 1 cm. long; pedicels very short; calyx 1.5 cm. long, shortly pubescent, teeth subulate, stiff, equal [1. *nepetifolia* var. *nepetifolia*](#)

Corolla cream, otherwise as above [la. *nepetifolia* var. *africana*](#)

1. *Leonotis nepetifolia* (Linn.) Ait. f. var. *nepetifolia*-in Ait. Hort. Kew., ed. 2: 409 (1811); Chev. Bot. 524. *APD acc*

Phlomis nepetaefolia Linn. (1753).

A robust herb 4-8 ft. high, [mainly found around dwellings and sometimes cultivated](#), but not common.

Guin.: Moussaia (Nov.) Schnell 2078! **S. L.:** (June) T. Vogel 94! Sherbro Sc. Elliot 5765! Makene (Apr.) Deighton 5500! Mano (Oct.) Deighton 2542! **Lib.:** Kakatown Whyte! **Iv. C.:** Tabou to Bériby (Aug.) chev. 199974. **N. Nig.:** Dakida, Bornu Prov. (Oct.) Dagaash FHI 24869! **[Br.] Cam.:** Tiko (Feb.) Maitlaid! Buea (Mar.) Morton K661! Kumba (May, June) Olorunfemi FHI 30592! Rosevear Cam. 87/37!

Widespread in the tropics.

1a. *Leonotis nepetifolia* var. *africana* (P. Beauv.) J. K. Morton in J. Linn. Soc. 58: 276 (1962). *APD acc*

Phlomis africana P. Beauv. Fl. Oware 2: 82, t. 111 (1819).

P. pallida Schum. & Thonn. (1827).

Leonotis pallida (Schum. & Thonn.) Benth. (1834)-F.T.A. 5: 491.

Leonotis africana (P. Beauv.) Briq. in E. & P. Pflanzenfam. 4, 3A: 246 (1896); Chev. Bot. 524.

A robust herb, 2-5 ft. high, with 4-angled, pale, softly pubescent stems and cream, tomentose flowers 1 in. long in dense whorls, with spine-tipped calyx teeth and bracts; [common near dwellings and sometimes cultivated](#).

Sen.: (Mar.) Perrottet 678! (Dec.) Monad! **Mali:** Kobale (Feb.) Chev. 350. Macina Roberty 801! Legan (Oct.) Roberty 3042! **Lib.:** Ganta (May) Harley! Cape Palmas (July) T. Vogel 36! **Ghana:** Axim road (Mar.) Morton GC 8500! Banda, N.W. Ashanti (Nov.) Harris! Krobo (Mar.) Gould! **Togo Rep.:** Misahöhe Baumann 47! Lomé Warnecke 288! **Niger:** Niamey (Oct.) Hagerup 541! **N. Nig.:** Borgu Barter 1053! Katagum Dalz. 110! Kogigiri, Jos (Oct.) Hepper 1069! **S. Nig.:** Lagos Rowland! Oban Talbot 2064! **[Br.] Cam.:** Kumba Boughey!

Extends to the Congo, E. Africa and Nyasaland.

27. LEUCAS

R. Br.-F.T.A. 5: 472.

- 1 Longest tooth of the calyx on the adaxial (upper) side; calyx pubescent; leaves petiolate, ovate-lanceolate, with a broad, blunt acumen, up to 9 cm. long and 4 cm. broad, coarsely dentate, pubescent on both surfaces, glandular-punctate beneath; flowers in dense axillary whorls; stems pubescent [1. *martinicensis*](#)

Longest tooth of the calyx on the abaxial (lower) side: **2**

- 2 Calyx strongly deflexed towards the tip, teeth short triangular mucronate, shortly pubescent; flowers in dense axillary whorls with numerous linear-subulate bracteoles about 8 mm. long; leaves lanceolate, cuneate at base, serrate, with an entire, acute tip, petiolate, pubescent on both surfaces [2. *deflexa*](#)

Calyx straight or slightly curved, densely ciliate, teeth narrowly lanceolate, subulate:.....**3**

- 3** Leaves elliptic to elliptic-lanceolate, up to 2.3 cm. long and 1 cm. broad, crenate, more or less obtuse, tapered to base, thick, with dense stiff appressed hairs above and on the veins beneath, gland-dotted beneath; stems pilose, more or less round; flowers in one, rarely 2, dense, globose whorls, terminal on each branch; mature calyx 8-10 mm. long; bracteoles about 7 mm. long, linear, slightly spatulate, ciliate [3. *oligocephala* subsp. *oligocephala*](#)

Leaves linear-lanceolate to lanceolate, usually exceeding 2.5 cm. in length; inflorescence with several distinct whorls:.....**4**

- 4** Stout branched erect pubescent to woolly herb; leaves up to 8 cm. long and 2 cm. broad, coriaceous, prominently veined beneath; calyx about 12 mm. long[3a. *oligocephala* subsp. *bowalensis*](#)

Slender low much-branched thinly pubescent herb; leaves up to 5 cm. long and 6 mm. broad, neither coriaceous nor prominently veined; calyx 8-10 mm. long[3b. *oligocephala* subsp. *tenuifolia*](#)

1. *Leucas martinicensis* (Jacq.) Ait. f. in Ait. Hort. Kew., ed. 2, 3: 409 (1811); F.T.A. 5: 479; Chev. Bot. 524 *APD acc*

***Clinopodium martinicense* Jacq.** (1760)-Select. Stirp. Amer. Hist. 173, t. 177, fig. 75 (1763).

***Phlomis mollis* Schum. & Thonn.** (1827).

An erect, branched, annual aromatic herb usually about 1 1/2-2 ft. high, with very small white flowers in dense axillary whorls.

Sen.: Tambacounda (Oct.) Roberty 10122! **Gam.:** (Jan.) Ingram! **Mali:** Dioura (Oct.) Davey 114! **Guin.:** Soumbalako to Boulivel (Sept.) Chev. 18625. **S. L.:** Musaia (Dec.) Deighton 4469! **iv. C.:** Nimba (Apr.) Schnell 5312! **Ghana:** Akra on coast (Dec.) Morton A2541! Lumhunga, Tamale (Dec.) Morton GC 6253! GC 6234! Yendi (Dec.) Irvine 2710! **Niger:** Niamey Hagerup 477! **N. Nig.:** Kontagora (Nov.) Dalz. 135! **S. Nig.:** Oke Ado, Oyo Prov. (Nov.) Onochie FHI 14506! **F. Po:** Moka (Dec.) Boughey 10!

A weed of the tropics.

2. *Leucas deflexa* Hook f. in J. Linn. Soc. 7: 213(1864); F.T.A. 5: 487. *APD acc*

***Leucas decurvata* Bak. ex Hiern** (1900)-F.T.A. 5: 481.

A long straggling, aromatic herb with globose, axillary whorls of small white flowers.

Ghana: Aduamoa, 1,500 ft., Kwahu (Jan.) Irvine 1728! Begoro (Jan.) Morton A2683! Vane (July) Harris! **[Br.] Cam.:** Cam. Mt., 4,000-7,000 ft. (Mar., Nov.) Mann 1976! Morton GC 6694! Bamenda (Jan.-May) Migeod 399! Ujor FHI 30340! Morton K42! K51! Nkambe (Feb.) Hepper 1893! **F. Po:** 4,000-5,000 ft. (Feb.) Exell 857! Boughey GC 10803!

Also In **Angola**.

3. *Leucas oligocephala* Hook. f. subsp. *oligocephala*-in J. Linn. Soc. 7: 213 (1864); F.T.A. 5: 486. *APD acc*

A perennial aromatic herb with slender, branched stems 1-4 ft. high, and with dense, terminal, or subterminal, whorls of white flowers; buds densely hairy and purple-tinged.

[Br.] Cam.: Cam. Mt., above 7,000 ft. (Nov.-Apr.) Keay FHI 28583! Mann 1220! 1987! Morton 7076! 7085! Maitland 446! Bamenda, 6,000 ft. (Apr.-May) Maitland 1050 bis! 1452!

Also in **E. Africa** and **Nyasaland**.

3a. *Leucas oligocephala* subsp. *bowalensis* (A.Chev.) J. K. Morton in J. Linn. Soc. 58:273 (1962).

*APD: Synonym of *Leucas oligocephala* var. *bowalensis* (A. Chev.) Sebald*

***Leucas bowalensis* A. Chev.** in Journ. de Bot., sér. 2, 2: 127 (1909); Chev. Bot. 524.

A stout erect branched woody herb up to 3 ft. high, with several dense whorls of white flowers in each branch; buds densely hairy and purple-tinged.

Guin.: Dalaba, 3,000-4,000 ft. (Oct.) Chev. 18750! 20176! **N. Nig.:** Jos Plateau (Sept.) Lely P715! **[Br.] Cam.:** Bamenda, 5,000-7,000 ft. (Sept.-Dec.) Savory UCI 396! Adams GC 11088! 11266!

3b. *Leucas oligocephala* subsp. *tenuifolia* J. K. Morton l.c. (1962).

APD: Synonym of Leucas oligocephala Hook. f. var. oligocephala

A slender, branched, low, woody herb about 9-12 ins. high with dense whorls of white flowers; buds densely hairy and purple-tinged.

N. Nig.: Jos Plateau (May, Oct.-Dec.) Lely 62! P263! MacGregor 428! Kennedy PHI 7271! Hepper 1018!

[Note: intermediate plants occur where the subspecies grow together-J.K.M.]

29. TINNEA

Kotschy & Peyr.-F.T.A. 5: 496; Robyns in Bull. Jard. Bot. Brux. 8: 161 (1930).

- 1** Leaves sessile or subsessile, ovate-orbicular to broadly ovate, mucronate, entire, up to 5cm. long, tomentellous or pubescent beneath, densely glandular on both surfaces; stems tomentellous; upper bracteate leaves markedly mucronate, small, about 1 cm. long; calyx with 2 entire orbicular lips about 7 mm. long, at length splitting to the base, tomentellous outside; corolla-tube pubescent, longer than the calyx; calyx much enlarged and bladder like in fruit, thick and brittle, about 11 mm. diam. *1. barteri*

Leaves petiolate, elliptic-lanceolate, apiculate, entire, about 3 cm. long and 1.5 cm. broad, glabrous except on the midrib, densely glandular-punctate; stems tomentellous; calyx as above but thinly pubescent, larger and membranous in fruit, about 2 cm. diam. *2. aethiopica*

- 1. Tinnea barteri** *Gürke* in Engl. Bot. Jahrb. 28: 314 (1900); F.T.A. 5: 499; Chev. Bot. 624; Robyns l.c. 192. *APD acc*

An erect, little-branched half-woody herb with round stems up to 5 ft. high, and lax terminal spikes of purple flowers 1/2 in. long.

Mali: Bougouni Roberty 3225! Bamako to Zougouni (Sept.) Jaeger 5130! **Guin.:** Kouroussa (Aug.) Pobéguin 331! **Ghana:** Prang (June) Vigne FH 3910! Gonja (fr. Dec.) Morton GC 25006! Wa (June) Adams 860! Walewale to Gambaga (Nov.) Morton A2716! **N. Nig.:** Nupe Barter 971! 1261! Jebba to Bida (Aug.) Onochie FHI 35101! banks of Gurara R. Elliott 207! Zungeru (Aug.) Dalz. 180! Jos Plateau (Sept.) Lely 638!

Also in **Congo**.

- 2. Tinnea aethiopica** *Kotschy & Peyr.* Plant. Tinn. 25, t. 11 (1867); F.T.A. 5: 497; Bot. Mag. tt. 5637 & 6744; Robyns l.c. 182. *APD acc*

A shrub, up to 8-10 ft. high, with dusky purple flowers 1/2 in. long.

Mali: Bamako (Jan.) Roberty 10382! **N. Nig.:** Katagum Dalz. 108! Kachia to Kaduna (Nov.) Meikle 1208! Jos Plateau (fl. May, fr. Dec.) Monod 9761! Lely P256! Batten-Poole 199! Zelau, 3,200 ft. Lely 112! Sara Hills, Bauchi Div. (Oct.) Hepper 1118! [**Br.**] **Cam.:** Vogel Peak (Nov.) Hepper 1371!

Extends to the Congo, **Sudan**, E. Africa and Nyasaland.

MONOCOTYLEDONES

BUTOMACEAE

Perennial, aquatic or swamp rhizomatous herbs, usually with milky juice. Leaves ensiform to orbicular. Flowers solitary or umbellate. Perianth 2-seriate, the outer 3 usually sepal-like, imbricate, the inner 3 petal-like and usually thin and deciduous. Stamens hypogynous, 8-9 or numerous; anthers basifixed, opening laterally. Carpels free; ovules numerous, scattered, on the reticulately branched parietal placentas. Fruits opening by the adaxial suture. Seeds numerous, without endosperm.

Temperate and tropical regions.

Distinguished from all other Monocotyledons by the peculiar placentation of the ovules, probably a primitive characteristic.

TENAGOCHARIS

Hochst. in Flora 24: 369 (28 June 1841).

Butomopsis Kunth. (July 1841)—F.T.A. 8: 214.

Scapigerous marsh herbs with milky juice; leaves radical, petiolate. Flowers umbellate, with membranous bracts. Sepals 3, persistent. Petals 3, smaller than sepals, fugacious. Stamens 9, in 2 whorls. Carpels about 6; ovules numerous.

- 1 Rootstock small, with slender fibrous roots; leaves all radical, long-petiolate, oblanceolate, shortly and subobtusely acuminate, gradually narrowed to the base, about 10 cm. long and 3 cm. broad, glabrous, with 2 pairs of ascending parallel nerves, faintly reticulate between the nerves; umbels long-pedunculate, about 3-8-flowered; pedicels up to 11 cm. long in fruit; sepals ovate, about 1 cm. long in fruit, thin with membranous margins; petals shorter than the sepals; stamens usually 9; carpels usually 6, overtopping the calyx in fruit; seeds minute [latifolia](#)

Tenagocharis latifolia (D. Don) Buchen. in Abh. Nat. Ver. Bremen 2: 3 (1869); Van Steenis in Fl. Males. ser. 1, 5: 118 (1954); Carter in F.T.E.A. Butomac.: 1, fig. 1 (1960).

APD: Synonym of Butomopsis latifolia (D. Don) Kunth

Butomus latifolius D. Don (1825).

B. lanceolatus Roxb. (1832).

Butomopsis lanceolata (Roxb.) Kunth. (1841)—F.T.A. 8: 214; Chev. Bot. 687.

Tenagocharis lanceolata Dur. & Schinz (1895).

Annual herb from a few inches up to more than 1 ft. high (including the inflorescences), with erect leaves; flowers white; **in swamps**.

Sen.: Roger 69! Bakel Heudelot 126! Matam (fl. & fr. Nov.) Trochain 983! Carabane, Casamance (fr. Jan.) Chev. 2593! **Mali:** Douentza (fr. Dec.) de Wailly 5293! Gorinnta, near Dogo (Apr.) Davey 607! Port. G: Bafata Esp. Santo 2350; 2857. Antula, Bissau Esp. Santo 2562. **Guin.:** Siguiri (Nov.) Jac.-Fél. 520! **Ghana:** Nasia, N.T. (fr. Dec.) Vigne FH 4670! Kamba, Lawra (Nov.) Harris! Damongo to Yapei (Sept.) Hall CC 893! **N. Nig.:** Nupe Barter 1509! Dikwa (fl. & fr. Apr.) H. B. Johnston 82!

Also in **Cameroun**, **C. African Rep.**, **Sudan** and **Uganda**. In Asia it occurs in India, the Malay Islands, and N. Australia.

HYDROCHARITACEAE

Fresh-water or salt-water herbs, partly or wholly submerged; roots sometimes floating. Leaves radical or cauline, alternate to whorled. Flowers hermaphrodite or unisexual, arranged in a tubular spathe or within two opposite bracts, females solitary; peduncle sometimes spirally twisted in fruit. Perianth-segments free, 1-2-seriate, 3 in each series, the outer often green, valvate, the inner petaloid. Stamens numerous to 2. Male flowers with rudimentary ovary. Staminodes usually present in the female flower.

Ovary inferior, 1-locular, with parietal placentas sometimes protruding nearly to the middle of the ovary. Ovules numerous. Fruit rupturing irregularly. Seeds numerous, without endosperm.

Warmer regions of the world.

Advanced relatives of the preceding family, but with the ovary inferior.

- 1 Stems very short; leaves all radical; spathes pedunculate:2
 Stems elongated, with numerous small leaves; spathes sessile, male spathes 2—many-flowered; perianth-segments 6, in two series4. *Lagarosiphon*
- 2 Perianth-segments 6, in two series:3
 Perianth-segments 3, in one series; spathes not winged; male flowers minute, very numerous, freed from the spathe when mature; fruiting peduncle spirally coiled3. *Vallisneria*
- 3 Spathes 2-winged; petals conspicuous and broad; styles 2-fid; leaves broad, long and thin; hermaphrodite1. *Ottelia*
 Spathes not winged; petals linear; styles simple; leaves stiff, linear; dioecious2. *Blyxa*

Hydrocharis chevalieri (De Wild.) Dandy

Occurs from Congo to E. Cameroun and may also be found within our area.

1. OTTELIA

Pers., Syn. Pl. 1: 400 (1805); F.T.A. 7: 6.

- 1 Roots numerous, slender, yellowish-brown when dry; leaves oblanceolate, subacute, gradually narrowed into the wing-like petiole, averaging about 30 cm. long and 6 cm. broad, often much smaller, glabrous, very thin; spathe compressed, narrowly oblong-elliptic, 2-winged, shortly lobed, 2-5.5 cm. long, faintly nerved; beak of the ovary not or only shortly exerted from the spathe, narrow; outer perianth-segments oblong-lanceolate, up to about 2 cm. long, green, inner segments rich yellow or white, about twice as long as the outer; fruit about as long as and enclosed in the somewhat expanded spathe*ulvifolia*

Ottelia ulvifolia (Planch.) Walp. Ann. 3: 510 (1853); Berhaut, Fl. Sén. 185; Obermeyer in Fl. S. Afr. 1: 109, fig. 35, 1 (1966).

Damasonium ulvaefolium Planch. in Ann. Sci. Nat. Sér. 3, 11: 81 (1849).

Ottelia lancifolia A. Rich. (1851)—F.T.A. 7: 7, incl. var. *fluitans* Ridl. (1886).

Ottelia vesiculata Ridl. (1886)—F.T.A. 7: 7.

Ottelia plantaginea Welw. ex Ridl. (1886)—F.T.A. 7: 7.

Ottelia abyssinica (Ridl.) Gürke (1904).

Boottia abyssinica Ridl. (1886)—F.T.A. 7: 9.

A submerged aquatic in muddy pools, leaves often purple-tinged; flowers just above water-level, yellow or white (dried specimens always appear to be yellow).

Sen.: Trochain 1332! Didey Heudelot 209! Niokolo-Koba Berhaut 182; 4689. **Gam.:** Basse, Upper R. Div. Duke 9! **Mali:** Onario to Kubita (Feb.) Davey 40! Ansongo (Sept.) Hagerup 420! **Port. G.:** S. Domingos Esp. Santo 2251. **S. L.:** Yana (Dec.) Jordan 1076! Gbinti, Batkanu to Port Loko (July) Deighton 1967! Fadugu (July) Bakshi 258! Binkolo (Aug.) Thomas 1670! Madina (Sept.) Adames 75! **Lib.:** Nyandamolahun (Feb.) Bequaert 79! Gbanga (Sept.) Linder 474! Suacoco (July) Traub 191! Ganta (May) Harley! **Iv. C.:** Man (May) Chev. 21542! Dabou to N'Douci (July) Aké Assi 9117! **Ghana:** Folifoli, Afram Plains (Aug.) Hall CC 193! Kpandai (Dec.) Adams & Akpabla GC 4035! Tamale (Nov.) Williams 4131! **Niger:** Niamey to Gao Ryff! Gao (Nov.) de Wailly 4890! **N. Nig.:** Nupe Barter 910! Zungeru (Sept.) Dalz. 226! Abinsi (June) Dalz. 859! Naraguta F. R., Jos, 4,000 ft. (Aug.) Lawlor & Hall 174! Gwoza (Dec.) McClintock 75! Vogel Peak, 4,000 ft. (Dec.) Hepper 1544! Kakara, Mambila Plateau, 4,900 ft. (Jan.) Hepper 1778! **S. Nig.:** Siluko, Benin Dist. (Nov.) Onachie FHI 40421! **W. Cam.:** Bamenda to Bansa (Mar.) Richards 5291! **F. Po:** L. Biao, S. shore, 5,700 ft. (Sept.) Melville 492!

Widespread in tropical Africa, reaching Transvaal and Madagascar.

2. BLYXA

Nor. ex Thou., Gen. Nov. Madag. 4 (1806); F.T.A. 7: 6.

- 1 Leaves in a rosette, submerged, narrowly lanceolate, ending in a very sharp point, about 3 cm. long and 0.5 cm. broad, prominently 3-nerved, shortly setulose on the nerves below and on the margin; male spathes pedunculate, about 2 cm. long; peduncle at length elongated and filiform; male flowers on filiform pedicels; female spathes 3 cm. long in fruit; seeds flattened, lanceolate, acute, with jagged-dentate wings ..[senegalensis](#)

Blyxa senegalensis *Dandy* in J. Bot. 72: 42 (1934); Berhaut, Fl. Sén. 183.

A submerged aquatic with a rosette of about a dozen sharply pointed leaves; the thread-like male peduncle about 5 in. long arises from the centre of the rosette and bears a spathe with two floating white flowers on pedicels about 2 in. long.

Sen.: Tambacounda (Nov.) Chev. 34005! 34016! 34018! Berhaut 1651! 3256. Kindia (Sept.) Jac.-Fél. 1847! **S. L.:** Kukuna, N. Prov. (Apr.) Morton & Gledhill SL 55!

3. VALLISNERIA

Linn., Sp. Pl. 1015 (1753); F.T.A. 7: 5.

- 1 Submerged; leaves elongated, linear, denticulate, up to about 30 cm. long or more and about 6 mm. broad, glabrous; spathes dioecious; male spathes many-flowered, female 1-flowered; male flowers becoming detached from the axis and floating in the water, where pollination is effected with the single female flower, which after fertilization is drawn down by the spirally coiling peduncle; perianth-segments 3; stamens 2; ovary 1-celled with 3 parietal placentas; capsule about 5 cm. long[aethiopica](#)

Vallisneria aethiopica *Fenzl* in Sitzb. Akad. Wien, Math.-Nat. 51 Abth. 1: 139 (1865); F.T.A. 7: 5.

Vallisneria spiralis of F.T.A. 7: 5; F.W.T.A., ed. 1, 2: 301, not of Linn.

Submerged aquatic with ribbon-like leaves; **in fresh or brackish water.**

Sen.: Sedhiou, Casamance Adam 18436! Berhaut 6417! **Ghana:** Kpong Irvine 3010! Ajena, Senchi Akabla 1833! Otisu, Kete-Krachi Morton GC 9162! Tefle R., Volta (Apr.) Pople & Hall 3627! **S. Nig.:** Lagos Barter 2163!

Extending to **Ethiopia** and Rhodesia.

4. LAGAROSIPHON

Harv. in Hook., Journ. Bot. 4: 230 (1841); F.T.A. 7: 2.

- 1 Leaves more or less alternate, not verticillate, closely inserted, linear-lanceolate, acute, about 1 cm. long and 1 mm. broad, with about 60 minute teeth on each side; stipules 2, intrafoliaceous, obovate, obtuse; female spathe subtire at the apex, with 2-3 teeth on each side[L. schweinfurthii](#)
- Leaves verticillate, linear-lanceolate, very acute, 2-3 cm. long, 3 mm. broad, with numerous minute very acute teeth on each side; female spathe bearing 1 perfect and 1 rudimentary flower; male spathe bilobed bearing 2 perfect and (?) 1 rudimentary flower; outer perianth-segments 3, 3 mm. long; inner perianth-segments 3, 7 mm. long, 4 mm. broad, irregularly trilobed at apex[2. hydrilloides](#)

1. **Lagarosiphon schweinfurthii** *Casp.* in Bot. Zeit. 28: 88 (1870); F.T.A. 7: 3.

Submerged aquatic with numerous sessile leaves.

Mali: Banani marsh, near Sanga (Dec.) Monod!

Also in **Sudan**.

[The specimen cited above (from IFAN, Dakar) is sterile and the determination is tentative—F.N.H.]

2. **Lagarosiphon hydrilloides** *Rendle* in J. Linn. Soc. 30: 381, t. 32, figs. 1-7 (1895); F.T.A. 7: 4.

Submerged, densely leafy aquatic rooting in streams; male flowers white, borne on slender pedicels about 2 in. long.

Ghana: Ejisu, Kumasi (May) Akpabla 9419!

Also in **Uganda** and **Kenya**.

ALISMATACEAE

Perennial or annual marsh or aquatic herbs, erect, or rarely with floating leaves; leaves basal, with elongated petioles sheathing but open at the base and linear-lanceolate to ovate-rounded often sagittate blades, the principal nerves parallel with the margins and converging at the apex of the blade, the transverse nerves often close and parallel. Flowers often whorled, racemose or paniculate, bisexual or rarely polygamous, actinomorphic. Torus flat to globose. Perianth 2-seriate, the outer 3 imbricate, persistent, green and sepal-like, the inner 3 petaloid, imbricate and deciduous or rarely absent. Stamens hypogynous, 6 or more, rarely 3, free; anthers 2-locular, extrorse. Carpels free or rarely united at the base, sometimes in a single whorl; style persistent; ovules solitary or several, basal or on the inner angle. Fruit a bunch or whorl of achenes, rarely dehiscent at the base. Seeds curved, with horseshoe-shaped embryo; endosperm none.

- 1 Leaves cuneate at base:2
Leaves cordate or sagittate:4
- 2 Flowers usually solitary or with up to 3 in a pseudo-umbellate inflorescence of 1 whorl; carpels very numerous, crowded in a subglobose mass, beaked, compressed; receptacle oblong; sepals and petals distinct from each other [1. *Ranalisma*](#)
Flowers numerous in several whorls or on a panicle:3
- 3 Inflorescence unbranched, flowers sessile or subsessile in several whorls; monoecious; bracts united into a membranous sheath; stamens 3; carpels 3-6, 3-ribbed on the back at maturity [2. *Wiesneria*](#)
Inflorescence branched, paniculate; flowers pedicellate; petals smaller than the sepals; dioecious; stamens 9; carpels 8-20, lateral faces with a flange at maturity [6. *Burnatia*](#)
- 4 Leaves cordate; inflorescence branched; carpels 10-15; receptacle very small [3. *Caldesia*](#)
Leaves sagittate:5
- 5 Carpels very numerous, crowded, compressed; receptacle large; flowers few on an unbranched scape-like inflorescence [4. *Sagittaria*](#)
Carpels 10-20 (-30), ovoid; receptacle very small, inflorescence more or less paniculate [5. *Limnophyton*](#)

1. RANALISMA

Stapf in Hook., Ic. Pl. t. 2652 (1900).

Echinodorus of F.T.A. 8: 211, partly, not of L. C. Rich.

- 1 A small herb with slender roots; leaves all radical, long-petiolate, ovate or oblong-elliptic, subacute, rounded at the base, about 3 cm. long and 1.5 cm. broad, glabrous, with 1 or 2 pairs of ascending nerves, and prominent oblique transverse nerves; submerged leaves linear lanceolate, up to 10 cm. long; flowers hermaphrodite, solitary on fairly long pedicels; sepals 3, herbaceous; petals 3, larger than the sepals; stamens 6 or more; carpels numerous in a subglobose head, long-beaked in fruit and compressed [humile](#)

***Ranalisma humile* (Kunth) Hutch.** in F.W.T.A., ed. 1, 2: 303 (1936); Berhaut, Fl. Sén. 184; Carter in F.T.E.A. Alismatac. 2, fig. 1 (1960). *APD acc*

Alisma humile Kunth, Enum. Pl. 3: 154 (1841).

Echinodorus humilis (Kunth) Buchen. (1869)-F.T.A. 8: 211; Chev. Bot. 686; den Hartog in Fl. Males. 5: 325 (1957).

A small aquatic 1-2 in. high in mud or up to 6 in. if growing in water; flowers white, head of fruits prickly with persistent styles; **in marshy places.**

Sen.: Roger 58! Kaédi Chev. 2592! Berhaut 1400. **Mali:** Télé Lake (Apr.) Leclercq in Hb. Chev. 42467. Nvafemke Rogeon 119. Gombomba (fl. & fr. Feb.) Davey 49! Ansongo (fl. & fr. Mar.) de Wailly 5366! **N. Nig.:** Katagum Dist. Dalz. 311! Zaria Milne-Redhead 5027! Gashua (fr. Mar.) Tuley 1105!

Also in **C. African Rep., Sudan, Congo, Tanzania** and **Zambia.**

2. WIESNERIA

M. Micheli in DC., Monogr. Phan. 3: 82 (1881); F.T.A. 8: 213; F.W.T.A., ed. 1, 2: 303.

- 1 Roots thick, septate; leaves all radical; petiole 11-34 cm. long, 4-6 mm. broad, septate, expanded at base, slightly constricted at apex; lamina elongate-linear-oblongate, subobtusate at apex, 8-12 cm. long, 5-14 mm. broad, with an intramarginal nerve and faintly reticulate; flowers monoecious, in an unbranched scape, the females in whorls in the lower part, the males in the upper part; bracts united into a truncate membranous sheath; stamens 3; carpels 3-6, 3-ribbed on the back, beaked, muciculate on the margin [schweinfurthii](#)

Wiesneria schweinfurthii Hook. f. in Benth. & Hook. f., Gen. Pl. 3: 1007 (1883); F.T.A. 8: 214; Berhaut, Fl. Sén. 184. *APD acc*

Wiesneria sparganiifolia Graebn. (1912).

Submerged aquatic with the appearance of a Potamogeton; flowers monoecious; in pools on laterite rocks.

Sen.: Tambacounda Berhaut 1269; 3257. **Mali:** Sikasso (fl. & fr. Sept.) Adam 15304! **S. L.:** Kambia (fr. Aug.) Jordan 963! **N. Nig.:** Katagum (fl. & fr. May) Dalz. 202!

Also in **E. Cameroun**, **C. African Rep.**, **Congo**, **Sudan**, **Zambia** and **Rhodesia**.

3. CALDESIA

Parl., Fl. Ital. 3: 598 (1858). *Alisma* of F.T.A. 8: 207, partly.

- 1 Leaves and bracts pellucid-punctate; lamina ovate, 6-10 cm. long along midrib, obtuse at the apex, deeply cordate with obtuse lobes, nerves 9-17 with cross veins 2-5 mm. apart; inflorescences 1-3, well-branched; lower bracts lanceolate, acute, about 3 cm. long; pedicels 1-3.5 cm. long usually arcuate, in fruit; sepals 1.5-2 mm. long; petals 2.5 mm. long; achenial fruits kidney-shaped, laterally compressed, 3-4 mm. long, dorsally with 4 longitudinal ribs densely set with blunt spiny warts [1a. oligococca var. echinata](#)

Leaves and bracts not pellucid-punctate; lamina broadly ovate to suborbicular, 2.5-6 cm. long along midrib, rounded at the apex, deeply cordate at the base with rounded lobes, nerves 13-17 with cross veins about 0.5 mm. apart; inflorescence 1-few, well-branched, rather stout, lower bracts oblong up to 1 cm. long; pedicels 1 cm. long, remaining erect in fruit; sepals 3 mm. long; petals slightly longer; achenial fruits obovate, with persistent style, 2 mm. long, longitudinally ribbed, smooth [2. reniformis](#)

1. **Caldesia oligococca** (F. von Muell.) Bunchen. in Engl., Bot. Jahrb. 2: 479 (1882). *APD acc*

Vars. *oligococca* and *acanthocarpa* (F. von Muell.) den Hartog occur in tropical Asia and Australia.

- 1a. **Caldesia oligococca var. echinata** den Hartog in Fl. Males. 5: 322, fig. 1, 2a-d (1957). *APD acc*

An aquatic herb with broad floating leaves and sometimes submerged linear phyllodes; paniculate inflorescences about 2 ft. high; with white flowers and spiny fruits; at the edge of permanent swamps.

Sen.: Niokolo-Koba (fr. Dec.) Raynal 6877! **N. Nig.:** Nupe Barter 1062!

Also in **India**, **Ceylon**, **Indo-China** and **Java**.

2. **Caldesia reniformis** (D. Don.) Mackino in Bot. Mag. Tokyo 20: 34 (1906); Carter in F.T.E.A., Alismatac. 7, fig. 4 (1960). *APD acc*

Alisma reniforme D. Don, Fl. Nepal 22 (1825).

A. parnassifolium of F.T.A. 8: 208; of Chev. Bot. 686; not of Bassi.

Caldesia parnassifolia var. nilotica (M. Micheli) Buchen. (1903).

An aquatic with floating leaves; paniculate inflorescences 1-2 ft. high, with white flowers and smooth fruits; in swamps.

Dah.: Khuon lagoon, Abomey Circle Chev. 23264! **N. Nig.:** Thornewill 96! Matyoro (fr. Oct.) Thornewill 143!

Widespread in tropical and N. Africa, Madagascar and eastwards to India, Malaysia, China and Australia.

4. SAGITTARIA

Linn., Sp. Pl. 993 (1753); Bogin in Mem. N.Y. Bot. Gard. 9: 179-233 (1955).

Lophotocarpus Dur. (1888)—F.T.A. 8: 210; F.W.T.A., ed. 1, 2: 303.

- 1 Rootstock small, with numerous slender roots; leaves all radical, long-petiolate, ovate in outline, deeply sagittate at the base, 5-9 cm. long, up to 8 cm. broad, with numerous nerves radiating from the base; scapes few-flowered, unbranched; flowers polygamous, few in each whorl, the lower hermaphrodite; pedicels stout; bracts triangular-ovate, up to 1 cm. long; sepals 3, veined; petals 3, larger; stamens 9-15; carpels numerous, crowded, compressed, with rugose margins *guayanensis* subsp. *lappula*

Sagittaria guayanensis Kunth. Nov. Gen. & Sp. 1: 250 (1816); Bogin l.c. 192; den Hartog in Fl. Males. 5: 328. *APD acc*

Sagittaria guayanensis subsp. *lappula* (D. Don) Bogin l.c. 192, fig. 5c (1955); Aké Assi, Contrib. 2: 11. *APD acc*

Sagittaria lappula D. Don, Prod. Fl. Nep. 22 (1825).

Lophotocarpus guayanensis (H.B. & K.) Dur. & Schinz (1895)—F.T.A. 8: 210; F.W.T.A., ed. 1, 2: 303; Berhaut, Fl. Sén. 179.

L. gourmacus A. Chev., Bot. 686 (1920), name only.

An aquatic with floating leaves; flowers white; in muddy pools.

Sen.: Berhaut 1653; 3258. Richard-Tol (July) Martine 100! **Port. G.:** Piche (Sept.) Pereira 3198! **Gam.:** Bansang Duke 8! Fulladu West (Nov.) Frith 155! **Mali:** Bamako to Ségou (Sept.) Jaeger 5118! Sikasso (Sept.) Adam 15306! **Iv. C.:** Ouango-Fitinu (Dec.) Aké Assi 7532! **U. Volta:** Fada-N'Gourma Chev. 24486! **Ghana:** Burufo, Lawra (fl. & fr. Sept.) Hall CC 733! **N. Nig.:** Katagum Dist. Dalz. 198!

Also in **Sudan**, **Madagascar**, **tropical Asia** and **tropical America**.

5. LIMNOPHYTON

Miq., Fl. Ind. Bat. 3: 242 (1855); F.T.A. 8: 209.

- 1 Leaves linear-lanceolate, gradually narrowed to the base, caudate-acuminate, 30 cm. long, 2.5 cm. broad, 3-nerved; flowers verticillate; dry fruits 3 mm. long, 2 mm. broad *1. fluitans*

Leaves sagittate: *2*

- 2 Bracts glabrous, triangular, 1-2 cm. long, up to 1 cm. broad; inflorescences with 3-8 bracteoles and 5-10 flowers in each whorl; fruiting pedicels 1-2 mm. diam., 2-4 cm. long; fruits reticulately ridged, pale brown; leaves ovate-sagittate, obtuse at apex, glabrous, midrib 6-9 cm. long, lobes of lamina 7-11 cm. long; petioles 25-50 cm. long *2. obtusifolium*

Bracts pubescent outside, lanceolate, 2-4 cm. long, about 5 mm. broad; inflorescences with at least 10 bracteoles and 15 flowers in each whorl; fruiting pedicels 0.5 mm. diam., 2-4 cm. long; fruits longitudinally ridged otherwise smooth and glossy; leaves markedly sagittate, more or less acute or shortly apiculate at apex, usually slightly pubescent beneath, midrib 10-15 cm. long, lobes of lamina 13-20 cm. long; petioles 10-60 cm. long *3. angolense*

1. *Limnophyton fluitans* Graebn. in. Engl., Bot. Jahrb. 41: 274 (1908). *APD acc*

Submerged aquatic with long, bronze-green leaves; flowers with 3 white petals, anthers cream.

S. Nig.: Oban Talbot 708! Owai-Ifunkpa (Apr.) Talbot 495 (drawing)!

Also in **E. Cameroun**.

2. *Limnophyton obtusifolium* (Linn.) *Miq.* Fl. Ind. Bat. 3: 242 (1855); F.T.A. 8: 209; Buchenau in Engl., Pflanzenr. 4, 15: 22, fig. 10 (1903); Berhaut, Fl. Sén. 180; Den Hartog in Fl. Males. 5: 324 (1957); Carter in F.T.E.A. Alismatac.: 9fig. 5, 1-5 (1960); Aké Assi, Contrib. 2: 10, partly; Obermeyer in Fl. S. Afr. 1: 109, fig. 35, 1 (1966). *APD acc*

Sagittaria obtusifolia Linn., Sp. Pl. 993 (1753).

Lophotocarpus guayanensis of Chev. Bot. 686, partly (Chev. 2595), not of H.B. & K.

Erect tufted herb with long-stalked leaves and inflorescences with spongy peduncles about 2 ft. high; flowers white; [at the margin of ponds in mud](#).

Sen.: (Dec.-Jan.) Roger 60! Heudelot 231! Dakar Chev. 75788. Tambacounda Adam 2445! Séléki, Casamance Chev. 2595! **Mali:** Banani, near Sanga Monod! **Gam.:** Kuntaur Ruxton 108! **Lib.:** Nimba Reserve (fr. Dec.) Adam 20202! **Ghana:** Accra to Oda (June) Morton GC 9233! Savelugu (fr. Dec.) Morton GC 9894! **Togo Rep.:** Lomé Warnecke 214! Davidson 14! **Dah.:** Whydah Isert (photo!) **Niger Rep.:** Zinder (fr. Oct.) Hagerup 586! **N. Nig.:** Katagum Dalz. 199! Sokoto Lely 161! Dikwa (fl. & fr. Nov.) McClintock 23!

Widespread in tropical Africa; also in Madagascar, India, Ceylon and the Malay Islands.

3. ***Linnophyton angolense* Buchen.** in Engl., Pflanzenr. 4, 15: 23 (1903); Carter in F.T.E.A. Alismatac.: 11, fig. 5, 6-13. *APD acc*

Lophotocarpus guayanensis of Chev. Bot. 686, partly (Chev. 13327, 14888), not of H.B. & K.

Linnophyton obtusifolium of F.W.T.A., ed. 1, 2: 303, fig. 281, partly (Sc. Elliot 4972; Deighton 357; Thomas 2520; Linder 285 (sheet 2); Barter 1532); of Aké Assi, Contrib. 2: 10, partly, not of (Linn.) Miq.

Caldesia reniformis of F.W.T.A., ed. 1, 2: 304, partly (Linder 385, sheet 1).

An [aquatic](#) herb similar to the last, up to 4 ft. high.

Guin.: Timbo to Farana Chev. 13327! Dindia Caille in Hb. Chev. 14888! Nzérékoré (May) Schnell 2765! **S. L.:** Likuru (Feb.) Sc. Elliot 4972! Mafinta, near Roruks (fr. July) Deighton 4681! Kolia, Mano to Kailahun (Apr.) Deighton 3162! Gégbwema (Nov.) Deighton 357! Jigaya (fr. Sept.) Thomas 2520! Kenema (Jan.) Thomas 7631! **Lib.:** Dinklage 3348! Sarbo (July) Baldwin 6396! Jabroke (July) Baldwin 6486! Gbanga (Sept.) Linder 385! **Iv. C.:** Danané (Aug.) Boughey GC 18139! **Ghana:** Bimbila (Mar.) Hepper & Morton A3106! Amedi Lagoon, Amedikan (Nov.) Hall 2740! **N. Ng.:** Nupe Barter 1532! **S. Nig.:** Awka Dist. (Feb.) Jones FHI 628!

Also in [E. Africa](#) and [Zambia](#).

6. BURNATIA

M. Micheli in DC., Monogr. Phan. 3: 81 (1881); F.T.A. 8: 212.

- 1 Rootstock shortly rhizomatous and/or with ovoid-globose corms about 1 cm. diam. with numerous slender roots; leaves all radical, long-petiolate, oblong-lanceolate, acute at each end, about 16 cm. long and 3-4 cm. broad, glabrous, with 2-3 lateral nerves on each side, not reticulate; male inflorescence a much-branched panicle longer than the leaves; bracts linear-lanceolate, up to 2 cm. long; pedicels slender, 6-8 mm. long; sepals rounded-elliptic, about 2 mm. long; petals small; female inflorescence much smaller and more compact than the male; carpels about 12, crowded, 1-seeded[enneandra](#)

***Burnatia enneandra* M. Micheli** in DC., Monogr. Phan. 3: 81 (1881); F.T.A. 8: 213; Chev. Bot. 686; Aké Assi, Contrib. 2: 9; Obermeyer in Fl. S. Afr. 1: 99, fig. 29, 3 (1966). *APD acc*

An aquatic with tufted leaves about 1 ft. high and slender branched inflorescences (at least the male) about 2 ft. high; flowers small, white or pink; [at margins of muddy pools](#).

Sen.: Trochain 1556! **U. Volta:** Fada-N'Gourma Chev. 24487! Banfora (Sept.) Adam 15383! **Iv. C.:** Sémien Lake, Man road Aké Assi IA 5770. **Ghana:** Folifoli, Afram Plains (Aug.) Hall CC 190! Mirigu (Oct.) Vigne FH 4617! Navrongo (June) Vigne FH 4712! W. of Bawku (Aug.) Hall CC 544! Yendi (July) Akpabla GC 1912! **N. Nig.:** Zungeru (July) Dalz. 260! Bida to Badeggi (Aug.) Onochie FHI 35418! **S. Nig.:** Awi to Akamkpon, Calabar Prov. (fr. Feb.) Daramola FHI 55532!

Scattered throughout much of tropical Africa.

TRIURIDACEAE

Leafless saprophytic herbs with simple or subsimple stems furnished with a few pale scales. Flowers very small, racemose or subcorymbose, with decurved bracteate pedicels, actinomorphic, monoecious, dioecious or rarely polygamous. Perianth-segments 3-8, 1-seriate, valvate, sometimes appendaged at the apex, at length reflexed. Male flowers: stamens 2-6, sometimes only half of them fertile; anthers free or immersed in the mass of the receptacle, 2-locular, dehiscing mostly transversely; connective sometimes produced into long subulate appendages. Female flowers rarely with staminodes. Carpels

several, free, 1-locular; style terminal to almost basal; ovule solitary, basal. Fruits crowded, opening by a slit. Seed erect, with a fleshy white oily undifferentiated nucleus.

Tropics; rare in Africa.

SCIAPHILA

Blume, Bijdr. 514 (1825).

Perianth 3-8-partite or deeply lobed. Anthers sessile or subsessile at the base of the perianth. Style ventral or basal in fruit.

- 1 Racemes about 9 cm. long, about 12-flowered; lower flowers female, upper male; leaves reduced to scales, ovate-triangular; bracts ovate-lanceolate, about 2 mm. long; pedicels curved, 7-8 mm. long, glabrous; perianth-segments reflexed, lanceolate, 1.25 mm. long, hairy at the tips; fruits ellipsoid; seeds ribbed, subacute at one end [1. ledermannii](#)

Racemes 15-20 cm. long, with very numerous flowers; leaves linear-lanceolate, 3-4 mm. long; bracts linear, reflexed, persistent; pedicels spreading-recurved, slender, about 1 cm. long, pale glaucous-purple; perianth-segments 6, triangular, ending in a hair, not reflexed; fruits ellipsoid, minutely pitted when dry [2. africana](#)

1. *Sciaphila ledermannii* Engl. Bot. Jahrb. 43: 304 (1909). *APD acc*

A rigid saprophytic herb 3-4 in. high among dead leaves in damp sandy places on the forest floor; aerial parts deep coral pink, perianth paler, subterranean parts whitish.

S. Nig.: Oban (Mar.) Talbot 710! 1473! Richards, Onochie & Coombe 5141!

Also in **E. Cameroun**.

2. *Sciaphila africana* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 96 (1908); Chev. Bot 686. *APD acc*

A slender saprophyte about 1 ft. high, with numerous small nodding unisexual flowers on slender pedicels.

IV. C.: Aké Assi 9476! Mt. Copé, Tepos country, Cavally Basin (fr. July.) Chev. 19661! **Ghana:** Ankasa F.R. (Jan.) Enti & Hall GC 36286!

APONOGETONACEAE

Fresh-water aquatic herbs with submerged or floating leaves; rhizome tuberous, with fibrous roots. Leaves long-petiolate, or sessile, oblong-elliptic to linear, with few principal parallel nerves and numerous transverse secondary nerves. Flowers hermaphrodite or rarely unisexual, spicate-scapose, spike simple or usually 2- (rarely up to 8-) forked, without bracts. Perianth-segments 1-3, or absent, sometimes petaloid and bract-like, equal or unequal, usually persistent. Stamens 6 or more, free, hypogynous, persistent; anthers extrorse, 2-locular. Carpels free, 3-6, sessile; style short; ovules 2 or more, ascending. Fruits opening on the adaxial side. Seeds without endosperm.

Warm regions from India and South China through Malaya to Australia, but most numerous in Tropical and S. Africa and in Madagascar.

APONOGETON

Linn. f., Suppl. 32 (1781); F.T.A. 8: 216; K. Krause & Engl. in Engl., Pflanzenr. 4, 13: 9 (1906). *APD acc*

Aquatics. Scapes simple or bifid, with unilateral flowers. Perianth-segments 1-3, white or coloured. Styles distinct.

- 1 Leaves long-petiolate, oblong, cordate at the base, obtuse at the apex, 16-20 cm. long, 3-4.5 cm. broad, with a broad midrib and 3 longitudinally parallel nerves on each side, and numerous closely parallel spreading transverse nerves between; spikes long-pedunculate, 2-forked, not secund, arms about 3 cm. long in flower, about 6 cm. long in fruit; fruiting carpels ovoid-ellipsoid, beaked; perianth small and bract-like [1.](#)

subconjugatus

Leaves sessile, linear, up to 15 cm. long, subacute, with no distinct midrib but with several distinct longitudinally parallel nerves; peduncles very slender; spikes unbranched, secund, about 2 cm. long; basal bract oblong-lanceolate, apiculate, 1 cm. long; perianth-segments conspicuous, white, veined[2. vallisnerioides](#)

1. **Aponogeton subconjugatus** *Schum. & Thonn.* in *Beskr. Guin. Pl.* 183 (1827); *F.T.A.* 8: 217; Berhaut, *Fl. Sén.* 179, 185. *A. heudelotii* Engl. (1887). *APD acc*

An aquatic with floating leaves in pools; flowers yellowish.

Sen.: Walo Heudelot 433! Berhaut 1752. **Mali:** Dogo (Dec.) Davey 1! Ouario to Koubita (Feb.) Davey 41! Berra near Gao (Nov.) de Wailly 4731! **Ghana:** Thonning! Achimota (June) Irvine 1468! Accra to Ada (fl. & fr. Dec.) Morton GC 8245! Kpong (June) Irvine 4917! **N. Nig.:** Katagum Dist. Dalz. 226!

Also in **E. Cameroun**.

2. **Aponogeton vallisnerioides** *Bak.* in *Trans. Linn. Soc.* 29: 158 (1875); *F.T.A.* 8: 218; Troupin in *Fl. Sperm. Parc. Nat. Garamba* 1: 12, fig. 1 (1953). *APD acc*

Aquatic in pools on laterite; flowers white or pale violet.

Sen.: Tambacounda Chev. 34017. **S. L.:** Moyamba (Aug.) Dawe 566! Kambia (Aug.) Jordan 962! Morton & Gledhill SL 76! **iv. C.:** Bassawa (Nov.) Aké Assi 9258! **N. Nig.:** "Niger" Baikie! Anara F.R., Zaria (July) Keay FHI 25961!

Also **Congo, Sudan, Uganda** and **Kenya**.

Zostera nana *Roth*

It has been reported from Mauritanian coasts and it may also occur within our area.

The genus *Zostera*, in its own family *Zosteraceae*, is placed by Hutchinson in the *Aponogetales*. The Engler System (ed. 12) places the genus in *Potamogetonaceae*.

POTAMOGETONACEAE

Aquatic herbs of fresh, water. Leaves alternate or opposite, those immersed thin, those above water often leathery, sheathing at the base, sheath free or partially adnate to the petiole. Flowers hermaphrodite, small, arranged in pedunculate axillary spikes; peduncle surrounded by a sheath at the base; bracts absent. Perianth of 4 free rounded shortly clawed valvate segments. Stamens 4, inserted in the claws of the segments; anthers extrorse, 2-locular, sessile. Carpels 4, free, 1-locular; stigmas sessile or on short styles; ovule solitary, on the adaxial angle. Fruits free, 1-seeded, indehiscent. Seeds without endosperm.

One genus, *Potamogeton*, widely distributed.

POTAMOGETON

Linn., *Sp. Pl.* 126 (1753); *F.T.A.* 8: 219; Dandy in *J. Linn. Soc.* 50: 507-540 (1937).

Characters of the family.

- 1 Submersed leaves about 20 mm. broad, broadly linear, narrowed to each end, 15-25 cm. long, very thin, with about 7 longitudinal nerves, rarely upper leaves floating; spikes many-flowered, about 4 cm. long; fruits obliquely ovoid, beaked, 2-5 mm. long [1. schweinfurthii](#)
- Submersed lower leaves 1-2 mm. broad, linear, 5-6 cm. long, upper leaves sometimes expanded into elliptic lamina 1-2 cm. long, 3-6 mm. broad, more or less floating; spikes small and few-flowered; peduncle 3-5 cm. long, stout; flowering portion about 1 cm. long; fruits about 2 mm. long [2. octandrus](#)

1. **Potamogeton schweinfurthii** *A. Benn.* in *F.T.A.* 8: 220 (1901); Dandy l.c. 526, fig. 6 (map); Berhaut, *Fl. Sén.* 81; Obermeyer in *Fl. S. Afr.* 1: 66, fig. 18, 2 (1966). *APD acc*

Potamogeton lucens var. **fluitans** of *F.T.A.* 8: 221, not of Coss. & Germ.

Submerged aquatic with very thin rather large leaves.

Sen.: Lake Guier (fr. Jan.) Leprieur! Roger! **Mali:** Gao (Feb., Mar.) de Wailly 4827! 4976! **Iv. C.:** Banfora to Tiafora (Apr.) Aké Assi 8617! **N. Nig.:** Mallam Fatori, Chad Dist. G. Jackson FHI 59167!

Also widespread in E. and S. Africa.

[A sterile specimen (Melville 488) from L. Biao, F. Po, may also be this species.]

2. **Potamogeton octandrus** *Poir.* in Lam., Encycl. Méth., Bot., Suppl. 4: 534 (1816); Dandy l.c. 517, fig. 2 (map); Obermeyer l.c. 65, fig. 16, 1 (1966). *APD acc*

Potamogeton javanicus *Hassk.* (1856)—F.T.A. 8: 202, partly.

Potamogeton preussii *A. Benn.* in F.T.A. 8: 222 (1901), partly; Graebner in Engl., Pflanzenr. Potamogetonac. 106, partly.

An aquatic with fine submerged leaves and often broader floating ones.

Sen.: Niokolo-Koba (fr. Feb.) Adam 17576! **Mali:** Gao (fr. Feb.) de Wailly 4834! Gorintha, Dago (fr. Apr.) Davey 608! **S. L.:** Rhombe (fr. Mar.) Adames 144! Gbap (fr. Apr.) Deighton 4299! **Lib.:** Gbaishelo (fr. Dec.) H. Vogel in Hb. Harley 2199! **Ghana:** R. Volta, Battor (Apr.) Pople & Hall 3625! **N. Nig.:** Jebba Barter 1069! Near Gembu, Mambila Dist. (Feb.) Hepper 1849! **W. Cam.:** Johann-Albrechtshöhe (= Kumba) Staudt 462! Barumbi-ba-Mbu Preuss 451! Throughout the Old World Tropics.

Several other species occur in suitable places near the northern limit of the Flora: *P. hoggarensis* Dandy, *P. panormitanus* Biv. and *P. perfoliatus* Linn.

RUPPIACEAE

Aquatic herbs of saline marshes. Leaves opposite or alternate, linear or setaceous, sheathing at the base. Flowers hermaphrodite, small, in terminal spikes at first enclosed by the sheathing base of the leaves, at length much elongated; bracts and perianth absent. Stamens 2; filaments short, broad; anthers extrorse, loculi reniform and separated by the connective. Carpels 4 or more, free, stigmas peltate or umbonate. Ovule solitary, pendulous. Fruits long-stipitate with spirally twisted stalks, indehiscent. Seeds pendulous, without endosperm.

Salt marshes throughout temperate and tropical regions.

RUPPIA

Linn., Sp. Pl. 127 (1753); F.T.A. 8: 224

- 1 A very slender profusely branched herb with long linear leaves about 0.5 mm. broad arising from hyaline sheaths; fruit drupaceous, about 3 mm. long *maritima*

Ruppia *maritima* *Linn.* Sp. Pl. 127 (1753); Obermeyer in Fl. S. Afr. 1: 61, fig. 15, 1 (1966). *APD acc*

Ruppia rostellata *Koch* in Reichb., Ic. Pl. Crit. 2: 66, t. 174 (1823); F.T.A. 8: 224; F.W.T.A. ed. 1, 2: 307.

Ruppia spiralis of F.T.A. 8: 224, not of Hartm.

Potamogeton pusillus of Fl. Nigrit. 528, not of Linn.

P. pectinatus of F.T.A. 8: 223, partly, not of Linn.

A submerged aquatic.

Sen.: Cayor Leprieur! Gandide Trochain 2778! **Ghana:** Cape Coast Don! Teshi (fr. June) Irvine 2777! Labadi Lagoon (fr. Jan.) de Wit & Morton A3002! Prampram (fr. Feb.) Morton GC 6419! **N. Nig.?:** (fr. Nov.) E. Vogel!

Widespread in the tropics.

ZANNICHELLIACEAE

Submerged aquatic herbs in fresh, brackish, or salt water; rhizome creeping, slender. Leaves alternate or opposite, or crowded at the nodes, linear, sheathing at the base, sheaths mostly ligulate at the apex; flowering leaves sometimes reduced to sheaths. Flowers minute, monoecious or dioecious, axillary, solitary or in cymes. Perianth of 3 small free scales, or absent. Stamens 3, 2 or 1; anthers 2-1-locular,

opening lengthwise; pollen globose or thread-like. Carpels 1-9, free; style simple or 2-4-lobed. Ovule solitary, pendulous. Fruits sessile or stipitate, indehiscent. Seed pendulous, without endosperm.

Widely distributed, mainly in salt water.

- 1 Styles 2-fid; anthers at an equal height; leaf-apex rounded, toothed [1. *Cymodocea*](#)
 Styles simple; one anther attached higher than the other; leaf-apex bicuspidate [2. *Halodule*](#)

1. CYMODOCEA

Konig in *Konig & Sims*, *Ann. Bot.* 2: 96 (1805); *F.T.A.* 8: 228; *Graebner* in *Engl., Pflanzenr.* 4, 11: 146 (1907).

Perianth absent from the male flowers. Stamen 1, on a slender filament. Carpels curved.

- 1.1. Rhizome creeping, marked with circular scars at the nodes; leaf-sheaths auriculate, up to 5 cm. long, deciduous; leaf-blades linear, toothed near the apex, up to 1 m. long and 3-5 mm. broad, about 7-nerved; male flowers long-pedunculate; carpels 2, collateral, each with 2 long stigmas; fruit sessile, obliquely ovoid, 1 cm. long, keeled, shortly beaked [nodosa](#)

Cymodocea nodosa* (*Ucria*) *Aschers. in *Sitzungsber. Ges. Naturf. Fr., Berlin* 1867: 4 (1867); *F.T.A.* 8: 229; *Graebner* l.c. 147; *Bossier, Fl. Orient.* 5: 21; *Feldmann* in *Bull. Soc. Nat. Afr. Nord* 29: 111 (1938). *APD acc*

Zostera nodosa *Ucria* (1790).

A marine aquatic.

Maur.: Murat! (vide *Feldmann* l.c.) **Sen.:** Joul, and mouths of the river (vide *Boissier* l.c.). Ponto Raynal 7240!

Widely distributed on warm shores from Europe and the Canary Is. to the eastern Mediterranean.

2. HALODULE

Endl., *Gen. Pl. Suppl.* 1: 1368 (1841); *den Hartog* in *Blumea* 12: 289-312 (1964).

Diplanthera *Thou.* (1806).

- 1.1. Rhizome creeping, with 2-5 roots and a short erect stem at each node; scales elliptic, 4-9 mm. long; sheaths 1.5-4 cm. long; 5-18 cm. long, about 0.5 mm. broad, with a conspicuous midrib sometimes ending in a very small tooth, intra-marginal veins inconspicuous both ending in a narrow triangular lateral tooth giving the leaf tip a bicuspidate appearance; male flowers pedunculate, anthers slender, one higher than the other, 4 mm. long; female flower with compressed elliptic ovary 1.5-2 mm. long, style 11-12 mm. long; fruit ovate, slightly compressed 2 mm. long with a very short rostrum [wrightii](#)

Halodule wrightii* *Aschers. in *Sitzungsber. Ges. Naturf. Fr., Berlin* 1868: 19, 24 (1869); *den Hartog* l.c. 304, figs. 6-8. *APD acc*

Diplanthera wrightii (*Aschers.*) *Aschers.* (1897)—*Feldmann* in *Bull. Soc. Hist. Nat. Afr. Nord* 29: 107-112, fig. 1 (1938); *Trochain* in *Mém. I.F.A.N.* 2: 108 (1940).

A slender marine aquatic herb growing in sand near low tide mark.

Maur.: Murat! **Sen.:** Nianing (Aug.) **Trochain!** Ponto Raynal 7242!

Also in Mauritania (Tanoudort) around the African coasts to the Persian Gulf, and in the Caribbean area.

NAJADACEAE

Small submerged annual water-plants; stem slender, much branched. Leaves small, subopposite or verticillate, sessile, with a sheathing base and linear entire or toothed blade. Flowers unisexual, monoecious or rarely dioecious, very small axillary, often enveloped in a bract (spathe) with 2-lobed apex. Male flower with 1 stamen; anther sessile, 1-4-locular. Bract (spathe) of female flowers sometimes very thin and adhering to the carpel. Ovary of 1 carpel, 1-locular, with 2-4 stigmas. Ovule solitary erect. Fruit usually embraced by the leaf-sheath, indehiscent. Seed without endosperm.

One genus, widely distributed in temperate and warm regions.

NAJAS

Linn., Sp. Pl. 1015 (1753); F.T.A. 8: 225, as *Naias*; Horn af Rantzien in Kew Bull. 7: 29-40 (1952).

Characters of the family.

- 1 Leaves conspicuously toothed (see also No. 2), strongly falcate, the teeth as long as or greater than the width of the leaf; leaf sheath truncate; only male flowers provided with bract (spathe); anther 4-locular [1. *pectinata*](#)
Leaves obscurely toothed: [2](#)
- 2 Leaf sheaths not auricled but irregularly fimbriate with at least 10 spines; leaf margin with 12-20 rather conspicuous teeth; both male and female flowers enclosed in spathes [2. *affinis*](#)
Leaf sheaths auricled; leaf margin teeth minute: [3](#)
- 3 Bract (spathe) present, enclosing either male or female flowers or both: [4](#)
Bract (spathe) absent from all flowers: [5](#)
- 4 Both male and female flowers enclosed in a bract (spathe), at anthesis male flower exerted from bract on 2 mm.-long pedicel, anthers 4-locular; leaf margin with (12-)16(-21) teeth on each side; fruits 2-2.5 mm. long [3. *meikleii*](#)
Only male flowers enclosed in a bract (spathe), anthers 1-locular; leaf margin with 35-45 teeth on each side ... [4. *hagerupii*](#)
- 5 Leaves with about 10 minute teeth; auricles generally bearing 3-5 inconspicuous spines; fruits 1.6-2.1 mm. long, with 20-25 rows of squarish markings [5. *liberiensis*](#)
Leaves with about 20 distinct teeth, often with leaf margin undulate; auricles with about 2 brownish spines at apex; fruits 2-2.5 mm. long, with about 50 rows of elongated markings [6. *baldwinii*](#)

1. ***Najas pectinata* (Parl.) Magnus** in Aschers. & Schweinf., Illustr. Fl. Egypte 145 (1889); H. af Rantz. l.c. 38; Berhaut, Fl. Sén. 53; Obermeyer in Fl. S. Afr. 1: 83, fig. 24, 1 (1966).

APD: *Synonym of *Najas marina* subsp. *armata* (H. Lindb.) Horn*

APD: *Synonym of *Najas horrida* A. Braun ex Magnus*

APD: *Synonym of *Najas welwitschii* Rendle*

APD: *Synonym of *Najas baldwinii* Horn*

***Caulina pectinata* Parl.** (1858).

***Najas horrida* A. Br. ex Magnus** (1870)—Rendle in Trans. Linn. Soc., ser. 2, 5: 422, t. 42, fig. 183-191 (1899); F.T.A. 8: 228.

Aquatic herb.

Sen.: Lake Guier Roger. Walo, near Keurmbaye Leprieur. St. Louis Trochain 2292! **Mali:** Diaka, Macina (fr. Nov.) Monod! **Guin.:** Koba (fr. Nov.) Jac.-Fél. 7375! **S. L.:** Rokupr (Sept., Oct.) Jordan 115! 128! **Ghana:** Lawra (fr. Sept.) Hall CC 725! Pong Tamale Hall CC 420! **N. Nig.:** Nupe Barter 1065! **W. Cam.:** Barombi-Ba-Mbu (Aug.) Preuss 452! Kumba (=Johann-Albrechtshöhe) Staudt 488!

Widespread in Africa and tropical Asia.

2. ***Najas affinis* Rendle** in Trans. Linn. Soc. ser. 2, 5: 440 (1899); H. af Rantz. l.c. 32 (1960); Berhaut, Fl.

Sén. 53. *APD acc*

APD: Synonym of Najas welwitschii Rendle

Sen.: Leprieur! N'Ghar to Namari Trochain 3729 bis!

3. *Najas meikleii* *H. af Rantz.* in Kew Bull. 7: 34, figs. 1, 2 (1962).

APD: Synonym of Najas welwitschii Rendle

APD: Synonym of Najas testui Rendle

Ghana: Lawra (Sept.) Hall CC 723! Ada (May) Hall 3463! **N. Nig.:** near Gwari Hill, Minna (fl. & fr. Dec.) Meikle 710! near Gembu, Mambila Dist. (fr. Feb.) Hepper 2829!

4. *Najas hagerupii* *H. af Rantz.* in Kew Bull. 7: 35, fig. 3 (1952). *APD acc*

Mali: Gao (Sept.) Hagerup 368a! **Ghana:** Baghari, near Lawra (Sept.) Hall CC 768! Kamba, near Lawra (Nov.) T. M. Harris!

5. *Najas liberiensis* *H. af Rantz.* in Medd. Göteb. Bot. Trädg. 18: 190 (1950); Kew Bull. 7: 39 (1952); Aké Assi, Contrib. 2: 12 [222].

APD: Synonym of Najas graminea Delile

APD: Synonym of Najas baldwinii Horn

Mali: Kita Massif (July) Jaeger KI! **Lib.:** Vonjama (Oct.) Baldwin 9925! **Iv. C.:** Danané to Nzo Mangenot & Aké Assi IA 3276.

Also in **Chad** and **C. African Republic**.

6. *Najas baldwinii* *H. af Rantz.* in Medd. Göteb. Bot. Trädg. 18: 187 (1950); Bot. Notiser 1951: 382; Kew Bull. 7: 40 (1952). *APD acc*

APD: Synonym of Najas hagerupii Horn

S. L.: Njala (Sept.) Deighton 2797! Kambia (July) Jordan 471! **Lib.:** Gondolahun, Kolahun Dist. (Nov.) Baldwin 10116! Salala (Aug.) Baldwin 13206! Gbeidin (Sept.) Harley 1656! **Ghana:** Busunu, Damongo to Yapei (fr. Sept.) Hall CC 892!

The species are not as clear-cut as the key would suggest and in spite of Horn af Rantzlen's work much remains to be done to define the specific limits—if, indeed, this is possible in the traditional sense. Other aquatic plants have been shown to exhibit remarkable morphological variation according to the environmental conditions (moving or still water etc.) and in *Najas* even the floral characters appear to be of dubious taxonomic value.-F.N.H.

COMMELINACEAE

Perennial or annual herbs, often more or less succulent, mostly terrestrial, sometimes aquatic, frequently producing adventitious roots at the nodes; stems erect to prostrate, rarely somewhat climbing. Leaves alternate (falsely whorled in *Palisota*), with a basal membranous often nervose and closed sheath. Inflorescence composed of single or aggregated cincinni, terminal, lateral or axillary; sometimes each cincinnus may be reduced to single or (apparently) fascicled flowers. Flowers actinomorphic or zygomorphic, often surrounded by mucilage. Sepals 3, free, usually green or membranous. Petals 3 (one often smaller than the other 2), white or coloured, free or sometimes united below into a tube. Stamens hypogynous, basically 6 in two whorls, but variously modified or suppressed; fertile stamens 2, 3 or 6; staminodes 0, 3 (or rarely 4); filaments (with us) free, glabrous or with moniliform hairs; anthers dorsifixed or basifixed, 2-locular, dehiscent by longitudinal slits (or by basal pores in *Cyanotis*). Ovary superior, 2-3-locular, with a simple terminal style and a small more or less capitate stigma; ovules 1-6 (-10) per loculus, axile. Fruit usually a loculicidal capsule, sometimes partly or wholly indehiscent, or (in *Palisota*) a berry. Seeds usually crowded, with the contiguous faces flat, often muricate, ridged or reticulate, relatively large; the testa characteristically marked on the

outside with a circular or elliptic callosity called the embryostega (or embryotega), under which the embryo is situated; hilum punctiform or linear; endosperm abundant, mealy.

A medium-sized family of 500-600 species, widely distributed mainly in tropical and subtropical regions.

The leading features of the family are the leaf-sheaths, the inflorescence of cincinni, the separate calyx and corolla, and the embryostega on the seed. According to Mr. D. P. Stanfield, to whose observations on the family as a whole this account owes much, the family is "readily recognized by the involute margins of the young leaves, a characteristic feature of all the genera in West Tropical Africa except *Cyanotis*".

The frail flowers are usually fully open for a short time only—sometimes for but a few hours during the day—and closely related species may differ in the times at which their flowers are expanded.

- 1 Inflorescences each emerging through a hole at the base of the leaf-sheath, thus always borne laterally:2
 Inflorescences not perforating leaf-sheaths, axillary or terminal:4
- 2 Inflorescence on a peduncle 2-8 cm. long; flowers laxly arranged; seeds 4-8 per loculus[10. *Buforrestia*](#)
 Inflorescence sessile or nearly so; peduncle up to about 0.5 cm. long; seeds 1-2 per loculus:3
- 3 Bracts subtending flowers in inflorescence, small, up to about 0.5 cm. long, not strongly pointed; inflorescence bifurcate, with the branches elongating to about 3 cm. in length as they develop; petals pink, free . [2. *Forrestia*](#)
 Bracts subtending flowers in inflorescence, large, green, 1.5-2.5 cm. long, pointed; inflorescences appearing as dense leafy clusters at stem nodes; petals white, united below into a tube[8. *Coleotrype*](#)
- 4 Inflorescences not enclosed in or closely subtended by a spathaceous bract, usually paniculate and terminal, sometimes axillary and then occasionally each inflorescence with only one or a few flowers:5
 Inflorescence enclosed in or closely subtended by an often leafy spathaceous bract: 10
- 5 Fruit a loculicidal capsule:6
 Fruit indehiscent:9
- 6 Petals 3, equal:7
 Petals 3, unequal, the anticous (lower one) smaller than the others; fertile stamens 3, all anticous (lower); posticous stamens transformed into yellow bilobed staminodes; capsule usually 2-locular, rarely and inconstantly 3-locular[5. *Aneilema*](#)
- 7 Fertile stamens 6; staminodes 0; inflorescence usually more or less hairy, hairs frequently glandular:8
 Fertile stamens 3, alternating with 3 yellow hastate or trilobed staminodes; inflorescence glabrous [3. *Murdannia*](#)
- 8 Capsule 3-locular; seeds 2-10 per loculus; bracts subtending pedicels amplexicaul or perfoliate and more or less cupular[1. *Stanfieldiella*](#)
 Capsule 2-locular; seed 1 per loculus; bracts more or less narrowed at base, not amplexicaul or perfoliate[4. *Floscopa*](#)
- 9 Leaf-margins glabrous or nearly so; fruits hard, brittle, metallic blue-black or purplish, with many seeds [6. *Pollia*](#)
 Leaf-margins silky-hairy; fruit a more or less fleshy berry with 3 loculi and 2-3 seeds per loculus, never metallic blue[7. *Palisota*](#)
- 10 Fertile stamens 5-6, with densely and conspicuously bearded filaments; petals connate into a tube; bracts subtending individual flowers conspicuous and usually more or less falcate; inflorescences usually clustered, terminal axillary or lateral, rarely solitary[9. *Cyanotis*](#)
 Fertile stamens 3, with glabrous filaments; petals free; bracts subtending individual flowers 0 or very small and, inconspicuous: 11
- 11 Spathes sessile, arranged alternately along more or less elongate terminal and lateral axes which are covered with hooked hairs; spathes small, up to 15 mm. long; petals white[11. *Polyspatha*](#)
 Spathes usually pedunculate, sometimes almost sessile, usually solitary and leaf-opposed, sometimes appearing clustered or on a short lateral shoot; spathes often more than 15 mm. long; flowers usually blue or yellow, rarely white or another colour[12. *Commelina*](#)

***Dichorisandra thyrsiflora* Mikan**

From South America, is cultivated in Sierra Leone.

***Rhoeo spathacea* (Sw.) Stearn**

***R. discolor* (L'Hérit.) Hance**

From the West Indies, is often cultivated.

With sword-shaped, usually green and purple leaves and boat-shaped lateral inflorescences of white flowers subtended by paired leafy bracts.

***Zebrina pendula* Schnizl.**

From Tropical America, is also often grown for ornament.

A prostrate herb with ovate or elliptic usually more or less variegated or purple leaves and small pink flowers in close stalked heads, each head subtended, by 2 unequal leafy bracts.

1. STANFIELDIELLA

Brenan in Kew Bull. 14: 283 (1960).

Buforrestia C. B. Cl. (1881), (partly)-F.T.A. 8: 76; F.W.T.A., ed. 1, 2: 309.

- 1 Inflorescences terminal or more or less aggregated near tops of the erect or suberect flowering stems (lateral inflorescences may be present in addition); hairs on pedicels and outside of sepals (when present) 0.25-1 mm. long:2
 Inflorescences all lateral and scattered, not terminal or aggregated, near top of flowering stem; stems creeping; pedicels and outside of sepals pubescent with short hairs less than 0.25 mm. long; seeds with close low warts or short ridges4. *axillaris*
- 2 Seeds 4-10 per loculus, smooth or (in *S. oligantha*) verrucose; capsule much exceeding sepals:3
 Seeds 2-4 per loculus, verrucose; capsule not or scarcely exceeding sepals; leaf-sheaths densely spreading-villous outside; lamina rather densely appressed-hairy on both surfaces; inflorescence pubescent with gland-tipped hairs 0.25-0.5 mm. long3a. *brachycarpa* var. *hirsuta*
- 3 Terminal inflorescence or cluster of inflorescences usually 3-8 cm. wide; leaves not or scarcely aggregated into an apical rosette, usually up to about 13 cm. long and 4 cm. broad (rarely more), elliptic or narrowly elliptic, usually more or less long-ciliate on "petiole" and margin of lamina near base; outside of sepals and pedicels usually pubescent with gland-tipped hairs 0.5-1 mm. long; capsule 1.5-2 mm broad1. *imperforata*
 Terminal inflorescence or cluster of inflorescences small and compact, about 2-3 cm. long and wide; upper leaves mostly more or less aggregated into apical rosettes, similar to *S. imperforata* but sometimes (not always) larger, 10-16 cm. long; capsule 2.25-3 mm. broad2. *oligantha*

1. *Stanfieldiella imperforata* (C. B. Cl.) *Brenan* in Kew Bull. 14: 284 (1960); J. K. Morton in J. Linn. Soc. 60: 207 (1967). *APD acc*

Buforrestia imperforata C. B. Cl. in DC., Monogr. Phan. 3: 234, t. 7 (1881); F.T.A. 8: 76; F.W.T.A., ed. 1, 2: 309.

A herb with stems 5 in. to 2 ft. high, decumbent and stoloniferous below and rooting from lower nodes; leaves often more or less purplish beneath; flowers with small, white petals, open from about 11 .30 a.m. until noon; in lowland rain-forest.

S. L.: Kukuna (Jan.) Sc. Elliot 4678! Yonibana (Oct.) Thomas 4116! Kasewe F.R. (Nov.) Morton SL 1484! Tingi Hills above Konelo (fr. Dec.) Morton & Gledhill SL 3203! **Lib.:** Du River (July) Linder 174! Tenneh (Apr.) Dinklage 2562! Jaurazon (Mar.) Baldwin 11456! Bahtown, Tchien Dist (Aug.) Baldwin 8031! Gbanga (Sept.) Linder 732! Nimba Mt. (July) Leeuwenberg & Voorhoeve 4738! **Iv. C.:** Angedédou Forest (Nov.) Leeuwenberg 1870! Morénou (Dec.) Chev. 22466! Audouin Forest (Aug.) de Wit 5766! Oroumba Boca (Aug.) de Wit 8274 (partly)! **Ghana:** Prestea (July) Vigne FH 1317! Benso (Nov.) Andoh FH 5402! Chairaiso, Kumasi Dist. (Nov.) Morton A2814! Ejuanema Mt., Mpraeso (Aug.) Hall CC 113! Tafo (Sept.) Deighton 3420! **S. Nig.:** Idanre F.R., Ondo Dist. (July) Onochie FHI 33389! Akure F.R. (Nov.) Keay FHI 25534! Owam F.R., Benin (Nov.) Meikle 512! Okomu F.R., Benin (Jan.) Brenan & Richards 8832! Sapoba F.R., Benin (Nov.) Keay FHI 28068! **W. Cam.:** Preuss 1297 (partly)! Likomba, Victoria (Oct.) Mildbr. 10562! Cam. Mt., 2,500 ft. Mann 1340! Bopo to Pelé (Feb.) Binuyo & Daramola FHI 35578! Buea, 3,700 ft. (Dec.) Migeod 252! Barombi Preuss 287!

Extends to **Uganda**, Tanzania and **Angola**.

[Typical var. *imperforata* is prevalent in our area. var. *glabrisepala* (De Wild.) Brenan l.c. 285 (1960) with glabrous sepals and pedicels is not certainly recorded, but Morton A4129 from near Gbadzeme, Amedzofe, Ghana, and Morton GC 9382 from Ghana, Vane may be it. More material is needed.]

2. *Stanfieldiella oligantha* (Mildbr.) *Brenan* l.c. 285 (1960); J. K. Morton. l.c. (1967). *APD acc*

Buforrestia oligantha Mildbr. in Notizbl. Bot. Gart. Berl. 9: 258 (1925).

A herb very similar in habitat and appearance to *S. imperforata* but with shorter more bunched inflorescences, verrucose seeds, a tendency for the lamina and "petiole" to be less long-ciliate than var. *imperforata* and the flowers opening much later, about 3-6 p.m.

Lib.: Ganta (Aug.) Harley 977! Bilimu (Dec.) Harley 1546! **Iv. C.:** Oroumba Boca (Aug.) de Wit 8274 (partly)! **Ghana:** Amedzofe, 1,800 ft. (Mar., Nov.) Hepper & Morton A3028! Morton A101! **S. Nig.:** Akure F.R., Owena (Dec.) Keay FHI 37271! Oluwa F.R., Ondo Dist. (July) Onochie FHI 33410! Orosun Peak, Idanre Hills (Dec.) Stanfield 182! Imeri, Owo Dist. (Oct.) Stanfield 58! Usonigbe F.R., Benin (Nov.) Meikle 567! **W. Cam.:** Victoria to Man O'War Bay (Jan.) Morton K1199! Preuss 1297 (partly)!

Also in **E. Cameroun**.

[There is some doubt about the identity of the above-cited specimens with *S. oligantha* until more Cameroun material is available.]

3. **Stanfieldiella brachycarpa** (*Gilg & Lederm. ex Mildbr.*) *Brenan* l.c. 285 (1960); J. K. Morton l.c. (1967). *APD acc*

Buforrestia brachycarpa *Gilg & Lederm. ex Mildbr.* in Notizbl. Bot. Gart. Berl. 9: 258 (1925).

3a. **Stanfieldiella brachycarpa var. hirsuta** (*Brenan*) *Brenan* l.c. 286 (1960). *APD acc*

Buforrestia brachycarpa var. hirsuta *Brenan* in Kew Bull. 7: 455 (1953).

A trailing herb rooting at nodes, with ascending-erect, leafy stems 2-10 in. high; leaves long-hairy on both surfaces; flowers greenish-white; **in swamp-forest or damp places in lowland rain forest.**

S. Nig.: Okomu F.R., Benin (Dec.-Feb.) Brenan, 8486! 9090!

Also in **E. Cameroun**.

[A specimen at Kew collected by Mann on Fernando Po may be this, but is inadequate for certainty.]

4. **Stanfieldiella axillaris** *J. K. Morton* in J. Linn. Soc. 60: 207, t. 5 (1967). *APD acc*

Stanfieldiella sp. *Brenan* in Kew Bull. 14: 286 (1960).

A herb with creeping leafy stems rooting at nodes; leaves elliptic, about 2-7 cm. long and 1.5-2.8 cm. wide; inflorescences 2-3 cm. long, borne laterally at nodes; petals white at pale pink; fruits not seen, apparently not often set; **in forest and plantations.**

Ghana: Apedwa to Kibbi (Jan.) Morton A111! Begoro (Jan.) Morton A2671! **S. Nig.:** Usonigbe F.R., Benin (Nov.) Meikle 566! Shasha F.R. (Mar.-Apr.) Richards 203! 3177! 3366! Ikeja to Ikorodu (July) Killick 244!

2. FORRESTIA

A. Rich., Sert. Astrol. 1 (1834); F.T.A. 8: 77.

- 1 Stems glabrous, with long internodes below becoming shorter above; leaf-sheaths 1-2 cm. long, ciliate on margin; lamina, obovate to obovate-elliptic, 5-15 cm. long, (2-) 3-6 or more cm. wide, often rather shortly acuminate at apex, narrowed at base and abruptly passing into a distinct false petiole 1-2 cm. long; parallel nerves about 4 (-6) on each side of midrib; inflorescence perforating the base of the leaf-sheath, sessile or subsessile, dividing near base into two branches, at first short, later elongating to 3 cm.; bracts ovate, 3.5-5 mm. long; flowers mauve to reddish-mauve *tenuis*

Forrestia tenuis (*C. B. Cl.*) *Benth.* in Benth. & Hook. f., Gen. Pl. 3: 851 (1883); F.T.A. 8: 77; Brenan in Kew Bull. 7: 456 (1962); J. K. Morton in J. Linn. Soc. 60: 202 (1967).

APD: *Synonym of Amischotolype tenuis* (*C.B. Clarke*) *R.S. Rao*

Buforrestia? tenuis *C. B. Cl.* in DC., Monogr. Phan. 3: 234 (1881).

Forrestia africana *K. Schum. ex C. B. Cl.* in F.T.A. 8: 77 (1901).

Forrestia preussii *K. Schum.* in Engl., Bot. Jahrb. 24: 344 (1897); F.W.T.A., ed. 2, 2: 309.

An erect or ascending herb 1-2 ft. high (? more) with rather broad distinctly "petiolate" leaves and lateral subsessile bifurcate inflorescences of small mauve flowers; **in undergrowth, sometimes swampy, of rain forest.**

S. Nig.: Abe (Jan.) Morton K1211! Sapoba (Aug.) Olorunfemi FHI 34168! Sapoba F.R. (fl. & fr. Nov.) Keay FHI 28070! **W. Cam.:** Banga (Mar.) Brenan 9315! 9446! 9472! Bimbria road, Victoria (Apr.) Maitland 669!

Also in **E. Cameroun**, **Gabon** and **the Congo**.

3. MURDANNIA

Royle, Illustr. Bot. Himal. 403, t. 95, fig. 3 (1839); Brenan in Kew Bull. 7: 179 (1952). *APD acc*

Baoulia A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 217 (1912).

Phaeneilema Brückn. in Engl., Bot. Jahrb. 61, Beibl. 137: 63 (1926).

Aneilema R. Br. (partly)-F.T.A. 8: 62; F.W.T.A., ed. 1, 2: 312.

- 1 Inflorescence normally with distinct lateral branches, cymose or paniculate; rarely (in No. 2) occasional inflorescences may be without lateral branches but are then subumbellately racemose with 3 or more flowers; staminodes normally 3 (-4): **2**
 Inflorescence unbranched, consisting of solitary or sometimes paired flowers arising from the axils of 1-3 of the uppermost leaves (bracts); plant slender, grass-like, with usually simple or subsimple stems, glabrous except for margins of sheaths and lower part of leaves; leaves linear-lanceolate, 2-5(-6) mm. wide; fertile stamens 3, with hairy filaments; staminodes 0 *3. tenuissima*
- 2 Erect, relatively robust herb about 15-60 cm. high; leaves long, the lower about 7-40 cm. long; axes of partial inflorescences (cincinni) in fruit elongating to about 0.5-2 (-3) cm. with usually close-set conspicuous scars left by the fallen pedicels; petals 5.5-7 mm. long, 4.5-7 mm. broad *1. simplex*
 Weak, prostrate or decumbent herb; leaves relatively short, the lower to 7 (-10) cm. long; axes of partial inflorescences (cincinni) in fruit 0.4-1 (-1.3) cm. long, with less closely spaced and less conspicuous scarring; petals about 3-3.5 mm. long, 2-5 mm. broad *2. nudiflora*

1. *Murdannia simplex* (Vahl) Brenan in Kew Bull. 7: 186 (1952); Saunders, Handb. W. Afr. Fl. 96 (1958); J. K. Morton in J. Linn. Soc. 60: 202 (1967). *APD acc*

Commelina simplex Vahl, Enum. 2: 177 (1806).

Aneilema sinicum Ker-Gawl. in Bot. Reg. t. 659 (1822); C. B. Cl. in DC., Monogr. Phan. 3: 212 (1881); F.T.A. 8: 63; F.W.T.A., ed. 1, 2: 312, t. 286; Sousa in Anais Junta Inv. Col. 5: 47 (1950).

Murdannia sinica (Ker-Gawl.) Brückn. in E. & P., Pflanzenfam., ed. 2, 15a: 173 (1930).

A rather robust, erect or sprawling herb 6 in. to 4 ft. high with long lower leaves and panicles of blue to mauve flowers opening in late afternoon and evening, about 4-6.30 p.m.

Sen.: Djembering (Sept.) Broadbent 131! Sédhieu, Casamance (July) Berhaut 6146! Niokolo-Koba Adam 17225! Kafountine (Sept.) Adam 18179! **Mali:** Sikaisso (Sept.) Adam 15055! **Guin.:** Kinkou (Apr.) Pitot! **Port. G.:** Bissau, Pussubé (July) Esp. Santo 1328! **S. L.:** Bumban to Port Loko (Apr.) Sc. Elliot 5742! **Iv. C.:** Scaëtta 3061! Marabadiassa, Mankono Dist. (July) Chev. 22011! Bouaké, Boualé N. Dist. (July) Chev. 22089! Rocher d'Issia (fl. & fr. May) Leeuwenberg 4132! Assakra, Oroumba Boca (Oct.) de Wilde 599! **Ghana:** Tamale to Damongo (Aug.) Irvine 4576! Nyamkpale (Dec.) Adams & Akpabla GC 4190! Ejura, Scarp (Dec.) Adams & Akpabla GC 4524! Efiduase (Apr.) Cox 26! Nungua (June) Ankrah GC 20177! Wenchi to Techiman (Mar.) Morton GC 8555! **N. Nig.:** Samaru, Giwa Dist. (June) Keay FHI 25859! Anara F.R., Zaria (May) Keay FHI 22963! Rimjim Mukur to Bununu, 2,500 ft., Bauchi Dist. (Aug.) Lawlor & Hall 611! Abinsi (Mar.) Dalz. 802! Near Yola (Aug.) Dalz. 258! **S. Nig.:** Oban Talbot 752! Ibenó, Eket Dist. (May) Onochie FHI 32914! New Ddebiji, Calabar (May) Ujor FHI 30162! Abak (June) Nwauzoe in Hb. Tuley 787!

Widespread in tropical Africa from Sierra Leone and the **Sudan** to **Angola**, Natal and. Zululand; also in Madagascar and Asia.

2. *Murdannia nudiflora* (Linn.) Brenan l.c. 189 (1952); J. K. Morton l.c. (1967). *APD acc*

Commelina nudiflora Linn., Sp. Pl. 41 (1753) partly, as to lectotype, see Merr, in J. Arn. Arb. 18: 64-66 (1937).

Aneilema nudiflorum (Linn.) Wall., List 182, No. 5224 (1830).

Murdannia malabarica (Linn.) Brückn. in E. & P., Pflanzenfam. ed. 2, 15a: 173 (1930).

A weak, prostrate or decumbent herb with stem often rooting at nodes; flowers small, white to purple, open from 11 a.m. to 1 p.m.

S. L.: Roboli, Magbema (Oct.) Jordan 1054! Rokupr (Oct.) Jordan 1078! Njala (Aug.-Oct.) Deighton 5135! Katta 14! Romene, Kasse (Oct.) Jordan 360!

[Probably an introduction in West Africa, as it is otherwise unknown from the continent; widespread in tropical Asia extending eastwards to Polynesia (Guam); an aggressive weed in Trinidad.]

[Deighton 5135 has been identified as *Murdannia loriformis* (Hassk.) Rolla & Kammathy in Bull. Bot. Surv. India 3: 393 (1961) (*Aneilema nudiflorum* (Linn.) Wall. var. *terminale* (Wight) C. B. Cl. in DC., Monogr. Phan, 3: 211 (1881)), but it does not seem clearly separable from *M. nudiflora*.]

3. *Murdannia tenuissima* (A. Chev.) Brenan l.c. 7: 189 (1953); J. K. Morton l.c., fig. 8 (1967). *APD acc*

Baoulia tenuissima A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 217 (1912).

Aneilema tenuissimum (A. Chev.) A. Chev. ex Hutch., F.W.T.A., ed. 1, 2: 314 (1936).

A slender grass-like herb 8-28 in. high with few inconspicuous pale blue or mauve flowers opening from 10 .30 a.m. until noon; in swampy or marshy grassland.

Guin.: Dabola to Faranah (Apr.) Pitot! **Iv. C.:** Manikro to Tiegoriakro, N. Baoulé (Aug.) Chev. 22318! **Ghana:** Ejura (Oct.-Dec.) Morton A3757! GC 9489! **N. Nig.:** Olle F.R., Bunu, Kabba Prov. (fl. & fr. Oct.) Daramola & Adebuseyi FHI 38419! Likitaba to Gembu, Mambila Plateau (June) Chapman 28! **S. Nig.:** Ilora to Oyo (July-Sept.) Keay FHI 28037! Keay & Stanfield FHI 46319! J. B. Gillett 15186! Owo (Oct.) Stanfield 33!

Also in the Congo, Uganda, Tanzania, Zambia and Angola.

4. FLOSCOPA

Lour., Fl. Cochinch. 192 (1790); F.T.A. 8: 84. *APD acc*

- 1 Inflorescence quite glabrous; seeds smooth, without ribs or conspicuous tubercles; leaves linear-lanceolate, 1.5-8 mm. broad [1. *leiothyrsa*](#)
 Inflorescence more or less pubescent or tomentose:.....2
- 2 Petals yellow; stems short, up to 20 cm. high, often branching from near base, rooting at base only; leaves lanceolate to linear-lanceolate, 2-8 mm. broad; inflorescence very shortly and inconspicuously pubescent with hairs up to 0.25 mm. long; seeds tuberculate [2. *flavida*](#)
 Petals blue or lilac or sometimes white; stems straggling or erect, rooting at base or from lower nodes as well, often exceeding 15 cm.; seeds with radial ridges or smooth, without conspicuous tubercles:.....3
- 3 Capsule 1.25-1.75 mm. broad; seeds 0.5-0.8 mm. long, 0.5-0.75 mm. broad, 12-14 (rarely -17)-ribbed; cincinni rather narrow and elongate; annual, 10-30 cm. high, rooting only at or near base; leaves not narrowed or falsely petiolate at base [3. *axillaris*](#)
 Capsule 2-3 mm. broad; seeds 1-1.5 mm. long, 0.75-1 mm. broad, 13-21-ribbed:.....4
- 4 Leaf-sheaths densely villous-pubescent all over outside; lamina elliptic, subacute or acute at apex, not at all acuminate; inflorescence lax, open, with main axis only about 1.5-3.5 cm. long, and relatively few branches [4. *mannii*](#)
 Leaf-sheaths usually ciliate on margins, otherwise glabrous or with an inconspicuous line of pubescence running longitudinally along the fused margins; lamina lanceolate or elliptic-lanceolate, more or less acutely acuminate at apex; inflorescence usually dense and many-flowered, with main axis usually exceeding 3.5 cm. in length, and usually with numerous branches:.....5
- 5 Leaves much narrowed at base into a more or less marked false petiole; inflorescence shortly and inconspicuously pubescent or puberulous; stems ascending, decumbent or creeping, rooting from lower nodes:6
 Leaves not at all narrowed at base, or if somewhat narrowed then without any false petiole:8
- 6 Pedicels of fruit 0.5-1.5 mm. long; sepals mostly 2-2.75 mm. long; style not or scarcely exerted beyond the sepals:.....7
 Pedicels of fruit 1.5-2 mm. long; sepals 3-4 mm. long; style exerted beyond the sepals, becoming reflexed; robust plant up to 1.2 m. high with a panicle 7-10 cm. long [5c. *africana* subsp. *majuscula*](#)
- 7 Stems erect, ascending or straggling, about 15-90 cm. high; plant with reddish-purple pigment particularly in stems, undersides of leaves and inflorescences; leaves with lamina usually four or more times as long as broad, 4-15 cm. long [5a. *africana* subsp. *africana*](#)
 Stems wholly low and creeping; flowering stems up to about 15-20 cm. high; plant lacking reddish-purple pigment; leaves with lamina up to about three times as long as broad, about 2.5-6 cm. long [5b. *africana* subsp. *petrophila*](#)
- 8 Capsule with stipe 0.5-1 mm. long, almost half as long as the body of the capsule; seeds with 20-23 clear radial ribs; plant erect, rooting only near base; lamina 8-15 cm. long, not narrowed at base; leaf-sheaths with a line of pubescence down the outside along the fused margins [6. *polypyleura*](#)
 Capsule with usually much shorter stipe up to 0.5(-0.75) mm. long, at most 1/4-1/3 as long as the body of the capsule; seeds usually with 11-18 (rarely to 21) radial ribs, rarely ribs obscure or absent:.....9

- 9 Leaves with lamina gradually narrowed towards the sheath, not at all petiolate nor amplexicaul, mostly 6.5-13 cm. long, 0.5-1.7 cm. broad; inflorescence usually dense and many-flowered, densely and shortly pubescent; seeds with 11-15 (-16) faint ribs [7. *confusa*](#)
- Leaves with lamina not narrowed towards the sheath, rounded and more or less amplexicaul at base; seeds usually with well-marked ribs, ribs rarely obscure or absent: **10**
- 10 Terminal inflorescence with few (up to about 5) branches or simple; indumentum on inflorescence sparse (if densely villous-pubescent, compare *F. glomerata*); plant creeping or straggling, often floating in water, rooting freely from lower nodes; lamina short, up to 7 cm. long; seeds with 16-21 radial ribs [8. *aquatica*](#)
- Terminal inflorescence usually with numerous (5 or more) branches and more or less densely villous-pubescent; seeds with 13-18(-30) radial ribs, rarely ribs obscure or absent; lamina up to 11 cm. long: **11**
- 11 Sepals more or less densely hairy with hairs of varying length, among which are rather numerous long flexuous hairs 0.75-2.5 mm. long; terminal cell of hairs usually enlarged; leaves mostly 10-17 mm. broad, but sometimes only 5 mm. broad [9a. *glomerata* subsp. *glomerata*](#)
- Sepals more or less densely hairy with short hairs 0.2-0.5 mm. long: **12**
- 12 Hairs on calyx with terminal cell not or scarcely enlarged in comparison with those below it; leaves mostly very narrow, 4-8 mm. broad, rarely more [9b. *glomerata* subsp. *pauciflora*](#)
- Hairs on calyx with terminal cell clearly enlarged in comparison with those below it, the hairs thus appearing glandular-capitate; leaves mostly 8-18 mm. broad [9c. *glomerata* subsp. *lelyi*](#)

1. ***Floscopa leiothyrsa* Brenan** in Kew Bull. 7: 206 (1952). *APD acc*

A probably annual herb, apparently erect, 8-10 in. high, subsimple to much branched; flowers pale violet, in few- to many-branched cymes; [in or near water or marshes](#).

Mali: Fetodie, nr. Dogo (Jan.) Davey 107!

Also in **Chad**, **Tanzania**, **Zambia** and **Botswana**.

[Immediately separable from all other species of *Floscopa* by the glabrous inflorescences.]

2. ***Floscopa flavida* C. B. Cl.** in DC., Monogr. Phan. 3: 269(1881); F.T.A. 8: 87; Berhaut, Fl. Sén. 210; Nielson, Introd. Fl. Pl. W. Trop. Afr. 184 (1965). *APD acc*

Small annual herb usually much branched from base 13/4-8 in. high; stem-leaves mostly short and less than 2 in. long, sometimes to 3 in.; sepals dark reddish-purple; petals yellow, differing thus from those of all other *Floscopa* species in our area.

Sen.: Elinkine, Bignona (Oct.) Adam 18275! Niokolo-Koba (Oct.) Adam 15891! **Port. G.:** Buruntuma (Dec.) Pereira 2160! **Guin.:** Youkounkoun (Oct.) Pitot! **Ghana:** Yendi to Zabzugu (Dec.) Morton A1464! **N. Nig.:** Takum, Borgu Dist. Barter 760! Kabba road, Lokoja Dist. Parsons 61! Kontagora (Nov.) Dalz. 271! Naraguta, Jos Plateau (Aug.) Lely 551!

Also in **Chad**, **Sudan**, **Tanzania**, **Malawi**, **Zambia** and **Angola**.

3. ***Floscopa axillaris* (Poir.) C. B. Cl.** in DC., Monogr. Phan. 3: 268 (1881); F.T.A. 8: 87; J. K. Morton in J. Linn. Soc. 60: 201 (1967). *APD acc*

***Polygala axillaris* Poir.**, Encycl. 5: 489 (1804).

***Floscopa elliotii* C. B. Cl.** in F.T.A. 8: 88 (1901).

Annual herb about 3-12 in. high; leaves ovate-lanceolate to lanceolate, up to about 2 in. long, with short sheaths which are non-ciliate on margins; flowers blue or dull purple; [in marshes and swamps](#).

Sen.: Oussouye (Oct.) Adam 18301! Bissine (Dec.) Berhaut 6695! **Port. G.:** Orango Grande, Bijagos Is. (Jan.) Raimundo & Guerra 933! Prabis, Bissau (Nov.) Raimundo & Guerra 172! Pussubé, Bissau (Nov.) Esp. Santo 1000! **Guin.:** Tristao Is. (Nov.) Jac.-Fél. 7326! Friguiagbé (Nov., Dec.) Chillou 907! 2362! Filicoundji (Oct.) Adam 12587! Kounounkan (Oct.) Schnell 7622! **S. L.:** Tisana, Bonthe Is. (Nov.) Deighton 2304! Bonthe (Oct.) Adames 87! York to No. 2 River (Nov.) Morton SL 1455! Kitchom, Scarcies (Dec.) Sc. Elliot 4340! Kasewe F.R. (Nov.) Morton SL 1536!

4. ***Floscopa mannii* C. B. Cl.** in DC., Monogr. Phan. 3: 268 (1881); F.T.A. 8: 86; J. K. Morton l.c. (1967). *APD acc*

A low herb about 4-6 in. high; leaves with elliptic lamina 3-6.5 cm. long and 1.5-3 cm. wide. A very distinctive but little-known species, readily known by the combination of falsely petiolate leaves and densely pubescent leaf-sheaths; [probably in wet places in rain-forest](#).

S. Nig.: Oban Talbot 756!

Also in **Rio Muni**.

5. *Floscopa africana* (P. Beauv.) C. B. Cl. l.c. 267 (1881); F.T.A. 8: 85; J. K. Morton l.c. 199 (1967). *APD acc*

Aneilema africanum P. Beauv., Fl. Oware 2: 57, t. 93 (1818).

5a. *Floscopa africana* subsp. *africana* *APD acc*

An erect or straggling herb up to 3 ft. high, variable in robustness, often rooting at the nodes; leaves lanceolate, with a false petiole; flowers whitish or pale lilac; **in or near water, usually by rivers and streams.**

Gam.: Genieri (Feb.) Fox 73! **Port. G.:** Fá (Oct.) Guerra 3878! **Guin.:** Kounounkan valley (Oct.) Schnell 7619! **S. L.:** Musaia (Dec.) Deighton 4495! Rogbin, N. Prov. (Oct.) Glanville 49! Kameron to Kurubonla (Nov.) Morton SL 2509! Mamaka (Nov.) Thomas 4634! Gebwema (Nov.) Deighton 399! **Lib.:** Wohmen, Vonjama Dist. (Oct.) Baldwin 10065! 10096! Banga (Oct.) Linder 1176! Fayapulu (Oct.) Linder 1139! Loma F.R. (Dec.) Voorhoeve 750! **Iv. C.:** 56 Km. N. of Sassandra, E. of Béyo (Jan.) Leeuwenberg 2553! Akabossué to Ebrinahoué, Mid. Comoé (Dec.) Chev. 22606! **Ghana:** Kumasi (Oct.) Darko 426! Shiare, Togo Hills (Dec.) Jenik & Hall! Birrim R., 18 ml. N. of Anyinam (Mar.) Irvine 1758! Dawa Male Kole (Dec.) A. S. Thomas D2! **S. Nig.:** Ibadan (Oct., Nov.) Stanfield 43! Keay FHI 37189! Okomu F.R., Benin Dist. (fr. Dec., Feb.) Brenan 8485! 8528! Orem, Calabar to Mamfe (Jan.) Onochie FHI 36055x! **W. Cam.:** Victoria (Jan.) Maitland 1304!

Also from **E. Cameroun** to **Mayombe** and eastwards to **Uganda**.

[An odd variant occurs in Ghana with dense indumentum all over, the leaf-sheaths outside and on the lower surface of the leaves. Hall 2754, from Kakum F.R. is an example.-J.P.M.B.]

5b. *Floscopa africana* subsp. *petrophila* J. K. Morton in J. Linn. Soc. 60: 200 (1967). *APD acc*

Similar to subsp. *africana* but stems much lower and leaves smaller. Some perplexing intermediates occur.

Lib.: Vonjama (Oct.) Baldwin 9869! **Iv. C.:** W. of Béyo (fr. Nov.) Leeuwenberg 2735! **Ghana:** Apiso (Dec.) Morton A3849! Kpene, Togo Plateau (Nov.) Morton A3444! **W. Cam.:** Likomba Plantation, Victoria (Dec.) Mildbread 10775!

Apparently also in **E. Cameroun**, **Congo** and **Uganda**.

5c. *Floscopa africana* subsp. *majuscula* (C. B. Cl.) Brenan in Kew Bull. 22: 387 (1968). *APD acc*

Floscopa africana* var. *majuscula C. B. Cl. in F.T.A. 8: 85 (1901).

Port. G.: Antula, Bissau (Nov.) Esp. Santo 1413! **Lib.:** Vonjama (Oct.) Baldwin 9886! Ganta (Dec.) Barker 1121! **Dah.:** Le Testu 90! **S. Nig.:** Akure (Dec.) Adams 1460! Akure F.R., Aponmu (Oct.) Keay FHI 25487! Owo (Oct.) Stanfield 5! Idanre F.R. (Dec.) Keay FHI 37265! Ibadan (Dec.) Meikle 859! Lagos Punch! Millen 97! Okomu F.R., Benin (Jan.) Brenan 8872!

Similar plants in **E. Cameroun**, **Rio Muni** and the **Congo**.

[From Dahomey to E. Cameroun this is a very distinct taxon, but elsewhere it is not always so marked and the characteristic exerted style less obvious.-J.P.M.B.]

6. *Floscopa polypleura* Brenan in Kew Bull. 7: 207 (1952); J. K. Morton in J. Linn. Soc. 60: 201 (1967). *APD acc*

Erect or suberect, annual herb 8 in.-2 ft. 6 in. high; inflorescence glandular-pubescent; flowers lilac-purple or sometimes white; seeds with remarkably numerous (20-23) radial ribs; **in savanna.**

Ghana: Tamale to Lumbungu (Nov.) Morton A3787! Yendi (Nov.) Akpabla 478!

Also in **Tanzania** and **Zambia**.

7. *Floscopa confusa* Brenan in Kew Bull. 15: 225 (1961); J. K. Morton l.c. 200 (1967). *APD acc*

A coarse straggling herb about 2-6 ft. high, with stems rooting at lower nodes; leaves linear-lanceolate, leaf-sheaths ciliate at mouth, otherwise glabrous or sparsely pubescent along the connate margins;

flowers mauve, in densely and shortly pubescent panicles; seeds with very faint ribs; [in upland marshes or swamps](#).

N. Nig.: Mambila Plateau, Sardauna Prov. (Jan.) Hepper 1719! **S. Nig.:** Ikwette Plateau, Obudu Div. (Dec.) Savory & Keay FHI 25246!

Also in the **E. Cameroun**, **Congo** and **Uganda**.

[Related to *F. glomerata*.]

8. *Floscopa aquatica* *Hua* in Bull. Mus. Hist. Nat. Paris 1: 122 (1895); Brenan in Kew Bull. 15: 228 (1961); J. K. Morton in J. Linn. Soc. 60: 201 (1967). *APD acc*

Floscopa myosotoides* *Hutch., F.W.T.A., ed. 1, 2: 311 (1936), and in Kew Bull. 1939: 241; Brenan in Kew Bull. 7: 457 (1952).

Herb with creeping or floating stems 21/2-16 in. long, rooting freely from the nodes; leaves ovate to lanceolate, mostly 2-5 cm. long, thin, often wavy-margined, not or scarcely narrowed at base; sheaths short, glabrous; flowers whitish to lilac or blue, in rather small inflorescences; [often floating in river and rice-fields, sometimes creeping in swamps](#).

Sen.: Santiaba, Oussouye (Nov.) Berhaut 6503! Bissine (Nov.) Berhaut 6450! Sédhiou (Mar.) Berhaut 7175! Niokolo-Koba (Nov.) Jac.-Fél. 7238! **Port. G.:** Nova Lamego, Cabuca (Dec.) Pereira 2452! **Guin.:** Rio Nuncz Heudelot 668! Friguiagbé (Sept.) Chillou 1064! **S. L.:** Masactaba (Oct.) Glanville 50! Subu, Nongoba Bullom (Oct.) Jordan 595! Yonibana (Oct.) Thomas 4134! Mabouto (Oct.) Thomas 3614! Gegbwema (Oct.) Pyne 20! **Lib.:** Monrovia (Nov.) Linder 1412! **Iv. C.:** Mossou (Aug.) Schnell 6562! **S. Nig.:** Sapoba, Jamieson R. (Feb.) Onochie FHI 31943! Richards 3928! Ologbo, Ossiomomo R. (Feb.) Stanfield 158!

Also in **Middle Congo**.

9. *Floscopa glomerata* (*Willd. ex J. A. & J. H. Schult*) *Hassk.*, Commel. Ind. 166 (1870); C. B. Cl. in DC., Monogr. Phan. 3: 267 (1881); F.T.A. 8: 86; J. K. Morton in J. Linn. Soc. 60: 200 (1967). *APD acc*

Tradescantia glomerata* *Willd. ex J. A. & J. H. Schult., Syst. 7: 1175 (1830).

9a. *Floscopa glomerata* subsp. *glomerata* *APD acc*

***Floscopa rivularis* (*A. Rich.*) C. B. Cl.** l.c. (1881); F.T.A. 8: 86; F.W.T.A., ed. 1, 2: 311; Sousa in Anais Junta Inv. Col. 5: 47 (1950); Berhaut, Fl. Sén. 210; Nielsen, Introd. Fl. Pl. W. Trop. Afr. 184 (1965).

Aneilema rivulare* *A. Rich., Tent. Fl. Abyss. 2: 342 (1850-51).

Annual or perennial herb, erect or straggling, sometimes rhizomatous at base; atoms about 6 in.-5 ft. long, rooting at base or from lower nodes; flowers mauve, in usually much-branched but generally rather compact hairy inflorescences; [in marshes and swamps](#).

Sen.: Bisaine, Casamance (Nov.) Berhaut 6451! Niokolo-Koba (Nov.) Adam 15949! **Port. G.:** Farim, Bejene to Barro (Nov.) Esp. Santo 3658! **Guin.:** Mankoutan (Nov.) Jac.-Fél. 7346! **S. L.:** Morea to Fintonia (Jan.) Morton & Gledhill SL 583! Juring (Dec.) Deighton 308! Kainkordu, Kono (Dec.) Marton & Jarr SL 3283! **Ghana:** Burufo (Dec.) Adams 4379! **N. Nig.:** Mada, Plateau Dist. (Nov.) Hepburn 161! Kaduna Zaria Dist. (Nov.) J. A. D. Jackson 164! Jos Plateau (Oct.) Lely P842! Panyam, Bauchi Dist. (Sept.) Lely 729!

Widespread in tropical Africa (although rare in our area) from the **Sudan** southwards to S. Africa, also in Madagascar.

9b. *Floscopa glomerata* subsp. *pauciflora* (*C. B. Cl.*) *J. K. Morton* l.c. (1967). *APD acc*

Floscopa pauciflora* *C. B. Cl. in F.T.A. 8: 88 (1901); F.W.T.A., ed. 1, 2: 311.

Similar in habit and habitat to subsp. *glomerata* but, generally narrower-leaved.

Port. G.: Barro to Ingoré (Nov.) Esp. Santo 3652! **Guin.:** Dalaba (Nov.) Adames 419! Sombalako to Boulivel (Sept.) Chev. 18255! Mamou (Sept.) Schnell 6787! Kouroussa (Oct.) Pobéguin 578! 579! **S. L.:** Gorahun (Nov.) Deighton 361! Yetaya (Sept.) Thomas 2319! Seli R. (Oct.) Thomas 3112! Kaballa (Sept.) Thomas 2259! Kamasoigi (Oct.) Glanville 47! Saiama, Kono (Dec.) Morton SL 3278! **Lib.:** Goniolahun (Nov.) Baldwin 10120! Sodu (Jan.) Bequaert 46!

Extending to Chad.

9c. *Floscopa glomerata* subsp. *lelyi* (*Hutch.*) *Brenan* in Kew Bull. 22: 387 (1968). *APD acc*

Floscopa leyli Hutch., F.W.T.A., ed. 1, 2: 311 (1936), and in Kew Bull. 1939: 242 (1939).

Similar in habit and habitat, to subsp. *glomerata* but indumentum on inflorescence shorter.

S. L.: Ronietta (Nov.) Thomas 5528! **N. Nig.:** Kontagora, Niger Dist. (Dec.) Dalz. 270! Minna (Dec.) Meikle 730! Anara F.R., Zaria (Dec.) Meikle 75! Naraguta, Plateau Prov. (Nov.) Lely 704! Vogel Peak, Sardauna Prov. (Nov.) Hepper 1454! **S. Nig.:** Owo (Oct.) Stanfield 32! 138! Igarra (Dec.) Stanfield 74!

Also apparently in Brazil and Paraguay.

The specimens cited by C. B. Cl. in DC., Monogr. Phan. 3: 270 (1881) under typical *F. glabrata* Hassk. not seeming separable. The other varieties of *F. glabrata* may well represent different taxa.

Floscopa sp.

Annual herb 4-12 in. high. Rather similar to *F. axillaris*, with similar elongate cincinni up to 5 cm. long, but flowers and cymules larger, the latter 2-2.5 mm. across.

Sen.: Oussouye (Apr.) Berhaut 5844! Ziguinchor (Dec.) Berhaut 6698! Bignona (Dec.) Berhaut 6738! **Port. G.:** Nhampassare, Gabu (Oct.) Esp. Santo 3526!

Imperfectly known species.

5. ANEILEMA

R. Br., Prod. 290 (1810); F.T.A. 8: 33, excluding *Tricarpellria*; Brückner in E. & P., Pflanzenfam., ed. 2, 15A: 174 (1930); J.K. Morton in J. Linn. Soc. 60: 168 (1967). **APD acc**

- 1 Petals yellow; capsule truncate at apex with two rather projecting subacute corners like little horns; cells on surface of capsule isodiametric and projecting, giving a minutely papillose surface easily seen under a $\times 10$ lens; leaves ovate-lanceolate, ovate-oblong or ovate-elliptic, mostly 2-6.5 cm. broad; plant with hooked clinging hairs; inflorescence 1. aequinoctiale
 Petals white, pink, lilac or mauve; capsule rounded and often emarginate at apex, without projecting corners; cells on surface of capsule usually transversely elongate, wider than tall (except in *A. paludosum* where they are more or less isodiametric but scarcely projecting, so that the capsule-surface is shiny); leaves variable:2
- 2 Capsule with a single seed in each loculus; capsule usually about as wide as or wider than long:3
 Capsule with two or more seeds in each loculus; capsule longer than wide:9
- 3 Leaves mostly 2-4.5 cm. broad, ovate to elliptic-lanceolate, mostly narrowed, into a false petiole above the sheath; inflorescence dense, about 3-5 cm. long and 2-4 cm. broad, its axis puberulous, rarely with some longer hairs as well4. *dispermum*
 Leaves mostly less than 2 cm. broad, lanceolate to linear-lanceolate, mostly sessile on the sheath; inflorescence about 1-2.5 cm. broad:4
- 4 Capsule broader than long, usually emarginate; stems slender; plant annual with fibrous roots; seeds globose: ..5
 Capsule longer than broad, not emarginate; stems slender to stout; plant perennial with fusiform tuberous roots clustered at the rootstock; seeds longer than wide:7
- 5 Bracts on main inflorescence-axis elongate, linear, 5-7 mm. long, exceeding the flowers at least in bud; inflorescence all or at least the better-developed ones densely cylindrical, 2-4 cm. long, 1-1.5 cm. broad; sepals with projecting glands at apex; capsule very sparsely and shortly pubescent10. *mortonii*
 Bracts on main inflorescence-axis short, ovate, 1-3 mm. long, not exceeding the flowers or flower-buds; inflorescence capitate, rarely slightly elongate and 2-3 cm. long; sepals without projecting glands at apex; capsule more densely and longly pubescent:6
- 6 Inflorescences single or 1-2 together at ends of flowering shoots9a. *paludosum* subsp. *paludosum*
 Inflorescences several together near ends of flowering shoots which are thus much branched distally, small, few-flowered9b. *paludosum* subsp. *pauciflorum*
- 7 Stems slender, their internodes mostly exposed to near the inflorescence; no red bristly hairs; inflorescence 1.5-3 cm. long and about 1.5 cm. diam.; seeds more or less ellipsoid, about 2.5 mm. long and 1.25 mm. broad ..9c. *paludosum* subsp. *pseudolanceolatum*
 Stems stout, their internodes usually totally concealed in the upper part of the stem by the imbricate leaf-sheaths, occasionally partly exposed but then stems and sheaths with spreading red bristly hairs; inflorescence about 2-4 cm. long and 1.5-2.5 cm. broad; seeds ellipsoid, about 4 mm. long and 2 mm. broad:8
- 8 Leaf-sheaths with dark rusty-red spreading bristly hairs outside and on margins8a. *setiferum* var. *setiferum*

Leaf-sheaths with colourless bristly hairs usually on margins only, sometimes outside also [8b. setiferum var. pallidiciliatum](#)

- 9 Stems erect or suberect from a basal rootstock with fusiform tubers; leaves lanceolate to linear; savanna species: **10**

Stems straggling to creeping, or with erect branches, producing fibrous roots from the lower nodes; but without fusiform tubers at the rootstock; leaves lanceolate to elliptic or ovate; mostly forest species, rarely in savanna: **12**

- 10 Leaves increasing markedly in length towards the base of the stem where there is a rosette of linear-lanceolate leaves (6-)15-25(-30) cm. long which are tapered below into false petioles; leaf-margins ciliate with more or less spreading conical hairs; flowers opening after mid-day [7. pomeridianum](#)

Leaves on stem more or less uniform in length except that the lamina becomes reduced or absent towards base of stem; basal rosette thus absent; leaf-margins closely and minutely cartilaginous-serrate; flowers opening in the morning: **11**

- 11 Flowers usually produced with the leaves which are then mostly more than 5 cm. long and 8 mm. broad; inflorescence mostly 1.5-5 cm. diam., its axis usually not deep purple or blue [6a. lanceolatum subsp. lanceolatum](#)

Flowers usually produced before the leaves develop fully (at flowering time leaves up to about 5 cm. long and 6-8 mm. broad, later elongating to about 13 cm. but still as narrow); inflorescence often narrower than in 6a, its axis often deep purple or blue [6b. lanceolatum subsp. subnudum](#)

- 12 Inflorescence a more or less lax open panicle; leaves ovate to elliptic, usually with distinct false petioles: **13**

Inflorescence dense, subcapitate to ovoid: **14**

- 13 Leaf-sheaths usually with some rusty-red (sometimes colourless) spreading bristly hairs on margins and outside surface; inflorescence-branches (4-)8-31; leaves up to 13 cm. long and 4 cm. broad [2a. umbrosum subsp. umbrosum](#)

Leaf-sheaths without rusty-red hairs; sometimes a few colourless cilia on margins but not on outside surface which is puberulous; inflorescence-branches 2-8; leaves mostly up to 8 cm. long, 3 cm. broad (rarely 10 cm. long and 4 cm. broad) [2b. umbrosum subsp. ovato-oblongum](#)

- 14 Inflorescence small, 1-2 cm. long and wide; capsule with distinct acumen at apex; leaves elliptic to lanceolate, up to about 7 cm. long and 2.5 cm. broad; ciliate on margins, with a distinct false petiole [5. silvaticum](#)

Inflorescence larger, more than 2 cm. long; capsule rounded, subtruncate or minutely apiculate at apex; leaves not ciliate on margins, falsely petiolate or not: **15**

- 15 Leaves linear to lanceolate, usually without a petiole; fusiform tubers always present at rootstock, but the stems may straggle and root at lower nodes; capsule with short spreading pubescence outside; a savanna species (see also above) [6a. lanceolatum subsp. lanceolatum](#)

Leaves lanceolate to elliptic or ovate, more or less clearly falsely petiolate, up to about 24 cm. long and 6 cm. broad; no fusiform tubers; roots all fibrous; capsule glabrous; a forest species [3. beniniense](#)

1. **Aneilema aequinoctiale** (*P. Beauv.*) *Kunth* Enum. 4: 72 (1843); C. B. Cl. in DC., Monogr. Phan. 3: 221 (1881), partly, excl. vars. minor and kirki; F.T.A. 8: 65; Chev. Bot. 666, at least partly; Irvine, Pl. Gold Coast 30 (1930); Nielsen, Introd. Fl. Pl. W. Afr. 183 (1965); J. K. Morton in J. Linn. Soc. 59: 443, fig. 4 (1966). *APD acc*

Commelina aequinoctialis *P. Beauv.*, Fl. Oware 1: 65, t. 38 (1806-9).

A scrambling or sometimes erect robust herb up to 6 ft. high or more, clothed with clinging hairs; flowers bright or orange-yellow, opening about 7-10 a.m.; in forest, often secondary; said sometimes to be a weed in farmland.

Lib.: Harley 1205! Peahtah (Oct.) Linder 1010! Ganta (Feb.) Harley 906! Nimba (June) Adam 21580! **Ghana:** Kumasi (Oct.) Darko 349! Agogo (Jan.) Irvine 877! Ampam, Kwahu. (Dec.) Morton 5031! Koforidua (Apr.) Morton A822! Kpeme (Nov.) Morton A3447! **S. Nig.:** Ughoton, Iyokuselu Dist. (Jan.) Darammola & Emwiogbon FHI 32782! Aweba, Idanre (Jan.) Brenan & Keay 8686! Uyere to Owo (Nov.) Meikle 647! Owo (Nov.) Stanfield 31! Calabar (Feb.) Mann. 2338!

Widespread in the forest regions of tropical and S. Africa.

2. **Aneilema umbrosum** (*Vahl*) *Kunth* Enum. 4: 71 (1843); Berhaut, Fl. Sén. 210; J. K. Morton in J. Linn. Soc. 59: 459 (1966), 60: 168 (1967). *APD acc*

Commelina umbrosa *Vahl*, Enum. 2: 179 (1836).

- 2a. **Aneilema umbrosum subsp. umbrosum** *J. K. Morton* in J. Linn. Soc. 59: 461, fig. 10 (1966). *APD*

acc

Aneilema ovato-oblongum var. *nigritanum* C. B. Cl. in DC., Monogr. Phan. 3: 227 (1881); F.T.A. 8: 69; Chev. Bot. 667;
Aneilema nigritanum (C. B. Cl.) Hutch., F.W.T.A., ed. 1, 2: 312 (1936).

A herb variable in size and indumentum, with stems straggling or decumbent or with erect branches, up to 3 ft. high; flowers white to mauve or purple (particularly in Bamenda), opening from 2.30-6 p.m.; [in forest or in damp shady places \(e.g. Raphia groves\) in savanna.](#)

S. L.: Limbaia, Malaba (Oct.) Small 424! Segbwema (July) Deighton 3746! **Iv. C.:** Tankoui (Sept.) Aké Assi 6265! Danané (Mar.) Leeuwenberg 2991! Gbénou Forest, Bouaké (Apr.) Leeuwenberg 3300! **Ghana:** Atonso, Ashanti (Oct.) Baldwin 13510! Oti R., Kete Krace (May) Morton GC 7289! Komosu to Koforidua (Jan.) Morton GC 8291! Ajena (fl. & fr. Nov.) Morton GC 8049! Bisa (Jan.) Morton GC 8236! **Togo Rep.:** Kpandu (June) Andoh FH 5288! **Dah.:** Porto Novo (Oct.) Newton 14! **N. Nig.:** Jebba Barter! Vogel Peak, Sardauna Prov. (fl. & fr. Nov.) Hepper 1494! **S. Nig.:** Oyo F.R., Afo R. (Sept.) Latilo FHI 23544! Ibadan (Aug.) Gillett 15340! Lagos (Oct.) Baldwin 13630! Owo (Oct.) Stanfield 7! Oban Talbot 755! **W. Cam.:** Batibo (Apr.) Brunt 1059! Wum (June) Daramola FHI 41092! Bali-Ngemba F.R. (May) Ujor FHI 30359! Bamenda, 4,800 ft. (Jan.-Feb.) Daramola FHI 40584! Migeod 474! **F. Po.:** (Jan.,Feb.) Milne! Guinea 1811!

Also in **E. Cameroun**, **Gabon**, **Cabinda** and **the Congo**.

2b. *Aneilema umbrosum* subsp. *ovato-oblongum* (P. Beauv.) J. K. Morton in J. Linn. Soc. 59: 461, fig. 11 (1966). *APD acc*

Aneilema ovato-oblongum P. Beauv., Fl. Oware 2: 72, t. 104 (1818); Benth. in Fl. Nigrit. 545 (1849); C. B. Cl. in DC., Monogr. Phan. 3: 226 (1881); F.T.A. 8: 69; Chev. Bot. 667; Irvine, Pl. Gold Coast 31 (1930).

A straggling or ascending herb, usually smaller and more slender than in subsp. *umbrosum*; flowers white to pale lilac; [habitat similar to that of subsp. *umbrosum*.](#)

S. L.: Bonjema (Oct.) Deighton 5969! Rokupr (Sept.) Jordan 95! Makump (Aug.) Deighton 1204! Binkolo (Sept.) Harvey 119! Bumbuna (Oct.) Thomas 3714! **Lib.:** Du River (Aug.) Linder 325! Peahtah (Oct.) Linder 1079! St. John R. (Aug.) Baldwin 13222! Sawolo-Baila (Oct.) Harley 1370! Nyaahé (June) Baldwin 6109! **Iv. C.:** Davo R., E. of Béyo (Feb.) Leeuwenberg 2806! **Ghana:** Pra Suhien F.R. (July) Morton! Kibbi (May, Dec.) Morton P1259! GC 8096 (cult.)! Begoro (Jan.) Morton P1333! Asiakwa to Bomo (Dec.) Morton GC 8170! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 255! **S. Nig.:** Ikoyi Plains, Lagos (May) Dalz. 1289! Ibadan (Apr.) Meikle 1472! Olokemeji F. R. (Oct.) Hepper & Keay 928! Orosun Mt., Idanre (Aug.) J. B. Gillett 15314! **W. Cam.:** Mamfe (Apr.) Morton GC 7135!

Also in **E. Cameroun**, **Uganda** and **S. America**; possibly in **Kenya**.

[Intermediates between subsp. *ovato-oblongum* and subsp. *umbrosum* occur.]

3. *Aneilema beniniense* (P. Beauv.) Kunth Enum. 4: 73 (1843); Benth. in Fl. Nigrit. 546 (1849); C. B. Cl. in DC., Monogr., Phan. 3: 324 (1881); F.T.A. 8: 68; Chev. Bot. 666; Irvine, Pl. Gold Coast, 30 (1930); Sousa in Anais Junta Inv. Col. 5: 48 (1950); Mangenot in Ic. Pl. Afr. 4: 76 (1957); Saunders, Handb. W. Afr. Pl. 96 (1958); Nielsen, Introd. Fl. Pl. W. Afr. 183 (1965); J. K. Morton in J. Linn. Soc. 59: 464, fig. 12, 13 (1966) incl. subsp. *sesselifolium*. *APD acc*

A robust straggling herb up to 2-3 ft. high, producing fibrous roots from the lower nodes, usually subglabrous, rarely rather densely pubescent; leaves mostly elliptic to ovate, rarely all narrow and lanceolate; inflorescence dense, about 1-2 1/2 in. across in fruit; flowers open from 7 a.m. to noon; petals white to lilac; [in rain forest.](#)

Sen.: Koulikan to Palmeraie, Casamance (Feb.) Berhaut 6822! Boudié Forest, Sélihou (Mar.) Berhaut 7159! **Port. G.:** Catio (Aug., Dec.) Raimundo & Guerra 674! Esp. Santo 2157! **Guin.:** Kala, Dalaba (Sept.) Schnell 7355! N'Zérékoré (Sept.) Baldwin 13277! 13279! **S. L.:** Dambaea to Wania, Kuru Hills (May) Morton SL 555! Morea, Kuru Hills Morton SL 1471! Musaia (Dec., Apr.) Deighton 4572! 5409! Ronietta (Nov.) Thomas 5562! Baoma (Dec.) Deighton 3482! **Lib.:** Bushrod I. (Aug.) Baldwin 13055! Grand Bassa (July) T. Vogel 40! Kulo, Sinoe Dist. (Mat.) Baldwin 11434! Zwednru, Tchien Dist. (Mar., Aug.) Baldwin 7039! de Wilde 3713! Genne Loffa, Kolahun Dist. (Nov.) Baldwin 10075! **Iv. C.:** Banco (May, Oct.) Bégué 33! Gruys L7! Niapidou (Apr.) Leeuwenberg 3205! Angedédou Forest, Abidjan (Nov.) Leeuwenberg 1871! Lamé (Oct.) Leeuwenberg 1733! **Ghana:** Detana Wiairso (Dec.) Morton A3606! Asiakwa to Pusupusu (Dec.) Morton GC 8208! Kade (Jan.) Morton GC 8331! Kibi (Dec.) Morton GC 8094! Apedwa to Kukurantumi (Aug.) Morton A931! Volta River F.R. (Nov.) Morton GC 6056! Ajena (Nov.) Morton P1238! Shiare (Apr.) Hall 1376! **S. Nig.:** Lagos (Mar.) Millen 22! Ibadan (Nov.-Jan.) Meikle 986! Hamblar 362! Gambari F.R. (Mar.) Hepper 2269! Idanre (Jan.) Brenan & E. W. Jones 8734! Usonigbe F.R. (Nov.) Meikle 570! Owo (Oct.) Stanfield 9! **W. Cam.:** Victoria (Dec.) Morton K902! Maitland 187!

S. Bakundu F.R. (fl. & fr. Apr.) Daramola FHI 41005! Barombi Preuss 1195! **F. Po:** (Nov., Dec., June) T. Vogel! Barter! Mann 92!

Widespread in the rain-forest regions of tropical Africa.

[Morton in J. Linn. Soc. 59: 466 (1966) distinguishes 1: subsp. *beniniense*, with more or less pubescent or ciliate leaf-sheaths, rather small inflorescences of pinkish-mauve flowers, and truncate to slightly emarginate capsules with pale brown seeds; and 2: subsp. *sessilifolium* (Benth.) J. K. Morton, with puberulous rarely slightly ciliate leaf-sheaths, broader leaves, larger inflorescences of white flowers, and apiculate capsules with whitish-scaly seeds. The latter subspecies is said to be common from Ghana to Cameroun. I have not found it possible to distinguish clearly between these two taxa in the herbarium.

The more recently described subsp. *leonense* J. K. Morton in J. Linn. Soc. 60: 169, t. 1 (1967) from Sierra Leone, with rather large leaves inflorescences and capsules, and an indumentum of short hooked hairs, seems to need further consideration before it is accepted-J.P.M.B.]

4. ***Aneilema dispernum* Brenan** in Kew Bull. 7: 198 (1952); J. K. Morton in J. Linn. Soc. 59: 445 (1966). *APD acc*

A straggling herb up to about 2 1/2 ft. high with dense ovoid-oblong inflorescences; flowers white in W. Africa but said to be bluish or pinkish elsewhere; **in montane forest.**

W. Cam.: Cam. Mt., 4,500-6,500 ft. (Nov.-Mar.) Morton K694! GC 6726! Migeod 31! Breteler et al. MC 286! **F. Po:** Monod 10422!

Also in **Tanzania** and **Malawi**.

5. ***Aneilema silvaticum* Brenan** in Kew Bull. 7: 203 (1952) (var. *silvaticum*); J. K. Morton l.c. 459 (1966). *APD acc*

***Aneilema affine* De Wild.** in Bull. Jard. Bot. Brux. 5: 83 (1915), not of R. Br. (1810).

A slender, straggling herb with fibrous roots at the lower nodes and ascending flowering stems up to about 1 ft. high; flowers white or very pale blue.

S. Nig.: Kennedy 2674! Sapoba Kennedy 1758a! Sapoba to Agbadi (Nov.) Meikle 637!

Also in **E. Cameroun** and the **Congo**.

[The variety in our area is typical var. *silvaticum* resembling a miniature *A. beniniense* but with ciliate-margined leaves and acuminate capsules.]

6. ***Aneilema lanceolatum* Benth.** in Fl. Nigrit. 546 (1849); C. B. Cl. in DC., Monogr. Phan. 3: 227 (1881); F.T.A. 8: 72, partly; Irvine, Pl. Gold Coast 30 (1930); F.W.T.A., ed. 1, 2: 314; Nielsen, Introd. Fl. Pl. W. Afr. 183 (1965); J. K. Morton l.c. 453 (1966), *APD acc*

6a. ***Aneilema lanceolatum* subsp. *lanceolatum*-J. K. Morton** in J. Linn. Soc. 59: 453, fig. 8 (1966). *APD acc*

***Aneilema lanceolatum* var. *evolutius* C. B. Cl.** (as "evolutior") l.c. (1881), partly, excl. lectotype.

***Aneilema schweinfurthii* C. B. Cl.** l.c. (1881); F.T.A. 8: 71; Chev. Bot. 667.

***Aneilema soudanicum* C. B. Cl.** in F.T.A. 8: 72 (1901).

***Aneilema lanceolatum* var. *lanceolatum*-Brenan** in Kew Bull. 7: 202 (1952), partly, excl. syn. *Lamprothyros gracilis*, *Aneilema gracile*, *A. subnudum*.

***Aneilema lanceolatum* var. *pilosum* Brenan** in Kew Bull. 15: 219 (1961).

A variable perennial herb with fusiform tuberous roots at the rootstock and erect ascending or prostrate stems up to about 3 ft. long; flowers mauve, opening in the morning, from 7 .30 a.m. to noon; **in savanna-woodland and grassland.**

Mali: Gourma (July) Chev. 24469! Bamako (Sept.) Adam 15012! **U. Volta:** Sindou to Banfora (June) Leeuwenberg 4312! Po (Nov.) Darko 459! **Ghana:** Gambaga (May) Morton GC 7320! Manga, Bawku (Aug.) Irvine 4651! Bawku (Aug.) Irvine 4607! Nakpanduri (Aug.) Hall GC 490! **Togo Rep.:** Defalé (Sept.) Morton A4387! **N. Nig.:** Kufena Rock, Zaria Dist. (July) Keay FHI 25919! Liruwcn-Kano Hills Carpenter! Adari, Sara Hills. Jos Plateau (Apr., Oct.) Lely P203! Hepper 1123! Biu, Bornu (Aug.) Noble 11! Gurum, Sardauna Prov. (Nov.) Hepper 1307! Mambila Plateau (July) Chapman 33! **S. Nig.:** Alagbede F.R., Ilorin Dist. (Feb.) Ejiofor FHI 19808! Idogun, Owo Dist. (Mar.-May) Stanfield 64! 64a!

Extending eastwards to the **Sudan**, **Uganda** and **Kenya**, also in **E. Cameroun** and **the Congo**.

6b. *Aneilema lanceolatum* subsp. *subnudum* (A Chev.) J. K. Morton in J. Linn. Soc. 59: 456, fig. 9 (1966). *APD acc*

Lamprodithyros gracilis Kotschy & Peyr., Pl. Tinn. 47, t. 23 fig. A (1867).

Aneilema gracile (Kotschy & Peyr.) C. B. Cl. in DC., Monogr. Phan. 3: 228 (1881); F.T.A. 8: 73.

Aneilema subnudum A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 216 (1912); Chev. Bot. 668; F.W.T.A., ed. 1, 2: 314.

Similar in habit to subsp. *lanceolatum* and linked by intermediates particularly in Nigeria but in general with reduced narrow foliage, a greater tendency to precocious flowering, and often narrower inflorescences.

Guin.: Farana (Apr.) Pitot! **Iv. C.:** Buandougou to Marabadiassa (July) Chev. 22006! Bouna (Feb.) de Wilde 3486! **Ghana:** Ejura Scarp (Dec.) Morton GC 9743! Banda (Mar.) Morton GC 8603! Kampaha (June) Adams 719! Walembai (Apr.) Kitson 820! Tamale to Yendi (Mar.) Adams 3867! Anyabani to Juketi (Jan.) Morton GC 6464! **N. Nig.:** Ilorin to Jebba (Feb.) Meikle 1173! 1199! Nupe Barter 1474!

7. *Aneilema pomeridianum* Stanfield & Brenan in Kew Bull. 15: 217 (1961); J. K. Morton l.c. 451, fig. 7 (1966). *APD acc*

Aneilema lanceolatum* var. *evolutius C. B. Cl. (as "evolutior") in DC., Monogr. Phan. 3: 227 (1881), partly, as to lectotype; Brenan in Kew Bull. 7: 203 (1952), partly.

Aneilema lanceolatum of F.W.T.A., ed. 1, 2: 314 (1936), partly; Brenan in Kew Bull. 7: 202 (1952), partly, not of Benth.

A perennial herb 4 in.-3 ft. high, similar in appearance to *A. lanceolatum* but with the lower and basal leaves elongate and falsely petiolate; flowers mauve to bluish-purple, open from about 1 p.m. until dusk: **in grassland or woodland, sometimes in cultivated ground.**

Ghana: Sutawa (Mar.) A. S. Thomas D158! Kintampo (Mar.) Goodall GC 16371! Tamale to Yendi (Apr.) Morton GC 9076! Yendi (Apr.) Lloyd Williams 631! Volta R. Anderson 17! **N. Nig.:** Nupe Barter 1117! Zungeru (July) Dalz. 267! Sokoto (June) Dalz. 449! Abinsi (Mar., July) Dalz. 806! 807! **S. Nig.:** Eruwa, W Lagos Rowland Igboora, Ibadan (Apr.) Stanfield 192! Idogun, Owo (Mar., Oct.) Stanfield 65! 157!

8. *Aneilema setiferum* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 215 (1912); Chev. Bot. 667; F.W.T.A., ed. 1, 2: 314; Sousa in Anais Junta Inv. Col. 7: 63 (1952); J. K. Morton in J. Linn. Soc. 59: 449 (1966). *APD acc*

8a. *Aneilema setiferum* var. *setiferum* J. K. Morton l.c. 451, fig. 6 (1966). *APD acc*

A perennial herb with fusiform tuberous roots at the rootstock and erect or ascending stems up to about 2 ft. high; leaves linear, sometimes oblong-lanceolate, up to about 6 in. long and 2/3 in. broad; petals white; **in savanna and grassland.**

Mali: Sikasso (Aug.) Chev. 801! **Port. G.:** Pitche to Buruntuma, Gabu (Aug.) Esp. Santo 2738! **Guin.:** Gali to Hinde, Fouta Djallon (July) Adames 317! **Iv. C.:** Chev. 21805! Oroumba-Boka (Oct.) de Wilde 660! **U. Volta:** Banfora (June) Leeuwenberg 4361! **Ghana:** Folifoli, Afram Plains (Aug.) Hall CC 185! Kete Krache (Apr.) Morton GC 9129! N. of Banda (Dec.) Morton GC 25082! **N. Nig.:** Abinsi (May) Dalz. 810! Gawu to Abuja (Aug.) Onochie FHI 35450!

[Adames 317 is aberrant in having only the bristles round the sheath-margins slightly rusty, the rest colourless.]

8b. *Aneilema setiferum* var. *pallidiciliatum* J. K. Morton in J. Linn. Soc. 59: 451 (1966) (as "pallidociliatum"). *APD acc*

Similar to last, but stem and leaf-sheaths without red bristles; stem often more completely concealed by the leaf-sheaths and appearing stouter.

Ghana: Damongo (Mar.) Morton GC 8740! Pong Tamale (Nov.) Akpabla 385! Tamale Anderson 10! Tamale to Nyankpala (May) Darko 5073! Ejura (Aug.) Andoh 5053!

9. *Aneilema paludosum* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 215 (1912); Chev. Bot. 667; Berhaut, Fl. Sén. 210; J. K. Morton in J. Linn. Soc. 59: 446 (1966), partly. *APD acc*

APD: *Synonym of Aneilema mertonii Brenan*

9a. *Aneilema paludosum* subsp. *paludosum* J. K. Morton l.c. 447 (1966) partly, excl. cited Ghana specimens and t. 1. *APD acc*

A more or less slender-stemmed straggling annual herb, often rooting at the lower nodes; leaves 3-8(-10) cm. long, 3-20(-25) mm. broad; inflorescences usually capitate, sometimes to 2 cm. long; bracts on main axis short, ovate, 1-2 mm. long; cincinni usually sessile or up to about 1 mm. pedunculate; petals white or sometimes mauve, open at 2.30 p.m.; in damp or marshy savanna and grassland, sometimes in cultivated ground.

Sen.: Bougnadou, Casamance (Oct.) Adam 18488! Bignona, Casamance (Sept.) Adam 18132! **Port. G.:** Piche, Buruntuma (Nov.) Pereira 3522! Fá (Sept.) Guerra 3815! **S. L.:** Mange, Bure Makonte (Oct.) Jordan 581! Mange Ferry (Nov.) Morton SL 93! Musaia, Koinadugu Dist. (Aug.) Haswell 42! Sasa, Tonko Limba (Sept.) Jordan 331! **Iv. C.:** N'Douci (Aug.) de Wit 6045! Alangouassou to Mboyakro, Nzi valley (Aug.) Chev. 22246! **Ghana:** Lloyd Williams 392! Nakwaly, Bole (Nov.) T. M. Harris! Lumbaga, Tamale (Dec.) Morton GC 6257! Ejura (Dec.) Morton GC 9719! 9729! Folifoli, Afram Plains (Aug.) Hall CC 172! **N. Nig.:** Kumu (Oct.) Lely 670! **S. Nig.:** Oyo to Iseyin (July) J. B. Gillett 15233! Stanfield FHI 45646!

[The intermediates between subsp. pauciflorum and subsp. pseudolanceolatum referred to by Morton (l.c. 449) appear to me to be states or variants of subsp. paludosum rather than genuine intermediates.

Lely 670 is aberrant in having the cincinni on peduncles up to 5 mm. long and the flowers on longer arcuate pedicels to 5 mm. long. More material may prove this to be a separate taxon.]

9b. *Aneilema paludosum* subsp. *pauciflorum* J. K. Morton l.c. 447 t. 2 (1966). *APD acc*

Similar to subsp. paludosum but with the flowering shoots each branched distally into several small inflorescences. Habitat similar to that of subsp. paludosum but said to be more usually in cultivated or disturbed ground.

Sen.: Sedhiou, Casamance (Nov.) Berhaut 6365! **S. L.:** Mateboi, Sanda Tenraran (Nov.) Jordan 825! **Ghana:** Burufo (Dec.) Adams 4401! Bugari (Nov.) Leather 2530! Pong Tamale (Dec.) Morton. GC 9867! Kete Krache to Otisu (Jan.) Morton A1503

[Intermediates with subsp. paludosum occur, e.g. Adam 18379 from Senegal, Djibelor-Figuin-Chor, T. M. Harris from Ghana, Wa, and Cudjoe from Ghana, Accra-Winneba road.]

9c. *Aneilema paludosum* subsp. *pseudolanceolatum* J. K. Morton l.c. 448, t. 3 (1966). *APD acc*

A perennial herb up to about 8 in. high with tuberous roots; leaves up to 10 cm. long and 16 mm. wide, usually smaller; inflorescences ovoid to cylindrical, dense; bracts on main axis lanceolate, 1-3 mm. long; cincinni on peduncles 2-3.5 mm. long; flowers white to mauve.

Ghana: Adamsu (Dec., May) Adams 3090! Morton A4250! Berekum to Sampa (Apr., Dec.) Morton A1118! A3229! **Togo Rep.:** Defalé (Sept.) Morton A4435!

[As stated by Morton (l.c.) this distinctive plant may prove either a hybrid of *A. paludosum* and *A. lanceolatum*, or even a separate species.]

10. *Aneilema mortonii* Brenan in Kew Bull. 22: 387 (1968). *APD acc*

Aneilema paludosum of J.K. Morton in J. Linn. Soc. 59: 447 (1966) partly (as to cited Ghana specimens and t. 1).

An apparently annual herb with fibrous roots similar in habit to *A. paludosum* subsp. *paludosum*; leaves up to about 12 cm. long and 12 mm. broad; flowers white; in marshy savanna.

Ghana: Walewale (Dec.) Adams & Akpabla 4206! Lumbaga, Tamale (Dec.) Morton GC 6229! Pong Tamale (Dec.) Morton GC 9836! Yendi to Zabsugu (Dec.) Morton A1455! Attebubu (Nov.) Morton A2737!

6. POLLIA

Thunb., Nov. Gen. Pl. 1: 11 (1781). *APD acc*

- 1 Inflorescence lax, with well-spaced, distinct lateral branches (0.5-)1-2.5(-3) cm. long; leaves with lamina, mostly 7-14 cm. long and 2-3(-3.5) cm. broad, with about 5 parallel nerves on either side of midrib, rather quickly tapering at base into a, distinct slender false petiole about 1-2 cm. long and 1-2 mm. broad; fertile stamens 6,

equal; fruits ellipsoid, shining (though less so than in the next species), pinkish to purplish, 5-6 mm. long[1. mannii](#)

Inflorescence very dense, with close, very short, indistinct lateral branches up to about 5 mm. long; leaves with lamina mostly 15-30 cm. long and 5-9 cm. broad, with about 8-9 parallel nerves on either side of midrib, gradually tapering at base into an indistinct rather stout false petiole 3-6 mm. broad; fertile stamens 3, with 3 very small staminodes; fruits globose or subglobose, with a strong metallic lustre, bluish-purple to blue or blue-black[2. condensata](#)

1. ***Pollia mannii*** C. B. Cl. in DC., Monogr. Phan. 3: 124 (1881); F.T.A. 8: 26; J. K. Morton in J. Linn. Soc. 60: 206 (1967). *APD acc*

A straggling herb about 1-2 m. high, sometimes to 5 ft., with stems decumbent below or stolons rooting freely at the lower nodes, oblong-elliptic or oblong-lanceolate leaves, and lax terminal panicles of white flowers, open about 10 a.m.; [in the herb-layer of primary and secondary rain-forest, sometimes in extended colonies over a wide area.](#)

iv. C.: Yabouakrou to Tingouéla (fr. Dec.) Chev. 22750! Divo Forest (fr. Sept.) Aké Assi 5699! **Ghana:** Akokoasa (fr. Nov.) Fishlock 71! Apedwa (fl. & fr. Oct.) Deighton 3424! Bosumkese F.R. (Dec.) Adams 2903! Mampong (Dec.) Morton GC 9650! Bobini F.R. (Jan.) Foggie 515! **S. Nig.:** Aponmu (fl. & fr. Sept.) Stanfield 124! Aponmu F.R. (Aug.) J. B. Gillett 15321! Akure F.R. (July-Aug.) Jones FHI 20205! Onochie FHI 33372! Shasha F.R. (fl. A fr. Nov.) Emwiogbon FHI 43529! **W. Cam.:** Nkom-Wum (July) Ujor FHI 30458! Bova to Kuke Bova (Sept.) Olorunfemi FHI 30779!

Also in **E. Cameroun**, **S. Tomé** **Uganda** and **N.W. Tanzania**.

2. ***Pollia condensata*** C. B. Cl. in DC., Monogr. Phan. 3: 125 (1881); F.T.A. 8: 27; J. K. Morton l.c. (1967). *APD acc*

A stout herb 9 in. to 4 ft. high, with stems often decumbent at base or stolons and these rooting freely from the nodes; leaves rather large, with a tendency to terminal rosetting, so that the plant rather resembles Palisota, but the margins of leaves and leaf-sheaths lack long hairs; flowers white, in dense clusters, open from 10.30 a.m. till 12.30 p.m.; [in primary and secondary rain-forest, flowering mainly in gaps.](#)

S. L.: Duunia (fr. Feb.) Sc. Elliot 4863! Talla (Feb.) Sc. Elliot 4851! Bumbuna (fr. Oct.) Thomas 3757! 3865! Kougohun (Jan.) Deighton 3865! Tingi Hills above Konelo (Dec.) Morton & Gledhill SL 3207! **Lib.:** Gbanga (fr. Sept.) Linder 673! Bilimu Mt. (May) Harley 1356! Monrovia town (Aug.) Baldwin 8013! Zwedru (Aug.) Baldwin 7034! Webo (July) Baldwin 6253! **iv. C.:** 61 Km. N. of Sassandra, W. of Niapidou (fr. Jan.) Leeuwenberg 2494! Béyo (fr. Jan.) Leeuwenberg 2454! **Ghana:** Kumasi (fr. Feb.) Irvine 90! Assin-Yan-Kumasi Cummins 82! S. Fomang Su F.R. (fr. Oct.) Brown FH 2069! Amentia (fr. Mar.) Vigne FH 1887! Accra to Kibi (fr. Jan.) Morton GC 25342! **N. Nig.:** Mayo Ndaga, Sardauna Prov. (fr. Jan.) Latito & Daramola FHI 28887! **S. Nig.:** Gambari F.R. (Aug.) Onochie FHI 19141! Apomu F.R. (Aug.) J. B. Gillett 15320! Owo (fl. & fr. Oct.) Stanfield 22! Okomu F.R. (fr. Dec.) E. W. Jones in Hb. Brenan 8607! Oban Talbot 44! **W. Cam.:** Likomba, Victoria (fr. Oct.) Mildbraed 10528! **F. Po.:** (Dec.) Mann sn.! 93! (fr. June) Barter 1518!

Also in **E. Cameroun**, **S. Tomé**, **Principe**, **Congo**, **Cabinda**, **Sudan**, **Ethiopia**, **Uganda**, **Tanzania** and **Angola**.

7. PALISOTA

Reichb. ex Endl., Gen. Pl. 125 (1836); F.T.A. 8: 27. Nom. cons. *APD acc*

- 1 Plants with a distinct aerial main stem, sometimes short and 15-100 cm. high, sometimes branched and up to 5(-6) m. high:[2](#)
Plants without a distinct aerial main stem; rosettes of leaves at ground-level:[7](#)
- 2 Inflorescence lax, elongate, 10-30 cm. long, with rather slender lateral peduncles usually about 1-2 cm. long; stems up to about 6 m. high, somewhat branched, with leaves mostly in terminal rosettes; leaves oblanceolate to obovate, 15-30(-40) cm. long, 4-11.5 cm. wide, more or less long-hairy near base, particularly on margins; inflorescences often several per rosette[1. hirsuta](#)
Inflorescence either dense, up to 15(-20) cm. long, or lax, but then only 4-10 cm. long and normally 1 per rosette:[3](#)
- 3 Inflorescence rather lax and narrow, 3-10 cm. long, with lateral peduncles very short, 0-3 mm. long; flower-bearing part of each partial inflorescence at first very short, becoming elongate in fruit, 5-30 mm. long, and thickened; inflorescence puberulous; stems up to about 2 m. high, often branched, with leaves mostly in

- rosettes; leaves obovate to oblanceolate or elliptic, 12-23 cm. long, 4-10 cm. broad; petiole short, up to 2.5 cm.; inflorescence normally 1 per rosette [2. *ambigua*](#)
- Inflorescence dense: **4**
- 4** Leaves scattered along the upper part of the stem, not whorled; petiole 1-2.5 cm. long; lamina, elliptic to oblong-elliptic, 13-27 cm. long, 4.5-7 cm. broad; stems slender, about 3-5 mm. diam.; inflorescence solitary, terminal, about 5-9 cm. long and 1.5-2 cm. broad [3. *preussiana*](#)
- Leaves mostly whorled in rosettes; petiole 2-30 cm. long; stems stouter, mostly 5 mm. or more in diameter; inflorescences solitary to several per rosette: **5**
- 5** Inflorescence short, about 2-2 1/2 times as long as broad; stem about 15-100 cm. tall; leaf-lamina elliptic to somewhat ovate or obovate, 12-50 cm. long, 5-18 cm. broad, narrowed at base to a distinct petiole about 2.5-30 cm. long [8. *barteri*](#)
- Inflorescence elongate, about 4-7 times as long as broad: **6**
- 6** Petioles short, 1-8 cm. long; peduncles 2-6 cm. long; leaf-lamina usually elliptic to oblong-elliptic, 15-40 cm. long, 4-15.5 cm. broad; inflorescence about 6-15 cm. long and 1.5-3.5 cm. broad [4. *schweinfurthii*](#)
- Petioles long, 10-33 cm. long; peduncles about 8-15 cm. long; leaf-lamina mostly about 40-100 cm. long, 13-21 cm. broad; inflorescence about 7-19 cm. long and 1.5-4 cm. broad [5. *mannii*](#)
- 7** Peduncle of inflorescence and inflorescence itself (except for flowers) completely covered with very long dense silky-woolly hairs; lamina 15-36 cm. long, 8-12 cm. broad, obovate-oblanceolate, tomentose beneath; petiole about 5-7 cm. long; inflorescence about 2.5-5 cm. long and 2-2.5 cm. broad [6. *lagopus*](#)
- Peduncle of inflorescence not or scarcely tomentose; inflorescence (except sometimes for bract-margins) not tomentose; lamina not or scarcely tomentose beneath: **8**
- 8** Inflorescence with conspicuous ovate bracts about 5-10 mm. broad subtending each lateral branch and projecting among the flowers; bracts long-ciliate; leaf-lamina elliptic to oblanceolate or narrowly obovate, about 25-40 cm. long and 5.5-14 cm. broad, often with a pale stripe along the midrib, gradually cuneate at base, almost sessile or with a petiole up to 25 cm. long; inflorescence about 4-8(-18) cm. long and 1.5-4 cm. broad; fruits pilose, beaked [7. *bracteosa*](#)
- Inflorescence with inconspicuous lanceolate to linear bracts mostly 2-3 mm. broad or less: **9**
- 9** Inflorescence about 4-8 times as long as broad, about 10-23 cm. long and 2-4 cm. broad, in fruit up to 50 cm. long and 10 cm. broad; leaf-lamina about 60-110 cm. long and 11-34 cm. broad, tapering at base (sometimes rather abruptly) into a petiole 20-30 cm. long; fruits glabrous or nearly so (in our area) [5. *mannii*](#)
- Inflorescence about 1 1/2-2 times as long as broad, about 2-9 cm. long and 1.5-4 cm. broad; leaf-lamina about 20-60 cm. long and 6-12 cm. broad, gradually narrowing to the petiole which is sometimes short and indistinct sometimes up to 25 cm. long; fruits hairy, beaked [8. *barteri*](#)

1. *Palisota hirsuta* (Thunb.) K. Schum. in Engl., Bot. Jahrb. 24: 347(1897); Mangenot in Ic. Pl. Afr. 4: t. 91 (1957); J. K. Morton in J. Linn. Soc. 60: 204 (1967). **APD acc**

Dracaena hirsuta Thunb., Diss. Dracaena 7 (1808).

Dianella triandra Afzel., Stirp. Guin. Med. Sp. Nov. 6 (1818).

Palisota thyrsoflora Beath. in Fl. Nigrit.: 544 (1849), illegit. name, excl. syn.

Commelina ambigua; F.T.A. 8: 31.

Palisota prionostachys C. B. Cl. in DC., Monogr. Phan. 3: 134 (1881).

Palisota maclaudii Cornu in Bull. Soc. Bot. Fr. 43: 30 (1896).

Palisota cf. *preussiana* of Sousa in Anais Junta Inv. Col. 6: 46 (1957).

Robust herb 4-9(-12) ft. high, with lax inflorescences with whitish to pinkish lateral branches, white to purplish flowers open from 4 p.m. until dusk, and blackish glossy fruits; **in lowland rain-forest.**

Sen.: Heudelot 845! Boudié forest, Sédhion (fl. Mar.) Berhaut 7158! **Port. G.:** Junta to Buba (fr. Feb.) Juan d'Orey 301! Bissalanca, Bissau (Jan.) Esp. Santo 1666! Cumura to Bór, Bissau (fl. & fr. Mar.) Esp. Santo 1877! Xitole (Mar.) Pereira 1663! **S. L.:** Newton, Peninsula (fl. & fr. Apr.) Deighton 5922! Gbinti, Dibia (Jan.) Deighton 5899! Bo (Jan.) Thomas 7441! Bumban (Dec.) Sc. Elliot 4234! Gola Forest Small 542! **Lib.:** Linder 60! Monrovia Whyte! Kakatown Whyte! Dukwia R. (fr. June) Cooper 359! Sinoe Basin Whyte! Grand Bassa (July) T. Vogel 64! Nimba Reserve Adames 782! **iv. C.:** Adiopodoumé (fl. & fr. Oct.) Leeuwenberg 1709! Gruys 6! Banco (July) de Wit 7872! Audouin Forest (Aug.) de Wit 6017! **Ghana:** Axim (fl. & fr. Feb.) Irvine 2367! Swedru (Feb.) Dalz. 8293! Aburi Scarp (Jan.) de Wit & Morton A2864! New Tafo Lovi WACRI 3949! Kibbi (fr. Jan.) Morton GC 6395! **Dah.:** Pobé Adjanooun 122! **N. Nig.:** Patti Lokoja (Feb.) Dalziel 922! Wamba Div. (fr. Mar.) Thornehill 40! Lafia, Benue Prov. (Feb.) Jones FHI 462! Jemaa (Feb.) McClintock 193! **S. Nig.:** Epe (fr. Aug.) J. B. Gillett 15261! Sapoba F.R. (Jan.) Keay FHI 37738! Okomu F.R. (Dec.) Brenan 8505! Brenan, Jones & Richards 8617! Calabar (Feb.) Mann 2339! **W. Cam.:** Preuss 1133! Su, Bamenda, 3,500 ft. (Apr.) Maitland 1735! Kumba (Apr.) Daramola FHI 29836! Banga, Kumba Dist. (Mar.) Binuyo & Daramola FHI 35628! Buea Rd., S. Bakundu (June) Dundas FHI 8351! **F. Po.:** (fl. & fr. June, Nov., Dec.) T. Vogel 77! Barter! Mann 95! Balacha to Ureka (Mar.) Guinea 2287!

Also in **E. Cameroun**, **Rio Muni**, **Cabinda** and **the Congo**.

[Leaves variable in hairiness: upper surface subglabrous to rather densely hairy; hairiness of leaf-base also variable.]

2. **Palisota ambigua** (*P. Beauv.*) *C. B. Cl.* in DC., Monogr. Phan. 3: 131 (1881); F.T.A. 8: 31; J. K. Morton l.c. (1967). *APD acc*

Commelina ambigua *P. Beauv.*, Fl. Oware 1: 26, t. 15 (1805).

Robust herb 1-7 1/2 ft. high, with inflorescences at first lax and narrow, becoming broader as the lateral branches elongate; sepals and petals violet; flowers open from 4 p.m. until dusk; fruits green then indigo or purple; **in lowland rain-forest**.

S. Nig.: Usonigbe F.R., Benin (Nov.) Keay FHI 25622! Okomu F.R., Benin (Dec.) Brenan 8402! Benin (Aug.) Stanfield 109! Port Harcourt (Jan.) Jones FHI 616! Oban Talbot! **W. Cam.:** Barombi F.R., Kumba (fl. & fr. Apr.) Daramola FHI 41013! Bopo to Banga, S. Bakundu (fr. Mar.) Binuyo & Daramola FHI 35636! Bimbila road, Victoria (fr. Feb.) Maitland 420! Victoria (Nov.) Mildbraed 10730!

Also in **E. Cameroun**, **Rio Muni**, **Gabon** and **the Congo**.

[Lower surface of leaves varying from almost glabrous to rather densely uppressed-grey-silky.]

3. **Palisota preussiana** *K. Schum. ex C. B. Cl.* in F.T.A. 8: 30 (1901); J. K. Morton l.c. 205 (1967). *APD acc*

APD: *Synonym of Palisota hirsuta (Thunb.) K. Schum.*

Perennial herb with a rather slender erect stem with leaves scattered in the upper part and a single terminal inflorescence of mauve flowers; **in upland forest**.

W. Cam.: Buea (Dec.) Migeod 87! Preuss 996! **F. Po:** Moka (Dec.) Boughey 51!

4. **Palisota schweinfurthii** *C. B. Cl.* in DC., Monogr. Phan. 3: 132 (1881) partly, as to Schweinfurth 3054 (lectotype), 3647; F.T.A. 8: 29 partly; J. K. Morton l.c. (1967). *APD acc*

Palisota mannii *C. B. Cl.* in DC., Monogr. Phan. 3: 132 (1881) partly, as to Mann 2139, Kalbreyer 163, bat excl. lectotype; F.T.A. 8: 29, partly, as to β; F.W.T.A., ed. 1, 2: 315, partly.

Robust herb with stems up to 6 ft. high, leaves mostly in terminal rosettes and dense spikes of dirty white to pink flowers; **in rain-forest**.

W. Cam.: Cam. Mt., 2,000-3,000 ft. (Apr.) Maitland 1071! Kalbreyer 163! (Dec.) Mann 2139! Buea (Feb.) Breteler et al. MC 297! Ndop Plain (Apr.) Brunt 369!

Also in **E. Cameroun**, **Rio Muni**, the **Congo**, **Sudan**, **Uganda**, **Tanzania**, **Zambia** and **Angola**.

5. **Palisota mannii** *C. B. Cl.* in DC., Monogr. Phan. 3: 132 (1881) partly, as to Mann 2340 (lectotype); F.T.A. 8: 29 partly, as to α; J. K. Morton l.c. 205 (1967). *APD acc*

Palisota megalophylla *Mildbr.* in Notizbl. Bot. Gart. Berl. 9: 246 (1925), incl. var. robusta.

Herb usually stemless, sometimes with stems 1-6 ft. high; leaves up to 4 1/2 ft. long; peduncles 8-24 in. long; flowers white, going pale pink or lilac, open from 1-2 p.m.; fruits (with us) white turning orange (elsewhere said to be green when young, turning yellow, orange, red, or deep purple-brown when mature); **in rain-forest**.

S. Nig.: Orosun Peak, Idanre (fl. Mar., Aug., Oct., fl. & fr. Dec.) Stanfield 63! 149! Richards 5115! Keay FHI 25518! J. B. Gillett 15301! Afi River F.R., Ogoja (May) Jones & Ouochie FHI 18613! **W. Cam.:** Bafut-Ngamba F.R., 6,500 ft. (July) Brunt 839! Buea, 4,000-5,000 ft. (Feb., May) Dalz. 8349! Preuss 894! Mimbila (Mar.) Brenan & Jones 9501! Bamenda (Jan.) Daramola FHI 40634! Likomba Plantation (Nov.) Mildbraed 10618! Ada to Oshie (fl. & fr. Aug.) Brunt 1236! **F. Po:** 3,000 ft. (Mar.) Mann 2340!

Also in **E. Cameroun**, **Cabinda**, **Congo**, **Sudan**, and **Uganda**.

6. **Palisota lagopus** *Mildbr.* in Notizbl. Bot. Gart. Berl. 9: 248 (1925); J. K. Morton l.c. (1967). *APD acc*

Herb with leaves arising at or near ground-level, with remarkably woolly peduncles and inflorescences; flowers white to pink or violet; **in rain-forest**.

W. Cam.: Mamfe (Mar.) Richards 5218! Kumba to Victoria rond, 15 miles from Kumba Morton K922!

Also in **E. Cameroun**.

7. **Palisota bracteosa** C. B. Cl. in DC., Monogr. Phan. 3: 133 (1881); F.T.A. 8: 28; J. K. Morton l.c. (1967). *APD acc*

Stemless herb (or merely rhizomatous) with a rosette of leaves arising at about ground-level; lamina sometimes with a greenish-white stripe along midrib above; flowers pinkish-white or white; fruits red; **in rain-forest**.

Guin.: Kinidougou (fr. Feb.) Martine 257! **S. L.:** Battiema, Kowa (fr. Dec.) Pyne 77! Makump (Oct.) Thomas 3940! Yonibana (Nov.) Thomas 4992! Sirabu, near Blama (fr. Dec.) Deighton 3452! Gegbwema (fr. Mar.) Deighton 4122! **Lib.:** Straub 143! Harley 496! Dinamu to St. John River (May) Harley 496a! Toroke, Tchien District (July) Baldwin 6731! Diala (Oct.) Voorhoeve 521! Nimba (Nov.) Adames 679! **iv. C.:** 43 km. E. of Soubré (Dec.) Leeuwenberg 2190! **Ghana:** Sampa, W. Prov. (Feb.) Vigne 2917! Banka, Ashanti Irvine 496! Chairaiso, Ashanti (Nov.) Morton A2761! **S. Nig.:** Akarara, Calabar (May) Ujor FHI 30844! Oban Talbot 741! **W. Cam.:** Banga, S. Bakundu F.R. (Mar., Aug.) Richards in Hb. Brenan 9477! Dundas FHI 8387!

Also in **E. Cameroun** and **S. Tomé**.

8. **Palisota barteri** Hook. in Bot. Mag. t. 5318 (1862); C. B. Cl. in BC., Monogr. Phan. 3: 132(1881); Troll in Beitr. Biol. Pfl. 36: 359, figs. 20 1, 21, 22 (1961); J. K. Morton l.c. 204 (1967). *APD acc*

Usually stemless herb; flowers white, open from 4-6 p.m.; fruits green to purplish or red; **in rain-forest**.

S. L.: Tingi Hills (Dec.) Morton & Gledhill SL 3020! **Lib.:** Gbanga (Aug.-Sept.) Linder 638! Baldwin 13236! Sanokwele (Sept.) Baldwin 9543! Kulo (fr. Mar.) Baldwin 11400! S. Nimba (fr. June) Adam 21523! **iv. C.:** Banco Forest (Jan.) Leeuwenberg 2328! **Ghana:** Ejura Scarp (fr. Dec.) Morton GC 9756! Geaso (fr. Feb.) Andoh FH 5110! **S. Nig.:** Okomu F.R., Benin (fl. & fr. Dec.-Feb.) Lyaninko in Hb. Brenan 8884! Ifon (fr. Dec.) Stanfield 52! (Aug.) Stanfield 118! Omo F.R. (fl. & fr. Feb.) Jones & Onochie FHI 17515! Stubbs Creek F.R., Eket Dist. (May) Onoce FHI 32919! **W. Cam.:** Buea (Apr.) Hamblen 182! Victoria (Dec.) Ndi FHI 50345! S. Bakundu F.R., Kumba (Jan.) Binuyo & Daramola FHI 35054! Above Buea (Mar.) Morton GC 6714! **F. Po:** Mann 94! (June) Barter! (fr. Sept.) Melville 454! Balea Mt. (Dec.) Guinea 384!

Also in **E. Cameroun** and **Congo**.

The above-cited specimens are all typical stemless *P. barteri*. Occasionally stems up to c. 120 cm. long are developed. The taxonomic status of such plants is doubtful. Examples are: *S. L.*: Tingi Hills (Dec.) Morton & Gledhill SL 3020! *S. Nig.*: Usonigbe F.R., Benin (Nov.) Keay FHI 125580! 25625! Okomu F.R., Benin (Dec., Feb.) E. W. Jones in Hb. Brenan 8606! Brenan 9019!

[The Liberia and Ghana specimens, with larger leaves more rounded at base than usual, may prove to be taxonomically separable.]

- Palisota staudtii** K. Schum. in Engl., Bot. Jahrb. 24: 346 (1897).

APD: *Synonym of Palisota barteri* Hook.

W. Cam.: Victoria to Bimbisa (fl. Apr., May), Preuss 1157; 1229

It may well be a synonym of *P. barteri* as suggested in Ed. 1. The very slender pedicels up to 1 cm. long seem unusual, however—J.P.M.B.]

Uncertain species.

Palisota bicolor Mast. in Gard. Chron., n.s. 9: 527 (1878); C. B. Cl. in DC., Monogr. Phan. 3: 134 (1881); F.T.A. 8: 32. *APD acc*

Stem abbreviated; petiole 7.5-10 cm. long; lamina 30-35 cm. long; midrib brown-woolly-pubescent beneath; flowers and fruits not described.

Described from a plant cultivated by Messrs. Veitch, originally from Fernando Po.

Imperfectly known species.

Palisota sp.

Stems 6 ft. long, straggling; infructescence lax, stout 14 cm. long; [in dense forest.](#)

Ghana: Pusopuso ravine, Asiakwa (fr. Feb.) Morton A3864!

[Resembling *P. hirsuta* (Thunb.) K. Schum., but fruiting pedicels 5-6 mm. long (1-3 mm. in *P. hirsuta*). Near to and possibly conspecific with *P. pedicellata* K. Schum. from B. Tomé. More material needed.]

8. COLEOTRYPE

C. B. Cl. in DC., Monogr. Phan. 3: 238 (1881). *APD acc*

- 1 A rather robust straggling herb, often producing aerial roots from the lower nodes, with vegetative parts almost glabrous except for short hairs on margins of leaves and sheaths; leaves elliptic, 9-20 cm. long, 3-6.5 cm. broad, not at all rosetted, very acuminate at apex, gradually tapering to a short false petiole at base; inflorescences piercing the leaf-sheaths, appearing as dense sessile clusters of conspicuous green leafy bracts mixed with white flowers; the clusters about 1.5-3 cm. long and broad, mainly at the lower nodes or even at ground-level [laurentii](#)

Coleotrype laurentii K. Schum. in Engl., Bot. Jahrb, 33: 377 (1903); Brenan in Kew Bull. 7: 456 (1952); Aké Assi Contrib. 2: 222, t. 19 (1964); J. K. Morton in J. Linn. Soc. 60: 171, fig. 1 (1967). *APD acc*

A straggling herb with stems up to about 6 ft. long and 4 ft. high, often stoloniferous, with compact clusters of white flowers and green bracts sessile on the stem; flowers open from about 11 a.m. to 3 p.m.; [in rain-forest, sometimes abundant where clearing has taken place.](#)

Iv. C.: Divo Forest (Oct.) Aké Assi 5410! **Ghana:** Mampong (Dec., Jan.) Morton GC 9676! A1543! Mpraeso Scarp (Oct.) Hall GC 65! **S. Nig.:** Akure F.R. (Aug.) Tamajong FHI 19516! Owo (fl. & fr. Nov.) Stanfield 46! Okomu F.R. (Feb.) Brenan & Onochie 9001! Usorigbe F.R. (Nov.) Keay FHI 25630! Oban Talbot 742!

Also in [the Congo](#) and [Uganda](#).

9. CYANOTIS

D. Don, Prod. Fl. Nepal. 45 (1825); F.T.A. 8: 78. Nom. cons. *APD acc*

- 1 Plant with a bulb-like thickened basal stock, or with tuberously thickened roots, or with the stem abruptly thickened and corm-like (but then also producing fibrous roots from stem-nodes above the corm); plants always perennial, with usually more or less erect stems: **2**
 Plant producing only fibrous roots (bulbs, corms and tuberously thickened roots absent, but beware specimens of *C. barbata* showing only fibrous roots, whose corm has been left behind in the ground!; these are accounted for in the key): **10**
- 2 Outer bract of each cincinnus (partial inflorescence) or cluster of cincinni not or only slightly exceeding them; base of stem covered by the persistent leaf-bases which are themselves clothed with long silky hairs; tuberously thickened roots radiating from stem-base; leaves in a radical rosette, up to 21 cm. long and 3-5 cm. broad; flowering stems often produced before the radical leaves expand, the stems themselves without developed leaves but with scales or small bracts, ending in an irregular inflorescence of several small mostly pedunculate cincinni, mostly borne separately (i.e. singly) [5. caespitosa](#)
 Outer bract of each cincinnus (if borne singly) or cluster of cincinni clearly exceeding them: **3**
- 3 Plant with a conspicuously enlarged bulb-like base 1.5-3 cm. across whose scales are the persistent papery leaf-bases, more or less clothed with long straight silky hairs; leaves mostly radical, linear, up to 20 cm. long, 2-7 mm. broad; stems usually with 1-2 reduced leaves and irregular inflorescence of pedunculate cincinni borne separately and singly [6. angusta](#)
 Plant without a bulb-like base, either with a small corm (tuberously thickened stem) below ground-level or with tuberously thickened roots only: **4**
- 4 Plant with a pea-like corm about 1-1.5 cm. diam., below ground-level; fibrous roots produced from nodes above the corm; no radical rosette of leaves; leaves linear, up to about 8 cm. long; stems more or less spreading-pilose above; individual cincinni sessile or subsessile, normally in terminal or axillary clusters of 2 or more together, with more or less falcate outer leafy bracts [7. barbata](#)
 Plant without a corm but with tuberously thickened roots radiating from stem-base; a radical rosette of leaves usually present, their sheaths often with long straight silky hairs: **5**

- 5 Stems very short, 5-10 cm. high; cincinni 1-5 per stem, borne singly and pedunculate, each cincinnus with 1 outer leafy bract; radical leaves up to 5 cm. long and 7 mm. broad; stem leaves 0 or very reduced:6
 Stems 15-100 cm. high; cincinni normally sessile and clustered 2 or more together in terminal or axillary heads; heads mostly 1.5-3 cm. diam., usually with 2 or more leafy bracts; leaves 5-22 cm. long, 0.3-2.5 cm. broad; cauline leaves well developed:7
- 6 Cincinni (including bract) up to about 1.1 cm. long; bracteoles and sepals glabrous [3. scaberula](#)
 Cincinni (including bract) about 1.5-2.7 cm. long; bracteoles and sepals hairy [4. lourensis](#)
- 7 Leaves (0.1-1)-0.4-1.8 cm. broad, the lowest leaves mostly 10-20 cm. long, the upper ones decreasing in length; lamina not or scarcely amplexicaul at base; radical rosette usually present 1. longifolia8
@
 Leaves 2-2.5 cm. broad (the bracts slightly narrower), the lowest leaves 7-9 cm. long, the upper scarcely shorter; lamina amplexicaul at junction with sheath; no radical rosette [2. ake-assii](#)
- 8 Leaves mostly 3-20 mm. broad; plant usually tall, 30-100 cm. high:9
 Leaves 1-3 mm. broad; plant slender, 7-50 cm. high [1c. longifolia var. rupicola](#)
- 9 Plant robust; leaves mostly 8-20 mm. broad; sepals generally with a dorsal longitudinal line of pubescence .. [1a. longifolia var. longifolia](#)
 Plant more slender; leaves 3-8 mm. broad; sepals pubescent all over back [1b. longifolia var. gracilis](#)
- 10 Bracts on stems subtending cincinni ovate, 1-1.5 cm. broad above base, about 1.5-3 cm. long; plant densely spreading-hairy; cincinni all sessile, single, or clustered near ends; plant apparently perennial [9. hepperi](#)
 Bracts on stems subtending cincinni linear to lanceolate, usually less than 1 cm. broad (if, very rarely, as broad as above, then bracts much longer than 3 cm., plant without spreading hairs and annual): 11
- 11 Cincinni in clusters of 2 or more together, mostly sessile or nearly so; clusters usually with 3 or more leafy bracts; plant annual (C. lanata): 12
 Cincinni mostly single, sometimes paired at end of stem; plant; apparently perennial (certainly so in C. arachnoidea): 13
- 12 Heads of cincinni (other than terminal one) some at least usually pedunculate; bracteoles mostly subacutely pointed; occurring between 6,000 and 12,000 ft. altitude [7. barbata](#)
 Heads of cincinni (other than terminal one) almost always sessile; bracteoles acute; below 5,000 ft. altitude .. [11. lanata](#)
- 13 Cincinni (including bract) 1.5-2.5 cm. long, on peduncles 1.5-5.5 cm. long; leaves linear, 2-4.5 mm. broad ... [8. ganganeñsis](#)
 Cincinni (including bract) 0.5-1.5 cm. long, those other than the falsely pedunculate terminal ones mostly sessile, occasionally pedunculate; leaves mostly more than 4.5 mm. broad: 14
- 14 Plant perennial: 15
 Plant annual [11. lanata](#)
- 15 Plant more or less silky or cottony, but not spreading-hairy [10a. arachnoidea var. arachnoidea](#)
 Plant densely spreading-hairy [10b. arachnoidea var. pilosa](#)

1. **Cyanotis longifolia Benth.** in Fl. Nigrit. 543 (1849); F.T.A. 8: 81; Brenan in Kew Bull. 7: 205 (1952); Schnell in Bull. I.F.A.N. 19, Sér. A: 729 (1957); J. K. Morton in J. Linn. Soc. 60: 195 (1967). **APD acc**

APD: *Synonym of Cyanotis lanata Benth.*

1a. **Cyanotis longifolia var. longifolia APD acc**

Cyanotis djurensis C. B. Cl. in DC., Monogr. Phan. 3: 256 (1881); F.T.A. 8: 83; F.W.T.A., ed. 1, 2: 317.

Cyanotis deightonii Hutch., F.W.T.A., ed. 1, 2: 317 (1936); in Kew Bull. 1939: 243.

Cyanotis lanata of Sousa in Anais Junta Inv. Col. 5: 48 (1950); l.c. 6: 47 (1951); not of Benth.

Cyanotis longifolia var. albo-lanescens Schnell in Bull. I.F.A.N. 19, Sér. A: 731 (1957); J. K. Morton l.c. 197 (1967).

Cyanotis longifolia var. deightonii (Hutch.) Schnell in Bull. I.F.A.N. 19, Sér. A: 732 (1957). J. K. Morton l.c. (1967).

Cyanotis longifolia subsp. deightonii (Hutch.) J. K. Morton l.c. 196 (1967).

Cyanotis longifolia subsp. longifolia J. K. Morton l.c. 197 (1967).

A perennial herb up to about 3 ft. high, with thickened roots and dense clusters of blue (occasionally white or pink) flowers; **in savanna or grassland.**

Gam.: Jollofin to Genieri, E. Kiang (July) Fox 180! 181! **Port. G.:** Farim to Begene (Aug.) Esp. Santo 2401! Fulacunda (Aug.) Esp. Santo 2160! **Guin.:** Macenta (Oct.) Baldwin 9763! Foot of Fon Massif (Aug.) Schnell 6583! Koiré Mt.,

N'Zérékoré, 2,500 ft. (Sept.) Baldwin 13275! 13276! 13286! **S. L.:** Freetown (Oct.) Deighton 43! Wellington (Aug.) Harvey 62! Moyamba (Aug.) Dawe 558! Kabala to Kamabai (Sept.) Deighton 3977! Gberia Fotumbu (Sept.) Small 290! **IV. C.:** Nimba, 2,000 ft. (Aug.) Boughey GC 18154! Beyla to Touba, 1,750 ft. (July) Collenette 65! Orodougou, Touna to Siflé (June) Chev. 21806! **U. Volta:** Moasi (Aug.) Chev. 24773! Boromo, at edge of Black Volta (Sept.) Aké Assi 6459! **Ghana:** Banda (Aug.) Hall 1967! Kwahu (Nov.) Irvine 1714! Folifoli, Afram Plains (Aug.) Hall CC 206! **Togo Rep.:** Aledjo, Atacora Mts. (June) Villiers! **N. Nig.:** Mt. Elphinstone Fleming, nr. Badeggi, Barter 492! Anara F.R., Zaria (July) Keay FHI 25972! Dogon Kurmi, Jemaa Dist. (Aug.) Killick 29! Abinsi (July) Dalz. 808! Mambila Plateau, 5,500 ft. (July) Chapman 44! **S. Nig.:** Obodu Plateau (Nov.) Tuley 1065! **W. Cam.:** Kishong, 6,650 ft. (June) Brunt 723!

Widespread in the savana regions of tropical Africa.

A very variable plant particularly in its indumentum: sometimes it is almost glabrous, usually more or less grey-cottony, sometimes with spreading hairs, or rarely densely velvety-hairy all over (Adames 309, Guinée, Fouta Djallon, near Labé airport; Morton SL 2643, Sierra Leone, Bintimani).

1b. *Cyanotis longifolia* var. *gracilis* (Schnell) Schnell in Bull. I.F.A.N. 19, Sér. A: 733 (1957); J. K. Morton in J. Linn. Soc. 60: 197 (1967). *APD acc*

Cyanotis lamata **Benth.** var. *gracilis* **Schnell** in Bev. Gén. Bot. 57: 287 (1950).

A perennial herb similar to var. *longifolia* but more slender, up to 21/2 ft. high, more or less densely grey-cottony; **in savanna, particularly where damp.**

Mali: Bougouni Roberty 3133 (225)! **Guin.:** Scaëtta 3247! Pita, Fouta Djallon (Sept.) Adames 366! **S. L.:** Loma Mts. (Sept., Nov.) Morton SL 2608! SL 2642! **IV. C.:** Nimba, 2,000 ft. (Aug.) Boughey GC 18149! Schnell 6212! Gruys 35! Koualé, Dourou Mt., 3,369 ft. (May) Chev. 21712! Séguéla (Aug.) Schnell 6419! **Ghana:** Banda Hills (Dec.) Morton GC 25268! Shiare to Chilinga, Nkwanta Hills (May) Morton A4007! **Togo Rep.:** Mt. Sotto, Lama-Kara (Sept.) Morton A4495! Defale (Sept.) Morton A4388! **Dah.:** Birni to Kouandé (Sept.) Morton A4544!

1c. *Cyanotis longifolia* var. *rupicola* (Schnell) Schnell in Bull. I.F.A.N. 19, Sér. A: 734 (1957); J. K. Morton l.c. 198 (1967). *APD acc*

Cyanotis rupicola **Schnell** in Rev. Gén. Bot. 57: 289, fig. 6c (1950).

Cyanotis longifolia var. *pseudorupicola* **Schnell** in Bull. I.F.A.N. 19, Sér. A: 735 (1957).

Cyanotis longifolia var. *maliensis* **Schnell** in Bull. I.F.A.N. 19, Sér. A: 736 (1957); J. K. Morton l.c. (1967).

Cyanotis longifolia var. *fonensis* **Schnell** in Bull. I.F.A.N. 19, Sér. A: 737 (1957).

A perennial herb similar to var. *gracilis* but even more slender and narrower-leaved, and not so tall.

Guin.: Fouta Djallon (Sept.) Schnell 7089! Nimba Mts. (Aug.) Schnell 6213! Massif de Fon (Aug.) Schnell 6601! **S. L.:** Kponkporto to Wala, Koinadugn Dist. (July) Marmo 299! Sakasakala, Zambia Dist. (Sept.) Deighton 5158!

2. *Cyanotis ake-assii* Brenan in Kew Bull. 22: 389 (1968). *APD acc*

A perennial herb with rather stout hairy stems about 21/2 ft. long and densely clustered thickened roots; leaves rather broad, with more or less grey-cottony hair on both surfaces.

Mali: Bamako, Baguinedi (Aug.) Roberty 2663! 64 km. W. of Ségou (Aug.) Roberty 3769! **IV. C.:** Boundiali to Korhogo (July) Aké Assi 5440!

3. *Cyanotis scaberula* Hutch. in Kew Bull. 1939: 243; F.W.T.A., ed. 1, 2: 317 (1936), English descr. only; Schell in Bull. I.F.A.N. 19, Sér. A: 749 (1957). *APD acc*

A perennial herb about 4 in. high with tubarously thickened roots.

Guin.: Kouroussa Pobéguin 268! 368!

4. *Cyanotis lourensis* Schnell Bull. I.F.A.N. 19, Sér. A: 744 (1957); J. K. Morton in J. Linn. Soc. 60: 194 (1967). *APD acc*

A perennial herb 1-4 in. high, with tuberously thickened roots, rose-purple flowers, blue or violet staminal hairs and yellow anthers; similar to the last but with larger hairier cincinni and probably wider leaves; the leaves are all radical and appear to be purplish, at least when dry; **in shallow poor gravelly soil, seasonally moist, near bare rocks.**

Guin.: Mt. Loura, Fouta Djallon, 4,800 ft. (Sept.) Schnell 7126! Misside Banga, Pita (July) Adames 298!

5. *Cyanotis caespitosa* *Kotschy & Peyr.* Pl. Tinn. 48 (1867); F.T.A. 8: 82; Schnell in Bull. I.F.A.N. 19, Sér. A: 748 (1957); J. K. Morton l.c. 192, fig. 7 (1967). *APD acc*

A perennial herb with a stout hairy base and purple flowering stems 11/2-12 in. high; flowers normally blue (occasionally lilac, purple or even white) with blue staminal hairs and yellow anthers; in grassland, often flowering after fires.

Iv. C.: Bouna (Jan.) de Wilde 3493! **Ghana:** Banda Ravine (Mar.) Morton GC 8640! Banda Watershed F.R. (Dec.) Morton GC 25194! Pong Tamale to Walewale (Mar.) Morton GC 8826! Wapuli to Sapoba (Apr.) Morton GC 9088! **N. Nig.:** Sokoto Prov. (June) Dalz. 542! Katagum Dist. Dalz. 384! Kwudoga, Birnin Gwari (Feb.) Daggash FHI 31415! Samaru to Shika, Zaria (May) Keay FHI 25746! Kaduna (Dec.) Meikle 796! Vogel Peak, 4,000 ft. (Dec.) Hepper 1570! Nguroje to Kakara, Mambila Plateau, 5,400 ft. (Jan.) Hepper 1762! **S. Nig.:** Onitsha Talbot 1920! **W. Cam.:** Bafut-Ngamba F.R., 6,000 ft. (Feb., Mar.) Richards 5312! Daramola FHI 40512! Bum, Bamenda, 4,000 ft. (May) Maitland 1518!

Also in **E. Cameroun, Congo, Sudan, Uganda, Kenya, Tanzania, Zambia** and **Angola**.

6. *Cyanotis angusta* *C. B. Cl.* in DC., Monogr. Phan. 3: 260(1881); F.T.A. 8: 79; F.W.T.A., ed. 1, 2: 317; Schnell in Bull. I.F.A.N. 19, Sér. A: 749 (1957). *APD acc*

Cyanotis bulbifera *Hutch.* in Kew Bull. 1939: 242; F.W.T.A., ed. 1, 2: 317 (1936), English descr. only; Schnell l.c. (1957); J. K. Morton l.c. (1967).

A perennial bulbous herb about 4-10 in. high, with blue or purple flowers; cincinni 1-5 per stem.

Mali: Sikasso (Apr.) Chev. 747! Kinkou (Apr.) Pitot! **S. L.:** Bintimani, Morton & Gledhill SL 1099! Loma Mts., above Yifin (Mar.) Morton & Gledhill SL 1042! **U. Volta:** 4 km. N. of Banfora (June) Leeuwenberg 4338! **Ghana:** Paga, Navrongo Dist. (June) Andoh FH 5894! Navrongo (June) Vigne FH 4532! Tumu (May) Morton GC 7679! Gambaga (May) Morton GC 7367! **N. Nig.:** Sokoto Prov. Dalz. 543! Nupe Barter 1476 Anara F.R., Zaria (May) Keay FHI 22979! Hoss, Jos Plateau (July, Aug.) Keay FHI 12724! Lely P377! **S. Nig.:** Ipapo, N. of Iseyin (May) Hambler 1091! Udi (Mar.-Apr.) Kitson! Onitsha to Enugu (Mar.) Morton K3! Enugu (Mar.) Morton GC 6680!

7. *Cyanotis barbata* *D. Don* Prodr. Fl. Nepal. 46 (1825); J. K. Morton in J. Linn. Soc. 60: 198 (1967).

APD: *Synonym of Cyanotis vaga (Lour.) Schult. & Schult. f.*

Cyanotis vaga of Merr. in Trans. Amer. Phil. Soc., n.s. 24, 2: 102 (1935), partly; Rao in Notes R.B.G. Edinb. 25: 186 (1964), partly, as to syn.

Cyanotis barbata *Don*, prob. not of (Lour.) Schult. & Schult. f. (1830). *Cyanotis hirsuta*. Fisch. & Mey., Ind. Hort. Sem. Petrop. 8: 57 (1842), nomen subnudum; F.T.A. 8: 78.

Cyanotis mannii *C. B. Cl.* in DC., Monogr. Phan. 3: 258 (1881); F.T.A. 8: 83; F.W.T.A., ed. 1, 2: 317.

A perennial herb 2-18 in. high, variable in appearance, with normally blue, rarely mauve or white flowers; in our area the stems and sheaths are more or less spreading-pilose. Differs from *C. angusta* in its slender stem at ground-level, only swollen below the surface of the soil. In grassland at high altitudes.

Ghana: Wudidi, Togo Plateau (Nov.) Morton A3448! **W. Cam.:** Cam. Mt., 7,000-12,000 ft. (Nov.-Jan.) Mann 1310! N2140! Johnston 34! Deistel 79! Morton K776! Maitland 1286! Bamenda, 6,500 ft. (Jan.) Migeod 417! **F. Po:** Clarence Peak, 9,000 ft. (Dec.) Mann 616!

Also in **Congo, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Malawi** and **Rhodesia**; extending also along the Himalayas from India to China.

[Merrill's adoption, followed by Rao, of *C. vaga* as the correct name of this species seems unjustified because no type-specimen appears extant, the original description does not agree very well with *C. barbata*, and it seems unlikely that Loureiro could have found true *C. barbata*, only known at high altitudes in China, near Canton, the type-locality of *C. vaga*.]

8. *Cyanotis ganganensis* *Schnell* in Bull. I.F.A.N. 19, Sér. A: 746 (1957); J. K. Morton l.c. 199 (1967). *APD acc*

A herb-with stems 8-16 in. long, with narrow leaves scattered along the stems and not in a basal rosette, and blue to pink flowers in falcate cincinni, the latter borne singly on peduncles.

Guin.: Gangan Mt., Kindia (Oct.) Schnell 7487! Pita, Fouta, Djallon (Sept.) Adames 367! Kinkou to Pita (Oct.) Pilot!

9. *Cyanotis hepperi* *Brenan* in Kew Bull. 22: 390 (1968). *APD acc*

A densely spreading-hairy, apparently perennial herb with leaves up to 9 cm. long and 1-2 cm. wide in basal clusters and erect or straggling stems up to 18 in. long; hairs on stamen-filaments white; **in rock crevices in upland savanna.**

N. Nig.: Vogel Peak Massif, above Gurum, 4,700 ft. (Nov.) Hepper 1360!

10. **Cyanotis arachnoidea** *C. B. Cl.* in DC., Monogr. Phan. 3: 250 (1881); J. K. Morton in J. Linn. Soc. 60: 194, t. 2, 1 (1967). *APD acc*

10a. **Cyanotis arachnoidea var. arachnoidea** *APD acc*

A perennial, succulent, much branched, prostrate herb, with stems up to about 1 1/2 ft. long forming loose mats on rocks, more or less clothed with white indumentum like silk or cotton-wool; flowers pink to mauve, open from 7-10 a.m.

Lib.: Sinoe Dinklage 2138! **Ghana:** Aboma F.R., Ashanti, 1,000 ft. (Nov.) Vigne 3440! Atonso, Ashanti (Oct.) Baldwin 13496! **S. Nig.:** Mt. Orosun, Idanre (Oct.) Keay FHI 22584! Akure W.R., Ondo (Dec.) Morton K956! Okelife, Ondo, 1,200 ft. (Nov.) Onochie FHI 34217! Igarra, Owo (Oct.) Stanfield 30! Oba, Owo (Nov.) Stanfield 48! Owo (June) Stanfield 97!

Also in **Kenya, Tanzania, India** and ? **Ceylon.**

Similar in appearance to *C. lanata* but perennial, with the cincinni frequently borne singly, and with the leaf-sheaths usually larger and more overlapping.

- 10b. **Cyanotis arachnoidea var. pilosa** *Brenan* in Kew Bull. 22: 389 (1968). *APD acc*

Similar to var. *arachnoidea* but stems, leaves bracts and peduncles densely spreading-hairy.

S. Nig.: Oba, Owo (June) Stanfield 98! Owo F.R. (July) Onochie FHI 3335!, partly!

11. **Cyanotis lanata** *Benth.* in Fl. Nigrit. 542 (1849); F.T.A. 8: 80; Sousa in Anais Junta Inv. Col. 7: 63 (1952); Schnell in Bull. I.F.A.N. 19, Sér. A: 789 (1957); Berhaut, Fl. Sén. 209; J. K. Morton in J. Linn. Soc. 60: 194 (1967). *APD acc*

APD: Synonym of Cyanotis longifolia Benth. var. longifolia

Cyanotis lanata var. schweinfurthii *C. B. Cl.* in DC., Monogr. Phan. 3: 258 (1881); Sousa l.c. 5: 48 (1950).

Cyanotis rubescens *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 216 (1912); F.W.T.A., ed. 1, 2: 317.

Cyanotis lanata var. sublanata *C. B. Cl.* in DC., Monogr. Phan. 3: 258 (1881); Schnell. Vég. Fl. Nimba 522 (1952).

Cyanotis lanata var. rubescens (*A. Chev.*) *Schnell* in Bull. I.F.A.N. 19, Sér. A: 741 (1957).

Cyanotis longifolia of Berhaut, Fl. Sén. 209, partly.

An annual herb with fibrous roots and stems about 2-12 in. high often branched from base; plant usually more or less cottony-hairy, sometimes subglabrous or glabrous; flowers with petals purple, pink, or white with pink border and hairs on stamen-filaments blue, pinki or pinkish-purple; in terminal and axillary clusters, in the top 1-4 axils of each stem; flowers open from 7-10 a.m.; **often in seasonally wet places on and near rocks, also sometimes in cultivated around, usually at low elevations (4,500 ft. or less).**

Sen.: Forêt de Vélor, Kaolak (July) Berhaut 1548, partly! Velingara, Gouloumbou (Oct.) Adam 18618! **Mali:** Koulikoro (Oct.) Chev. 2587! Massif de Kita (Sept.) Jaeger! S. Macina, Kiri to Koru (Aug.) Chev. 24825! **Port. G.:** Pirada, Gabú (June) Esp. Santo 3047! Bafatá (July, Aug.) Esp. Santo 2699! 3287! Bissau, Pussubé (Nov.) Esp. Santo 911! Piche, Buruntuma (Dec.) Pereira 2158! **Guin.:** Kouria to Trébéléya (Sept.) Chev. 18237! Mali (Sept.) Schnell 7050! Dalaba (Sept.) Schnell 6929! Adames 382! Macenta (Oct.) Baldwin 9804! **S. L.:** Rokupr (Aug.) Jordan 79! Musaia (Sept.) Small 210! Kamabai, nr. Makeni (Sept.) Harvey 92! Baiima (Sept.) Deighton 3053! Kulafaga to Bendugu (Sept.) Deighton 5160! **Lib.:** Monrovia (Aug.) Baldwin 13010! Sanokwele (Sept.) Baldwin 9555! **Iv. C.:** Nimba (Aug.) Boughey GC 18153! Séguéla (Aug.) Boughey GC 18452! Orumbo-Boka Mt. (Dec.) Boughey 14431! Brafouédi (Dec.) Leeuwenberg 2292! Near Assahra S.W. of Dimbokro (Nov.) de Wilde 3215! **U. Volta:** Banfora (Sept.) Adam 15221! Koumbia (Sept.) Jangoux 873! 886! 1137! Pissi (Sept.) Irvine 4692! Mossi to Yako (Aug.) Chev. 24769! **Ghana:** Burufu, Lawra (Sept.) Irvine 4738! Tamale (Oct.) Baldwin 13574! Ntonso (Oct.) Darko 403! Aburi Andersen 16! Mankrong, R. Afram (Aug.) Hall CC 214! **Togo Rep.:** Mt. Kakaroua, Defalé (Sept.) Morton A4359! **Dah.:** Tenaka F.R., N. of Kopargo (Sept.) Morton A4514! Kouandé (Sept.) Morton A4570! **N. Nig.:** Yola (Sept.) Dalz. 256a! Hephham to Ropp (July) Lely 382! Dogon Kurmi, Jemaa Div. (Aug.) Killick 43! Naraguta Hills, Jos Plateau (July) Lawlor & Hall FHI 46505! Mando F.R., Birnin Gwari (Aug.) Keay

FHI 26000! **S. Nig.:** Ibadan (Oct.) Oseni FHI 5200! Lagos (Oct.) Dalz. 1286! Baldwin 13629! Owo (Oct.) Stanfield 19! 66! Afikpo, Ondo Prov. (Sept.) Stone 92!

Widely distributed in tropical Africa, reaching as far S. as the Transvaal.

[The plant is variable in its indumentum from more or less densely grey-cottony to subglabrous or glabrous. Chev. 22196 (Iv.C., Nzi Valley, Tiébissou to Languira) appears to be an unusual variant with spreading hairs. Certain Ghana gatherings (e.g. Agomenda to Somanya Adams 4386; Bole to Wa Rose Innes in Herb. Dept. Agric. 345; Tumu Irvine 4705), also Iv.C., Séguéla Aké Assi 6578, have few-flowered often single cincinni and may represent a distinct taxon.]

10. BUFORRESTIA

C. B. Cl. in DC., Monogr. Phan. 3: 233 (1881); F.T.A. 8: 76 partly; Brenan in Kew Bull. 14: 280-281(1960). *APD acc*

- 1 Stems up to about 1-1.2 m. high; leaf-sheaths about 2-3 cm. long, glabrous to very shortly ciliate on margins; leaf-lamina elliptic, broadest about middle, 12-30 cm. long, 5-11 cm. broad, tapering above into a conspicuous narrow acuminate about 1.5-3 cm. long; inflorescence-axes glabrous, about 6-15 cm. long, bearing 2-4 clusters of flowers (more if bifurcate); sepals in fruit about 1.5 cm. long; petals small; seeds rather closely and coarsely warted [1. mannii](#)

Stems about 10-35 cm. high; leaf-sheaths about 1.5 cm. long, more densely and conspicuously ciliate on margins than above; leaf-lamina obovate, broadest in upper part, rather abruptly narrowed above to a very short point about 2-7 mm. long, not or scarcely acuminate; inflorescence-axes pubescent, about 2-4 cm. long, bearing 1 cluster of flowers and 1(-2) lower bracts without flowers; otherwise similar to above [2. obovata](#)

1. **Buforrestia mannii** **C. B. Cl.** in DC., Monogr. Phan. 3: 233, t. 6 (1881); F.T.A. 8: 76; Brenan in Kew Bull. 14: 283, fig. 1, 1-10 (1960), partly, excluding Linder 561; Aké Assi, Contrib. 2: 222 (1964), partly, excluding Linder 561; J. K. Morton in J. Linn. Soc. 60: 169 (1967). *APD acc*

APD: *Synonym of Buforrestia obovata Brenan*

A stout herb about 1 1/2-5 ft. high with acuminate leaves and lateral inflorescence-axes each emerging through a hole at the base of the leaf-sheath; flowers small, white, open from 10 a.m. until 3 p.m.; **in lowland rain-forest.**

S. Nig.: Aponmu, Akure Dist. (July) Olorunfemi FHI 34155! Akure F.R. (Mar.) Richards 5134! Owo (July, Nov.) Stanfield 45! 103! Ifon (Dec.) Stanfield 51! Oban F.R., Calabar (Jan.) Onochie & Okafor FHI 36133x! **W. Cam.:** Barombi (fr. Dec., Mar., May) Preuss 294! Morton K822! Brenan & Richards 9469! **F. Po:** (fr. Dec.) Mann 96!

Also in **E. Cameroun**

2. **Buforrestia obovata** **Brenan** in Kew Bull. 22: 390 (1968). *APD acc*

Buforrestia mannii of Brenan in Kew Bull. 14: 283 (1960), partly, as to Linder 461 and note; Aké Assi, Contrib. 2: 222 (1964) partly; B. sp. J. K. Morton l.c. (1967).

A shorter, less stout herb than above with not or scarcely acuminate leaves and shorter inflorescence-axes emerging, however, as above; flowers small, white; **in lowland rain-forest.**

Guin.: Foot of Nimba Mts. (Sept.) Schnell 3598! **S. L.:** Fourah Bay (Oct.) Morton SL 2395! **Lib.:** Gbanga (Sept.) Linder 561! Sanokwele (Sept.) Baldwin 9533! Siaple (Sept.) Baldwin 9492! Bilimu Mt. (Dec.) Harley 1283! Nimba Mts. (Oct.) Adames 625! **Iv. C.:** Yapo Forest (Sept.) de Wilde 567a! Giovannetti 360! **Ghana:** Ankasa F.R. (Dec.) Hall & Enti GC 36223!

11. POLYSPATHA

Benth. in Fl. Nigrit. 543 (1849); F.T.A. 8: 61. *APD acc*

- 1 Inflorescence-axes (i.e. those bearing spathes) elongate, at least the longer ones on each stem 6-20 cm. long; leaves glabrous or almost so, rarely shortly pubescent on surface but not long-pilose, elliptic or subrhombic-elliptic, cuneate at base, acutely more or less acuminate at apex, the larger ones 7-20 cm. long, 3-7 cm. broad; inflorescence usually of several flexuose axes apparently terminally clustered but sometimes single, leafless but

bearing small recurved spathes about their own distance apart; vigorous plants with some axillary inflorescence-axes in addition which perforate the leaf-sheaths; capsule 4-5 mm. long; seeds 2.5-3 mm. long, with ribs radiating from embryostega [1. paniculata](#)

Inflorescence-axes (i.e. those bearing spathes) all short, about 1.5-4 cm. long; leaves more or less scattered-long-pilose on upper surface, glabrous or sparsely pilose below, elliptic or oblong-elliptic, cuneate at base, gradually and acutely acuminate at apex, the larger ones 6-13 cm. long, 2-4(-4.5) cm. broad; inflorescence a short dense apparently terminal cluster of axes bearing spathes more or less as above but about half to three-quarters their own distance apart; capsule about 3 mm. long; seeds 2-2.5 mm. long, more or less faintly ribbed [2. hirsuta](#)

1. ***Polyspatha paniculata* Benth.** in Fl. Nigrit. 543 (1849); C. B. Cl. in DC., Monogr. Phan. 3: 194 (1881), incl. var. *glaucescens* C. B. Cl. l.c. 195; F.T.A. 8: 61; J. K. Morton in J. Linn. Soc. 60: 206 (1967). *APD acc*

***Polyspatha glaucescens* (C. B. Cl.) Hutch.** in Kew Bull. 1939: 244; F.W.T.A., ed. 1, 2: 320 (1936), English descr. only.

Herb with decumbent stems or horizontal stolons rooting at nodes and erect leafy and flowering stems 6 in. to 2 ft. high, with usually clustered more or less zig-zag inflorescence-axes and small white flowers, open from 2.30-5 p.m.; [in lowland rain-forest](#).

Guin.: Bafing (Oct.) Adam 12657! Kouria Caille in Hb. Chev. 14894! **S. L.:** York Pass, 1,300 ft. (Nov.) T. S. Jones 184! Kumrabai-Mamila (Nov.) Deighton 4949! Mabonto (Oct.) Thomas 3515! Kambui F.R., Kenema (Apr.) Jordan 2025! Gola North F.R., (Feb.) Bakshi 44! **Lib.:** Zule, Boporo Dist. (Nov.) Baldwin 10262! Nekabozu, Vonjama Dist. (Oct.) Baldwin 9976! Bilimu Mt. (Nov.-Dec.) Harley 1284! 2070! Bobei Mt., Sanokwele Dist. (Sept.) Baldwin 6569! **Iv. C.:** Guédéyo to Soubre (Dec.) Leeuwenberg 2185! Sassandra to Fresco (Mar.) Leeuwenberg 3082! S. of Koungumba (Dec.) de Wit 7426! **Ghana:** Atonso, Ashanti Dist. (Oct.) Baldwin 13511! Fume (Nov.) Morton A112! Akim (Dec.) Johnson 250! Tafo (Sept.) Deighton 3423! Suhun (Nov.) Morton 8009! Dawa Malo Kole (Dec.) A.S. Thomas D34! **S. Nig.:** Gambari North F.R., Ibadan (Nov.) Idahosa FHI 23881! Owo (Nov.) Stanfield 41! Okomu F.R., Benin (Dec.) Brenan 8566! Oban (Mar.) Richards 5205! Calabar to Mamfe (Jan.) Onochie FHI 36066! **W. Cam.:** Preuss 1186! Likomba, Victoria (Oct.) Mildbraed 10530! Cam. Mt., 3,000 ft. Mann 2138! Mombo to Ebonji, Kumba (May) Olorunfemi FHI 30584! **F. Po:** Barter 1474! 2055! (Dec.) T. Vogel! 2,000 ft. Mann! Musola (Jan.) Guinea 939!

Also in **E. Cameroun**, **Rio Muni**, **Congo**, **Cabinda** and **Uganda**.

2. ***Polyspatha hirsuta* Mildbr.** in Notizbl. Bot. Gart. Berl. 9: 256 (1925), incl. var. *togoensis* Mildbr. l.c. 257; J. K. Morton l.c. (1967). *APD acc*

Herb similar to last, with white flowers, opening from about 2.30 p.m. until evening; [in lowland rain-forest, sometimes locally abundant and covering extensive areas](#).

S. L.: Tingi Hills above Konelo (fr. Dec.) Morton & Gledhill SL 3206! **Iv. C.:** Koroukoro to Touna (May) Chev. 21796! **Ghana:** Akokoaso, Birrim Dist. (Nov.) Fishlock 70! Amentia (Mar.) Vigne FH 1886! Kwahu Tafo (Aug.) Hall CC 261! Pawmpawm R., Anyaboni, Afram Plains (Dec.) Morton GC 6102! Anum (fr. Nov.) Morton GC 7944! **Togo Rep.:** Atakpame (Nov.) Mildbraed 7452! **N. Nig.:** Patti Lokoja (Nov.) Dalz. 254! Near Jagindi, Jemaa Div. (Oct.) Hepper 1034! **S. Nig.:** Olokemeji F.R. (Nov.) Nchami FHI 14339! Gambari F.R., Ibadan (Jan.) Onochie & Okafor FHI 31522! Igbara Oke, Akure (Nov.) Meikle 509! Okomu F.R. (fr. Feb.) Brenan & Onochie 8998! Brenan 9103! Sapoba (Nov.) Baldwin 13728!

Also in **E. Cameroun** and **Uganda**.

12. COMMELINA

Linn., Sp. Pl. 40 (1753); F.T.A. 8: 33. *APD acc*

- 1 Spathe-margins free to base: **2**
 Spathe-margins more or less connate at base above insertion of peduncle; spathe sometimes forming a wide funnel-shaped tube: **13**
- 2 Leaves linear, 1-5(-7) mm. broad, mostly 3-15 cm. long; plant annual, subsimple to much branched, 10-60 cm. high, producing fibrous roots from lowest nodes; spathes small, 5-15 mm. long, sessile or subsessile (peduncle to 5 mm.), deflexed; flowers apricot to buff, rarely blue; seeds with 2-5 coarse, deep, irregular furrows radiating from the embryostega on the side opposite the hilum [6. subulata](#)
 Leaves ovate to lanceolate, rarely linear but then spathes more than 2 cm. long, on peduncles 2-5 cm. long, and flowers blue: **3**
- 3 Flowers yellow: **4**

- Flowers blue, violet or white:9
- 4 Spathes borne singly, not clustered; plant glabrous to hairy, very rarely with rusty hairs; transverse nerves on leaves and spathes obscure or absent in dried specimens; capsule with dorsal loculus developed but indehiscent and with one seed; ventral loculi each with 2 ovules, one or both of which usually abort; seeds smooth or minutely reticulate; lamina lanceolate, sessile or subsessile on the sheath (*C. africana*):5
- Spathes more or less clustered at ends of stems; rusty marginal hairs usually present round spathes and/or mouths of leaf-sheaths, occasionally absent; transverse nerves on leaves and spathes usually conspicuous in dried specimens; capsule with dorsal loculus absent; ventral loculi each developing 2 seeds; seeds large, pale, elongate, conspicuously and deeply pitted; lamina elliptic-lanceolate or oblanceolate, asymmetric at base, often with a short distinct petiole [7. capitata](#)
- 5 Leaves glabrous or almost so (some long marginal hairs normally present near mouth of leaf-sheath):6
- Leaves more or less densely pubescent:8
- 6 Leaves normally up to 6(-7) cm. long or less; spathes mostly about 1.5-3.5 times as long as broad:7
- Leaves (at least larger ones) normally 7-13 cm. long; spathes about 1.5-5 times as long as broad, often (by no means always) more acuminate than above [1c. africana var. lancispatha](#)
- 7 Base of leaves rounded to rounded-cuneate; if cordate then leaves more than 4 cm. long [1a. africana var. africana](#)
- Base of leaves cordate; leaves up to 4 cm. long, ovate, sessile [1b. africana var. mannii](#)
- 8 Leaves normally up to 7 cm. long or less [1d. africana var. villosior](#)
- Leaves (at least larger ones) normally 7-13 cm. long [1e. africana var. boehmiana](#)
- 9 Plant, particularly stems, sheaths and spathes, more or less densely pubescent with colourless hairs hooked at tip, scandent; spathes on divergent peduncles on special mostly lateral shoots bearing mostly leafless sheaths; spathes not or scarcely acuminate; flowers blue; capsule with dorsal loculus developed, 1-seeded, indehiscent, ventral loculi with 2 ovules of which 1 or both often abort; seeds elongate, coarsely ridged [4. ascendens](#)
- Plant without hooked hairs, erect, straggling or prostrate; spathes not on special more or less leafless lateral shoots, usually acuminate: 10
- 10 Spathes 4-9 times as long as broad, elongate, 2.5-6.3 cm. long, narrow, 4-8 mm. broad (folded), gradually long-acuminate; stems not rooting from lower nodes above base; leaves linear-lanceolate, 5-16 cm. long, 5-11 (-15) mm. broad, glabrous or subglabrous; seeds large, elongate, reticulate, covered with white powder [5. macrospatha](#)
- Spathes 2-4 times as long as broad, often more than 10 mm. broad (folded); stems usually rooting freely from lower nodes above base; leaves often (not always) more than 11 mm. broad and shorter in proportion to width, seeds not covered with white powder: 11
- 11 Seeds smooth: 12
- Seeds reticulate; prostrate or straggling plant up to 1.2 m. high; lamina lanceolate to elliptic, rarely more than 8 cm. long; spathes 1.5-3 cm. long; flowers blue to violet; capsule 5-seeded [2a. diffusa subsp. diffusa](#)
- 12 Leaves lanceolate to linear-lanceolate, gradually attenuate-acute at apex, mostly 4-11 cm. long, 1-1.8 cm. broad; spathes acuminate, mostly 2.5-5 cm. long; flowers whitish to very pale violet; leaf-sheaths often more or less spreading-hairy all over outside [3. thomasi](#)
- Leaves ovate-elliptic, obtuse to acute, not attenuate at apex, 1.5-4.5(-5) cm. long, 1-1.6(-2) cm. broad; spathes not or scarcely acuminate, 1.2-2.3 cm. long; flowers pale or bright blue; leaf-sheaths pubescent on margins and on a longitudinal line opposite insertion of lamina, sometimes all over [2b. diffusa subsp. montana](#)
- 13 Leaves about 2-6 times as long as broad, lanceolate, elliptic, oblong-elliptic, ovate or ovate-elliptic: 14
- Leaves about 9-10 times or more as long as broad, linear to linear-lanceolate: 31
- 14 Flowers white to yellow; species of high forest except for *C. congesta* and *C. bracteosa*, (very rare albino variants): 15
- Flowers blue: 20
- 15 Flowers yellow; spathes more or less clustered at ends of stems; rusty marginal hairs usually present round spathes and/or mouths of leaf-sheaths, occasionally absent; capsule with dorsal loculus absent; ventral loculi each developing 2 large, pale, elongate, conspicuously and deeply pitted seeds [7. capitata](#)
- Flowers white: 16
- 16 Leaves obovate, distinctly ((0.5-)1-3 cm.) petiolate, up to about 18 cm. long and 7 cm. broad; stems decumbent, rooting at nodes; spathes clustered and imbricate at ends of stems [8. longicapsa](#)
- Leaves of various shapes but never obovate, always broadest at or below middle, sessile or with a very short petiole up to about 5 mm. long: 17
- 17 Leaf-sheaths rusty-hairy; lamina elliptic-lanceolate to ovate-lanceolate, acuminate at apex, 4-12 cm. long, 1-7-4 cm. broad; spathes sessile or subsessile, clustered 1-3 together at or near ends of stems; capsule with 2 loculi each containing 1 smooth ellipsoid seed [19. cameroonensis](#)

- Leaf-sheaths without rusty hairs:..... **18**
- 18** Seeds reticulate-pitted, large, about 4 mm. long and 2.5 mm. broad; stems stiff, slender, not rooting at nodes; leaves ovate-elliptic, acute at apex, asymmetric at base with one side rounded and the other cuneate; spathes mostly single, sometimes more than one together, on short bracteate shoots among upper leaves; spathes semicircular or semicordate, about 10-17 mm. long, not or scarcely acuminate; capsule with 2 single-seeded loculi [18. macrosperma](#)
- Seeds smooth or nearly so; capsule normally with 3 single-seeded loculi; stems often rooting at nodes:..... **19**
- 19** Spathes sessile and imbricate in terminal clusters, each spathe with margins connate for some distance, thus more or less obliquely funnel-shaped or triangular in outline; leaf-sheaths often spreading-hairy; flowers very pale blue or violet, almost white [20. congesta](#)
- Spathes more or less pedunculate, solitary or several together, more or less semicircular in outline; flowers normally bright blue, very rarely and casually white [16. bracteosa](#)
- 20** Leaf-margins rather strongly undulate, at least when dry, cartilaginous; lamina oblong-elliptic, rarely exceeding 7 cm. long and 1.7 cm. broad, usually obtuse to subacute, occasionally acute but never much tapering at apex; spathes small, about 8-13 mm. long, not or scarcely acuminate, borne singly and shortly pedunculate; cleistogamous flowers on basal underground shoots present, but rusty hairs on leaf-sheaths quite absent [10. forskalaei](#)
- Leaf-margins not or scarcely undulate (occasionally more or less undulate in *C. petersii*, but then leaves normally longer than 7 cm. and spathes longer than 2 cm.; also in *C. erecta* subsp. *maritima* where spathes are usually more than 1.5 cm. long and seeds are laterally ridged); leaves (other than those towards base of stem) acute to very acute at apex; cleistogamous flowers absent except in *C. benghalensis* which has rusty hairs at least on the margins of the leaf-sheaths:..... **21**
- 21** Seeds rough with coarse more or less reticulate ridges or transverse wrinkles on the side opposite the hilum; leaf-sheaths (at least on margins) usually with more or less elongate red or rusty hairs; cleistogamous flowers often present on short underground stems; leaves ovate to ovate-lanceolate; spathes usually more or less clustered: **22**
- Seeds smooth, at most faintly and shallowly reticulate, or sometimes with a low ridge on either side but otherwise smooth; red or rusty hairs and cleistogamous flowers absent: **24**
- 22** Spathes on peduncles 1.5-3.5 cm. long, the spathes themselves 2-3 cm. long; rusty hairs on leaf-sheaths and cleistogamous flowers absent [13. petersii](#)
- Spathes sessile or subsessile (peduncles to about 7 mm. long); spathes usually less than 2 cm. long; rusty hairs usually present on leaf-sheaths; cleistogamous flowers often present:..... **23**
- 23** Leaves narrowed but not or scarcely attenuate to the acute to subacute apex; leaf-sheaths rusty-ciliate on margins, with sometimes a few rusty hairs on surface outside [9a. benghalensis var. benghalensis](#)
- Leaves more or less gradually attenuate-acute at apex; leaf-sheaths more or less densely rusty-hairy all over outside [9b. benghalensis var. hirsuta](#)
- 24** Spathes pedunculate: **25**
- Spathes sessile or subsessile, usually more or less congested: **29**
- 25** Laminae (at least on some of the upper leaves) amplexicaul, sessile on the leaf-sheath and clasping the stem by a rounded base; spathes shortly pubescent outside, 2-3 cm. long, on peduncles 1.5-4 cm. long; peduncle of lower cincinnus normally projecting 1-2 cm. beyond spathe; capsule bilocular, each loculus with 2 ellipsoid-oblong seeds [12. imberbis](#)
- Laminae not amplexicaul, usually very shortly petiolate above the sheath, which itself may bear small green auricles distinct from the lamina; loculi 1-2-seeded:..... **26**
- 26** Capsule (4-)5-seeded, ventral loculi each 2-seeded; seeds ellipsoid to subglobose, usually very shallowly reticulate, without lateral ridges; plant robust with more or less erect stems; leaves often 10-16 cm. long and 2.5-4.5(-5.5) cm. broad; spathes 1.7-3.4 cm. long, not or scarcely acuminate, on peduncles (1-)1.5-3.5(-5) cm. long [11. zambesica](#)
- Capsule 2-3-seeded, ventral loculi each 1-seeded; seeds not reticulate, often with lateral ridges; peduncle of spathe 0.5-1.2 cm. long:..... **27**
- 27** Seeds globose or nearly so, without lateral ridges:..... **28**
- Seeds ellipsoid to subglobose, with a lateral ridge on each side below the embryostega; ridge sometimes continuous round the seed; spathes often (not always) more or less acuminate at apex [21. erecta aggregate \(see note on Berhaut 897\)](#)
- 28** Leaves small, up to about 6 cm. long, ovate to ovate-lanceolate, often rounded at base; stems prostrate, up to 1 m. long, rooting at nodes; sheaths spreading-hairy or pubescent outside; peduncles 5-10 mm. long [17. lagosensis](#)
- Leaves much larger, 5-13 cm. long, ovate-lanceolate to lanceolate, often cuneate at base; stems erect or straggling, normally not rooting freely at nodes; indumentum of leaf-sheaths variable; peduncles 8-22 mm. long [16. bracteosa](#)
- 29** Seeds smooth, without 2 lateral or 1 peripheral thickened ridge, ellipsoid; stems rooting at nodes; leaf-sheaths often more or less clothed with long soft spreading hairs, without spreading green auricles at mouth; flowers

- very pale violet, almost white [20. congesta](#)
- Seeds with 2 lateral or 1 peripheral thickened ridge, ellipsoid to subglobose; stems often not rooting at nodes; leaf-sheaths without long soft spreading hairs except a few on margins, often with small spreading green auricles at mouth; flowers bright blue: **30**
- 30** Leaves mostly about 4-8 times as long as broad, not markedly fleshy, often cuneate at base into a short petiole; plant straggling to erect [21a. erecta subsp. erecta](#)
- Leaves mostly about 2-3 times as long as broad, fleshy, mostly sessile or almost so on the sheath; plant prostrate, almost glabrous [21b. erecta subsp. maritima](#)
- 31** Flowers white to yellow or orange or deep purple, not blue: **32**
- Flowers blue: **35**
- 32** Spathes large, 2.8-3.8 cm. long, 1.5-2 cm. deep (folded), on peduncles 4-7 cm. long; stems to 1 m. long, straggling and rooting at nodes; leaves to about 12 cm. long and 1.2 cm. broad; flowers deep purple . [14. sp. B](#)
- Spathes smaller, not more than 1.5 cm. long and 1 cm. deep, on peduncles not exceeding 1.5 cm. in length; flowers white, yellow or orange: **33**
- 33** Spathes scattered singly at nodes, not more than 1-3 on each stem or branch; peduncles, usually short but distinct, 0.5-1.5 cm. long; spathes usually abruptly narrowed at base into the peduncle: **34**
- Spathes in terminal clusters of usually more than 3; peduncles up to about 5 mm. long; spathes narrowed at base into a pale funnel-shaped, part tapering into the peduncle; capsule with 3 single-seeded loculi; seeds subglobose, smooth [23. aspera](#)
- 34** Seeds ellipsoid, smooth except for 2 prominent pits on the side opposite the hilum, and usually some tiny scattered paler tubercles; loculi of capsule single-seeded [22a. nigritana var. nigritana](#)
- Seeds subglobose, reticulate; loculi (partly at least) 2-seeded [23b. nigritana var. gambiae](#)
- 35** Spathes single on each stem (rarely 2 at separate nodes), terminal, (1.5-)2-3-3 cm. long, on a peduncle (1-)2-4 cm. long; leaves more or less amplexicaul at base and with rather revolute margins [15. schweinfurthii](#)
- Spathes usually clustered several together, sometimes single, subsessile or shortly (to 1 cm.) pedunculate; leaves not markedly amplexicaul at base (though sometimes auriculate at sheath-mouth) and with involute not revolute margins [21c. erecta subsp. livingstonii](#)

1. *Commelina africana* Linn. Sp. Pl. 1: 41 (1753); C. B. Cl. in DC., Monogr. Phan. 3: 164 (1881); F.T.A. 8: 45; J. K. Morton in J. Linn. Soc. 55: 515, fig. 11 (1956), 60: 174 (1967); Brenan in Mitteil. Bot. Staatssamml. München 5: 199-203 (1964). *APD acc*

Commelina bakueana A. Chev., Bot. 663, name only, fide F.W.T.A. ed, 1.

1a. *Commelina africana* var. *africana* Brenan l.c. 203 (1964). *APD acc*

Herb with stems up to about 3 ft. long, often prostrate and rooting at nodes, sometimes suberect, with yellow flowers open from 7 to 10 a.m.

Port. G.: Bambadinca (July) Pereira 3047! **S. L.:** Roboli, nr. Rokupr (July) Jordan 287! Warantamba, Gberia Fotombu (Oct.) Small 372! Miligi, Tonko Limba (July) Jordan 44! Kagberi, Sela-Limba (Sept.) Jordan 546! Makuta, 3,400 ft. (June) Thomas 477! **Ghana:** Mangoase (July) Deighton 3403! Aburi Scarp (Sept.) Morton GC 9327! Aburi to Nsawam (Dec.) Morton GC 8058! **N. Nig.:** Jos Plateau (June) Lely P323! Batten-Poole 305! Hephram to Ropp, 4,600 ft. (July) Lely 372! Neill's Valley, Naraguta (June) Lely 263! **S. Nig.:** Obudu Plateau, Ogoja, 5,000 ft. (May) Head 79! Tuley 630! **W. Cam.:** Jakiri, 5,000 ft. (June) Brunt 553! Bafut-Ngemba F.R., 7,000 ft. (Feb.) Hepper 2149! Daromola FHI 41160!

Widespread in tropical and S. Africa.

1b. *Commelina africana* var. *mannii* (C. B. Cl.) Brenan l.c. 206 (1964). *APD acc*

Commelina mannii C. B. Cl. l.c. 167 (1881); F.T.A. 8: 48; F.W.T.A., ed. 1, 2: 318; J. K. Morton in J. Linn. Soc. 55: 318, fig. 1 (1956), 60: 188 (1967).

Small prostrate herb with stems rooting at lower nodes and small, ovate-elliptic leaves; **clearings in mist-forest and montane grassland.**

W. Cam.: Cam. Mt., 7,000 ft. (Dec.) Mann 2136! Mann's Spring, 7,500 ft. (Apr., Dec.) Morton K844! 7093!

Also in **Ethiopia.**

- 1c. **Commelina africana** var. **lancispatha** C. B. Cl. in Th.-Dyer, Fl. Cap. 7: 10 (1897); Brenan l.c. 211 (1964); J. K. Morton in J. Linn. Soc. 60: 175 (1967). *APD acc*

Commelina elliolii C. B. Cl. & Rendle in J. linn. Soc. 30: 98 (1894).

Herb similar to var. *africana* but more robust.

S. L.: Port Loko (May) Deighton 4782! Yengema (Dec.) Deighton 3681! Kahreni to Lokko, Limba Sc. Elliot 5749! Kurubonla to Seredu, foot of Loma Mts. (Nov.) Morton SL 2529! Seria to Kameron (Nov.) Morton SL 2453!

Widespread in eastern and central Africa from about 3° S. latitude southwards; rare and local in W. Africa.

- 1d. **Commelina africana** var. **villosior** (C. B. Cl.) Brenan l.c. 207 (1964).

APD: Synonym of Commelina africana var. *krebsiana* (Kunth) C.B. Clarke

Commelina barbata Lam. var. **villosior** C. B. Cl. in DC. Monogr. Phan. 3: 167 (1881).

Commelina africana of Schnell, Vég. Fl. Nimba 522 (1952).

Commelina africana var. **krebsiana** of J. K. Morton in J. Linn. Soc. 55: 515 (1956), 60: 175 (1967), not of (Kunth) C. B. Cl.

Herb similar to var. *africana*, but hairy on leaves.

Sen.: Gorom (Sept.) Berhaut 2070, partly! **S. L.:** Roboli, nr. Rokupr (Sept.) Jordan 287a! Musaia (July) Deighton 4794! Sasa, Tonko Limba (Sept.) Jordan 830! Loma Mts., above Yifin (Mar.) Morton & Gledhill! Kambia to Kukuna (Nov.) Morton & Gledhill SL 39! **Lib.:** Bushrod Is. (Aug.) Baldwin 13097! **Iv. C.:** Adiopodoumé (Nov.) Leeuwenberg 2104! Nimba Mts. (Mar.-Apr.) Schnell 878! 932! Brafoedl (Dec.) de Wit 7595! Yapo Forest, nr. Abidjan (July) Boughey GC 14548! **Ghana:** Nsemre F.R., Borku to Anka (Dec.) Adams 2837! Mlabo, Togo Plateau (May) Morton A3934! Pepiasi, Abetifi (Apr.) Morton A788! Lartey Scarp, Akwapim (Dec.) Morton A2839! Akaisi, nr. Ohawu (July) Irvine 4950! **S. Nig.:** Owerri (Sept.) English! Owo (Oct.) Stanfield 15! **W. Cam.:** Bamenda, 6,000 ft. (Jan.) Migeod 355! Bafut-Ngamba F.R., Bamenda, 6,000 ft. (fl. Mar., fl. & fr. May) Richards 5304! Ujor FHI 30308! Bamenda, 5,000 ft. (Mar.) Morton K19!

Widespread in tropical and S. Africa; also in Madagascar.

- 1e. **Commelina africana** var. **boehmiana** (K. Schum.) Brenan l.c. 213 (1964).

APD: Synonym of Commelina africana var. *krebsiana* (Kunth) C.B. Clarke

Commelina boehmiana K. Schum. in Engl., Pflanzenw. Ost-Afr. C: 185 (1895).

Herb similar to var. *lancispatha*, but hairy on leaves.

S. L.: Port Loko (May) Deighton 4781! Kamabai, nr. Makeni (Sept.) Harvey 90! Distribution similar to that of var. *lancispatha* (see above).

2. **Commelina diffusa** Burm. f. Fl. Ind. 18, t. 7, fig. 2 (1768); Merrill in J. Am. Arb. 18: 64 (1937); J. K. Morton in J. Linn. Soc. 55: 521, fig. 18 (1956), 60: 181 (1967). *APD acc*

Commelina nudiflora Linn., Sp. Pl.: 41 (1753), partly (excl. lectotype, see Merrill l.c.); C. B. Cl. in DC., Monogr. Phan. 3: 144 (1881), including var. *werneana* (Hassk.) C. B. Cl.; F.T.A. 8: 36; F.W.T.A., ed. 1, 2: 318; Dalz., Usef. Pl. W. Trop. Afr. 465 (1937); Sousa in Anais Junta Inv. Col. 5: 48 (1950); Berhaut, Fl. Sén. 208.

Commelina agraria Kunth, Enum. 4: 38 (1843), illegit. name; Benth. in Fl. Nigrit. 541 (1849).

Commelina aquatica J. K. Morton in J. Linn. Soc. 55: 515, fig. 12 (1956).

Commelina communis of Benth. in Fl. Nigrit. 541 (1849), fide C. B. Cl., not of Linn.

- 2a. **Commelina diffusa** subsp. **diffusa** J. K. Morton in J. Linn. Soc. 60: 181, fig. 3 (1967). *APD acc*

Annual or perennial herb; stems rooting freely at nodes; leaves 0.8-2.5 cm. broad; flowers deep blue to violet or lilac-blue, open from about 8.30 a.m. until noon. Variable in habit and pubescence, probably with various local races, of which *C. aquatica* is a robust perennial one. **Open wet places.**

Sen.: Djembering (Sept.) Broadbent 167! Kafountine, Oussouye (Sept.) Adam 18181! Ile du Diable, Sedhiou (Oct.) Adam 18447! **Gam.:** Kuntaur Ruxton 93! **Mali:** Sarédina (Mar.) Davey 55! Fafa rapidis, Gao (Mar.) de Wailly 5359! **Port. G.:** Teixeira Pinto, Cacheu, Pijame (Dec.) Raimundo & Guerra 520! Bissau, Pussubé (Apr.) Esp. Santo 1174! Bafatá, Geba (Jan.) Raimundo & Guerra 888! **S. L.:** (June) T. Vogel 11! Hart! Freetown (May) Deighton 1197! Makene (Sept.) Deighton 4034! Magbile (Dec.) Thomas 6099! Rokupr (Apr.) Hepper 2667! **Lib.:** Firestone Plantation No. 3, Du River (Aug.) Linder 324! Peahtah (Oct.) Linder 1059! Gbanga (Oct.) Okeke 21! Nana Kru (Mar.) Baldwin 11589! Webo, Cavally R. (Apr.) Dinklage 2645! **Iv. C.:** Adiopodoumé (Oct.) Leeuwenberg 1787! **Ghana:** Gambaga (Mar.) Hepper & Morton A3138! Gonokrom to Dormaa (Dec.) Adams 2986! Afram Mankrong F.R. (Dec.) Adams 4973! Adaiso to Kade (Jan.) Morton GC

8340! Ada to Accra (Oct.) Morton A30! **N. Nig.:** (July) Lely P549! Jos Plateau (May) Lely P261! Gwoza, Dikwa Div. (Dec.) McClintock 73! **S. Nig.:** Ikoyi Plains, Lagos (Oct.) Dalz. 1287! Orosun Peak, Idanre Hills (Dec.) Stanfield 181! Owo (July, Oct.) Stanfield 18! 101! Calabar (Aug.) Holland 75! **W. Cam.:** Preuss 1320! Babungo, Ndop Plain (Mar.) Brunt 117! Buea (Jan.) Morton K945! **F. Po:** (Nov.) T. Vogel 67!

Widespread in the tropics.

[A colony of apparent hybrids between *C. diffusa* and *C. thomasi* is recorded from S. of Kade in Ghana (Morton GC 8350!) by Morton in J. Linn. Soc. 55: 510 (1956).]

2b. *Commelina diffusa* subsp. *montana* J. K. Morton in J. Linn. Soc. 60: 181 (1967). *APD acc*

Annual, prostrate herb with stems up to 16 in. long rooting at nodes. Very close to typical *C. diffusa*, differing in the lamina normally sessile and cordate or subcordate at base, and (especially) in the smooth seeds.

N. Nig.: Nuguroje, Mambila Plateau (Jan.) Hepper 1745! **W. Cam.:** Buea (Dec., Mar.) Morton K811 Morton GC 7039! Bamenda, 6,000 ft. (Jan.) Migeod 437! L. Bambelue to Santa (Apr.) Morton K281! Cheddar Gorge road, Bamenda (Mar.) Morton K20! **F. Po:** Moka, 3,500-4,000 ft. (Dec.) Boughey 67!

3. *Commelina thomasi* Hutch. in Kew Bull. 1939: 243, and. F.W.T.A., ed. 1, 2: 318 (1936), English descr. only; J. K. Morton in J. Linn. Soc. 55: 528, fig. 26 (1956), and 60: 189 (1967).

APD: *Synonym of Commelina acutispatha De Wild.*

A straggling or sprawling perennial herb, with stems up to 3 ft. high, rooting at the lower nodes, and white to pale lilac flowers opening throughout the morning; **in secondary lowland rain-forest and persisting in farms and plantations.**

S. L.: Masimo (June) Marmo 109! Yonibana (Oct., Nov.) Thomas 3962! 5205! Kurubonla to Seredu (Nov.) Morton SL 2531! **Lib.:** Gbanga (Sept.) Linder 476! Nimba Mts. (Sept.) Adames 545! **Ghana:** Mankrong, Kwahu (Dec.) Adams 5082! Kade (Jan.) Morton GC 8332! Amanase, Nsawam to Suhum (Nov.) Morton GC 8003! Bisa (Jan.) Morton GC 8235! Etumfi Swedru, Mankessin (Sept.) Hall 2375! **Togo Rep.:** Baumann Peak, Palime (Aug.) Morton A4276! **S. Nig.:** Ibadan (Nov.) Stanfield 180! Owerri (July) English! Owo (Oct.-Nov.) Stanfield 4! 35! Idogun (Oct.) Stanfield 155!

4. *Commelina ascendens* J. K. Morton in J. Linn. Soc. 55: 517, fig. 13 (1956), 60: 176, fig. 2 (1967). *APD acc*

Scandent herb to 8 ft. or more with stems rooting at lower nodes, lanceolate leaves up to 11 cm. long and 3 cm. broad, and pale blue flowers opening early in the day and fading within 3 hours of dawn (about 7-9 a.m.); **in primary and secondary lowland rain-forest, often by rivers or streams.**

Ghana: Afram Mankrong F.R. (Dec., Apr.) Morton 4963! A551! Mampong, Akwapim Morton GC 8424! Nsawam to Aburi (Dec., Apr.) Morton A3653! GC 8061! **S. Nig.:** Owo (May-Dec.) Stanfield 14! 100! Idogun (Oct.) Stanfield 154!

5. *Commelina macrospatha* Gilg & Lederm. ex Mildbr. in Notizbl. Bot. Gart. Berl. 9: 253 (1925); Berhaut, Fl. Sén. 208; J. K. Morton in J. Linn. Soc. 55: 527, fig. 24 (1956), 60: 188, fig. 6 (1967). *APD acc*

Perennial herb with erect or suberect stems 10-32 in. high arising from a rhizome; lowest sheaths brown, with laminae reduced or absent; flowers bright pure blue, with 3 well-developed petals; **in grassland or savanna woodland.**

S. L.: Bintumane Peak, 6,000 ft. (May) Deighton 5098! Loma Mts. (Nov., Feb., Mar.) Morton SL 5686! Gledhill 355! Morton & Gledhill SL 1050! **Ghana:** Ejura (Dec.) Morton GC 9730! 9824! Mankrong, Afram Plains (Apr.) Morton A721! Folifoli, Afram Plains (Aug.) Hall CC 153! Yeji (Aug.) Hall CC 367! **N. Nig.:** Naraguta (June) Lely 328! Jos Plateau (Oct., May) Lely P777! P290! Mbakon F.R., Benue Prov. (July) Keay FHI 37128! Abinsi (June) Dalz. 803!

Also in **E. Cameroun**, the **Congo**, **Uganda** and, **Kenya**.

6. *Commelina subulata* Roth Nov. Pl. Sp. 23 (1821); C. B. Cl. in DC., Monogr. Phan. 3: 148 (1881); F.T.A. 8: 38; Berhaut, Fl. Sén. 208; Chikkanaiah in Phytomorphology 13: 174-184 (1963); J. K. Morton in J. Linn. Soc. 60: 189 (1967). *APD acc*

An annual herb, usually slender, with linear leaves and small subsessile deflexed. spathes at the nodes; flowers usually yellowish, rarely blue; [in wet places](#).

Sen.: Kaolak (Sept.) Berhaut 2287! M'Bambey (Oct.) Monod! Djembering, Oussouye (Oct.) Adam 18347! **Ghana:** Manga, Bawku (Aug.) Irvine 4650! Yendi (Oct.) Morton A3743! N. of Nandom (Sept.) Hall CC 796! Widely spread in eastern and southern Africa; also in southern India.

7. ***Commelina capitata* Benth.** in Fl. Nigrit. 54! (1840); C. B. Cl. in DC., Monogr. Phan. 3: 176 (1881); F.T.A. 8: 54; Sousa in Anais Junta Inv. Col. 5: 48 (1950); J. K. Morton in J. Linn. Soc. 55: 519, fig. 16 (1956), 60: 179 (1967). **APD acc**

Straggling, rather robust herb up to 4 ft. high, often rooting from lower nodes, characterized by yellow flowers (open from 8-11 a.m.) and the usual presence of reddish hairs round margins of leaf-sheaths and spathes; [in high forest](#).

Sen.: Casamance (Apr.) Perrottet! Tendimaim, Bignona (Doc.) Berhaut 6752! **Port. G.:** Bissan, Cumura (Nov.) Esp. Santo 2227! **Guin.:** Dalaba-Diaguisaa Plateau (Oct.) Chev. 18777! Dyeke (Oct.) Baldwin 9666! **S. L.:** Lusenya (Dec.) Sc. Elliot 4080! Gberia Fotombu (Oct.) Small 411! Njala (Dec.) Pyne 111! Ronietta (Nov.) Thomas 5667! Kenema (Nov.) Deighton 387! **Lib.:** Soplina, Vonjama Dist. (Nov.) Baldwin 10041! Cape Mount Dinklaga 2145! Belefanaï, Gbanga Dist. (Dec.) Baldwin 10548! Maisi forest, Ganta (Dec.) Harley 1465a! Ganta (Dec.) Barker 1116! **Iv. C.:** High Forest, nr. Nigbi II (Nov.) de Wilde 3278! nr. Guédéyo (Dec.) Leeuwenberg 2171! Banco forest nr. Abidjan (Dec.) de Wit 7352! Orumba-Boka Mt., nr. Toumodi (Dec.) Boughey A18! A26! **Ghana:** Banda (Dec.) Adams & Akpabla GC 4048! Axim (Feb.) Morton GC 8444! Benso, Tarkwa Dist. (Nov.) Andoh FH 5401! Assin West-Skinn 274! Amedzofe (Oct.) Morton A966! Togo Plateau, W. side, 1,700 ft. (Apr.) Morton GC 9200! **Dah.:** Sakété to Pedjilé (Feb.) Chev. 22900! **N. Nig.:** Gangumi, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28788! **S. Nig.:** Omo & Shasha F.R. (Mar.) Jones & Onochie FHI 17200! Idanre Hills, Orosun (Oct.) Keay FHI 22682! Usonigbe F.R., Benin (Nov.) Meikle 576! Okomu F.R., Benin (Dec.) Brenan 8555! Sapoba (Nov.) Ejiofor FHI 24627! Lagos (Apr.) Moloney 9! **W. Cam.:** Bafut-Ngamba F.R., Bamenda (Feb.) Tiku FHI 22162! Buea, 3,300-4,000 ft. (Nov.-Dec.) Maitland 1193! Migeod 86! Victoria (Jan.) Kalbreyer 17! **F. Po.:** (Dec.) Mann N91! Moka, 3,500-4,000 ft. (Dec.) Boughey 74!

Extending also eastwards to [Uganda](#), and southwards to [Angola](#).

8. ***Commelina longicapsa* C. B. Cl.** in DC., Monogr. Phan. 3: 176 (1881); F.T.A. 8: 55; Brenan in Kew Bull. 7: 456 (1952); J. K. Morton in J. Linn. Soc. 60: 188 (1967). **APD acc**

A decumbent herb rooting at nodes, [on the floor of lowland rain-forest](#).

Lib.: Kulo, Sinoe Co. (Mar.) Baldwin 11412! **S. Nig.:** Okomu F.R., Benin (Dec.-Mar.) Onochie FHI 38304! Brenan 8525! 8525a! **W. Cam.:** Victoria to Kumba (Jan.) Morton K923!

Also in [Rio Muni](#), [Gabon](#), [Cabinda](#) and [Congo](#).

9. ***Commelina benghalensis* Linn.** Sp. Pl. 41 (1753); C. B. Cl. in DC., Monogr. Phan. 3: 159 (1881); F.T.A. 8: 41; Sousa in Anais Junta Inv. Col. 5: 49 (1950); Berhaut, Fl. Sén. 208; J. K. Morton in J. Linn. Soc. 55: 519 (1956), 60: 176 (1967); Saunders, Handb. W. Afr. Fl. 96 (1958). **APD acc**

- 9a. ***Commelina benghalensis* var. *benghalensis* J. K. Morton** l.c. 178 (1967) as to diploid form and fig. 15f. **APD acc**

***Commelina benghalensis* subsp. *benghalensis* J. K. Morton** l.c.(1967).

Prostrate ascending or sprawling herb with mostly ovate to elliptic leaves, pale leaf-sheaths, and blue flowers opening from 8 a.m. until noon; whitish, cleistogamous, subterranean flowers produced on basal shoots; [a weedy plant of open cultivated and waste ground, also in savanna](#).

Gam.: Kuntaur Ruxton 151! **Port. G.:** Bissau, Pussubé (Apr.) Esp. Santo 1513! Fá (Oct.) Guerra. 3872! **S. L.:** Wallia, Scarcies (Apr.) Sc. Elliot 4250! **Iv. C.:** Nambonkaha (Nov.) Leeuwenberg 1976! Tonkoui Nimba Mts. (Aug.) Boughey GC 18320b! **Ghana:** Larabanga, Damongo to Sawla (Oct.) Rose Innes GC 30994! Pong Tamale (Aug.-Nov.) Williams 850! Irvine 4598! Kwadaso, Kumasi (Dec.) Darko 647! Achimota (Aug.) Irvine 849! **Togo Rep.:** Lomé Warnecke 276! **N. Nig.:** Kontagora (Oct.) Dalz. 265! Katsima (Sept.) Dalz. 809! Jos Plateau (Sept.) Lely P791! Sara Hills, Jos Plateau, 4,700 ft. (Oct.) Hepper 1124! Katagum Dist. Dalz. 231! Vogel Peak, Sardauna Prov. (Nov.) Hepper 1301! **S. Nig.:** Lagos Millen 31! Owo (Oct.) Stanfield 12!

Widespread in tropical Africa and Asia.

- 9b. *Commelina benghalensis* var. *hirsuta* C. B. Cl. in DC., Monogr. Phan. 3: 160 (1881); F.T.A. 8: 42; J. K. Morton l.c. (1967), as to tetraploid form. *APD acc*

Commelina benghalensis subsp. *hirsuta* (C. B. Cl.) J. K. Morton in J. Linn. Soc. 60: 178 (1967).

Herb similar to var. *benghalensis*, but with often longer and more straggling stems, mostly ovate to lanceolate leaves often more narrowed at base, leaf-sheaths less pale and (apparently, but more observation needed) no subterranean cleistogamous flowers; often in forest, but also in montane grassland.

Guin.: Guéaso ta Moussadougou (Mar.) Chev. 20956! **S. L.:** Bumbuna (Oct.) Thomas 3913! 3915! Jaiama (Dec.) Deighton 3481! Musaia (Dec.) Deighton 4535! Sekorella, foot of Loma Mts. (Nov.) Morton SL 2814! **Lib.:** Gbanga (Oct.) Linder 1159! Vonjama (Oct.) Baldwin 9926! **Ghana:** Bosumkese F.B., Ashanti (Dec.) Adam 5250! Asuboi (Nov.) Morton 8001! Vane (Nov.) Morton A102! **Togo Rep.:** Misahöhe Baumann 413! **N. Nig.:** Mambila Plateau, 5,600 ft. (Jan.) Hepper 1746! **S. Nig.:** Ogwashi (Dec.) Thomas 2057! **W. Cam.:** Buea, 3,000 ft. (Nov.) Migeod 2! Keshong, Bamenda, 7,000 ft. (Oct.) Gregory 222! Bamenda (Jan.) Daramola FHI 40570! Bambui, 5,000 ft. (June) Brunt 495!

Also in **E. Cameroun**, **Congo**, **Rwanda**, **Ethiopia**, **Uganda**,? **Kenya**, **Tanzania**, **Malawi** and **Zambia**.

10. *Commelina forskalaei* Vahl Enum. 2: 172 (1806); C. B. Cl. in DC., Monogr. Phan. 3: 168 (1881), including var. *hirsutula* C. B. Cl.; F.T.A. 8: 44; Berhaut, Fl. Sén. 208; J. K. Morton in J. Linn. Soc. 55: 522, fig. 19 (1956), 60: 185 (1967); Maheshwari & Baldev in Phytomorphology 8: 277-298 (1958); Aké Assi, Contrib. 2: 223 (1964); C. zenkeri of Chev. Bot. 665, not of C. B. Cl., fide F.W.T.A., ed. 1. *APD acc*

Annual, prostrate or widely straggling weedy plant with stems rooting at nodes; flowers rich pure blue; grassland, open waste and cultivated ground, roadsides, sand-dunes, etc.

Sen.: Roger! Heudelot 276! Malika (Aug.) Broadbent 40! Roland Mt., Thiès (Aug.) Broadbent 49! Richard Toll (Oct.) Roger 93! **Gam.:** Kuntaur Ruxton 36! 144! 153! Fulladu West (Nov.) Frith 152! **Mali:** Toguerè of Saredina (May) Davey 98! Timbukta (Aug.) Hagerup 265! Gao to Korogoussou (Aug.) de Wailly 4730! **Ghana:** N. Reg. (June) Saunders 3! Manga, Bawku (Aug.) Irvine 4652! Tema (May) Morton A889! Savelugu (Aug.) Hall CC 402! **Dah.:** Tanguieta (Sept.) Morton A4631! **N. Nig.:** Ilorin (Sept.) Stanfield FHI 45640! Nupe Barter 1477! Mongu, 4,300 ft. (July) Lely 390! Katagum Dist. Dalz. 232! Maiduguri (Oct.) Noble A6!

Widely distributed in tropical Africa except in the forest areas; also in Madagascar, **Arabia** and India. (See Appendix, p. 465.)

11. *Commelina zambesica* C. B. Cl. in DC., Monogr. Phan. 3: 161 (1881); F.T.A. 8: 43; Brenan in Kew Bull. 15: 209 (1961); J.K. Morton in J. Linn. Soc. 60: 190 (1967). *APD acc*

Robust herb with weakly upright stems up to 4 ft. high or sometimes widely straggling and rooting at nodes, and blue flowers; often all 3 petals well-developed; in woodland and grassland.

N. Nig.: Jos Plateau (July) Lely P551! Cheche Boku F.R., Gwari. E. W. Jones FHI 42340! Sanga River F.R., Jemaa Dist. (July) Keay FHI 37119! 37119a (cult.)! Stanfield 191 (cult.)!

Also in **Uganda**, **Tanzania**, **Zanzibar**, **Mozambique**, **Malawi**, **Zambia** and **Rhodesia**.

12. *Commelina imberbis* Ehrenb. ex Hassk. in Schweinf. Beitr. Fl. Aethiop. 209 (1867); F.T.A. 8: 49; J. K. Morton l.c. 185 (1967). *APD acc*

Prostrate or straggling herb with stems sometimes up to 6 ft. long, leaves lanceolate-attenuate, dark green, more or less amplexicaul, glabrous or only slightly pubescent, leaf-sheaths glabrous to only slightly pubescent outside, and blue flowers open from 9-11 a.m.; in cultivated ground, probably introduced.

S. Nig.: Moor Plantation, Ibadan (Oct.-Nov.) Stanfield FHI 45709! 45718!

Also in eastern Africa from the **Sudan** to Rhodesia.

13. *Commelina petersii* Hassk. in Flora 46: 385 (1863); C. B. Cl. in DC., Monogr. Phan. 3: 169 (1881); F.T.A. 8: 50; J. K. Morton l.c. 189 (1967). *APD acc*

Straggling or erect herb 1-2 1/2 ft. high; leaves lanceolate to ovate-lanceolate, mostly 7-15 cm. long, 1-4 cm. wide; flowers blue.

N. Nig.: Biu, Bornu Prov., 2,500 ft. (Aug.) Noble N4! Gwoza, 3,500 ft. (Jan.) McClintock 154!

Also in **Kenya**, **Tanzania**, **Mozambique**, **Malawi**, **Rhodesia**, **Botswana**, **Angola**, and **S.W. Africa**.

Similar to *C. imberbis* but leaves not or scarcely amplexicaul and seeds furrowed not smooth.

14. *Commelina* sp. *B. APD acc*

Robust herb with long stems rooting at nodes and deep purple flowers.

N. Nig.: Vogel Peak. 4,700 ft. (Nov.) Hepper 1351!

15. *Commelina schweinfurthii* C. B. Cl. in DC., Monogr. Phan, 3: 158 (1881); J. K. Morton in J. Linn. Soc. 60: 189 (1967). *APD acc*

Commelina laterilicola A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 214 (1911).

Herb with linear leaves, spathes usually one per stem, and blue or brownish-orange flowers. Apparent variation in flower-colour needs further investigation.

Guin.: Dalaba (Sept.-Oct.) Chev. 18821! **S. L.:** Bumban, nr. Makeni (Sept.) Harvey 82! **iv. C.:** Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18059! **Togo Rep.:** Oti Sansame Mango (Sept.) Morton A4640! **N. Nig.:** Jos Plateau (Aug.) Lely P666!

16. *Commelina bracteosa* Hassk. in Flora 46: 385 (1863); C. B. Cl. in DC., Monogr. Phan. 3: 180 (1881); F.T.A. 8: 55.

APD: *Synonym of Commelina erecta L. subsp. erecta*

Commelina bainesii C. B. Cl. l.c. 184 (1881); F.T.A. 8: 57.

Commelina aspera of Berhaut, Fl. Sén. 209, not of Benth.

Perennial herb with erect to straggling or even almost prostrate stems and blue flowers in spathes which are borne singly or laxly aggregated; peduncle of spathe 8-22 mm. long. (See note under *C. lagosensis*.)

Sen.: Heudelot 476! Kaolak (Sept.) Berhaut 234! Sangalkam (Sept.) Berhaut 2074! Kalounayes, Bignona (Sept.) Adam 18079! Diégoune, Bignona (Sept.) Adam 18049! **Gam.:** Genieri to Kaiaaf (July) Fox 117! Kuntaur Ruxton 119! **Mali:** Kanikombolé ravine, Macina (Sept.) Chev. 24850! **Port. G.:** S. Domingos (Aug.) Pereira 3122! **N. Nig.:** Zungeru (Aug.) Dalz. 266! Panshanu Pass, 2,900 ft. (Aug.) Lawlor & Hall 248! 274! Abinsi Dalz. 804!

Also in **E. Cameroun** and eastern Africa from **Sudan** southwards to Mosambique and Malawi;? in S.W. Africa.

17. *Commelina lagosensis* C. B. Cl. in F.T.A. 8: 57 (1901); F.W.T.A., ed. 1, 2: 320; J. K. Morton in J. Linn. Soc. 55: 526, fig. 22 (1956), 60: 185, fig. 5 (1967); Saunders, Handb. W. Afr. Fl.: 98, fig 339 (1958). *APD acc*

Commelina lagosensis var. *subglabra* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 214 (1911).

Herb with prostrate stems up to 3 ft. long, radiating from centre and rooting at nodes; leaves comparatively small; flowers blue, rarely and casually white, open from dawn until 9 .30 a.m.

Sen.: Djembering (Sept.) Broadbent 160! **Port. G.:** Fá (Sept.) Guerra 3833! **S. L.:** Rokupr (Aug.) Harvey 16! Rowala (July) Thomas 1127! Pendembu (July) Thomas 844! New England (May) Marmo 106! Fourah Bay College (Mar.) Morton SL 947! **iv. C.:** Diahbo to Bouaké (July) Chev. 22072! **Ghana:** Gambaga to Yendi (Apr.) Morton GC 9045! Achimota (Oct.) Morton GC 7838! Bantrosie to Senya Beraku (Oct.) Morton GC 7896! Accra to Nsawam (Oct.) Morton GC 7789! Tonogo, Togo Plateau (Nov.) Morton A3461! **Togo Rep.:** Lomé Warnecke 281! **S. Nig.:** Lagos Millen 21! (June) Dalz. 1418! Ibadan (Aug.) keay FHI 37139! Owo (Oct.) Stanfield 8! Benin (Dec.) Brenan & E. W. Jones 8633a! Sapoba (Nov.) Meikle 583!

Also in **Kenya**, **Tanzania** and **Zanzibar**;? in **Mozambique**.

[Very near *C. bracteosa* Hassk., and may prove to be better placed as a subspecies of it.]

18. *Commelina macrosperma* J. K. Morton in J. Linn. Soc. 55: 528, fig. 26 (1956), 60: 188 (1967). *APD*

acc

Perennial herb with stiff slender stems up to about 2 ft. high; flowers open from dawn until 9 a.m.; **in wet areas of lowland rain-forest, also under cocoa.**

S. L.: Kasirl, Scarcler R. (Aug.) Deighton 3022! **Ghana:** Bobiri F.R.. (May) Morton A3358! Pawtroasi, Kibi Rd. (Jan.) Morton A109! Brenase, Akim (Apr.) Irvine 553! **S. Nig.:** Boje to Katabong, Afi River F.R., Ikom (May) Jones & Onochie FHI 18722! Owo (June-Oct.) Stanfield 21! 102!

19. **Commelina cameroonensis** *J. K. Morton* in J. Linn. Soc. 55: 318, fig. 1 (1956), 60: 179 (1967). *APD acc*

Straggling herb with stems Hp to 21/2 ft. high, rooting at lower nodes; **in and on edges of montane rain-forest.**

S. Nig.: Obudu Plateau, Ogoja, Prov. (Nov., Dec.) Savory & Keay FHI 25210! Tuley 1040! 1066! **W. Cam.:** Buea (Feb.) Breteter et al. MC 229! Bafut-Ngamba F.B., 7,000-7,900 ft. (Feb., Mar.) Hepper 2088! Onochie FHI 34886! Daramola FHI 40527! L. Oku, 7,500 ft. (Jan.) Keay FHI 28475! Onochie FHI 34886! **F. Po:** Monod!

[Near *C. capitata*, but differs in white flowers, 2-seeded capsule and smooth not pitted seeds.]

20. **Commelina congesta** *C. B. Cl.* in DC., Monogr. Phan. 3: 160 (1881); F.T.A. 8: 43; Berhaut, Fl. Sén. 208; J. K. Morton in J. Linn. Soc. 55: 521, fig. 17 (1956), and 60: 179 (1967). *APD acc*

Commelina condensata *C. B. Cl.* l.c. (1881); F.T.A. 8: 43; F.W.T.A., ed. 1, 2: 320.

Commelina heudelotii *C. B. Cl.* l.c. 184 (1881).

Commelina amphibia *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 214 (1911), including var. *hirsuta* *A. Chev.*

Commelina congesta var. *hirsuta* (*A. Chev.*) *Hutch.*, F.W.T.A., ed. 1, 2: 320 (1936).

Creeping, perennial herb with rather stout stems rooting at nodes, elliptic to lanceolate leaves, spathes crowded 2 or more together at ends of stems, flowers very pale blue or violet almost white, open from dawn until nearly noon, and capsules with 3 single-seeded loculi; **usually in forest, sometimes in open.**

Guin.: Heudelot 788! **Port. G.:** Catió (Dec.) Raimundo & Guerra 680! Susana (Dec.) Raimundo & Guerra 268! Nova Lamego, Cabuca (Dec.) Pereira 2458! **S. L.:** Mano Salija (Nov.) Deighton 279! Njala (Oct.) Deighton 1344! Yonibana (Nov.) Thomas 4800! Robola, Rokupr (Oct.) Jordan 135! Magbema, Rokupr (Dec.) Jordan 710! Musaia (Dec.) Deighton 4496! **Lib.:** Banga (Oct.) Linder 1177! Webo, Cavally R. (Apr.) Dinklaga 2619! **Iv. C.:** Angouakoukro to Toumodi (Aug.) Chev. 22411! Coula to Nékaougnié (July) Chev. 19589! Nékaougnié to Grabo (July) Chev. 19597! Azuretti (Sept.) de Wit 7597! Yapo (July) Boughey 14549! **Ghana:** Nsawam, Cape Coast (Jan.) Morton GC 8337! Dunkwa to Pusupusu, Kibbi Dist. (Dec.) Morton GC 8204! Abure to Nsawam (Dec.) Morton 8057! **S. Nig.:** Sapoba Kennedy 2681! 2696! Ilobi, Egbado Dist. (Dec.) Onochie FHI 31882! Owo (Oct.) Stanfield 2! 3! Owerri (Sept.) English! Oban Talbot 759! **F. Po:** Mann 91 (partly)!

Also in **E. Cameroun, Gabon, Congo** and **C. African Republic.**

[Variable in indumentum, *C. condensata* represents a variant with the leaf-sheaths clothed outside with long soft spreading hairs.]

21. **Commelina erecta** *Linn.* Sp. Pl. 41 (1753); Fernald in Rnodora 42: 436-441 (1940); J. K. Morton in J. Linn. Soc. 60: 183 (1967). *APD acc*

21a. **Commelina erecta** subsp. *erecta* *APD acc*

Commelina undulata *R. Br.*, Prodr. Fl. Nov. Holl. 1: 270 (1810); *C. B. Cl.* in DC., Monogr. Phan. 3: 179 (1881).

Commelina umbellata *Thonn.*, Beskr. Guin. Pl. 21 (1827).

Commelina sulcata of Benth. in Fl. Nigrit. 541 (1849),? of Link.

Commelina gerrardii *C. B. Cl.* l.c. 183 (1881); J. K. Morton in J. Linn. Soc. 55: 523, fig. 20 (1956).

Commelina kurzii *C. B. Cl.* l.c. 185 (1881); Rao Rolla & Kammathy in J. Bombay N.H.S. 59: 61-65, t. 1A, D (1962).

Commelina vogelii *C. B. Cl.* l.c. 189 (1881), incl. var. *angustior* *C. B. Cl.*; F.T.A. 8: 56; Dalz., Usef. Pl. W. Trop. Afr. 465 (1937); Berhaut, Fl. Sén. 209; Saunders, Handb. W. Afr. Fl. 98, fig. 338 (1968).

Commelina guineensis *Hua* in Bull. Mus. Hist. Paris 1: 119 (1895), partly, as to Paroisse 195, Brenan in Kew Bull. 15: 211 (1961).

A prostrate, decumbent or sometimes weakly erect to erect herb with stems 4 in.-6 ft. long, lanceolate leaves and usually clustered sometimes single spathes with blue flowers opening from about an hour after dawn until nearly noon; plant usually more or less pubescent; **a weedy plant of roadsides and waste or cultivated ground, particularly in forest and woodland areas.**

Iv. C.: Séguéla (Apr.) Leeuwenberg 3278! Diahbo to Bouaké (July) Chev. 22062! 22064! **U. Volta:** Koudougou to Boromo (June) Leeuwenberg 4397! **Ghana:** Nhenenchena to Kwahu Tafo (May) Kitson 1149! Kibi (Nov.) Morton GC 8013! Shai Hills (Dec.) Morton GC 8080! Senya Beraku (Oct.) Morton GC 7913! Labadi Lakes (Oct.) Morton GC 7839! Teshie (Oct.) Morton GC 7845! **S. Nig.:** Benin (Dec.) Brenan & E. W. Jones 8634! Port Harcourt (Jan.) Stubbings 108! Lagos (Jan.) Dalz. 1288! Ibadan (Sept.) Keay FHI 37174! Owo (Oct.) Stanfield 16! **F. Po:** (Dec.) T. Vogel 261!

Widespread in the tropics and subtropics of the Old and New Worlds.

[Berhaut 897 from Senegal, Tambacounda, cited as *C. sp.* in Berhaut, Fl. Sén. 209, and Berhaut 4528 from the same locality have densely pubescent ovate-lanceolate leaves up to about 15 cm. long and 4 cm. broad and small shortly pedunculate non-acuminate spathes, but the seeds resemble those of *C. erecta*, of which they may be a variety, though in appearance the plants are more like *C. bracteosa*. More material and observation needed.]

21b. *Commelina erecta* subsp. *maritima* (J. K. Morton) J. K. Morton in J. Linn. Soc. 60: 134 (1967).

APD acc

Commelina gerrardii subsp. *maritima* J. K. Morton op. cit. 55; 525, fig. 21 (1956).

A fleshy, creeping, almost glabrous herb with blue or purple flowers; **in coastal sandbar vegetation under coconut-palms.**

S. L.: Hamilton, Peninsula (Feb.) Morton SL 2361! John Obey (Nov.) Morton SL 143! **Lib.:** Monrovia (Aug.) Baldwin 13001! **Iv. C.:** Grand Bassam (Mar.) Leeuwenberg 3141! **Ghana:** Axim (Nov.) Boughey GC 10238! Princetown (Mar., May) Morton A329! P1388! GC 6609! GC 8452! **Dah.:** Cotonou (Jan) Chev. 22698!

[Due to introgression, intermediates with subsp. *erecta* occur in Ghana, see Morton l.c. 526. Morton GC 8448 from Princetown castle walls and Morton A171 from New Ningo are example.]

21c. *Commelina erecta* subsp. *livingstonii* (C. B. Cl.) J. K. Morton in J. Linn. Soc. 60: 184 (1967).

APD: *Synonym of Commelina livingstonei C.B. Clarke*

Commelina livingstonii C. B. Cl. in DC., Monogr. Piian. 3: 190 (1881); F.T.A. 8: 59; J. K. Morton op. cit. 66: 626, fig. 23 (1956).

Commelina albescens var. *occidentalis* C. B. Cl. l.c. 185 (1881).

Commelina albescens of F.T.A. 8: 58, partly (as to W. Afr. specimens); Aké Assi, Contrib. 2: 223 (1964), partly, as to W. Afr. specimens; not of Hassk.

Commelina schweinfurthii of F.T.A. 8: 41, partly, as to Sc. Elliot 5164, not of C. B. Cl.

Commelina sphaerosperma C. B. Cl. in F.T.A. 8: 58 (1901).

Commelina umbellata of Schnell, Vég. Fl. Nimba 522 (1952), not of Thonn.

Commelina subalbescens Berhaut, Fl. Sén. 208.

A perennial herb up to about 3 ft. high, usually erect, rarely straggling, usually not rooting at nodes. **Usually in drier areas than subsp. *erecta*, in savanna and woodland N. of the forest belt.**

Sen.: Almadies, Ngor (Aug.) Broadbent 20! Bargny (Aug., Oct.) Berhaut 5442! Adam 14919! Niembato, Gambia R. (July) Berhaut 929! Medina Gouasse (July) Adam 14849! **Gam.:** Kuntaur Ruxton 37! 120! **Port. G.:** Bambadinca (July) Pereira 3044! **Guin.:** Paroisse 195! **S. L.:** York (May) Deighton 5527! Mange, Bure Dist. (May) Deighton 5941! Sendugu (June) Thomas 634! Falaba (Mar.) Sc. Elliot 5164! Sulimania (Mar.) Sc. Elliot 5385! **Iv. C.:** Nzérékoré (May) Schnell 2786! **Ghana:** Weija, Accra (Feb.) Morton GC 8417! Tema Harbour (May) Morton A889! Shai Hills (Dec.) Morton 8084! Damongo Scarp (Mar.) Morton GC 8654! Damngo to Kpirri Lake (Mar.) Adams 3964! Glambaga Cliff (June) Harris! **Dah.:** Burton N. **Nig.:** Munchi, Abinsi Dalz. 805! Cheche F.R., Gwari Dist. (Apr.-June) E. W. Jones 150! Bindawa (Aug.) Grove 11! Jos (June) Lely 313! Jos to Bauchi (June) Onochie 47714! Katagum Dist. Dalz. 230!

Widespread in tropical Africa.

[Intermediates with subsp. *erecta* occur which may be hard to identify exactly.]

22. *Commelina nigritana* Benth. in Fl. Nigrit. 541 (1849), *C. umbellata* of C. B. Cl. in DC., Monogr.

Phan. 3: 179 (1881); F.T.A. 8: 55; Berhaut, Fl. Sén. 208; J. K. Morton in J. Linn. Soc. 55: 529 (1956), 60: 190 (1967), not of Thonn. *APD acc*

Commelina gourmaensis A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 213 (1912), fide F.W.T.A., ed. 1.

Commelina gourmaca A. Chev. Bot. 664, fide F.W.T.A., ed. 1.

22a. *Commelina nigritana* Benth. var. *nigritana* *APD acc*

Annual, erect or decumbent herb 4-16 in. high, rather slender, with linear leaves and yellowish to orange flowers open from 9-11 a.m.; **in grassland or savanna.**

Sen.: Kafountine, Oussouye (Sept.) Adam 18157! **Guin.:** Kindia (Oct.) Schnell 7694! **S. L.:** Falaba (Sept.) Small 325! (Nov.) Morton SL 2853! Mt. Babaana, Limbaia (Oct.) Small 438! **Ghana:** Mampong (Aug.) Irvine 5142! Tamale (Oct.) Baldwin 13593! Damongo (Dec.) Morton GC 9967! Dutukpene, Krachi (Oct.) Morton A3725! Vane (New.) Morton A105! **N. Nig.:** Anara F.R., Zaria (Sept.) Olorunfemi FHI 24370! Nupe Barter 1473! Igarra (Dec.) Stanfield 79! **S. Nig.:** Owo (Oct.) Stanfield 1! Enugu F.R., Udi (Sept.) Onochie FHI 34118! Jesse, Warri Prov. (Sept.) Butter-Cole 16!

Also in **Uganda, Tanzania, Zambia** and **Rhodesia**.

[Spathes are somewhat variable in size and indumentum. A specimen from Ivory Coast (Diahbo to Bouaké (July) Chev. 22063!) is *C. umbelata* but it is uncertain which variety.]

22b. *Commelina nigritana* var. *gambiae* (C. B. Cl.) Brenan in Kew Bull. 22: 392 (1968). *APD acc*

Commelina gambiae C. B. Cl. in DC., Monogr. Phan. 3: 146 (1881); F.T.A. 8: 38; F.W.T.A., ed. 1, 2: 318; Berhaut, Fl. Sén. 208. *Commelina umbellata* var. *gambiae* (C.B.Cl.) J. K. Morton l.c. 531, fig. 28 (1956).

Herb similar to last and only safely separable by seeds.

Sen.: Djembering (Sept.) Broadbent 130! Ziguinchor (Nov.) Roberty 6408! Casamance Heudelot 577! Bailá (aep.) Adam 18114! Sedhion (Oct.) Adam 18426! **Gam.:** Ingram! Hayes 578! **Guin.:** Pita, Fouta, Djalón (Sept.) Adames 350! **Port. G.:** Orango Grande, Bijagos (Jan.) Raimundo & Guerra 941! Mansoa-Uague (Koy.) Pereira 1955! Fá (Sept.-Oct.) Guerra 3862! 3908! **S. L.:** Bonthe I. (Nov.) Deighton 2286! 2316! Balamuya, Gbinle (Oct.) Jordan 793! Kontobe, Malal (Nov.) Pyne 182! Mateboi, Sanda Tenraran (Nov.) Jordan 824! Gbenge Hills (Nov.) Morton SL 2911! **Lib.:** Monrovia (Nov.) Linder 1523! **Ghana:** Gambaga Scarp (Nov.) Morton A2723! Demon to Yendi (Oct.) Morton A3773! Banda, Wenchi Dist. (Dec.) Morton GC 25290! Ejura (Dec.) Morton GC 9829! **N. Nig.:** Zaria F.R. (Aug.) Keay FHI 28028! Anara F.R., Zaria (July) Keay FHI 25975! Panshanu, Bauchi Prov., 2,800 ft. (Aug.) Lawlor & Hall 71! Igarra (Oct.-Dec.) Stanfield 29! 80!

Intermediates between the two varieties are said to occur frequently in Ghana (Morton in J. Linn. Soc. 55: 531 (1955)).

23. *Commelina aspera* Benth. in Fl. Nigrit. 542 (1849); C. B. Cl. in DC., Monogr. Phan. 3: 180 (1881); F.T.A. 8: 56; J. K. Morton in J. Linn. Soc. 60: 176 (1967). *APD acc*

APD: *Synonym of Commelina bracteosa Hassk.*

Annual, erect, simple or branched herb 3-14 in. high with narrow leaves, clusters of small deflexed sharply pointed spathes, and yellowish to white flowers open from about 9-11 a.m.; **in grassland and savanna, and sometimes in farmland.**

Port. G.: Piche (Sept.) Pereira 3216! 3229! **S. L.:** Between Kurubonla, Seredu, Sekorella and foot of Loma Mts. (Nov.) Morton SL 2551! **Iv. C.:** Namboukaha to Ouorossantiakara (Nov.) Leeuwenberg 1991! **Ghana:** Damongo (Dec.) Morton A104! Tamale (Aug.) Irvine 4564! Yendi to Demon (Oct.) Morton A3749! Dutukpene to Kete Krachi (Oct.) Morton A3729! Pawpaw Mt., Nkwanta Krache (Oct.) Morton A3721! **N. Nig.:** Jos (Aug.) Keay FHI 20190! Lokoja T. Vogel! Benue R. Talbot 762! **S. Nig.:** Owo (May, Oct.) Stanfield 76! 156!

Also in **E. Cameroun, Chad, Congo, Uganda, Tanzania, Zambia, Rhodesia, Angola**, and **S.W. Africa**.

[Broader-leaved variants occur in south tropical Africa but not (so far) in our area.]

1. *Commelina* sp. *APD acc*

A perennial, apparently erect herb about 20 cm. high; leaves linear, 8-17 cm. long, 7-10 mm. broad, more or less spreading-hairy at least on margins; sheaths more or less hairy; spathes spreading-hairy, conspicuously purple-veined, 1.5-4.5 cm. long, 1-1.5 cm. deep, on peduncles 4-12 cm. long; capsule probably 4-seeded.

Guin.: Kinkou (June) Adam 14677!

[Very close to *C. carsonii* C. B. Cl. from southern tropical Africa, to which it is referred by Morton in J. Linn. Soc. 60: 179 (1967), but more robust; also close to the east African *C. elgonensis* Bullock, which may not be specifically distinct from *C. carsonii*.]

Imperfectly known species.

2. *Commelina pilosissima* Hutch., F.W.T.A., ed. 1, 2: 320 (1936), described only in English.

APD: *Synonym of Commelina livingstonei C.B. Clarke*

A perennial herb with stems about 50 cm. long and linear leaves up to about 15 cm. long and 1 cm. broad; the whole plant densely hairy, very like *C. erecta* subsp. *livingstonii* of which it may well be only a variant. It also somewhat resembles *C. schweinfurthii* except for being densely hairy and having peduncles c. 5-7 mm. long. It has not been refound.

Iv. C.: Sassandra valley, Orodougou, between Siflé and Séguéla (June) Chev. 21826!

FLAGELLARIACEAE

Erect or climbing. Leaves sometimes ending in a tendril; leaf-sheath embracing the stem, closed. Flowers hermaphrodite or dioecious, in terminal panicles. Perianth persistent, segments 6, 2-seriately imbricate, dry or somewhat petaloid. Stamens 6; anthers 2-locular, introrse, opening lengthwise by slits. Ovary superior, 3-locular; style 3-lobed. Ovules solitary in each loculus, spreading or pendulous from the central axis. Fruit indehiscent, fleshy or drupaceous. Seeds with copious endosperm.

Tropics and subtropics of Old World.

FLAGELLARIA

Linn., Sp. Pl. 333 (1753); F.T.A. 8: 90.

Flowers hermaphrodite; perianth subpetaloid, 2-seriate, the outer shorter; stamens 6; ovary 3-celled, with a solitary ovule in, each cell; fruit a small berry.

- 1 A tall herbaceous climber; branches covered by the encircling leaf-sheaths, the latter deeply split on one side, glabrous, 1.5-3 cm. long; leaves linear-lanceolate, sessile on the sheath, with a slender tendriform tip, 10-20 cm. long, 1.5-3 cm. broad, many- and closely-nerved, glabrous; flowers numerous, in a terminal panicle 6-10 cm. long; perianth-segments in 2 series, the outer half as long as the inner, subpetaloid; stamens 6, exerted; ovary glabrous, trigonous; fruit subglobose, mucronate, about 6 mm. diam., bright red *guineensis*

Flagellaria guineensis *Schumach.* in Schum. & Thonn., Beskr. Guin. Pl. 181 (1827); F.T.A. 8: 90; Chev. Bot. 672. *APD acc*

A tough herbaceous forest climber, usually near rivers; flowers small, yellow or white; fruits red in dense clusters.

Iv. C.: Bingerville Chev. 15206! Bouroukrou (Jan.) Chev. 16754! Grand Bassam (fl. Oct., fr. Jan.) Roberty 12268! Leeuwenberg 2358! Port Bouët (fl. & fr. Apr.) Aké Assi 8314! **Ghana:** Cape Coast (July) T. Vogel 14! Axim (fl. & fr. Mar.) Chipp 393! Assuantsi (fl. & fr. Jan.) Baldwin 14029! Amentia, Ashanti Irvine 453! **Togo Rep.:** Lomé Warnecke 102! **Dah.:** nr. Cotonou (Feb.) Raynal 13507! **S. Nig.:** Lagos Barter 2172! Ikoyi Plains (Mar.) Dalz. 1416! Ogun River F.R. (fr. Mar.) Hepper 2258! Majidun Ilaje (Feb.) Hamblen 405! Calabar Robb!

In tropical Africa generally, especially in coastal forest, to Natal.

XYRIDACEAE

Perennial or annual herbs. Leaves mostly radical, tufted, linear, terete or filiform, sheathing at the base. Flowers hermaphrodite, slightly zygomorphic, arranged in pedunculate terminal globose or cylindrical heads; bracts imbricate, leathery or rigid, the lower sometimes forming an involucre. Sepals 3 or rarely 2, the lateral 2 exterior, boat-shaped, keeled, glumaceous, the third interior, membranous, forming a hood over the corolla and pushed aside as the latter develops. Corolla with a short or long tube and 3 equal spreading lobes. Stamens 3, opposite the corolla-lobes, and 3 alternate staminodes or the latter absent; anthers 2-locular, opening by slits. Ovary superior, 1-locular, with 3 parietal placentas or imperfectly 3-locular at the base; style simple or 3-lobed. Ovules numerous to few. Fruit a capsule enclosed in the persistent, corolla-tube. Seeds numerous, with copious endosperm and small embryo.

Warm regions; in saline and freshwater marshes and seepage areas.

XYRIS

Linn., Sp. Pl. 42 (1753); F.T.A. 8: 7.

- 1 Bracts acutely mucronate, scabrid; lateral sepals with ciliate keel and spinous apex; perennials:.....2
 Bracts at most acute, usually obtuse or emarginate:5
- 2 Outer (lower) bracts larger than the inner bracts, up to 2 cm. long, broadly lanceolate, lacinate on margins, median nerve extending as a spine, reflexed on fruiting; inflorescence many-flowered, at first spherical, about 1 cm. diam. extending to nearly 2 cm. in fruit; leaves up to 60 cm. long, 3-6 mm. broad, stiffly acute at apex (Fig. 334/F) [1. leonensis](#)
 Outer bracts not markedly different from inner ones, nearly orbicular, entire; keel of lateral sepals ciliate:3
- 3 Inflorescence spherical, less than 1 cm. diam.; flowers about 1 cm. diam.:4
 Inflorescence elongated (see also below) [4. hildebrandtii](#)
- 4 Leaf-bases abruptly broadened, half-width about 1 cm., shining dark brown forming a thick tuft, lamina up to 60 cm. long, 2-3 mm. broad, finely acute at apex; inflorescence nearly 1 cm. diam., not elongating markedly in fruit; bracts 4 mm. diam., with a median keel extending as a short (0.5 mm.) spine [2. rehmannii](#)
 Leaf-bases narrow, half-width 2-3 mm., pale brown or reddish with hyaline margin forming a light tuft, lamina up to 30 cm. long, 1.5-2 mm. broad, curved, acute; inflorescence 4-7 mm. diam.; bracts 3 mm. diam., outer bracts finely mucronate, inner bracts with a horny apex and more or less mucronate [3. barteri](#)
- 5 Inflorescences elongated up to 15 mm. long and 7 mm. broad (rather larger in fruit), closely imbricated with numerous closely imbricated bracts; bracts all similar, sometimes minutely mucronate, nearly orbicular, 3 mm. diam., margin entire; keel of lateral sepals ciliate, the whole length; peduncle terete, up to 80 cm. long; leaves 2 mm. broad, in the fresh state flat on one side and convex on the other (Fig. 334/D) [4. hildebrandtii](#)
 Inflorescences more or less spherical, at least not elongated:.....6
- 6 Peduncle flattened and 2-edged or almost winged, without ribs between the edges; annuals; (see also note after No. 7):7
 Peduncle terete (sometimes more or less ridged or angular):8
- 7 Leaves and margins of peduncles not rugulose; bracts pale greenish yellow (at length pale brown), suborbicular, with membranous margins and a hardened greenish keel or triangle towards the apex; lateral sepals hyaline, broadly oblanceolate, with a sharp hyaline entire glabrous keel; inflorescence 5-8 mm. long; leaves 2-4 mm. broad and up to 24 cm. long (Fig. 334/C) [5. anceps](#)
 Leaves and usually margins of peduncles markedly rugulose; bracts reddish brown, occasionally pale brown, suborbicular, entire margins, green patch at apex very small and linear or absent; keel of lateral sepals smooth, entire; inflorescence 3-5 cm. long; leaves 1-2 mm. broad, 1-8 cm. long [6. rubella](#)
- 8 Keel of lateral sepals quite smooth and entire:9
 Keel of lateral sepals ciliate or serrulate:..... 10
- 9 Bracts chestnut shining brown, almost opaque, orbicular-obovate, obtuse, scarcely keeled; inflorescences 4-8 (-10) mm. long, (3-)5-8 mm. broad (up to 14 mm. in fruit); peduncle up to 70 cm. long, usually stout 1-2 mm. diam. and terete (sometimes compressed and 1 mm. diam., see note); leaves up to 20 cm. long, 2-4 mm. broad, broadly sheathing at the base [7. capensis](#)
 Bracts transparent or translucent and tinged pink or brown, elliptic-oblong, acute, not keeled; inflorescences 3-6 mm. long, 2-3 mm. broad; peduncle up to 30 cm. long, usually about 15 cm., very slender 0.5 mm. or less diam.; leaves 3-8(-12) cm. long, 1-2.5 mm. broad, sometimes minutely transversely rugulose when dry (Fig. 334/A) [8. straminea](#)
- 10 The keel of lateral sepals ciliate or ciliate: 11
 The keel of lateral sepals serrulate: 13
- 11 Lowland annual; leaves 6-11 cm. long, 2-3 mm. broad, minutely transversely rugulose when dry; peduncles very slender, 10-42 cm. long; inflorescences obovate, 3-6 mm. long, bracts chestnut brown, horny with a linear rough area towards the apex; lateral sepals hyaline, ciliate on the keel at least towards the apex . [9. filiformis](#)
 Highland perennials with bulbous base; inflorescences more or less spherical, 6-7 mm. diam.:..... 12
- 12 Bracts dark brown, thin with recurved margins, rather prominently keeled, apex usually emarginate; keel of lateral sepals ciliate at least in the lower 2/3; peduncles 17-50 cm. long; leaves 13-32 cm. long, 2-3 mm. broad [10. sp. near obscura](#)
 Bracts pale brown to straw-coloured, thin with recurved margins, not keeled, apex rounded; keel of lateral sepals long-ciliate; peduncles about 45 cm. long, minutely rugulose; leaves about 30 cm. long and 2 mm. broad [11. sp. A.](#)
- 13 Leaves (2)3-6 mm. broad, up to 50 cm. long, not shiny at the base; peduncles stout, strongly angular-ribbed, up

to 75 cm. long; inflorescences about 1 cm. diam.; bracts broadly obovate-orbicular, about 5 mm. long, brown with an elliptic median green patch, margins slightly jagged (Fig. 334/B) [12. *decipiens*](#)

Leaves 1 min. broad, 5-35 cm. long, greatly expanded at the base and shiny brown; peduncles slender, more or less angular; inflorescences 9 mm. long, 3-5 mm. broad; bracts about 5 mm. long, brownish, with small triangular patch towards apex, margins entire becoming broken (Fig. 334/E) [13. *festucifolia*](#)

1. ***Xyris leonensis* Hepper** in Kew Bull. 21: 422, fig. 2, 1-8 (1968).

APD: Synonym of Xyris aristata N.E. Br.

Stout tufted herb with large aristate outer bracts.

Guin.: Ditinn (Feb.) des Abbayes 858! **S. L.:** Bintumane Peak, 5,400 ft. (Dec., Jan.) T. S. Jones 90! Morton SL 408! **Lib.:** Nimba Reserve (fr. Feb.) Adam 20882! **iv. C.:** Sifé (Aug., Sept.) Aké Assi 6173! 7022! Séguéla (Oct.) Aké Assi 6180! **Ghana:** Ejura (Dec.) Morton GC 9705!

2. ***Xyris rehmannii* Nilss.** in Kongl. Svensk Vet. Akad. Handl. 24, No. 14: 28 (1892); Hepper in Kew Bull. 21: 424 (1968). *APD acc*

***Xyris dispar* N. E. Br.** in F.T.A. 8: 12 (1901).

Perennial herb forming large tufts with peduncles 1 1/2-2 ft. high; flowers bright yellow; bracts very dark brown; **sometimes abundant in upland wet places.**

N. Nig.: Nguroje, Mambila Plateau (Jan.) Hepper 1758! **W. Cam.:** Oku to Kumbo (= Bansa) (Feb.) Hepper 2018!

Also in **Rhodesia** and **Transvaal**.

3. ***Xyris barteri* N. E. Br.** in F.T.A. 8: 22 (1901). *APD acc*

***Xyris ledermannii* Malme** (1912).

Erect perennial herb 1-2 ft. high, the terete peduncles with only one ridge; flowers rather large, yellow, bracts chestnut brown; **in permanently wet places.**

Guin.: Kala Plateau, Fouta Djallon (Nov.) des Abbayes 860! **N. Nig.:** Bida (Jan.) Meikle 1014! Nupe Barter! Kontagora (Nov.) Dalz. 255! Vom, 4,000 ft. (Oct.) Hepper 1154!

4. ***Xyris hildebrandtii* Nilss.** in Öfvers. Vet. Akad. Förhandl. Stockh. 1891: 155; F.T.A. 8: 24; Perrier de la Bathie, Fl. Madag. 35: 10, fig. 2, 8-11 (1946); Hepper in Kew Bull. 21: 421 (1968).

APD: Synonym of Xyris congensis Büttner

A massively tufted perennial herb with peduncles 2 1/2-3 1/2 ft. high; flowers bright yellow, bracts dark brown in an elongated head; **dominant in open wet depressions in upland.**

N. Nig.: Kakara, Mambila Plateau, 4,900 ft. (fl. & fr. Jan.) Hepper 1771! **W. Cam.:** Oku to Kumbo (= Bansa), 6,000 ft. Hepper 2839!

Known in eastern and southern tropical Africa and in **Madagascar**.

5. ***Xyris anceps* Lam.** Tabl. Encycl. 1: 132 (1791); F.T.A. 8: 12; Meikle & Baldwin in Am. J. Bot. 39: 50 (1952); Berhaut, Fl. Sén. 184; Hepper l.c. 419 (1968). *APD acc*

APD: Synonym of Xyris anceps var. minima (Steud.) Lock

***Xyris perroteti* (sic) Steud.** (1855).

***Xyris minima* Steud.** (1855).

Herb with a fan of leaves reddish at the base; inflorescence pale yellowish, 1 ft. or more high; **in wet places, rice fields and mangrove swamps.**

Sen.: Perrottet 809! Kaolak Berhaut 642! 2353. Cayor Leprieur! Casamance Heudelot 562, partly! **Port. G.:** Catió (Dec.) Raimundo & Guerra 716! **Guin.:** Koba (Nov.) Jac.-Jél 7229! **S. L.:** Aberdeen (Nov.) Small 785! 787! Gledhill 4! Mahela (Dec.) Sc. Elliot 3931! Rokupr (Dec., Apr.) Deighton 908! Hepper 2631! Pujehun (Dec.) Deighton 263! **Lib.:** Monrovia (Nov., Dec.) Linder 1474! Barker 1471! Baldwin 10511! Duport (Nov.) Linder 1513! **iv. C.:** Moussou (Aug.) de Wilde

227! **Ghana:** Atwabo Fishlock 2a! Beyin (fr. Feb.) Hall 2931! **S. Nig.:** Lagos Barter 2200! Millen 152! Dalz. 1278! 1279! 1428! Baldwin 14013! Ogoyo to Igboere (Aug.) Savory UCI 271! R. Nyaba, near Enugu (May) Onochie FHI 35814!

Extending to **Angola** and Zanzibar and Natal; apparently absent from some intermediate countries.

6. ***Xyris rubella* Malme** in Engl., Bot. Jahrb. 48; 303 (1912); Hepper l.c. 424 (1968). *APD acc*

***Xyris subrubella* Malme ex Hutch.**, F.W.T.A., ed. 1, 2: 322 (1936), English descr. only.

Small annual herb about 6 in. high with small reddish or pale brownish heads and yellow flowers; **in seasonal flushes on rock outcrops and sand-dunes.**

Sen.: Basséré, Casamance (Nov.) Berhaut 6666! **Mali:** Sikasso (Sept.) Jaeger 5161! Bamako (Sept.) Waterlot 1346! Loutana (Sept.) Demange 2751! **Guin.:** Madina Tossékéré (Oct.) Adam 12551a! **Ghana:** Gambaga Scarp (Sept.) Hall 799b! Nakpanduri to Yendi (Sept.) Rose Innes GC 32157! Atwabo Fishlock 2 of 1931! **N. Nig.:** Lokoja (Nov.) Dalz. 240! Guduma, near Minna (Oct.) Hepper 972! Anara F.R., Zaria (Sept., Oct.) Olorunfemi FHI 24396! Hepper 990! 991! Kogigiri, Jos Plateau (Oct.) Hepper 1057! **S. Nig.:** Badagry (Aug.) Onochie FHI 33496! Ogoyo to Igboere (Aug.) Savory UCI 271a!

Widespread in tropical Africa.

7. ***Xyris capensis* Thunb.** Prod. 12 (1794); F.T.A. 8: 13. *APD acc*

APD: *Synonym of Xyris congensis Büttner*

A herb with several fan-like tufts of leaves arising from a perennial rhizome; flower yellow on 1-2 ft. high peduncles; **in wet places.**

Sen.: Leprieur! **Guin.:** Kollangui (Mar.) Chev. 12207bis! Dalaba-Diaguissa Plateau, Fouta Djallon (Mar.) Chev. 18713! **S. L.:** Rokon (May) Marmo 296! **N. Nig.:** Jos Plateau (Jan.) Lely P16! Rafin Bauna North F.R., Jos Plateau (Oct.) Hepper 1184! Miango, Jos (Dec.) B. J. Harris! Vogel Peak, 4,000 ft. (Dec.) Hepper 1529! Kakara, Mambila Plateau, 4,900 ft. (Jan.) Hepper 1768! **S. Nig.:** Koloishe, Obudu Plateau, 5,500 ft. (Dec.) Savory & Keay FHI 25085! **W. Cam.:** Jakiri, Bamenda, 5,800 ft. (Feb.) Hepper 1955! 1959! Bafut-Ngemba to Bamenda Nkwe (Mar.) Daramola FHI 40534! Bum, Bamenda, 4,000 ft. (May) Maitland 1525! Mbenguri to Mankon, 4,000 ft. (Apr.) Brunt 1108!

Throughout tropical and S. Africa.

[A variable species without clearly defined limits and several varieties have been described. var. *medullosa* N. E. Br. in F.T.A. 8: 14 (1901) (syn. var. *microcephala* Malme in Svensk Bot. Tidsk. 6: 558 (1912)) appears to occur in our area (N. Nigeria: Naraguta Lely 282-cited as *X. straminea* in Ed. 1). It has pithy peduncles, rather than hollow ones, and smaller leaves and heads. The peduncles are also compressed and 2-ridged: a feature sometimes found in hollow peduncle plants.]

8. ***Xyris straminea* Nilss.** in Öfvers. Vet. Akad. Förhandl. Stockh. 1891: 153; F.T.A. 8: 19; Meikle & Baldwin in Am. J. Bot. 39: 50 (1952). *APD acc*

A slender annual herb a few inches to 1 ft. high; flowers yellow, bracts almost transparent; **in seasonal wet flushes on rock outcrops.**

Mali: Sicoro (Jan.) Chev. 231! Bamako (Nov.) Waterlot! **Guin.:** Dalaba, Fouta Djallon (Oct.) des Abbayes 977! Madina Tossékéré (Oct.) Adam 12551b! **Lib.:** Tawato, Boporo Dist. (Nov.) Baldwin 10330! Gbau, Sanokwele Dist. (Sept.) Baldwin 9445! **iv. C.:** Singrobo (Dec.) Aké Assi 7241! Mankono (June) Chev. 21880! **Ghana:** Kwahu Tafo (Aug.) Hall CC 137b! Banda, Wenchi (Dec.) Morton GC 25098! Aboma F.R., Ashanti (Nov.) Vigne FH 3439! Gambaga to Nakpanduri (Mar.) Hepper & Morton A3141! **N. Nig.:** Nupe Barter 764! Anara F.R., Zaria Dist. (Oct.) Keay FHI 20101! Naraguta F.R., Jos Plateau (Oct.) Hepper 1012! Vogel Peak, 1,900-3,500 ft. (Nov.) Hepper 1245! 1488! **S. Nig.:** Ado Rock, Olokemeji to Iseyin (June) Hamblin 301! Mt. Orosun, Idanre Hills (Oct.) Keay FHI 22592! Okelife, Ondo Dist. (Nov.) Onochie FHI 34216! Oba, Owo Dist. (Aug.) Stanfield 111! Igarra, NE. of Owo (Dec.) Stanfield 70! 71! 72!

Widespread in tropical and S. Africa.

9. ***Xyris filiformis* Lam. Tabl. Encycl. 1; 132** (1791); F.T.A. 8: 21; Meikle & Baldwin in Am. J. Bot. 39: 50, figs. 28-41 (1952). *APD acc*

Slender annual, leaves often reddish at the base, flowers yellow (exceptionally purple), bracts rich brown, horny; **in seasonal wet flushes.**

Sen.: Basséré, Casamance (Nov.) Berhaut 6665! **Port. G.:** Bijagos (Jan.) Raimundo & Guerra 934! **Mali:** Sikasso (Oct.) Demange 2761! **Guin.:** Dalaba, Fouta Djallon (Nov.) des Abbayes 848! **S. L.:** Smeathman! Kambia, Magbema (Nov.)

Jordan 660! Port Loko, Mforki (Oct.) Jordan 633! Brookfields, Freetown (Oct.) Deighton 2139! Yoni to Ngepe, Bonthe I. (Nov.) Deighton 2288! Mafare (Nov.) Marmo 209! **Lib.:** Genne-Loffa, Kolahun Dist. (Nov.) Baldwin 10087! Paynesville (Apr.) Barker 1251! Duport (Nov.) Bequaert in Hb. Linder 1462! Grand Bassa (Nov.) Dinklage 2294! Nimba (Oct.) Adames 701! **Ghana:** Kwahu Tafo (Aug.) Hall CC 137a! **S. Nig.:** Oba (Nov.) Stanfield 127!

10. **Xyris sp. near obscura** N. E. Br. in F.T.A. 8: 16 (1901). *APD acc*

Perennial herb with fine leaves dying back to a stout fleshy bulbous base; flowers yellow, bracts very dark brown; **in highlands**.

W. Cam.: Bafut-Ngemba F.R., Bamenda, 6,000 ft. (fl. Sept., Oct., fr. Feb.) Savory UCI 481! Lightbody FHI 26274! Ujor FHI 30203! Hepper 2850!

[Typical X. obscura has mucronate bracts and X. makuensis N. E. Br. has a glabrous keel to the lateral sepals.]

11. **Xyris sp. A.** *APD acc*

Tufted perennial about 1 1/2 ft. high; flowers yellow; **in wet ground**.

Guin.: Labé (July, Nov.) Chev. 34450! Adames 307!

[This plant shows certain affinities with several species described from Angola, e.g. X. welwitschii Rendle, but the strongly perennial habit, pale scape, and round head give it a characteristic appearance.-F.N.H.]

12. **Xyris decipiens** N. E. Br. in Dyer, Fl. Cap. 7: 3 (1897); F.T.A. 8: 22; Chev. Bot. 660, partly; Meikle & Baldwin in Am. J. Bot. 39: 50 (1952); Hepper in Kew Bull. 21: 419 (1908). *APD acc*

APD: *Synonym of Xyris angularis* N.E. Br.

Xyris angularis N. E. Br. in F.T.A. 8: 22 (1901); F.W.T.A., ed. 1, 2: 322; Chev. Bot. 660.

A perennial herb about 2 ft. high **in sandy moist places**; flowers yellow, rather large, in hard heads at first round and becoming ovoid, cone-like; bracts firm with large grey dorsal patch.

Sen.: Basséré, Casamance (Nov.) Berhaut 6654! **Port. G.:** Bijagos (Jan.) Raimundo & Guerra 927! **Mali:** Sikasso (Oct.) Demange 2762! **Guin.:** Conakry (Oct.) Adam 12620! Dalaba to Boulivel Chev. 12656! Ditinn (Feb.) des Abbayes 859! Pita (Feb.) des Abbayes 896! Coyah (fr. Feb.) des Abbayes 955! Macenta (Oct.) Baldwin 9814! **S. L.:** Smeathman! Samu country (fr. Dec.) Sc. Elliot 4220! Mayumbo (Oct.) Jordan 634! Matamba to Manyakoi (Oct.) Glanville 29! Mano Salija (Nov.) Deighton 344! Bintumane Peak (Jan.) T. S. Jones 68! **Lib.:** Tawata (Nov.) Baldwin 10332! Duport (Nov.) Linder 1457! Paynesville (Oct.) Voorhaeve 94! Monrovia (June) Baldwin 5847! **Iv. C.:** Adiopodoumé (Dec.) Aké Assi 7169! Abouabou (Oct.) de Wilde 3167! Toumodi (Aug.) Chev. 22398! Moussou (Jan.) Aké Assi 6880! **Dah.:** Natitingou to Bocorona (June) Chev. 24180! **N. Nig.:** Nupe Barter! **S. Nig.:** Igarra, NE. of Owo Stanfield 27! Udi F.R., Onitsha Prov. (Nov.) Keay FHI 22279! Enugu (Dec.) Killick 285! Calabar Robb! **W. Cam.:** Basu, Mamfe Dist. (Nov.) Tamajong FHI 22106!

Also in **E. Cameroun**, **Congo**, **Angola** and **Uganda**.

13. **Xyris festucifolia** Hepper in Kew Bull. 21: 419, fig. 1, (1968). *APD acc*

Perennial herb with very fine leaves from stout congested rhizomatous bases; flowers yellow; **in highlands**.

Guin.: Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9823! Nimba Mt. Jac.-Fél 1924! Schnell 3720! **S. L.:** Bintumane Peak, 5,400-6,390 ft. (Jan.) T.S. Jones 80! 98! Nichols 5! Jaeger 396! 7622! 7884! Tingi Mts. (Dec.) Morton & Gledhill SL 3047!

RAPATEACEAE

Perennial herbs with a thick rhizome. Leaves radical, narrow, with parallel lateral nerves. Inflorescence scapose, capitate or unilaterally spicate. Flowers hermaphrodite, actinomorphic. Perianth double, the outer hyaline, lobes chaffy, rigid, imbricate, inner tubular, hyaline, lobes ovate, spreading, broadly imbricate. Stamens 6, inserted in the tube; anthers basifixed, 4-locular, loculi confluent at the top and opening by 1 or 2 pores or by a terminal cleft. Ovary superior, perfectly or imperfectly 3-locular; style simple. Ovules few to solitary, basal or axile. Fruit a capsule, opening by 3 valves septate in the middle. Seeds with copious mealy endosperm.

In West Africa (Sierra Leone, Liberia, Iv.Coast), otherwise entirely South American.

MASCHALOCEPHALUS

Gilg & K. Schum. in Engl., Bot. Jahrb. 28: 148 (1900); F.T.A. 8: 89.

- 1** A tufted herb with fibrous roots; leaves in a basal rosette, all in one plane, elongate linear-lanceolate, narrowed to a subobtusate apex, gradually contracted into the sheath at the base, up to 45 cm. long and 3 cm. broad, with a prominent midrib and several less prominent lateral parallel nerves, with distant faint cross-nerves between; sheath folded on each side of the sheath of the next leaf, winged on the back, about 12 cm. long; flower-head sessile in axils of the leaves; bracts 2, almost concealing the flowers; bracteoles several; perianth-tube slender, about 4 cm. long; lobes 6; stamens 6; anthers 5 mm. long, with a produced connective; capsule triangular
.....[dinklagei](#)

Maschalocephalus dinklagei *Gilg & K. Schum.* l.c. (1900); F.T.A. 8: 89; Baldwin in Amer. J. Bot. 37: 402 (1950); Mangelot in Ic. Pl. Afr. I.F.A.N. 7: 61 (1965). *APD acc*

A tufted sedge-like herb with an inflorescence amongst the leaf-bases; flowers yellow; **in wet forested areas in sandy savanna.**

S. L.: Bagroo R. (Apr.) Mann 900! **Lib.:** Grand Bassa (Oct.) Dinklage 2088! E. of Monrovia (Aug.) Baldwin 13054! Kotobanu to Fayapulu, St. Paul R. (Oct.) Bequaert! Gbanga Linder 1002c! Kotoma, Sanokwele Dist. Baldwin 14062! **Iv. C.:** Yapo Forest (Jan., Oct.) Aké Assi 6902! Leeuwenberg 3148! Raynal 13617!

Langevina

Jac.-Fél. in Bull. Mus. Hist. Nat. Paris, sér. 2, 19: 88 (1947).

Although this was described as an additional genus in Rapateaceae, its true identity is *Mapania amplivaginata* K. Schum. (*M. oblonga* C.B.Cl.) in Cyperaceae.

Excluded genus

ERIOCAULACEAE

Annuals or perennials; stems often very short, occasionally elongate; leaves narrow, often crowded or rosulate, frequently with large, conspicuous cells. Inflorescence an involucre capitulum comprising numerous small, densely crowded flowers often subtended by floral bracts; peduncle leafless, unbranched, usually arising from a well-developed basal sheath; flowers unisexual, the males and females mixed in the same capitulum, or the males in the middle and the females around, or rarely males and females in separate capitula; perianth membranous or scarious, the segments usually in 2 distinct series, the outer segments ("sepals") generally free in female flowers, often connate in male, the inner ("petals") free or rarely connate in female flowers, connate and often very reduced in male flowers. Stamens equal in number to, or twice as many as the inner perianth segments; anthers 2-thecous, or less often 1-thecous, introrse. Ovary 2-3-locular, ovules solitary, pendulous in each loculus; style usually distinct, divided above into 2-3 elongate, simple (or occasionally bifid) stigmas, sometimes with alternating appendages. Fruit a membranous loculicidal capsule; seeds relatively large, testa generally scabrid or papillose; endosperm copious.

A small homogeneous family of 13 genera, widely distributed in the tropics of the Old and New Worlds, with a few outlying representatives in temperate areas of America, Europe (Skye, Coll and western Ireland) and eastern Asia; many of the species are restricted to wet habitats, a few are strictly aquatic.

The subdivision of the family into genera with stamens equal in number to the inner perianth segments (conveniently named "petals") and those with twice as many stamens as inner perianth segments, is generally valid, but subject to exception in some African Eriocaulon species; it should not be employed as the sole criterion for separating Eriocaulon and Mesanthemum from Paepalanthus and Syngonanthus, though usually a reliable pointer to generic identity.

- 1** Stamens 6 or 4, twice as many as the petals, in 2 series; petals often glandular within near apex:**2**
Stamens 3, as many as the petals; petals rarely glandular within near apex:**3**

- 2 Petals of female flowers free; leaves, peduncles and basal sheaths generally glabrous [1. *Eriocaulon*](#)
 Petals of female flowers connate except at apex and base; leaves, peduncles and basal sheaths generally pubescent [2. *Mesanthemum*](#)
- 3 Petals of female flowers free: [4](#)
 Petals of female flowers connate except at apex and base; leaves, peduncles and basal sheaths usually pubescent and often glandular [4. *Syngonanthus*](#)
- 4 Leaves, peduncles and basal sheaths glabrous; petals glandular near apex; male flowers with much reduced, but distinct, petals (spp. 15 & 25) [1. *Eriocaulon*](#)
 Leaves, peduncles and basal sheaths pubescent; petals eglandular; male flowers without any apparent petals ... [3. *Paepalanthus*](#)

1. ERIOCAULON

Linn., Sp. Pl. 87 (1753); F.T.A. 8: 231; Ruhland in Engl., Pflanzenr. Eriocaulac. 30 (1903).

- 1 Capitula sessile; stamens 3 [25. *sessile*](#)
 Capitula pedunculate; stamens 4 or 6, very rarely 3: [2](#)
- 2 Involucral bracts radiating beyond the head of flowers: [3](#)
 Involucral bracts not radiating beyond the head of flowers: [6](#)
- 3 Sepals of female flowers strongly keeled: [4](#)
 Sepals of female flowers not keeled: [5](#)
- 4 Floral bracts cuspidate-acuminate; sepals of female flowers 2, not overlapping; petals of female flowers 2 or 3; ovary 2-3-locular [21. *irregulare*](#)
 Floral bracts blunt and rounded at apex; sepals of female flowers 2, overlapping; petals of female flowers 2; ovary 2-locular [22. *remotum*](#)
- 5 Capitula 5-9 mm. diam.; leaves 2-6 mm. wide at base; receptacle pilose [20. *togoense*](#)
 Capitula 3-5 mm. diam.; leaves 1-2 mm. wide at base; receptacle glabrous [23. *pulchellum*](#)
- 6 Ovary 2-locular; male flowers with 4 stamens; female flowers with 2 sepals and 2 petals [24. *adamesii*](#)
 Ovary 3-locular; male flowers with 6 (or very rarely 3) stamens: [7](#)
- 7 Female flowers without petals and usually with 2 (rarely without) sepals; receptacle glabrous; anthers pallid [19. *cinereum*](#)
 Female flowers with 3 petals: [8](#)
- 8 Female flowers with 2 sepals; male flowers with 2 free sepals: [9](#)
 Female flowers with 3 sepals and 3 petals; male flowers with 2-3 free or united sepals: [11](#)
- 9 Peduncles 15-35 (-50) cm. long; capitula subglobose, 5-8 mm. diam. [6a. *plumale* subsp. *plumale*](#)
 Peduncles 5-15 (-20) cm. long; capitula 3-5 (-7) mm. diam.: [10](#)
- 10 Involucral bracts dark brown, rather rigid; capitula subglobose [6b. *plumale* subsp. *jaegeri*](#)
 Involucral bracts pallid or fuscous, membranous; capitula hemispherical [6c. *plumale* subsp. *kindiae*](#)
- 11 Leaves and basal sheaths distinctly reddish; peduncles commonly more than 30 cm. long, much longer than the relatively short (1.5-3.5 cm. long) leaves; capitula globose; flowers densely white-papillose [5. *rufum*](#)
 Leaves and basal sheaths not reddish: [12](#)
- 12 Leaves large, either exceeding 15 cm. in length or 1 cm. in width at the base: [13](#)
 Leaves generally less than 10 cm. long or 1 cm. wide at base: [14](#)
- 13 Anthers pallid; leaves rather flaccid, 15-40 (-50) cm. long; sepals of female flowers not distinctly winged-keeled; capitula rarely viviparous [4. *latifolium*](#)
 Anthers fuscous; leaves not flaccid, rather succulent, broad and obtuse at apex; sepals of female flowers strongly winged-keeled; capitula commonly viviparous [1. *zambesiense*](#)
- 14 Male flowers with well-developed plumose, glanduliferous petal-lobes; capitula generally more than 5 mm. diam., flowers conspicuously white-papillose: [15](#)
 Male flowers with minute (generally eglandular) petal-lobes; flowers shortly and sparsely papillose or glabrous: [16](#)
- 15 Leaves flaccid, long-acuminate, usually exceeding basal sheaths; capitula 5-8 mm. diam., peduncles slender, about 5-sulcate [3. *mamfeense*](#)

- Leaves rigid, excavate at apex, much shorter than basal sheaths; capitula about 8 mm. diam., peduncles stout, 7-8-sulcate [2. intrusum](#)
- 16** Floral bracts acuminate-cuspidate, exceeding the flowers and giving the capitula an echinate appearance: **17**
- Floral bracts not acuminate-cuspidate; capitula not echinate in appearance: **18**
- 17** Stamens 3, anthers pallid; petals linear; capitula subglobose, pale, stramineous [15. jordanii](#)
- Stamens 6, anthers fuscous; petals oblanceolate; capitula hemispherical, pallid or fuscous towards centre. [14. meikleii](#)
- 18** Stem elongate; leaves filiform, scattered, not in a rosette; capitula blackish; aquatic plant [7. setaceum](#)
- Stem very short or almost wanting; leaves in a dense tuft or rosette; plants generally terrestrial: **19**
- 19** Involucral bracts minute or apparently wanting; capitula small, globose, black or more or less densely white-papillose [12. elegantulum](#)
- Involucral bracts well developed and easily visible, especially in the young capitula: **20**
- 20** All the sepals of the female flowers concave, but without a spongy or winged keel, not markedly unequal: **21**
- Two of the larger sepals (or all the sepals) of the female flowers with a distinct spongy or winged keel, the third sepal usually much smaller than the others: **24**
- 21** Sepals of male flowers 3, free to base; sepals and petals of female flowers linear or filiform [16. bongense](#)
- Sepals of male flowers connate into a spathe: **22**
- 22** Receptacle glabrous or very thinly pilose; leaves subulate with a long slender acumen; petals of female flowers narrowly linear [17. abyssinicum](#)
- Receptacle pilose; leaves linear or strap-shaped, acute or shortly acuminate; petals of female flowers narrowly oblanceolate: **23**
- 23** Involucral bracts erect, appressed to capitulum, rather rigid; capitula greyish, shortly papillose; floral bracts rather regularly imbricated [8. afzelianum](#)
- Involucral bracts spreading or reflexed; capitula blackish, papillose; floral bracts not regularly imbricated ... [9a. transvaalicum](#) var. [hanningtonii](#)
- 24** Leaves subulate, with a long slender acumen, usually very numerous; capitula greyish-fuscescent; involucral and floral bracts concolorous [13. deightonii](#)
- Leaves linear, oblong or strap-shaped, obtuse, acute or shortly acuminate, usually fewer than 12 in each rosette: **25**
- 25** Floral bracts rounded or blunt at apex, regularly imbricated, fulvous or bronze-tinged, shining; sepals of female flowers often with dentate keels [18. fulvum](#)
- Floral bracts acute or subacute; not regularly imbricated nor shining; sepals of female flowers usually with entire or subentire keels: **26**
- 26** Involucral bracts usually conspicuous, larger and paler than floral bracts; capitula hemispherical; petals of female flowers eglanduliferous [10. nigericum](#)
- Involucral bracts not conspicuous, concolorous with floral bracts; capitula globose; petals of female flowers glanduliferous [11. inundatum](#)

1. *Eriocaulon zambesiense* Ruhland in Engl., Bot. Jahrb. 27: 75 (1899); F.T.A. 8: 252. *APD acc*

Peduncles up to 2 ft. 8 in. high; capitula 5-8 mm. diam. covered with whitish papillae, generally viviparous.

W. Cam.: Pinyin, 5,500 ft. (Apr.) Brunt 1092! Kumbo to Oku, Bamenda, 6,000 ft. (Feb.) Hepper 2021! Lakom, Bamenda, 6,000 ft. (June) Maitland 1400! **F. Po:** (Dec.) Monod 10358!

[The specimen from F.Po closely resembles typical *E. zambesiense*, but those from W.Cam. are altogether more robust, with very broad and blunt leaves, up to 1.5 cm. wide at the base.]

2. *Eriocaulon intrusum* Meikle in Kew Bull. 22: 141 (1968).

APD: Synonym of Eriocaulon teusczii Engl. & Ruhland

Eriocaulon lacteum of F.W.T.A., ed. 1, 2: 327, not of Rendle.

Each plant generally with only one scape; peduncle up to 16 in. long; capitulum white-papillose with conspicuous pale brown, blunt involucral bracts.

N. Nig.: Naraguta, Plateau Prov. (June) Lely 283!

3. *Eriocaulon mamfeëense* Meikle l.c. 141 (1968). *APD acc*

Each plant with several scapes; peduncle to 1 ft. long, shining; capitula subglobose, densely white-papillose.

W. Cam.: Mamfe (Nov., Mar.) Morton K676! Migeod 276! Tamajong FHI 22107! Richards 5246!

4. *Eriocaulon latifolium* Sm. in Rees, Cyclop. 13 (1819); F.T.A. 8: 243; Ruhland in Engl., Pflanzenr. 4, 30: 78 (1903). *APD acc*

Eriocaulon rivulare G. Don in Hook., Fl. Nigrit. 547 (1849).

Eriocaulon thunbergii Wickstr. ex Koern. in Linnaea 27: 677 (1856).

Eriocaulon banani Lecomte in Bull. Soc. Bot. Fr. 55: 645 (1909).

Eriocaulon latifolium forma *proliferum* Moldenke in Phytologia 8: 387 (1962).

Mesanthemum radicans Stapf in Johnston, Liberia 2: 662 (1906), not of (Benth.) Koern.

Robust aquatic perennial; capitula densely white-papillose, to 14 mm. diam.

Mali: Banankoro (Mar.) Chev. 524! Sikasso (May) Chev. 803! **Port. G.:** Boé, Madina (Feb.) Pereira 2999! **Guin.:** Conakry (Jan.) Dalz. 8247! Dalaba (Oct., Nov., Mar.) des Abbayes 699! Adames 416! Langdale-Brown 2638! **S. L.:** Afzelius! York (Apr.) Adames 206! Tawia Deighton 1031! Gbangabatok (Jan.) Capstick in Hb. Deighton 5301! Magbema (Mar.) Jordan 427! Farangbaya Crisp Al! Bandakafaia (Oct.) Jaeger 8096! **Lib.:** Mouth of Loffa R., Grand Cape Mount (Dec.) Baldwin 10946! Genne Tanyehun, Grand Cape Mount (Dec.) Baldwin 10091! Kakatown Whyte! Nimba (Dec.) Adames 808!

Also in **Congo** and **Angola**.

5. *Eriocaulon rufum* Lecomte in Bull. Soc. Bot. Fr. 55: 644 (1909).

APD: *Synonym of Eriocaulon plumale* N.E. Br. subsp. *plumale*

Eriocaulon plumale of F.W.T.A., ed. 1, 2: 327 partly, not of N.E. Br.

Strictly erect; scapes usually numerous; capitula globose to 10 mm. diam., florets generally concealing involucre bracts in fully developed capitula.

Guin.: Conakry Maclaud! Ouassou (Nov.) Jac.-Fél. 7256! Kindia (Oct.) Pobéguin 1312! Bena, Fouta Djallon (Feb.) Arrieu 230 in Hb. Chillou 3139! **S. L.:** Kasawe F.R., Yoni Mamila Chiefdom (Dec.) King 55b!

6. *Eriocaulon plumale* N.E. Br. in F.T.A. 8: 251 (1901); Ruhland in Engl., Pflanzenr. 4, 30: 106 (1903); F.W.T.A., ed. 1, 2: 327 partly. *APD acc*

Eriocaulon senegalense N.E. Br. in F.T.A. 8: 251(1901).

6a. *Eriocaulon plumale* subsp. *plumale* *APD acc*

Each plant with numerous leaves and scapes; leaves narrow, linear-subulate; capitula subglobose, white, plumose; involucre bracts pale shining brown.

Sen.: Badi (Dec.) Berhaut 1121! Bala (Nov.) Berhaut 1258! **Guin.:** Rio Nunez Heudelot 680! **S. L.:** Wellington (Nov.) Deighton 1867! Port Loko (Oct.) Jordan 632! Kambia (Oct.) Jordan 658! 944! **Iv. C.:** Cissé Dougou, Boundiali to Mankono (Nov.) Aké Assi 8294!

6b. *Eriocaulon plumale* subsp. *jaegeri* (Moldenke) Meikle in Kew Bull. 22: 142 (1968). *APD acc*

Eriocaulon jaegeri Moldenke in Phytologia 5: 338 (1956).

Mesanthemum necopinatum Moldenke l.c. 8: 389 (1962).

Scapes and leaves numerous; leaves subulate-filiform; capitula white, plumose, 5-7 mm. diam., subglobose; involucre bracts rather rigid, dark brown.

Guin.: Friguiagbé Chillou 906! Fouta Djallon (Sept., Oct.) Adames 342! Schnell 7393! Loursa Mt., Dabola (Sept.) Jaeger 4917!

6c. *Eriocaulon plumale* subsp. *kindiae* (Lecomte) Meikle l.c. 142 (1968). *APD acc*

Eriocaulon kindiae Lecomte in Bull. Soc. Bot. Fr. 55: 646 (1909).

Eriocaulon pumilum of F.W.T.A., ed. 1, 2: 326 partly, not of Afzel. ex Koern.

Mesanthemum chilloui Moldenke in Phytologia 8: 389 (1962).

Scapes and leaves numerous; leaves subulate-filiform; capitula hemispherical, 3-5 mm. diam., white, plumose, said to be fragrant; involucre bracts pale brown or greenish, not rigid.

Guin.: Friguiagbé (Sept.) Chillou 716! 717! Boismaré 386 in Hb. Chillou 3903! Kindia Pobéguin 1359 bis! **S. L.:** Waterloo (Aug.) Melville & Hooker 276! Kambia (Aug., Sept.) Jordan 303! Adames in Hb. Jordan 664! Harvey 33!

Also in **Chad**.

7. *Eriocaulon setaceum* Linn. Sp. Pl. 87 (1753). *APD acc*

Eriocaulon melanocephalum Kunth, Enum. Pl. 3: 649 (1841).

Eriocaulon bifistulosum van Heurck & Muell. Arg. in van Heurck, Obs. Bot. 105 (1870); F.T.A. 8: 239 (1901); Ruhland in Engl., Pflanzenr. 4, 30: 90 (1903); F.W.T.A., ed. 1, 2: 326.

Eriocaulon limosum Engl. & Kuhl. in Engl., Bot. Jahrb., 27: 74 (1899).

Floating aquatic; stems elongate, clothed with numerous filiform leaves; scapes generally numerous; capitula blackish, small, seldom exceeding 4 mm. diam.

Sen.: Oussouye (Nov.) Berhaut 6502! **Mali:** Macina (Nov.) Monod! Sarekoye (Feb.) Davey 22! **Port. G.:** Saucunda to Buba (Oct.) Esp. Santo 2195! **Guin.:** Boffa (Dec.) Jac.-Fél. 7361! Fetoré Plain, Fouta Djallon (Sept.) Adames 374! Mali (Sept.) Schnell 7056! **S. L.:** Kasanko (Oct.) Jordan 815! Malako (Nov.) Marmo 226! Njala (Sept.) Deighton 2794! Bonthe (Oct.) Adames 94! **Lib.:** Nimba (Sept.) Adames 566! **Ghana:** Tamale to Bolgatanga (Aug.) Hall CC 431! **N. Nig.:** Nupe Barter 1021! Amo, Jos Plateau (Oct.) Hepper 1030! Panshanu Pass (Aug.) Lawlor & Hall 441! Jalo, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28884!

Widespread in tropical Africa; also in tropical Asia, Australia and America.

8. *Eriocaulon afzelianum* Witstr. ex Koern. in Linnaea 27: 680 (1856); F.T.A. 8: 250; Ruhland in Engl., Pflanzenr. 4, 30: 83 (1903). *APD acc*

Eriocaulon kouroussense Lecomte in Bull. Soc. Bot. Fr. 55: 644 (1909).

Eriocaulon heterochiton Lecomte l.c. 647 (1909), partly, not of Koern.

Scapes erect, few to numerous, peduncles shining, pale brown, capitula depressed-globose, to about 5 mm. diam., involucre bracts pale brownish.

Sen.: Oussouye (Nov.) Berhaut 6633! Bignona (Dec.) Berhaut 6769! Niokolo-Koba, Tambacounda (Dec.) Raynal 6795! **Guin.:** Pobéguin 615! Iles Tristao (Nov.) Jac.-Fél. 7327! Dalaba to Diagulssa (Oct.) Chev. 18810 bis! Kala, nr. Dalaba (Oct.) Schnell 7448! **S. L.:** Afzelius! Peninsula coast (Dec.) Dawe 417! Waterloo (Aug.) Melville & Hooker 283! Mapotolon (Sept.) Adames 246! Koboli, nr. Rokupr (Nov.) Jordan 163! **Iv. C.:** Séguéla to Mankono (Nov.) de Wilde 937! **Ghana:** Ejura (Dec.) Morton GC 9823b! Kintampo (Sept.) Hall CC 905! Kamba marsh, Lawra Dist. (Nov.) Harris! Navrongo (Oct.) Vigne FH 4807! **N. Nig.:** Nupe Barter 1019! Gurum, Vogel Peak (Nov.) Hepper 1236! **S. Nig.:** Igarra, NE. of Owo (Dec.) Stanfield 56!

Also in **Chad**.

9. *Eriocaulon transvaalicum* N.E. Br. in Fl. Cap. 7: 54 (1897); Ruhland in Engl., Pflanzenr. 4, 30: 81 (1903). *APD acc*

9a. *Eriocaulon transvaalicum* var. *hanningtonii* (N.E. Br.) Meikle in Kew Bull. 22: 142 (1968).

APD: *Synonym of Eriocaulon transvaalicum subsp. hanningtonii* (N.E. Br.) S.M. Phillips

Eriocaulon hanningtonii N.E. Br. in F.T.A. 8: 253 (1901); Ruhland l.c. 74.

Eriocaulon monodii Moldenke in Phytologia 3: 165 (1949), without Latin descr.

Scapes numerous, capitula subglobose, about 4 mm. diam., involucre bracts pale brown.

Mali: Koulouba to Bamako (Dec.) Monod!

Also in Tanzania and Mozambique; typical *E. transvaalicum* is widespread in tropical Africa outside our area.

10. *Eriocaulon nigericum* Meikle in Kew Bull. 5: 231 (1950). *APD acc*

Scapes numerous, usually less than 4 in. high; leaves often rather blunt; capitula 4-5 mm. diam., involucre bracts conspicuous, pale, shining.

Sen.: Niokolo-Koba, Tambacounda (Dec.) Raynal 6879! **S. L.:** Sefadu (Sept.) Jordan 522! **Lib.:** Tawata, Boporo Dist. (Nov.) Baldwin 10336! Genne Loffa, Kolahun Dist. (Nov.) Baldwin 10088! Palilah, Gbanga Dist. (Aug.) Baldwin 9145! Gbau, Sanokwele Dist. (Sept.) Baldwin 9456! **S. Nig.:** Shaki, Oyo Dist. (Nov.) Stanfield 189! Shabe Rock, Oyo Dist. (Nov.) Hambler 739! Akure, Owo Dist. (Oct.) Stanfield 140! Akure F. R. (Oct.) Keay FHI 25471! Orosun Peak, Idanre Hills (Oct.) Keay FHI 22595! Idanre, Ondo Prov. (Aug.) Jones FHI 20718!

11. **Eriocaulon inundatum** *Moldenke* in *Phytologia* 3: 413 (1951). *APD acc*

Scapes erect, about 4 in. high; leaves acuminate; capitula globose, pale brown, about 4 mm. diam.

Sen.: Fremarin (Oct.) Monod!

12. **Eriocaulon elegantulum** *Engl.* *Pflanzenr. Ost.-Afr. C:* 133 (1895); *Ruhland in Engl., Bot. Jahrb.* 27: 83 (1899); *F.T.A.* 8: 254. *APD acc*

Scapes generally numerous, erect; capitula quite globose, about 4 mm. diam., white-papillose, without any visible involucre bracts.

Ghana: Lumbaga (Dec.) Morton GC 6250b! Nungua (July) Hall 3729! **S. Nig.:** Badagry (Aug.) Onochie (FHI)!

Also in **Sudan**, **Tanzania**, **Mozambique**, **Rhodesia**.

13. **Eriocaulon deightonii** *Meikle* in *Kew Bull.* 22: 143 (1968). *APD acc*

Scapes very numerous; leaves numerous, narrow, subulate; capitula subglobose, about 4 mm. diam.; involucre bracts inconspicuous.

Guin.: Friguiagbé (Oct.) Chillou 726! Pita (Oct.) Pitot! **S. L.:** Mapotolon (Sept.) Adames 245! Rokon (Oct.) Jordan 574! Manye (Sept.) Jordan 533! Njala (Sept.) Deighton 2795! Bonthe (Oct.) Adames 88!

14. **Eriocaulon meikleii** *Moldenke* in *Phytologia* 3: 164 (1949). *APD acc*

Scapes usually numerous, less than 6 in high; leaves rather thick and opaque, acuminate; capitula hemispherical, pallid or fuscous, about 4-5 mm. diam., distinctly echinate with protruding bracts.

Sen.: Oussouye (Feb.) Berhaut 6983! Bignona (Dec.) Berhaut 6739 in *Hb. Bambey*! Bissine (Dec.) Berhaut 6691! **Mali:** Valley of Balasoko, Bamako to Koulouba (Dec.) Monod! Sicoro (Jan.) Chev. 218! **Guin.:** Dabola to Faranah (Apr.) Pitot! **N. Nig.:** Auna to Kontagora (Jan.) Meikle 1043! Vogel Peak, Sardauna Prov. (Nov.) Hepper 1450!

15. **Eriocaulon jordanii** (*Moldenke*) *Meikle* in *Kew Bull.* 22: 143 (1968). *APD acc*

Syngonanthus jordanii *Moldenke* in *Phytologia* 5: 91 (1954).

Scapes numerous, about 6 in. high; capitula subglobose, 5-6 mm. diam., glossy, stramineous, conspicuously echinate with protruding bracts.

S. L.: Kontabana (Jan.) Jordan 1051! Mange (Dec.) Jordan 721!

16. **Eriocaulon bongense** *Engl. & Ruhland ex Ruhland* in *Engl., Bot. Jahrb.* 27: 75 (1899); *Ruhland in Engl., Pflanzenr.* 4, 30: 100 (1903); *F.T.A.* 8: 246. *APD acc*

Plants robust, sometimes 1 ft. high; leaves rather few; capitula depressed-globose or sometimes subconical when fully mature, 5-8 mm. diam.; involucre bracts stramineous, flowers and floral bracts shining silvery-grey.

Sen.: Niassia (Nov.) Berhaut 6662! **Gam.:** Kombo Dawe 23! **Ghana:** Burufo (Dec.) Adams & Akpabla 4398! 4399! Kintampo (Sept.) Hall CC 905a! Tamale (Dec.) Adams & Akpabla 4155! Bimbila (Dec.) Morton GC 6272! **N. Nig.:** Nupe Barter 1019a! Lokoja (Nov.) Dalz. 239! Bida to Zungeru (Jan.) Meikle 1015! **S. Nig.:** Olokemeji to Eruwa (Nov.) Daramola FHI 43846! Owo (Oct., Nov.) Stanfield 132! 133! Igarra (Dec.) Stanfield 56!

Also in **C. African Rep.** and **Sudan**.

17. **Eriocaulon abyssinicum** *Hochst.* in *Flora* 28: 341 (1845); *F.T.A.* 8: 257; *Ruhland in Engl., Pflanzenr.* 4, 30: 282 (1903). *APD acc*

Small and inconspicuous; scapes few, 11/2-31/2 in. high; leaves narrowly subulate; capitula greyish-fuscescent, subglobose, 2-3 mm. diam.

N. Nig.: Jos Plateau (Oct.) Lely P786! Sara Hills, Jos Plateau (Oct.) Hepper 1126!

Also in **Ethiopia**, **Kenya**, **Uganda**, **Tanzania**, **Rhodesia** and **S. Africa**.

18. *Eriocaulon fulvum* N.E. Br. in F.T.A. 8: 248 (1901); Ruhland in Engl., Pflanzenr. 4, 30: 101 (1903). *APD acc*

Scapes usually numerous, rather rigidly erect, to about 5 in. high; leaves few, often conspicuously short; capitula subglobose, 2.5-4 mm. diam.

Sen.: Badi (Dec.) Berhaut 1175! **Mali:** Sotuba (Dec.) Raynal 5202 bis! Bougouni to Sikasso (Dec.) Roberty 13305! **Guin.:** Dinguiraye (Dec.) Roberty 16336a! **Ghana:** Lungbunga to Tamale (Dec.) Morton GC 6248! Sakogu (Aug.) Hall CC 454! Foot of Gambaga Scarp (Sept.) Hall 747! **N. Nig.:** Nupe Barter! Fuka, nr. Minna, Niger Prov. (Oct.) Hepper 980! Anara F.R., Zaria Prov. (Oct.) Hepper 985! Kogigiri, Jos Plateau (Oct.) Hepper 1060! Gurum, Vogel Peak area (Nov.) Hepper 1236a! 1237! **S. Nig.:** Oba, Owo Dist. (Oct., Nov.) Stanfield 36! 143! 144! Igarra, Benin Prov. (Dec.) Stanfield 54!

[Closely akin are *E. maculatum* Schinz (S. Africa) and *E. strictum* Milne-Redhead (Tanzania).]

19. *Eriocaulon cinereum* R. Br. Prodr. 254 (1810). *APD acc*

***Eriocaulon sieboldianum* Sieb. & Zucc. ex Steud.,** Syn. Pl. Cyp. 2: 272 (1855); Ruhland in Engl., Pflanzenr. 4, 30: 111 (1903).

***Eriocaulon heudelotti* N.E. Br.** in F.T.A. 8: 258 (1901); F.W.T.A., ed. 1, 2: 326.

Scapes slender, usually less than 4 in. high; leaves numerous, setaceous; capitula small, about 2.4-3 mm. diam., brownish or fuscous.

Sen.: Heudelot 677! **Mali:** Kita Mts. (Nov.) Jaeger 5581! Gao to Berra (Mar., May) de Wailly 5002! 5006a! **Guin.:** Port. G. frontier Maclaud 03 .9 .105! Seriba (Oct.) Pitot! **S. L.:** Kambia (Oct.) Jordan 943! **Ghana:** Burufo, nr. Lawra (Sept., Oct.) Hall CC 742! Hinds 5005! Busuno, Damongo to Yapel (Sept.) Hall CC 885!

Also in **Chad**, **Tanzania**, **tropical Asia**, **China**, **Japan** and **Australia**.

20. *Eriocaulon togoëse* Moldenke in Known Distrib. Eriocaul. 42 (1946). *APD acc*

***Eriocaulon xeranthemoides* Van Heurck & Muell. Arg.** in Van Heurck, Obs. Bot. 105 (1870); F.T.A. 8: 237; Ruhland in Engl., Pflanzenr. 4, 30: 96 (1903); F.W.T.A., ed. 1, 2: 326, not of Bong.

Neat tufted annual, usually less than 21/2 in. high; scapes numerous; capitula 5-8 mm. diam. with conspicuous whitish involucre bracts.

Mali: Sotuba (Dec.) Raynal 5306 quinto! **iv. C.:** Bemouni (Jan.) de Wit 7901 sub. no. 545! Singrobo (Dec.) Aké Assi 7243! **Ghana:** Burufo (Dec.) Adames 4400! Ejura Scarp (Dec.) Morton GC 9582! Kwahu Tafo (Aug.) Hall CC 92! **Togo Rep.:** Sokode (Nov.) Schroeder 155! 162! **N. Nig.:** Fakun, Borgu Barter 778! Kabba (Oct.) Parsons L102! Dakwakuku, Bonu F.R., Niger Prov. (Dec.) Daley FHI 32294! Gimba, Maigana Dist. (Oct.) Philcox 167! Gwari Hill, nr. Minna (Dec.) Meikle 703! **S. Nig.:** Oba, Owo Dist. (Aug.) Stanfield 117! Igarra, NE. of Owo (Dec.) Stanfield 57!

21. *Eriocaulon irregulare* Meikle in Kew Bull. 22: 143 (1968). *APD acc*

***Eriocaulon hehrochiton* Lecomte** in Bull. Soc. Bot. Fr. 55: 647 (1909), partly, incl. Chev. 18488, not of Koern.

Scapes numerous, erect, less than 11/2 in. high; leaves narrowly subulate or setaceous; capitula generally less than 5 mm. diam. with whitish, glossy involucre bracts.

Guin.: Fetoré Plain, Koubi, Fouta Djallon (Sept.) Adames 353! Timbo to Ditinn (Sept.) Chev. 18488! Kala, nr. Dalaba (Oct.) Schnell 7379! **S. L.:** Jaeger 184!

22. *Eriocaulon remotum* Lecomte in Bull. Soc. Bot. Fr. 55: 644 (1909). *APD acc*

***Eriocaulon heterochiton* Lecomte** in Bull. Soc. Bot. Fr. 55: 647 (1909) partly, incl. Chev. 18770, not of Koern.

Scapes rather numerous, usually less than 11/4 in. high; leaves relatively broad and opaque; capitula 3-4 mm. diam., fuscous, subglobose at maturity; involucre bracts conspicuous, stramineous, blunt.

Guin.: Kandiaro R. (Oct.) Pitot! Ditinn (Sept.) Schnell 7372! Dalaba to Diaguissa (Oct.) Chev. 18770! 18810! **S. L.:** Brookfields (Oct.) Deighton 2178!

23. *Eriocaulon pulchellum* Koern. in Linnaea 27: 622 (1856); Ruhland in Engl., Pflanzenr. 4, 30: 97 (1903). *APD acc*

Eriocaulon pumilum Afzel. ex Koern. in Linnaea 27: 621 (1856); F.T.A. 8: 237; Ruhland in Engl., Pflanzenr. 4, 30: 97 (1903); F.W.T.A., ed. 1, 2: 326 not of Raf.

Eriocaulon sierraleonense Moldenke in Phytologia 3: 398 (1950).

Eriocaulon heterochiton Lecomte in Bull. Soc. Bot. Fr. 55: 647 (1909), partly, incl. Chev. 18770a, not of Koern.

Very slender, usually less than 21/2 in. high; leaves numerous, narrowly subulate; capitula to about 5 mm. diam. with conspicuous, white, radiating involucre bracts.

Mali: Bamako Garnier! **Guin.:** Friguiagbé (Sept.) Boismaré 376 in Hb. Chillou 3894! Friguiagbé to Toumoukouré (Sept.) Boismaré 408 in Hb. Chillou 3926! Kala, nr. Dalaba (Sept.) Schnell 7373! Dalaba (Aug., Sept.) Schnell 6814! Adames 329! Dalaba to Diaguissa (Oct.) Chev. 18770a! Macenta (Oct.) Baldwin 9800! **S. L.:** Afzelius! Lumley Beach, Freetown (Sept.) Harvey 135! Waterloo (Aug.) Melville & Hooker 277! Kissy Flat (Aug.) Jordan 2160! Mafare (Nov.) Marmo 31! Mateboi (Oct.) Glanville 21! Binkolo (Aug.) Jordan 504! Bumban (Aug.) Deighton 1306! Kanya Thomas 2976! Loma Mts. (Sept.) Jaeger 7600! Bintumane Peak, 6,390 ft. (Jan.) T. S. Jones 99! **Lib.:** Monrovia (Aug.) Baldwin 9176! Paynesville (Oct.) Harley 1679! Mount Bele, Nimba Mts. (Oct.) Adames 708!

24. *Eriocaulon adamesii* Meikle in Kew Bull. 3: 472 (1948). *APD acc*

Slender annual; scapes erect, to about 4 in. high; leaves numerous, narrowly subulate; capitula globose, 2-3-5 mm. diam., greenish, without noticeable involucre bracts.

S. L.: Wellington (Sept.) Harvey 112! Kent (Nov.) Deighton 5630! Sembehun (Jan.) Adames in Hb. Deighton 4151! Bonthe (Oct.) Adames 97! Jordan 621! Taigbe (Oct.) Adames 91! **Lib.:** Paynesville (Sept.) Dinklage 3009!

25. *Eriocaulon sessile* Meikle in Kew Bull. 9: 275 (1954). *APD acc*

Paepalanthus sessilis Lecomte in Bull. Soc. Bot. Fr. 55: 596 (1909).

Eriocaulon diaguissense Bourdu in Bull. Soc. Bot. Fr. 104: 156 (1957).

A remarkable dwarf, less than 1 cm. high; the capitula sessile and forming a central "disk" surrounded by numerous, narrowly subulate, often reddish, leaves.

Guin.: Dalaba (Oct.) des Abbayes 777!

Also in **C. African Republic**.

2. MESANTHEMUM

Koern. in Linnaea 27: 572 (1856); F.T.A. 8: 260; Ruhland in Engl., Pflanzenr. 4, 30: 117 (1903). *APD acc*

- 1.1. Innermost series of involucre bracts greatly exceeding the florets, and resembling the ray-florets of a member of the Compositae: **2**
- 1.2. Innermost series of involucre bracts not much exceeding the florets, or shorter than the florets, not resembling the ray-florets of a member of the Compositae: **3**
- 2.1. Leaves narrow, grass-like, less than 5 mm. wide; peduncles slender; involucre bracts shining, white, thinly adpressed-pilose [1. prescottianum](#)
- 2.2. Leaves broad, ligulate, often more than 10 mm. wide; peduncles stout; involucre bracts dirty white or pale brown, not shining, rather densely adpressed-pilose [3. bennae](#)
- 3.1. Robust perennials; scapes 30-60 cm. high; leaves generally more than 15 cm. long: **4**
- 3.2. Slender annuals, scapes less than 25 cm. high; leaves usually less than 4 cm. long: **5**
- 4.1. Florets immersed in a cushion of black receptacular hairs; stem often swollen, but not elongate; plants usually terrestrial [2. jaegeri](#)
- 4.2. Florets immersed in a cushion of whitish or pale grey receptacular hairs; stem often elongate; plants commonly aquatic [4. radicans](#)
- 5.1. Capitula golden-yellow, orange or red; floral bracts plumose, involucre bracts narrow, fuscous [5. auratum](#)
- 5.2. Capitula whitish; floral bracts wanting, involucre bracts broad, blunt, pale brown, glossy [6. albidum](#)

1. *Mesanthemum prescottianum* (Bong.) Koern. in Mart., Fl. Brasil. 3, 1: 472, t. 60 (1863); F.T.A. 8:

261; Ruhland in Engl., Pflanzenr. 4, 30: 118 (1903). *APD acc*

Eriocaulon prescottianum Bong. in Act. Petrop. Sci. Math., ser. 6, 1: 635, t. 36 (1831).

Mesanthemum tuberosum Lecomte in Bull. Soc. Bot. Fr. 55: 598 (1909).

Slender perennial; leaves and peduncles thinly clothed with spreading hairs; scapes up to 18 in. high; leaves narrow, grass-like; capitulum with conspicuous radiating involucre bracts, like a white daisy.

Guin.: Dalaba (June) Adames 273! Mamou (Sept.) Schnell 6789! Timbo (June) Miquel 64! Timbo to Kouroussa (June) Pobéguin 734! Macenta (Oct.) Baldwin 9772! Nimba Mts., 3,900 ft. (Aug.) Schnell 6218! **S. L.:** Hb. Lindley! Sugar Loaf Mt. (Aug.) Melville & Hooker 358! Picket Hill (Nov.) T. S. Jones 231! Binkolo (Aug.) Deighton 1277! Kponkponto to Waia (July) Marmo 298! Kulafaga to Bendugu (Sept.) Deighton 5154! Loma Mt. (Sept.) Jaeger 7695! Koya Mt., Bafodia, Koinadugu Dist. (Aug.) Haswell 80! **Lib.:** Sanokwele (Sept.) Baldwin 9516! **Iv. C.:** Nimba Mts., 2500-5000 ft. (June, Aug.) Boughey GC 18053! Gruys 56! Tonkoui Mt. (Aug.) Schnell 6363!

2. *Mesanthemum jaegeri* Jac.-Fél. in Bull. Soc. Bot. Fr. 94: 146 (1947). *APD acc*

Robust perennial with a swollen, bulbous base; leaves and peduncles pilose with spreading hairs; scapes to 16 in. high, capitula 1-1.8 cm. diam.; involucre bracts dirty whitish; florets whitish, immersed in a cushion of long black receptacular hairs.

S. L.: Loma Mt. (Sept.) Jaeger 1625! 7655! Sankan Biriwa, 6,080 ft. (Jan.) Cole 155! **S. Nig.:** Koloishe Mt., 5,000-5,400 ft., Obudu Div. (Dec.) Savory & Keay FHI 26079!

3. *Mesanthemum bennae* Jac.-Fél. in Bull. Soc. Bot. Fr. 94: 145 (1947). *APD acc*

Tufted perennial; leaves pilose or pubescent; peduncles thinly pilose with spreading hairs, 16-18 in. high; capitula 2-2.5 cm. diam.; involucre bracts whitish or pale brown; florets pallid, immersed in a cushion of long whitish receptacular hairs.

Guin.: Kindia (Oct.) Jac.-Fél. 2091!

4. *Mesanthemum radicans* (Benth.) Koern. in Linnaea 27: 573 (1856); F.T.A. 8: 260; Ruhland in Engl., Pflanzenr. 4, 30: 119 (1903). *APD acc*

APD: *Synonym of Eriocaulon latifolium* Sm.

Eriocaulon radicans Benth. in Hook., Fl. Nigrit. 547 (1849).

Robust perennial, often forming loose mats in swamps or streams; stems often elongate, leaves and peduncles thinly pilose or glabrescent; scapes up to 2 ft. high; capitula 1-1.3 cm. diam.; involucre bracts whitish; florets pallid, immersed in a cushion of long, whitish or pale grey receptacular hairs.

Sen.: Perrottet! Santiaba, Casamance (Apr.) Berhaut 5822! **S. L.:** Lumley Beach, Freetown (Sept.) Harvey 143! Kabala to Bandakarfaia (Sept.) Jaeger 2074! **Lib.:** Monrovia (Jan.) H. C. D. de Wit 9122! Duport (Sept.) Voorhoeve 1217! Paynesville (Dec.) Harley 1958! Nimba Mts. (Dec.) Adam 20332! Mt. Bele Rd. (Aug.) Adames 461! **Iv. C.:** Moossou (Aug., Nov.) Schnell 6542! de Wilde 219! 809! Grand Bassam (Sept.) de Wit 7902! **Ghana:** Atwabo Fishlock 34/1931! **Dah.:** Porto Novo (Sept.) Adjanohoun 248! Sémé (Feb.) Raynal 13543! **S. Nig.:** Lagos Barter 2201! Ogoya, Lagos (Feb.) Richards 5086! Sapoba Kennedy 2798! Mnobi, Onitsha Dist. (Dec.) Onyeagocha FHI 7790! Ibeno, Eket Dist. (May) Onochie FHI 32099! **F. Po:** Milne!

Also in **Congo** and **Angola** and eastwards to **Uganda** and Tanzania.

5. *Mesanthemum auratum* Lecomte in Bull. Soc. Bot. Fr. 55: 599 (1909). *APD acc*

Mesanthemum rubrum Moldenke in Phytologia 8: 390 (1962).

Slender annual, plants often in rather close tufts; leaves thinly pilose or subglabrous, usually less than 3.5 cm. long; peduncles to about 10 in. high, slender, shining, thinly clothed with spreading hairs; involucre bracts narrow, fuscous, pilose; floral bracts filiform, plumose, orange or reddish; florets yellow or red, concealed by the floral bracts and pale receptacular hairs.

Port. G.: Orango Grande, Bijagos (Jan.) Raimundo & Guerra 931! **Guin.:** Mt. Gangan (Oct.) Schnell 7479! Friguiagbé (Oct., Jan.) Chillou 675! 676! 679! Pobéguin 30! Kindia (Dec.) Jac.-Fél. 7451! **S. L.:** Loma Mt. Plateau, 3,900 ft. (Nov.) Jaeger 576!

6. *Mesanthemum albidum* Lecomte in Bull. Soc. Bot. Fr. 55: 60 (1909). *APD acc**Eriocaulon guineense* Moldenke in Phytologia 8: 386 (1962).*E. hirsutulum* Moldenke l.c. 387 (1962).

Slender annual, plants scattered in open colonies; leaves subglabrous, generally less than 1 1/4 in. long; peduncles slender, shining, to about 6 in. high, clothed with spreading hairs; involucre bracts broad, pallid; floral bracts wanting; florets whitish, pilose, receptacle pilose with pallid hairs.

Sen.: Kabrousse (Oct.) Adam 18370! **Guin.:** Friguiagbé (Sept.) Chillou 3904! Kindia (Aug.) Pobéguin 1359! Pita, Fouta Djallon (Sept.) Adames 363! Kouroussa (Aug.) Pobéguin 1153! **S. L.:** Gbap, Nongoba, Bullom (Oct.) Jordan 588!

3. PAEPALANTHUS

Kunth., Enum. 3: 498 (1841); F.T.A. 8: 262; Ruhland in Engl., Pflanzenr. 4, 30: 121-223 (1903). Nom. cons. *APD acc*

1.1. Leaves linear, flattened, 2-4 mm. wide; stem usually somewhat elongated; scapes numerous, arising from the centre of the leaf-rosette [*1. lamarckii*](#)

1.2. Leaves filiform subterete, less than 1 mm. wide, densely crowded; stem wanting or almost wanting, scapes rather few, arising laterally from the rosettes [*2. pulvinatus*](#)

1. *Paepalanthus lamarckii* Kunth Enum. Pl. 3: 506 (1841); Ruhland in Engl., Pflanzenr. 4, 30: 160 (1903); Lecomte in Bull. Soc. Bot. Fr. 55: 595 (1909); Milne-Redhead in Kew Bull. 4: 472 (1949). *APD acc*

Plants usually 3-7 mm. high; capitula subglobose, greyish, pilose, 2-3.5 mm. diam.; sepals of female flowers hardening and recurving at maturity and throwing out the ripe seeds.

Guin.: Friguiagbé (Oct.) Chillou 776! Friguiagbé to Toumoukouré (Dec.) Boismaré 52 in Hb. Chillou 3482! Grandes Chutes, Fouta Djallon (Dec.) Chev. 20307! Koba (Nov.) Jac.-Fél. 7210! **S. L.:** Roboli, nr. Rokupr (Nov.) Jordan 161! Newton Deighton 1440! Bomatok (Oct.) Adames in Hb. Deighton 4128! Taigbe (Oct.) Adames 90! **Lib.:** Duport (Nov.) Bequaert in Hb. Linder 1451!

Also in **Congo** and **Tanzania (Mafia Island)** and **S. America**.

2. *Paepalanthus pulvinatus* N.E. Br. in F.T.A. 8: 263 (1901); Ruhland in Engl., Pflanzenr. 4, 30: 221 (1903). *APD acc*

Plants forming dense cushions; leaves greyish, strongly recurved; capitula greyish, pilose, hemispherical, about 5 mm. diam.; sepals of female flowers not recurving at maturity.

S. L.: Kissy Bockstatt!

[A very rare plant, only once collected, and unsatisfactorily localized; its rediscovery would be very welcome.]

4. SYNGONANTHUS

Ruhland in Urban, Symb. Antill. 1: 487 (1900). and in Engl., Pflanzenr. 4, 30: 242-282 (1903). *APD acc*

1.1. Leaves thinly pubescent or nearly glabrous above, lanuginose at base, densely tufted, up to 3 cm. long; scapes often numerous, arising from the centre of the leaf-tuft, up to 25 cm. long, sheaths and peduncles subglabrous or more often with patent glandular hairs; capitula hemispherical, about 5-7 mm. diam., involucre bracts brownish; sepals thinly pilose towards apex [*wahlbergii*](#)

***Syngonanthus wahlbergii* (Koern.) Ruhland** in Engl., Pflanzenr. 4, 30: 247 (1903). *APD acc*

Paepalanthus wahlbergii Koern. in Mart., Fl. Brasil. 3, 1: 459 (1863); F.T.A. 8: 283.

Syngonanthus chevalieri Lecomte in Bull. Soc. Bot. Fr. 55: 597 (1909); F.W.T.A., ed. 1, 2: 328.

Plants usually forming crowded tufts; leaves narrowly linear-subulate, often distinctly recurved, and white-lanuginose at base; peduncles slender, wiry, minutely glandular (especially just below capitulum); flowers brownish, sometimes dark brown.

N. Nig.: Nupe Barter 1539!

Widespread in tropical Africa and south to the Transvaal.

BROMELIACEAE

Mostly short-stemmed epiphytes or growing on rocks. Leaves usually in a dense cluster, long and strap-shaped, rigid and spinulose-toothed or rarely flaccid, often coloured towards the base. Flowers in a terminal head, spike, or panicle often with highly coloured bracts, actinomorphic, bisexual or rarely unisexual. Perianth hypogynous to epigynous, segments in two series, the outer calyx-like, imbricate, the inner corolla-like and free or variously connate, imbricate. Stamens 6, mostly inserted at the base of the segments, free or partially adnate to them; anthers free or rarely connate in a ring, linear, usually versatile, 2-locular, opening by longitudinal slits. Ovary superior to inferior, 3-locular; style slender, elongated, stigmas 3. Ovules numerous in each loculus, the axile placentas sometimes divided. Fruit fleshy and indehiscent or rarely opening unevenly, or rarely a septicidal or loculicidal capsule. Seeds with abundant mealy endosperm and a small embryo, sometimes winged.

A tropical American family with only the following species represented in Africa.

Ananas comosus (Linn.) Merrill

A. sativus Schult. f.

The pineapple is widely cultivated and often naturalized.

PITCAIRNIA

L'Hérit., Sert. Angl. 7, t. 11 (1789), nom. cons.

- 1** Rhizomatous, glabrous herb; leaves linear, 30-50 cm. long, 5-9 mm. broad, distantly serrate with spiny curved teeth; inflorescence racemose, 8-15 cm. long, borne on an erect leafy scape about 30 cm. long; flowers 5 cm. long; sepals coriaceous, lanceolate, acute 15-22 cm. long, petals 5 cm. long; stamens 3/4-length of petals; ovary 3-lobed, style longer than the stamens; style capitate and contorted; seeds numerous, linear[feliciana](#)

Pitcairnia feliciana (A. Chev.) Harms & Mildbr. in Notizbl. Bot. Gart. Beri. 14: 118 (1938); Hepper in Webbia 19: 601 (1965). *APD acc*

Willrussellia feliciana A. Chev. in Bull. Soc. Bot. Fr. 84: 502, fig. 1 (1937).

A tufted herb with stout rhizomes and narrow spiny leaves; flowers orange-yellow; [in crevices on rock out-crops](#).

Guin.: Kindia (fl. July, fr. Sept.) Jac.-Fél. 1856! Schnell 2201! 3126! Télimélé (fr. Jan.) Roberty 16453!

MUSACEAE

Stems formed by the imbricate bases of the petioles, erect. Leaves spirally arranged, very large, with a thick midrib and numerous pinnately parallel nerves. Flowers mostly unisexual, clustered and subtended by large green spathaceous bracts, the male flowers within the upper bracts, the female within the lower. Calyx elongated, at first narrowly tubular, soon splitting on one side, variously toothed at apex. Corolla more or less 2-lipped. Stamens 5 perfect, with a rudimentary sixth, or 6 perfect; filaments filiform; anthers 2-locular, the loculi parallel and contiguous. Ovary inferior, 3-locular; ovules numerous, axile; style filiform, with a lobulate stigma. Fruit fleshy, indehiscent, 3-locular. Seeds with a thick hard testa and straight embryo in copious endosperm.

Many varieties of bananas and plantains (*Musa* spp.) are cultivated in our area. The wild African bananas are now distinguished as a separate genus *Ensete*, which is monocarpic. *Musa* differs from *Ensete* in being perennial and producing

suckers; bracts and flowers are inserted independently on the axis; seeds are small and rarely produced. See Simmonds, Bananas (1959).

Ravenala madagascariensis *Sonn.*

The fan-like Travellers Tree from Madagascar, is occasionally cultivated.

This genus is now usually placed in the family Strelitziaceae.

Strelitzia spp.

From S. Africa may be cultivated as ornamentals.

This genus is now usually placed in the family Strelitziaceae.

ENSETE

Horan., Prod. Monogr. Scit. 40, t. 4 (1862); Cheesman in Kew Bull. 2: 97 (1947); Baker & Simmonds in Kew Bull. 8: 405 (1953).

- 1 Plant 1.5-3 m. high; leaves spread along the stem and not aggregated towards apex, lower leaves up to 1.5 m. long reducing in size upwards so that the upper leaves become bracts; male bracts 4.5-9 cm. long, 17-25 cm. broad; stamens 6, 12 mm. long; female flower with rudimentary stamens; fruit squat angular, rather obconic, about 5 cm. long; seeds 7-9 mm. diam., hard [gillettii](#)

Ensete gillettii (*De Wild.*) *E. E. Cheesman* l.c. 103 (1947); Baker & Simmonds l.c. 407 (1953); Koechlin in Fl. Cam. 4: 11, t. 3.

APD: Synonym of Ensete livingstonianum (Kirk) Cheesman

Musa gillettii *De Wild.* in Rev. Cult. Colon. 8: 102 (1901); Not. Pl. Ut. Intér. Fl. Congo 1: 73, t. 5, 6, 7(1-2) (1903).

M. chevalieri *Gagnepain* (1908).

M. schweinfurthii of F.W.T.A., ed. 1, 2: 328 not of K. Schum. & Warb. ex K. Schum.

A wild banana of hilly grassland savanna. The leafy young stem dies back to a hard round corm about 1 ft. across remaining on the soil surface; fertile stem nodding, bearing a mass of small fruits about 2 in. long with yellow or orange pulp and large dark brown seeds which are later exposed by longitudinal splitting of the fruit; male bracts mauve.

Guin.: Yambéring (Sept.) Schnell 7319! **S. L.:** Falaba (fr. Nov.) Deighton 2582! **N. Nig.:** B. D. Burt! Mando F.B., Birnin Gwari, Zaria Prov. (Aug.) Keay FHI 28003! Gawn to Abuja, Niger Prov. (fr. Aug.) Onochie FHI 35747! Vogel Peak, Sardauna Prov. (fr. Nov.) Hepper 1546! Bellel, Mambilla Dist. Hepper (photo)! **S. Nig.:** Freeman 49! **W. Cam.:** Bambui (June) Russell FHI 149871 Jakiri Nicholas (photo)!

Also in **E. Cameroun**, **Congo**, **Malawi** and **Angola**.

Musa martreliana A. Chev. and *M. riperti* A. Chev., Bot. 632, names only, cited in Ed. 1 as synonyms of *M. schweinfurthii*, are rejected by Simmonds (l.c. 409) as being nomina nuda and having no standing.

ZINGIBERACEAE

Perennial herbs, usually aromatic, with horizontal tuberous rhizomes; stems sometimes very short, leafy or bearing only flowers. Leaves in two rows or spirally arranged, with an open or closed sheath, sessile or stalked on the sheath, the blade usually large with numerous closely parallel pinnate nerves diverging obliquely from the midrib. Flowers solitary or in a distinct inflorescence accompanying or separate from the leaves, mostly bisexual, symmetric or asymmetric. Perianth 6-merous, 2-seriate, the outer calyx-like, the inner corolla-like and often very showy and delicate; outer segments united into a tube, inner more or less united, the posterior segment usually the largest. Stamen 1, with a 2-locular anther, sometimes accompanied by petaloid staminodes which may form the conspicuous part of the flower (see Fig. 341). Ovary inferior, (2-)3-celled with axile placentas, or 1-locular with parietal or rarely basal placentas; style sometimes enveloped in a groove of the fertile stamen. Ovules mostly numerous. Fruit fleshy and indehiscent or a capsule. Seeds mostly arillate; endosperm abundant, white.

Tropics and subtropics.

- 1 Flowers paniculate, inflorescences terminating leafy stems or arising separately; lateral staminodes rudimentary or suppressed; filament and connective of stamen not petaloid [1. *Renealmia*](#)
- Flowers spicate often in a strobiliform inflorescence, or solitary: **2**
- 2 Flowers at ground level appearing before the leaves (or when the leafy shoot is beginning to grow); lateral staminodes large and petaloid, forming the conspicuous part of the flower; stamen connective not petaloid .. [2. *Kaempferia*](#)
- Flowers appearing with the mature leaves either on leafy shoots (sometimes at ground-level) or on separate basal inflorescences; lateral staminodes rudimentary or suppressed; conspicuous part of the flower usually a large labellum (= petaloid staminode): **3**
- 3 Leaves distichously arranged on tall steins; inflorescences always separate with 1-several flowers; filament and connective not petaloid, but surmounted by 2 lateral horns and usually an apical process between them [3. *Aframomum*](#)
- Leaves spirally arranged on tall or short stems or only 1 or 4 leaves present; inflorescences terminal or separate; filament and connective petaloid bearing the anther in the middle [4. *Costus*](#)

***Alpinia speciosa* (Wendl.) K. Schum.**

Ornamental, introduced from Asia.

***Curcuma domestica* Valetton in Bull Jard. Bot. Buit. ser. 2, 27: 31 (1918).**

C. longa of F.W.T.A. ed. 1, 2: 334 and Appendix, p. 473, not of Linn.

The turmeric, introduced from Asia.

***Hedychium coronarium* Koenig**

Ornamental, introduced from Asia.

***Zingiber officinale* Rosc.**

Ginger; widely cultivated for the rhizomes-see Appendix, p. 474.

1. RENEALMIA

Linn. f., Suppl. 7 (1781); F.T.A. 7: 311; K. Schum. in Engl., Pflanzenr. 4, 46, Zingib.: 282 (1904). Nom. cons.

- 1 Inflorescence borne at the top of the leafy shoot: **2**
- Inflorescence borne directly on the rhizome and apart from the leafy shoot: **3**
- 2 Leaves broadly oblanceolate, acutely acuminate, 20 cm. long, 5-5.5 cm. broad, with very numerous ascending parallel lateral nerves; sheath broadened in contact with the stem, not ligulate; flowers not seen; bracts lanceolate, 2 cm. long, ribbed, glabrous; fruits oblong, 2 cm. long [1. *battenbergiana*](#)
- Leaves elongate-lanceolate, acutely acuminate, about 35 cm. long and 4-5 cm. broad, with numerous very closely parallel lateral ascending nerves; sheath abruptly broadened in contact with the stem; bracts densely pubescent; fruits ellipsoid, 1-1.3 cm. long [2. *longifolia*](#)
- 3 Inflorescence about 1 m. long with the erect cincinni almost appressed (even in fruit) to the axis and rather widely spaced from one another, axis shortly and distinctly pubescent; calyx-tube at apex of fruit about 5 mm. long, narrowly funnel-shaped; lamina elongate-oblanceolate, acutely acuminate, about 30 cm. long, 3-6 cm. broad, with numerous close ascending lateral nerves [3. *cincinnata*](#)
- Inflorescence 8-35 cm. long with the cincinni spreading especially in fruit, usually glabrous: **4**
- 4 Calyx in fruit campanulate funnel-shaped, about 5 mm. long and broad; flowers sessile; bracts nearly orbicular, 1 cm. long; inflorescence about 13 cm. long; lamina oblong-elliptic, caudate-acuminate, rather shortly cuneate at the base, about 20 cm. long and 6-7 cm. broad, with very numerous ascending lateral nerves [4. *mannii*](#)
- Calyx in fruit narrowly funnel-shaped, up to 10 mm. long and much longer than broad; flowers pedicellate; bracts oblong-elliptic to broadly lanceolate: **5**
- 5 Lamina obovate-elliptic, shortly acuminate, rather shortly cuneate at the base, 20-30 cm. long, 6-10 cm. broad, with maroon patches on surfaces; inflorescence about 10 cm. long [5. *maculata*](#)
- Lamina oblanceolate, caudate-acuminate, long-cuneate at the base, 30-50 cm. long, 4-10 cm. broad; inflorescence 10-35 cm. long [6. *africana*](#)

1. *Renealmia battenbergiana* Cummins ex Bak. in F.T.A. 7: 313 (1898); K. Schum. in Engl., Pflanzenr. 4, 46, Zingib.: 289 (1904). *APD acc*

A herb about 1 ft. high with red subtorulose fruits.

IV. C.: Alépé, Attle Chev. 17480! 17900! Malamalasso Chev. 17504! Maféré (fr. Feb.) Aké Assi 7330! Yapo Forest (fr. Oct.) Aké Assi 72! **Ghana:** Assin-Yan-Kumasi Cummins 197!

[This may not be really distinct from the next species-F.N.H.]

2. ***Renealmia longifolia* K. Schum.** l.c. (1904); Stapfin Johnston, Liberia 656. *APD acc*

Renealmia ivorensis A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 305 (1917); Chev. Bot. 628.

A herb with leafy flowering stems 4-6 ft. high; flowers pink, fruits red, turning black; **in forest.**

Lib.: Grand Bassa (fr. May) Dinklage 1945! Dukwai R., Monrovia (fr. Oct., Nov.) Cooper 47! Zwedru, 29 Km. NW. of Chien, Putu Dist. (Mar.) de Wilde 3727! Mnanulu, Webo Dist. (fr. June) Baldwin 6046! **IV. C.:** Grabo, Cavally Basin (July) Chev. 19608!

3. ***Renealmia cincinnata* (K. Schum.) Bak.** in F.T.A. 7: 312 (1898); K. Schum. l.c. 295; Koechlin in Fl. Gabon 9: 23, t. 4, and in Fl. Cam. 4: 30, t. 6. *APD acc*

Ethanium cincinnatum K. Schum. (1892).

Herb with leafy stems about 5 ft. high, leaves purplish on the lower surface; inflorescences about 3 ft. high; fruits red; **in high forest.**

S. Nig.: Oban Talbot 876! Robb! Onochie FHI 34819! Afi River F.R., Ogoja Prov. (fr. May) Jones & Onochie FHI 5837! **W. Cam.:** Victoria to Bimbria Preuss 1348!

Also in **E. Cameroun** and **Gabon**.

4. ***Renealmia mannii* Hook. f.** in Hook., Ic. Pl. sub. t. 1430 (1888); F.T.A. 7: 312; K. Schum. l.c. 291. *APD acc*

Several inflorescences about 5 in. long with rather crowded bracts.

F. Po: Mann 1172!

5. ***Renealmia maculata* Stapf** in Johnston, Liberia 656 (1906). *APD acc*

Leafy stems 5-6 ft. high, leaves spotted maroon; flowers white or orange.

Lib.: Kakatown Whyte! Gbanga (Sept.) Linder 619! Nimba Mt. (Oct.) Adames 616! 668! **IV. C.:** Bingerville Chev. 15400! 15501! Upper Nuon (fr. Apr.) Chev. 21137! Teke Forest de Wit 7851! Mopri Forest (fr. Jan.) Aké Assi 8483!

6. ***Renealmia africana* Benth. ex Hook. f.** in Hook., Ic. Pl. t. 1430 (1883); K. Schum. l.c. 294; Koechlin in Fl. Gabon 9: 30, t. 5, and in Fl. Cam, 38, t. 8. *APD acc*

Renealmia talbotii Hutch., F.W.T.A., ed. 1, 2: 332 (1936), English descr. only.

Perennial rhizomatous herb with leafy stems 3-5 ft. high; inflorescences with reddish axis up to 1 ft. long, arising from the rhizome; flowers white, fruits red turning black; **in high forest in hilly districts.**

S. Nig.: Idanre F.R., Ondo (fr. July) Onochie FHI 33404! Umudike (fl. & fr. June) Ariwaodo ARS 1255! Oban Talbot 1652! Oron Dist. (July) Kitson! **W. Cam.:** Cam. Mt., 5,000 ft. Johnston 106! N. Korup F.R. (fr. June) Olorunfemi FHI 30656! Bambuko F.R., Kumba (fl. S fr. Jan.) Keay FHI 37478! Bu F.R., Bamenda (Apr.) Ujor FHI 30088! **F. Po:** Mann 323! El Pico (fl. A fr. Dec.) Boughey 174! Moka (fl. & fr. Sept.) Wrigley 533!

Also in **E. Cameroun**, **Gabon** and **Congo**.

1. ***Renealmia albo-rosea* K. Schum.** l.c. 293 (1904). *APD acc*

W. Cam.: Ikassa Rudatis 6. Victoria Winkler 357.

[Both destroyed at Berlin.] Although the type of this species was seen for F.W.T.A., ed. 1, and the species was maintained it seems to be doubtfully distinct from *R. africana*. Imperfectly known species

2. ***Renealmia macrocolea* K. Schum.** l.c. 294 (1904). *APD acc*

Togo Rep.: Misahöhe, in primary moist forest Baumann 315. Midlbr. 7299.

[Both destroyed at Berlin]. Although the type of this species was seen for F.W.T.A., ed. 1, and the species was maintained it seems to be doubtfully distinct from *R. africana*. Imperfectly known species

2. KAEMPFERIA

Linn., Sp. Pl. 2 (1753); F.T.A. 7: 294 (1898); K. Schum. in Engl., Pflanzenr. 4, 46, Zingib.: 64 (1904); F.W.T.A., ed. 1, 2: 334.

- 1 Calyx 3-4 cm. long, shortly 3-lobed, lobes rounded; petals lanceolate, 4 cm. long, united into a slender tube; petaloid staminodes about 10 cm. long, limb nearly as wide, the tip broad and emarginate; flowers arising in a separate cluster from the rhizome; leafy stems arising separately from the rhizomes; pseudostems of petioles well developed, about 50 cm. long; basal leaves reduced to sheaths, mature upper leaves oblong-lanceolate to oblanceolate, up to 38 cm. long and 4.5(-9) cm. broad, very acute at apex; ligule conspicuous, 1-1.5(-3) cm. long; tubers oblong-fusiform, about 5 cm. long [1. *aethiopica*](#)

Calyx about 1-5 cm. long; ligule inconspicuous, 2-5 mm. long; mature upper leaves almost elliptic about 40 cm. long and 15 cm. broad; pseudostem of petioles not well developed, about 20 cm. long when fully grown [2. *nigerica*](#)

Kaempferia galanga Linn.

This Asiatic species is cultivated in southern Sierra Leone.

1. *Kaempferia aethiopica* (Schweinf.) Solms-Laub. in Schweinf. l.c. 198 (1867); F.T.A. 7: 294; K. Schum. l.c. 66, fig. 10 A-C; F.W.T.A., ed. 1, 2: 334; Troupin in Expl. Parc Nat. Garamba 1: 225, fig. 41 (1956); Berhaut, Fl. Sén. 4, 207; Morton, W. Afr. Lilies and Orchids fig. 40; Hambler in Bot. Notes Nig. Coll. Tech. Ibadan 1: 33 (1960); Koechlin in Fl. Cam. 4: 24, t. 4.

APD: Synonym of Siphonochilus aethiopicus (Schweinf.) B.L. Burt

Cienkowskyia aethiopica Schweinf., Beitr. Fl. Aethiop. 197, t. 1 (1867).

Tuberous rooted perennial with a leafy shoot about 1 ft. high appearing towards the end of or after the flowering season; flowers about 3 in. high, **often appearing in considerable numbers in savanna and sometimes mistaken for ground orchids**; the apparent corolla is the united petaloid purple or blue staminodes with yellow markings.

Sen.: Berhaut 256. Heudelot 876! **Gam.:** (Mar.) Brooks 62! N. bank, Gambia R. (July) Ozanne! Genieri to Kaiaaf (July) Fox 120! **Mali:** Bamako (July) Waterlot 1550! **Guin.:** Kade Pobéguin! **S. L.:** Kasikeri (Apr.) Thomas 174! **Iv. C.:** Séguéla to Siana Chev. 21845! **Ghana:** Tumu (May) Morton GC 7492! Lawra (May) Vigne FH 3810! Tamale to Ejura (Apr.) Bally 174a! Salaga Apr.) Krause! Bole (Mar.) Hepper & Morton A3184! Kete-Krachi (Apr.) Morton GC 7151! **Dah.:** Djougou Chev. 23902! **Niger:** Fada to Koupéla, Gourma Chev. 24531! **N. Nig.:** Liruwén-Kano Hills Carpenter! Zaria (June) Lamb 60! Birnin Gwari (June) Keay FHI 25852! Biu, Bornu Prov. (May) Noble 48! Musgu (May) E. Vogel 99! Vom, Jos Plateau Dent Young 238! Abinsi (May) Dalz. 829! Lokoja (Apr.) Parsons L118! **S. Nig.:** Oyo to Ilorin Barter 3427! Iseyin to Shaki (Mar.) Hambler 875 (FHI 50704)!

Widespread in the savanna regions of tropical Africa.

2. *Kaempferia nigerica* Hutch. ex Hepper in Kew Bull. 22: 465 fig. 8 (1968); Hutch., F.W.T.A., ed. 1, 2: 334 (1936), English descr. only; Hambler l.c.

APD: Synonym of Siphonochilus nigericus (Hutch. ex Hepper) B.L. Burt

A tuberous rooted herb with precocious flowers.

Ghana: Tamale to Ejura (Apr.) Bally 174! Kete-Krachi (Apr.) Morton GC 2101! Dutukpene (Mar.) Hepper & Morton A3065! **N. Nig.:** Hambler 415! Meikle 1300! Birnin Gwari (June) Keay FHI 25830! Afikpo, Ogoja Prov. (Apr.) Stone 1! Zungeru (Apr., May) Dalz. 276! Abinsi (June) Dalz. 830! Lokoja (Mar.) Elliott 42! **S. Nig.:** Ileshe to Benin (Mar.) Morton K451! Lagos (Feb.) Cons. of For. 449!

3. AFRAMOMUM

K. Schum. in Engl., Pflanzenr. 4. 46, Zingib.: 201 (1904). *APD acc*

Amomum Linn., partly—F.T.A. 7: 302.

- 1 Leaves hairy on both surfaces or only beneath:2
 Leaves glabrous beneath except sometimes on the midrib and along the margins:5
- 2 Leaves loosely pilose with rather long hairs; lateral parallel nerves very numerous:3
 Leaves shortly felted-tomentose beneath, glabrous above, elongate-oblong, subobtusate at base, about 35 cm. long and 6 cm. broad, with very numerous crowded ascending parallel lateral nerves; ligule 6 mm. long, ribbed; leaf-sheath with conspicuous transverse veinlets; inflorescences short (but see note after sp.), about 10 cm. long, 1-2-flowered, with closely imbricated bracts; fruits narrowly obovoid, about 7 cm. long (Fig. 344G) ...[3. subsericeum](#)
- 3 Inflorescences very short (about 4 cm.) and clustered, 1-flowered; labellum and hood very narrow; fruit oblong, 2.5 cm. long; lamina subsessile on the pilose sheath, unequal-sided at base, long-acuminate, nearly 30 cm. long and 5-6 cm. broad, laxly pilose on both surfaces, with a conspicuous striated midrib, densely ciliate (Fig. 344D) [1. pilosum](#)
 Inflorescences nearly as long as or longer than the lamina, several-flowered; lamina unequal-sided at the base, rounded into a distinct short stalk on the sheaths, long-acuminate, 20-35 cm. long, 5-10 cm. broad, glabrous above, sheath pilose or more or less glabrous:4
- 4 Labellum about 4 cm. long; peduncle covered with stiff imbricated bracts about 4 cm. long; flowers rather few; fruits ovoid, 2-4 enveloped in upper bracts [2. elliotii](#)
 Labellum about 2 cm. long; peduncle with few papery bracts hardly imbricated, about 3 cm. long; flowers up to 20; fruits longitudinally ribbed [4. polyanthum](#)
- 5 Leaves auriculate-cordate and sessile at the base at the junction with the sheath, elongate-oblong, acuminate, about 30 cm. long and 5 cm. broad, with numerous spaced ascending parallel nerves; sheath ribbed but without transverse veinlets; inflorescences much elongated, simple or branched at the top; bracts shortly overlapping; fruits with a long, persistent, tubular beak (Figs. 343D, 344E) [6. longiscapum](#)
 Leaves not auricled, at most rounded-subcordate at the junction with the sheath and false petiole:6
- 6 Fruit grooved or corrugated (usually 9 regular longitudinal lines), pubescent or glabrous; labellum broad:7
 Fruit smooth, not grooved or corrugated (apart from perhaps a few folds towards the apex and shrinkage wrinkles in dried specimens); ovary glabrous: 10
- 7 Fruit (and ovary) pubescent, corrugated when fresh, about 6 cm. long, several clustered at apex of 8-18 cm.-long inflorescence; bracts becoming narrower and thinner towards apex; leaves oblong-lanceolate, almost 20 cm. long and 6 cm. broad, rounded at each end and tailed at apex, lateral veins more than twice their own thickness apart3 (Fig. 343B) [7. exscapum](#)
 Fruit glabrous, deeply grooved or ribbed:8
- 8 Lateral veins of leaves very close and less than twice their thickness apart3; fruits ovoid, deeply grooved, about 5 cm. long, crowned by long persistent calyx:9
 Lateral veins of leaves more than twice their own thickness apart3, lamina oblong-elliptic, 18-28 cm. long, 5-10 cm. broad, midrib pubescent, false petiole 1 cm. long; ligules short and rounded; inflorescence simple, with numerous flowers, labellum 2 cm. long, less than 1 cm. broad; fruits strongly ribbed, ovoid, about 4 cm. long, with short calyx [5. chlamydanthum](#)
- 9 Flowers mauve, well exerted from bracts, labellum obovate 3.5 cm. broad; anther connective with an oblong-deltoid appendage at the apex; inflorescences simple or sometimes branched; leaves oblong-lanceolate, acuminate, 10-30 cm. long, 3-7 cm. broad, hardly petiolate [8. sulcatum](#)
 Flowers orange-red, crowded by bracts, labellum oblong, 2 cm. broad; anther connective with a rounded appendage at apex; inflorescences branched; leaves 30-50 cm. long, 7-10 cm. broad [9. daniellii](#)
- 10 Lateral nerves of the leaves more than twice their own thickness apart3: 11
 Lateral veins of leaves very close, twice their own thickness apart or less; margins glabrous; ligulos short: 18
- 11 Leaf-margins the whole length pubescent with short brown hairs; lamina linear-oblong, 20-31 cm. long, 3-6 cm. broad midrib tomentose or glabrous; ligule rounded, up to 3 mm. long; inflorescences very short; labellum broad (Fig. 344F) [10. limbatum](#)
 Leaf-margins glabrous or only upper part pubescent; labellum very broad and conspicuous: 12
- 12 Ligules up to 4 mm. long; inflorescences at base of stem; ligule rigid, not divided: 13
 Ligules 1-3 cm. long or if less then papery and paired on each sheath: 15

- 13** Flowers white: **14**
 Flowers mauve, inflorescences several-flowered, short up to 10 cm. long, with broad imbricated bracts; leaves oblong, 20-30 cm. long, rounded to a short petiole at the base, abruptly acuminate at apex, 4-5 cm. broad .. [13. sp. A](#)
- 14** Tufted herb lacking slender rhizomes; leaves oblong to oblong-elliptic, 13-38 cm. long, 2-8 cm. broad, cuspidate at apex, rounded at base, shortly petiolate; fruits long beaked; seeds angular, grey; bracts closely imbricated, stiff, striate [11. strobilaceum](#)
 Rhizomatous herb; leaves elliptic, 10-27 cm. long, 4-7.5 cm. broad, long-tailed at apex, cuneate to rounded at base, distinctly petiolate; fruits ovoid, not beaked; seeds rounded, glossy brown; bracts papery .. [12. stanfieldii](#)
- 15** Inflorescences arising at base of the stem; plant tufted or rhizomatous: **16**
 Inflorescences arising from slender rhizomes some distance from the stem, very short with pale papery bracts 1 cm. broad, flowers usually paired [17. leptolepis](#)
- 16** Inflorescence slender, 10-30 cm. long, distinctly pedunculate and covered with rather stiff bracts, few-flowered: **17**
 Inflorescences short and massive with numerous broad imbricated bracts 6 cm. broad; flowers numerous; ligules obtuse or acute, 1-3 cm. long; fruits ovoid, about 4.5 cm. long with persistent calyx at least the same length (Figs. 343C, 344A) [16. citratum](#)
- 17** Rhizomatous herb; inflorescences at ground level, 10-30 cm. long, covered with papery bracts; labellum very broad, mauve; fruits narrowly ovoid; leaves oblong, 12-20 (-28) cm. long, acuminate, cuneate to rounded at base, with more or less distinct false petiole; ligule very variable, more or less triangular apex, easily breaking off (Figs. 343A, 344C) [14. sceptrum](#)
 Tufted herb; inflorescences about 12 cm. long, closely imbricated by stiff bracts; labellum broadly elliptic, 5.5 cm. long, 4.5 cm. broad [15. erythrostachyum](#)
- 18** Midrib beneath pubescent or pilose its whole length at least along the side of the midrib; lamina oblong-ob lanceolate, cuneate at base, gradually but acutely acuminate, 20-33 cm. long, 4-7 cm. broad; inflorescences short at ground level, labellum oblong and similar in size to the hood; fruits broadly ovoid (see also No. 2.) [18. baumannii](#)
 Midrib glabrous; labellum about 4 cm. long, rather or very broad and much larger than the hood: **19**
- 19** Leaves narrow (broadly-linear), about 3 cm. broad, 20 cm. long; numerous lateral nerves very prominent and all similar on both sides of the lamina, tailed-acuminate, ligule short and rounded; inflorescences very short and narrow, 1-flowered; bracts rounded and mucronate; fruits ovoid, 4 cm. long, beaked by the persistent calyx; tufted plant (Fig. 344H) [19. melegueta](#)
 Leaves lanceolate to oblong-lanceolate, the veins often rather indistinct, about 20 cm. long, 3-10 cm. broad, acute to shortly tailed at apex, rounded at base, false petiole wanting; ligules short; inflorescences several flowered, about 10 cm. long; fruits broadly ovoid, 7 cm. long, shortly beaked; creeping rhizomatous plant [20. latifolium](#)

1. Aframomum pilosum (Oliv. & Hanb.) K. Schum. in Engl., Pflanzenr. 4, 46, Zingib.: 206 (1904); Koechlin in Fl. Cum. 4: 45, t. 9 (1965). *APD acc*

Amomum pilosum Oliv. & Hanb. in J. Linn. Soc. 7: 110 (1863); Baker in Hook., Ic. Pl. t. 2483 (1892); F.T.A. 7: 307.

A herb 6-8 ft. high, with very short bracteate 1-flowered inflorescences at the base of the stem; labellum yellow.

S. Nig.: near Umudike (fl. Aft. June) Ariwaodo ARS 1227! Oban Talbot 94! **F. Po.:** Mann 1415!

Also in **E. Cameroun**.

2. Aframomum elliotii (Bak.) K. Schum. l.c. 209 (1904); Chev. Bot. 625; Aké Assi, Contrib. 2: 16 [225]. *APD acc*

Amomum elliotii Bak. in F.T.A. 7: 309 (1898).

A herb in shady woods; inflorescences from the base of the stem, stout, about 1 ft. long, with a cluster of vanilla-scented flowers at the top; bracts on the peduncle about 2 in. long; petaloid staminode white, yellowish in the throat, fruits red and shining; **in swamp forest, brackish lagoon bank, or wet grassland.**

Sen.: Perrottet! Yambalba, Cape Verde (May) Leprieur! **Guin.:** Erimakuna (= Hérémakuna) (fr. Mar. Sc. Elliot 5249! source of the Sassandra R., near Sahadougou (Mar.) Chev. 20872! **S. L.:** Njala (fr. Apr.) Deighton 4290! **Lib.:** Monserrado Co.: Marshall (fr. Feb.) Baldwin 11048! Bushrod I. (Feb.) Baldwin 11064! **Iv. C.:** Tabou to Bériby (fl. & fr. Aug.) Chev. 19954! Port Bouët (Feb.) Leeuwenberg 2711! Abouabou Forest (fr. Jan.) Leeuwenberg 2371! **Ghana:** Essiama (fl. & fr. Feb.) Irvine 2329! Morton A1642!

[The Liberian specimens cited have only the midrib pubescent, but the long peduncle distinguishes them from *A. baumannii*.]

3. **Aframomum subsericeum** (*Oliv. & Hanb.*) *K. Schum.* l.c. 217 (1904); Aké Assi, *Contrib.* 2: 16 [226]; Koechlin in *Fl. Gabon* 9: 36 (1964), and in *Fl. Cam.* 4: 48 (1965). *APD acc*

APD: Synonym of Aframomum elegans Lock

APD: Synonym of Aframomum sceptrum (Oliv. & D. Hanb.) K. Schum.

Amomum subsericeum *Oliv. & Hanb.* in *J. Linn. Soc.* 7: 110 (1864); Baker in *Hook., Ic. Pl.* t. 2484 (1896); *F.T.A.* 7: 307.

Amomum glaucophyllum *K. Schum.* in *Engl., Bot. Jahrb.* 15: 415 (1892); *F.T.A.* 7: 306; (type not seen for Ed. 2).

Aframomum glaucophyllum (*K. Schum.*) *K. Schum.* in *Engl., Pflanzenr.* 4, 46: 216 (1904).

A herb with a creeping rhizome; leaves bluish white beneath; inflorescences very short, in a cluster at the base of the stem or disposed on a creeping shoot, about 2-flowered; bracts closely imbricate, gradually increasing from the base upwards; petaloid staminode reddish or magenta, 2 1/4 in. diam.; fruits narrowly pear-shaped 3 in. long.

Iv. C.: Mamba Forest Mangenot & Aké Assi IA 543. **S. Nig.:** Calabar Milne. **W. Cam.:** Mbaw Plain (May) Brunt 464! Bopo to Banga, S. Bakundu F.R. (Mar.) Binuyo & Daramola FHI 35633! Barombi Preuss 254. Also in E. Cameroun, Gabon, Congo and Cabinda.

[Plants with felted leaves from Nimba Mt. (Adam 20381, Adames 604) have inflorescences up to about 40 cm. long and pure white flowers; otherwise they are similar to *A. subsericeum*.]

4. **Aframomum polyanthum** (*K. Schum.*) *K. Schum.* l.c. 207 (1904); F. W. Andrews, *Fl. Sudan* 3: 253; Koechlin in *Fl. Cam.* 4: 49, t. 9; N. Hallé in *Adansonia*, sér. 2, 7: 73, tt. 1, 2 (1967). *APD acc*

Amomum polyanthum *K. Schum.* (1892)-*F.T.A.* 7: 309.

Tall herb with rather large leaves softly pilose beneath; flowers rather small and numerous in a pedunculate head, labellum yellowish-purple.

W. Cam.: Ndop Plain (Mar.) Brunt 202!

Also in **Gabon** and **Sudan**.

5. **Aframomum chlamydanthum** *Loes. & Mildbr.* in *Notizbl. Bot. Gard. Berl.* 10: 706 (1929).

APD: Synonym of Aframomum zambesiaceum (Baker) K. Schum. subsp. zambesiaceum

A herb 3 ft. or more high; flowers small, dirty white or yellowish in a congested inflorescence about 6 in. high.

S. Nig.: Obudu Plateau, 5,000 ft. (fr. Nov.) Tuley 1041! **W. Cam.:** Likomba, Victoria Dist. (Nov.) Mildbr. 10712. Bamenda (Mar.) Daramola FHI 40549! **F. Po:** L. Biao (Sept.) Melville 487!

[Mildbr. 10712, the type, was seen for Ed. 1, but it has since been destroyed in Berlin. The specimens cited are closely related to *A. zambesiaceum* (Bak.) K. Schum. and *A. keniense* R. E. Fries. Melville 487 has much narrower leaves than the others.]

6. **Aframomum longiscapum** (*Hook. f.*) *K. Schum.* l.c. 212 (1904). *APD acc*

APD: Synonym of Aframomum cordifolium Lock & J.B. Hall

Erect herb with leafy stem 5-9 ft. high; flowers mauve, fruits dark red; in secondary forest.

Guin.: Mt. Nimba (fr. June) Schnell 3054! **S. L.:** Regent (Dec.) Daniell 3! Jagwema, Kouno (July, Aug. Dawe 540! Koyema, foot of Tingi Hills (fr. Dec.) Morton & Gledhill SL 3226! **Lib.:** Gbanga (Sept.) Linder 724! Bilimu Mt. (Dec.) Harley 1319! Yratoke, Webo Dist. (July) Baldwin 6240! Mt. Bele, Nimba (Sept.) Adames 579! **Iv. C.:** Béyo (Jan.) Leeuwenberg 2457! Baléko (fr. Sept.) Nozerau!

7. **Aframomum exscapum** (*Sims*) *Hepper* in *Kew Bull.* 21: 133, figs. 1 & 2 (1967). *APD acc*

Amomum exscapum *Sims* in *Ann. Bot.* 1: 548, t. 13 (1805).

Amomum grana-paradisi of Hook. in Bot. Mag. t. 4603 (1851); F.T.A. 7: 304, partly (descr. & Daniell, Afzelius).

Aframomum cuspidatum (Gagnep.) K. Schum. l.c. 209 (1904); F.W.T.A., ed. 1, 2: 331

Aframomum leonense K. Schum. l.c. 214 (1904).

Aframomum oleraceum A. Chev., Bot. 626, name only.

A forest herb with leafy stems 4-6 ft. high, the leaves borne on the upper part; flowers white, flushed with pink, throat yellow; fruits red, pubescent and deeply corrugated longitudinally when fresh, corrugations become indistinct on drying and are often difficult to distinguish; seeds shiny black, pungent.

Guin.: Conakry Maclaud! Sankaran, Kankan (fl. & fr. Mar.) Pobéguin 943! Ditinn (Apr.) Chev. 13461! **S. L.:** Afzelius! Daniell! Njala (fr. Jan., Apr.) Deighton 4287! 4289! Pyne 87! Kambia (Jan.) Sc. Elliott 4511! **Lib.:** Bilimu (Dec.) Harley! 1553b! **Iv. C.:** Mt. Niénokué, Mid. Cavally Chev. 19468! Toupa, Lower Cavally Chev. 19851!

8. *Aframomum sulcatum* (Oliv. & Hanb.) K. Schum. l.c. 205, fig. 26 A-D (1904); Chev. Bot. 626. **APD acc**

APD: *Synonym of Aframomum chrysanthum Lock*

Amomum sulcatum Oliv. & Hanb. in F.T.A. 7: 304 (1898).

Slender creeping rhizome, leafy stems up to 13 ft. high, tinged red together with midrib; flowers pale mauve or orange-yellow; fruits deeply sulcate, seeds (as in other species) like grape stones and very shiny; in forest and derived farmland.

Guin.: N'Zo (fr. Mar.) Chev. 21043! **S. L.:** Musaia (fr. Dec.) Deighton 4528! Njala (Apr.) Deighton 4288! Port Loko (July) Deighton 4344! **Lib.:** Cape Palmas (Sept.) Hoffman 14! Gibson! Bilimu Mt. (Dec.) Harley 1553a! Ganta (Feb.) Baldwin 11002! 11006! Nimba (Aug.) Adames 422! E. of Béyo (fr. Jan.) Leeuwenberg 2467!

Doubtfully recorded by Koechlin from Cameroun and Gabon.

9. *Aframomum daniellii* (Hook. f.) K. Schum. l.c. 218 (1904); Aké Assi, Contrib. 2: 15 [225]; Koechlin in Fl. Gabon 9: 55, t. 10, and in Fl. Cam. 4: 64, t. 12. **APD acc**

Amomum daniellii Hook. f. in Hook. Kew Journ. Bot. 4: 129, t. 5 (as *A. afzelii*) (1852); Baker in Bot. Mag. t. 4764.

A. daniellii var. *purpureum* Hook. f. l.c. 6: 294 (1854).

Aframomum angustifolium of F.T.A. 7: 308, partly (syn. & W. Afr. specimens).

Aframomum hanburyi K. Schum. l.c. 217 (1904); Koechlin in Fl. Gabon 9: 56, and in Fl. Cam. 4: 65.

A tall herb in moist shady places; flowers clustered at the base or on short peduncles, decorative with waxy red perianth and yellowish labellum; fruits red, in erect bunches.

Guin.: Conakry Maclaud 40! **S. L.:** Loma Mts. (fl. & fr. June) Morton SL 3663! **Iv. C.:** Grabo (July) Chev. 19639! Mamba Mangenot & Aké Assi IA 547. Yapo Aké Assi IA 4032. **S. Nig.:** Akilla F.R., Ijebu Dist. (fr. Mar.) Emwiogbon FHI 47172! Owo (fl. & fr. July) Stanfield 105! Oban F.R., Calabar (Feb.) Onochie FHI 36343x! Afi River F.R., Ogoja Prov. (May) Jones & Onochie FHI 17338! **F. Po:** Daniell! Barter! Mann 1170! Mioko, 4,500 ft. (Feb.) Exell 855!

Also in **S. Tomé**, **Principe**, **E. Cameroun** and **Gabon**.

10. *Aframomum limbatum* (Oliv. & Hanb.) K. Schum. l.c. 215 (1904); Koechlin in Fl. Babon 9: 37, and in Fl. Cam. 4: 50 **APD acc**

Amomum limbatum Oliv. & Hanb. in J. Linn. Soc. 7: 110 (1864); Baker in Hook., l.c. Pl. t. 2482; F.T.A. 7: 305.

Aframomum lycobasis K. Schum. l.c. (1904); F.W.T.A., ed. 1, 2: 331.

A tall forest herb with leafy shoots up to 15 ft. high, with creeping rhizomes and short bracteate inflorescences, labellum pale purple.

S. Nig.: Usonigbe F.R., Benin (Feb.) Onochie FHI 31932! Meikle 577! Nyaje, Oban Dist. (Mar.) Onochie 36446x! Oban Talbot 95! Richards 3902! **W. Cam.:** Johann-Albrechtshöhe (= Kumba) (fl. & fr. Mar.) Staudt. 680! **F. Po:** Mann 99! 1171!

Also in **Gabon**.

[*A. biauriculatum* K. Schum., tentatively included as a synonym of this species in Ed. 1, should be deleted, even though the type is apparently destroyed, as there is no evidence from the description that it is likely to be synonymous-F.N.H.]

11. *Aframomum strobilaceum* (Sm.) Hepper in Kew Bull. 21: 136, fig. 3 (1967). **APD acc**

Amomum strobilaceum Sm. in Rees, Cyclop. 39: Amomum (1819).

Aframomum afzelii Rose. (1807).

Aframomum palustre Afzel. (1829.)

Aframomum citratum of Chev. Bot. 625.

A forest herb with leafy stems 3-5 ft. high; flowers white; fruits scarlet.

Guin.: Kindia (Mar.) Chev. 12785! Boola to Manonkoro Chev. 20943! Nimba Mt. (fr. Aug.) Schnell 3387! **S. L.:** Afzelius 4! Guma, Freetown (fr. Mar.) Hepper 2500! **Lib.:** Mt. Bele road, Nimba (fr. Sept.) Adames 605! Nimba Mt. (Apr.) Harley 2216! Adam 21151! **Iv.C.:** Mt. Tonkoui, near Man (Mar.) Breteler 2979! E. of Béyo (fl. & fr. Jan.) Leeuwenberg 2539! Mid. Cavally, Keéta (fr. July) Chev. 19346!

12. *Aframomum stanfieldii* Hepper in Kew Bull. 22: 462, fig. 7 (1968). *APD acc*

A rhizomatous herb about 3 ft. high; flowers white; fruits glossy scarlet, 3-angled.

S. Nig.: Owo (fr. July) Stanfield 87! Gambari F.R., Ibadan (fl. Mar., fr. Apr.) Emwiogbon FHI 45514! Adebusuyi FHI 45907! Stanfield 47087!

13. *Aframomum* sp. **A.** *APD acc*

Aframomum dalzielii Hutch., F.W.T.A., ed. 1, 2: 331 (1936), English descr. only.

W. Cam.: Buea (Feb.) Dalz. 8235!

[Although this appears to be a distinct species, validation of the name is deferred until adequate material is available for a full description to be made.-F.N.H.]

14. *Aframomum sceptrum* (Oliv. & Hanb.) K. Schum. l.c. 214 (1904); Morton, Lilies & Orch. fig. 38; Koechlin in Fl. Gabon 9: 40, t. 7, and in Fl. Cam. 4: 52, t. 10; Chev. Bot. 626.

APD: *Synonym of Aframomum cereum* (Hook. f.) K. Schum.

Amomum sceptrum Oliv. & Hanb. (1864)-Baker in Bot. Mag. t. 5761; F.T.A. 7: 306.

Aframomum granum-paradisi of K. Schum. l.c. 213 (1904) partly (excl. Daniell); F.T.A. 7: 304; F.W.T.A., ed. 1, 2: 331.

A cereum (Hook. f.) K. Schum. l.c. 210 (1904).

Amomum cereum Hook. f. (1854)-Baker in Hook. Ic. Pl. t. 2477; F.T.A. 7: 309.?

Aframomum rostratum K. Schum. l.c. 215 (1904).

Forest herb with pale lilac flowers; inflorescences may be about 1 ft. long at the foot of the leafy shoot or at ground level from the rhizome at some distance from the leaves.

S. L.: Regent Daniell! **Lib.:** Suacoco, Gbanga (Sept.) Daniel & Okeke 16! Jaurazon (Mar.) Baldwin 11475! Nimba Reserve (Sept.) Adames 596! **Iv.C.:** Grabo to Taté (Aug.) Chev. 19768! Noé, Bas Cavally (Aug.) Chev. 19839! **Ghana:** Pokoase (Apr.) Plumtre 102! Aburi (Mar.) Johnson 865! Amedzofe (Mar.) Morton GC 6494! **Dah.:** Ouidah (fr. Apr.) Chev. 23444! Port-Novo (Mar.) Chev. 233451 **N. Nig.:** Jemaa Dist. (Aug.) Killick 8! Nupe Barter 1543! **S. Nig.:** Akilla Plantations (Apr.) Jones & Onochie FHI 17401! Ikoyi Plains (Jan.) Dalz. 1280! Onitsha Barter 1787! Brass Barter 38! Port Harcourt (Sept.) Stubbings 58!

Also in **E. Cameroun**, **Gabon**, **Middle Congo** and **Angola**.

15. *Aframomum erythrostachyum* Gagnep. in Bull. Soc. Bot. Fr. 51: 444 (1904); Hepper in Kew Bull. 21: 137 (1967).

APD: *Synonym of Aframomum strobilaceum* (Sm.) Hepper

Guin.: Sankaran (Mar.) Pobéguin 941!

[The status of this species is not clear: further material is required.]

16. *Aframomum citratum* (Pereira) K. Schum. in Engl., Pflanzenr. 4, 46: 214 (1904); Koechlin in Fl. Gabon 9: 42, t. 8, and in Fl. Cam. 4: 54, t. 11. *APD acc*

Amomum citralum Pereira in Pharm. Journ. 9: 318 (1850)-F.T.A. 7: 308; Baker in Hook., Ic. Pl. t. 2478.

Aframomum macrolepis K. Schum. (1892)-F.T.A. 7: 306.

A herb to 10 ft. high; inflorescence short and almost globose with large imbricate bracts; labellum pink, about 3 in. high; in forest.

S. Nig.: Oban Talbot 32! 33! 90! **W. Cam.:** Barombi Preuss 5. Also in E. Cameroun and Gabon.

17. **Aframomum leptolepis** (*K. Schum.*) *K. Schum.* l.c. 216 (1904). *Amomum leptolepis* K. Schum. (1892)-F.T.A. 7: 307. *APD acc*

APD: Synonym of Aframomum geocarpum Lock & J.B. Hall

Aframomum sceptrum of F.W.T.A., ed. 1, 2: 221, partly (Chipp 129, Johnson 866), not of (Oliv. & Hanb.) K. Schum.

A forest herb 5-6 ft. high; flowers pink, at ground level.

Iv. C.: Montézo, Altié (Feb.) Chev. 17384! Danané Chev. 21257! **Ghana:** Adeambra (Mar.) Chipp 129! L. Bosumtwé (Apr.) Adams 2456! Aburi (Mar.) Johnson 866! Agogo (Apr.) Adams 2590! Hohoe (Apr.) Morton GC 9172! **W. Cam.:** Barombi Preuss 555!

Also in **E. Cameroun**.

18. **Aframomum baumannii** *K. Schum.* in Engl., Pflanzenr. 4, 46: 220, fig. 26 F-H (1904); Aké Assi, Contrib. 2: 15 [224].

APD: Synonym of Aframomum angustifolium (Sonn.) *K. Schum.*

Aframomum scleratum A. Chev. (1917).

Leafy stems about 6 ft. high; flowers narrow in short inflorescences, pink or carmine, fruits smooth, glossy scarlet; in moist shady places in hilly savanna.

Guin.: Farana Chev. 20666! Bérégia Chev. 20782! **Iv. C.:** Yapo Aké Assi IA 5776! Grabo Chev. 19639. **Ghana:** Amedzofe (Mar.) Hepper & Morton A3041! **Togo Rep.:** Misahöhe (June) Baumann 106 (seen for Ed. 1). **Dah.:** Atacora Mts. Chev. 24210! **N. Nig.:** Bonu F.R., Gwari Dist., Niger Prov. (fl. & fr. June) Onochie FHI 38499! Gidan Tukura, Gawun Dist., Niger Prov. (Dec.) Daley FHI 32276! Mambila Plateau (fl. & fr. Jan.) Latilo & Daramola FHI 34406! Hepper 1751! **S. Nig.:** Awba Hills F.R., Ibadan (fr. Oct.) Jones FHI 5995! Afi River F.R., Ikom (May) Jones & Onochie FHI 17338!

19. **Aframomum melegueta** *K. Schum.* l.c. 204 (1904); Hepper in Kew Bull. 21: 130, t. 7 (1967); Koechlin in Fl. Gabon 9: 58, t. 12, and in Fl. Cam. 4: 68, t. 14. *APD acc*

Amomum melegueta *Rosc.*, Monandr. Pl. t. 98 (1828); F.T.A. 7: 303, non Griseke (1792).

Aframomum meleguetella *K. Schum.* l.c. 205 (1904).

Tufted with leafy stems up to 3 ft. high; inflorescences at the base of the leafy stems, 1-flowered, very short; labellum pink or lilac; in shade, often cultivated.

Melegueta or (by corruption) Alligator pepper, Grains of Paradise.

Guin.: Sompouyara to Bérézia (cult., Feb.) Chev. 20773! **S. L.:** Regent, (cult.) Daniell! Makene (cult., May) Deighton 4144! Njala (cult., Feb., May) Deighton 5014! Bayabaya Sc. Elliot 4577! **Lib.:** Nimba (cult. fl. Dec., fr. Mar.) Adam 21105! Adames 838! **Ghana:** Aburi Gardens (cult.) Irvine 2049! **Iv. C.:** Alépé (Mar.) Chev. 17458! Kassigné (fr. Jan.) Chev. 17205! **Dah.:** Allada (Mar.) Chev. 23418! **N. Nig.:** Lapai (Mar.) Yates 38! **S. Nig.:** Yoruba Daniell! Ikure (Jan.) Holland 254! Aguku Dist. Thomas 845! Ibadan (cult. fr. Sept.) Binuyo & Onyeachusim FHI 56543! **F. Po:** Daniell!

Apparently native in W. Africa but also widely cultivated in various parts of tropical Africa, S. America and elsewhere in the tropics.

20. **Aframomum latifolium** (*Afzel.*) *K. Schum.* l.c. 209 (1904); Aké Assi, Contrib. 2: 16 [225].

APD: Synonym of Aframomum alboviolaceum (Ridl.) *K. Schum.*

Amomum latifolium *Afzel.* (1813)-F.T.A. 7: 305.

? **A. Kayseranum** *K. Schum.* in Engl., Bot. Jahrb. 25: 415 (1892); F.T.A. 7: 305; Koechlin in Fl. Cam. 4: 66, t. 14.

Herb with leafy shoots 5-10 ft. high and white or pinkish flowers from short inflorescences borne separately on long creeping rhizome; in savanna.

Guin.: Nimba Mts. Schnell 555! **S. L.:** Afzelius! Kissy Daniell 2! Sugar Loaf Mt. Daniell 5! **Lib.:** Du R. (July) Linder 99! Ganta (Sept.) Baldwin 12499! Bilimu (Sept.) Harley 1526b! Nimba (Aug.) Adames 436! **Iv. C.:** Kinou, near Boundiali Aké Assi IA 3060. **Ghana:** Ejura (Aug.) Andoh FH 5034! **N. Nig.:** Sanga F.R., Jemaa Div. (May) E. W. Jones 80! Acharane

F.R., Ankpa Dist. (June) Daramola FHI 38031! **S. Nig.:** Olokemeji F.R. (July) Hopkins FHI 52220! Owo (July) Stanfield 104! Ogoja Prov. Rosevear 24/30a! **W. Cam.:** Buca (Feb.) Preuss 826! Ndop Plain (Apr.) Brunt 353!

Also in **E. Cameroun.**

[The type of *A. kayseranum* was collected at Buea in forest: it may not, therefore, be conspecific with *A. latifolium* a savanna species-F.N.H.]

4. COSTUS

Linn., *Sp. Pl.* 2 (1753); *F.T.A.* 7: 297.

Cadalvena Fenzl (1865)-*F.T.A.* 7: 296.

- 1 Leaves in a basal rosette or solitary; inflorescence amongst leaves:2
 Leaves numerous borne on tall stems; inflorescences may be separate, terminating leafy stems or lateral:3
- 2 Leaves several in a basal rosette flat on the ground, obovate-orbicular, rounded to a mucronate apex, broadly cuneate at the base, up to 12 cm. long and 10 cm. broad, with fairly numerous ascending nerves and fine parallel transverse veins, pubescent beneath; flowers arising from the centre of the rosette; calyx spathaceous, tube 4 cm. long; savanna herb [1. spectabilis](#)
 Leaves solitary, broadly obovate-elliptic, not acuminate, shortly narrowed at the base, 8-12 cm. long, 6-8 cm. broad, with numerous ascending nerves, glabrous; flower-spike small, sessile at the apex of the stem within the leaf-sheath, 2-3-flowered [2. engleranus](#)
- 3 Inflorescences lateral with few flowers on leafy stems; leaves glabrous; ligules tubular and very long, reaching nearly to the next leaf:4
 Inflorescences terminal or on separate shoots, with numerous flowers; leaves obovate-elliptic, cuneate at the base, long-acuminate, 10-31 cm. long, 3-7 cm. broad, glabrous to pubescent, shortly petiolate:5
- 4 Inflorescences surrounded by a few imbricated ovate bracts up to 2 cm. long forming a small compact subsessile head about 2 cm. across; floral bracts lanceolate, pubescent; calyx 1.5 cm. long, 3-toothed, glabrous; leaves oblong, long-acuminate, narrowed and shortly petiolate, 12-20 cm. long, 4.5-5 cm. broad [3. talbotii](#)
 Inflorescences with small bracts at the base about 5 mm. long, head shortly stalked; floral bracts oblong, truncate, pubescent; calyx 1-1.5 cm. long, 3-toothed, shortly pubescent; leaves ovate, acuminate, cuneate at the base, shortly petiolate (8-)10-18 cm. long, (3-)4-8 cm. broad [4. lateriflorus](#)
- 5 Each bract covering one flower:6
 Each bract covering two flowers (at different stages of development); flowers pink, yellow or white; large cone-like inflorescences usually terminating leafy shoots and sometimes short leafless stems:9
- 6 Bracts all leafy at apex with broadly ovate appendage up to 3 cm. long, and 2 cm. broad; inflorescences apparently always terminal; plant densely pilose [5. fissiligulatus](#)
 Bracts (except sometimes outer ones) not leafy at apex; leaf-sheaths without a rim below the apex; plant glabrous or pubescent:7
- 7 Leaves and stems densely setose and with fine short pubescence beneath i.e. two kinds of hairs; edge of leaf-sheath lanate with long matted hairs; inflorescences always basal; flowers uniform pale pink [6. schlechteri](#)
 Leaves pubescent (at the most sparsely setose on the stem), or glabrous:8
- 8 Flowers white with yellow throat; inflorescences basal and terminal; ochrea as long as broad; leaves shortly appressed-pubescent [7. dubius](#)
 Flowers white with rich pink tip; inflorescences always terminal; ochrea very short; leaves pilose beneath [8. sp. A](#)
- 9 Leaf-sheaths usually without a rim below the apex or if present then lacking long bristles: 10
 Leaf-sheaths with a long bristly rim below the apex; calyx-tube usually much longer than the bract, puberulous; inflorescence globose [11. lucanusianus](#)
- 10 Calyx-tube included behind the bract, more or less glabrous: 11
 Calyx-tube longer than the bract, usually densely puberulous [11. lucanusianus](#)
- 11 Leaf-sheaths expanded 2-5 mm. beyond insertion of petiole; leaves glabrous or slightly pubescent; stems usually stout [9. afer](#)
 Leaf-sheaths prolonged into a cylindrical ochrea 1 cm. or more long; leaves glabrous; stems slender; inflorescence cylindrical [10. deistelii](#)

1. **Costus spectabilis** (*Fenzl.*) *K. Schum.* in *Engl., Bot. Jahrb.* 15: 422 (1892), and in *Engl., Pflanzenr.* 4, 46: 421; *F.W.T.A.*, ed. 1, 2: 334; *Berhaut, Fl. Sén.* 62; *Koechlin in Fl. Gabon* 9: 65, t. 13, and in *Fl.*

Cam. 4: 75 t. 15. *APD acc*

Cadalvena spectabilis Fenzl. (1865)-F.T.A. 7: 297; Bot. Mag. t. 7992; Chev. Bot. 624.

Costus dalzielii C. H. Wright in Hook., Ic. Pl. t. 3013 (1915).

Herb with a rosette of about 4 suborbicular fleshy leaves spread flat on the ground; flowers bright orange or yellow; in rocky savanna.

Sen.: Tambacounda Berhaut 3150! Patako Trochain 3900! **Mali:** Kita Paroisse 34! **Guin.:** Botala, near Kankan (July) Collenette 80! **S. L.:** Gberia Timbako, Sulima (June) Bakshi 223! Kafuru Dawe 498! **Iv. C.:** Gouéhouma, Haute Sassandra Chev. 21659. **Ghana:** Gambaga (June) Akpabla 663! Shiare to Chilinga Nkwanta Hills (May) Morton A3965! **N. Nig.:** Sokoto Prov. (June) Dalz. 560! Damau, Anchau Dist. (June) Ogua FHI 7842! Zaranda Mt., 5,800 ft. (May) Lely 198! Vom Dent Young 239! Keana Hepburn 48! Kolba, Yola (July) Dalz. 229! **S. Nig.:** Obudu Plateau, 3,000-5,000 ft. Stone 88! **W. Cam.:** Ndop Plain (Mar.) Brunt 280! Mildbr. 8954!

Extends to **Sudan**, E. Africa, Rhodesia and **Angola**.

2. *Costus engleranus* K. Schum. in Engl., Bot. Jahrb. 15: 419, t. 13 (1892), and in Engl., Pflanzenr. 4, 46: 424; F.T.A. 7: 300; Koechlin in Fl. Gabon 9: 66, t. 13, and in Fl. Cam. 4: 75, t. 15. *APD acc*

A creeping unifoliolate fleshy herb forming dense ground cover in moist forest; flowers white with yellow throat.

Iv. C.: Alépé (Mar.) Chev. 17407! Bianoua (Sept.) Aké Assi 6181! **Ghana:** Tarkwa (June) Enti FH 6439! S. Scarp F.R., Obomeng (Dec.) Adams 5150! Kibi Morton! Begoro, Akim (Apr.) Irvine 1357! **S. Nig.:** Idanre F.R., (July) Onochie FHI 33385! Omo F.R., Ijebu Dist. (Apr.) Onochie FHI 15512! Afi River F.R., Obudu Dist. (June) Onochie & Jones FHI 17341! Oban Talbot 885! **F. Po:** Ureka (Mar.) Guinea 2293!

Also in **E. Cameroun**.

3. *Costus talbotii* Ridl. in Cat. Talb. 111 (1913). *APD acc*

Herb with wiry stem covered with long cylindrical ligules; flowers in apparently lateral heads.

S. Nig.: Oban Talbot 1521!

[Talbot 839 included as *C. dinklagei* K. Schum. in Ed. 1 appears to be a mixture. A leafy shoot with densely hairy sheaths may be *C. dinklagei* but it is sterile and the type from E. Cameroun is not available for comparison. The remainder of Talbot 839 included glabrous detached leaves, a leafless stem with long sheaths and a few flowers resembling those of *C. talbotii* or *C. lateriflorus*-F.N.H.]

4. *Costus lateriflorus* Bak. in F.T.A. 7: 301 (1898); Koechlin in Fl. Gabon 9: 76, t. 16. *APD acc*

An epiphyte in forest; flowers pale yellow with a red patch inside.

S. Nig.: Orukim to Unyene, near Stubbs Creek, Eket Dist. (May) Onochie FHI 33177! Ikette, Obudu Savory & Keay FHI 25202!

Extending to Gabon.

5. *Costus fissiligulatus* Gagnep. in Bull. Soc. Bot. Fr., sér. 4, 2: 93 (1902); Koechlin in Fl. Gabon 9: 78, t. 17, and in Fl. Cam. 4: 86, t. 18. *APD acc*

A hairy herb with foliaceous bracts in a cone-like inflorescence.

S. Nig.: Calabar to Mamfe (Feb.) Onyeachusim & Latilo FHI 54099! Ubiaja to Ihishi, Benin (Dec.) Lowe FHI 47973!

Extending to Gabon.

[Several similar species have been described and the specimens cited are tentatively referred to *C. fissiligulatus* Gagnep. They are possibly the robust var. major Gagnep l.c. 94 (1902), which approaches *C. dewevrei* De Wild. & Th. Dur.-F.N.H.]

6. *Costus schlechteri* Winkler in Engl., Bot. Jahrb. 41: 275 (1908). *APD acc*

A herb with hairy leaves and stem, up to 6 ft. high, with terminal inflorescence.

Lib.: Sarbo, Webo Dist. (July) Baldwin 6410! **Iv. C.:** Dyolas country, Upper Sassandra (Aug.) Chev. 21517! **S. Nig.:** Afi River F.R. (May) Jones & Onochie FHI 18913! Calabar to Mamfe, Ikpai Dist. (Feb.) Onyeachusim & Latilo FHI 54099! **W. Cam.:** Victoria Winkler 25a.

7. *Costus dubius* (Afzel.) K. Schum. in Engl., Pflanzenr. 4, 46: 395 (1904); Hepper in Kew Bull. 22: 464 (1968). *APD acc*

Zingiber dubium Afzel., Remed. Guin. 3: 9 (1810).

Costus zechii K. Schum. l.c. (1904).

Costus albus A. Chev. ex J. Koechl., Fl. Gabon 9: 68, t. 14 (1964), and in Fl. Cam. 4: 78, t. 16; Chev. Bot. 607 (1920), name only; F.W.T.A., ed. 1, 2: 334.

Tall perennial herb up to 6 ft. high; flowers white in succulent inflorescences either terminating the leafy shoots or short leafless stems at their foot; in rain forest.

S. L.: Gberia Fotombu (Sept.) Small 286! Rokel R. Bridge (Apr.) Hepper 2565! Mokebi, Kori (May) Jordan 900! Bonjema, Kori (Dec.) Pyne 88! Bwedue (Apr.) Deighton 3172! **Lib.:** Brewerville (Nov.) Barker (1085! Dukwai R. (Oct., Nov.) Cooper 14! **Iv. C.:** Bingerville Chev. 15217! Bettié (Mar.) Chev. 17579! Lamé (Nov.) Leeuwenberg 1897! **Ghana:** Bunso (Apr.) Morton A523! Bubrum (Dec.) Thomas D124! **N. Nig.:** Sanga River F.B., Jemaa Div. (Apr., May) E. W. Jones 70! 212! **S. Nig.:** Usonigbe F.R. (Feb.) Onochie FHI 27696! Benin (Aug.) Stanfield 115! Calabar (Aug.) Holland 77!

Also in **E. Cameroun**, **C. African Rep.**, **Middle Congo** and **Gabon**.

[*C. littoralis* K. Schum. (l.c. 1904) in Liberia has a small terminal inflorescence and glabrous leaves like *C. deistellii*, but with one flower per bract it must be close to or part of *C. dubius*.]

8. *Costus* sp. **A.**

Tall herb 6-7 ft. high with terminal inflorescences; flowers pink tipped; in savanna forest.

Ghana: Sorobella, Turner (Mar.) Morton GC 8883! Nsawkaw (Dec.) Adams GC 5404!

[When better known this plant may prove to be taxonomically distinct.]

9. *Costus afer* Ker-Gawl. in Bot. Beg. t. 683 (1823); Hook. in Bot. Mag. t. 4979; F.T.A. 7: 299; K. Schum. l.c. 392; Chev. Bot. 627; F.W.T.A., ed. 1, 2: 334; Koechlin in Fl. Gabon 9: 84, t. 3, and in Fl. Cam. 4: 92, t. 20.

Costus oblitterans K. Schum. l.c. 393 (1904).

Costus anomocalyx K. Schum. l.c. 396 (1904).

Costus bingervillensis A. Chev., partly; Bot. 627-628, names only.

Costus insularis A. Chev. Bot. 627-628, names only.

Costus luteus A. Chev., Bot. 627-628, names only.

Tall perennial herb with leafy stems up to 10 ft. high; flowers white and yellow with pink tip in succulent terminal inflorescences.

Sen.: Sedhiou, Casamance Chev.! **Port. G.:** (Jan.) Esp. Santo 1111! Teixeira Pinto (Jan.) d'Orey 160! **Guin.:** Los Is. Selwyn! Conakry Maclaud! Kindia (Mar.) Chev. 12786! **S. L.:** Don! Musaia (Dec.) Deighton 4570! Batkanu (Apr.) Thomas 80! **Lib.:** Monrovia Whyte! Baiima Bunting 46! Du R. (Aug.) Linder 264! Dukwai R. (Oct., Nov.) Cooper 14! Kakatow Whyte! Nyaake, Webo Dist. (June) Baldwin 6126! **Iv. C.:** Tonkoui Mt. (Mar.) Leeuwenberg 2963! Anguédodou Forest, Adiopodoumé (May, Nov., Dec.) de Wit 7850! Leeuwenberg 1874! Gruys 26! **Ghana:** Anwhiaso F.R. (Sept.) Andoh FH 5241! Kwahu-Tafo to Mpraeso (Apr.) Morton A737! Nsawkaw (Dec.) Adams 3168! Fumso (Mar.) Darko 545! **Dah.:** Pira to Cabolé (May) Chev. 23765! **N. Nig.:** Zungero (Aug.) Dalz. 277! Anara F.R., Zaria (Oct.) Keay FHI 21106! Tep, Mambila Dist. (Feb.) Hepper 1853! **S. Nig.:** Epe (Aug.) Gillett 15258! Abo Barter 417! Ibu T. Vogel 1! **F. Po:** Moka (Aug.) Wrigley 505!

Widespread in the forest region of tropical Africa.

10. *Costus deistellii* K. Schum. in Engl., Pflanzenr. 4, 46: 393 (1904). *APD acc*

Costus pulcherrimus A. Chev., Bot. 628, name only.

A herb with several leafy stems 3-8 ft. high; flowers in terminal heads, yellow or orange; in forest.

S. L.: Guma (Mar.) Hepper & Pyne 2501! York Pass (Sept., Dec.) Deighton 3352! Melville & Hooker 625! Kenema (Oct.) Deighton 5236! **Lib.:** Gbanga (Sept.) Linder 387! Reputa (Jan.) Harley 1103! Jabroke (July) Baldwin 6427! **Iv. C.:** Toula to Nékaougné Chev. 19568! Grabo Chev. 19717! 19732! **Ghana:** Bunso (Aug.) Darko WACRI 953! Atewa Range F.R. (Jan.) de Wit & Morton A2931! Ajaka (Dec.) Adams 2202!

11. *Costus lucanusianus* J. Braun & K. Schum. in Mitteil. Deut. Schutzgeb. 2: 151 (1889); F.T.A. 7: 299; Schlechter, Kautschuk-Exp. 64, with fig. (1901); K. Schum. l.c. 392, incl. var. major K.

Schum. (1904); Koechlin in Fl. Gabon 9: 83, t. 19. *APD acc*

Costus bingervillensis A. Chev., Bot. 627, partly (Chev. 17280), name only.

A tall herb, stems 6-10 ft. high with leaves spirally arranged and a terminal inflorescence; flowers with a red lobe; **in forest**.

Guin.: Conakry (June) Debeaux! Beyla (Mar.) Chev. 20866! **S. L.:** Alikalia, N. Prov. (Apr.) Glanville 197! **Lib.:** Gbanga (Sept.) Linder 390! Belefanaï, Gbanga (Dec.) Baldwin 10554! Ganta (Oct.) Harley! **Iv. C.:** Haut Sassandra (May) Chev. 21516! Adiopodoumé (Nov.) Roberty 15406! Bingerville Chev. 17280! Prolo to Bliéron Chev. 19883! **S. Nig.:** Benin Dennett 17! Sapoba (Oct.) Kennedy 1750! Onyeachusim & Emwiogbon FHI 43220! Oban Talbot 840! Aboh T. Vogel! Port Harcourt (Sept.) Stubbings 40! **W. Cam.:** Buea, 3,000 ft. (Nov.) Migeod 105! **F. Po:** (June) Mann 439!

Extends to Gabon.

[Ker-Gawler (in Reg. Bot. t. 683 (1823)) pointed out that lie obtained from seeds of his *C. afer* a number of plants with a great range of variation including some with a ring of hairs at the base of the ligule. Such plants were later separated as *C. lucanusianus* and it may be that Ker-Gawler used mixed seed, or population studies will prove that *C. lucanusianus* cannot be maintained as a species distinct from *C. afer*-F.N.H.]

CANNACEAE

Tall leafy perennial rhizomatous herbs. Leaves large, broad, pinnately nerved, with a distinct midrib. Flowers racemose or paniculate, bracteate, zygomorphic, bisexual, mostly large and brightly coloured. Perianth double, the outer calyx-like, the inner corolla-like. Sepals 3, imbricate, free, herbaceous. Petals 3, connate at the base and adnate to the staminal column. Stamens petaloid, 3 outer sterile, imbricate, 2 inner more or less connate, 1 free; anther solitary, 1-locular, adnate to the side of the petaloid portion. Ovary inferior, 3-locular; ovules numerous, axile. Fruit a capsule, pericarp often warted. Seeds many, rounded, with very hard endosperm.

Mainly in tropical and subtropical America.

CANNA

Linn., Sp. Pl. 1 (1753); F.T.A. 7: 327; Kränzlin in Engl., Pflanzenr. 4, 47 Cannac.: (1912).

- 1 Stems glabrous, erect; leaves ovate-elliptic, broadly acuminate, abruptly cuneate at the base, up to 40 cm. long and 25 cm. broad, glabrous, with numerous fine close parallel nerves diverging from the midrib at an angle of 45°; racemes terminal, few-flowered; pedicels very short; bracts ovate, about 1.3 cm. long; sepals lanceolate, 1.3 cm. long; petals linear-lanceolate, acute, about 4 cm. long; staminodes 3, one of them bidentate at the apex, spatulate-oblancheolate, about 4 cm. long; style as long as the staminodes, flattened; fruit closely muricate[indica](#)

Canna indica *Linn.* Sp. Pl. 1 (1763); Morton, W. Afr. Lilies & Orchids 52, fig. 62. *APD acc*

Canna indica subsp. *orientalis* (*Rosc.*) *Bak.* in F.T.A. 7: 328 (1898).

Canna orientalis *Rosc.* (1827).

Canna bidentata Bertol. (1859) -Kränzlin l.c. 46; F.W.T.A., ed. 1, 2: 335.

Herb 3-4 ft. high with scarlet or orange-red flowers.

The Indian Shot plant.

[Kränzlin (l.c.) recognised the tropical African plants as a distinct native species under the name of *C. bidentata* Bertol. But it is found in and near towns and villages, mainly in the forest belt, and it was presumably originally an escape from cultivation. It would seem better to regard the wild African plants as naturalised *C. indica*, a native of tropical America, and the cultivated plant as a stouter, finer form. D. P. Stanfield reports two forms sometimes occurring in mixed populations in Nigeria: form 1 with purplish leaf margins and red fruit, form 2 with leaves uniformly green and green fruits. L. Aké Assi also records two forms growing side by side in Ivory Coast.]

MARANTACEAE

Perennial herbs. Leaves in two rows, differentiated into an open sheath, stalk and blade, the stalk often winged, but terete and pulviniform towards the apex, this being referred to as the calloused portion (see Fig. 345), the blade sometimes with one straight and one curved side, with closely parallel numerous nerves diverging obliquely from the midrib. Flowers bisexual, asymmetric, in a terminal bracteate spike or panicle, or the inflorescence arising from the rhizome. Perianth mostly differentiated into calyx and corolla; outer segments free, inner more or less tubular, divided into 3 mostly unequal parts. Fertile stamen 1; anther 1-locular; staminodes variously petaloid. Ovary inferior, 3-1-locular, sometimes 2 of the loculi infertile; style stout, often dilated at the apex. Ovule solitary, erect. Fruit fleshy or a loculicidal capsule. Seeds with abundant endosperm and much incurved or folded embryo, and often with an aril.

Tropics and subtropics, mostly in moist or swampy primary forest.

- 1 Stems simple, usually bearing simple leaf and inflorescence, or stem absent with petiole arising from rhizome; petiole with no distinct circular groove at junction of petiole with the calloused portion; ovary and fruit smooth, not muricate:2
- Stems branched, sometimes repeatedly so to form a scrambling plant, leaves numerous; ovary and fruit 3-locular, smooth or muricate:8
- 2 Inflorescence arising at ground-level, 6-15 cm. long:3
- Inflorescence aerial; fruits more or less rounded or cylindrical, not winged:4
- 3 Inflorescence arising from the lowest node of the leaf, simple or forked; fruits 3-winged, 3 cm. diam.; leaves very large, 60 cm. or more long, 40 cm. broad [1. *Thaumatococcus*](#)
- Inflorescence arising separate from the leaves, simple; leaves up to 35 cm. long and 10 cm. broad [2. *Afrocalathea*](#)
- 4 Leaves strongly asymmetrical with one side nearly straight and the other rounded:5
- Leaves not strongly asymmetrical, both sides rounded:6
- 5 Fruit 3-seeded, more or less rounded; (see also below) [3. *Marantochloa*](#)
- Fruit 1-seeded, cylindrical; inflorescence with closely imbricated bracts and erect branches [4. *Halopegia*](#)
- 6 Ovary 1-locular with 1 erect ovule; fruit 1-seeded, the seed filling the cavity, arillate; inflorescences lax panicles; in open swamps [5. *Thalia*](#)
- Ovary 3-locular; inflorescence borne on a simple stem terminating in a single leaf; in shady places:7
- 7 Nodes of inflorescences each with 1 cymule; each bract enclosing the part of the inflorescence above it, caducous at anthesis; each cymule with 1 fleshy bracteole; fruit with well marked sutures; seed arillate [6. *Megaphrynium*](#)
- Nodes of inflorescences each with 2-4 cymules; bracts not enclosing the part of the inflorescence above it, persistent; each cymule with 2 fleshy bracteoles; fruit without obvious sutures; seeds without an aril [7. *Sarcophrynium*](#)
- 8 Junction of the petiole with the calloused portion marked by a distinct circular groove with thickening (see Fig. 345); ovary and fruit muricate:9
- Junction of the petiole with the calloused portion not marked by a circular groove, only marked by a change in texture; calloused portion uninterrupted with midrib on lower surface (see Fig. 345); fruits not muricate: 10
- 9 Calloused portion of the petiole separated from the midrib on the lower surface by a slight but distinct thickening and on the upper surface by a prominent beak; fruits indehiscent; seeds not arillate [8. *Hypselodelphys*](#)
- Calloused portion of petiole continuous with the midrib on the lower surface and not marked by any disjunction, and on the upper surface the junction with the midrib marked by an interruption but not beaked; fruits dehiscent; seeds arillate [9. *Trachyphrynium*](#)
- 10 Bracts suborbicular; stems often prickly; leaves hardly asymmetric, both sides curved [10. *Haumania*](#)
- Bracts oblong; stems not prickly; leaves strongly asymmetric with one side curved and the other side almost straight; cymules without fleshy bracteoles; seeds arillate: 11
- 11 Bracts acute; flowers at different levels; fruit ultimately dehiscent; inflorescence erect [3. *Marantochloa*](#)
- Bracts obtuse; flowers more or less side by side; fruits indehiscent; inflorescence more or less reflexed [11. *Ataenidia*](#)

Maranta arundinacea Linn.

The arrow-root, a native of tropical S. America, is widely cultivated in gardens in the forest zone of W. Africa.

1. THAUMATOCOCCUS

Benth. in *Benth. & Hook. f., Gen. Pl.* 3: 652 (1883); *F.T.A.* 7: 320.

- 1 Leaves ovate-elliptic, rounded-truncate at the base, shortly acuminate, up to 46 cm. long and 30 cm. broad, papery, with very numerous parallel nerves diverging from the midrib at an angle of about 45°; petiole subterete; spikes simple or forked, about 10 cm. long; bracts imbricate, 4 cm. long; flowers as long as the bracts; sepals broadly linear, 1 cm. long; corolla-tube very short, lobes oblong, 2.5 cm. long; ovary silky; fruit 3-winged, hard, 3 cm. diam.[daniellii](#)

Thaumatococcus daniellii (*Benn.*) *Benth.* l.c. (1883); *F.T.A.* 7: 321; *K. Schum.* in *Engl., Pflanzenr.* 4, 48: 40, fig. 8; *Chev. Bot.* 630; *Mangenot in Ic. Pl. Afr., I.F.A.N.* 4: 95 (1957); *Schnell in Bull. I.F.A.N.* 19: 1133 (1957); *Koechlin in Fl. Gabon* 9: 141, t. 30 (1964), and in *Fl. Cam.* 4: 144, t. 28 (1965). *APD acc*

Phrynium daniellii *Benn.* (1855).

Monostiche daniellii (*Benn.*) *Horan.* (1862).

Donax daniellii (*Benn.*) *Roberly* (1955), as (*Horan.*) *Roberty*.

A herb up to 10 ft. high; rhizome slender, creeping; spikes arising from the base, rough with the scars of fallen flowers, the latter pale purple; fruit crimson, at or below ground-level; seeds black, hard, shining; in large clumps in forest.

S. L.: (cult.) Daniell! Johnston! Bockstatt! **Lib.:** Gbanga (Sept.) Linder 668! Nimba Mt. (fr. Feb.) Adam 20266! **iv. C.:** Mt. Nuon (fr. Apr.) Chev. 21135! Bouroukrou (fr. Jan.) Chev. 16940! Banco (Mar.) Aké Assi 9523! Niapidou Leeuwenberg 2504! **Ghana:** basin of Volta R. Krause! Asain-Yan-Kumasi Cummins 135! Akwawa, nr. Begoro Plumtre 97! **N. Nig.:** R. Benue Talbot 879! **S. Nig.:** Oba, Owo (July) Stanfield 106! Mamu F.R. (Sept.) Onochie FHI 7654! Onitsha Barter 263! 1546! Sapoba Kennedy 2716! L. Odule, Degema Div. (fr. Aug.) Tolbot 3808! **W. Cam.:** Bambuko F.R., Kumba Dist. (Jan.) Keay FHI 37462! Amba Bay (Dec.) Mann 2145!

Also in **E. Cameroun**, **Gabon**, **Congo**, **Cabinda**, **Principe** and **S. Tomé**. See Appendix, p. 476.)

2. AFROCALATHEA

K. Schum. in *Engl., Pflanzenr.* 4, 48: 51 (1902). *APD acc*

- 1 Perennial rhizomatous herb; leaves in pairs or solitary from the rhizome, petiole about 12-60 cm. long, the calloused portion about 2 cm. long, continuous with the petiole and midrib beneath, interrupted above at junction with lamina, pubescent; lamina oblong-lanceolate, slightly asymmetrical, shortly acuminate at apex, deltoid at the base, 10-35 cm. long, 4-10 cm. broad, glabrous; inflorescences up to 15 cm. long, arising directly from the rhizome, 3-4-flowered, spicate with imbricate bracts; sepals linear, 1 cm. long; ovary densely pubescent[rhizantha](#)

Afrocalathea rhizantha (*K. Schum.*) *K. Schum.* l.c. (1902); *Koechlin in Fl. Gabon* 9: 134, t. 30 (1864), and in *Fl. Cam.* 4: 137, t. 28 (1965). *APD acc*

Calathea rhizantha *K. Schum.* (1892)-*F.T.A.* 7: 327.

Rhizomatous herb; flowers whitish; in forest.

S. Nig.: Unyene to Stubbs Creek F.R., Eket Dist. (Oct.) Daramola FHI 55320!

Also in **E. Cameroun** and **Gabon**.

3. MARANTOCHLOA

Brongn. ex Gris in *Bull. Soc. Bot. Fr.* 7: 321 (1860)

Clinogyne of *Benth.* in small part, not of *Salisb.*

Donax of *K. Schum.* in *Engl. Bot. Jahrb.* 15: 434, and of *Baker* in *F.T.A.* 7: 315, not of *Lour.*

Phrynium of *K. Schum.* (1902), and of *F.W.T.A.*, ed. 1, 2: 337, partly.

- 1 Inflorescence congested, about 5 cm. long and nearly as broad composed of numerous short branches, erect, sessile; bracts about 3 cm. long with several flowers to each bract, finely pubescent; leaves oblong-elliptic, rounded to a very slightly acute base, acumen eccentric, 14-31 cm. long, 6-14 cm. broad, with very numerous parallel lateral nerves, petiole up to 28 cm. long, the calloused portion 1.5-3.5 cm. long and shortly pubescent on the upper side, portion above sheath up to 8 cm. long [1. mannii](#)
- Inflorescence lax or spiciform: [2](#)
- 2 Leaves dissimilarly asymmetric, mirror image of the next above, i.e. asymmetry of the leaves on alternate sides in relation to the midrib (see Fig. 345A), 7-15(-25) cm. long; calloused portion of petiole 2-7 (-10) mm. long, pilose, sheath contiguous or almost so with callous portion; branchlets and nodes normally glabrous, sometimes villous; inflorescence lax and delicate, simple or with few branches, bracts and pedicels usually spreading at right angles to the glabrous rhachis; bracts 12-20 mm. long [2. congensis](#)
- Leaves all similar in their asymmetry (see Fig. 345B), or plant monophyllous: [3](#)
- 3 Aerial stems absent, leaf arising from rhizome: [4](#)
- Aerial stems bearing leaves: [5](#)
- 4 Inflorescences about 5 cm. long, very narrow, unbranched; ovary and fruit thinly pubescent; sepals broadly lanceolate, 3 mm. long; bracts about 1.5 cm. long, shortly pubescent; rhizomes bearing only one leaf; leaf oblong-lanceolate, slightly cordate or broadly and very shortly cuneate at the base, 21-30 cm. long, 7-12 cm. broad, with distinct transverse nerves between the numerous lateral nerves; calloused portion of petiole about 1 cm. long, sheathing part of petiole much shorter than the unsheathed portion [3. holostachya](#)
- Inflorescences 15-18 cm. or more long, apparently unbranched, upper bracts imbricate, 3 cm. long, folded half-width about 5 mm.; leaves solitary or paired from rhizome, petioles about 30-50 cm. long, slightly pubescent, calloused portion about 3 cm. long; lamina acuminate, rounded to truncate at base with cuneate portion at top of petiole, about 20 cm. long and 7 cm. broad, coriaceous, glossy above [4. sp. A](#)
- 5 Nodes and branchlets glabrous: [6](#)
- Nodes and branches pubescent: [7](#)
- 6 Leaves 7-16 cm. long, 3.5-7(-11) cm. broad; calloused portion of petiole 3-7 mm. long, shortly pubescent above, contiguous with sheath; inflorescence with slender rhachis simple or once branched; bracts 1.5-3.5 cm. long, caducous; sepals 2-5-6 mm. long; seeds 3-4 mm. long [5. filipes](#)
- Leaves 10-25 cm. long, 6-5-12 cm. broad; calloused portion of petiole 5-14 mm. long, shortly pubescent above, contiguous with sheath; inflorescence 1-3 times branched; sepals 5 mm. long; fruits spherical, 1 cm. diam. with 3 suture grooves, sparsely pubescent; seeds 5-6 mm. long [6. leucantha](#)
- 7 Inflorescences lax and well-branched, up to 20 cm. long, bracts about 3.5 cm. long, persistent: [8](#)
- Inflorescences narrow, 10-25 cm. long, simple or with erect narrow branches; seeds with laminate aril: [9](#)
- 8 Flowers white (see also above) [6. leucantha](#)
- Flowers deep purple; leaves broadly ovate-elliptic, truncate at the base, abruptly apiculate at apex, up to 40 cm. long and 20 cm. broad, calloused portion of petiole 1-6 cm. long, portion above sheath up to 7 cm. long (may be absent or very short in upper leaves only); fruits spherical, 8 mm. diam., pubescent [7. purpurea](#)
- 9 Inflorescence unbranched or usually only divided at the base, 3-4 cm. long, half width 4 mm., enclosing rather large white flowers; corolla-tube about 1 cm. long; stem much-branched; leaves oblong-elliptic, rounded to a very shortly cuneate or slightly cordate base, abruptly tailed-acuminate, up to 26 cm. long and 14 cm. broad [8. ramosissima](#)
- Inflorescence with several parallel branches; bracts more or less imbricate 3 cm. long, half width 3 mm.; corolla-tube about 5 mm. long; stems sparingly branched; leaves ovate to ovate-lanceolate or oblong, rounded to a very shortly cuneate base, abruptly tailed-acuminate at apex, up to 40 cm. long and 26 cm. broad [9. cuspidata](#)
1. **Marantochloa mannii** (*Benth.*) *Milne-Redh.* in Kew Bull. 7: 167 (1952), 454 (1953), and in F.T.E.A. Marantac.: 8 (1952); Koechlin in Fl. Gabon 9: 128, t. 25 (1964), and in Fl. Cam. 4: 130, t. 24 (1965). *APD acc*
- Calathea mannii* *Benth.* (1883).
- Phrynium hensii* *Bak.* in F.T.A. 7: 323 (1898); Léonard & Mullenders in Bull. Soc. Roy. Bot. Belg. 83: 22.
- P. mannii* (*Benth.*) *K. Schum.* in Engl. Pflanzenz. 4, 48: 56 (1902); F.W.T.A., ed. 1, 2: 337.
- Clinogyne hensii* (*Bak.*) *K. Schum. l.c.* 62 (1902).
- A herb up to 8 ft. high with several leaves and clustered pink flowers; [in moist forest.](#)
- IV. C.:** Maféré (Feb.) Aké Assi 7331! **Ghana:** Koforidua (Oct.) Baldwin 13475! Kumasi (Dec.) Darko 486! **S. Nig.:** Idanre F.R. (Dec.) Keay FHI 37268! Okomu F.R., Benin (Dec.) Brenan 8470! **F. Po:** Mann 1173!
- Also in [Gabon](#), [Congo](#), [Sudan](#), [Uganda](#) and [Tanzania](#).
2. **Marantochloa congensis** (*K. Schum.*) *Léonard & Mullend.* in Bull. Soc. Roy. Bot. Belg. 83: 17

(1950); Aké Assi, *Contrib.* 2: 28 [236]; Koechlin in *Fl. Gabon* 9: 120, t. 26, and in *Fl. Cam.* 4: 123, t. 25. *APD acc*

Donax congensis K. Schum. (1892)-F.T.A. 7: 317.

Clinogyne congensis (K. Schum.) K. Schum. in Engl., *Pflanzenr.* 4, 48: 67 (1902).

A slender rhizomatous branched herb, erect, usually only a few feet high; flowers white or yellowish; in small colonies in forest.

S. L.: Vama (Apr.) Deighton 3668! Kamasu, Tunkia (Oct.) Deighton 5220! Rowala (July) Thomas 1181! Gondama, Maje (May) Deighton 5783! Pampanu (June) Marmo 200! **Lib.:** Peahtah (fl. & fr. Oct.) Linder 924! Toroke, Webo Dist. (July) Baldwin 6734! Bilimu Mt. (Dec.) Harley 1311! Mt. Bele road (Sept.) Adames 502! **Iv. C.:** Guitry (Dec.) Boughey GC 13529! Bianouan to frontier (Apr.) Leeuwenberg 3935! **Ghana:** Essem F.R. (Jan.) Morton GC 8354! Awaso, W. Prov. (Dec.) Morton A3622! Fumso, Ashanti (Nov.) Darko 672! Kwabeng, Akim (Apr.) Adams GC 2700! Kwahu (Apr.) Johnson 691! **S. Nig.:** Usonigbe F.R., Benin (Nov.) Keay FHI 25568! Sapoba (Mar., Nov.) Kennedy 2315! Jones FHI 1089! Meikle 557! Orlu (Apr.) Thompson! Oban Talbot 881!

Extends to Cabinda and Congo.

[The plants with pilose branches and nodes have been distinguished as var. *pubescens* Léonard & Mullend. l.c. 18 (1950).]

3. *Marantochloa holostachya* (Bak.) Hutch. F.W.T.A., ed. 1, 2: 338 (1936); Koechlin in *Fl. Gabon* 9: 116, t. 25, and in *Fl. Cam.* 4: 120, t. 24.

APD: *Synonym of Marantochloa monophylla* (K. Schum.) D'Orey

Phrynium holostachyum Bak. in F.T.A. 7: 322 (1898).

Clinogyne holostachya (Bak.) K. Schum. in Engl., *Pflanzenr.* 4, 48: 65 (1902).

A herb apparently bearing a single leaf, with yellow flowers.

S. Nig.: Oban Talbot 875!

Also in **E. Cameroun**, **Gabon** and **Congo**.

4. *Marantochloa* sp. **A.** *APD acc*

A herb with 1 or 2 leaves from the rhizome and a simple inflorescence; further material is required.

S. Nig.: Oban Talbot 93! 1262!

5. *Marantochloa filipes* (Benth.) Hutch. F.W.T.A., ed. 1, 2: 338 (1936); Koechlin in *Fl. Gabon* 9: 122, t. 26, and in *Fl. Cam.* 4: 126, t. 25. *APD acc*

Phrynium filipes Benth. (1849).

Donax filipes (Benth.) K. Schum. (1892)-F.T.A. 7: 316.

Clinogyne filipes (Benth.) K. Schum. (1902).

C. eburnea A. Chev., Bot. 629 (1920) partly, name only.

Marantochloa oligantha (K. Schum.) Milne-Redh. in Bull. Soc. Hoy. Bot. Belg. 83: 20 (1950).

Donax oligantha K. Schum. (1892)-F.T.A. 7: 316.

Clinogyne oligantha (K. Schum.) K. Schum. (1902).

Branched herb more or less climbing, up to 8 ft. high, locally gregarious in high forest; flowers white; fruits red, splitting and exposing 3 black seeds.

Guin.: N'Zérékoré (Sept.) Baldwin 13278! **S. L.:** Benikoro (fr. Oct.) Thomas 2912! **Lib.:** Zwedru (Aug.) Baldwin 12495! **Iv. C.:** Bingerville Chev. 15397! Yapo Forest (Oct.) Leeuwenberg 1833! Adiopodoumé (fr. Jan.) Aké Assi 7293! **Ghana:** Juaso, Ashanti (fr. Sept.) Lovi WACRI 3921! Wankye, Birrim Dist. (fr. Aug.) Chipp 565! Assuantsi (July) Irvine 5081! 5082! **S. Nig.:** Okomu F.R., Benin (fr. Dec.) Brenan 8502! Oban Talbot 881(!?) **F. Po.:** (Dec.) T. Vogel 163! Musola to Concepcion (fr. Sept.) Wrigley 553!

Also in **E. Cameroun**, **Gabon** and **Congo**.

[F. R. Irvine noted under his No. 5081 that the stem had no nodes whereas No. 5082 had knee-like nodes: otherwise the two gatherings appear to be similar-F.N.H.]

6. *Marantochloa leucantha* (K. Schum.) Milne-Redh. l.c. 19 (1950), and in F.T.E.A. *Marantac.*: 6 (1952). *APD acc*

- Donax leucantha* K. Schum. (1892)-F.T.A. 7: 317.
Clinogyne leucantha (K. Schum.) K. Schum. in Engl., Pflanzenr. 4, 48: 66 (1902).
C. eburnea A. Chev., Bot. 629, partly, name only.
Donax cuspidata of F.T. A. 7: 315 partly, not of K. Schum.
Marantochloa flexuosa of F.W.T.A., ed. 1, 2: 338, partly (syn. *M. leucantha*).

More or less scrambling herb up to 12 ft. high, often much less, with rather large leaves, swollen nodes and branched inflorescences; flowers whitish, fruits whitish or reddish; seeds black; **in forest**.

Guin.: Macenta (fl. & fr. May) Collenette 9! **S. L.:** Duunia Sc. Elliot 4820! Gorahun, Kpola Mende (June) Small 727! Bobobu, Tunkia (fr. Dec.) Deighton 3807! Njala (fr. Feb.) Deighton 2458! Taiama (fr. Dec.) Deighton 2933! **Lib.:** Gletown, Tchien Dist. (fr. July) Baldwin 6736! Yratoke, Webo Dist. (fr. July) Baldwin 6259! Bilimu Mt. (ft. Aug.) Harley 1450a! Montézo, Attié (fr. Feb.) Chev. 17439! Bingerville Chev. 17310! **Iv. C.:** Adiopodoumé (fl. & fr. Oct.) Leeuwenberg 1772! **Ghana:** Koforidua (fl. & fr. Oct.) Baldwin 13476! Juaso, Ashanti (fr. Sept.) Lovi WACRI 3922! Mpraeso Scarp (Apr.) Morton A524! Aburi swamps (fl. & fr. July) Johnson 757! Sibiri, Akim (fr. Apr.) Irvine 1185! **Togo Rep.:** Takpla (fr. Feb.) Schröder 213! **N. Nig.:** Dogon Kurmi, Jemaa Dist. (fl. & fr. Sept.) Killick 69! **S. Nig.:** Ibadan South F.R. (Apr.) Keay FHI 22841! Aponmu F.R., Akure (fl. & fr. Aug.) J. B. Gillett 15281! Okomu F.R., Benin (fl. & fr. Jan.) Brenan 8764! Sapoba Kennedy 2657! Owo (fl. & fr. June) Stanfield 107! **W. Cam.:** Buea Deistel 170! Barombi Preuss 354! S. Bakundu F.R., Kumba Dist. (fr. Feb.) Binuyo & Daramola FHI 35527!

Also in **E. Cameroun**, **Congo**, **Sudan**, **Uganda** and **Tanzania**.

[*Clinogyne lasiocolea* K. Schum. in Engl., Pflanzenr. 4, 48: 66 (1902), (W. Cam.: Bali Conrau 240) is said to differ from *M. leucantha* only in having the leaf sheaths golden hairy towards the base. The type has not been seen, but it may be a synonym of the above; Koechlin in Fl. Cam. 4: 127 regards it as a variety-F.N.H.]

7. *Marantochloa purpurea* (Ridl.) Milne-Redh. l.c. 21 (1950); and in F.T.E.A. Marantac. 6, fig. 2; Schnell in Bull. I.F.A.N. 19: 1128, 1131; Mangenot in Ic. Pl. Afr., I.F.A.N. 7: 160 (1965); Koechlin in Fl. Gabon 9: 125, t. 27, and in Fl. Cam. 4: 129, t. 26. **APD acc**

- Clinogyne purpurea* Ridl. in Bot. 25: 132 (1887).
C. baumannii K. Schum. in Engl., Pflanzenr. 4, 48: 63 (1902).
Donax cuspidata of F.T.A. 7: 315, partly, not of K. Schum.
Marantochloa flexuosa of F.W.T.A., ed. 1, 2: 338, partly.

A **swamp forest** herb 4-8 ft. high; bracts pale pink; petals and outer staminodes deep purple (pink in Congo and Uganda plants), with stamen appendage and inner staminode yellow; fruits scarlet.

S. L.: Heddle's Farm, Freetown (Dec.) Sc. Elliot 3900! Faiama, Nomo (Mar.) Deighton 4110! Nienia (Feb.) Sc. Elliot 4902! Bagroo R. (Apr.) Mann 901! **Iv. C.:** Mt. Tonkoui, Man (Feb., Mar.) Aké Assi 7357! Leeuwenberg 2938! **Ghana:** Apapam, Kibbi (Dec.) Morton GC 8151! Offinso, Kumasi (Nov.) Darko 643! Bame Krause! Mpraeso (May) Robertson K7! Mt. Equanema, Southern Scarp F.R. (Nov.) Foggie FH 4934! Swedru (Feb.) Dalz. 8290! **Togo Rep.:** Lomé Warnecke 453! **N. Nig.:** Lokoja (Mar.) Shaw 7! Dogon Kurmi, Jemaa Dist. (Nov.) Keay FHI 21043! Matyoro Lakes, Gombe Div. (Apr.) Thornewill 61! Gangumi, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28860! **S. Nig.:** Lagos Millen 141! Owo (fl. & fr. May) Stanfield 108! Angiama Barter 97! Bashi-Okwango F.R., Obudu (Apr.) Latilo FHI 30913! Oban Rock (Mar.) Coombe 184! Abakaliki Dist. (Mar.) Kitson! **W. Cam.:** Johann-Albrechtshöhe (= Kumba) Staudt 485! Bambuko F.R., Kumba Dist. (fl. & fr. Jan.) Keay FHI 37433! Nkambe to Wum (Feb.) Hepper 1917!

Also in **E. Cameroun**, **Congo**, **Sudan**, **Uganda** and **Tanzania**.

8. *Marantochloa ramosissima* (Benth.) Hutch. F.W.T.A., ed. 1, 2: 338 (1936); Koechlin in Fl. Cam 4: 33. **APD acc**

- Phrynium ramosissimum* Benth. (1849)-F.T.A. 7: 326.
Clinogyne ramosissima (Benth.) K. Schum. l.c. 64 (1902).
Donax arillata K. Schum. (1892)-F.T.A. 7: 316.
Clinogyne arillata (K. Schum.) K. Schum. in Engl. Pflanzenr. 4, 48: 62 (1902), partly.

Stems much branched, 4-8 ft. high; calyx rosy white, flowers white tinged pink with yellow centre.

Iv. C.: Nigbi Soubre (Nov.) de Wilde 3264! **S. Nig.:** Oban (Mar.) Onochie FHI 36464x! Talbot 1262! Ikom (Dec.) Rosevear 27/30a! Keay FHI 28269! Ukon F.R., Obubra Dist. (July) Latilo FHI 31869! **W. Cam.:** Kake, Barombi (Aug.) Preuss 379! Cam. R. Mann 2141! **F. Po:** (fl. & fr. Dec.) T. Vogel 165! 178! Mann 100! 1174! Clarence Barter 1544!

Also in **E. Cameroun**.

9. *Marantochloa cuspidata* (Rosc.) Milne-Redh. in Proc. Linn. Soc. 165: 30 (1954); Schnell in Bull.

I.F.A.N. 19: 1128, 1131 (1957); Mangenot in Ic. Pl. Afr., I.F.A.N. 7: 159 (1965). *APD acc*

Maranta cuspidata *Rosc.*, Scitam. t. 31 (1828).

Phrynium flexuosum *Benth.* (1849).

Clinogyne flexuosa (*Benth.*) *K. Schum.* in Engl., Pflanzenr. 4, 48: 63 (1902).

C. chrysantha *Gagnep.* (1904).

C. arcta *Stapf* (1906).

Marawtochloa fteuxuosa (*Benth.*) *Hutch.*, F.W.T.A., ed. 1, 2: 338 (1936).

Little-branched herb 2-6 ft. high; flowers yellow; in forest undergrowth, often secondary or by rivers in savanna.

Guin.: Heudelot 729! Conakry (Dec.) Maclaud 138! **S. L.:** Don! Port Lokko (Apr.) Sc. Elliot 5877! Kambia (fr. Dec.) Sc. Elliot 4196! Njala (fl. & fr. Dec.) Deighton 2934! Kambui Hills (Mar.) Small 503! Bonkababa, near Kasawa (fl. & fr. Dec.) King 61b! **Lib.:** Bilimu Mt. (Dec.) Harley 1310! Du R. (July) Linder 98! Peahtah (Oct.) Linder 1023! Ganta (Jan.) Baldwin 14052! Kakatown Whyte! **Iv. C.:** Guédéyo (Dec.) Leeuwenberg 2161! Fresco, Sassandra (Mar.) Leeuwenberg 3064!

Ghana: Aboma F.R. (Oct.) Foggie FH 4932! Pamu-Berekum F.R. (Sept.) Vigne FH 2497! Mampong (Aug.) Darko 710! Ejura (Nov.) Vigne FH 3473! Dutukpene, Buem-Krachi Dist. (Mar.) Hepper & Morton A3056!

4. HALOPEGIA

K. Schum. in Engl., Pflanzenr. 4, 48, Marantac.: 49 (1902).

- 1 Leaves elongate-oblong, very broadly and shortly cuneate at the base, abruptly caudate-acuminate, 20-44 cm. long, 6-14 cm. broad, very thin, with very numerous parallel nerves, a few slightly more prominent than the others; petiole very long, sheathing in the lower half, quite terete towards the apex; inflorescence erect-branched and narrow; bracts persistent, imbricate, narrowly lanceolate, about 5 cm. long; corolla mottled; ovary silky [azurea](#)

Halopegia azurea (*K. Schum.*) *K. Schum.* l.c. 50 (1902); Léonard & Mullenders in Bull. Soc. Roy. Bot. Belg. 83: 30 (1950); Schnell in Bull. I.F.A.N. 19: 1129 (1957); Koechlin in Fl. Gabon 9: 136, t. 29, and in Fl. Cam. 140, t. 29. *APD acc*

Donax azurea *K. Schum.* in Engl., Bot. Jahrb. 15: 434 (1892).

Calathea vaginata *A. Chev.*, Bot. 631 (1920), name only.

Several long-petiolate leaves 3-4 ft. high arising from the rhizome, leaves sometimes reddish beneath; inflorescences shorter than the leaves, narrow, 1 or 2 flowers appearing at a time, decorative purple with yellow staminode; in marshy places by streams in forest.

S. L.: Bumbuna (Oct.) Thomas 3312! Dodo, Dea (Oct.) Deighton 3769! Vaama, Koya (Dec.) Deighton 3842! Tingi Mts., Kono (Mar.) Morton & Gledhill SL 3199! **Lib.:** Wanau Forest (Nov.) Harley 2059! Gbanga (Sept.) Linder 782! Peahtah (Oct.) Linder 782a! Suen (Nov.) Linder 1394! **Iv. C.:** Bouroukrou Chev. 16520! 16686! 16714! Mid. Cavally Chev. 19266bis! 19408! Yapo Forest (Oct.) de Wilde 700! Guévo (July) Leeuwenberg 4546! **Ghana:** Amentia, Ashanti Irvine 519! Akwapim (Dec.) F. W. Brown 788! Cadbury Hall, Kumasi (Nov.) Darko 471! Krokusu Hills F.R. South (Nov.) Foggie FH 4935! Puso Puso Ravine (Oct.) Morton A145! **S. Nig.:** Okomu F.R. (Dec.) Brenan 8398! Boje to Aboabam, Ikom Dist. (Dec.) Keay FHI 28243! Ikom Rosevear 26/30A! Oban Talbot 56! 57! 92!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Cabinda**.

5. THALIA

Linn., Sp. Pl. 1193 (1753); F.T.A. 7: 313.

- 1 A straggling herb; leaves ovate-lanceolate, rounded or subcordate at base, gradually and shortly acuminate, 15-40 cm. long, 8-20 cm. broad, with numerous closely parallel lateral nerves forming a cartilaginous margin; petiole sheathing in the lower part or nearly up to the calloused portion; flowers in a lax panicle with slender branches; bracts 2-flowered, deciduous, lanceolate, 1.5-2 cm. long, boat-shaped; capsule 1 cm. long; seed filling the capsule, broadly oblong, with a basal aril [welwitschii](#)

Thalia welwitschii *Ridl.* in J. Bot. 25: 132 (1887); F.T.A. 7: 314; Koechlin in Fl. Gabon 9: 139, t. 29, and in Fl. Cam. 4: 142, t. 29.

APD: Synonym of Thalia geniculata L.

Thalia coerulea Ridl. l.c. (1887); F.T.A. 7: 314.

Thalia geniculata of F.T.A. 7: 314, and of K. Schum. in Engl., Pflanzenr. 4, 48: 173, Afr. distrib. only; not of Linn.

Erect herb with several stems arising from each plant, stems and petioles spongy in the lower part, leaves usually about 3 ft. high; lax inflorescence up to 8 ft. high bearing purple flowers opening in the morning; **in rice-fields and wet places.**

Sen.: Heudelot 665! **Guin.:** N'Zérékoré (Sept.) Baldwin 13309! **S. L.:** Roruks (Feb.) Jordan 977! Musaia (Sept.) Small 260! Falaba (Mar., Sept.) Deighton 5182! Sc. Elliot 5098! Binkolo (Aug.) Deighton 1268! Njala (Oct.) Deighton 3224! **Lib.:** Palilah, Gbanga Dist. (Aug.) Baldwin 9161! Ganta (May, Sept.) Harley s.n.! 312! **Iv. C.:** Ferkessedougou (Nov.) Leeuwenberg 2025! Oroumba-Boka (Oct.) de Wilde 663! **Ghana:** Babile, Burufu (Nov.) T. M. Harris! Navrongo (Nov.) Darko 448! Poug-Tamale (Dec.) Morton GC 9833! Berekum to Wamfie (Dec.) Adams 2926! Gidan Bazamfari (May) Krause! Dzolokpuita, Vane, (Aug.) de Wit & Morton A2916! **Dah.:** Porto-Novo Chev. 22720! Godomé (Sept.) Newton 16! **S. Nig.:** Odeke, Igala Dist. (Feb.) Jones 2857! Lokoja (Oct.) Dalz. 228! Nupe Barter 1024! Nabardo (Oct.) Lely 678! Yola (Nov.) Hepper 1206! **S. Nig.:** Abeokuta Irving 158! Lagos Millen! MacGregor 348! Ikoyi Plains (Mar.) Dalz. 1282! Ubiaja to Illushi, Ishan Dist. (Aug.) Onochie FHI 33295!

Widespread in tropical Africa.

[The African plants have glabrous bracts and calyx and they are therefore regarded as a species distinct from the American *T. geniculata* Linn. in which they were formerly placed.]

Thalia dealbata Fraser

Cultivated in the Botanic Garden, Victoria, W. Cameroun.

6. MEGAPHRYNIUM

Milne-Redh. in Kew Bull. 7; 169 (1952).

Sarcophrynium K. Schum. (1902), partly-F.W.T.A., ed. 1, 2: 336, partly.

- 1 Inflorescence arising from a sheath up to 10 cm. below the calloused portion of the apical leaf petiole, borne on a simple stem 2-3 m. high; inflorescences up to 20 cm. long with a few lax branches, the branches spike-like and articulated with numerous nodes, cymules solitary at the nodes; bract enclosing the part of the inflorescence above it and caducous at anthesis; flowers side by side; bracteole solitary per cymule; outer staminodes lanceolate, linear, subulate or one absent; calyx-lobes free or more or less connate; fruit 3-lobed, 2 cm. diam. with conspicuous sutures, glabrous, tardily dehiscent; seeds arillate, not keeled, 16 by 10 mm.; leaves arising from the base with erect petioles 1-2 m. high, calloused portion up to 10 cm. long, lamina broadly ovate, rounded at base, shortly acuminate, up to 40 cm. long and 25 cm. broad *1. macrostachyum*

Inflorescence arising from a sheath 50-80 cm. below the calloused portion of the apical leaf petiole, borne on a simple stem 1 m. high; inflorescences about 8 cm. long, compact with few short branches; young fruits ciliate; seeds keeled, 12 by 8 mm. *2. distans*

1. *Megaphrynium macrostachyum* (Benth.) Milne-Redh. l.c. 170 (1952), and in F.T.E.A. Marantac.: 4; Koechlin in Fl. Gabon 9: 156, and in Fl. Cam. 4: 154, t. 31. *APD acc*

Phrynium macrostachyum Benth. in Benth. & Hook. f., Gen. Pl. 3: 653 (1883).

Sarcophrynium macrostachyum (Benth.) K. Schum. in Engl., Pflanzenr. 4, 48: 37 (1902); F.W.T.A., ed. 1, 2: 336.

S. macrophyllum (K. Schum.) Hutch. F.W.T.A., ed. 1, 2: 336 (1936), as to name.

Phyllodes macrophyllum K. Schum. (1892).

Phrynium macrophyllum (K. Schum.) Bak. in F.T.A. 7: 323 (1898).

Sarcophrynium adenocarpum (K. Schum.) K. Schum. (1902).

S. oxycarpum (K. Schum.) K. Schum. (1902).

Phrynium adenocarpum (K. Schum.) Bak. in F.T.A. 7: 324 (1898).

P. oxycarpum (K. Schum.) Bak. l.c. (1898).

P. benthamii Bak. l.c. (1898).

A perennial herb **forming extensive colonies in open high forest**, the large solitary leaves forming a dense blanket 3 ft. or more high and separate taller inflorescences with one leaf on top, up to 10 ft. high; flowers whitish with red or purplish calyx; fruits glossy red; seeds black; leaves sometimes purple on the under surface.

S. L.: Kowama, Peri (fr. Nov.) Deighton 5270! **Lib.:** Ganta (fr. Dec.) Harley 1621a! Nimba Mt. (fr. Jan.) Adam 20660! **Iv. C.:** Adiopodoumé, (fl. & fr. Oct.) Leeuwenberg 1752! Bacanda, Tiassalé (fr. Jan.) Aké Assi 8423! **Ghana:** Begoro

Plumptre 101! Obomeng, Kwahu (fl. & fr. Dec.) Adams 5169! **Togo Rep.:** Baumann 174! **S. Nig.:** Ibadan (July) Ahmed & Chizea FHI 20012! Lagos (fr. Mar.) Millen 19! Dawodu 120! Benin (Feb.) Maggs 164! Oban Talbot 880! Owo (June) Stanfield 86! **W. Cam.:** Amba Bay Mann, 1335! Barombi to Ninga Preuss 343! 381! Mamfe (Dec.) Baldwin 13822!

Also in **E. Cameroun**, **Rio Muni**, **Gabon**, **Cabinda**, **Congo**, **Sudan** and **Uganda**.

2. *Megaphrynium distans* Hepper in Kew Bull. 22: 461 (1968). *APD acc*

Sarcophrynium macrophyllum of F.W.T.A., ed. 1, 2: 336 (as to descr. and cited specimens).

Leaves and inflorescences 3 or 4 ft. high; flowers yellow with a red spot.

Lib.: Monrovia (fr. June) Baldwin 5904! Ganta (fr. Sept.) Baldwin 12492! **Iv. C.:** Amitioro Forest, Tiassalé Reg. (Dec.) Aké Assi 8390! **Ghana:** W. Afao Hills F.R., Awaso (fl. & fr. Feb.) Darko 762! S. Scarp F.R., Kwahu (fr. Dec.) Adams 5168! Asamankese (fr. Dec.) Plumptre 48! Assin-Yan-Kumasi Cummins 206!

Sarcophrynium spicatum K. Schum. in Engl., Pflanzenr. 4, 48: 40 (1902); F.W.T.A., ed. 1, 2: 336; Milne-Redhead in Kew Bull. 7: 170 (1952).

Lib.: Grand Bassa, near the coast in primary forest on the R. Cestos (May) Dinklage 1946.

This specimen was not seen for Ed. 1 and it is not now in the Berlin Herbarium. Milne-Redhead stated that although it belongs to *Megaphrynium*, he was not prepared to make a new combination or reduce it to synonymy until material was available for study.-F.N.H. Imperfectly known species.

7. SARCOPHRYNIUM

K. Schum. in Engl., Pflanzenr. 4, 48 Marantac.: 35 (1902); Milne-Redhead in Kew Bull. 7: 168 (1952).

- 1 Inflorescence sessile, branched from the base, up to 7 cm. long; bracts overlapping, boat-shaped, 1.5-2 cm. long; leaves ovate-elliptic, rounded at the base 20-30 cm. long, 10-15 cm. broad, with very numerous closely parallel lateral nerves, glabrous or puberulous beneath; calloused portion of petiole 4-6 cm. long; fruits subglobose, scarcely bilobed, shining and wrinkled when dry, about 1.5 cm. diam. *1. brachystachys*
- Inflorescence pedunculate, paniculate; bracts very lax, containing 2 to several flowers, 4 cm. long; peduncle thinly villous; large leaves elliptic, acuminate, rounded at the base, 30-47 cm. long, 12-19 cm. broad; calloused portion of petiole 5-9 cm. long: **2**
- 2 Leaves glabrous or more or less softly puberulous *2a. prionogonium var. prionogonium*
- Leaves pilose beneath, hairs arising from tubercles *2b. prionogonium var. ivorense*

1. *Sarcophrynium brachystachys* (Benth.) K. Schum. in Engl., Pflanzenr. 4, 48: 36 (1902); Koechlin in Fl. Gabon 9: 145, t. 31 (1964), and in Fl. Gabon 4: 146, t. 30 (1965). *APD acc*

Maranta (?) *brachystachys* Benth. in Fl. Nigrit. 531 (1849).

Phrynium brachystachys (Benth.) Koernicke (1862)-F.T.A. 7: 322; Chev. Bot. 630. P. molle A. Chev., Bot. 631 (1920), name only.

Sarcophrynium strictifolium Schnell in Bull. I.F.A.N. 15: 1390, fig. 1 (1953) & 19: 1132 (1958).

Herb in forest 11/2-5 ft. high with single long-petioled leaf arising in groups from the rhizome; flowers white; fruits red.

Sen.: Boukitingo Forest, Casamance (fr. Nov.) Berhaut 6544! **Guin.:** Ya Valley, Nimba Mts. (Apr.) Schnell 5217! **S. L.:** Tawia, Scarcies (fr. Jan.) Sc. Elliot 4473a! Kamahi (fr. May) Thomas 315! Njala (fl. & fr. Feb.) Deighton 4703! Kambui F.R., Kenema (fr. Mar.) Jordan 2007! Gola Forest (fr. Mar.) Small 568! **Lib.:** Monroviatown (fr. Aug.) Baldwin 7098! Grand Bassa T. Vogel 77! Ganta (fr. Sept.) Baldwin 12490! Nana Kru (Mar.) Baldwin 11575! Jabroke, Webo Dist. (fr. July) Baldwin 6450! Cape Palmas (July) T. Vogel 29! **Iv. C.:** Oubi, Mid. Cavally (fr. July) Chev. 19350! Adiopodoumé (fr. Jan.) Aké Assi 7294! Béyo (fl. & fr. Jan.) Leeuwenberg 2445! Guédéyo (fl. & fr. Dec.) Leeuwenberg 2165! Yapo (Oct.) Roberty 15351! **Ghana:** Mampong Scarp (fr. Dec.) Morton! Jimira F.R. (fl. & fr. Feb.) Foggie FH 4965! Fumso (fl. & fr. Feb.) Darko 671! Juaso (fr. June) Irvine 321! Kwabeng, Akim (fr. Apr.) Adams 2098! **N. Nig.:** Lapai (Mar.-Apr.) Yates 39! Lokoja (Mar.) Shaw 29! 30! Mayo Ndaga, Mambila Plat. (fr. Jan.) Latilo & Daramola FHI 28986! **S. Nig.:** Ibadan South F.R. (fr. Apr.) Keay FHI 22835! Owo (fl. & fr. June) Stanfield 96! Okomu F.R. (Dec.) Brenan 8490! Onitsha Barter 1545! Nun R. (fl. & fr. Sept.) Mann 517! Cross K. North F.R. (fr. Dec.) Keay FHI 28311! **W. Cam.:** Kumba (Apr.) Daramola FHI 29842!

Extends to Congo.

2. *Sarcophrynium prionogonium* (K. Schum.) K. Schum. in Engl., Pflanzenr. 4, 48: 39 (1902); Schnell in Bull. I.F.A.N. 19: 1132 (1955); Koechlin in Fl. Gabon 9: 147, and in Fl. Cam. 4: 149. *APD acc*

Phyllodes prionogonium K. Schum. (1892).

Phrynium prionogonium (K. Schum.) Bak. in F.T.A. 7: 325 (1898).

2a. *Sarcophrynium prionogonium* var. *prionogonium* *APD acc*

Sarcophrynium prionogonium var. *puberulifolium* Schnell in Bull. I.F.A.N. 15: 1392, fig. 2 (1953).

Phrynium cerasiferum A. Chev., Bot. 630 (1920), name only.

Sarcophrynium leiogonium (K. Schum.) K. Schum. (1902).

Erect herb about 6 ft. high; inflorescence branched, flowers whitish, fruits red; in forest.

Guin.: Nimba Mt. (fr. Feb.) Schnell 4346! **S. L.:** Kenema (fl. & fr. Oct.) Deighton 5240! **Lib.:** Bilimu (fr. Dec.) Harley 1307! Kitoma, Sanokwele Dist. (fr. Jan.) Baldwin 14061! Banga (fl. & fr. Oct.) Linder 1266! Ganta (fr. Apr.) Harley 1130! Jabroke, Webo Dist. (fr. July) Baldwin 6604! **Iv. C.:** Malamalasso (fr. Mar.) Chev. 17500! Teke Forest (Aug.) de Wit 7237! Bocanda to Tiépo (fr. Jan.) Aké Assi 8447! **Ghana:** Mt. Ejuanema, Kwahu (fl. & fr. Dec.) Adams 5113! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan 8583! Oban Talbot 877! **W. Cam.:** Barombi-Ba-Mbu Preuss 458!

Extends to Gabon and Congo.

2b. *Sarcophrynium prionogonium* var. *ivorense* Schnell in Bull. I.F.A.N. 19: 1133 (1957). *APD acc*

Iv. C.: Bouroukrou Chev. 16746! Agnéby Valley Chev. 17032! Lamé (fr. Nov.) Leeuwenberg 1906! Bocanda to Tiépo (fr. Jan.) Aké Assi 8448! **S. Nig.:** Okomu F.R., Benin (fl. Mar., June, fr. Jan.) Onochie FHI 34613! 38309! Brenan 8869! Afi River F.R., Ogoja Prov. (fl. & fr. May) Jones & Onochie FHI 5816!

8. HYPSELODELPHYS

(K. Schum.) Milne-Redh. in Kew Bull. 5: 158 (1950).

Trachyphrynium Benth. (1883), partly; F.W.T.A., ed. 1, 2: 337, partly.

T. subgen. *Hypselodelphys* K. Schum. in Engl., Pflanzenr. 4, 48: 42 (1902).

- 1 Inflorescences congested with several (often many) lateral branches arising from about the same point; bracts persistent, closely overlapping, acutely acuminate, about 3 cm. long; leaves elliptic, rounded at base, gradually acuminate, 12-14 cm. long, about 6 cm. broad, with numerous closely parallel lateral nerves; petiole sheathing in the lower 3/4, the upper quarter articulated in the middle with the calloused portion about 2 cm. long [1. zenkerana](#)
- Inflorescences loosely arranged, little-branched: **2**
- 2 Fruits acutely triangular, each side 4 cm. long, flattened, densely and shortly muricate; inflorescences usually zig-zag, (5-)8-16(-24) cm. long from lowest node, with internodes about 1 cm. apart; bracts 2-3.5 cm. long; flowers 2.5 cm. diam.; leaves oblong-elliptic, rounded-truncate at base, abruptly acuminate, 9-21 cm. long, 5-9 cm. broad, with numerous close parallel lateral nerves; petiole sheathing up to the junction with the calloused portion [2. violacea](#)
- Fruits 3-lobed with rounded comers, muricate: **3**
- 3 Tubercles of fruit short and dense, about 2 mm. long; fruit up to 4-5 cm. diam.; inflorescences nearly straight, 5-9 cm. long from the lowest node, with internodes about 5 mm. apart; bracts 2-3.5 cm. long; leaves oblong-elliptic to ovate-oblong, rounded-truncate at base, abruptly acuminate, 8-15 cm. long, 3-9 cm. broad, with numerous close parallel lateral nerves; petiole as the last [3. poggeana](#)
- Tubercles of fruit long and apparently less numerous, up to 5 mm. long, often curved; fruit up to 5 cm. diam.; inflorescence branches usually zig-zag, about 20 cm. long, with internodes about 1 cm. apart; bracts 3.5-4 cm. long; leaves elliptic, oblong-elliptic or ovate-elliptic, rounded-truncate at base, shortly acuminate, 12-35 cm. long, 5-17 cm. broad with numerous close parallel lateral nerves; calloused portion of petiole above articulation up to 3 cm. long; midrib pubescent or glabrous [4. scandens](#)

1. *Hypselodelphys zenkerana* (K. Schum.) Milne-Redh. in Kew Bull. 5: 161 (1960); Koechlin in Fl. Cam. 4: 109, t. 22. *APD acc*

Trachyphrynium zenkeranum K. Schum. in Engl., Pflanzenr. 4, 48: 45 (1902); F.W.T.A., ed. 1, 2: 337.

A bamboo-like plant in forest.

W. Cam.: Barombi Preuss 873. Buea Deistel 206; 504; 519. Preuss 873b. Dusen 415. Also in E. Cameroun.

[Although Schumann described the fruit as having globose cocci, Zenker 274 (BR) has a detached fruit with pointed cocci. Field observations and further careful collections are required to settle the question.]

2. *Hypselodelphys violacea* (Ridl.) Milne-Redh. l.c. 160 (1950); Koechlin in Fl. Gabon 9: 104, t. 23 (1964), and in Fl. Cam. 4: 112, t. 22 (1965). *APD acc*

Trachyphrynium violaceum Ridl. (1887)-F.T.A. 7: 320; K. Schum. l.c. 44; F.W.T.A., ed. 1, 2: 337.

T. preussianum K. Schum. (1892)-F.T.A. 7: 320.

Donax violacea (Ridl.) Roberty (1955);

Straggling climber with slender stems branching at all angles forming a tangle in forest about 12 ft. high; flowers violet and white.

S. L.: Potoru (Dec.) Deighton 3796! Sefadu, Bari (Nov.) Deighton 5272! Pujehun (Nov.) Deighton 5273! **Lib.:** Bushrod I. (Dec.) Barker 1100! Kakatown Whyte! Vahon, Kolahun Dist. (Nov.) Baldwin 10242! Gbanga (Sept.) Linder 629! Yratoke, Webo Dist. (July) Baldwin 6261! **Iv. C.:** Man to Touba (fl. & fr. Feb.) de Wit 9188! Grabo to Olodio (fr. Feb.) Aké Assi 9432! **S. Nig.:** Olokemeji F.R. (Mar.) Hepper 2298! Osse R., Idogun (Apr.) Stanfield 163! Babiri, Obudu Dist. (May) Latilo FHI 30921! **W. Cam.:** Barombi Preuss 321!

Extends to Cabinda and **Angola**.

[The Nigerian specimens present some difficulty in that they have the typical angular fruit of *H. violacea*, but the straighter inflorescence of *H. poggeana*. Further field observations are desirable.-F.N.H.]

3. *Hypselodelphys poggeana* (K. Schum.) Milne-Redh. l.c. 160 (1950); Léonard & Mullenders in Bull. Soc. Roy. Bot. Belg. 83: 12, t. 1 C, D, 2 G; Koechlin in Fl. Gabon 9: 104, t. 23, and in Fl. Cam. 110, t. 22. *APD acc*

Trachyphrynium poggeanum K. Schum. (1892)-F.T.A. 7: 320; K. Schum. l.c. 44, fig. 9 G-K.

Hybophrynum braunianum of F.W.T.A., ed. 1, 2: 337, partly (Sc. Elliot, Thomas etc.).

Widely branching, often about 6 ft. high but sometimes 20 ft. or more; flowers violet and white.

S. L.: Mt. Leicester (May) Barter! Kambia, Scarcies (Jan.) Sc. Elliot 4508! Taiama (Mar.) Deighton 3372! Kumrabai (Dec.-Jan.) Thomas 6776! Bumpé (Dec.) Deighton 4968! **Lib.:** Linder 347! Brewerville (June) Barker 1323! Diebla, Webo Dist. (July) Baldwin 6338! Nimba (fr. Feb.) Adam 20826! **Ghana:** Techiman road, Ejura (Dec.) Morton GC 9559! Kumasi (Feb.) Darko 516! Nsawam (Feb.) Dalz. 8291! Benso, Tarkwa Dist. (Dec.) Andoh FH 5433! Kpokoase (Mar.) Irvine 193! **S. Nig.:** Gambari F.R., Ibadan (Feb.) Meikle 1195! Idanre, Akure Div. (Jan.) Brenan & Keay 8689! Orlu (Apr.) Thompson 6! Iso-Bendlga to Bendlga Afl, Ikom Disk. (Dec.) Keay FHI 28268! Oban Talbot 874!

Extends to Congo and **Angola**.

4. *Hypselodelphys scandens* Louis & Mullend. In Bull. Soc. Roy. Bot. Belg. 83: 14, t. 1 E, F, 2 F (1950); Koechlin in Fl. Gabon 9: 106, tt. 21, 33, and in Fl. Cam. 113, t. 23. *APD acc*

A bamboo-like climber 10-30 ft. high in moist forest; bracts and pedicels dull purplish-brown; flowers pale violet, white and brown in arching inflorescences.

Iv. C.: Mt. Tonkoui, Man (fr. Feb.) de Wit 9150! **S. Nig.:** Cross River North F.R., Ikom Dist. (June) Latilo FHI 31835! Eze FHI 23647! Etomi to Ikom (May) Jones FHI 18873! Oban Talbot 874!

Also in **E. Cameroun**, **Gabon** and **Congo**.

9. TRACHYPHRYNium

Benth. in Benth. & Hook. f., Gen. Pl. 3: 651 (1883); Milne-Redhead in Kew Bull. 5: 157 (1950).

Hybophrynum K. Schum. in Engl., Pflanzenr. 4, 48: 41 (1902).

- Leaves oblong-elliptic, subcordate, acuminate, 7-14 cm. long, 3.5-6.5 cm. broad, glabrous, with numerous closely parallel lateral nerves diverging from the midrib at an angle of 45°; petiolar sheath encircling the shoot; calloused portion 5-17 mm. long, continuous and no disjunction with midrib below; inflorescence terminal, simple or slightly branched, shorter than the leaves; axis pubescent to glabrous; bracts caducous, 2.5 cm. long; capsule dehiscent, deeply 3-lobed, lobes rounded, densely muricate; seeds ellipsoid, with a large lamellate basal aril *braunianum*

Trachyphrynium braunianum (*K. Schum.*) *Bak.* in F.T.A. 7: 319 (1898); Léonard & Mullenders in Bull. Soc. Roy. Bot. Beige 83: 11, t. 1 A, B (11950); Milne-Redhead in F.T.E.A. Marantac.: 2 (1952); Koechlin in Fl. Gabon 9: 98, t. 22, and in Fl. Cam. 4: 106, t. 21. *APD acc*

Hybophrynium braunianum *K. Schum.* in Engl., Bot. Jahrb. 15: 428, fig. A, F, H, K (1862); Chev. Bot. 629; F.W.T.A., ed. 1, 2: 336.

Straggling herb forming a tangle in forest, up to 10 ft. high; flowers white; fruits orange-yellow.

Guin.: Kindia Chev. 12783. **S. L.:** Makump (July) Thomas 902! Kafogo (Apr.) Sc. Elliot 4464! **Lib.:** Ganta (Feb.) Baldwin 11021! **Iv. C.:** Sassandra (Dec.) Leeuwenberg 2258! Soubre to Grabia Chev. 19160! Tiassalé (Dec.) Leeuwenberg 2136! **Ghana:** Burton & Cameron! Lomanya, Akuse (fr. Oct.) Morton A146! **N. Nig.:** Katsina Ala (Aug.) Dalz. 832! Tonti to Beku, S. Muri Dist. (Nov.) Latilo & Daramola FHI 28746! **Dah.:** Porto-Novo (fr. Jan.) Chev. 22799! **S. Nig.:** Ibadan (Feb., Mar.) Meikle 1139! 1264! Ikoyi Plains, Lagos (June) Dalz. 1281! Benin (Aug.) Stanfield 164! Onitsha Barter 1784! Calabar Thomson 108! **W. Cam.:** Bambuko F.R., Kumba (Jan.) Keay FHI 37469! Banga, Kumba Dist. (Nov.) Dundas FHI 8492! **F.Po:** Mann 1175!

Also in **E. Cameroun**, **Cabinda**, **Congo**, **Uganda** and **Sudan**.

10. HAUMANIA

J. Léonard in Bull. Jard. Bot. Brux, 19: 453 (1949).

- 1 Climbing slender-stemmed shrub bearing numerous reflexed prickles; leaves ovate to ovate-lanceolate, truncate at base, acuminate, 8-22(-27) cm. long, 3-8(-13) cm. broad, with numerous closely parallel lateral nerves, glabrous; petiole 6-23 cm. long, sheathing for much of its length; spikes pendulous, up to 10 cm. long; basal bracts sheathing the pubescent rhachis, sterile, lanceolate, 3-7 cm. long; fertile abaxial bracts spreading at right angles to the rhachis, 2 cm. long, broad and folded, the half-width 1-1.5 cm., with very numerous nerves; sepals about 4 mm. long; ovary spiny[dancelmaniana](#)

Haumania dancelmaniana (*J. Braun & K. Schum.*) *Milne-Redh.* in Kew Bull. 5: 162 (1950); Koechlin in Fl. Gabon 9: 110, t. 24, and Fl. Cam. 116, t. 23. *APD acc*

Trachyphrynium dancelmaniana *J. Braun. & K. Schum.* in Mitth. Deutsch Schutzg. 2: 153 (1889); F.T.A. 7: 319; K. Schum. in Engl., Pflanzenz. 4, 48: 42; F.W.T.A., ed. 1, 2: 337.

A straggling or climbing bamboo-like shrub with wiry prickly stems; bracts and flowers white; in forest clearings in high rainfall districts.

W. Cam.: Barombi Preuss 255! Dengding Mildbr. 8825!

Also in **E. Cameroun**, **Rio Muni** and **Gabon**.

11. **ATAENIDIA** *Gagnep.* in Bull. Soc. Bot. Fr. 55: xli (1908). *APD acc*

<key>

1.1. Straggling, branching herb, 1-2 m. high; leaves rarely arising from rhizome, usually inserted beneath the inflorescence; petiole 11-20 cm. long, with narrow membranous sheath along half its length; lamina oblong, shortly cuneate at base, shortly and eccentrically acuminate, 20-30(-40) cm. long, 7-12(-15) cm. broad, glabrous above, finely pubescent beneath; inflorescence a sessile spike, congested, deflexed, about 4 cm. long and broad; bracts sheathing, ovate, glabrous; hooded staminode without a spur-like appendage; fruit membranous, indehiscent *conferta*

</key>

Ataenidia conferta (*Benth.*) *Milne-Redh.* in Kew Bull. 7: 168 (1952); and in F.T.E.A. Marantac.; 9; Schnell in Bull. I.F.A.N. 19: 1129 (1957); Koechlin in Fl. Gabon 9: 131, t. 28, and in Fl. Cam. 4: 136, t. 27.

APD: *Synonym of Marantochloa conferta* (*Benth.*) *A. C. Ley*

Calathea conferta *Benth.* in Benth. & Hook. f., Gen. Pl. 3: 653 (1883); F.T.A. 7: 327.

Phrynium confertum (*Benth.*) *K. Schum.* (1902)-F.W.T.A., ed. 1, 2: 337; Léonard & Mullenders in Bull. Soc. Roy. Bot. Belg. 83: 24, t. 1 K (1950).

P. crista-galli *A. Chev.*, Bot. 631 (1920), name only.

Ataenidia gabonensis *Gagnep.* (1908).

Donax conferta (*Benth.*) *Roberty* (1955).

A herb 4 ft. high, forming tangles [in gaps in moist high forest](#); undersurface of the leaves sometimes purplish; bracts of the congested Inflorescences red or purplish, flowers pale mauve or pinkish; fruits red.

IV. C.: Malamalasso, Bas-Comoé Chev. 17499! Niapldou Leeuwenberg 2563! **Ghana:** Amentia, Ashanti Irvine 437! Assin-Yan-Kumasi Cummins 64! Begoro (Nov.) Morton A149! Kibbi to Akim (Dec.) Johnson 246! Pra Anum F.R. (Sept.) Andoh FH 5892! **S. Nig.:** Omo F.R. (Feb.) Jones & Onochie FHI 14729! Oluwa F.R., Ondo Dist. (July) Onochie FHI 83406! Bendiga Ayuk to Aboabam, Ikom Div. (May) Jones & Onachie FHI 14132! Oban Talbot 884! **W. Cam.:** Cam. Mt., 3,000 ft. (Dec.) Mann 2144! Johann-Albrechtshöhe (= Kumba) (Apr.) Staudt 215!

Also in **E. Cameroun**, **Gabon**, **C. African Rep.**, **Rio Muni**, **the Congos**, **Cabinda**, **Sudan** and **Uganda**.

\$/eflora

LILIACEAE

Herbs, mostly perennial, or rarely soft-wooded shrubs; roots from a rhizome, corm or bulb, or tuberous; stem erect or climbing, leafy or scapose. Flowers bisexual or rarely unisexual, actinomorphic or slightly zygomorphic, sometimes large and showy, never in umbels. Perianth mostly corolla-like, with or without a tube; segments usually 6, rarely 4 or more, in 2 similar series, imbricate or the outer valvate. Stamens usually 6, hypogynous or adnate to and always opposite to the perianth segments; filaments usually free; anthers 2-celled, usually opening by a slit lengthwise. Ovary superior, mostly 3-locular with axile placentas, or rarely 1-locular with parietal placentas; style entire or divided, rarely styles free. Ovules usually numerous and mostly 2-seriate in each loculus. Fruit a capsule or berry. Seeds with copious endosperm.

World-wide distribution, more abundant in temperate and subtropical regions.

- 1 Leaves large and fleshy, spiny on the margin; mflorescence up to 1 m. high [1. Aloë](#)
 Leaves not spiny on the margin, usually not fleshy: [2](#)
- 2 Leaves much reduced and scale-like, their function, fulfilled by linear and acicular cladodes; fruit a berry;
 flowers very small; rootstock rhizome with root tubers; stems wiry, often armed [2. Asparagus](#)
 Leaves not reduced to scales; branches not modified, into cladodes: [3](#)
- 3 Stems more or less climbing, leafy; leaves often tendriform at the apex; style spreading at a right angle from the
 top of the ovary [13. Gloriosa](#)
 Stems erect or much reduced; leaves not tendriform at the apex: [4](#)
- 4 Rootstock a rhizome or tuber (neither a bulb nor a corm); roots fibrous or sometimes thick and tuberous: [5](#)
 Rootstock a bulb or corm: [8](#)
- 5 Rootstock a bulb-like tuber, usually surmounted by numerous fibres; seeds villous; flowers on long pedicels .. [4. Eriospermum](#)
 Rootstock not thick and bulb-like, but sometimes the roots ending in tubers; seeds glabrous; pedicels not
 elongated: [6](#)
- 6 Fruits globose or shallowly lobed; seeds not flat: [7](#)
 Fruits deeply lobed; seeds compressed; inflorescence branched or subspicate; reddish mottling absent from the
 base of the leaves; widespread [6. Chlorophytum](#)
- 7 Perianth segments united into a tube; inflorescence a stout spike; highland [3. Kniphofia](#)
 Perianth segments free at the base; inflorescence slender, more or less branched; base of leaves more or less
 reddish mottled; widespread [5. Anthericum](#)
- 8 Perianth segments free to the base: [9](#)
 Perianth segments united at the base: [13](#)
- 9 Capsule more or less deeply lobed; corolla rotate [7. Urginea](#)
 Capsule shallowly lobed: [10](#)
- 10 Stamens hypogynous: [11](#)
 Stamens perigynous; flowers bluish or mauve; bulb [10. Scilla](#)
- 11 Raceme not spike-like, upper flowers fertile: [12](#)
 Raceme spike-like, upper flowers infertile; bulb [9. Drimiopsis](#)
- 12 Leaves basal; corolla more or less campanulate; bulb [8. Albuca](#)
 Leaves cauline; flowers long-pedicellate; corm [14. Iphigenia](#)

- 13 Outer perianth-segments markedly caudate-acuminate; bulb with white coloration; lowland and upland savanna [11. *Dipcadi*](#)
- Outer perianth-segments not caudate-acuminate: 14
- 14 Bulb with purplish coloration; seeds flattened; inflorescence many-flowered; upland savanna [12. *Drimia*](#)
- Tunicate corm; seeds subglobose; inflorescence 2-flowered; montane grassland [15. *Wurmbea*](#)

1. ALOË

Linn., Sp. Pl. 319 (1753); F.T.A. 7: 454; Keay in Kew Bull. 17: 65 (1963). *APD acc*

- 1 Leaf-bases not forming a bulb-like swelling; perianth pink or red; fruits, where known, not exceeding 2.5 cm. long: 2
- Leaf-bases forming an underground bulb-like swelling; plants never suckering; perianth green, yellow or orange or dull red, rounded at base, gradually constricted with the narrowest part about 1/3 length from base (see Fig. 348 K); fruits 3.7-4 cm. long; in grassy places in savanna woodland [4. *buettneri*](#)
- 2 Plants never suckering; lower leaves rosulate and spreading or lying on surface of ground; perianth with pronounced basal swelling truncate at base, abruptly constricted above the ovary with narrowest part about 1/4 length from base and enlarging to the throat (see Fig. 348 E, F); on rocky hills [1a. *macrocarpa* var. *major*](#)
- Plants often suckering; perianth rounded at base, cylindrical or very slightly constricted (see Fig. 348 N): 3
- 3 Leaves up to 8 cm. broad, grey-green; stems sometimes long; perianth about 2-8 cm. long, cylindrical; fruits 2.5 cm. long; on rocky hills [2. *schweinfurthii*](#)
- Leaves 10-12 cm, broad; stems short; perianth about 3 cm. long, very slightly constricted above ovary; Accra Plains [3. *keayi*](#)

1. *Aloë macrocarpa* *Todaro* Hort. Bot. Panorm. 1: 36, t. 9 (1875); F.T.A. 7: 462; Reynolds, Aloes Trop. Afr. 91 (1966). *APD acc*

In *Eritrea* and *Ethiopia*.

1a. *Aloë macrocarpa* var. *major* *A. Berger* in Engl., Pflanzenr. 4, 38, 3, 2: 210 (1908); Keay in Kew Bull. 17: 67 (1963); Reynolds l.c. fig. 98.

APD: *Synonym of Aloë macrocarpa* *Tod.*

Aloë edulis *A. Chev.* in Rev. Boo. Appliq. 31: 592, t. 32A (1952), French descr. only.

Aloë barteri of Schnell in Ic. Pl. Afr. t. 23 (1953), not of Bak.

A perennial herb with fleshy leaves up to about 11/2 ft. long and 4 in. broad, margins sharply toothed, leaf-surfaces strongly mottled and becoming reddish in the dry season; perianth dull scarlet; among rocks.

Dah.: Somba, Atacora Mts. (cult., June) Chev, 24157! *N. Nig.*: Pankshin, 5,100 ft. (July) Lely 433! Jos (Mar-Oct.) Batten-Poole FHI 12874a! Keay FHI 22725! Latilo FHI 25326!

2. *Aloë schweinfurthii* *Bak.* in J. Linn. Soc. 18: 175 (1880); F.T.A. 7: 467; Reynolds in J.S. Afr. Bot. 20: 165, t. 10, 11 (1954), and Aloes Trop. Afr. 288 fig. 293, 294, t. 63; Keay l.c. *APD acc*

Aloë barteri *Bak.* in J. Linn. Soc. 18: 168 (1880), partly; F.T.A. 7: 464, partly; F.W.T.A., ed. 1, 2: 345, partly.

Aloë trivialis *A. Chev.* l.c. 594, t. 32B (1952), French descr. only.

A perennial herb with fleshy grey-green leaves up to about 2 ft. long and about 3 in. broad (narrower than in the other W. African species), with toothed margins; leaf-surface mottled, turning red in dry season; stem up to 2 1/4 in. diam. and 2 ft. long, usually falling over and giving rise to several suckers; perianth dull pink or red; on rocky hills and sometimes planted in villages.

Ghana: Accra Plains (Feb.) Brown 928! Nakpanduri (Aug.) Hall CC 495! *N. Nig.*: Sara Hills, Dutsen Adari, Jos Plateau (Oct.) Hepper 1131! Alantika Mts., Adamawa (Dec.) Hepper 1603! *S. Nig.*: Lagos (Feb.) Millen 172! Ado Rock, Iseyin (Sept.) Keay FHI 22578! Mt. Orosun, Idanre (Oct.) Keay FHI 22582!

Also in *C. African Rep.*, *Sudan* and *the Congos*.

3. *Aloë keayi* Reynolds in J.S. Afr. Bot. 29: 43, pl. 6, 7 (1963), and Aloes Trop. Afr. 289, figs. 290-292. *APD acc*

A perennial herb with fleshy leaves up to 2 ft. long and 5 in. broad; stem short, stout, surrounded by remains of dead leaves, forming suckers from the base; perianth orange-pink; flowering during rainy season; [grassy places](#).

Ghana: Nyanyanu to Oduponkepe, nr. Accra Keay & Adams FHI 37757a! Mouree, near Cape Coast (Apr.) Hall 2585!

4. *Aloë buettneri* A. Berger in Engl., Bot. Jahrb. 36: 60 (1905), and in Engl., Pflanzenr. 4, 38, 3: 201 (1908); Keay l.c.; Reynolds, Aloes Trop. Afr. 41, figs. 37-43, t. 8-9.

APD: Synonym of Aloe bulbicaulis Christian

Aloë barteri Bak. l.c. 168 (1880), partly; F.T.A. 7: 464, partly; F.W.T.A., ed. 1, 2: 345, partly.

Aloë paedogona A. Berger (1906).

Aloë bulbicaulis Ohristian in Fl. Pl. S. Afr. 16: t. 630 (1936).

Aloë paludicola A. Chev. in Rev. Bot. Appliq. 31: 597, t. 33 C (1952), French descr. only.

A perennial herb with a rosette of fleshy leaves up to 2 ft. long and 5 in. broad at base, margins sharply toothed; [in grassy places in the moister savanna areas](#); after the bush fires destroy the mature leaves the plant passes the dry season with the leaf-bases partly buried and with only the central leaf-tips exposed; perianth varied in colour.

Mali: Kita to Badinko (Jan.) Chev. 115! **iv. C.:** Assakra (Aug.) de Wit 5615! Singobro forest (Oct.) de Wilde 606! **U. Volta:** Dioundiou, nr. Bobo-Dioulasso (June) Chev. 1014! **Ghana:** Kpeve (Dec.) Howes 1073! Kintampo (June) Vigne FH 3046! **Togo Rep.:** Bismarckburg (July) Büttner 24! **Dah.:** Natitingou to Bokorona, Atacora Mts. (June) Chev. 24217! **N. Nig.:** Randa (Sept.) Hepburn 126! Anara F.R., Zaria (Oct.) Keay FHI 5488! Mando F.R., Zaria (June) Keay FHI 25819! Zungeru to Birnin Gwari (June) Latilo FHI 25329! **S. Nig.:** Iseyin (May) Hamblen 455! Olokemeji (June) Jones & Keay FHI 18816! Ado Rock, Oyo (Feb.-July) Keay & Brenan FHI 22403! Latilo FHI 25328! 32970! 32971! 32972!

Extending to C. African Rep., Congo, [Angola](#), Zambia and Malawi.

Aloë barbadensis Mill. *APD acc*

Besides the indigenous species, two forms of what appears to be this species are cultivated in Sierra Leone (Freetown and Njala) and at Victoria, W. Cameroun.

2. ASPARAGUS

Linn., Sp. Pl. 313 (1753); F.T.A. 7: 435. APD acc

- 1 Flowers in racemes; cladodes flattened and more or less falcate; branches smooth and glabrous; spines short and recurved, only on the main shoots:2
- Flowers fasciculate or solitary; cladodes subulate or filiform (flattened in *A. schroederi*), straight or nearly so: .3
- 2 Pedicels jointed about or above the middle, about 5 mm. long in flower; cladodes about 2 cm. long and 1 mm. broad; racemes about 3 cm. long usually paired or solitary[1. racemosus](#)
- Pedicels jointed nearly at the base, about 5 mm. long in flower; cladodes about 4 cm. long and 2 mm. broad; racemes about 5 cm. long, often clustered[2. warneckeii](#)
- 3 Pedicels filiform 3-15 mm. long; branches smooth, terete or angular, glabrous or pubescent:4
- Pedicels short and stout, about 3 mm. long, jointed about the middle; stems glabrous, angular and minutely scabrid on the angles:7
- 4 Pedicels jointed above the middle, about 15 mm. long; perianth 5 mm. long; branchlets very slender; cladodes filiform, over 2 cm. long[3. longipes](#)
- Pedicels jointed below the middle:5
- 5 Leaf spines mostly limited to the nodes from which the principal branches arise, strongly reflexed; younger branches densely velvety pubescent; cladodes 1-2 cm. long, subulate, rather numerous at each node; pedicels 5 mm. long; perianth 4 mm. long[4. pubescens](#)
- Leaf spines at most node, acute:6

- 6 Cladodes 2-4 cm. long, filiform; branchlets glabrous; pedicels 7 mm. long; perianth 2-5 mm. long[5. *schweinfurthii*](#)
 Cladodes about 1-1 1/2 cm. long, subulate, stiff; branchlets glabrous or pubescent, smooth and rounded; pedicels 4 mm. long in flower; perianth 2 mm. long[6. *flagellaris*](#)
- 7 Cladodes rigidly subulate, sharply angular 1(-2) cm. long; spines very short and curved from a broad base[7. *africanus*](#)
 Cladodes flattened, more or less triangular in section, about 2 cm. long; spines fairly long, slightly curved[8. *schroederi*](#)

Besides the above indigenous species, *A. sprengeri* Regel, from Natal, and *A. plumosus* Bak., from E. Africa, are cultivated as ornamental plants.

1. ***Asparagus racemosus* Willd.** Sp. Pl. 2: 152 (1799); Chev. Bot. 645. *APD acc*

Climbing plant up to 6 ft. high in thickets; flowers green or white; berries red.

Port.G.: Sonaco (Oct.) Pereira 3333! **Guin.:** Kaba to Haut-Mamou Chev. 12752! Farana Chev. 13175! Diaguissa Chev. 13472! **S. L.:** Konta, Kambia Dist. (Apr.) Hepper 2647! Konnoh country Burbridge 488! Musaia (Dec.) Deighton, 4471! Kabala (fl. & fr. Feb.) Deighton 1873! Loma Mts. (Nov.) Jaeger 8209! **Ghana:** Akroful Cummins 31! Pawn-pawna (Jan.) A. S. Thomas D103! Dawa Mate Kole (Jan.) A. S. Thomas D79! Achimota & Aburl (cult.) Irvine 2028! **S. Nig.:** Yoruba Millson 25!

Widespread in the drier parts of tropical Africa and in tropical Asia.

2. ***Asparagus warneckei* (Engl.) Hutch.** in Kew 1939: 245; Morton, Lilies & Orch. fig. 18. *APD acc*

Asparagus drepanophyllus var. *warneckei* Engl., Bot. Jahrb. 32: 87 (1902).

Climber on shrubs in thickets; leafless at flowering time; flowers white or creamy with strong sickly odour.

Guin.: Pita (Nov.) Pobéguin, **Ghana:** Accra-Dodowah Plains (Feb.) Irvine 1502! Achimota (Dec.) Milne-Redh. 5176! Akpabla 1265! Accra to Aburi (Apr.) Baldwin 11989! **Togo Rep.:** Lomé Warnecke 28

3. ***Asparagus longipes* Bak.** in Kew Bull. 1901: 134. *APD acc*

Slender climbing unarmed plant with pale green-brown flowers.

W.Cam.?: "Cameroon Mountains."

Imported by Messer. Sanders of St. Albans, and flowered at Kew in Nov. 1898. Also cultivated at Achimota, Ghana, in 1936 (Akpabla 485!). Further information is required about the origin and occurrence of this species.

4. ***Asparagus pubescens* Bak.** in Trans. Linn. Soc. ser. 2, Bot. 1: 254 (1878); F.T.A. 7: 430.

APD: *Synonym of Asparagus africanus* var. *puberulus* (Baker) Sebsebe

Trailing or climbing much-branched plant 4-9 ft. high, only the main branches bearing acutely reflexed spines; flowers white.

N. Nig.: Jos Plateau (Apr.) Lely P222! **S. Nig.:** Shaki, Oyo Prov. Keay FHI 37574!

Also in **E. Cameroun**, **Zambia**, **S. Rhodesia**, **Bechuanaland** and **Angola**.

5. ***Asparagus schweinfurthii* Bak.** in J. Linn. Soc. 14: 616(1875); F.T.A. 7: 429.

APD: *Synonym of Asparagus flagellaris* (Kunth) Baker

Erect armed shrub about 4 ft. high branched in the upper part; [in upland grassland among rocks](#).

W.Cam.: Bum, Bamenda Div., 4,000 ft. (fr. Mar) Maitland 1702! Kimbi R. bridge 3,000 ft. Brunt 1016!

Also in **E. Cameroun**, **C. African Rep.** and **Sudan**.

6. ***Asparagus flagellaris* (Kunth) Bak.** in J. Linn. Soc. 14: 614 (1875); F.T.A. 7: 430; Chev. Bot. 644. *APD acc*

Asparagopsis flagellaris Kunth, Enum. Pl. 5: 103 (1850).

Asparagus pauli-guilelmi Solms-Laub. (1867)-F.T.A. 7: 428, incl. var. *daltoni* Bak. (1875); F.W.T.A., ed. 1, 2: 352; Berhaut, Fl. Sén. 53.

Asparagus africanus of Chev. Bot. 644, not of Lam.

Climbing or more or less erect plant with arching spiny branchlets; flowers white, fragrant; fruits orange when ripe.

Sen.: Sousoun Chev. 15754! Kaolak 55 Kiachinger! **Mali:** Bamako (Apr.) Hagerup 31! San Chev. 2576! **Guin.:** Dalaba (Mar.) Langdale-Brown 2625! Kouroussa (Apr.) Pobéguin 217! 701! **S. L.:** Glanville 382! Falaba to Berria (fr. Mar.) Sc. Elliot 5215! **U. Volta:** Sindou (fr. June) Leeuwenberg 4323! Diapaga to Fada Chev. 24483! **Ghana:** Sissu, Ashanti (fr. July) Chipp 495! Okroso to Otiso Ferry, Buem-Krachi Dist. (fl. & fr. Mar.) Hepper & Morton A3036! Kete Krache Krause! Anyaboni (Jan.) A. S. Thomas D109! Krepi Plains (Jan.) Johnson 534! Ho (Mar.) Lloyd Williams 59! **Togo Rep.:** Lomé Warnecke 479! **Dah.:** Abomey (Feb.) Chev. 23157! **N. Nig.:** Nupe Barter 1125! 1519! Jebba Meikle 1187! Lokoja (Feb) Dalz. 921! Vom, Dent Young 253! Katugum Dist. Dalz. 245! L. Chad (Jan-Feb.) Talbot 733! **S. Nig.:** Abeokuta (Feb.) Irving 70! Iseyin to Igbetti Hambler 137! Ijaiye F.R., Oyo Prov. (Mar.) Keay FHI 21178! Milliken Hill, Enugu (Mar.) Hepper 2218!

Widespread in tropical Africa.

7. *Asparagus africanus* Lam. Encycl. Méth. Bot. 1: 295 (1783); F.T.A. 7: 433; Berhaut, Fl. Sén. 53; Morton, Lilles & Orch. fig. 20. *APD acc*

Asparagus gourmacus A. Chev., Bot. 645, name only.

Erect herb 3-5 ft. high with numerous spiny branches; flowers greenish white; occurring in clumps in moist sandy savanna.

Sen.: Thiès (ft. June) Berhaut 382! Cayor Heudelot 462! **Gam.:** Kuntaur Ruxton 46! **U. Volta:** Fada to Diapaga, Gourma Dist. (July) Chev. 24484! **Ghana:** Bamboi to Kintampo (Mar.) Hepper & Morton A3194! Sissu, Ashanti (June) Chipp 494! **N. Nig.:** Nupe Barter 1516! Samaru to Shika, Giwa Dist. (May) Keay FHI 25794! Nabardo (May) Lely 204! Rimjim Mukur to Bununu, Jarawa R. (fl. & fr. Aug.) Lawlor & Hall 613!

Widespread in the drier parts of tropical Africa, Socotra and **Arabia**.

8. *Asparagus schroederi* Engl. Bot. Jahrb. 32: 97 (1902); Aké Assi, Contrib. 2: 20[229]. *APD acc*

Asparagus falcatus of Chev. Bot. 644, not of Linn.

Erect spiny herb 1-3 ft. high from tuberous roots; flowers creamy with orange anthers, almost leafless in full flower; in savanna.

iv. C.: Ferkessedougou Serv. For. 2283! Touba to Odienné Mangenot & Aké Assi IA 4245. **Ghana:** Banda ravine, Wenchi Dist. (fr. Apr.) Morton A3270! Yendi, Dagomba Dist. (Mar.) Hepper & Morton A3074! **Togo Rep.:** Sokode Schroeder 20. **Dah.:** Natitengou to Bokorona, Atacora Mts. (June) Chev. 24167! Pelebina to Djougou Chev. 23847! **N. Nig.:** Kontagora Prov. (Apr.) Dalz. 444! Samaru, Giwa Dist. (May) Keay FHI 25728! Kabama F.R., Zaria Dist. (May) Keay FHI 25739! Jos (Mar.) Hill 23! Katugum Dist. Dalz. 245!

3. KNIPHOFIA

Moench., Meth. 631 (1794); F.T.A. 7: 450. *APD acc*

Notosceptrum Benth. (1883)-F.T.A. 7: 454; F.W.T.A., ed. 1, 2: 342.

- 1 Leaves in a basal tuft and forming a cylindrical "tube" at the base, linear, up to 60 cm. long and 1.5 cm. broad, glabrous except the minutely scabrid margin, closely nerved; spike stout, about 60 cm. long, the upper two-thirds bearing subsessile flower, the latter rather dense; bracts boat-shaped, soon reflexed, 6 mm. long, scabrid on the margin; perianth campanulate, 1 cm. long, 6-lobed, lobes half as long as the tube, obtusely triangular, 1-nerved to the base of the tube; ovary broadly ovoid, glabrous; style entire, a little longer than the ovary
.....*reflexum*

Kniphofia reflexum Hutch. ex Codd in Bot. Notis. 120: 44 (1967). *APD acc*

Scitosceptrum reflexum Hutch., F.W.T.A. ed. 1, 2: 342 (1936), English descr. only.

A tufted perennial herb with a single sterile inflorescence about 2 ft. high; flowers small, campanulate, yellow.

W. Cam.: Lakom, Bamenda, 6,000 ft. (Apr.) Maitland, 1624!

"scattered in considerable numbers in the grass on the plateau" (Maitland).

4. ERIOSPERMUM

Jacq., Collect. Suppl. 72 (1796); F.T.A. 7: 470. *APD acc*

- 1 Tuber bulb-like or somewhat irregular in shape, crowned by the fibrous remains of the leaf-bases; leaves 1-3, long-petiolate, linear-lanceolate, acute at each end, about 15 cm. long and 1-1.3 cm. broad, markedly nerved, glabrous; raceme about 25 cm. long, slender; pedicels ascending, the lower up to 10 cm. long in fruit; perianth-segments about 8 mm. long, narrowly oblanceolate; capsule obovoid, 8 mm. long; seeds densely villous [abyssinicum](#)

Eriospermum abyssinicum *Bak.* in J. Linn. Soc. 15: 263 (1876); F.T.A. 7: 471; Troupin in Expl. Parc Nat. Garamba 4: 196; Morton, Lilies & Orch. t. 8. *APD acc*

Eriospermum elatum *Bak.* in F.T.A. 7: 471 (1898).

Eriospermum togoense *Dammer* (1905).

Hypoxis villosa of Chev. Bot. 635, partly (Chev. 937, 978), not of Linn. f.

Tuber giving rise to an inflorescence about 1 ft. high towards the end of the dry season with long-pedicellate yellow flowers which, open in the morning or late afternoon; the erect leaf grows later, in rocky savanna.

Sen.: Tambacounda Berhaut 1658! Ouassadou Berhaut 2154! **Guin.:** Samballo Adam 14837! **Iv. C.:** Bouna Reserve (Apr.) Aké Assi 8666! **U. Volta:** Banankalidoro to Bama Chev. 937! Simona to Toro Chev. 978! **Ghana:** Damongo Scarp (Mar.) Morton GC 8699! Tamale to Yendi (Mar.) Adams 3866! Tumu (May) Morton A3329! **Togo Rep.:** Aledzo, Sokode-Basari Kersting 310. **Dah.:** Pobéyon to Birni Chev. 23954! Kouandé Chev. 23998! **N. Nig.:** Nupe Barter 1538! Anara F.R. Zaria (May) Keay FHI 25773! Vom Dent Young 255! Yola (fr. May) Dalz. 233! Mambila Plateau, 4,900 ft. (bud Jan.) Hepper 2824!

Widespread in the savanna of tropical Africa and as far south as Transvaal.

5. ANTHERICUM

Linn., Sp. Pl. 310 (1753); F.T.A. 7: 477. *APD acc*

- 1 Rhachis of the inflorescence pubescent or puberulous:2
Rhachis of the inflorescence glabrous:3
- 2 Leaves linear, expanding to the base, about 12-40 cm. long and 8-14 mm. broad in the middle, often arcuate, minutely serrulate-scabrid on the margins, closely nerved; inflorescence shorter than the leaves, axillary; lower bracts up to 1 cm. long; pedicels 5-10 mm. long1. [pubirhachis](#)
Leaves lanceolate, narrowed towards the base, 8-15(-30) cm. long and about 2 cm. broad, thin and with cross veins visible between the rather widely spaced nerves, minutely serrulate-scabrid on the margins and on some nerves beneath; inflorescence shorter than the leaves, terminal; lower bracts about 2 cm. long; pedicels up to 4 mm. long2. [subpetiolatum](#)
- 3 Peduncle winged:4
Peduncle not winged:7
- 4 Inflorescence unbranched; pedicel jointed near the base; fruits 7 mm. long, closely ribbed:5
Inflorescence branched; fruits 5 mm. long, coarsely ribbed:6
- 5 Perianth about 1 cm. long; flowers congested near the apex of the inflorescence; bracts about 10 mm. long, decreasing in size upwards to about 5 mm., acutely acuminate; leaves narrowly linear-oblanceolate, about 30 cm. long and 2(-3) cm. broad, closely nerved with about 25 nerves on each side of the midrib, not transversely barred with purple towards the base3. [pterocaulon](#)
Perianth about 1.5 cm. long, flowers close together towards apex of the inflorescence; bracts 1.5-4 mm. long, gradually pointed; leaves linear, about 40(-70) cm. long, 6-16 mm. broad, very closely nerved, leaf sheaths transversely barred with purple towards the base4. [uyuiense](#)
- 6 Inflorescence with several branches more than 3 cm. long; flowers usually paired, pairs about 1 cm. apart; pedicels jointed near the base; perianth 6 mm. long; leaves as long as or shorter than the panicle, linear, 1-1.5(-2.5) cm. broad, minutely scabrid on the margins, with about 20 lateral nerves on each side of the midrib5.

limosum

Inflorescence shortly branched, branches up to 2.5 cm. long; flowers congested on branches, several flowers together; pedicels jointed in the middle; perianth 8 mm. long; leaves narrowly linear, about 5 mm. broad, with about 5 lateral nerves on each side of the midrib [6. zenkeri](#)

7 Pedicels jointed near the base or at least below the middle: **8**

Pedicels jointed near the top or at least above the middle: **10**

8 Leaf sheaths mottled towards the base; lower part of lamina and upper part of leaf sheaths ciliate-bristly; leaves linear up to 5 mm. broad; inflorescence paniculate to more or less simple, slender; pedicels very short; perianth 8-10 mm. long; fruit up to 6 mm. long, transversely ribbed [7. dalzielii](#)

Leaf-sheaths un-mottled: **9**

9 Inflorescences ascending, usually with a few equal branches from near the base spreading in opposite directions, very slender, about 20 cm. long usually less, flowers few, evenly spaced; perianth 3-4 mm. long; pedicels up to 5 mm. long in fruit; fruits about 4 mm. broad; leaves as long as the inflorescences, 2-3 mm. broad [8. warneckeii](#)

Inflorescences erect, 23-52 cm. high, flowers few towards apex; bracts broadly ovate hyaline; pedicels about 6 mm. long; perianth-segments 7 mm. long; fruits 5 mm. diam., strongly ribbed; leaves linear 3 mm. broad, shorter than the inflorescence [9. immaculatum](#)

10 Lamina conspicuously setose on the margins [10. sp. A.](#)

Lamina glabrous at most scabrid-ciliolate on the margin (in *A. caulescens*), leaf sheaths glabrous or setose (in *A. nigericum*); pedicels jointed above the middle: **11**

11 Inflorescence erect, branched (or sometimes simple in *A. nubicum*): **12**

Inflorescences deflexed and curved, simple, appearing with and shorter than the leaves: **13**

12 Leaves present at flowering time, linear, 2-2.5 cm. broad; inflorescences well-branched, slender, up to 60 cm. high; bracts narrow, small; pedicels 1-1.5 cm. long in fruit; perianth 1 cm. long, segments narrow; fruits 4 mm. long, 6 mm. broad, transversely ribbed [11. caulescens](#)

Leaves absent at flowering time; leaves linear up to 1 cm. broad; inflorescences simple or branched, up to about 35 cm. long, with scarious leaf sheaths and bracts; pedicels 1 cm. long; perianth 1-2 cm. long, segments rather broad; fruits 7 mm. diam. with a few transverse oblique ribs [12. nubicum](#)

13 Margins of leaf sheaths glabrous, lamina linear, about 20 cm. long, 3-4 mm. broad, long-tailed at apex; inflorescence-rhachis angular; bracts about 5 mm. long, flowers usually paired; fruits nearly oblong, 9 mm. long, 6 mm. broad, surfaces lightly veined, sutures thickened [13. inconspicuum](#)

Margins of leaf-sheaths setose, lamina linear, about 20 cm. long, 2 mm. broad; inflorescence-rhachis cylindrical; bracts 2 mm. long [14. nigericum](#)

1. *Anthericum pubirhachis* Bak in J. Linn. Soc. 15: 302 (1876); F.T.A. 7: 481; Berhaut, Fl. Sén. 182, 186.

APD: Synonym of Chlorophytum affine Baker var. affine

***Dasystashys graminea* A. Chev.**, Bot. 652 (1920), name only.

Small rhizomatous herb with arching leaves and sometimes recurved inflorescences; flowers white.

Sen.: Kounpentoum (June) Trochain 3675! Nickolo-Koba (June) Adam 14162! **Mali:** Baguineda (fr. Aug.) Roberty 2594!

Guin.: Kouroussa (June) Pobéguin 293! **Ghana:** Yendi (Apr.) Morton GC 9081! **Dah.:** Nioro to Kouandé, Atacora Mts. Chev. 24010! **N. Nig.:** Nupe Barter! Zaria to Jos (fl. & fr. June) Stanfield FHI 54823! **S. Nig.:** Upper Ogun, N. of Iseyin (May) Stanfield 59874!

Extends to E. Cameroun, C. African Rep. and? Congo.

2. *Anthericum subpetiolatum* Bak. in J. Linn. Soc. 15: 302 (1876); Troupin, Fl. Sperm. Parc Nat. Garamba 1: 184.

APD: Synonym of Chlorophytum subpetiolatum (Baker) Kativu

***Anthericum limbamenense* Engl. & K. Krause** in Engl., Bot. Jahrb. 45: 126 (1910); F.W.T.A., ed. 1, 2: 341.

Small herb with a short inflorescence of white flowers.

N. Nig.: Abuja, Niger Prov. (July) Latilo FHI 54857! Jos Plateau (July) Lely P354! Bukure to Hephham Lely 350! Birni, Kwaya Dist., Bornu (Aug.) Daggash FHI 24856!

Widespread in the savanna of eastern tropical Africa.

3. *Anthericum pterocaulon* Welw. ex Bak. in Trans. Linn. Soc., ser 2, 1: 258 (1878).

APD: *Synonym of Chlorophytum cameronii* var. *pterocaulon* (Welw. ex Baker) Nordal

Anthericum korrowalense Engl. & K. Krause in Engl., Bot. Jahrb. 45: 125 (1910); F.W.T.A., ed. 1, 2: 341; Troupin, Fl. Sper. Parc Nat. Garamba 1: 184.

Anthericum atacorens A. Chev., Bot. 648 (1920), name only.

A rather stout herb with erect inflorescence about 1 ft. high; flowers white; in damp places in savanna

Dah.: Bokorono to Kouandi, Atacora Mts. (June) Chev. 24219! **N. Nig.:** Anara F.R., Zaria Prov. (May) Keay & Mutch FHI 22927! Zaria to Samara (fl. & fr. July) Keay FHI 25923! Wana (fl. & fr. June, Aug.) Hepburn 111a! Keana, Benue Dist. Hepburn 56! Tola (Oct.) Shaw 97!

4. *Anthericum uyuiense* Rendle in J. Linn. Soc. 30: 415 (1894); F.T.A. 7: 485; Troupin in Bull. Jard. Bot. Brux. 25: 233 (1955), and in Fl. Sper. Parc Nat. Garamba 1: 185, fig. 30.

APD: *Synonym of Chlorophytum cameronii* (Baker) Kativu var. *cameronii*

Anthericum speciosum of F.W.T.A., ed. 1, 2: 341, not of Rendle.

Anthericum koutiense A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 89 (1908).

Leaves and inflorescence appearing together, 1-2 1/2 ft. high; flowers white.

U. Volta: Zorgongo to Ouagnan, Mossi Chev. 24635! **Ghana:** Djowany, Gambaga Dist. (June) Akpabla 699! **Dah.:** Koussokonigou, Atacora Mts. (June) Villiers! Farfara to Toukountouna (June) Chev. 24058! **N. Nig.:** Liruwun-Kano Hills Carpenter! Samaru, Giwa Dist. (July) Keay FHI 25948! Neill's Valley, Jos (June) Lely 258! Naraguta F.R. (June) Kennedy FHI 7257! Tangle-Waja, Bauchi Prov. (July) G. V. Summerhayes 72!

Extending to **Uganda**, Congo, Tanzania and Zambia.

5. *Anthericum limosum* Bak. in Trans. Linn. Soc., ser. 2, 1: 257 (1878); F.T.A. 7: 482.

APD: *Synonym of Chlorophytum limosum* (Baker) Nordal

Anthericum usseramense var. *occidentalis* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 90 (1908); Bot. 648.

Chlorophytum nigerieum A. Chev., Bot. 651 (1920), name only.

A slender herb with leaves and flowers together; inflorescence rhachis flattened, branched above, about 2 ft. high; in moist rocky savanna.

Gam.: Saunders 27! Dipa Kunda (July) Fox 146! **Mali:** Kita (July) Duong 454! **Guin.:** Ditinn Chev. 12180! Timbo to Niger Chev. 13271! Kindia Chev. 13542! Kolenté (June) Chillou 1574! **S. L.:** Matamba (Oct.) Glanville 28! Samaia (May) Deighton 4789! Musaia (Apr., Aug.) Haswell 3! Deighton 4733! Kundita, Falaba (Mar.) Sc. Elliot 5203! **Iv. C.:** Mt. Dourou, near Koualé Chev. 21744! Issia Rock (fl. & fr. Oct.) Aké Assi 5681! 8841! **U. Volta:** Diapaga to Fada Chev. 24440. **Dah.:** Konkobiri Chev. 24329! **N. Nig.:** Kargi Hill, Birnin Gwari Dist. (fl. & fr. June) Keay FHI 25883! Vom Dent Young 250! Naraguta F.R. (Aug.) Keay FHI 12731! Yola (fl. & fr. Aug.) Dalz. 235!

Also in **E. Cameroun** and **Angola**.

6. *Anthericum zenkeri* Engl. Bot. Jahrb. 32: 91 (1902).

APD: *Synonym of Chlorophytum staudtii* Nordal

Slender herb with erect inflorescences 1-2 ft. high and grass-like leaves; flowers pale white.

N. Nig.: Vogel Peak, Sardauna Prov., 5,000 ft. (fl. & fr. Nov.) Hepper 1510!

Also in **E. Cameroun**.

7. *Anthericum dalzielii* Hutch. ex Hepper in Kew Bull. 22: 456. fig. 5, 1-3 (1968); F.W.T.A., ed. 1, 2: 342 (1936), English descr. only.

APD: *Synonym of Chlorophytum dalzielii* (Hutch. ex Hepper) Nordal

Leaves about 1 ft. high with the inflorescence taller sometime densely fibrous at the base; leaf sheaths conspicuously red-mottled; flowers white; in sandy places.

N. Nig.: Bukuru, Jos Plateau (fl. & fr July) Lely 459! Tangale-Waja, Bauchi Prov. (May) G. V. Summerhayes 64! S. of Keana Hepburn 54! Abinsi (June) Dalz. 854!

8. **Anthericum warneckeii** Engl. Bot. Jahrb. 32: 91 (1902); Morton, W. Afr. Lilies & Orch. fig. 11.

APD: *Synonym of Chlorophytum warneckeii* (Engl.) Marais & Reilly

Anthericum deightonii Hutch. ex Berhaut, Fl. Sén. 184 (1954), French descr. only.

Small herb with grass-like leaves; inflorescence arching near the ground; flowers small, white; amongst grass.

Sen.: Tamhacounda Berhaut 1644! **Guin.:** Kourousaa (fl. & fr. June) Povéguin 1116! **Ghana:** Elmina (fl. & fr. July) Hall 1523! Accra (Mar.) Deighton 584! Achimota (fl. & fr. May) Irvine 1771! Adidome to Ho (fl. & fr. Apr.) Morton A3218!

Togo Rep.: Schlickboden, near Lomé (May) Warnecke 304. Also in Gabon.

9. **Anthericum immaculatum** Hepper in Kew Bull. 22: 458. fig. 6, 1-3 (1968).

APD: *Synonym of Chlorophytum immaculatum* (Hepper) Nordal

Slender herb about 1 ft. high with white flowers

Sen.: Oussouye, Casamance (fl. & fr. July) Berhaut 6178! Diouloulou (fl. & fr. Sept.) Adam 18213! Kédougou (June) Adam 14422! **Port.G.:** Dandum to Saber Capeidje (June) Esp. Santo 2922! **Guin.:** Sambailo (July) Adam 14843!

10. **Anthericum sp. A.**

Anthericum deflexum A. Chev., Bot. 648 (Chev. 938); Hutch., F.W.T.A., ed. 1, 2: 342 (1936), English descr. only, not of A. Chev. (1913).

Small herb with narrow conspicuously ciliate leaves.

Mali: Banankalidoro to Bama (June) Chev. 938!

[Further material is required to establish the identity of this plant.]

11. **Anthericum caulescens** Bak. in J. Linn. Soc. 15: 303 (1876).

APD: *Synonym of Chlorophytum caulescens* (Baker) Marais & Reilly

Herb with rather broad leaves and tuberous roots; flowers inconspicuous dull green on a branched inflorescence; in dry rocky ground.

N. Nig.: Nupe Barter 1515! Ilorin to Jebba (fr. June) Onochie FHI 40253!

12. **Anthericum nubicum** Bak. l.c. 301 (1876); F.T.A. 7: 484; Milne-Redhead in Kew. Bull. 3: 471 (note under *Urginea glaucescens*).

APD: *Synonym of Chlorophytum nubicum* (Baker) Kativu

Anthericum fibrosum Hutch., F.W.T.A., ed. 1, 2: 342 (1936), English descr. only; Hepper in Bull. I.F.A.N. 27: 504 (1965).

Anthericum articulatum Hutch. l.c. (1936), English descr. only, partly (Lely 690).

Perennial herb with a fibrous corm flowering leafless or nearly so with slender usually unbranched inflorescences a few inches to 1 1/2 ft. high bearing scale leaves; flowers white with a pink median stripe on each tepal; flowering in the dry season in savanna grassland.

Guin.: Kouroussa (Jan.) Pobéguin 629! 635! Labé (Apr.) Chev. 12306! **N. Nig.:** Kontagora (Jan.) Dalz. 261! Minna (Jan.) Onochie FHI 40852Q! Vom (Feb.) McClintock 204! Naragata (Nov.) Lely 690! Wana (Apr.) Hepburn 111b! Yola (fl. & fr. Feb.) Dalz. 230! Vogel Peak (Nov.) Hepper 1388! **S. Nig.:** Kishi to Igreti, Oyo Dist. (Feb.) Keay FHI 22497!

Extending to Sudan and Uganda.

13. **Anthericum inconspicuum** Bak. in J. Bot. 15: 71 (1877); F.T.A. 7: 480.

APD: *Synonym of Chlorophytum filifolium* Nordal & Thulin

APD: Synonym of Chlorophytum inconspicuum (Baker) Nordal

Small herb with arching grass-like leaves about 8 in. high; inflorescence arching and bearing small flowers.

Sen.: Ngor (fl. & fr. July) Berhaut 4768!

Extending to **Somalia**.

14. Anthericum nigericum Hepper in Kew Bull. 22: 459, fig. 5, 4-6 (1968).

APD: Synonym of Chlorophytum angustissimum (Poelln.) Nordal

A slender perennial herb with short fat root tubers and very narrow leaves; inflorescence angled near the base 6-8 in. long, about the same length as the leaves; flowers white; **in rocky savanna**.

N. Nig.: Anara F.R., Zaria Prov. (July) Keay FHI 37081! Jos Plateau (Aug.) Lely P575!

6. CHLOROPHYTUM

Ker-Gawl. in Bot. Mag. t. 1071 (1807); F.T.A. 7: 493. *APD acc*

- 1** Pedicels jointed near the top or at least above the middle: **2**
 Pedicels jointed at or below the middle: **11**
- 2** Inflorescence stout, subspicate or congested lateral racemes or rarely with one branch, not paniculate: **3**
 Inflorescence slender, aniculate or if simple then leaves distinctly petiolate:4 **6**
- 3** Leaves linear, 1-2 cm. broad, up to 45 cm. long, ciliate; flowering part of inflorescence 20-35 cm. long: **4**
 Leaves lanceolate or linear-lanceolate, 3-8 cm. broad: **5**
- 4** Bracts pectinate-ciliate, linear-filiform from a broader base, about 1 cm. long; leaves up to 2 cm. broad **1.**
[*senegalense*](#)
 Bracts not ciliate, triangular-ovate, shortly acuminate; perianth 1 cm. long; leaves up to 1.5 cm. broad with about 20 closely parallel nerves **2.**
[*aureum*](#)
- 5** Leaves lanceolate to oblanceolate, erect, long-acuminate, attenuate towards the base into an indistinct petiole and broadening to the point of insertion, up to 60 cm. long from base to apex, up to 8 cm. broad; peduncle 12-30 cm. long, apparently elongating in fruit up to 40(-60) cm. long, flowers congested in upper third; fruits 7-10 cm. long **3.**
[*macrophyllum*](#)
 Leaves linear-lanceolate, close to ground, acute at apex, broadly petiolate, up to 40 cm, long from base to apex, about 4 cm. broad; inflorescence about 1/3 as long as the leaves, a continuous dense raceme about 8 cm. long; bracts almost imbricate, ribbed, 1 cm. long; fruits 5 mm. long **11.**
[*stenopetalum*](#)
- 6** Leaves linear or nearly so, 1-2 cm. broad, up to 80 cm. long, inflorescence a well-branched panicle longer than the leaves, rhachis not scabrid: **7**
 Leaves not linear, 2-5 cm. broad: **9**
- 7** Lobes of fruit divergent, cuneate to the base, whole fruit 4 mm. long, 6 mm. broad, strongly nerved; perianth 4 mm. long **4.**
[*polystachys*](#)
 Lobes of fruit rounded, lobed at base, whole fruit 3 mm. long, 5 mm. broad, more or less nerved; perianth 6 mm. long: **8**
- 8** Inflorescences much-branched panicles; pedicels up to 5 mm. long **5.**
[*altum*](#)
 Inflorescences sparingly branched usually with 3 equal branches up to 20 mm. long; pedicels 10-12 mm. long **6.**
[*nzii*](#)
- 9** Rhachis of inflorescence smooth, more or less branched; fruits broader than long: **10**
 Rhachis of inflorescence minutely scabrid, simple, about as long as the leaves; perianth about 8 mm. long; fruits as long as or longer than broad, longitudinally broadly elliptic, 8 mm. long; leaves lanceolate, very acute, up to 30 cm. long and 4 cm. broad, with about 9 lateral nerves on each side of the midrib **9.**
[*inornatum*](#)
- 10** Leaves indistinctly petiolate4 linear-lanceolate, 30-45 cm. long, 3-5 cm. broad, with undulate margins, very thin and with numerous slender transverse veins; inflorescences paniculate or with a few slender branches; perianth 5 mm. long; fruit 4-5 mm. long, 5-6 mm. broad (see also *C. laxum*, below) **7.**
[*gallabatense*](#)
 Leaves with a distinct slender petiole about as long as the lanceolate lamina, leaf variable in length, 10-40 cm. long, 2-4 cm, broad, very acute with about 6 lateral nerves on each side of the midrib; inflorescences slender,

- usually much longer than the leaves with a few slender branches or more or less simple; perianth 4 mm. long; fruit 4-6 mm. long, 5-7 mm. broad [8. togoense](#)
- 11** Leaves ciliate, at least towards the base: **12**
 Leaves not ciliate: **13**
- 12** Inflorescence racemose or shortly branched, axis 10-40 cm. long, smooth; bracts subulate-lanceolate, about 1 cm. long, the lower ones much longer, caducous; perianth 8 mm. long; fruits suborbicular, about 1 cm. diam.; leaves linear-lanceolate, erect, the base nearly as broad as the lamina in young plants, older ones narrowed to a petiole and up to 40 cm. long with about 15 nerves on each side of the midrib [10. blepharophyllum](#)
 Inflorescence subcapitate, up to 4 cm. long, with short congested branches; bracts lanceolate less than 1 cm. long, ribbed; perianth 5 mm. long; leaves forming a rosette, lanceolate-elliptic, 12-21 cm. long, 2.5-6 cm. broad, usually distinctly petiolate, petiole 3-6 cm. long [12. geophilum](#)
- 13** Leaves appressed to ground, ovate or ovate-lanceolate, sessile, 5-10 cm. long, 2-4 cm. broad, with about 12 lateral nerves on each side of the midrib; inflorescence very short and subsessile in the cluster of leaves; fruits suborbicular, 5 mm. diam. [13. pusillum](#)
 Leaves erect, not as above: **14**
- 14** Petiole long and distinct: **15**
 Petiole not clearly developed: **18**
- 15** Axis of inflorescence minutely scabrid, usually longer than the leaves, few-flowered with the flowers widely spaced, simple, often arcuate and viviparous; fruits about 5 mm. diam.; leaves obovate to oblanceolate, very acutely acuminate, thin, about 15 cm. long, 3-7 cm. broad; petiole about as long as the lamina [14. sparsiflorum](#)
 Axis of the inflorescence smooth: **16**
- 16** Leaves ovate to ovate-lanceolate, 15-35 cm. long, 5-10 cm. broad, with about 20 strong nerves; inflorescence branched, as long as or longer than the leaves; perianth 6 mm. long, segments linear; fruits suborbicular, 7 mm. diam.; pedicels jointed in the middle [15. orchidastrum](#)
 Leaves smaller, linear to oblanceolate; pedicels jointed below the middle: **17**
- 17** Leaves linear or narrowly linear-oblanceolate, very gradually narrowed to the base, 6-23 cm. long, 1-2 cm. broad, thin, with about 5 parallel nerves on each side of the midrib; inflorescences very slender, shorter than the leaves and with a few short branches; bracts all as long as or longer than the pedicels; fruits suborbicular, 5 mm. diam. [16. laxum](#)
 Leaves lanceolate, rather abruptly narrowed into the petiole, the lamina (4-)6-14 cm. long, 1.5-3.5 cm. broad, with about 8 parallel nerves on each side of the midrib; inflorescences slender, as long as the leaves, more or less branched; bracts (except the lowermost) much shorter than the pedicels; fruit obovate, the lobes appearing divergent, about 5 mm. long and 9 mm. broad [17. alismifolium](#)
- 18** Segments of perianth nearly 2 cm. long, 4 mm. or more broad; pedicels jointed in the middle; inflorescence usually simple, about as long as the leaves; bracts ovate, long-acuminate, as long as or longer than the flowers; fruits oblong-elliptic, 1.3 cm. long; leaves linear, 1-2.5 cm. broad [18. tuberosum](#)
 Segments of perianth up to 1 cm. long, linear: **19**
- 19** Pedicels 1-1.5 cm. long: **20**
 Pedicels a few mm. long: **21**
- 20** Fruit broader than long, 5 mm. broad, 3 mm. long; pedicels about 1 cm. long in flower, slightly longer in fruit; perianth segments 6 mm. long; inflorescence up to 57 cm. long, usually with 3 equal branches up to 20 cm. long; leafy at flowering time, leaves linear lanceolate, about 1.5 cm. broad, acute [6. nzii](#)
 Fruits about as broad as long, nearly square in outline, 7-8 mm. diam.; perianth segments linear-filiform, 1 cm. long; inflorescences up to 80 cm. long with several long branches; bracts 2 mm. long; leaves linear about 10 cm. long and 5 mm. broad, not developed at flowering time or only towards the base of the rhachis, upper ones reduced to sheaths [19. andongense](#)
- 21** Pedicels jointed below the middle; inflorescences slender, about 10 cm. long; fruits suborbicular, 5 mm. diam. (for other characters see above) [16. laxum](#)
 Pedicels jointed in the middle: **22**
- 22** Leaves linear, about 1 cm. broad; inflorescence a slender panicle up to 30 cm. high; perianth segments linear, 5 mm. long, bracts subulate from a broader base, 3 mm. long [20. bequaertii](#)
 Leaves lanceolate, 2-3 cm. broad; inflorescence an interrupted raceme up to 30 cm. high; perianth segments lanceolate, 4 mm. long; bracts ovate-lanceolate, about 1 cm. long [21. deistelianum](#)

1. Chlorophytum senegalense (Bak.) Hepper in Kew Bull. 21: 496 (1968). *APD acc*

Dasystachys sanegalensis Bak. in Bull. Herb. Boiss., sér. 2, 1: 782(1901); F.W.T.A., ed. 1, 2: 345.

D. macensis A. Chev., Bot. 652 (1920), name only.

Stout, unbranched inflorescence 3-4 ft. high arising from a thick tuber or rhizome; flowers white; [in savanna](#).

Sen.: Kaolak (July) Berhaut 2157! Tambacounda to Samballo (fr. Oct.) Pitot 6! **Mali:** Thou to Kirl, S. Macina (Aug.) Chev. 24854! Bamako (July) Waterlot 1218! **Port.G.:** Geba to Banjara, Bafata (Aug.) Esp. Santo 3060! **Guin.:** Kouroussa (Aug.) Pobéguin 374! Farabana, near Kankan (July) Collenette 78!

2. Chlorophytum aureum *Engl. Bot. Jahrb.* 15: 469 (1892).

APD: Synonym of Chlorophytum longifolium var. aureum

Dasystachys aurea (*Engl.*) *Bak.* in *F.T.A.* 7: 512 (1898).

D. atacorensis *A. Chev.*, *Bot.* 652 (1920), name only; *F.W.T.A.*, ed. 1, 2: 345 (1936), English descr. only; Aké Assi, *Contrib.* 2: 19 [228].

D. sombae *A. Chev.*, *Bot.* 652 (1920), name only.

Inflorescence 3ft. high; flowers white; [in savanna woodland](#).

iv. C.: Foro-Foro, Bouaké Aké Assi IA 4316. **Dah.:** Bokorona to Kouandé, Atacora Mts. (June) Chev. 24224! Farfa to Toukountouna (June) Chev. 24067! **S. Nig.:** Zomi. N. of Iseyin (May) (Apr.) Stanfield FHI 59873!

Extends to [Sudan](#).

3. Chlorophytum macrophyllum (*A. Rich.*) *Aschers.* in *Schweinf.*, *Beitr. Fl. Aethiop.* 294 (1867); *F.T.A.* 7: 498; Chev. *Bot.* 651; Berhaut, *Fl. Sén.* 186; Morton, *W. Afr. Lilies & Orch.* fig. 15. *APD acc*

Chlorophytum macrophyllum var. albiflorum *A. Chev.* in *Mém. Soc. Bot. Fr.* 2, 8: 91 (1908).

Tuberous-rooted herb with rather large leaves in a rosette; flowers white, fragrant; [in riverine forest](#).

Sen.: Dougar (Sept.) Berhaut 5438! **Guin.:** Sériba to Gaoual (fr. Oct.) Pitot! **S. L.:** Sankan Biriwa Massif (fr. Jan.) Cole 168! **Lib.:** Nimba Mts. (July, Sept.) Leeuwenberg & Voorhoeve 4754! Adames 586! **iv. C.:** Bouroukrou Chev. 16812! Assikasso, Mid. Comoe Chev. 22591! **Ghana:** Abetifi, Kwahu (fr. June) Irvine 1724! **N. Nig.:** Bonu, Birnin Gwari Dist. (fl. & fr. Aug.) Onochie FHI 18260! Acharane, Ankpa Dist. (fl. & fr. June) Daramola FHI 38034! Nupe Barter 1513! Patti Lokoja (fl. & fr. Nov.) Dalz. 223! **S. Nig.:** Olokemeji F.R. (fr. Nov.) Jones, Keay & Onochie FHI 14543! Ibadan F.R. (June) Tamajong FHI 23282! Atikirijl, Omo F.R. (fr. Dec.) Tamajong FHI 20282! Afl River F.R. (June) Jones & Onochie FHI 18952!

Also in [E. Cameroun](#), [C. African Rep.](#), [Congo](#), [Sudan](#), [Ethiopia](#), [Uganda](#), [Kenya](#), [Tanzania](#) and [Rhodesia](#)

[Berkhout 1248, from Senegal, cited as this sp. by Berhaut (l.c.) has much smaller fruits than others cited here.]

4. Chlorophytum polystachys *Bak.* in *J. Bot.* 16: 326 (1878); *F.T.A.* 7: 509; Hepper in *Kew Bull.* 21: 496 (1968). *APD acc*

Chlorophytum palustre *Engl. & K. Krause* (1910).

Herb with narrow leaves; inflorescence with erect branches; [damp places in savanna](#).

U. Volta: Diapaga, Gourma (July) Chev. 24379! **Ghana:** Bahare, Gambaga (June) Akpabla 664!

Also in [E. Cameroun](#), [Sudan](#), [Kenya](#), [Tanzania](#), [Zambia](#) and [Rhodesia](#).

5. Chlorophytum altum *Engl. & K. Krause* in *Engl. Bot. Jahrb.* 45: 131 (1910). *APD acc*

Perennial tuberous rooted herb with a large pinicle about 2 ft. high.

Ghana: White Volta R., nr. Bawku (fl. & fr. Aug.) Hall CC 543!

Also in [E. Cameroun](#).

6. Chlorophytum nzii *A. Chev. ex Hepper* in *Kew Bull.* 22: 459, fig. 6, 4-6 (1967); Chev, *Bot.* 651 (1920), name only; *F.W.T.A.*, ed. 1, 2: 345 (1936), English descr. only. *APD acc*

iv. C.: Tiébissou to Languira, Nzi valley, Baoulé Nord (fr. July) Chev. 22195! Danané (fr. Sept.) Nozerau!

7. Chlorophytum gallabatense *Schweinf. ex Bak.* in *F.T.A.* 7: 504 (1898); Chev. *Bot.* 650. *APD acc*

Chlorophytum andongense of Chev. *Bot.* 649, not of Bak.

Herb with a lax branched inflorescence nearly 2 ft. high; flowers blue-green with white filaments; [moist places in savanna](#).

Sen.: Tambacounda (fr. Sept.) Berhaut 1652! **Guin.:** Kouroussa Chev. 15641! Farana (May) Chev. 13398! **U. Volta:** Gourma (July) Chev. 24375! **N. Nig.:** Gwalor Hill, Gwari Dist. (fl. & fr. June) Onochie FHI 40170! Sanga F.R. Jemaa Div. (May) E. W. Jones 46!

Also in [Chad](#), [C. African Rep.](#), [Sudan](#), [Uganda](#), [Kenya](#), [Tanzania](#), [Zambia](#), [Malawi](#), [Rhodesia](#) and [Mozambique](#),

[Onochie FHI 40253 from Jebba, N. Nigeria, may also be this species.]

8. *Chlorophytum togoense* Engl. Bot. Jahrb. 32: 92 (1902); Morton, W. Afr. Lilies & Orch. fig. 16.

APD: Synonym of Chlorophytum lancifolium subsp. togoense (Engl.) A.D. Poulsen & Nordal

Chlorophytum fosteri A. Chev. in Mém. Soc. Bot. Fr. 2. 8: 90 (1907).

Chlorophytum talbotii Rendle, Cat. Talb. 113 (1913).

Chlorophytum toumodiense A. Chev. Bot. 652 (1920), name only.

A slender herb about 1 ft. high with small greenish flowers; *in shady places in high forest.*

Lib.: (fl. & fr. June) Harley 962! **Iv. C.:** Abouabou (Oct.) Adam 6552! Toumodi to Dimbroko Chev. 22252b! **Ghana:** Banda, N.W. Ashanti (Apr.) Morton A3281! Asafo to Kwanyaku, Cape Coast (Mar.) Morton GC 8527! **Togo Rep.:** Jägge stream, near Misahöhe (fr. Sept.) Büttner 172. Fasugu (bud May) Büttner 665. **Dah.:** Pénésoulon to Pélébina (May) Chev. 23835! Kouba to Farfa (June) Chev. 24037! Koussohingou, Atacora Mts. (June) Villiers! **N. Nig.:** Wana (June) Hepburn 1171 Gindiri, Jos Plateau (fl. & fr. Oct.) Hepper 1111! Abinsi (June) Dalz. 849! **S. Nig.:** Ikoyi Woods, Lagos (May) Dalz. 1285! Ibadan North F.R. (fr. June) Tamajong FHI 23293! Ewokini to Idumuje, Ishan Dist. (Aug.) Onochie FHI 33272! Olokemeji (fl. & fr. July) Foster & Chev. 14099! Ogun R., Oyo to Iseyin (July) J. B. Gillett 15221! Awka, Onitsha Prov. (June) Jones FHI 6601! Oban Talbot 731!

9. *Chlorophytum inornatum* Ker-Gawl in Bot. Mag. t. 1071 (1807); F.T.A. 7: 499; Chev. Bot. 650. *APD acc*

Chlorophytum afzelii Bak. (1876)-F.T.A. 7: 496; Chev. Bot. 649.

Chlorophytum baoulense A. Chev., Bot. 649 (1920), names only.

Chlorophytum cavallesse A. Chev., Bot. 649 (1920), names only.

Stemless herb about 1 ft. high, with the leaves as long as the inflorescence, pink towards the base; flowers green; *in forest often by streams.*

Guin.: Kissidougou (July) Martine 364! Trébél (fr. Sept.) Chev. 18615! **S. L.:** Wallia (fr. Jan.) Sc. Elliot 4642! Kambia (Aug.) Harvey 20! Magbema (Aug.) Jordan 966! Makump (fr. Sept.) Deighton 1287! Njala (fr. Dec.) Deighton 5976! **Lib.:** Mission Hill (Aug.) Harvey 1653! **Iv. C.:** Tos forest, Bouaflé to Sinfra (Dec.) Aké Assi 7228! Lamé (fr. Nov.) Leeuwenberg 1899! Mbayakro, Nzi (fr. Aug.) Chev. 22264! **Ghana:** Amosima, Cape Coast (Dec.) Hall 2543! **S. Nig.:** Idanre F.R., Ondo Dist. (fr. July) Onochie FHI 33382! Ibadan to Oyo (fr. Jan.) Meikle 982! Sapoba, Benin Dist. (fr. Sept.) Jones FHI 4970! **W. Cam.:** Bamenda Daramola FHI 40543!

10. *Chlorophytum blepharophyllum* Schweinf. ex Bak. in J. Linn. Soc. 15: 327 (1876); F.T.A. 7: 501, Berhaut, Fl. Sén. 186. *APD acc*

Chlorophytum ciliatum Bak. (1878)-F.T.A. 7: 505; Chev. Bot. 649.

Chlorophytum kerstingii Dammer (1912).

Chlorophytum fibrosum Engl. & K. Kreuse (1910).

Chlorophytum stipitatum v. *Poelln.* in Portug. Acta Biol., sér. B, 1: 225 (1945).

Herb about 1 ft. high; flowers pale brown; *amongst stones in moist savanna.*

Sen.: Tambacounda (fl. June ft. Sept.) Trochain 3631! Berhaut 1632! **Mali:** Sikasso (May) Chev. 799! Bamako (June) Waterlot 1158! **Guin.:** Kaba to Mamou (Apr.) Chev. 12753! Timbo (July) Pobéguin 1590! Kouroussa (May) Pobéguin 314! **S. L.:** Pendembu (fr. July) Thomas 779! Makunde (fr. Apr.) Sc. Elliot 5703! Musaia (fl. & fr. Mar.) Deighton 5482! Sulimania (Mar.) Sc. Elliot 5306! Loma Mt., 2,800 ft. (fr. June) Morton SL 3538! **Iv. C.:** Séguéla to Siana (June) Chev. 21842! Niangbo (fr. Apr.) Aké Assi 8592! **Ghana:** Japei (Mar.) Adams 3932! Banda (fr. Aug.) Hall 1997! Gambaga (fr. June) Akpabla 665! **Togo Rep.:** Aledyoi Sokodé-Basari (fl. & fr. Feb.) Kersting 314 (seen for Ed. 1). **Dah.:** Kouandé to Konkobiri (fl. & fr. June) Chev. 24295! **N. Nig.:** Nupe Barter Mokwa, Bida Dist. (Apr.) Keay FHI 25715! Anara F.R., Zaria (fl. & fr. May) Keay FHI 22976! Afaka F.R., Jos (fr. July) Okafor & Binuyo FHI 47549! Zelan, Bauchi Dist. (Apr.) Lely 113! Abinsi (May) Dalz. 851!

Also in **E. Cameroun, C. African Rep., Congo, Sudan, Uganda, Kenya, Tanzania, Zambia, Rhodesia** and **Mozambique.**

[The young leaves expand at the time of flowering and they are then short and broad. They reach their maximum length in the fruiting state when they appear to be narrowed towards the base.]

11. *Chlorophytum stenopetalum* Bak. in J. Linn. Soc. 15: 331 (1876); Aké Assi, Contrib. 2: 18 [228]. *APD acc*

APD: Synonym of Chlorophytum deistelianum Engl. & K. Krause

Chlorophytum deistelianum of F.W.T.A., ed. 1, 2: 345, partly (Chev. 24470), not of Engl. & K. Krause.

A herb with a rosette of leaves close to the ground; inflorescence short with numerous congested white flowers; [in savanna woodland](#).

Iv. C.: Kong to Tafiré Aké Assi IA 5680. **U. Volta:** Bobo-Dioulasso (May) Chev. 925! **Ghana:** Boro, Wa (June) Adams 632! Kpiri Lake, Damongo (Sept.) Hall CC 833! **Dah.:** Birni, Kouandé Chev.! Konkobiri (July) Chev. 24303! **Niger:** Diapaga to Fada (July) Chev. 24470! **N. Nig.:** Nupe Barter! Zungera (June) Dalz. 274! Samaru, Giwa Dist. (June) Keay FHI 25905! Anara F.R., Zaria (May) Keay FHI 22941! Naraguta (May) Lely 245!

Also in **E. Cameroun**, **Congo**, **Uganda**, **Zambia**, **Malawi** and **Angola**.

12. Chlorophytum geophilum *Peter ex v. Poelln.* in Ber. Deutsch. Bot. Ges. 61: 127 (1943); *C. subcapitalum* Hutch. F.W.T.A., ed. 1, 2: 343 (1936), name only. *APD acc*

Chlorophytum afzelii of Chev. Bot. 649, not of Bak.

Chlorophytum gourmacum *A. Chev.*, Bot. 650 (1920), partly (Chev. 24690, 24297).

Small plant with tuberous roots and leaves more or less flattened on the ground; inflorescence almost sessile; flowers white; pedicels elongating after flowering and reflexing, burying the fruit.

Guin.: Kouroussa (July) Pobéguin 305! **Iv. C.:** Koualé to Kouroukoro, Haute Sassandra (May) Chev. 21765! **U. Volta:** Ouagadougou to Septemga (Aug.) Chev. 24690! **Ghana:** Kampaha (June) Adams 717! **Dah.:** Kouandé to Konkobiri (June) Chev. 24297! **N. Nig.:** Bonu, Niger Prov. (June) Onochie FHI 38456! E. W. Jones 175! Naraguta, 4,000 ft, (May) Lely 248! Samaru to Shika, Zaria (June) Keay FHI 25913!

Also in **E. Cameroun** and **Tanzania**.

13. Chlorophytum pusillum *Schweinf. ex Bak.* in J. Bot. 16: 325 (1878); F.T.A. 7: 502; Aké Assi, Contrib. 2: 18 (227). *APD acc*

APD: Synonym of Chlorophytum littorale Nordal & Thulin

APD: Synonym of Chlorophytum geophilum Peter ex Poelln.

Chlorophytum mossicum *A. Chev.*, Bot. 651 (1920), name only.

Chlorophytum gourmacum *A. Chev.*, Bot. 650 (1920), partly (Chev. 24108, 24320).

Leaves appressed to the ground forming a mat; flowers white; [under moist rocks in savanna](#).

Mali: Bamako (July) Waterlot 1221! **Iv. C.:** Touba Aké Assi IA 5661. **U. Volta:** Yako to Ouahigouya, Mossi (Aug.) Chev. 24770! **Dah.:** Konkobiri (July) Chev. 24320! Tanguéta, Atacora Mts. (June) Chev. 24108! **Ghana:** Gambaga (fl. July, fr. Nov.) T.M. Harris! Morton A2725! **N. Nig.:** Panshanu (fl. & fr. Aug.) Lawlor & Hall 302! Kilba Hills, near Yola (fr. Aug.) Dalz. 224!

Also in **E. Cameroun**, **Uganda**, **Tanzania**, **Zambia** and **Malawi**.

14. Chlorophytum sparsiflorum *Bak.* in J. Linn. Soc. 15: 325 (1876); F.T.A. 7: 498. *APD acc*

APD: Synonym of Chlorophytum comosum var. bipindense (Engl. & K. Krause) A.D. Poulsen & Nordal

Chlorophytum grewenii *Engl. & K. Krause* (1910).

Chlorophytum petrophilum *K. Krause* (1914).

Chlorophytum viviparum *A. Chev.* (incl. var. *maritimum* *A. Chev.*) Bot. 652 (1920), names only.

Chlorophytum orchidastrum of F.W.T.A., ed. 1, 2: 343, partly (Preuss 191), not of Lindl.

A rather fleshy herb 11/2 ft. high of [wet places in forest](#); flowers white or greenish; sometimes viviparous.

S. L.: Kambul Hills South, Kenema Prov. (Nov.) Small 827! **Lib.:** Duoh, Sinoe Dist. (Mar.) Baldwin 11355! Tawata, Boporo Dist. (Nov.) Baldwin 10287! Kondessu, Boporo Dist. (Dec.) Baldwin 10878! Gbanga (Sept.) Linder 382! Bobei Mt., Sanokwele Dist. (Sept.) Baldwin 9573! **Iv. C.:** Nékaougné to Grabo, Cavally (July) Chev. 19602! Assinie, Sanvi (Apr.) Chev. 17886! **S. Nig.:** Ikvette, Obudu Dist. (fl. & fr. Dec.) Savory & Keay FHI 25262! Oban F.R. (Jan.) Onochie FHI 86149x! **W. Cam.:** Victoria Grewen! Cam. Mt., 4,000-5,000 ft. (Feb.) Dalz. 8345! Barombi (fl. & fr. Jan.) Preuss 191! **F.Po.:** (Apr.) Mann 388! Moka (Sept.) Wrigley 526!

Also in **E. Cameroun**, **Ethiopia**, **Uganda**, **Kenya** and **Tanzania**.

15. Chlorophytum orchidastrum *Lindl.* in Bot. Reg. t. 813 (1824); Trans. Hort. Soc. 6: 78 (1825); F.T.A. 7: 500; Morton, W. Afr. Lilies & Orch. fig. 14. *APD acc*

Chlorophytum petiolatum *Bak.* (1876)-F.T.A. 7: 500.

A stemless herb with woolly tomentose roots and broad leaves about 1 ft. long; inflorescences usually branched, about 1 1/2 ft. long, flowers pale green or white; [in forest](#).

Guin.: Mt. Boola (fr. Mar.) Chev. 20923! **S. L.:** Don! York Pass (Mar.) Lane-Polle 462! Mount (Gonkwi, Ninia, Talla Hills (fr. Feb.) Sc. Elliot 4995! **Lib.:** Gbanga (fr. Sept.) Linder 637! Yah R., Sanokwele Dist. (fr. Sept.) Adames 540! Bilimu Mt., Sanokwele Dist. (fr. Jan.) Harley 1329! Palipo, Webo Dist. Baldwin 12187! Filoke, Webo Dist. (fr. July) Baldwin 6669! **Iv. C.:** Béyo (fl. & fr. Dec.) Leeuweberg 2220! Bingerville Chev. 15503! Guébo (fr. Feb.) Chev. 17033! **Ghana:** Atroni, W. Ashanti (fl. & fr. Aug.) Vigne FH 2474! Subiri F.R., Tarkwa Dist. (Sept.) Andoh FH 4233! Bunso F.R., E. Prov. (fl. & fr. Aug.) Darko 955! **N. Nig.:** Dekina, Benue Dist. (fr. June) Elliot 248! **S. Nig.:** Olokemeji (Mar.) Hambler FHI 50706! Oban Talbot 731! Orem, Ikpai Dist. (fl. & fr. Feb.) Onyeachusim & Latilo FHI 54075! Owby, Cross R. (Dec.) Holland 168! **W. Cam.:** Cam. Mt., 2,000 ft. (fl. & fr. Dec.) Mann 2132! Kumba (fl. & fr. Jan.) Binuyo & Daramola FHI 35155!

Extends to the Congo and Zambia.

16. Chlorophytum laxum *R. Br.* Prodr. Fl. Nov. Holl. 277 (1810); F.T.A. 503; Berhaut, Fl. Sén, 182. *APD acc*
APD: Synonym of Chlorophytum inconspicuum (Baker) Nordal

A small herb [of shady places](#); inflorescences usually curved; flowers white.

Sen.: Tambacounda (Sept.) Berhaut 1677! 3163! **Port.G.:** Fá (Oct.) Guerra 3899! **Guin.:** Kindia Pobéguin! **S. L.:** Freetown (Aug.) Deighton 2062! Fourah Bay (Aug.) Harvey 6! Roruks (Aug.) Deighton 5338! Mapaki-Bomonto (Aug.) Deighton 1300! Pendembu (July) Thomas 843! **Lib.:** Monrovia (Aug.- Nov.) Baldwin 13008! Linder 1571! Grand Bassa (July) T. Vogel 41! Tawata, Boporo Dist. (Nov.) Baldwin 10329! Soplina, Vonjama Dist. (Nov.) Baldwin 10032! **U. Volta:** Banfora (Sept.) Jaeger 5265! **Ghana:** Apaaso, Volta Gap (Nov.) Morton A157! **Togo Rep.:** Lomé Warnecke 304! **N. Nig.:** Nupe Barter 1514! Zungeru (Sept.) Dalz. 236! Elliot 10! Dogon Kurmi, Jemaa Dist. (Sept.) Killick 65! Abinsi (July) Dalz. 850! **S. Nig.:** Oban Talbot 860!

Widespread in tropical Africa.

17. Chlorophytum alismifolium *Bak.* in J. Linn. Soc. 15: 324 (1876); F.T.A. 7: 496; Morton, W. Afr. Lilies & Orch. fig. 13; Aké Assi. Contrib. 2: 18 [227]. *APD acc*

Chlorophytum baillaudii *A. Chev.* in Mém, Soc. Bot. Fr. 2, 8: 91 (1908); F.W.T.A., ed. 1, 2: 343.

Small herb with a short stem and petiolate leaves; flowers and young fruits white, seeds black; tubers short; [amongst stones in streams in forest](#).

S. L.: Waterloo to York (fl. & fr. Sept.) Melville & Hooker 629! Mamunta (Nov.) Deighton 4945! Makump Deighton 1954! Mabonto (July) Deighton 3271! **Lib.:** Kondessu, Boporo Dist. (Dec.) Baldwin 10664! Vonjama (Oct.) Baldwin 9908! Gbanga (Sept.) Linder 647! Sanckwele (Sept.) Baldwin 9523! Zeahtown, Tchien Dist. (July) Baldwin 6940! **Iv. C.:** Davo (fr. Aug.) de Wilde 367! Guidéko to Zozro (June) Chev. 19068! Mid. Sassandra to Mid. Cavally Chev. 19247! 21789! Tiapleu Forest Aké Assi IA 3892. Danané to N'zo Aké Assi IA 5652. **Ghana:** Abra (fl. & fr. Feb.) Hall 2900! **S. Nig.:** Ekeji-Ipetu F.R., Ilesha Dist. (Dec.) Onochie FHI 5241! Omo F.R., Etemi (Dec.) Onochie, Ntima & Okeke FHI 36594! Etemi to Atikiriji, Ijebu Ode Dist. (fl. & fr. May) Tamajong FHI 16784! Akure F.R., Ondo Dist. (fl. & fr. Oct.) Keay FHI 21575! Oban Talbot 859!

Also in **E. Cameroun**, **Gabon** and **Congo**.

18. Chlorophytum tuberosum (*Roxb.*) *Bak.* in J. Linn. Soc. 15: 332 (1876); F.T.A. 7: 508. *APD acc*

Ornithogalum tuberosum *Roxb.* (1798).

Inflorescence developing before the leaves reach full size; flowers large and ornamental; [in masses in suitable moist places in savanna woodland](#).

N. Nig.: (May) Thornewill 160! Katagum Dalz. 235! Filiya, Bauchi Prov. (June) G. V. Summerhayes 63! Biu, Bornu Prov. (May, June) Noble 55! Fishwick FHI 42093! Yola (July) Dalz. 234a!

Also in **C. African Rep.**, **Sudan**, **Ethiopia**, **Uganda**, **Kenya** and **Tanzania**.

19. Chlorophytum andongense *Bak.* in Trans. Linn. Soc., ser 2, Bot. 1: 260 (1878); F.T.A. 7: 506. *APD acc*

Chlorophytum guineense *A. Chev.*, Bot. 650 (1920), name only; F.W.T.A., ed. 1, 2: 345 (1936), English descr. only; v. Poelln. in Portug. Acta Biol. sér. B, 1: 223 (1945), German descr. only.

Guin.: Grandes Chutes (fr. Dec.) Chev. 20218! Teliko Pobéguin 1120! **S. L.:** Wallia, Scarcies (Feb.) Sc. Elliot 4584!

Also in **E. Cameroun**, **C. African Rep.** and **Angola**.

20. Chlorophytum bequaertii *De Wild.* Pl. Bequaert. 1: 14 (1921).

APD: Synonym of Chlorophytum gallabatense var. micranthum

Chlorophytum inundatum A. Chev., Bot. 651 (1920), name only; F.W.T.A., ed. 1, 2: 345 (1936), English descr. only; Morton, W. Afr. Lilies & Orch. fig. 17.

Herb with narrow leaves and panicle about 1 ft. high; flowers greenish brown with white filaments and style; [on rock outcrops in savanna](#).

Mali: Macina (July) Roberty 2546! **Guin.:** Irébéléya to Timbo, Fouta Djallon (Sept.) Chev. 18328! **S. L.:** Koya Mt., near Bafodia (Aug.) Haswell 11! 60! **Ghana:** fide Morton l.c.

Also in **C. African Rep., Congo** and **Rwanda**.

21. Chlorophytum deistelianum Engl. & K. Krause in Engl., Bot. Jahrb. 45: 134 (1910).

APD: Synonym of Chlorophytum sparsiflorum Baker var. sparsiflorum

Chlorophytum stenopetalum of Chev. Bot. 652, not of Bak.

Leaves thin with undulating margins; inflorescence about 1 ft. high, longer than the leaves.

W. Cam.: Buea Deistel 649!

[I am not certain about the status of this species; it is close to C. sparsiflorum-F.N.H.]

7. URGINEA

Steinh. in Ann. Sci. Nat. Paris, sér 2, 1: 321 (1834); F.T.A. 8: 536.

APD: Synonym of Drimia Jacq. ex Willd.

- 1** Pedicels about 3-5 cm. long, slender, not jointed, arching in flower, erect in fruit; inflorescences few-flowered, 30-70 cm. high; perianth segments 9-15 mm. long, shortly connate at the base; capsule ovate, 2 cm. long, erect; bracts linear, early-caducous; leaves linear, 6(-20) cm. broad [see note after sp.], developing after flowering [1. indica](#)

Pedicels less than 2 cm. long: **2**

- 2** Pedicels 1-2 cm. long; inflorescences stout, very many-flowered, up to 2 m. high, perianth segments about 6 mm. long; capsule depressed globose in outline, deeply 3-lobed, about 1 cm. broad; bracts small and linear, early caducous; leaves broadly linear, about 3 cm. broad, developing after flowering [2. altissima](#)

Pedicels of flower less than 1 cm. long (about 1 cm. in fruit); bracts more or less persistent: **3**

- 3** Inflorescence about 60 cm. long with rather numerous small flowers in the upper third; perianth segments about 6 mm. long, 3-nerved with broad hyaline margins; capsule deeply 3-lobed, 1 cm. long and broad, transversely veined, truncate at the base; leaves linear, about 1-5 cm. broad, developing during flowering [3. ensifolia](#)

Inflorescence up to 10 cm. long, few-flowered, densely clustered near apex; perianth segments 6 mm. long, with a broad dark median nerve and hyaline margins; leafless at flowering time; leaves and fruit unknown [4. pauciflora](#)

- 1. Urginea indica (Roxb.) Kunth** Enum. Pl. 4: 333 (1843); F.T.A. 7: 540; Chev. Bot. 655; Berhaut, Fl. Sén. 5, 181; Morton, W. Afr. Lilies & Orch. fig. 1.

APD: Synonym of Drimia indica (Roxb.) Jessop

Scilla indica Roxb. (1831).

Inflorescence 1-4 ft. high appearing before the leaves; flowers dull green; [in rocky savanna](#).

Maur.: M'Bout (Mar.) Roberty 16883! **Sen.:** Diourbel Chev. 4503! St. Louis Berhaut 878. **Mali:** Dialiba Chev. 258. Sareya Chev. 20625. San Chev. 1099. **Guin.:** Kindia Chev. 13541. Farana Chev. Conakry Airfield (May) Baldwin 5791! **S. L.:** Regent (Apr.) Hepper 2550! Karina (Feb.) Glanville 161! Duunia (Feb.) Sc. Elliot 4817! Wallia (Feb.) Sc. Elliot 4572! Musaia (fr. Apr.) Deighton 5371! **Ghana:** Afram Plains, Ashanti (Feb.) Cansdale 9! Damongo Scarp (Mar.) Morton GC 8683! Nangodi Morton A3165! **Togo Rep.:** Lomé Warnecke 94! **N. Nig.:** Nupe Barter 1099! Jebba (Feb.) Meikle 1172! 1182! Naraguta Hill 35! Abinsi (Apr.) Dalz. 855!

Widespread in tropical Africa and extending to India and tropical Asia.

[U. sebirei Berhaut (in Mém. Soc. Bot. Fr. 1953-54: 7 (1954), as sebirii Senegal Berhaut 461!) has been segregated from U. indica on account of its much broader leaves and peltate bracteoles. As the leaves usually develop after the inflorescence

and the bracteoles are caducous, it may not be easily distinguished. It is one of a number of forms exhibited by the widely distributed *U. indica* aggregate-F.M.H.]

2. *Urginea altissima* (Linn. f.) Bak. in J. Linn. Soc. 13: 221 (1872); Chev. Bot. 655; Berhaut. Fl. Sén. 5, 181; Morton, W. Afr. Lilies & Orch. t. 3.

APD: *Synonym of Drimia elata* Jacq.

APD: *Synonym of Drimia altissima* (L. f.) Ker Gawl.

Ornithogalum altissimum Linn. f., Suppl. 199 (1781).

O. giganteum Jacq., Hort. Schoen. t. 87 (1797).

Drimia altissima (Linn. f.) Ker-Gawl. in Bot. Mag. t. 1074 (1808).

D. barteri (1870)-F.T.A. 7: 526.

Urginea micrantha (A. Rich.) Solms-Laub. (1867)-Chev. Bot. 656.

Inflorescence 1 1/2-7 ft. high appearing without leaves during the dry season from a large bulb; flowers whitish; **very common in savanna.**

Sen.: Kaolak (Feb.) Berhaut 898! Bondou (Mar.) Heudelot 355! **Gam.:** N. Bank, Gambia R. (July) Ozanne 33! **Mali:** Bamako (Jan.) Chev. 236! Kati (Jan.) Chev. 192! Couroula Chev. 735. **Guin.:** Timbo to Farana Chev. 13313! 13417! Diaguissa Chev. 13615! Labé Chev. 12398. Beyla Chev. 20859! **S. L.:** Burbridge 541! Kafogo (Apr.) Sc. Elliot 5537! Musaia (Apr.) Deighton 4736! Loma Mt. (Mar.) Jaeger 9566! **Iv. C.:** Mt. Zan, Upper Sassandra Chev. 21562! Gouékouma, Upper Sassandra Chev. 21656! **U. Volta:** Banankalidoro to Bama Chev. 930. **Ghana:** Kintampo Scarp, Wenchi-Sunyani Dist. Hepper & Morton A3187! Salaga Krause! Dutukpene, Buem-Krachi Dist. (Mar.) Hepper & Morton A3062! Afram Plains (Feb.) Cansdale 10! Kpong, Volta R. Dist. (Jan.) Johnson 618! **N. Nig.:** Nupe Barter 1183! Sokoto (Dec) Dalz. 442! Vom, Jos Plateau (Feb.) McClintock 234! Katagum Dalz. 385! Lake Chad & Bornu (Jan., Feb.) Talbot 736! Nguroje to Kakara, Mambila Plateau, 5,400 ft. (Jan.) Hepper 1765! **S. Nig.:** Ado Rowland! Enugu (fr. Mar.) Irvine 3623! Bendi, Obudu Dist. (fr. June) Jones & Onochi FHI 18998! **W. Cam.:** Bamenda, 6,000 ft. (Jan.) Migeod 353! Bum, Wum Div. (Feb.) Hepper 1922!

[A variable species. Morton (l.c.) draws attention to at least three forms occurring in W. Africa: large, medium and small sized plants which usually grow in uniform populations.]

3. *Urginea ensifolia* (Thonning) Hepper in Kew Bull. 21: 497 (1968).

APD: *Synonym of Drimia glaucescens* (Engl. & K. Krause) H. Scholz

Ornithogalum ensifolium Thonning in Schum., Beskr. Guin Pl. 173 (1827).

Urginea glaucescens Engl. & K. Krause in Engl. Bot. Jahrb. 45: 146 (1910); Milne-Redhead in Kew Bull. 3: 470 (1949); Morton, W. Afr. Lilies & Orch. fig. 2.

Ornithogalum ndellense A. Chev. (1913), name only.

Alcuba narcissifolia of Chev. Bot. 654 (Dahomey), not of A. Chev. (1907) (Ubangi-Shari).

Urginea narcissifolia (A. Chev.) Hutch in F.W.T.A., ed. 1, 2: 348 (1936), partly.

Anthericum articulatum Hutch, in F.W.T.A., ed. 1, 2: 341 (1936), partly (Lely 127), English descr. only.

Inflorescence 1-2 ft. high, flowers white with a broad green median stripe on each tepal, leaves commencing growth at flowering time; **in seasonally wet savanna and amongst rocks.**

Ghana: Coastal areas Thonning! Achimota Irvine 1005! Labadi (Apr.) Irvine 2651! Volta R. Anderson 18! **N. Nig.:** Jira (May) Lely 127! Anara F.R., Zaria (May) Keay FHI 22930! Katagum Dalz. 236! Yola, (July) Dalz. 234! Abinsi (Apr.) Dalz. 856!

Also in **E. Cameroun** and **C. African Republic**.

4. *Urginea pauciflora* Bak. in F.T.A. 7: 539 (1898); Chev. Bot. 656.

APD: *Synonym of Ebertia pauciflora* (Baker) Speta

APD: *Synonym of Drimia calcarata* (Baker) Stedje

A small plant with a small cluster of flowers perianth dark-coloured; bulb scales also dark.

Guin.: Jac.-Fél! Labé, 3,100 ft. (Apr.) Chev. 12304! **S. L.:** Wallia, Scarcies (Feb.) Sc. Elliot 4580!

Linn., Sp. Pl. 308 (1753); F.T.A. 8: 542. *APD acc*

- 1 Flowers bright yellow, 2-5 cm. long, perianth segments free to the base, with broad thin margins; bracts persistent, tailed acuminate from an ovate-lanceolate base, 2.5-4.5 cm. long, many-nerved; pedicels about 7 mm. long, persistent and jointed at the top; capsule ovoid, 2 cm. long, transversely nerved; seeds black, angular, 6 mm. long; leaves developing after flowering, 1-2 cm. broad [1. abyssinica](#)
Flowers yellowish green, 1-2 cm. long:.....2
- 2 Perianth 1.5-2 cm. long; pedicels about 5 mm. long, elongating considerably in fruit; fruit broadly ovoid, 1.5-2 cm. long; bracts variable in length, 1-2.5 cm. long; leaves glabrous, developing during or after flowering2.
[nigritana](#)
Perianth 1 cm. long; pedicels about 4 mm. long, not markedly elongating in fruit; fruit ovoid, about 1 cm. long; bracts usually less than 1 cm. long; leaves sometimes ciliate on the margin, developing during or after flowering3. [sudanica](#)

1. *Albuca abyssinica* Murray Syst. Veg. ed. 14, 326 (1784); Hepper in Kew Bull. 21: 493 (1968); F.T.A. 7: 533. *APD acc*

APD: *Synonym of Albuca abyssinica* Jacq.

Herb with a bulb 1-2 in. diam.; inflorescence up to 7 ft. high with large pendulous pale yellow flowers; wet places in hilly savanna.

N. Nig.: Jos (Aug.) Keay FHI 12705! Naraguta F.R. (July) Lawlor & Hall FHI 45573! Hepham to Ropp, 4,600 ft. (July) Lely 380! Mada Hills (Aug.) Hepburn 77! Fobur, Korom, Jarawa Dist. (July) Summerhayes 18! **S. Nig.:** Mt. Orosun, Idanre Hills (Oct.) Keay FHI 22590!

Extending to **Ethiopia** and **Arabia**.

2. *Albuca nigritana* (Bak.) Troupin in Bull. Jard. Bot. Brux. 25: 231 (1955), and in Expl. Parc Nat. Garamba 4: 181; Morton, W. Afr. Lilies & Orch. fig. 4. *APD acc*

Urginea nigritana Bak. (1873)-F.T.A. 7: 542; F.W.T.A., ed. 1, 2: 348; Berhaut, Fl. S  n. 181.

Albuca schweinfurthii Engl. (1892)-F.T.A. 7: 533.

Albuca ledermannii Engl. & K. Krause (1910).

Albuca sudanica A. Chev. (1908), partly.

Single inflorescence about 2 1/2 ft. high arising from the leafless bulb (or with young leaves) during the dry season; perianth segments with a median green stripe and pale green or whitish margins; in savanna.

Sen.: Cape Verde (Mar.) Adam 871! Camb  r  ne (July) Berhaut 2155! **Mali:** Kita to Bamako (Jan.) Chev. 161! Dio (Jan.) Chev. 172! **Guin.:** Mamou to Conakry (fr. May) Pitot! **S. L.:** Falaba (Mar.) Sc. Elliot 5289! **Iv. C.:** Touba (July) Collette 57! **U. Volta:** Ouagadougou (Sept.) Irvine 4678! **Ghana:** Kintampo (Mar.) Dalz. 78! Balai Kpandai to Salaga (Apr.) Morton A3906! **Dah.:** K  tou to L. Azri (fl. & fr. Feb.) Chev. 23041! **N. Nig.:** Ijayo to Ilorin Barter 3335! Kontagora (Jan.) Dalz. 258! Mando F.R., Birnin Gwari (July) Keay FHI 25992! Bukuru, Jos Plateau (July) Lely 460! Korom, Jarawa Dist., 3,700 ft. (July) Summerhayes 17! Ngel Nyaki, Mambila Dist., 5,400 ft. (Jan.) Hepper 1727! **S. Nig.:** Lagos Rowland! Abeokuta (fl. & fr. Jan.) Burt 24! **W. Cam.:** Bamessi, Ndop Plain, 3,800 ft. (Mar.) Brunt 270! Kumbo to Oku, Bamenda Div., 6,000 ft. (Feb.) Hepper 2017! Bamenda, 5,000 ft. (Jan.) Migeod 297!

Extending to Congo and Tanzania.

3. *Albuca sudanica* A. Chev. in M  m. Soc. Bot. Fr. 2, 8: 93 (1908), partly (Chev. 12578), incl. var. *gracilis* A. Chev., Bot. 655, name only; Hepper in Kew Bull. 21: 494 (1968). *APD acc*

Albuca mankonensis A. Chev., Bot. 654

Albuca sassandrensis A. Chev., Bot. 655, name only.

Albuca narcissifolia of A. Chev. Bot. 654, not A. Chev. (1907), name only.

Urginea narcissifolia (A. Chev.) Hutch. in F.W.T.A., ed. 1, 2: 348 (1936), partly.

U. mankonensis (A. Chev.) Hutch. l.c. (1936).

A slender bulbous plant with the inflorescence about 1 ft. high usually appearing before the leaves; perianth greenish; in savanna.

Port. G.: Bafata (Jan.) Raimundo & Guerra 886! **Guin.:** Dalaba (fr. Apr.) Chev. 18121! Boulivel (Apr.) Chev. 12932! Timbo Pob  guin 120! Chev. 12578! Kad   (Apr.) Pob  guin 2099! Mamou (Mar.) Dalz. 8432! Musaia (Apr.) Deighton 4734!

5370! **Iv. C.:** Mt. Dourou (May) Chev. 21726! **Ghana:** Nsawkaw, Wenchi Dist. (Jan.) Vigne FH 3538! Kete Krache (Mar.) Hepper & Morton A3087! **N. Nig.:** Jebba (Feb.) Meikle 1171! Samaru, Giwa Dist. (May) Keay FHI 25749! Zaria (May) Keay F.H.I. 25743! Naraguta Hill 34! Wana (Apr.) Hepburn 133! **S. Nig.:** Kishi to Igbetti, Old Oyo F.R. (Feb.) Keay FHI 22496!

Probably extending well to the east in savanna country.

9. DRIMIOPSIS

Lindl. in Paxt., Fl. Gard. 2: 73, fig. 172 (1851); F.T.A. 7: 542. *APD acc*

- 1 Leaves ascending, linear-lanceolate, up to 20 cm. long and 2 cm. broad, with spaced parallel nerves, margins subhyaline; inflorescence long-pedunculate, spicate, the flowers subsessile on the axis; perianth campanulate, about 3.5 mm. long; seeds black [barteri](#)

Drimiopsis barteri *Bak.* in Saunders, Ref. Bot. 3, App. 18 (1870); F.T.A. 7: 543; Chev. Bot. 656; Troupin in Expl. Parc Nat. Garamba 4: 195; Morton, W. Afr. Lilies & Orch. fig. 6. *APD acc*

Drimiopsis aroidastrum *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 93 (1908).

Drimia barteri (in error) of Chev. Bot. 653, not of Bak.

Bulb about 2 in. long, giving rise to flowers and leaves at the same time; leaves sometimes purple beneath and spotted above; flowers greenish, apparently occasionally cleistogamous with the perianth remaining closed.

Ghana: Yendi (Apr.) Morton GC 9094! **N. Nig.:** Lokoja (Apr.) Parsons L114! Nupe Barter 1512! 3449! Sokoto (June) Dalz. 541! Anara F.R., Zaria Prov. (May) Keay FHI 22924! 25770! Ancho (May) Hepburn 144! Mada Hills Hepburn 79! Yola (Apr.) Dalz. 236!

Also in **E. Cameroun** and **C. African Rep.**

10. SCILLA

Linn., Sp. Pl. ed. 2: 438 (1762); F.T.A. 7: 548.

- 1 Small bulbous herb; raceme occurring together with the leaves and usually rather longer than them; flowers in the upper 1/4 of the peduncle; pedicels 2-4 mm. long; perianth 4 mm. long; leaves about 8 cm. long or up to 15 cm. long, 6-12 mm. broad, closely nerved [sudanica](#)

Scilla sudanica *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 94 (1908); Hepper in Kew Bull. 21: 497 (1968).

APD: *Synonym of Ledebouria sudanica* (*A. Chev.*) *J. W. van der Burg*

Scilla picta *A. Chev. ex Hutch.* in Kew Bull. 1939; 244; Chev. Bot. 657, name only; F.W.T.A. ed. 1, 2: 350; Morton, W. Afr. Lilies & Orch. fig. 7.

Scilla camerooniana of F.W.T.A., ed. 1, 2: 350, partly (Chev. 23719) not of Bak.

Scilla dahomensis *A. Chev.*, Bot. 657, name only.

Scilla mankonensis *A. Chev.*, name only.

Leaves often mottled, sometimes almost flat on the ground; inflorescence a few inches to nearly a foot high with inconspicuous greenish flowers tinged dull purple; [amongst rocks in savanna](#).

Sen.: Birkelane (fl. & fr. Aug.) Berhaut 286! Dalafing Koussan Trochain 3571! **Gam.:** (Mar.) Brooks 60! Niana Bantang (July) Rhind in Hb. Deighton 5585! **Guin.:** Timbo (May) Pobéguin 1585! Farana (May) Chev. 13413! Kankan to Kouroussa Brossart in Hb. Chev. 15719! **Iv. C.:** Nandala to Mankono (June) Chev. 21871 bis! Siana to Nandala (June) Chev. 21855! Boundiali (July) Aké Assi 5650! **U. Volta:** Karankasso (May) Chev. 902! Linoré to Gampéla, Mossi (Aug.) Chev. 24624! **Ghana:** Kwahu Tafo (fl. & fr. Apr.) Hall 3021! Afram Plains (Mar.) Johnson 702! Sesiamang (Feb.) A. S. Thomas D131! Dutukpene, Buem-Krachi Dist. (Mar.) Hepper & Morton A3060! Lawra (May) Vigne FH 4510! **Dah.:** Savalou to Gouka (May) Chev. 23719! Banté to Pira, Savalou Chev. 23742! **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 22907! Jos Plateau (May) Lely P286! Abinsi (Apr.) Dalz. 857! Yola Badderly (cult. Kew)!

[Chev. 23719 recorded as *S. camerooniana* in Ed. 1 seems to be only a luxuriant form of *S. sudanica*. The latter name has priority over *S. picta*. but when the genus is revised for tropical Africa as a whole, a still earlier name may be applicable-F.N.H.]

***Scilla camerooniana* Bak.** in Saund., Ref. Bot. 3, App. 9 (1870); F.T.A. 7: 554; F.W.T.A. ed. 1, 2: 350.

Although this species was included in Ed. 1, Mann 728, 2230 were collected outside the area of this Flora.

Excluded species

***Scilla bertholetii* Webb** Phyt. Canar. 3: 337, t. 232 (1847); Hook in Bot. Mag. t. 5308; F.T.A. 7: 550.

APD: *Synonym of Autonoë berthelotii (Webb) Speta*

This species was included in F.W.T.A. ed. 1 on the basis of a bulb collected by Mann near Cameroons R., E. Cameroun, and grown at Kew. However, in F.T.A. it was attributed to Barter and so is the specimen in Kew Herbarium. It is unlikely to be the Canary I. species and it seems to be *S. camerooniana* Bak.

11. DIPCADI

Medic. in Act. Palat., Mannheim 6: 431 (1787); F.T.A. 7: 516.

- 1 Inflorescence very slender, few-flowered (10-)20-30 cm. long; leaves up to about 5 mm. broad, linear, usually appearing after the inflorescence; bulb 1-2 cm. diam.; bracts only a little longer than the pedicels; outer perianth segments conspicuously tailed [1. *tacazzeanum*](#)
- Inflorescence many-flowered, 30-100 cm. long; leaves 8-15 mm. long, linear, usually appearing with the inflorescence; bulb up to 4 cm. diam.; bracts much longer than the pedicels; outer perianth segments conspicuously tailed, reflexed during anthesis [2. *longifolium*](#)

1. ***Dipcadi tacazzeanum* (Hochst. ex A. Rich.) Bak.** in J. Linn. Soc. 11: 400 (1870); F.T.A. 7: 520.

APD: *Synonym of Ornithogalum viride (L.) J.C. Manning & Goldblatt*

***Uropetalum tacazzeanum* Hochst. ex A. Rich.**, Tent. Fl. Abyss. 2: 325 (1851).

***Dipcadi occidentale* Bak.** (1895)-F.T.A. 7: 521; F.W.T.A., ed. 1, 2: 350; Aké Assi, Contrib. 2: 19 [228]

***Dipcadi dahomensis* A. Chev.**, Bot. 653, name only.

***Dipcadi gourmaensis* A. Chev. ex Hutch.** in F.W.T.A., ed. 1, 2: 350 (1936), English descr. only.

A slender bulbous plant with small narrow leaves, often leafless at time of flowering; flowers yellowish or purplish-green honey-scented.

Mali: Gao (Aug.) de Wailly 5110! **Guin.:** Kolenté (June) Chillou 1589! **S. L.:** Hastings to Lumley Deighton 2683! Brookfields (May) Deighton 5522! 5523! Wallia, Scarcies (Feb.) Sc. Elliot 4840! Loma Mts. (fl. Jan., fr. Mar.) Jaeger 8794! 9434! **Iv. C.:** Kong Mangenot & Aké Assi IA 4283. **U. Volta:** Diapaga to Fada Chev. 24422! 24502! **Ghana:** Adamsu (fr. Apr.) Morton A3879! White Volta to Lumbunga, Tamale (Apr.) Morton A3896! Salaga (Apr.) Morton A3909! **Dah.:** Banté to Pira (May) Chev. 23738! **N. Nig.:** Kufena Rock Zaria (May) Keay FHI 25736! Anara F.R., Zaria Prov. (May) Keay FHI 25775! **S. Nig.:** Ado Rock, nr. Ibadan (Oct.) Hamblen 943! **W. Cam.:** Bafut-Ngemba F.R. (Feb.) Hepper 2120! Apparently widely distributed in the drier parts of tropical Africa.

[See note after next sp.]

2. ***Dipcadi longifolium* (Lindl.) Bak.** l.c. 397 (1870); F.T.A. 7: 519. **APD acc**

APD: *Synonym of Ornithogalum viride (L.) J.C. Manning & Goldblatt*

***Uropetalum longifolium* Lindl.** in Bot. Reg. t. 974 (1826).

***Dipcadi kerstingii* Dammer** (1905).

Dipcadi tacazzaenum of Morton, W. Afr. Lilies & Orch. fig. 5, not of (Hochst ex A. Rich.) Bak.

A bulbous herb with twisted leaves; inflorescence up to 2 ft. high; flowers green; **in savanna.**

Port. G.: Unknown Coll. 1187! **Iv. C.:** Kouroukourounga (fl. & fr. Apr.) Aké Assi 8743! **Ghana:** Ejura (fl. & fr. Mar.) Hepper & Morton A3203! Yendi to Bawku (fr. Apr.) Morton A3905! Gambaga (May) Morton A3339! **N. Nig.:** Shuifuri (May) Thornehill 187! Ilorin Barter 3441! Yola (Apr.) Dalz. 232! Apparently widespread in tropical Africa.

[The division of our specimens into two species on the characters used in the key is arbitrary. It is apparent that the size of the plants in a population can depend on their age and nourishment, but no morphological characters appear to be reliable. A critical study of living material is essential for an appreciation of the range of variation exhibited by *Drimia* before a satisfactory taxonomic revision can be attempted-F.N.H.]

12. DRIMIA

Jacq., *l.c.* Rar. t. 373-377 (1788); F.T.A. 7: 525.

- 1 Racemes slender, about 40 cm. long, flowering in the upper third, not accompanied by leaves; pedicels 3 mm. long; bracts linear-filiform, early caducous; perianth about 1 cm. long, segments connate in the lower half, linear, reflexed and curled; stamens long-exserted; fruit 3-lobed, orbicular in outline, nearly 1 cm. diam., glabrous; leaves linear, acute, pilose-ciliate, imperfectly known and appearing after the inflorescences [*zombensis*](#)

***Drimia zombensis* Bak.** in F.T.A. 525 (1898); Hepper in Bull. I.F.A.N 28: 123 (1966).

APD: *Synonym of Drimia elata Jacq.*

***Drimia incerta* A. Chev. ex Hutch.** in Kew Bull. 1939: 245; Chev. Bot. 653, name only; F.W.T.A., ed. 1, 2: 351 (1936), English descr. only.

Inflorescence about 1 ft. high or more arising from a bulb 3 in. long and 2 in. thick with purplish scales inside and out and a long neck of purple leaf bases; flowers brownish green; leaves appearing separately; [in rocky upland savanna](#).

Guin.: Zangama, Dalaba (fr. Apr.) Chillou 1235! **S. L.:** Loma Mts. (Feb.) Jaeger 9369! Morton & Gledhil SL 1057! **Iv. C.:** Gouékouma and Koualé, Toura country, Haute-Sassandra (May) Chev. 21656bis. 21733 **N. Nig.:** Ancho (Apr.) Hepburn 139! Mambila, Plateau (Jan) Hepper 1802! Wimbush FHI 48400! **W. Cam.:** Bafut-Ngembu F.R. (Feb.) Hepper 2114! Daramola FHI 40529!

Also in [Uganda](#), [Kenya](#), [Zambia](#), [Malawi Rhodesia](#), [Angola](#) and [Mozambique](#).

13. GLORIOSA

Linn., *Sp. Pl.* 305 (1753); F.T.A. 7: 563.

- 1 Perianth-segments with very crisped-wavy margins for the whole length, narrowly linear, 6-9 cm. long, about 1 cm. broad; leaves sessile, in whorls of 3 or opposite or alternate, the lamina ovate-lanceolate, about 8-10 cm. long and 4 cm. broad, ending in a long slender cirrhose apex; style longer than the perianth, acutely reflexed; filaments shorter than the perianth; anthers about 1 cm. long; fruits about 9 cm. long and 2 cm. broad; climber in forest [*L. superba*](#)

Perianth-segments only slightly undulate towards the apex or with flat margins, broadly oblanceolate and about 4 cm. long or narrowly linear and about 9 cm. long; lower leaves sometimes hardly tendriform; erect or climbing in savanna country [*L. simplex*](#)

1. ***Gloriosa superba* Linn.** l.c. (1753); F.T.A. 7: 563. Bot. Reg. t. 77; Andr., Bot. Rep. t. 129; Berhaut, Fl. Sén. 148; Morton, W. Afr. Lilies & Orch. fig. 12. *APD acc*

Common [forest climber](#); flowers turning from yellow to red.

Widely distributed in tropical Africa to northern Transvaal and in tropical Asia.

2. ***Gloriosa simplex* Linn.** Mant. 62 (1767).

APD: *Synonym of Gloriosa superba L. var. superba*

***Gloriosa caerulea* Mill.** (1768).

***Gloriosa virescens* Lindl.** in Bot. Mag. t. 2539 (1825); F.T.A. 7: 563.

***Gloriosa virescens* var. *grandiflora* (Hook.) Bak.** (1879)-Bot. Mag. t. 5216.

Mainly in savanna, erect or climbing; typically with smaller flower than the last species, although large flowered plants do occur.

Widespread in tropical Africa.

[Owing to great variation the taxonomy of *Gloriosa* remains confused and specimens have not been cited here. Brunt 424 resembles highland specimens from E. Africa known as *G. abyssinica* A. Rich., if this is maintainable as a species distinct from *G. simplex* Linn.-F.N.H.]

14. IPHIGENIA

Kunth, Enum. Pl. 4: 212 (1843); F.T.A. 7: 561.

- 1 Stems very flexuous, bearing 4-5 narrowly linear acute leaves about 10 cm. long with about 4 parallel nerves on each side of the midrib; flowers solitary; pedicels about 2 cm. long, at length elongating; perianth-segments free to the base, linear, 5-7 mm. long; fruit 1-2 cm. long, laterally lobed, slightly rugose [ledermannii](#)

***Iphigenia ledermannii* Engl. & K. Krause** in Engl., Bot. Jahrb. 45: 123 (1910); Morton, W. Afr. Lilies & Orch. fig 9; Aké Assi, Contrib. 2: 19 [228]; Hepper in Kew Bull. 21: 497 (1968).

APD: *Synonym of Iphigenia pauciflora Martelli*

***Helonias guineensis* Thonn.** in Schum., Beskr. Guin. Pl. 182 (1827), not *Iphigenia guineensis* Bak. (1898).

***Iphigenia sudanica* A. Chev.**, Bot. 658, name only.

Rootstock a small corm with brown coverings; flowering stem 5-15 in. high, flowers deep crimson inside with the 6 thread-like segments spreading in the form of a star; in moist places in savanna.

iv. C.: Ouango-Fitini (fr. July) Aké Assi IA 5659! **U. Volta:** Mossi (Aug.) Chev. 24675! Fada, Gourma (July) Chev. 24490! Konkobiri to Diapaga, Gourma Chev. 24355. **Ghana:** Tema (June) Hall 2599! Navrongo (fl. & fr. June) Vigne FH 4533! **N. Nig.:** Zaria (June) Keay FHI 25863! Samaru (fl. & fr. Aug.) Keay FHI 28008! Birni, Bornu (fl. & fr. Aug.) Daggash FHI 24854!

Also in **E. Cameroun**.

15. WURMBEA

Thunb., Nov. Gen. 18 (1781); F.T.A. 7: 560.

- 1 Leaves 1 or 2 arising from the bulb, linear, acute, 6-16 cm. long, 1-5-4 mm. broad, glabrous; corm ovoid about 1 cm. long, covered with brown tunics appearing bulb-like; membranous sheath around the base of the stem truncate, 1-3 cm. long; stem leaves 2-3 decreasing in size upwards; spike 2-6-flowered; perianth segments shortly connate at the base, narrowly oblanceolate, 6 mm. long; anthers broadly ovate-elliptic, cordate at the base [tenuis](#)

***Wurmbea tenuis* (Hook. f.) Bak.** in J. Linn. Soc. 17: 436 (1879); F.T.A. 7: 560. *APD acc*

***Melanthium tenue* Hook. f.** in J. Linn. Soc. 7: 223 (1864).

Tiny tunicated corm giving rise to flowering stem 3-8 in. high; perianth white and purple, fading in older flowers; amongst rocks in montane grassland.

W. Cam.: Cam. Mt.? Preuss 933! Bafut-Ngemba F.R. (Mar., Apr.) Richards 5322! Ujor FHI 30007! Lakom (fl. & fr. Apr.) Maitland 1407! 1511! **F. Po:** 9,000 ft. (May) Mann 1454!

TECOPHILAEACEAE

Herbs with fibrous tunicated corms or thick orbicular flattened tubers. Leaves radical or towards the base of the flowering stems, linear to ovate-orbicular and cordate, glabrous. Flowers bisexual, actinomorphic, in simple racemes separately from the tuber or corm, or in panicles; bracts large and membranous to small. Perianth-tube short or absent; lobes 6, spreading or reflexed, subequal, imbricate

Stamens 6, perfect, or 3 and with 3 staminodes, inserted at the throat of the perianth; anthers 2-locular, the connective often produced at both ends, the base then swollen or spur-like, cells opening by a terminal pore, rarely by a slit. Ovary semi-inferior, 3-locular; style subulate or filiform. Ovules numerous, axile, 2-seriate in each loculus. Fruit a loculicidal capsule. Seeds numerous, with fleshy endosperm.

Mainly Southern Hemisphere, especially S. Africa and Chile.

CYANASTRUM

Oliv. in Hook., *Ic. Pl.* 20: t. 1965 (1891); S. Carter in Kew Bull. 16: 190 (1962).

- 1 Corms solid, depressed-globose, arranged in tiers, with few roots; leaves single from the corm, long-petiolate, very broadly ovate or ovate-orbicular; widely cordate at the base, acutely triangular at the apex, about 15 cm. long and up to 15 cm. broad, with numerous arcuate nerves radiating from the base and faint transverse parallel nerves; petiole up to 30 cm. long; flowering stems short, leafless, arising directly from the corm, clothed with a few membranous oblanceolate sheathing bracts; perianth with 6 equal spreading coralline obovate lobes; stamens 6, opposite the lobes; anthers linear, opening by terminal pores; ovary half inferior; fruit deeply 3-lobed [cordifolium](#)

Cyanastrum cordifolium *Oliv.* l.c. (1891); Engl. in Engl. & Prantl, *Pflanzenfam.* ed. 2, 15a: 189, fig. 72 J-M; S. Carter l.c. 192, fig. 1, 4-9. *APD acc*

Schoenlandia gabonensis *Cornu* (1896).

Herb of the [rain-forest floor](#), often gregarious; flowers bright blue.

S. Nig.: Oru to Ibadan (May) Millson 89! Ibadan South F.R. (July) Ahmed & Chizea FHI 20009! Okomu F.R., Benin Brenan 8462! Sapoba Kennedy 206! 2713! Oban Talbot 911! **W. Cam.:** Eyo, Mamfe Dist. (Nov.) Tiku FHI 29416! Barombi, S. Bakundu (Aug.) Binuyo & Daramola FHI 35520! Victoria (Oct., Mar.) Mildbr. 10583! Kalbreyer 89! Amba Bay (Feb.) Mann. 769!

Extends to Gabon.

PONTEDERIACEAE

Aquatic erect or floating herbs. Leaves with floating or immersed blades sheathing at the base. Flowers bisexual, actinomorphic, arranged in racemes or panicles subtended by a spathe-like leaf-sheath; bracts minute or absent. Perianth hypogynous, corolline; lobes 6 or 4, sub-biseriate. Stamens 6 or 3, rarely 1, inserted on the perianth, sometimes somewhat unequal in length or 1 the longest of all; filaments free; anthers 2-locular, opening lengthwise by slits or rarely by pores. Ovary superior, 3-locular, with axile placentas or 1-locular with 3 parietal placentas; style entire or shortly lobed. Ovules numerous to solitary and then pendulous. Fruit a capsule opening by 3 valves, or indehiscent. Seeds ribbed, with copious endosperm.

Fresh water aquatics, in the tropics and subtropics.

- 1 Stamens 6 in the normal flowers: [2](#)
Stamens 3 in the normal flowers, sometimes 1 in the cleistogamous flowers; leaves all alike [3. Heteranthera](#)
- 2 Perianth-segments free to the base; leaves all alike [1. Monochoria](#)
Perianth-segments partially united into a tube; submerged leaves linear, floating ones ovate or ovate-orbicular [2. Eichhornia](#)

Scholleropsis lutea *H. Perr.* *APD acc*

With 4 perianth-segments has been found once in E. Cameroun: it is otherwise only known from Madagascar. Letouzey in Adansonia, sér. 2, 7: 33 (1967).

Pontederia lanceolata *Nutt.*

Native in N. America, is cultivated at Victoria, W. Cameroun.

1. MONOCHORIA

C. Presl, Rel. Haenk. 1: 127 (1827); F.T.A. 8: 5; Verdcourt in Kirkia 1: 80-83 (1961).

- 1 Basal leaves reduced to membranous sheaths; leaves narrowly lanceolate, acutely acuminate, about 6 cm. long and 1 cm. broad, narrowed into a false petiole about as long as the blade and expanded into a membranous sheath at the base; racemes at first embraced by the leaf-sheath, soon exserted, about 8-12-flowered; pedicels stout, 4mm. long; perianth-segments oblong, about 1 cm. long, 6-7 nerved, with membranous margins; anthers subequal, but one larger, 4-5 mm. long; fruit enclosed by the persistent perianth *brevipetiolata*

Monochoria brevipetiolata *Verdc.* l.c., t. 9, 10 (1961). *APD acc*

Monochoria vaginalis var. **plantaginea** of F.W.T.A., ed. 1, 2: 354; of Sousa in Anais Junta Inv. Col. 5: 55 (1950), not of Solms-Laub.
Monochoria africana of Berhaut, Fl. Sén. 185, not of (Solms-Laub.) N. E. Br.

An aquatic herb nearly a foot high with blue or violet flowers; in pools on laterite rocks.

Sen.: Tambacounda Berhaut 1268; 3136. Galam Heudelot 241! **Gam.:** Fulladu West (Nov.) Frith 153! Bansang Duke 14!
Mali: between R. Senegal and R. Niger Bellamy 57! **Port. G.:** Gabu (Sept.) Esp. Santo 2306! 2777! **Guin.:** Kankan (Sept.) Pobéguin 1107! Kindia Pobéguin! **S. L.:** Wonkifu, Tonko Limba (Oct.) Jordan 966! **Iv. C.:** Boloma, Boundiali Reg. (Nov.) Aké Assi 8287!

2. EICHHORNIA

Kunth, Eichhornia, genus novum (1842); F.T.A. 8: 4; Robyns in Bull. Acad. Sci, Col. Brux. 1: 1116 (1956). Nom cons.

- 1 Herb; submerged leaves linear, 3-6 cm. long, floating; ones long-petiolate, ovate to ovate-orbicular, cordate at the base, 1.5-2.5 cm. long, entire, minutely pustulate on the upper surface, with very numerous and close nerves below; flowers solitary; perianth 6-lobed; stamens 6 *natans*

Eichhornia natans (*P. Beauv.*) *Solms-Laub.* in Abh. naturw. ver. Bremen 7: 254 (1882); F.T.A. 8: 4; Chev. Bot. 659; Sousa in Anais Junta Inv. Col. 5: 56 (1950); Berhaut, Fl. Sén. 179. *APD acc*

Pontederia natans *P. Beauv.* (1810).

Eichhornia diversifolia of Troupin in Fl. Sper. Parc Nat. Garamba 1: 177, fig. 26 (1956), not of (Vahl) Urb.

Aquatic herb with floating upper leaves; flowers purplish with yellow spot; in pools and streams.

Sen.: Diohine (Sept.) Berhaut 562! St. Louis Leprieur! Galam Heudelot 258! **Gam.:** Bansang Duke 2! Wallikunda Macluskie 27! Kuntaur Ruxton 27! **Mali:** Bamako Waterlot 1052! Gao de Wailly 4857! Tabacco Chev. 123! **Port. G.:** Pussubé, Bissau Esp. Santo 1101. **Guin.:** Kouria Caille in Hb. Chev. 14664! 14927! **S. L.:** Falaba (Feb.) Sc. Elliot 5290! Mange (Dec.) Jones 57! Kasawa F.R. (Jan.) King 211! Njala (Nov.) Deighton 2815! Gegbwema to Faiama Pyne 30! **Lib.:** Vonjama (Oct.) Baldwin 9913! Yila, St. John R. (Aug.) Baldwin 9132! Gbanga Linder 379! Salala (Aug.) Baldwin 13218! Ganta (June) Harley 596! **Iv. C.:** Alanguouassou to Mbayakro Chev. 22242! Soukourougban (Apr.) Aké Assi 8748! **U. Volta:** Fada Chev. 24491! **Ghana:** Ada to Dawa (Dec.) Adams 3614! Pong-Tamale (Dec.) Akpabla FH 452! Yendi (Nov.) Thorold 270! Bimbila (Apr.) Akpabla FH 1852! Navrongo (Oct.) Vigne FH 4606! **N. Nig.:** Nupe Barter! Zungeru (Sept.) Dalz. 273! Yola (Nov.) Hepper 1199! Gashaka Dist., Sardauna Prov. (Nov.) Latilo & Daramola FHI 28761! Donga R., Mambila Dist. Hepper 2830! **S. Nig.:** Iseyin to Shaki, Oyo Prov. (Nov.) Hamblar 377!

Extends in savanna to **Sudan**, **Uganda**, Congo, Zambia, Rhodesia, **Angola** and. S.W. Africa; also in **Cuba** and **tropical S. America**.

E. crassipes (Mart.) Solms-Laub., the water hyacinth, is a tropical American floating aquatic with inflated petioles which is now widespread in the Old World Tropics. It is sometimes cultivated in pools as an ornamental and it has become a serious pest as a water weed in parts of tropical Africa, as yet outside our area (see Wild in Kirkia 2: 9, with fig. (1961)).

3. HETERANTHERA

Ruiz & Pav., Prod. 9, t. 2 (1794); F.T.A. 8: 2 Nom. cons.

- 1 Aquatic herb; leaves petiolate, ovate to lanceolate, cordate to rounded at the base, 5-7 cm. long, 1-5 cm. broad,

thin, glabrous, with numerous slender nerves ascending from the base; petiole sheathing at the base and embracing the capsule; flowers spicate, few; perianth-tube about 5 mm. long, lobes 6, oblong, about 4 mm. long, nervose; stamens 3 or reduced to 1 in the cleistogamous flowers [callifolia](#)

Heteranthera callifolia *Rechb. ex Kunth* Enum. 4: 121 (as 123) (1843); F.T.A. 8: 2; Chev. Bot. 659; Sousa in Anais Junta Inv. Col. 5: 56 (1950); Berhaut, Fl. Sén. 180; Troupin in Fl. Sperm. Parc. Nat. Garamba 1: 179, fig. 27, 28 (1956). *APD acc*

Heteranthera kotschyana *Fenzl ex Solms-Laub.* (1867)-F.T.A. 8: 3.

Heteranthera potamogeton *Solms-Laub.* (1883)-F.T.A. 8: 3.

Heteranthera pubescens *A. Chev.*, Bot. 659, name only.

An [aquatic](#) herb about 6 in. high, with hollow petioles raising the lamina above the water; flowers white.

Sen.: Sieber 58! Pozo Cervalo Perrottet 779! Galam Heudelot 230! Diohine (Sept). Berhaut 538! **Mali:** Koulikoro (Oct.) Chev. 2596! Bentia, S. of Ansongo (Sept.) Hagerup 419! **Port. G.:** Farim Esp. Santo 2296. **S. L.:** Yana, Tambakha (Dec.) Jordan 1071! **Lib.:** Ganta (Sept.) Baldwin 1096! Sarbo Baldwin 6395! Jabroke (July) Baldwin 6483! Gletown (July) Baldwin 6761! **Iv. C.:** Buandougou to Marabadissa (July) Chev. 21986! Grabo Chev. 19611! Languira to Bouakro Chev. 22215! Ferkéssédougou (Nov.) Leeuwenberg 2034! Assalerna (May) Aké Assi 8872! **Ghana:** Ohawu (July) Irvine 4958! Gonokrom to Dormaa (Dec.) Adams 2996! Mampong to Kumasi (June) Morton A3404! Kumasi (Oct.) Darko 382! Numia F.R. (Nov.) Enti FH 6743! **N. Nig.:** S. of Gombe (Oct.) Lely 667! Kabama, Zaria (Dec.) Daggash FHI 31405! Katagum Dist. Dalz. 227! **S. Nig.:** Ibadan Meikle 863! Shagamu (Jan.) Burt 18! Ahoada, Degema Talbot 3809!

Throughout tropical Africa and into the Transvaal and SW. Africa.

SMILACACEAE

Shrubs, climbing or straggling, often with tendril-like petioles and prickly stems and branches; roots from an often stout rhizome; stems leafy. Leaves alternate or opposite, 3-nerved, reticulate-veiny between the nerves. Flowers dioecious or rarely bisexual, small, arranged in axillary umbels, racemes or spikes. Perianth-segments 6, free or rarely united. Stamens 6; filaments free or united; anthers apparently 1-locular by the confluence of the cells, introrse. Ovary superior, 3-locular; ovules 1-2 in each loculus, pendulous. Staminodes present in the female flower. Fruit a berry. Seeds 1-3; embryo small in hard endosperm.

Widely distributed.

A small family close to Liliaceae.

SMILAX

Linn., Sp. Pl. 1028 (1753); F.T.A. 7: 423.

Flowers dioecious, in umbels or panicles; perianth-segments free; stamens 6 or more, free.

- 1 A climbing shrub with prickly shoots; leaves alternate, ovate-elliptic to broadly elliptic, abruptly and very shortly acuminate (acumen oblique in dried specimens), rounded to subacute at the base, averaging about 12 cm. long and 7 cm. broad, glabrous, prominently 3-nerved from the base, larger leaves widely subcordate; flowers dioecious; umbels axillary, shortly pedunculate, many-flowered; peduncle bracteate at the base; pedicels slender, about 6 mm. long; perianth 5 mm. long; fruit subglobose, nearly 1 cm. diam. [Kraussiana](#)

Smilax kraussiana *Meisn.* in Flora 28: 312 (1845); A. DC., Monogr. Phan. 1: 171, incl. vars. dregei A. DC., morsoniana A. DC., & senegambiae A. DC. l.c. 172 (1878); F.T.A. 7: 424; Chev. Bot. 643; Berhaut, Fl. Sén. 148.

APD: *Synonym of Smilax anceps Willd.*

A climbing or scrambling shrub; flowers greenish white; fruits red; [often in secondary forest](#).

Sen.: Berhaut 431. Samandiniéry Chev. 2577. Bignona Chev. 2573. **Gam.:** Albreda (May) Perrottet 789! **Mali:** Kénigoué Chev. 279 bis! **Guin.:** Péla (fr. Sept.) Baldwin 13319! **S. L.:** Morson! Hastings (Sept.) Melville & Hooker 430! Njala (fr. Nov.) Small 807! Bonthe I (Mar.) Deighton 2466! Baiima (fr. Sept.) Deighton 3056! **Lib.:** Moylakwelli (fr. Oct.) Linder

1313! Ganta Harley! Brewersville (fr. Sept.) Barker 1062! **Iv. C.:** Flansobly Forest (July) Aké Assi 9062! N. of Ferkéssédougou (fr. Nov.) Leeuwenberg 1988! **Ghana:** Benso (Sept.) Andoh FH 5885! Tafo (Aug.) Darko WACRI 903! Kumasi (June) Irvine 4508! Kete-Krachi to Dutukpene (fr. Dec.) Adams 4659! **Dah.:** Atacora Mts., Bokorona to Kouandé Chev. 24225. **N. Nig.:** Acharane F.R., Ankpa Dist. (June) Daramola FHI 38047! Sokoto Dalz. 545! Tonti, Muri Dist. (fr. Nov.) Latilo & Daramola FHI 28745! **S. Nig.:** Lagos Batten-Poole 61! Iguobazuwa to Siluko, Benin (fr. Nov.) Onochie FHI 40418! Warri to Sapele (fr. Sept.) Onochie FHI 34292! Aguku Dist. Thomas 837! Degema Talbot! **W. Cam.:** Cam. Mt., 3,000-4,000 ft. (Feb.) Mann 1271! Maitland 308! Nchan, 5,000 ft., Bamenda (Apr.) Maitland 1474! **F. Po:** Moka (fr. Sept.) Wrigley 573!

Widespread in tropical Africa and in S. Africa.

ARACEAE

Herbs with watery, bitter or milky juice, with a tuberous or elongated rhizome, rarely woody and climbing. Leaves solitary or few, sometimes appearing after the flowers, mostly radical, when cauline then alternate and distichous or spirally arranged, entire or variously divided, often hastate or sagittate, with a membranous sheath at the base. Flowers small, arranged on a spadix enclosed in a spathe, bisexual or monoecious, the males in the upper part, females below, rarely dioecious. Perianth present in the bisexual flowers or absent from the unisexual flowers. Stamens hypogynous, 2-4-8, opposite the perianth-segments; anthers opening by pores or slits, free or united. Ovary superior or immersed, 1-many-locular; style various or absent. Ovules parietal, axile, basal or apical. Fruit a berry, or coriaceous and rupturing, 1-many-seeded. Seeds mostly with copious endosperm.

Usually easily recognised by the characteristic spathe enclosing the inflorescence (spadix).

Temperate and tropical regions, particularly tropical America, and tropical Asia.

- 1 Floating aquatic herb, with a tuft of fibrous roots and a rosette of flabellately nerved leaves; flowers unisexual, without a perianth, the female part of the spadix adnate to the spathe [1. Pistia](#)
- Terrestrial or epiphytic herbs or climbers, if aquatic not floating; female flowers more than one: **2**
- 2 Flowers hermaphrodite: **3**
- Flowers unisexual: **4**
- 3 Herb with large radical sagittate leaves; petiole prickly [2. Cyrtosperma](#)
- Climber with cauline leaves cunate at the base; petiole smooth [3. Rhaphidophora](#)
- 4 Perianth present; male flowers covering the upper part of the spadix; savanna or forest herbs [4. Stylochiton](#)
- Perianth absent: **5**
- 5 Herbs without distinct aerial stems, at most rhizomatous: **6**
- Herbs with well developed aerial stems, climbing or creeping, rooting at the nodes, or erect; spadix with an appendage: **16**
- 6 Spadix with a terminal appendage destitute of flowers; rootstock tuberous: **7**
- Spadix without a terminal sterile appendage: **9**
- 7 Leaves divided; leaves and flowers produced at different times: **8**
- Leaves peltate; leaves and flowers produced at the same time; introduced and cultivated, more or less naturalized [7. Colocasia](#)
- 8 Leaves pedate with a few segments; spadix with sterile process above the female portion [5. Sauromatum](#)
- Leaves 3-branched at the apex of the petiole, branches dichotomously divided, the ultimate segments each with one apex; spadix without sterile process [6. Amorphophallus](#)
- 9 Leaves not peltate: **10**
- Leaves peltate, cordate at the base: **15**
- 10 Leaves sagittate, elliptic etc. not divided (3-lobed, but not to the base, in *Nephtytis constricta*): **11**
- Leaves much divided, the upper ultimate segments each with 2 apices [13. Anchomanes](#)
- 11 Introduced, cultivated and more or less naturalized in waste places; leaves sagittate [8. Xanthosoma](#)
- Forest plants or herbs of wet places: **12**
- 12 Herbs of streams and wet places: **13**
- Herbs of drier places in forest; leaves sagittate or 3-lobed; ovules solitary in each cell [12. Nephtytis](#)
- 13 Spathe inconspicuous greenish colour; ovules numerous in each of the 2 or 3 cells; lateral nerves of leaves

- numerous and closely parallel, streams in lowland forest: **14**
- Spathe conspicuous golden-yellow; leaves hastate; ovules 2-3 in each of several cells; marsh herb in highland **11**.
Zantedeschia
- 14** Anthers inserted on the sides of the synandria; leaves cordate-sagittate, hastate, or linear-elliptic **9. Anubias**
Anthers crowded on top of the synandria; leaves hastate to 3-lobed **10. Amauriella**
- 15** Flowers and leaves produced in alternate seasons, the uniform-green leaves accompanied by a peduncle bearing burr-like bulbils covered with hooked prickles **14. Remusatia**
Flowers and leaves produced together, leaves usually brightly coloured; burr-like bulbils not produced; naturalized introduction **15. Caladium**
- 16** Ovary 2-3-celled with numerous ovules in each cell; anthers connate; herb of wet places (for other characters see above) **9. Anubias**
Ovary 1-2-celled with solitary ovule; anthers free; herbs of forest, often climbers: **17**
- 17** Leaves unequally pinnatisect or perforated **16. Rhektophyllum**
Leaves neither pinnatisect nor perforated: **18**
- 18** Seeds with endosperm; ovule basal; leaves more or less ovate, not hastate or 3-lobed **17. Culcasia**
Seeds without endosperm; ovule inserted above the base of the cell; leaves cordate, sagittate or hastate or 3-lobed **18. Cercestis**

Dieffenbachia sp.

From America is cultivated as an ornamental in Sierra Leone

Typhonium trilobatum (Linn.) Schott

This Asiatic species has been introduced into the vicinity of Bingerville, Ivory Coast.

Alocasia macrorrhiza Schott

The Asiatic elephant's ear, is occasionally cultivated in our area. Other genera are probably grown as ornamentals.

1. PISTIA

Linn., Sp. Pl. 963 (1753); F.T.A. 8: 140.

- 1** Leaves sessile in a rosette, oblong-spathulate, rounded, truncate or widely emarginate at the apex, up to about 12 cm. long and 5 cm. broad, with several subparallel flabellate nerves, softly puberulous to tomentellous on both surfaces, tomentose towards the base; spathe axillary, shortly pedunculate, up to 1.2 cm. long, tubular below, villous outside, ovate, with a broad white ciliolate margin; spadix shorter than the spathe, monoecious, the female part adnate to the spathe; male part a stipitate whorl of 3-8 flowers, each flower composed of 2 connate 2-celled anthers; ovary solitary, 1-celled, with a capitate stigma *stratiotes*

Pistia stratiotes *Linn.* l.c. (1753); F.T.A. 8: 140; Chev. Bot. 685; Berhaut, Fl. Sén. 184; Morton, W. Afr. Lilies & Orch. fig. 61; Wild in Kirkia 2: 13, t. 2. *APD acc*

A *floating herb*, propagates mainly by stolons and forming immense colonies; roots numerous, fibrous, reaching the bottom in shallow water; flowers obscure beneath the rosette of glandular viscid leaves. Water lettuce.

Sen.: Berhaut 1008. **Mali:** Djenné Chev. 1106; 1142. **S. L.:** Gbundapi (Mar., Sept) Adames 22! 71! Serabu, S. Prov. (Apr.) Deighton 1678! **Lib.:** Gbaishela Harley 1298! Toroke (July) Baldwin 6730! **Iv. C.:** Adiopodoumé de Wit 5569! **U. Volta:** Ouagadougou Chev. 24669! **Ghana:** Bjury (July) Chipp 505! Kumasi Cummins! Nungua (Feb.) Rose Innes GC 30095! **Niger:** Niamey to Gao Ryff! **N. Nig.:** Lom Barter 176! Gulumba (Dec.) McClintock 44! **S. Nig.:** Lagos Batten-Poole 75! Okomu F.R. (fr. Jan.) Brenan 8770! Burutu (Sept.) Parsons 4! Sapoba (May) Kennedy 1421! Aboh T. Vogel 12! Isoba, Port Harcourt (Jan.) Stubbings 129! cross R. (Jan.) Holland 233! **W. Cam.:** Preuss 1361!

An aquatic widely distributed throughout the tropics.

2. CYRTOSPERMA

Griff., Notul. 3: 149 (1851), and Ic. 3: t. 169 (1851); F.T.A. 8: 197.

- 1 Leaves sagittate, variable in size, up to about 80 cm. long, and 40 cm. broad, the basal lobes lanceolate, acuminate, forming a narrow sinus, the terminal lobe ovate-lanceolate, acute, glabrous, laxly reticulate; petiole up to 2 m. long or more, prickly-toothed; spathe long-pedunculate (overtopping the leaves), enveloping and much longer than the spadix, 20-45 cm. long, acuminate; spadix sessile, cylindric; flowers hermaphrodite; berries 1.5 cm. long, oblong; seeds covered with dentate crests [senegalense](#)

Cyrtosperma senegalense (*Schott*) *Engl.* in DC., Monogr. Phan. 2: 270 (1879); F.T.A. 8: 198; Bot. Mag. t. 7617; Chev. Bot. 679; Berhaut, Fl. Sén. 180; Morton, W. Afr. Lilies & Orch. fig. 54.

APD: Synonym of Lasimorpha senegalensis Schott

Lasimorpha senegalensis *Schott*, Gen. Aroid. t. 85, fig. 1-10 and 1-20 (1858).

L. afzelii *Schott*, Gen. Aroid. t. 85, fig. 1-10 and 1-20 (1858).

Terrestrial herb with a rhizome giving rise to large sagittate leaves about 5 ft. high with prickly petioles; spathe green outside, inside cream with long dull red-purple linear marking presenting a longitudinally striped appearance; peduncle prickly, longer than the leaves and up to 12 ft. high; [at the margins of forest, and in swamps and ravines in savanna country.](#)

Sen.: Berhaut 1319. **Port. G.:** Teixeira Pinto (Jan.) d'Orey 133! **Guin.:** Heudelot 639! **S. L.:** Newton (Nov.) Deighton 1513! N'tunga (Dec.) Sc. Elliot 4333! Mayoso (Aug.) Thomas 1470! Pendembu (July) Thomas 798! **Lib.:** Monrovia (fr. June) Baldwin 5915! Grand Bassa (July) T. Vogel 94! Gbanga (Sept.) Linder 779! **Iv. C.:** Angedédou Forest, Abidjan (Nov.) Leeuwenberg 1873! Grand Bassam (Sept.) de Wit 5775! **Ghana:** Aiyinase (July) Irvine 5000! Axim (Dec.) Johnson 874! Tarkwa (fr. Mar.) Morton GC 6569! **N. Nig.:** Ankpa to Oturkpa, Kabba Prov. (June) Daramola FHI 38024! Gongoroko, Nupe Barter 1467! Munchi (leaf June) Dalz. 863! **S. Nig.:** Benin (Nov.) Meikle 875! Osho, Omo F.R. (fr. Apr.) Jones & Onochie FHI 17236! Nkpoku, Port Harcourt Stubbings 120! Calabar (July) Holland 64! **F. Po:** Barter 9! (Jan.) Mann 244!

Extends to the Congo.

3. RHAPHIDOPHORA

Hassk. in Flora 25, 2, Beibl. 11 (1842); F.T.A. 8: 199, as Raphidophora.

Afroraphidophora *Engl.* (1906).

- 1 A tall climber; stem slender, rooting at the nodes; leaves entire, oblong-ob lanceolate, shortly cuneate at the base, gradually acuminate, 15-30 cm. long, 4-8 cm. broad, glabrous, with numerous pinnate parallel nerves spreading from the midrib at an angle of about 45°; petiole up to 20 cm. long, sheathing; peduncle 8-10 cm. long; spathe closely wrapped around the spadix, beaked, 7-10 cm. long; spadix sessile, up to 10 cm. long, 1-4 cm. diam.; flowers hermaphrodite; stigmas discoid [africana](#)

Rhaphidophora africana *N. E. Br.* in Kew Bull. 1897: 286; F.T.A. 8: 200; Chev. Bot. 678; Morton, Lilies & Orch. fig. 60. *APD acc*

Rhaphidophora ovoidea *A. Chev.* (1909)-Chev. Bot. 678.

Rhaphidophora pusilla of Chev. Bot. 679, not of N.E. Br.

Afroraphidophora africana (*N. E. Br.*) *Engl.* (1906).

[Climbing up trees in forest](#), up to 80-100 ft. high, but apparently often much less; spathe greenish yellow, flowers white.

S. L.: Thomas 9488! Njala (Mar.) Deighton 3123! Sakuru (Feb.) Sc. Elliot 4940! Kurusu (Apr.) Sc. Elliot 5524! Faiama (Mar.) Deighton 4123! **Lib.:** Kitoma Harley 1604! Dukwia R. (Feb.) Copper 284! **Iv. C.:** Béyo (Jan.) Leeuwenberg 2619! Bouroukrou Chev. 16849. Grabo, Cavally Chev. 19643; 19669. Malamalasso Chev. 17504! **Ghana:** Burton! Enchi to Boinso (Dec.) Adams 2188! Kade (Feb.) Morton GC 8388! Assin-Yan-Kumasi Cummins 47! **S. Nig.:** Omo F.R. (Feb.) Jones & Onochie FHI 17558! Babatope to Ipetu, Ife-Ilesha Dist. (Apr.) Onochie FHI 15501! Okomu F.R. (Jan.) Brenan 8787! Eket Dist. Talbot 3138! **F. Po:** Mann 103! S. Carlos Guinea 671!

4. STYLOCHITON

Lepr. in Ann. Sci. Nat., Sér. 2, 2: 184 (1834); F.T.A. 8: 187.

- 1 Leaves cordate or hastate with broad obtuse lobes, or lanceolate:.....2
 Leaves hastate with linear lobes 4-6 cm. long, lamina narrowly lanceolate, when fully expanded about 15 cm. long and 1.5-3 cm. broad; petiole up to 25 cm. long; flowers appearing before the leaves; spathe about 4 cm. long, more or less hooded and obtuse at the apex; spadix nearly as long as the spathe; in savanna [4. hypogaeus](#)
- 2 Flowers axillary, accompanied by mature leaves; spathe narrowly oblong-lanceolate about 5 cm. long and 5 mm. broad, margins shortly connate below into & tube; spadix 1 cm. long with 2-3 female flowers in a whorl; peduncle 5-25 mm. long; leaves obovate or nearly orbicular, cordate at the base, abruptly acuminate at the apex 8-16 cm. long, 6-12 cm. broad, with about 8 faint lateral nerves on each side of the midrib; petiole 10-20 cm. long; in forest [1. zenkeri](#)
- Flowers appearing before the leaves; in savanna:.....3
- 3 Radial flanges absent in between the 5 female flowers at the base of the spadix, male flowers slightly separated from the female portion; spathe lanceolate, mucronate, 2.5-5 cm. long, about 1 cm. broad, tubular in the lower half; leaves hastate to lanceolate, 10-18 cm. long, 5-8 cm. broad, glabrous, with the main nerves radiating from the apex of the puberulous petiole, basal lobes of the lamina very obtuse and rounded, ovate or broadly triangular [2. lancifolius](#)
- Radial flanges separating the 3 female flowers; spadix 1.5 cm. long; spathe lanceolate, 2 cm. long; leaves ovate-elliptic, 6-10 cm. long, 4-5 cm. broad, with about 5 pairs of lateral nerves; peduncle 2 cm. long .. [3. hostifolius](#)

1. **Stylochiton zenkeri** Engl. Bot. Jahrb. 26: 424 (1899); F.T.A. 8: 189. *APD acc*

Stylochiton gabonicus N. E. Br. in F.T.A. 8: 190 (1901).

Leaves about 1 ft. high appearing with the axillary flowers; spathe light pink; in forest, especially in wet places.

S. L.: Njala (July) Deighton 3960! Robot, Rokupr (Aug.) Deighton 3021! W. Cam.: Likomba Mildbr. 10593! F. Po: Barter 1470!

Extends to Gabon.

2. **Stylochiton lancifolius** Kotschy & Peyr. Pl. Tinn. 42, t. 20 (1867); F.T.A. 8: 193. *APD acc*

Stylochiton warneckeii Engl. (1905)-F.W.T.A., ed. 1, 2: 359; Morton, W. Afr. Lilies & Orch. t. 56.

Stylochiton chevalieri Engl. (1907)-Chev. Bot. 685.

Stylochiton dalzielii N. E. Br. (1910).

Rhizome erect, fleshy, yellow; flowers appearing towards the end of the dry season in savanna woodland, spathe apex dull purplish outside, whitish inside; spadix whitish; leaves about 1 ft. high produced during the rainy season.

Sen.: Kaolak Berhaut 1631! Mali: Thiédiana Chev. 994! Guin.: Farana, Sangara Dist. 3,300 ft. (Mar.) Sc. Elliot 5373! S. L.: Waterloo (May) Deighton 2763! Kambia Magbema (fl. Apr., fr. May) Jordan 440! Hepper 2635! Mange Bure (May) Deighton 4784! Ghana: Bolgatanga (Mar.) Morton GC 8828! Kete Krachi Morton 9123! Ohawu (July) Irvine 4961! Kpong to Accra (Oct.) Morton A236! Dah.: Niore to Kouandé Chev. 24004! N. Nig.: Nupe Barter 1469! Abinsi (fl. & fr. June-July) Dalz. 860! Yola (Apr.) Dalz. 237! S. Nig.: Oyo to Ilorin (Mar.) Meikle 1294!

Widespread in drier savanna regions of tropical Africa.

3. **Stylochiton hostifolius** Engl. Bot. Jahrb. 36: 238 (1905).

APD: Synonym of Stylochaeton lancifolius Kotschy & Peyr.

Togo Rep.: Sokodé-Basari, near Alédyo (Feb.) Kersting 316!

[Further material is required for study to decide the status of this species: it is very close to *S. lancifolius* in the broad sense.]

4. **Stylochiton hypogaeus** Lepr. in Ann. Sci. Nat., Sér. 2, 2: 185, t. 5 (1834); F.T.A. 8: 192; Berhaut, Fl. Sén. 180. *APD acc*

Stylochiton similis N. E. Br. in F.T.A. 8: 194 (1901).

Stylochiton barteri N. B. Br. l.c. (1901); F.W.T.A., ed. 1, 2: 359; Chev. Bot. 684; Morton l.c. fig. 55.

Rhizome rather thick; flowers appearing before or sometimes with the leaves; spathe purplish; in flood plains.

Sen.: Dioubél Berhaut 5306! Districts of Cayor, Oualo and Cape Verde Leprieur! **Iv. C.:** Zagoué to Soucouraba Chev. 21570! Mankono Chev. 21894! **Ghana:** Navrongo (Apr.) Vigne FH 3757! 4530! Tamale to Damongo (Mar.) Adams 3914! **Dah.:** Dassa-Zoumé Chev. 23660! Djougou Chev. 23864! **N. Nig.:** Nupe Barter 1472! **S. Nig.:** Oyo Barter 3424!

Extending to C. African Republic.

A broad concept of the species has been adopted for this revision. Part of the difficulty is due to the presence of only leaves or flowers at the time of collection. Field workers should observe the range of variation within a population and obtain flowers and leaves from the same plant at different seasons.-F.N.H.

5. SAUROMATUM

Schott, Melet. 1: 17 (1832); F.T.A. 8: 141; Hepper in Kew Bull. 21: 492 (1968).

Jaimenostia Guinea & Gómez Moreno (1946).

- 1 Tuberous herb, tuber depressed globose with roots arising all round the top; leaf solitary, petiole stout smooth up to 1 m. long; lamina palmately and pedately lobed, segments broadly lanceolate, the largest lobe in the middle with the others decreasing in size outwards; inflorescence solitary; peduncle 5-15 cm. long, spathe elongate lanceolate up to 40 cm. long; spadix with basal female flowers about 5 cm. below male flowers, several sterile processes above the female portion, linear appendage up to 30cm. long [venosum](#)

Sauromatum venosum (Ait.) Kunth enum. Pl. 3: 28 (1841).

APD: *Synonym of Typhonium venosum (Dryand. ex Aiton) Hett. & P. C. Boyce*

Arum venosum Ait. (1789).

Sauromatum guttatum (Wall.) Schott (1832)-Engl., Pflanzenr. 4, 23 F: 123.

Sauromatum nubicum Schott (1856)-F.T.A. 8: 141; Engl. l.c. 126.

Jaimenostia fernandopoana Guinea & Gómez Moreno in Guinea, Ensayo Geobot. Guin. Continent. Españ. 248, figs. 39, 40 (1946), and in Ann. Jard. Bot. Madrid 6, 2: 466 (1946).

A geophyte with a, perennial tuber from which arises the short peduncle and purple-spotted spathe and later the single taller petiole with divided lamina 1-2 ft. across; fruits bright red; [in shady places in upland](#).

F. Po: Moka fide Guinea l.c.

Also in highland E. Cameroun and extending through much of the E. African mountains; also in India.

6. AMORPHOPHALLUS

Blume ex Decne., Herb. Timor 38 (1835); F.T.A. 8: 144; Engl., Pflanzenr. 4, 23C: 16 (1911). Nom. cons.

APD acc

- 1 Appendix of the spadix ovoid or ellipsoid, very short in comparison with its breadth, not more than 3 times as long as broad; leaves with narrow, more or less lanceolate segments: [2](#)
- Appendix of spadix cylindric or tapered to apex, long in proportion to the breadth, usually many times longer than broad, if only about 4 times as long as broad then about 6 mm. broad: [3](#)
- 2 Spathe open at the top, not much longer than the spadix, about 10 cm. long; appendix of spadix broadly ovoid, solid, 3-4(-5) cm. diam. at base; peduncle 11-20 cm. long [1. aphyllus](#)
- Spathe hooded at the top, much longer than the spadix, about 30 cm. long, appendix of spadix ellipsoid 5-9 cm. long, about 3 cm. broad; peduncle 4-40 cm. long [2. dracontioides](#)
- 3 Spathe forming a tube at the base, tube broadly campanulate, 4-5 cm. long; whole spathe up to 15 cm. long; spadix long-stipitate, much shorter than the spathe; flowering part 1.5 cm. long, appendix 3 cm. long; female flowers very few; leaves not known [3. elliotii](#)
- Spathe not forming a tube at the base: [4](#)
- 4 Spadix shorter than the spathe: [5](#)
- Spadix longer than the spathe: [6](#)
- 5 Leaf-segments shortly cuspidate-acuminate, obovate, decurrent on the rachis, 6-8 cm. long, 3-5-4 cm. broad, with about 6 pairs of looped lateral nerves; peduncle up to 30 cm. long; spathe ovate, folded at the base, 15-20

- cm. long, wrinkled inside towards the base but without hairs; spadix about 10 cm. long, appendix 4-5 cm. long [4. abyssinicus](#)
- Leaf-segments gradually long-tailed-acuminate, oblanceolate, shortly decurrent on the rhachis, 15-17 cm. long, 4-5 cm. broad, with numerous looped lateral nerves; peduncle up to 50 cm. long, slender; spathe 12 cm. long, spadix a little shorter [5. preussii](#)
- 6 Spathe lacking stiff hairs within the basal folded portion, light green (3.5-)5-15 cm. long, broadly elliptic; spadix half as long again to twice as long as the spathe, tapering to the top; ovary finely verrucose; leaf-segments oblong-oblanceolate, cuspidate-acuminate, decurrent on the rhachis, 10-12 cm. long, 3-4 cm. broad, with numerous parallel nerves looped within the margin (see notes after this species) [6. flavovirens](#)
- Spathe with numerous stiff hairs within the basal portion: **7**
- 7 Spadix not more than twice as long as the spathe: **8**
- Spadix several times as long as the spathe:
- 8 Spathe broadly ovate, narrowed to the apex, about 17 cm. long and 15 cm. broad when opened out; leaf-segments oblanceolate, tailed-acuminate, about 12 cm. long and 3 cm. broad, thin [7. johnsonii](#)
- Spathe ovate-orbicular, about 12 cm. diam. when spread out, not pointed; spadix slender, 18 cm. long; leaves not known [8. staudtii](#)
- Spathe suborbicular, about 25 cm. diam. when spread out, deeply crenate; leaf-segments broadly elliptic, broadly acuminate, the terminal about 25 cm. long and 10 cm. broad [9. manni](#)
- 9 Appendix of spadix narrowed near its base and with its broadest expanded part well above the male flowers, very long; spathe broadly ovate when spread out, 10-15 cm. long; male portion about 2 cm. long, 5-10 mm. diam. [10. calabaricus](#)
- Appendix of spadix with its broadest part immediately above the male portion and without any further constriction: **10**
- 10 Spathe at the base within, clothed with filiform processes [11. zenkeri](#)
- Spathe at the base within, densely covered with stout hairs or soft bristles [12. accrensis](#)

1. *Amorphophallus aphyllus* (Hook.) Hutch. F.W.T.A., ed. 1, 2: 362 (1936); Berhaut, Fl. Sén. 4, 11.
APD acc

Arum aphyllum Hook. in Gray, Travels in W. Afr. 386, t. A (1825).

Amorphophallus leonensis Lem. (1846)-F.T.A. 8: 147, incl. vars.; Engl. l.c. 105, fig. 36; Bot. Mag. t. 7768; Chev. Bot. 680.

Corynophallus afzelii Schott (1857).

Inflorescence 6-12 in. high from a tuber 2 in. across; spathe dark red-purple; leaves produced after the inflorescence.

Sen.: Kountaur (Mar.) Berhaut 5029! Kaolak (Mar.) Berhaut 274! Medina (May) Trochain 3446! **Mali:** Babela (Baléba) Chev. 394! Sinia to Diendénia (Feb.) Chev. 423! Banan Chev. 542! **Port. Guin.:** Madina (Feb.) Pereira 2975! Campeana (Jan.) Pereira 285! **Guin.:** Farana Chev. 13348! 13413! Timbo (Feb.) Pobéguin 1494! Bangadou, Kissi Chev. 20732! **S. L.:** Afzelius! Masters! Sc. Elliot! Kowama (May) Deighton 5779! Gbop, Nongoba Bullom (Jan.) T. S. Jones 390! **Togo Rep.:** Sokodé-Basari Kersting 311.

2. *Amorphophallus dracontoides* (Engl.) N. E. Br. in F.T.A. 8: 148 (1901); Engl. l.c. 67, fig. 24, F-L; Chev. Bot. 680; Morton, W. Afr. Lilies & Orch. fig. 49. *APD acc*

Hydrosme dracontoides Engl., Bot. Jahrb. 15: 461, t. 18 (1892).

Tuber "the size of a child's head", flattened above; inflorescence almost sessile or with a peduncle over 1 ft. high; spathe about 1 ft. long, hooded, pale outside, reddish-purple with yellowish streaks inside; **in savanna.**

Ghana: Damongo (fl. & fr. Mar.) Morton GC 8673! Kpedsu (Dec.) Howes 1030! Kpong (Jan.) Johnson 662! **Togo Rep.:** Bismarcksburg, Anjanga Büttner 419. **Dah.:** Massé to R. Ouémé Chev.! **N. Nig.:** Lokoja (fl. & fr. Oct.) Dalz. 564! Nupe Barter 1141! **S. Nig.:** Ilaro (Jan.) Millen 125! Ado-Awaye, Iseyin Dist. (Feb.) Onochie FHI 35278! Shepeteri, Oyo Dist. (Feb.) Keay FHI 22492!

3. *Amorphophallus elliotii* Hook f. in Bot. Mag. t. 7349 (1894); F.T.A. 8: 147; Engl. l.c. 67, fig. 24, A-E.
APD acc

Peduncle about 9 in. long; leaf about 1 1/2 ft. diam.; spathe pinkish in the lower part, upper part green, mottled with brown, smelling strongly; **in short grass.**

S. L.: Wallia (Jan.) Sc. Elliot 4640!

4. **Amorphophallus abyssinicus** (A. Rich.) N. E. Br. in F.T.A. 8: 160 (1901); Milne-Redhead in Kew Bull. 5: 382, fig. 9 map (1950); Verdoorn in Fl. Pl. Afr. t. 1251 (1957). *APD acc*

Arum abyssinicum A. Rich., Tent. Fl. Abyss. 2: 352 (1851).

Amorphophallus barteri N. E. Br. in F.T.A. 8: 151 (1901); F.W.T.A., ed. 1, 2: 361; Morton, W. Afr. Lilies & Orch. fig. 50.

Amorphophallus warnecke (Engl.) Engl. & Gehrm. (1911).

Amorphophallus chevalieri (Engl.) Engl. & Gehrm. (1911).

Tuberous rooted herb with very dark reddish purple spathe inside, paler outside, markedly constricted below the middle, spadix nearly black; pungent smell; in rather damp places in savanna.

Ghana: Pong Tamale (Apr.) Bally 142! Kote Krache (Apr.) Morton, GC 9102! **Togo Rep.:** Lomé Warnecke 103! **N. Nig.:** Katagum Dist. Dalz. 237! Valley of Kaduna R., Bida Dist. (fl. & fr. May) Keay FHI 22845! Mamu, 2,500 ft. (May) Lely 159! Gudi to Keffi, Benue Dist. (Apr.) Keay & Jones FHI 37643! Abinsi (May) Dalz. 861! Nupe Barter 502! 1468! **S. Nig.:** Lagos Foster 21! **W. Cam.:** Bamessi to Bangola, 3,800 ft. (Apr.) Brunt 307!

Widespread in savanna of tropical Africa to **Ethiopia** and Rhodesia.

5. **Amorphophallus preussii** (Engl.) N. E. Br. in F.T.A. 8: 152 (1901); Engl., Pflanzenr. 23C: 95, fig. 34. *APD acc*

Hydrosme preussii Engl., Bot. Jahrb. 15: 459 (1892).

Spathe yellow-green, purple at the base; near upland stream in forest.

W. Cam.: Buea, 3,000 ft. (fl. Dec.-Mar., leaves Sept.) Preuss 588 (leaves)! Lehmbach 127.

[Further material needs to be examined before the value of this species can be assessed-F.N.H.]

6. **Amorphophallus flavovirens** N. E. Br. in F.T.A. 8: 153 (1901); Engl., Pflanzenr. 4, 23C: 81.

APD: Synonym of Amorphophallus baumannii (Engl.) N.E. Br.

Amorphophallus baumannii (Engl.) N. E. Br. in F.T.A. 8: 153 (1901); Engl. l.c. 97; Chev. Bot. 680.

Inflorescence rather small on a slender peduncle up to 3 ft. high, spadix greenish, spathe grey, greenish yellow, sometimes tinged red, darker inside, with an objectionable smell; fruits red; in plantations and shady places.

Sen.: (see note below). **Lib.:** Ganta (May) Harley 2036! Juarzon, Sinoe Co. (Mar.) Baldwin, 11474! **U. Volta:** Diapaga to Fada (July) Chev. 24466! **Ghana:** Kuluwa (Mar.) A. S. Thomas D170! Agogo (May) Irvine 944! Kwahu (Mar.) Johnson 644! Aburi (Mar.-Apr.) Johnson 25! 873! Bame to Dzolokpuita, Ho Dist. (Mar.) Hepper & Morton A3031! **Dah.:** Agouagon (May) Chev. 23548, partly! Konkobiri (June) Chev. 24283! **S. Nig.:** Shasha (Omo) F.R., Ijebu Dist. (fl. & fr. Jan.) Onochie FHI 20689! Oke Iho to Iseyin (Apr.) Keay & Polunin FHI 37832!

Extends to C. African Republic.

[A. consimilis Blume (Rumphia 1: 149 (1835); F.T.A. 8: 154; Berhaut, Fl. Sén. 4, 11. A. doryphorus Ridl. (1886)-F.T.A. 8: 152.) was maintained as a species in Ed. 1 distinct from A. flavovirens in having a smaller spathe (7-9 cm. against 8-15 cm. long). It seems that it is a form of this species occurring in the NW. of our area (Sen.: Leprieur! Chev. 2601! Gam.: Lester! Maxwell!). A. gracilior Hutch. in Kew Bull. 1939: 245 (A. gracilis A. Chev., Bot. 653, name only, not of Engl.) was also maintained in Ed. 1 as distinct from A. flavovirens and A. consimilis in having a smaller spathe and short spadix-both inconstant characters (Dah.: Chev. 22957! an imperfect specimen). Certain specimens cited above (Harley 2036, Baldwin 11474) exhibit an expanded lip around the edge of the spathe.-F.N.H.]

7. **Amorphophallus johnsonii** N. E. Br. in F.T.A. 8: 158 (1901); Engl. l.c. 80. *APD acc*

Amorphophallus purpureus (Engl.) Engl. & Gehrm. l.c. 83 (1911); Chev. Bot. 681; Aké Assi, Contrib. 2: 21 [230, t. 26].

Hydrosme purpurea Engl. (1907).

Tuber about the size of a flattened orange; spathe constricted, dark purple red, shortly stalked; leaves appearing after the inflorescence; petiole smooth brown-spotted; in forest undergrowth.

Mali: Bamako, Doumbia (June) Roberty 2299! Sikasso (May) Demange 2069! **Guin.:** Mamou to Kindia, (May) Chev. 13585! **Lib.:** Javajai, Boporo Dist. Baldwin 12601! **Iv. C.:** Adiopodoumé (Jan.) Aké Assi 7305! N'Douakro, Bouaké Aké Assi IA 2285. Taflré Manganot & Aké Assi IA 4285. **Ghana:** Tinte Bepo F.R. (Nov.) Cox 3215! Amosina, Cape Coast

(Apr.) Hall 2582! Banka, Ashanti Irvine 482! Abetifi to Kumasi (Apr.) Bally 103! Kwahu (Mar.) Johnson 643! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan 8499! 8554! Sapoba (Apr.) Richards 3915!

8. **Amorphophallus staudtii** (Engl.) N. E. Br. in F.T.A. 8: 154 (1901); Engl., Pflanzenr. 4, 23C: 97. **APD acc**

APD: *Synonym of Amorphophallus barthlottii Ittenb. & Lobin*

Hydrosme staudtii Engl., Bot. Jahrb. 26: 420 (1899).

W. Cam.: Johann-Albrechtshöhe (=Kumba) (Dec.) Staudt 767 (seen for Ed. 1).

9. **Amorphophallus mannii** N. E. Br. in F.T.A. 8: 159 (1901); Engl. l.c. 100.

APD: *Synonym of Amorphophallus zenkeri subsp. mannii (N.E. Br.) Ittenb.*

Amorphophallus macrospadix Font Quer in Cavanillesia 1: 79, with fig. (1928).

Spathe dark purple.

F. Po: Mann 652!

10. **Amorphophallus calabaricus** N. E. Br. in F.T.A. 8: 155 (1901); Engl. l.c. **APD acc**

Peduncle 2-3 ft. high, mottled; spathe chocolate brown or pale yellow green, darkly spotted outside; spadix appendage hollow.

S. Nig.: Ibadan South F.R. (Apr.) Keay FHI 22803! Calabar (Feb.) Mann 2336! Okuni, Cross R. (Jan.) Holland 256!

11. **Amorphophallus zenkeri** (Engl.) N. E. Br. in F.T.A. 8: 159 (1901); Engl. l.c. **APD acc**

Hydrosme zenkeri Engl., Bot. Jahrb. 26: 421 (1899).

Spathe purple or purplish with white streaks inside and outside; pale and green spotted outside towards the base; spadix pale purple.

S. Nig.: Oban Talbot 1300!

12. **Amorphophallus accrensis** N. E. Br. in F.T.A. 8: 157 (1901); Engl. l.c. 86; Chev. Bot. 679.

APD: *Synonym of Amorphophallus johnsonii N.E. Br.*

Spathe yellow-green on outside, fringed bright purple inside, spadix brown.

Iv. C.: Dioandougou, Upper Sassandra Chev. 21515! **Ghana:** Accra Sander & Co.!

[Apparently close to *A. johnsonii* and if no taxonomic significance is placed on the length of the appendix, it may be conspecific-F.N.H.]

7. COLOCASIA

Schott in Schott and Endl., Melet. 1: 18 (1832); F.T.A. 8: 164; Engl., Pflanzenr. 4, 23E: 62 (1920).

- 1 A very stout rhizomatous herb; leaves peltate, more or less ovate, cordate at the base, basal lobes very obtuse, thin, glabrous; lateral nerves radiating from the base and pinnate, about 6-8 pairs; peduncle about 15 cm. long; spathe usually about 1.8 cm. long, narrow, acuminate, enfolding the spadix and articulating at the base of the male part in fruit; spadix much shorter than the spathe, tapered to the apex; berries enclosed in the persistent tube of the spathe [*esculenta*](#)

Colocasia esculenta (Linn.) Schott l.c. (1832); A. F. Hill in Bot. Mus. Leaf. Harvard 7: 113 (1939); Morton, W. Afr. Lilies & Orch. fig. 60. **APD acc**

Arum esculentum Linn. (1753).

Colocasia antiquorum Schott (1832)-F.T.A. 8: 164; Bot. Mag. t. 7364; Engl. l.c. 65.

Cultivated extensively in our area for the tuber (coco-yam) and frequently naturalized; the large leaves are seldom accompanied by flowers.

Native of tropical Asia.

8. XANTHOSOMA

Schott in Schott & Endl., Melet. 1: 19 (1832); Engl., Pflanzenr. 4, 23 E: 41 (1920).

- 1 Stout rhizomatous herb; petiole up to 60 cm. long, usually less; lamina sagittate 30-45 cm. long and 20-35 cm. broad with large basal lobes not over-lapping; peduncle 30-40 cm. long; spathe about 20 cm. long; spadix slightly longer than the spathe [mafaffa](#)

Xanthosoma mafaffa *Schott* Arac. Betreff. 2: 5 (1855); Engl. l.c. 51, fig. 9J

APD: *Synonym of Xanthosoma sagittifolium (L.) Schott*

Xanthosoma sagittifolium of authors, not of (Linn.) Schott.

Widely cultivated coco-yam, native of tropical S. America. Grown in the moister parts of our area and to about 5,000 ft in. W. Cameroun.

[X. mafaffa appears to be the species in West Africa, as mentioned by Dalziel (Appendix, p. 483), although unfortunately he used the name X. sagittifolium for the main heading. It would be useful to know whether true X. sagittifolium, with overlapping basal leaf lobes and tapering male portion of the spadix, occurs in our area.)

9. ANUBIAS

Schott in Oest. Bot. Wochenbl. 7: 398 (1857); F.T.A. 8: 182; Engl., Pflanzenr. 4, 23 DC: 2 (1915). *APD acc*

- 1 Leaves not hastately lobed, may be cordate (in No. 3): **2**
 Leaves hastately lobed: **5**
- 2 Spathe convolute, not opening at maturity, the spadix exserted; petioles not muricate at apex; lamina narrowly elliptic, acute at apex, 15-25 cm. long, 3-10 cm. broad, with numerous parallel lateral nerves spreading from the midrib at an angle of 45° with faint transverse tertiary nerves; spadix as long as or longer than the acuminate spathe [1. afzelii](#)
 Spathe opening at maturity, eventually partly reflexed: **3**
- 3 Spathe 3-5 cm. long; spadix as long as or longer than the spathe: **4**
 Spathe 1-1.5 cm. long, apiculate; spadix included, shorter than the spathe; petioles 3-17 cm. long; lamina narrowly elliptic 5-14 cm. long, about 1.5 cm. broad, cuneate at base, acute or obtuse at apex [4. minima](#)
- 4 Leaves broadest about the middle, lanceolate-elliptic, more or less narrowed to the base or slightly cordate, acute or slightly acuminate, 12-25 cm. long, 4-10 cm. broad, with numerous lateral nerves spreading from the midrib at an angle of about 80°; petioles more or less muricate, often densely so towards the base; spathe 3-5 cm. long, acuminate or cuspidate, narrow; spadix about as long as the spathe [2. lanceolata](#)
 Leaves broadest below the middle, cordate, truncate, rounded or exceptionally cuneate at the base, acute to acuminate at the apex, 15-25 cm. long, 5-10 cm. broad, glabrous except the puberulous midrib beneath, with numerous parallel lateral nerves spreading from the midrib at a wide angle; petiole slender, up to 30 cm. long, expanded and sheathing only towards the base, not tuberculate; peduncle very slender, about the same length as the leaves; spathe oblong-lanceolate, rather long-acuminate, 4-5 cm. long; spadix slender, longer than the spathe [3. barteri](#)
- 5 Leaves shallowly hastately trilobed, triangular in outline, about 12 cm. long and 10 cm. broad, lobes ovate-oblong, rounded at the apex, glabrous, with numerous lateral nerves; petiole about 25 cm. long, deeply grooved on one side; peduncles slender, 15 cm. long; spathe 2-5 cm. long, broadly elliptic, mucronate, spadix as long as the spathe, the upper three-quarters occupied by the male flowers [5. gracilis](#)
 Leaves deeply and variably trilobed, sometimes nearly compound; middle lobe ovate-triangular to lanceolate, shortly acuminate, acute to obtuse at apex, 11-24 cm. long, up to 10 cm. broad, lateral lobes oblong-lanceolate, obtuse, up to 16 cm. long and 6 cm. broad, all glabrous with numerous arcuate nerves; petiole and peduncle up to 30 cm. long; spathe 3-4(-8) cm. long, mucronate; spadix longer than the spathe [6. gigantea](#)

1. **Anubias afzelii** *Schott* in Oest. Bot. Wochenbl. 7: 399 (1857); F.T.A. 8: 183; Engl. l.c. 3; Chev. Bot. 683. *APD acc*

A gregarious herb of swamps or beside streams in forest; leaves with the lamina held erect, the petiole pulvinate at the apex; spathe green.

Sen.: Kantora, Haute-Casamance Etesse 15! **Guin.:** Ditinn and Diaguissa Chev. 12653! 12681! 12905 bis! Kindia Chev. 12714! R. Kalendé (June) Dybowski 8! Timbo (Apr.) Pobéguin 1573! **S. L.:** Afzelius! Barter! Guma, Peninsula (Mar.) Hepper & Pyne 2504! Baiima, Gbo (May) Deighton 5767! Jigaya (fr. Sept.) Thomas 2829! Bafodeya (Apr.) Sc. Elliot 5560!

2. **Anubias lanceolata** *N. E. Br.* in F.T.A. 8: 183 (1901); Engl. Pflanzenr. 4. 23 DC: 4 (excl. syn A. barteri var. glabra N. E. Br.); Chev. Bot. 483.

APD: Synonym of Anubias barteri var. glabra N.E. Br.

Terrestrial herb with creeping underground stem; spathe greenish white, spadix white; wet places in forest,.

iv. C.: fide Chev. l.c. **S. Nig.:** Ikure (Jan.) Holland 167! Mfum, Cross R., Ikom to Mamfe (Dec.) Keay FHI 28315! British Ogbokum, Ikom Dist. (May) Jones & Onochie FHI 18880! Oban (Jan., Feb.) Talbot s.n.! 768! Onochie FHI 36302x! Onochie & Okafor FHI 36037x! **W. Cam.:** Rio del Rey Johnston!

Also in **E. Cameroun**.

3. **Anubias barteri** *Schott* Prod. 159 (1860); F.T.A. 8: 185; Engl. l.c. 4. *APD acc*

Anubias barteri var. *glabra* *N. E. Br.* in F.T.A. 8: 185 (1901).

Herb in dense masses in rocky streams; spathes green.

W. Cam.: Ambas Bay Mann XV! Victoria (Jan.-Mar.) Maitland 1306! Brenan 9257! Kumba R., Barombi Preuss 422! 559! 1223! **F. Po:** (Dec.) Mann 104! Barter 2045! Musola (Jan.) Guinea 1441!

Also in **E. Cameroun** and **Gabon**.

[Engler placed var. *glabra* in *A. lanceolata*, but it seems to have more affinity with *A. barteri*. *A. nana* Engl. (1899)-type seen for Ed. 1-appears to be similar.-F.N.H.]

4. **Anubias minima** *A. Chev.* in Journ. de Bot. ser. 2, 2: 134 (1909); Bot. 684.

APD: Synonym of Anubias barteri var. glabra N.E. Br.

A small herb with short rhizome; creeping on rocks in streams.

Guin.: Kindia Jac.-Fél. 314! Nzo (Apr.) Schnell 1139! Chev. 21001! Nimba Mts. (June) Schnell 2815! Santa valley (Mar.) Chev. 12769! **Lib.:** Bili (Nov.) Harley 2079! Bilimu Mt. (Jan.) Harley 1337! Nyaake, Webo Dist. Baldwin 6118! Mnanulu Baldwin 6026! Nimba (Mar.) Adam 20296! 21071! **iv. C.:** Nouba Mts. (Apr.) Chev. 2114! Grabo (Aug.) Chev. 19649! 19746! Grabo to Fété (Mar.) Aké Assi 7861!

[There appears to be two forms; those plants with long petioles and leaves and with the lamina slightly acuminate, while others possess shorter petioles and leaves and with the lamina obtuse to acute.-F.N.H.]

5. **Anubias gracilis** *A. Chev. ex Hutch.* in Kew Bull. 1939: 246; F.W.T.A., ed. 1, 2: 366; Chev. Bot. 683. *APD acc*

Slender herb; in savanna zone.

Guin.: Macenta (Mar.) Jac.-Fél. 1561! Fassakioidou, Koniau-kés country (Feb.) Chev. 20800! Souradou Chev. 20578! **S. L.:** Yifin to Bandakarafaia Deighton 5066! Tingi Mts. (Apr.) Morton & Gledhill SL 1929!

6. **Anubias gigantea** *A. Chev ex Hutch.* in Kew Bull. 1939: 246; F.W.T.A., ed. 1, 2: 366; Chev. Bot. 683; Hepper in Kew Bull. 22: ined. (1968). *APD acc*

Anubias hastifolia var. *robusta* *Engl.* Pflanzenr. 4, 23 DC: 9 (1915).

Rhizomatous herb growing in shallow streams in high forest; spathes greenish brown, male flowers white, female flowers pale green.

Guin.: Nionsomoridou Chev. 20857! 20858! **S. L.:** Mano (Apr.) Deighton 3373! 5027! Kondumbaia, N. Prov. (Mar.) Morton & Gledhill SL 1024! **Lib.:** Careysburg, Monrovia (fr. Feb.) Dinklage. Baila, St. John R. (Feb.) Harley 1478! **Togo Rep.:** Baumann 171!

10. AMAURIELLA

Rendle in Cat. Talb. 115, t. 16 (1913). *APD acc*

- 1 Stemless herb; lateral nerves of leaves very numerous and closely parallel; blade hastate or 3-partite nearly to the base with the segments unequal, the two lateral narrowly lanceolate, the terminal elliptic to obovate-elliptic, 15-20 cm. long, up to 10 cm. broad; peduncle slender, about 8 cm. long; spathe 2.5-3.5 cm. long; spadix as long as the spathe; males in a cylindric mass about 2 cm. long, anthers clustered on top of the synandrium; ovary 2-celled, with a thick disk-like stigma [hastifolia](#)

Amauriella hastifolia (Engl.) Hepper in Kew Bull. 22: 454 (1968).

APD: *Synonym of Anubias hastifolia Engl.*

Anubias hastifolia Engl., Bot. Jahrb. 15: 462 (1892). and in Pflanzenr. 4, 23 DC: 9, fig. 9 (excl. K, L).
Amauriella obanesis Rendle l.c. (caption A. talbotii Rendle in error) (1913).

Stemless herb with petioles about 1 ft. high; inflorescences much shorter with a small spathe 1-2 in. long.

IV. C.: Gbépleu waterfall, Mt. Tonkoui (Feb.) Aké Assi 7366! **Ghana:** Vane, Trans-Volta Reg. (June) Morton A3439! Chilinga and Shiare, Buem-Krachi Dist. (Aug., June) Morton A3977! Hall 1355! **S. Nig.:** Obani Talbot 1297! 1532.

Also in **E. Cameroun**.

11. ZANTEDESCHIA

Spreng., Syst. Veg. 3: 765 (1826); Engl., Pflanzenr. 4, 23DC: 61 (1915). Nom. cons.

Richardia Kunth (1815)-F.T.A. 8: 167, not of Linn.

- 1 Rhizomatous herb; leaves hastate, upper part elongate-oblong or elongate-deltoid, finely caudate-acuminate at apex, about 30 cm. long and 8 cm. broad, the basal lobes variable in shape and size with a marked sinus between them; petiole about 60 cm. long; peduncle as long as the petiole, smooth; spathe 8 cm. or more long, expanded slightly above, acutely and abruptly acuminate; spadix half as long as the spathe [angustiloba](#)

Zantedeschia angustiloba (Schott) Engl. Bot. Jahrb. 4: 64 (1883), and in Pflanzenr. 23DC 65; Hepper in Kew Bull. 21: 493 (1968).

APD: *Synonym of Zantedeschia albomaculata (Hook.) Baill. subsp. albomaculata*

Richardia angustiloba Schott (1865)-F.T.A. 8: 169.

Marsh herb with leaves and inflorescence 2 ft. and more high; spathe conspicuous shining yellow.

N. Nig.: Likitaba to Nguroje, Mambila Plateau, 5,500 ft. (July) Chapman 46!

Also in **Angola**, **Tanzania** and **Zambia**.

12. NEPHTHYTIS

Schott in Oest. Bot. Wochenbl. 7: 406 (1857); F.T.A. 8: 169; Engl., Pflanzenr. 4, 23C: 110 (1911).

- 1 Leaves with a rather deep and distinct sinus between the upper and lower lobes, lobes ovate-elliptic, acutely long-acuminate, 15-20 cm. long, 5-10 cm. broad, glabrous; petiole slender, 30-60 cm. high; peduncle about half as long as the petiole, slender; spathe decurrent on the peduncle, oblong-lanceolate, acutely acuminate, 3-5 cm. long; spadix subsessile, 1.5-2 cm. long [I. constricta](#)
- Leaves without or with only a very shallow sinus between the upper and basal lobes: **2**

- 2 Spadix subsessile within the spathe, 4-5 cm. long; spathe oblong-elliptic, not acuminate, 5-7 cm. long, many-nerved; leaves broadly triangular in outline, lobes broadly acuminate, about 10-17 cm. long; petioles smooth, 40 cm. long [2. afzelii](#)
- Spadix stipitate, stipe 1 cm. long; spathe abruptly acuminate, long-decurrent on the peduncle, finely spotted; leaves as in preceding but more narrowly acuminate, lobes 14-25 cm. long; petioles muricate, up to 120 cm. long [3. poissonii](#)

1. **Nephtytis constricta** *N. E. Br.* in Gard. Chron. 15: 790 (1881); F.T.A. 8: 170; Engl. l.c. 112, fig. 38 F-G.

APD: Synonym of Nephtytis poissonii var. constricta (N.E. Br.) Ntépé-Nyamè

Nephtytis talbotii *Rendle* in Cat. Talb. 114 (1913).

Herb with creeping rhizome, 1 in. thick, giving rise to several markedly sagittate leaves prominently veined; spathe pale green, reflexed in fruit; **in forest**.

S. Nig.: Okomu F.R., Benin (fr. Feb.) Brenan 8527! **W. Cam.:** Oban Talbot 766! Rio del Rey Johnston! **F.Po.:** (Dec.) Mann 106!

Also in **E. Cameroun**.

2. **Nephtytis afzelii** *Schott* in Oest. Bot. Wochendbl. 7: 406 (1857); F.T.A. 8: 171; Engl. l.c. 110, fig. 38 A-E; Chev. Bot. 683. *APD acc*

Nephtytis liberica *N. E. Br.* (1881).

Creeping rhizome about 1 cm. thick, giving rise to 1 to 3 hastate leaves about 1 ft. high; **fruits orange-yellow; in forest**.

S. L.: Afzelius (drawing)! York Pass (Dec.) Deighton 3325! **Lib.:** Bull (cult.)! Bushrod I. (fr. Aug.) Baldwin 13089! Duport (fr. Oct.) Barker 1440! Nyaake, Webo Dist. (fr. June) Baldwin 6146! **iv. C.:** Baléko Forest (fr. Jan.) Aké Assi 7311! Abouabou Forest (fr. Jan.) Leeuwenberg 2364! vide Chev. l.c. **Ghana:** Begoro (fl. & fr. Nov.) Morton A238!

3. **Nephtytis poissonii** (*Engl.*) *N. E. Br.* in F.T.A. 8: 171 (1901); Engl. l.c. 112, fig. 39 G-N. *APD acc*

Oligogynium poissonii *Engl.* (1883).

Nephtytis gravenreuthii (*Engl.*) *Engl.* l.c. 112, fig. 39 A-F (1911).

Herb with rather large hastate leaves about 4 ft. high from a rhizome 1 in. thick; spathe green, fruits fleshy, orange-red.

S. Nig.: Okomu F.R. (fl. & fr. Jan.) Brenan 8862! Omo River F.R., Ijebu Dist. (fr. Jan.) Onochie FHI 20679! Afl River F.R., Obudu Dist. (fr. May) Jones & Onochie FHI 18762! Oban Talbot 767! **W. Cam.:** Banga, S. Bakundu F.R. (fl. & fr. Mar.) Brenan 9302! 9414! **F. Po:** Ureko, 1,000-2,000 ft. (fl. & fr. Aug.) Thorold TF82!

Also in **E. Cameroun** and **Gabon**.

[Engler maintained that *N. gravenreuthii* has peduncles about half the length of the petioles whilst the peduncles of *N. poissonii* are much the same length as the petioles. The spathe is reputed to be smaller, more ovate and the stipe of the spadix shorter than in *N. poissonii*. Field observations would be useful. -F.H.I.]

Nephtytis sp. A.

A fruiting specimen with a sagittate leaf and narrow lobes 21-23 cm. long and about 4 cm. broad.

Lib.: Gbanga (fr. Sept.) Linder 573!

Imperfectly known species.

13. ANCHOMANES

Schott in Oest. Bot. Wochenbl. 3: 313 (1853); F.T.A. 8: 161. *APD acc*

- 1 Male portion of spadix about equal to the female; spadix about 1/4 as long as the spathe, lilac; spathe about 40 cm. long; petiole 1 m. or more high, prickly almost the entire length [3. nigritianus](#)

- Male portion of the spadix much longer than the female:**2**
- 2** Savanna woodland herb; spathe yellowish green; ovary smooth, green with prominent circular orange stigma; peduncle 60-120 cm. high; leaf developing after the inflorescence and about the same height, lamina up to 1 m. diam., much divided into numerous more or less rhomboidal lobes, each segment often with two apices**1.**
welwitschii
- Rain forest herb; spathe dark purplish, ovary pink or purple with a rather small white stigma; peduncle 90-200 cm. high; leaf developing after the inflorescence and taller, petiole up to 3 m. high, lamina 1-5 m. diam.:.....**3**
- 3** Ovary and style smooth or slightly warted**2a. *difformis* var. *difformis***
Ovary and style densely tuberculate**2b. *difformis* var. *pallidus***

Anchomanes giganteus Engl.

Aké Assi (Contrib. 2: 20 [229]) lists the above (Bot. Jahrb. 28: 419 (1889), described from the Congo, as native in Ivory Coast (Aké Assi IA 5722, 5724).

1. Anchomanes welwitschii Rendle in Cat. Welw. 2: 98 (1889); F.T.A. 8: 163; Morton W. Afr. Lilies & Orch. 46.

APD: Synonym of Anchomanes difformis (Blume) Engl.

Anchomanes difformis of F.W.T.A., ed. 1, 2: 359, partly (syn. *A. dalzielii* N. E. Br.).
Anchomanes difformis var. **welwitschii** (*Rendle*) Engl., Pflanzenr. 4, 23C: 55 (1911).
Anchomanes dalzielii N. E. Br. (1913).

Savanna herb similar to *A. difformis* but the leaf generally smaller, about 4 ft. high; spathes yellow-green, ovaries green and stigma orange.

Ghana: Achimota (Apr.) Bally 9! Legon (Mar.) Morton GC 6488! Anyaboni to Jaketi (Feb.) Morton GC 8429! **N. Nig.:** Kontagora Prov. (fl. & fr. June) Dalz. 563! Olohengia (Mar.) Meikle 1255! Abinsi (Apr.) Dalz. 862! Mambila Plateau, 4,600 ft. (Jan.) Hepper 1830! **S. Nig.:** Ijaiye F.R., Ibadan (Mar.) Keay FHI 21195!

Widespread in savanna zones of tropical Africa.

[Only those specimens where colour notes have enabled a positive identification to be made have been cited and the result may give an imperfect indication of the real distribution of this species.]

2. Anchomanes difformis (Bl.) Engl. in DC., Monogr. Phan. 2: 304 (1879), partly; Engl. l.c. fig. 21; F.W.T.A. ed. 1, 2: 359, partly (excl. syn. *A. dalzielii* N. E. Br.); Morton, W. Afr. Lilies & Orch. fig. 53. *APD acc*

Amorphophallus difformis Bl. (1835).
Anchomanes dubius Schott (1860)-F.T.A. 8: 163.

2a. Anchomanes difformis var. difformis Hepper in Kew Bull. 21: 491 (1968). *APD acc*

Moist forest herb with horizontal tuber up to 21/2 ft. long and 8 in. across giving rise to one enormous divided leaf about 8 ft. high with a prickly petiole; spathe dark purplish, ovaries purplish or pink and stigma white.

S. L.: Smeathman! Njala (May) Deighton 6066! **Lib.:** (cult., Sept.) Bull 1851a! **iv. C.:** Sassandra (Dec.) Leeuwenberg 2230! **Ghana:** Assin-Yan-Kumasi Cummins 211! Bame Pass (Oct.) Morton GC 9340! **N. Nig.:** Jemaa, Zaria Prov., 2,500 ft. (Feb.) McClintock 195! **S. Nig.:** Olokemeji F.R. (Mar.) Hepper 2297! Omo F.R. (Feb.) Jones & Onochie FHI 16987! Oban Talbot! **W. Cam.:** Bangola, Ndop Plain, 3,800 ft. (Mar.) Brunt 272!

[See note above after *A. welwitschii*.]

2b. Anchomanes difformis var. pallidus (Hook.) Hepper in Kew Bull. 21: 491 (1968).

APD: Synonym of Anchomanes difformis (Blume) Engl.

Anchomanes hookeri var. **pallida** Hook., Bot. Mag. t. 5394 (1863).
Anchomanes hookeri (*Kunth*) Schott (1853)-F.T.A. 8: 162.
Anchomanes difformis var. **hookeri** (*Kunth*) Engl. l.c. 56 (1911).
Anchomanes petiolatus (*Hook.*) Hutch., F.W.T.A., ed. 1, 2: 359 (1936).

F. Po: Boulton! (Dec.) Mann 107! El Pico, 4,800 ft., (Dec.) Boughey 163!

[Typical var. *pallidus* appears to be endemic to Fernando Po. However, warting of the ovary is rather frequently found in specimens from the mainland (*A. obtusus* A. Chev. (1909), Ivory Coast Chev. 16745!) but apparently not to the same degree as in those from Fernando Po.]

3. **Anchomanes nigritianus** Rendle in Cat. Talb. 114 (1913). *APD acc*

An inadequately known plant similar to the other species; leaf much divided with spiny peduncle 3-4 ft. high.

S. Nig.: near Etara, Oban (Oct.) Talbot 1247!

14. REMUSATIA

Schott, Melet. 1: 18 (1832); Gen. Aroid. t. 36 (1858).

- 1 A tuberous-rooted herb, the leaves accompanied by a peduncle bearing burr-like bulbils covered with hooked prickles; leaves ovate, peltate, cordate at the base, acutely acuminate, very variable in size, often tinged with purple below; spadix clothed with membranous leaf-sheaths, shortly pedunculate; spathe 8-10 cm. long, convolute around the female flowers, the male part of the short spadix exposed as the spathe reflexes; ovary 1-celled, ovules numerous [vivipara](#)

Remusatia vivipara (Roxb.) Schott Melet. 1: 18 (1832); Hook. f., Fl. Brit. Ind. 6: 521; Aké Assi, Contrib. 2: 21 [229]. *APD acc*

Caladium viviparum Roxb., Hort. Beng. 65 (1814).

Ditinnia rupicola A. Chev., Bot. 279, name only.

Epiphytic on trees by streams and associated with fern roots, or in moist cracks in rocks; flowers appearing rarely and during leafless stage, spathe greenish cream coloured, spadix whitish; bulbiliferous shoot leafless and brown.

Guin.: Ditinn Chev. 12839; 18500; 18531. Iles de Los, Conakry Mugnier-Serand 11! *S. L.*: Musaia (Sept.) Deighton, 4501! Roruks (Oct.) Deighton 4378! Kamasu (Dec.) Deighton 3824! Mafori (Oct.) Adames 138! Kameron to Kurubonla Morton SL 2503! Mano (Oct.) Deighton 4503! *Lib.*: (leaf May, bulbiliferous shoot Oct.) Harley 1638! *Iv. C.*: Mt. Tonkoui Manganot, Miège & Aké Assi IA 2436. Tiapleu forest Aké Assi IA 3292; IA 5705. *W. Cam.*: Metschum Falls, Bamenda (Aug.) Savory UCI 307!

Also in *E. Cameroun*, *Tanzania* and *Zambia*, and in the eastern tropics and sub-tropics.

15. CALADIUM

Vent., Descr. Pl. Nouv. Jard. Cels, 30 (1800); F.T.A. 8: 165.

- 1 Stemless herb with a tuberous rootstock and radical leaves; petioles up to about 30 cm. long, lamina sagittate, peltate, with a short acute acumen at apex, basal lobes obtuse, midrib 10-15 cm. long, lobes 7-12 cm. long, glabrous, glaucous, usually with irregular spots of white and red; peduncle about 2/3 length of the petiole, glabrous; spathe glabrous; tube about 3 cm. long, ovoid, limb boat-shaped, about 7 cm. long and 2 cm. diam., caducous; spadix shorter than the leaves, lacking an apical appendage [bicolor](#)

Caladium bicolor (Ait.) Vent. l.c. t. 30 (1800); F.T.A. 8: 166. *APD acc*

Arum bicolor Ait., Hort. Kew. 3: 316 (1780).

Thoroughly naturalized in several West African countries, occurring on roadsides and shady waste places in the forest region; leaves attractively mottled or coloured, appearing at the same time as the flowers; spathe greenish white.

Introduced from tropical America.

16. RHEKTOPHYLLUM

N. E. Br. in *J. Bot.* 20: 194 (1882); *Engl., Pflanzenr.* 4, 23, *Arac.*: 119 (1911).

- 1 Climber; leaves large, unequally pinnatisect or perforated (the juvenile entire and hastate-triangular), lobes obliquely acuminate, glabrous; spathe about 10 cm. long, enfolding the slightly shorter spadix; stigma sessile, disk-like; fruiting spadix about 7 cm. long; fruits obovoid, about 1 cm. long, capped by the sessile discoid stigma [mirabile](#)

Rhektophyllum mirabile *N. E. Br.* l.c. 195, t. 280 (1882); *F.T.A.* 8: 172.

APD: Synonym of Cercestis mirabilis (N.E. Br.) Bogner

A stout climber in forest 20-30 ft. high with long tapering roots into the ground from the upper parts, and clasping roots round the host stem; spathe pale yellow on both sides; male portion of spadix creamy yellow, female pink.

Dah.: Allada Poisson 03-6-5! **S. Nig.:** Epe Stanfield FHI 56575! Port Harcourt (Feb.) Stubbings 99! Afi River F.R., Ogoja Prov. (May) Jones & Onochie FHI 18747! Calabar to Mamfe (Mar.) Onochie FHI 34829! Calabar (May) Monteiro! **W. Cam.:** Mbaw Plain, Bamenda Brunt 468! Rio del Rey Johnston 2! **F. Po:** Barter! Mann 101!

Also in **E. Cameroun**, **Congo**, **Cabinda**, **Angola** and **Uganda**.

17. CULCASIA

P. Beauv., *Fl. Oware* 4 to ed. 3 (1803)5; *F.T.A.* 8: 173; *Engl., Pflanzenr.* 4, 23B, *Arac.-Pothoid.* 295 (1905).

- 1 Stem short and erect, not climbing (see also No. 9); with long stilt-like roots in No. 1:2
Stem more or less climbing:3
- 2 Upper end of the petiole sheath usually abruptly terminating within 5 mm. of the base of the lamina; petiole 3-5-5 cm. long; lamina oblanceolate (to linear) usually long-attenuate to the base, acute or gradually acuminate, 8-22 cm. long, (1-6-) 4-8 cm. broad; main lateral nerves about 12 on each side with prominent venation between; peduncle solitary; spathe 3-5 cm. long; fruit obovoid-ellipsoid, up to 2-5 cm. diam. in the dry state; stilt-like roots conspicuous [1. striolata](#)
Upper end of the petiole sheath more or less merging with the petiole 1-3 cm. from the base of the lamina; lamina broadly elliptic to ovate-elliptic, acute and not acuminate, 14-20(-30) cm. long, 9-12(-18) cm. broad, with about 10 pairs of wavy lateral nerves ascending within the margin, veins prominently reticulate beneath; petiole 6-10 cm. long, spathe 4 cm. long; roots hardly stilt-like [2. mannii](#)
- 3 Leaves cordate at the base, gradually acuminate or acute at apex, broadly lanceolate or oblong-lanceolate, 6-17 cm. long, 2-5-8 cm. broad, laxly reticulate beneath with few scattered linear immersed glands, glabrous, with 3-4 pairs of lateral nerves; petiole 1/4-1/3 as long as the lamina, sheathing nearly the whole length; peduncles 2-3 together, about 2 cm. long in flower, lengthening up to 5 cm. in fruit; spathe spiculate, about 1-5 cm. long .. [3. parviflora](#)
Leaves not cordate:4
- 4 Junction between the upper side of the petiole and the midrib interrupted by the lamina or by a transverse swelling; fruits spherical:5
Junction between petiole and the midrib uninterrupted, the lamina decurrent into the petiole:8
- 5 Lateral nerves looping near the margin; base of the lamina interrupting the junction of the petiole and midrib: ..6
Lateral nerves not looped near margin of leaves; junction of the petiole and midrib interrupted by a small transverse swelling; stems usually stout:7
- 6 Stems slender, 2-3 mm. diam., with numerous short internodal roots; peduncles solitary or paired, 3-6 cm. long, spathe 2-5-3 cm. long, spadix included; bract (if apparent) about 1-5 cm. long; lamina broadly elliptic, unequal-sided, cuneate or slightly rounded at the base, acute and hardly acuminate at the apex, 10-17 cm. long, 5-8 cm. broad, with about 6 principal lateral nerves on each side of midrib [4. scandens](#)
Stems rather stout, 5-10 mm. diam. or more; peduncles up to 8 together, 4-6 cm. long; spathe 3-3-5 cm. long, spadix slightly longer; bracts several up to 5 cm. long; lamina elliptic, narrowed to a slightly rounded base, acutely acuminate, 16-26 cm. long, 7-10 cm. broad, with numerous lateral nerves arising at nearly right angles to the midrib [5. liberica](#)
- 7 Leaves narrowed to the base, more than twice as long as broad, unequal-sided, 15-18 cm. long, 6-9 cm. broad, with numerous lateral nerves, about 8 pairs more conspicuous than the others; spathe about 4-5 cm. long,

- articulating at the base; stems about 5 mm. diam. [6. barombensis](#)
- Leaves broadly rounded or truncate at the base, only about twice as long as broad, up to at least 50 cm. long, with numerous lateral nerves, about 10 pairs more conspicuous than the others; petiole about half as long as the lamina, broadly sheathing in the lower three-quarters of its length; spathe about 7 cm. long, articulating at the base; bracts up to 14 cm. long, sometimes longer than the peduncle and spathe together [7. angolensis](#)
- 8 Leaves with each main lateral nerve curving towards the apex but not joining one another and not looping in a prominent intramarginal nerve, lamina lanceolate, cuneate at base, gradually acute or slightly acuminate at apex ending in a spine-like tip, 7-18(-23) cm. long, 1.5-8 cm. broad; petiole 2-9 cm. long; spathe about 2 cm. long [8. lancifolia](#)
- Leaves with main lateral nerves looped near the margin, at least in the upper half: [9](#)
- 9 Aerial roots few or absent from the upper internodes; plant often semi-erect; leaves broadly ovate to elliptic, shortly cuneate at the base, acuminate, 10-20 cm. long, 3-10 cm. broad; petiole 3-7 cm. long, 3/4 sheathed; peduncles 2-3, rather longer than the petioles; spathe 3-4 cm. long, the spadix well exerted [9. saxatilis](#)
- Aerial roots conspicuous; plant always climbing, stems slender: [10](#)
- 10 Peduncles longer than the petioles; leaves abruptly long-acuminate; petioles narrowly and shortly sheathed:.. [11](#)
- Peduncles shorter than the petioles; petioles broadly sheathed: [12](#)
- 11 Fruit and seed ellipsoid, stigmatic surface small, seed nearly 1 cm. long; peduncles often numerous or solitary, up to 13 cm. long; spathe 4 cm. long; spadix included, the female portion short; leaves oblong or oblong-elliptic, 15-28 cm. long, 2.5-7 cm. broad, the looped marginal nerve very prominent for the whole length of the lamina; peduncles up to 10 cm. long, slender, usually 1/4 sheathed [10. seretii](#)
- Fruit spherical about 3 mm. diam. with a large stigmatic surface; peduncles solitary, 6-7 cm. long; leaves elliptic, sometimes narrowly elliptic and attenuate at each end, 9-14 cm. long, 2.5-5 cm. broad [11. sapinii](#)
- 12 Fruit and seed ellipsoid, twice as long as broad, seed about 7 mm. long; spathe 3-3.5 cm. long, the spadix slightly exerted, male and female portions similar in length; leaves oblong to oblong-elliptic, shortly cuneate at the base, abruptly acuminate, somewhat unequal sided, 9-21 cm. long, 3.5-7 cm. broad, intra-marginal nerve conspicuously looped, linear pellucid immersed glands inconspicuous few or rather numerous; petioles broadly sheathed almost to the base of the lamina and ending in expanded ligules [12. tenuifolia](#)
- Fruit and seed hemispherical, seed about 5 mm. diam.; spathe 3-4 cm. long, the spadix inserted; leaves elliptic to obovate-elliptic, unequal sided, cuneate at base, acuminate, 11-14 cm. long, 4-6 cm. broad, conspicuously covered with numerous linear pellucid immersed glands; petioles sheathed nearly to the base of the lamina [13. glandulosa](#)

1. **Culcasia striolata** Engl. Bot. Jahrb. 26: 417 (1899); F.T.A. 8: 179, Engl., Pflanzenr. 4, 23B: 297; Chev. Bot. 678. *APD acc*

APD: Synonym of Culcasia dinklagei Engl.

Culcasia gracilis N. E. Br. in F.T.A. 8: 179 (1901); F.W.T.A., ed. 1, 2: 264.

Culcasia englerana A. Chev., Bot. 677, name only.

Erect herb of the forest floor about 1 ft. high with stout, ribbed, pubescent stilt-like aerial roots; spathe and spadix pale yellow green, berries red or orange.

Guin.: Dantilia (fr. Mar.) Sc. Elliot 5293! Macenta (fr. Oct.) Baldwin 9811! **S. L.:** Gbinti (fr. July) Deighton 2500! Kasewe F.R. (Nov.) Morton SL 1479! Njala (fr. Nov.) Deighton 3093! **Lib.:** Bushrod I. (fr. Aug.) Baldwin 13088! Karmadhun, Kolahun Dist. (fr. Nov.) Baldwin 10167! Ganta, Sanokwele Dist. (Sept.) Baldwin 9226! **Iv. C.:** Adiopodoumé (Feb.) Aké Assi 7340! Béyo (fr. Jan.) Leeuwenberg 2446! **Ghana:** Janare (fr. Dec.) Adams 2115! Tano Suhein F.R. (Dec.) Morton A3634! Abomeng, S. Scarp F.R. (fr. Dec.) Adams 5149! S. Fomangsu F.R. (fr. Dec.) Adams 4454! Kibbi (fr. Dec.) Morton 8117! **S. Nig.:** Lagos Batten-Poole 13! Akure F.R., Ondo Dist. (fl. fr. Oct., Nov.) Keay & Onochie FHI 20250! Keay FHI 25564! Okomu F.R., Benin Dist. (fr. Dec.) Brenan 8526! **W. Cam.:** Metschum R., Wum Dist. (fr. July) Ujor FHI 29275! Kumba (fr. Sept.) Rosevear Cam. 104/37! Amba Bay (fr. Feb.) Mann 781! Kalbreyer 86! Victoria to Bimbia Preuss 1161! Probably also in E. Cameroun.

[Linear-leaved plants from Liberia (Harley 1938, Baldwin 6728) with the lamina about 2 cm. broad appear to approach *C. lanceolata* Engl., except for much larger spathes (3.5 cm.)]

2. **Culcasia mannii** (Hook. f.) Engl. in Gartenfl. 36: 84 (1887); F.T.A. 8: 178. *APD acc*

Aglaonema mannii Hook. f. in Bot. Mag. t. 5760 (1869).

Creeping underground stem ascending and becoming erect, 1-2 ft. high; spathe white or greenish, and pink stalk, male flowers of spadix whitish, female pink; fruits scarlet; in moist forest.

S. Nig.: Oban (Mar.) Richards 5201! Orem, Oban F.R. (Feb.) Onochie FHI 36294x! Okafor FHI 36271x! Afi F.R., Ogoja Prov. (fr. May) Jones & Onochie FHI 18646! **W. Cam.:** "Victoria Mts." Mann!

Also in **E. Cameroun**.

3. **Culcasia parviflora** *N. E. Br.* in F.T.A. 8: 176 (1901); Engl., Pflanzenr. 4, 23B: 299. *APD acc*

Slender climber in **forest** with cordate leaves of variable size; spathe pale yellow-green; berries scarlet.

S. L.: Deighton 4135! Bumban (June) Glanville 439! Njala (fr. Dec.) Pyne 85! Njama, Kowa (Aug.) Deighton 6107! **Lib.:** Bushrod I. (Aug.) Baldwin 13075! Kle, Boporo Dist. (fr. Dec.) Baldwin 10566! Sanokwele (fr. Sept.) Baldwin 9541! Nyaake, Webo Dist. (June) Baldwin 6115! **iv. C.:** Boutoubré Chev. 16334! **Ghana:** S. Scarp F.R. (fr. Jan.) Moor FH 2200! Ancobra R., Axim Dist. (Dec.) Johnson 872! **S. Nig.:** Shasha F.R., Ijebu Prov. (Mar., May) Richards 3466! Ross 82! **W. Cam.:** Preuss 1333! S. Bakundu F.R., Banga (fr. Mar.) Brennan 9287! Likoko to Bafia, Victoria Dist. (fr. Nov.) Keay FHI 37529! **F. Po:** (Dec.) Mann 105!

Also in **E. Cameroun**.

[*C. parviflora* var. *obtusifolia* Engl. l.c. 300 (1905); F.W.T.A., ed. 1, 2: 364, is described as having the leaves obtusely rounded at the apex (W.Cam.: Victoria Preuss, seen for Ed. 1).]

4. **Culcasia scandens** *P. Beauv.* Fl. Oware 4to ed.: 5, t. 3 (1803), fol. ed. 1: 4, t. 3 (1805); Hopper in Kew Bull. 21: 315, fig. 1, 1-4 (1967); Heine in *Adansonia* n.s., 7: 137 (1967). *APD acc*

APD: *Synonym of Culcasia saxatilis* *A. Chev.*

Epiphytic climbing herb with slender wiry stems producing numerous short adhering roots; spathe greenish.

Lib.: Nimba (June) Adam 21633! **iv. C.:** Scaëtta 3237! **Ghana:** Shama P. Beauvois! Assuantsi (fr. July) Irvine 5118! Koforidua (fl. & fr. Apr.) Vigne FH 4378! Akayao, Kwamikrom (Dec.) Adams 4504! Amedzofe (fr. Jan.) de Wit & Morton A2880! **S. Nig.:** Lagos (Apr.) Dennett 492! Sapoba Kennedy 1105! Idumuye (fr. Dec.) Thomas 2132! Ibadan to Ife (fl. & fr. Apr.) Thorold TN72!

Also in **E. Cameroun**.

5. **Culcasia liberica** *N. E. Br.* in J. Linn. Soc. 37: 115 (1905); Hepper in Kew Bull. 21: 324, fig. 4, 5-7 (1967). *APD acc*

Culcasia scandens of F.W.T.A., ed. 1, 2: 364, partly (as to syn.), not of P. Beauv.

?**C. barombiensis** of Aké Assi, Contrib. 2: 22 [230].

Climber up trees in **forest**; spathe greenish white.

S. L.: Gola Forest (Apr.) Small 581! **Lib.:** Koudessu, Boporo Dist. (fr. Dec.) Baldwin 10671! Karmadhun, Kolahun Dist. (fr. Nov.) Baldwin 10199! Firestone Plantations, Dukwia R. (fr. Oct.-Feb.) Cooper 19! 244! Ganta, Sanokwele Dist. (fr. Sept.) Baldwin. 9283! Jabroke, Webo Dist. (fr. July) Baldwin 6693! Sinoe Basin Whyte! Jaurazon (fr. Mar.) Baldwin 10260! **iv. C.:** Azaguié (fr. Sept.) Chev. B. 22286! Byonouon to Soubiré (Mar.) Chev. 17696!

6. **Culcasia barombensis** *N. E. Br.* in F.T.A. 8: 177 (1901).

APD: *Synonym of Culcasia angolensis* *Welw. ex Schott*

APD: *Synonym of Culcasia liberica* *N.E. Br.*

Culcasia angolensis var. **angustifolia** *Engl.* (1902)-Engl. l.c. 300.

A climber.

W. Cam.: Barombi Preuss 388!

Also in **E. Cameroun**.

7. **Culcasia angolensis** *Welw. ex Schott* in Seem., J. Bot. 3: 35 (1865); F.T.A. 8: 178; Engl. l.c. 300; Chev. Bot. 677; Morton, W. Afr. Lilies & Orch. 57. *APD acc*

Large climber up to 100 ft. high with masses of short internodal roots adhering to tree trunks; spathe pale green.

Guin.: vide Chev. l.c. Kindia Chillou, 1792! **S. L.:** Jau, near Gegbwema (fl. & fr. Jan.) Deighton 3890! Likuru, 3,000 ft. Sc. Elliot 4950! **Lib.:** Wohmen, Vonjama Dist. (Oct.) Baldwin 10062! Ganta, Sanokwele Dist. (fr. Sept.) Baldwin 13260! Zeahtown, Tchien Dist. (July) Baldwin 6983! **Iv. C.:** Prolo to Bliéron (fr. Aug.) Chev. 19884! Béyo (fr. Jan.) Leeuwenberg 2436! **Ghana:** Agoja (fr. Apr.) Adams 2592! Pusu-pusu ravine (fr. Apr.) Morton A857! Aburi (Jan.) Johnson! **F. Po:** (fr. Dec.) Mann 102!

Extending to **Angola**.

8. **Culcasia lancifolia** *N. E. Br.* in F.T.A. 8: 175 (1901); Engl. l.c. 304;

APD: Synonym of Culcasia scandens P. Beauv.

Culcasia insulana *N. E. Br.* in F.T.A. 8: 175 (1901); Engl. l.c. 301; F.W.T.A., ed. 1, 2: 364; Aké Assi, Contrib. 2: 22 [231].

Culcasia tubulifera *Engl.* l.c. 301 (1905).

Slender climber on tree stems, up to 15 ft. long: spathe green.

N. Nig.: Vogel Peak, Sardauna Prov. (fl. & fr. Dec.) Hepper 1582! **S. Nig.:** Lagos (Oct.) Moloney! Sapoba Kennedy 1808! Ajayi & Odukwe FHI 26940! **W. Cam.:** Buea Deistel 148! Bambui, 4,000 ft. (Aug.) Brunt 1260! Bambui to Njinikom (fl. & fr. Aug.) Nditapan in Brunt 1209! Buea Lehmbach 159! **F. Po:** Mann 325! 651! Moka (Mar.) Guinea. 2217! Melville 420!

Also in **E. Cameroun** and **Congo**.

9. **Culcasia saxatilis** *A. Chev.* in Journ. de Bot. 22: 133 (1909); Chev. Bot. 677; Hepper in Kew Bull. 21: 317 fig. 2, 1-3 (1967). *APD acc*

More or less erect about 4 ft. high and often, profusely branched, with few aerial roots; spathe pale green; spadix white or purplish; fruits red; **in riverine forest mainly in savanna zone**.

Sen.: Sédhiou, Casamance Berhaut 6074! **Mali:** Bamako (fl. & fr. Jan.) Hb. IFAN 2086! **S. L.:** Kambia (fr. Dec.) Sc. Elliot 4229! Robis (fl. & fr. Sept.) Adames 135! Mafinta, nr. Roruks (July) Deighton 4674! Njala (June) Deighton 716! **Lib.:** Péahtah (fr. Oct.) Linder 947! Firestone Plantation No. 3, Du R. (Aug.) Linder 247! Wohmen, Vonjama Dist. (fr. Oct.) Baldwin 10090! Tappita (Aug.) Baldwin 9069! Tchien (fr. Aug.) Baldwin 7047! **Iv. C.:** Adiopodoumé (fr. Nov.) Leeuwenberg 1888! **Ghana:** Gambaga (fr. Apr.) Morton GC 8983! Saboba (fr. Mar.) Hepper & Morton A3117! Nsemre F.R., Borku (Dec.) Adams GC 2828! Pokoase (fr. Apr.) Irvine 1590! Kete Krachi to Atebubu (Dec.) Adams GC 4617! Noratiem nr. Axim (May) Cudjoe GC 137! **Dah.:** Le Testu 113! **N. Nig.:** Kontagora (Nov.) Dalz. 251! Nupe Barter 1471! Jebba (fr. Mar.) Meikle 1275! Shikaku, Kotokerifi Dist. (Oct.) Daramola & Adebusuyi FHI 38416! Lokoja (fr. Mar.) Shaw 28! Gangumi (fr. Dec.) Latilo & Daramola FHI 28821! **S. Nig.:** Agbelekaka, Benin Div. (Jan.) Brenan 8945! Stirling T. Vogel 204! Nun R. (Sept.) Mann 516! Ikom (fl. & fr. May) Onochie FHI 18868! Calabar to Mamfe (fr. Feb.) Onyeachusim & Latilo FHI 48166!

Extending to the Congo.

10. **Culcasia seretii** *De Wild.* Pl. Bequaert. 1: 172 (1922); Hepper in Kew Bull. 21: 320, fig. 2, 4-6 (1967). *APD acc*

Climber or epiphyte with numerous adventitious roots; spathe green, fruits reddish.

Guin.: Nimba Mts. (fr. Aug.) Schnell 3443! 3866! **S. L.:** Gola Forest (May) Bakshi 197! **Lib.:** Sanokwele (fr. Sept.) Baldwin 13224! Ganta (fl. & fr. Sept., Feb.) Baldwin 11012! Yoma, Maher R. (fr. Aug.) Leeuwenberg 4854! Gbanga (fr. Sept.) Linder 663! **Iv. C.:** mid-Sassandra to mid-Cavally (June) Chev. 19210! Guédéyo, E. of Soubré (fr. Dec.) Leeuwenberg 2182! **Ghana:** S. Fomangsu F.R. (Apr.) Adams 2723!

Also in **the Congo**.

11. **Culcasia sapinii** *De Wild.* Pl. Bequaert. 1: 170 (1922); Hepper l.c. 321, fig. 3 (1967).

APD: Synonym of Culcasia seretii De Wild.

A slender climber with yellowish stems.

S. Nig.: Okomu F.R. (fr. Jan.) Brenan 8902! 8902a!

Also in the [Congo](#).

12. *Culcasia tenuifolia* *Engl.* Bot. Jahrb. 15: 447 (1893); F.T.A. 8: 176; Engl, Pflanzenr. 4, 23B: 301; Hepper l.c. fig. 4, 1-4 (1967). *APD acc*

Climbing or epiphytic on trees; spathe pale green, spadix white, fruits red.

S. L.: Walihun, Bumpé (Apr.) Deighton 1725! Fluima, Njala (May) Deighton 682! **Lib.:** Javajai, Boporo (fr. Nov.) Baldwin 10259! Du R. (fr. Aug.) Linder 314! Gbanga (fr. Sept.) Linder 451! Ganta (Aug.) Harley 944! Zeahtown (fr. Aug.) Baldwin 7000! **iv. C.:** Grabo (July) Chev. 19657! **S. Nig.:** Oban Talbot 887! Adebusuyi FHI 43999! Afi River F.R. Jones & Onochie FHI 5805! Shasha F.B. Richards 3464! **W. Cam.:** Banga Brenan 9486! Barombi (Sept.) Prauss 542!

Also in [E. Cameroun](#) and [Cabinda](#).

13. *Culcasia glandulosa* *Hepper* in Kew Bull. 21: 323, fig. 1, 5-8 (1967). *APD acc*

Culcasia dinklagei of Aké Assi, Contrib. 2: 22 [231], not of Engl.

A slender climbing shrub.

S. L.: Thomas 8684! **Lib.:** Gletown (fl. & fr. July) Baldwin 6791! Monroviatown (fr. Aug.) Baldwin 8001! Tappita (fr. Aug.) Baldwin 9032! Bony range (July) Voorhoeve 338! **iv. C.:** Divo Forest (July) Aké Assi 5720!

18. CERCESTIS

Schott in Oest. Bot. Woehenbl. 7: 414 (1857); F.T.A. 8: 180; Engl., Pflanzenr. 4, 23C: 114 (1911).

- 1 Leaves 3-lobed or 3-partite, midrib 12 cm. long, lateral nerves few and far apart, lobes oblong-elliptic, obtusely acuminate, held more or less vertical; peduncle about 4 cm. long; spathe shorter than the spadix, 5-6 cm. long, articulating and leaving a short cup at the base in fruit; fruit pentagonal [1. afzelii](#)
Leaves sagittate, cordate, or lamina obtuse or truncate at the base: **2**
- 2 Basal auricles oblong or broadly triangular: **3**
Basal auricles shortly rounded or lamina truncate at the base: **4**
- 3 Auricles oblong, 4-5 cm. long, obtuse; lamina pandurate, acutely acuminate, 15-22 cm. long, with about 5 pairs of lateral nerves; peduncle 5-8 cm. long; bracts lanceolate, 5 cm. long, papery; spathe 5-6.5 cm. long [2. stigmaticus](#)
Auricles broadly triangular but very obtuse-rounded, 4-5 cm. long; lamina not pandurate, narrowly triangular, about 20 cm. long and 9 (-13) cm. broad with 4-5 pairs of nerves; peduncle in fruit 2 cm. long; infructescence 5 cm. long; fruit nearly 1 cm. diam. [3. sagittatus](#)
- 4 Leaves truncate at the base, oblong, slightly pandurate 20-25 cm. long, 6-8 cm. broad, papery, with 8-10 pairs of faint lateral nerves; petiole nearly as long as the lamina; peduncle 2-3 cm. long; spathe 6-8 cm. long (see also below) [4. ivorensis](#)
Leaves obtuse or cordate at the base: **5**
- 5 Leaves cordate at the base: **6**
Leaves obtuse at the base, acutely acuminate at apex, oblong-lanceolate, about 20 cm. long and 6-7 cm. broad, thin, with about 8 pairs of lateral nerves; petiole 6-10 cm. long; peduncle 3 cm. long; fruit subglobose, 7-8 mm. diam. [6. lanceolatus](#)
- 6 Bracts 5-7 cm. long; leaves widely cordate or cordate and truncate on the same plant (see also above) [4. ivorensis](#)
Bracts up to 5 cm. long; leaves shortly and closely cordate at the base; lamina oblong-lanceolate to obovate, acuminate, 15-26 cm. long, 6-10 cm. broad; peduncle 4 cm. long; spathe 5-6 cm. long [5. kamerunianus](#)

1. *Cercestis afzelii* *Schott* in Oest. Bot. Woehenbl. 7: 414 (1857); F.T.A. 8: 180; Engl. l.c. 118; Chev. Bot .681; Berhaut, Fl. Sén. 180. *APD acc*

Cercestis scater *A. Chev.*, Bot. 682, name only.

Creeping, climbing or epiphytic plant up to 50 ft. high in [forest](#), with numerous adventitious roots; spathe green, spadix white; fruits red.

Sen.: Niombato, Karang Berhaut 1782! Farancounda to Tambanaba Chev. 2603! **Guin.:** Farana (fr. Mar.) Sc. Elliot 5319! Nimba Schnell 875! Dentelé Paroisse 9! Bafing R. (June) Pobéguin 1633! **S. L.:** Wilberforce (fr. Mar.) H. H. Johnston 105! Bagroo R. (Apr.) Mann 906! Kambui Hills (fr. Mar.) Small 515! Gebwema (Oct.) Pyne 53! Gola Forest (fr. Apr.) Small

596! **Lib.:** Wohmen, Vonjama Dist. (fr. Oct.) Baldwin 10054! Kakatown Whyte! Gbanga (fr. Sept.) Linder 453! Ganta (fr. Dec.) Harley 381! Zeahtown, Tchien Dist. (fr. July) Baldwin 6994! **Iv. C.:** Montézo to Alépé (fr. Feb.) Chev. 17428! Grabo to Taté (fr. Aug.) Chev. 19769! Béyo (fl. & fr. Jan.) Leeuwenberg 2618! Abidjan Lagoon (fr. Aug.) de Wit 5604! Ganhoulé to Bamplen (Apr.) Chev. 21180! Grabo Chev. 19727! **Ghana:** Assin-Yan-Kumasi Cummins 178! Kibbi Hills (Dec.) Johnson 258! Puso Puso to Asiakwa (fr. Jan.) Adams 3729! Southern Scarp F.R. (fr. May) Adu 48! **S. Nig.:** Boje-Ashoban to Katabong, Afi River F.R. (May) Jones & Onochie FHI 18753! Oban Talbot 1261!

2. **Cercestis stigmatica** N. E. Br. in F.T.A. 8: 181 (1901).

APD: Synonym of Cercestis dinklagei Engl.

Cercestis elliotii Engl., Pflanzenr. 4, 23C: 116 (1911).

Cercestis dinklagei of Engl. l.c., partly, not of Engl., Bot. Jahrb. 26: 422 (1899).

Cercestis alepensis A. Chev., Bot. 681, name only.

Cercestis hastifolia A. Chev., Bot. 681, name only.

Slender **forest** climber with aerial roots; spathe purple at the base; spadix creamy coloured.

Guin.: Moussadougou to Lola (ft. Mar.) Chev. 20961! **S. L.:** Morea (fr. Nov.) Morton & Gledhill SL 522! **Lib.:** Carder in Hort. Bull 1851! Bilimu Mt. (Nov.) Harley 2078! Kitoma (Jan.) Baldwin 14065! **Iv. C.:** Alépe (Feb.) Chev. 17434! Kéeta (July) Chev. 19370! Lakota to Sassandra (Aug.) de Wilde 308! Yapo (fl. & fr. Oct.) Leeuwenberg 1818! **S. Nig.:** Oban F.R. (Mar.) Onochie FHI 36481x! 51 miles W. of Oban (Mar.) Coombe 169! Brenan 9492! **F. Po:** Mann 324!

3. **Cercestis sagittatus** Engl. Pflanzenr. 4, 23C: 116 (1911). *APD acc*

A climber with rather stout stems in **forest**; fruits red.

Lib.: Careysburg, near Monrovia (fr. Feb.) Dinklage 2468!

4. **Cercestis ivorensis** A. Chev in Journ. de Bot., sér. 2, 2: 135 (1909). *APD acc*

Lib.: Zolotown (fr. Dec.) Adam 16406! **Iv. C.:** Grabo, Cavally Basin (July) Chev. 19632! Ningué forest (Mar.) Aké Assi 3917! N'Zida forest (Dec.) Aké Assi 8401!

5. **Cercestis kamerunianus** (Engl.) N. E. Br. in F.T.A. 8: 182 (1901): Engl., Pflanzenr. 4, 23C: 115, fig. 40. *APD acc*

Alocasiophyllum kamerunianum Engl., Bot. Jahrb. 15: 449, t. 19 (1892).

A slender climber up trees and becoming epiphytic later, spathe dull greenish purple.

S. Nig.: Akure F.B., Ondo (fr. Aug.) Jones FHI 19526! Aponmu F.R., Ondo (fr. Aug.) J. B. Gillett 15315! Okomu F.R. (fl. & fr. Jan.) Brenan 8895! 9096! **W. Cam.:** Barombi (Apr.) Preuss 147. S. Bakundu F.R., Banga (Mar.) Brenan 9493!

Also in **Gabon**.

[Several Liberian specimens (Linder 1061, 1334, Baldwin 7085, 11445, 11484) are close to, if not conspecific with, *C. kamerunianus*. The leaves exhibit considerable variation in basal lobing from cordate to nearly sagittate and the leaves all possess thickened yellow margins. Small 585 (S.L., Gola Forest), with narrow cordate leaves lacking yellow margins, may also be this species.]

6. **Cercestis lanceolatus** Engl. l.c. 115 (1911).

APD: Synonym of Cercestis ivorensis A. Chev.

An inadequately known species.

W. Cam.: Buea Reder 1742!

LEMNACEAE

Small to minute floating or submerged herbs without roots or roots simple and thread-like, capped. Flowers monoecious, naked or at first enclosed in a membranous sheath. Perianth absent. Male flowers: stamens 1-2, with slender filaments or the latter thickened in the middle or absent; anthers 1-2-locular. Female flowers: ovary sessile, 1-locular; style and stigma simple; ovules 1-7. Seeds with fleshy or no endosperm; embryo straight, axile.

Temperate and tropical regions; in fresh water.

Duck-weeds are probably overlooked in many parts of W. Africa and they would repay careful attention in the field, especially for the presence of flowers which are seldom seen. (Hepper in Nig. Field 31: 18-21, with fig. (1966).)

- 1 Roots absent; flowers developing in upper surface of thallus; male flower solitary, anthers 1-locular:2
 Roots present; flowers developing in a lateral pouch; male flowers in pairs, anthers 2-locular:3
- 2 Thallus about 4 mm. long, thin, foliaceous, with internal air spaces; daughter thalli produced from linear transverse slit [1. Wolfffiella](#)
 Thallus about 1.5 mm. long, thick, more or less globular with fleshy parenchyma and without air spaces; daughter thalli produced from a round funnel-like pit [2. Wolffia](#)
- 3 Roots solitary on each thallus; thallus obscurely 3-nerved; no basal leaf produced with daughter thalli [3. Lemna](#)
 Roots several on each thallus, arising from a thickened part; thallus 5-11-nerved; young daughter thalli with a very thin leaf on each side at the base [4. Spirodela](#)

1. WOLFFIELLA

(*Hegelm.*) *Hegelm.* in Engl., Bot. Jahrb. 21: 303 (1895); Monod in Mém. Soc. Afr. Nord, Hors-Sér. 2: 229-242 (1949).

- 1 Thallus oblong, curved, concave, 4-6 mm. long, about 2 mm. broad, with undulate margin; daughter thallus budding from broader end; pair of flowers developed, one on each side of mid-line near broader end, 1 stamen with very short thick filament, 1 short style [1. welwitschii](#)
 Thallus in two parts; nearly opaque green floating portion, broadly elliptic, about 2 mm. long, 1.5 mm. broad, and hyaline oblong appendage 2-4 mm. long, 1 mm. broad, at right angles to the other and suspended in the water; budding pouch between the 2 parts arising from the thicker portion; flower apparently solitary near pouch, to one side of mid-line [2. hyalina](#)

1. *Wolffiella welwitschii* (*Hegelm.*) *Monod* in Mém. Soc. Hist. Nat. Afr. Nord, Hors-Sér. 2: 229-242, figs. 1-41 (1949). *APD acc*

Wolffia welwitschii *Hegelm.* in Seem., Journ. Bot. 3: 114 (1865); Hegelmaier, Lemnac. Monogr. 130, t. 4 figs. 1-10 (1868); F.T.A. 205; Koch in Ber. Schweiz. Bot. Ges. 41: 117 (1932); F. W. Andrews, Fl. Sudan 3: 284.

Thallus usually curved in a semicircle, the broadest part slightly above the water surface and exposing stamen and style; daughter thallus budding from apex of broadest part and curving beneath older thallus and thereby more or less completing the circle.

Sen.: near L. Ouïroual, Yombeul, Dakar Pitot (fide Monod l.c.). **Mali:** Soye, Bani Plain, Mopti (Dec.) Monod. **Ghana:** Akotokyir, Cape Coast. (Sept.) Hall 3036! **S. Nig.:** Okomu F.R. Brenan 8788!

Also in **Sudan**, **Angola** and reported from Venezuela, Cuba and S. Domingo.

2. *Wolffiella hyalina* (*Del.*) *Monod* l.c. 242 (1949). *APD acc*

Lemna hyalina *Del.* (1813).

Wolffia delilei *Schleid.* (1839)-F.T.A. 8: 204.

Wolffiella hyalina (*Del.*) *Hegelm.*, Lemnac. Monogr. 128, t. 4 figs. 11-19 (1868).

Lemna paucicostata of Chev. Bot. 685, partly (?); of F.W.T.A., ed. 1, 2: 366 (Chev. 1143), not of Hegelm.

Minute **floating herb** with colourless portion of the thallus suspended from the surface of the water.

Mali: Djenné Chev. 1143! **N. Nig.:** Zaria McFarlane!

Also in **C. African Rep.**, **Sudan** and **Kenya**.

2. WOLFFIA

Horkel ex Schleid. in Linnaea 13: 389 (1839); F.T.A. 8: 203.

- 1 Free floating minute herb 1-1.5 mm. long, rather less in breadth and depth, upper surface flattened and dark green, paler elsewhere; flowers opening on to upper surface from a single median pit; style short, stigma concave; stamen solitary with filament 0.5 mm. long; fruit ellipsoid, 0.7 mm. long, erect [arrhiza](#)

Wolffia arrhiza (Linn.) Horkel ex Wimm. Fl. Schles. 140 (1857); Hegelmaier, Lemnac. Monogr. 124, t. 2 figs. 6-17, t. 3 figs. 1-12 (1868); Jumelle in Fl. Madag. 32: 2 (1937). *APD acc*

Lemna arrhiza Linn. (1771).

Wolffia michelii Schleid. (1844)-F.T.A. 8: 205.

Locally abundant on permanent water, rarely flowering.

Sen.: Hann Raynal 5669! **Iv. C.:** Odienné Aké Assi! **Ghana:** Oduponkpehe, Accra to Winneba (fl. & fr. Sept.) Hall 3037! Mankessim Hall 2368! Weija Hall 3269! Akotokyir, near Cape Coast Hall 2379! **S. Nig.:** Yaba, Lagos Killick 288! Okomu F.R. Brenan 8596! Ibadan water works Brenan 8954! Keay FHI 22732!

Almost cosmopolitan.

3. LEMNA

APD: Synonym of Spirodela Schleid.

Linn., Sp. Pl. 970 (1753); F.T.A. 8: 200.

- 1 Thallus flat, ovate-elliptic, 2-3.5 mm. long, 1.5-2 mm. broad, obscurely 3-nerved; solitary root arising towards one end; daughter thallus budding from near point of root insertion in the slit of the mother thallus; flowers in a lateral pouch; filament of stamen raises 2-locular anther above water surface; stigma concave*paucicostata*

Lemna paucicostata Hegelm. ex Engelm. in Gray, Man. Bot., ed. 5, 681 (1867); Hegelm., Lemnac. Monogr. 139, t. 8 (1868); F.T.A. 8: 202; Chev. Bot. 685, partly (excl. Chev. 1143); Jumelle in Fl. Madag. 32: 2 (1937); Maheshawi in Am. J. Bot. 50: 677, 907 (1963).

APD: Synonym of Lemna aequinotialis Welw.

Lemna aequinotialis of Chev. Bot. 685, not of Welw.

Floating on the surface of still water, often in abundance; rarely flowering.

Sen.: Mare de Sill Trochain 3685! Yang Yang Naudi Trochain 4899! Sangalkam Berhaut 5267! **Mali:** Quignaka Chev. 259. Timbuktu Chev. 1288. Mopti Chev. 2604; 2605. **Guin.:** Koba Jac.-Fél. 7246! **S. L.:** Gbundapi Adames 72! **Iv. C.:** Mankono Chev. 21927! Rubino to Koubléké Aké Assi 7761! Soubré Leeuwenberg 4095! **U. Volta:** Azaguié (Sept.) Aké Assi 5953! **Ghana:** Akotokyir, near Cape Coast (Sept.) Hall 3038! Takoradi Hall 2421! Samreboi Hall 2489! Abura, near Cape Coast (Sept.) Hall 2349! **N. Nig.:** Jebba Meicke 1329! Babana to Kubi, Ilorin Prov. Cook 522! Zaria McFarlane! **S. Nig.:** Okomu F.R. Brenan 8768! Ibadan Meikle 955! Omo F.R. Jones & Onochie FHI 16688! Ikorodu to Lagos Killick 298!

Widespread in the tropics and warm temperate zone.

[Hegelmaier segregated *L. paucicostata* from *L. perpusilla* Torrey (1843) on mainly ovule and seed characters which are usually not available. Following convention all our material is here named *L. paucicostata*. There may be some additional evidence for the maintenance of the species from recent chemotaxonomic studies-see McClure in Amer. J. Bot. 59: 849 (1966)-F.N.H.]

4. SPIRODELA

Schleid. in Linnaea 13: 391 (1839).

Lemna Linn. (partly)-F.T.A. 8: 200; F.W.T.A., ed. 1, 2: 266, partly.

- 1 Thallus orbicular-ovate, 3-8 mm. long, almost as broad, with 5-11 conspicuous nerves; roots 4 or more, simple; daughter thallus budding from near point of roots insertion in a slit in the mother thallus, with the thickened basal part of the thallus from which the roots also arise; flowers surrounded by a small open spathe in a lateral pouch with 1 pistillate flower and 2 or 3 staminate flowers each consisting of a solitary stamen; fruit wing-margined above, 1-2-ovuled*polyrhiza*

Spirodela polyrhiza (Linn.) Schleid. in Linnaea 13: 392 (1839); Lawalrée in Bull. Soc. Bot. Belg. 77: 27 (1945); Jumelle in Fl. Madag. 32: 3 (1937); Maheshwari in Nature 181: 1745 (1958). *APD acc*

Lemna polyrhiza Linn. (1753)-F.T.A. 8: 201; Chev. Bot. 685; F.W.T.A., ed. 1, 2: 366; Clapham, Tutin & Warburg, Fl. Brit. Isles, ed. 2, 1053.

Floating herb with roundish thallus **grouped in colonies, often covering large areas of water**; thallus green or pink tinged above, pink beneath.

Sen.: Sangalkam Trochain 3234! Raynal 5954! **Ghana:** Samreboi Hall 2486! **Dah.:** L. Azri, Zagnando Chev. 23044! **S.Nig.:** Okun-Owa, Ijebu-Ode McFarlane! Ikorodu to Lagos Killick 296! Onitsha Barter 583!

Cosmopolitan.

TYPHACEAE

Marsh, or lake herbs with creeping rhizomes, often tall, with simple stems submerged at the base. Leaves mostly radical, elongated-linear, rather thick and spongy. Flowers unisexual, anemophilous, very numerous, densely crowded on a terminal spadix, the male and female similar, the male above, the female below, the two sexes contiguous or remote from each other. Perianth of very slender jointed threads or elongated spatulate scales mixed with imperfect ovaries or stamens. Male flowers: stamens 2-5; anthers linear, basifixed. Female flowers: ovary 1-locular, stipitate. Fruit dry, at length splitting. Seed with a striate testa and mealy endosperm.

The reed maces of marshes in temperate and tropical regions; only one genus.

TYPHA

Linn., Sp. Pl. 971 (1753); F.T.A. 8: 135; Graebner in Engl., Pflanzenr. 4, 8 Typhac.: 8-18 (1900).

- 1 Bracteole absent from female flower; male and female portions of the inflorescence contiguous, female portion equalling or up to about twice as long as the male; anthers 2.5-3 mm. long; leaves smoothly rounded on the dorsal side, about 1 cm. broad [1. latifolia](#)
- Bracteole present on female flower; male and female portions of the inflorescence distinctly separated: **2**
- 2 Dorsal side of leaf smoothly rounded, 1 cm. broad, elongate-linear, closely nerved, with thin acute margins; anthers 2 mm. long [2. australis](#)
- Dorsal side of leaf angular especially towards the base where the leaf is more or less triangular in section, angle diminishing above, 1-1.5 cm. broad [3. elephantina](#)

1. **Typha latifolia** Linn. Sp. Pl. 971 (1753); Graebner in Engl., Pflanzenr. 4, 8 Typhac.: 8 (1900). **APD acc**

APD: *Synonym of Typha capensis (Rohrb.) N.E. Br.*

Tall aquatic herb up to 9 ft. high; female inflorescence brown; **in permanent water**.

N. Nig.: Katsina to Daura (Feb.) Meikle 1223!

Widespread in the tropics and temperate regions.

2. **Typha australis** Schum. & Thonn. Beskr. Guin. Pl. 401 (1827); F.T.A. 8: 135; Chev. Bot. 676; Berhaut, Fl. Sén. 186; Adam in Bull. I.F.A.N. 23: 399-405 (1961).

APD: *Synonym of Typha domingensis Pers.*

Typha angustifolia subsp. australis (Schum. & Thonn.) Graebn. l.c. 13 (1900).

A tall aquatic herb up to 12 ft. high with very long narrow leaves; inflorescences brown on tall stiff unbranched peduncles; **in permanent water**.

Sen.: fide Berhaut l.c. Dakar Ndiaye in Hb. Chev. 15855! fide Adam l.c. Thiès de Wailly 4597! **Mali:** Diré Chev. 43852! Diré to Bandaagara Leclercq & Rogeon 257! **Guin.:** Boké (Apr.) Chillou! **Ghana:** Quitta Thonning! Nkanfoa, Cape Coast (Dec.) Hall 2773! **Dah.:** Porto-Novo Lagoon (fr. Jan.) Chev. 22802! **Niger Rep.:** Kolo, nr. Niamey (Feb.) Chev. 42953! **N. Nig.:** Sokoto Dalz. 519! **S. Nig.:** Kradu Lagoon, Lagos Barter 3240! Lagos Dalz. 979!

A tropical species, extending to E. and S. Africa.

3. ***Typha elephantina* Roxb.** Fl. Ind. 3: 566 (1832); Graebn. l.c. 11 (1900); Maire in Mém. Soc. Hist. Nat. Afr. Nord 3: 52 (1933); Adam l.c. (1961); A. Raynal in Ann. Fac. Sci. Dakar 9: 168 (1963). *APD*
acc

A herb growing on the edge of permanent water and invading bare or cultivated land.

Sen.: M'Boro, near Dakar (Dec.) Adam 17806! Ouayembam Trochain, Other localities near Dakar vide Adam & Raynal l.c.

A species with a subtropical distribution: also recorded from several localities in the Hoggar Mts. and Tibesti Mts., central Sahara, **Egypt** (?) and India.

\$/eflora

AMARYLLIDACEAE

Herbs with a tunicated bulbous rootstock or rarely a rhizome. Leaves few from the base of the stem or apex of the bulb, more or less linear, with parallel nerves and transverse secondary nerves. Flowers usually showy, bisexual actinomorphic, solitary to many and umbellate at the top of the scape, subtended by an involucre of two or more (rarely only one) usually membranous bracts. Perianth inserted below or usually above the ovary, petaloid, often withering and persisting, with or without a tube; segments or lobes 6, in 2 series, all equal and similar or the inner smaller or larger than the outer; corona often present. Stamens 6, opposite the segments, hypogynous or inserted on the tube or towards the base of the segments; filaments free or expanded at the base and connate and forming a "false" corona; anthers 2-locular, introrse, basifixed or versatile, opening by slits lengthwise. Ovary superior or inferior, 3-locular, with usually axile placentas; style slender, with a capitate or 3-lobed stigma. Ovules mostly numerous in each loculus. Fruit a capsule or a berry. Seeds with fleshy endosperm and small embryo, sometimes winged.

Temperate and warm-temperate regions, less frequent in the tropics.

- 1 Filaments free from each other to the base:2
 Filaments united with a basal cup to form a "false" corona; ovules numerous in each loculus of the ovary, in two series, spreading [3. *Pancratium*](#)
- 2 Flowers numerous and rather small, scarlet, pedicellate; ovules 1-2 in each loculus [1. *Haemanthus*](#)
 Flowers few and rather large, white or white with red stripes, sessile or subsessile; ovules usually several or numerous in each loculus [2. *Crinum*](#)

***Eucharis grandiflora* Planch. & Lindl.**

(White, with a corona)

Widely cultivated in our area as ornamental garden plants:

***Hippeastrum equestre* (Ait.) Herb.**

The Harmattan Lily (red)

Widely cultivated in our area as ornamental garden plants.

***Hymenocallis littoralis* Salisb.**

The Spider Lily (white with a corona).

Widely cultivated in our area as ornamental garden plants.

***Zephyranthes citrina* Bak.**

(Yellow)

Widely cultivated in our area as ornamental garden plants.

***Z. grandiflora* Lindl.**

Z. carinata Herb.

(Pink)

Widely cultivated in our area as ornamental garden plants.

***Z. tubispatha* Herb.**

(White).

Widely cultivated in our area as ornamental garden plants.

1. HAEMANTHUS

Linn., Sp. Pl. 325 (1735); F.T.A. 7: 386.

- 1 Scape central, arising in the middle of the leaves but in No. 3 appearing lateral; rhizomatous:2
 Scape lateral to the leaves:4

- 2 Inflorescence remaining central among the leaves:3
 Inflorescence-scape rupturing leaf sheath shortly above rhizome and thence appearing lateral; petioles closely sheathed together; lamina oblong, acute at apex; perianth-tube about 10 mm, long, perianth-segments 13 mm. long, 1·5 mm. broad; filaments 20 mm. long[3. sp. B](#)
- 3 Leaves almost acute, hardly acuminate at apex, cuneate at base, 18-33 cm. long, 6-11 cm. broad, petioles not sheathed together; perianth-tube 4-8(-11) mm. long, perianth-segments (16-) 20-32 mm. long, (2-) 3-6 (-8) mm. broad; filaments (16-) 20-33 mm. long[1. cinnabarinus](#)
 Leaves cuspidate at apex, rounded at base, 18-24 cm. long, 5-8 cm. broad, petioles sheathed together into a false stem; perianth-tube 16-18 mm. long, perianth-segments 21-27 mm. long, 3-4 mm. broad; filaments 30 mm. long[2. sp. A](#)
- 4 Perianth-tube 18-28 mm. long, segments 27-30 mm. long, 2 mm. broad; filaments (23-) 26-33 mm. long, flowers numerous; bulb stout; leaves oblong-elliptic, acute to slightly mucronate, 13-23 cm. long, about 6 cm. broad, margin finely crinkled, sheathed together at the base[4. longitubus](#)
 Perianth-tube 5-16 mm. long; leaf margin not finely crinkled:5
- 5 Robust plant with bulb up to 4 cm. diam. and 6 cm. long; inflorescence with numerous flowers; perianth-tube 7-9 (-12) mm. long, segments 15-24 mm. long, 1·5 mm. broad; filaments 15-29 mm. long; leaves elliptic, 15-24 cm. long, 5-11 cm. broad, rounded and mucronate at apex[5. multiflorus](#)
 Slender plants with bulb about 1·5 cm. diam. and 2 cm. long; inflorescences few-flowered:6
- 6 Filaments as long as perianth-segments, 15-25 nun. long; perianth-tube 11-15 mm. long; leaves elliptic, about 11 cm. long and 6 mm. broad; forest species[6. mannii](#)
 Filaments 16-23 mm. long, twice as long as perianth-segments, perianth-tube 5-9 mm. long; leaves elliptic, 7-16 cm. long, 4-9 cm. broad, rounded and mucronate at apex, rounded at base; species of fringing forest in savanna[7. rupestris](#)

1. **Haemanthus cinnabarinus** *Decne.* in Fl. des Serres t. 1195 (1857); F.T.A. 7: 390; Morton, W. Afr. Lilies & Orch. fig. 34.

APD: Synonym of Scadoxus cinnabarinus (Decne.) Friis & Nordal

Haemanthus rotularis *Bak.* (1877)-F.T.A. 7: 390.

Haemanthus longipes *Engl.* (1886)-F.T.A. 7: 391.

Haemanthus brachyandrus *Bak.* in F.T.A. 7: 391 (1898); F.W.T.A., ed. 1, 2: 370.

Haemanthus germanianus *J. Braun & K. Schum.* Mitth. Deutsch. Schutzgeb. 2: 146 (1889)-F.T.A. 7: 390.

Haemanthus kundianus *J. Braun & K. Schum.* l.c. (1889)-F.T.A. 7: 389.

Rhizomatous herb with stout central green scape up to 2 ft. high; inflorescence spherical with numerous pink or red flowers; fruits large, orange; **in forest.**

IV. C.: 61 km. N. of Sassandra, W. of Niapidou (Jan.) Leeuwenberg 2498! **Ghana:** Burton & Cameron! 50 miles S. E. of Kumasi (Dec.) Morton A2548! Owabi (Dec.) Lyon 2881! Obuasi (July) Chipp 586! Asamankese (Dec., Jan.) Plumtre 61! 67! **S. Nig.:** Lagos Schlechter 13005! Barter 3416! Gambari, Oyo Prov. W. D. MacGregor 573! Akure Dist. (Feb.) Ujor FHI 32989! Orem, Calabar to Mamfe (Jan.) Onochie & Okafor FHI 36064x! **W. Cam.:** Rio del Rey Johnston! Amba Bay (Feb.) Mann 779! Cam. Mt., 4,000 ft. (Feb.) Mann 1341! **F. Po:** Ureka (Feb.) Guinea 2367!

Extending through much of tropical Africa.

[The type of *H. brachyandrus* Bak. is probably only a depauperate specimen of *H. cinnabarinus*-F.N.H.]

2. **Haemanthus sp. A.** *APD acc*

Haemanthus cinnabarinus of F.W.T.A., ed. 1, 2: 370, partly (Preuss 874).

Rhizomatous herb with slender central scape about 1 ft. high, inflorescence rather few-flowered, red; **in upland forest.**

S. Nig.: Afi River F.R., Ogoja Prov. (May) Jones & Onochie FHI 17400! **W. Cam.:** Preuss 874! Buea (Apr.) Hamblen 178! Dundas FHI 20387! Gregory 91!

3. **Haemanthus sp. B.** *APD acc*

Inflorescence appearing lateral although arising centrally; **in lowland forest.**

S. Nig.: Lagos Phillips 45! Ehor and Ibekewe, Benin Prov. Fairbairn! Shasha F.R., Oyo (Apr.) Richards 3417! Iguobazowe F.R., Benin Prov. (May) Onochie FHI 34896! Usonigbe F.R., Benin Prov. (May) Keay FHI 37024!

[Spp. A. and B. appear to be distinct species, but it is considered unwise to go further than this before the whole genus is revised.-F.N.H.]

4. **Haemanthus longitubus** C. H. Wright in J. Linn. Soc. 37: 114 (1905).

APD: *Synonym of Scadoxus multiflorus subsp. longitubus (C.H. Wright) I. Björnstad & Friis*

Stout bulbous herb with red flowers and spotted scape; **in forest**.

Lib.: Bolahun, Montserrado Dist. (Jan.) Bequaert 43! Sinoe B. Basin Whyte! 18 miles N. of Tapeta (Feb.) Voorhoeve 168! Nimba (Jan.) Adam 20728! **iv. C.:** Toubia to Man (Feb.) de Wit 9186! Davo R., E. of Beyo (Feb.) Leeuwenberg 2826! Gagnoa (Jan.) de Wit 9075! Angedédou Forest, nr. Abidjan (Feb.) Leeuwenberg 2647! Banco Forest (Dec.) de Wit 9856! **Ghana:** Dagou, nr. Axim (Apr.) Chipp 170! Eguafu (Apr.) Hall 2948! Nsawam to Aburi (Apr.) Morton A3652!

5. **Haemanthus multiflorus** Martyn Monogr., with fig. (1795); F.T.A. 7: 388; Bot. Mag. tt. 961, 1995; Chev. Bot. 637, partly; Berhaut, Fl. Sén. 4, 182.

APD: *Synonym of Scadoxus multiflorus (Martyn) Raf. subsp. multiflorus*

Stout bulb giving rise to a lateral inflorescence 1-2 ft. high with red-blotched scape; flowers numerous, scarlet, in a spherical head; leaves sheathed together at the base into a false stem, fully expanding after flowering; **in forest margin, secondary forest and in savanna woodland**.

Sen.: Berhaut 230. **Gam.:** Kuntaur Ruxton 9! Basse, W. Div. (June) Frith 82! **Guin.:** Los I. (June) Kalbreyer 230! **S. L.:** Freetown (May) Morton SL 1306! Mange, Port Loko Dist. (Apr.) Hepper 2608! Falaba (Mar.) Sc. Elliot 5462a! Boruks (Aug.) Deighton 5340! Njama, Kowa Dist. (May) Deighton 5778! **Lib.:** Congotown (Mar.) Barker 1218! Sinoe Basin Whyte! **iv. C.:** Mt. Mafa (Mar.) Aké Assi 9533! **Ghana:** Sutawa (Mar.) Thomas D156! Elmina Plains (Feb.) Morton A1611! Legon Hill, Accra (Mar.) Adams 3809! **Togo Rep.:** Warnecke 92! **N. Nig.:** Kabba (July) Clayton! Zaria Prov. (May) Elliott 59! Kontagora (June) Dalz. 567! Musgu, Bornu Prov. (May) E. Vogel 100! Biu, Bornu Prov. (May) Noble 50! **S. Nig.:** Yoruba Barter 3423! Malawi 65! Illaro (Jan.) Millen 113! Oyo to Ilorin (Mar.) Meikle 1293! Awka Thomas 130! **W. Cam.:** Bamali, Ndop Plain (Mar.) Brunt 156! Bamenda, 5,000 ft. (Jan.) Migeod 319! **F. Po.:** (Apr.) Mann 393!

Widespread in tropical Africa.

6. **Haemanthus mannii** Bak. in Bot. Mag. t. 6364 (1878); F.T.A. 7: 388.

APD: *Synonym of Scadoxus multiflorus subsp. longitubus (C.H. Wright) I. Björnstad & Friis*

Haemanthus cinnabarinus of F.W.T.A., ed. 1, 2: 370, partly (syn., Mann 897).

Small bulb giving rise to a slender lateral rather few-flowered scarlet inflorescence; **in forest**.

S. L.: No. 2 River F.R., Peninsula (Apr.) Hepper 2523! Bagroo R. (Apr.) Mann 897!

7. **Haemanthus rupestris** Bak. in Gard. Chron. 7: 656 (1877); F.T.A. 7: 388; Morton, W. Afr. Lilies & Orch. fig. 33.

APD: *Synonym of Scadoxus multiflorus (Martyn) Raf.*

Small cylindrical bulb producing a lateral inflorescence 3-9 inches high, with rather few scarlet flowers; leaves small, expanding after the flowers; **in fringing forest with seasonably flooded and sometimes rocky ground**.

Ghana: Lawra (Sept.) Hall CC 773! Kpong to Akuse (Apr.) Thomas M17! Akuse (Apr.) Morton A4168! **N. Nig.:** Lokoja (Mar.) Shaw 6! Nupe Barter 1505! Anara F.R., Zaria Prov. (May) Keay FHI 19192! Jemaa to Jos, Assob R. (Apr.) Keay & E. W. Jones FHI 37621! Vango Malabu, Yola (May) Dalz. 252!

2. CRINUM

Linn., Sp. Pl. 291 (1753); F.T.A. 7: 393.

- 1 Plant submerged in running water; leaves linear, undulate, up to 100 cm. long and 5 cm. broad, usually much

- less; flowers 3-5 per umbel, held above water-level; spathe bracts narrowly triangular-lanceolate, 6-8 cm. long; perianth-tube 13-17 cm. long, lobes about 8 cm. long and 1 cm. broad [1. natans](#)
- Plant not normally submerged; leaves self-supporting: **2**
- 2** Perianth-segments 2-5 mm. broad, about 6 cm. long, less than half as long as the tube; anthers 15 mm. long; flowers 2-5 per umbel; spathe bracts linear-lanceolate, 7 cm. long, thin; leaves linear, 35-40 cm. long, 1.5-4 cm. broad [2. purpurascens](#)
- Perianth-segments 1-4 cm. broad: **3**
- 3** Leaves 2.5-11 cm. broad; lanceolate to narrowly lanceolate-elliptic; flowers white or white and pink: **4**
- Leaves 0.2-2 cm. broad, linear; flowers white with pink stripe along each perianth-segment: **6**
- 4** Flowers white often tinged green; perianth-segments acute; leaf-margins smooth: **5**
- Flowers white with broad pink stripe along each perianth-segment, segments 8-12 cm. long, 2-4 cm. broad, cuspidate, tube 8-10 (-15) cm. long; anthers 18 mm. long; flowers 3-8 per umbel; leaves 3-4 cm. broad, with numerous close, parallel nerves, slightly scabrid-serrulate on the margins [3. ornatum](#)
- 5** Leaves glaucous, about 5 cm. broad, with numerous closely parallel nerves; perianth-segments 7-9 cm. long, 1.5-2.5 cm. broad, tube 6-9 (-13) cm. long [4. glaucum](#)
- Leaves not glaucous, shining green when fresh, up to 11 cm. broad, with about 10 lateral nerves on each side of the midrib up to 5 mm. apart, tertiary nerves conspicuous; perianth-segments 7-9 cm. long, 2-4 cm. broad, tube 13-17 cm. long [5. jagus](#)
- 6** Perianth-tube 16-20 cm. long, segments 8-9 cm. long, 1.5-2.5 cm. broad; leaves not distichous, 9-15 mm. broad, up to 40 cm. long, margins slightly scabridulous; bulb about 3 cm. diam. [6. scillifolium](#)
- Perianth-tube 6-11 cm. long: **7**
- 7** Leaves not distichous, very narrow, 2-7 mm. broad, about 25 cm. long; bulb about 3 cm. diam, with tubular neck; scape 10-17 cm. long; perianth-segments 6-8 cm. long, 1-1.5 cm. broad [7. humile](#)
- Leaves distichous, 9-20 mm. broad, up to 70 cm. long but developing after flowering, margin serrulate-scabrid; bulb ovoid about 6 cm. diam.; scape up to 40 cm. long; perianth-segments 8-11 cm. long, 1-1.5 cm. broad .. [8. distichum](#)

Crinum lane-poolei Hutch. (F.W.T.A. ed. 1, 2: 372 (1936), Engl. descr. only) *APD acc*

It is a large plant with numerous white flowers.

Probably an introduction from tropical America. Is grown as an ornamental in Sierra Leone.

- 1. Crinum natans** Bak. in F.T.A. 7: 396 (1898); Bot. Mag. t. 7862; Chev. Bot. 636; Chev. in Rev. Bot. Appliq. 30: 624 (1950); Morton, W. Afr. Lilies & Orch. fig. 27. *APD acc*

Aquatic, small bulb in mud at the bottom of perennial streams, with crinkled leaves submerged and floating; flowers large, white, fragrant, **held well above the water-level**.

Guin.: Kolenté (June) Chillou 1581! **S. L.:** Port Loko (Apr.) Hepper 2669! Magburaka to Bendugu (Apr.) Morton & Gledhill SL 1161! Gondama, Maje (May) Deighton 5777! Franziga (Dec.) Sc. Elliot 4732! Mano (May) Deighton 3436! **Lib.:** Linder 63! Monrovia Whyte! Kakatown, Salala Dist. Whyte! (Feb.) Harley 1854! Sinoe Basin Whyte! **Iv. C.:** Adiopodoumé (Oct.) J. de Wilde 681! **Ghana:** Burton & Cameron! Axim to Takoradi (Mar.) Hall 2572! Antobam, nr. Prestea (July) Vigne 1273! Hintimbo, Dunkwa Dist. (Jan.) C. J. Taylor 5463! Nr. Dabouse, in a tributary of Prah R. (Mar.) Fishlock 86! **N. Nig.:** Maisamari, Mambila Dist., 5,000 ft. (Jan.) Hepper & Chapman 2805! **S. Nig.:** Ayisane, Lagos (Feb.) Millen 174! Sapoba Lake, Jamieson R. (Mar.) Jones FHI 737! Ethope R., nr. Sapele (Jan.) Brenan 9128! Calabar Thomson 84! Afi River F.R., Ogoja Prov. (May) Jones & Onoehie FHI 18909! **W. Cam.:** Kumba (June) Gregory 332! Mbalange F.R., Kumba Dist. (Jan.) Binuyo & Daramola FHI 35464! Buea Schlechter 12851! **F. Po:** Mann 1416!

Also in **E. Cameroun**.

- 2. Crinum purpurascens** Herb. Amaryllid. 250 (1837); F.T.A. 7: 396; Bot. Mag. t. 6625; Chev. l.c. 616 (1950). *APD acc*

Small bulb; flowers with extremely narrow segments, white or purplish lined.

Gam.: Dipa Kunda (July) Fox 147! **S. L.:** Kurusu, Limba (Apr.) Sc. Elliot 5545! **Ghana:** Ankobra R., Axim Dist. (Dec.) Johnson 867! **S. Nig.:** Bonny (Feb.) Kalbreyer 57! Ukpor (Jan.) Kitson! Abakaliki (Mar.) Kitson! Calabar Robb!

Also in **E. Cameroun** and **Angola**.

- 3. Crinum ornatum** (Ait.) Bury Hexandr. t. 18 (1834); Morton l.c. fig. 26. *APD acc*

Amaryllis ornata Ait., Hort. Kew. 1: 418 (1789); Ker-Gawl. in Bot. Mag. t. 1171 (1809).

Crinum yucciflorum Salisb., Parad. t. 52 (1806); F.T.A. 7: 399; F.W.T.A., ed. 1, 2: 372; Chev. Bot. 637; Chev. l.c. 622 (1950).

Crinum sanderanum Bak. (1884)-F.T.A. 7: 400; F.W.T.A., ed. 1, 2: 372.

Stout bulb giving rise to large more or less undulate leaves and an inflorescence 2-3 ft. high; flowers very ornamental, white with a broad pink stripe on each segment; **beside streams in savanna.**

Guin.: Bafodeya to Farana (Mar.) Sc. Elliot 5155! **S. L.:** Hamilton (Apr.) Hepper 2530! Mahera, Kafu Bulom (cult. May) Deighten 5916! Kambia (May) Morton & Gledhill SL 1356! Njala (May) Deighten 1909! **Iv. C.:** Brafouédi Rock (Mar.) Aké Assi 8532! **Ghana:** Afram Plains (Feb.) Cansdale 11! Cape Coast (June) Hall 1467! Amedzofe (Jan.) de Wit 7802/612! Nungwa (May) Irvine 4819! Kpong (Apr.) A. S. Thomas M15! **Togo Rep.:** Lomé Warnecke 305! **Niger:** Niamey to Gao Ryff! **N. Nig.:** Nupe Barter 1507! Anara F.R., Zaria Prov. (May) Keay FHI 22967! Panshanu Hills, Plateau Prov. (Apr.) Okafor & Daramola FHI 54651! Bichikkl, Bornu Prov. (May) Lely 182! Abinii Dalz. 858! **S. Nig.:** Badagry (cult. Jan.) Millen 90! Lagos (Sept.) Dawodu 43! **W. Cam.:** Bambalang, Ndop Plain (Apr.) Brunt 346!

Extending throughout much of tropical Africa.

4. *Crinum glaucum* A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 212 (1910); Chev. Bot. 636. *APD acc*

Crinum yucciflorum of F.W.T.A. ed. 1, 2: 372, partly (syn.).

Bulbous plant with long glaucous leaves developing after flowering; inflorescence about 2 ft. high, flowers white; **in moist places.**

Port. G.: Bambadinca (July) Pereira 3054! **Ghana:** Yeji (Apr.) Hall VBS 1275! **Dah.:** Save to Ouémé R. Hallway Bridge (May) Chev. 23581! **N. Nig.:** Jebba (Jan.) Meikle 1108! Nupe Barter 1503! Sherifuri, Bauchi Prov. (June) Thornewill 166!

5. *Crinum jagus* (Thomps.) Dandy in J. Bot. 77: 64 (1939); Chev. l.c. 623 (1950); Morton l.c. fig. 25. *APD acc*

APD: *Synonym of Crinum glaucum* A. Chev.

Amaryllis jagus Thomps. (1798).

Crinum giganteum Andr., Bot. Rep. t. 169 (1801)-F.T.A. 7: 404; F.W.T.A. ed. 1, 2: 372; Chev. Bot. 635.

Crinum podophyllum Bak. in Bot. Mag. t. 6483 (1880); F.T.A. 7: 403; Chev. Bot. 636.

Crinum suaveolens A. Chev. in Mém. Bot. Soc. Fr., 2, 8: 212 (1912), and in Rev. Bot. Appliq. 30: 623, pl. 32 (1950).

Stout bulb giving rise to broad bright green leaves and an inflorescence about 2 ft. high; flowers white tinged green; **in swamps in forest.**

S. L.: Kamalu (May) Thomas 393! Njala (May) Deighton 684! Kangahun (Feb.) Deighton 6040! Hangha (Apr.) Lane-Poole 228! Gola Forest (Mar.) Small 544! **Lib.:** Kakata Whyte! Ganta Harley! **Iv. C.:** 15 km. S. of Tai (Mar.) J. de Wilde 3579! Bingerville to Potou Lagoon (Feb.) Chev. 20074! Lamé (Oct.) Leeuwenberg 1741! Vapo Forest (Feb.) Aké Assi 7350! **Ghana:** Ankafu, nr. Cape Coast (Mar.) Hall 2939! Assin-Yan-Kumasi Cummins 158! Swedru (Feb.) Dalz. 8301! Amedzofe (Jan.) de Wit 7808/608! Mampong (Mar.) Deighton 632! **N. Nig.:** Nupe Barter 1500! Likitaba to Nguroje, Mambila Plateau (July) Chapman 45! **S. Nig.:** Oyo to Iseyin (Apr.) Keay & Polunin FHI 37831! Ibadan (May) A. H. Taylor FHI 44564! Mawkawlawki, nr. Abeokuta (Dec.) Burt 6! Port Harcourt to Owerri (Jan.) Stubbings 161! Calabar Williams 20!

6. *Crinum scillifolium* A. Chev. in Mém. Soc. Bot. Fr. 8: 210 (1912), and in Rev. Bot. Appliq. 30: 622 (1950). *APD acc*

Narrow leaves arising from round bulb about 1 in. across with a characteristic tubular neck about as long as the bulb; scape about 9 in. high bearing 1 to 4 flowers with very long slender tubes, white with a pink median stripe; **in seasonally flooded places in forest.**

Lib.: (Feb.) Harley 2209! **Iv. C.:** Tai (Mar.) Leeuwenberg 3041! Fort Binger, Mid. Cavally (July) Chev. 19499!

7. *Crinum humile* A. Chev. in Rev. Bot. Appliq. 30: 620, t. 29 (1950), as *humilis*.

APD: *Synonym of Crinum nubicum* Hannibal

Grass-like leaves from a small round bulb with a tubular neck, flower solitary, white with pink median stripe; **in savanna woodland in thin soil overlying rock.**

Iv. C.: Bouna Reserve (Apr.) Aké Assi 8653! Zaakro (Mar.) Aké Assi 8554! **U. Volta:** Fada-n-Gourma to Koupéla (July) Chev. 24530! **Ghana:** Bamboi to Bole (Apr.) Morton A3886!

8. *Crinum distichum* *Herb.* Amaryllid. 260 (1837); F.T.A. 7: 400.

APD: *Synonym of Crinum zeylanicum auct.*

Amaryllis ornata of Ker-Gawl. in Bot. Mag. t. 1253, as to fig. only, not of Ait.

Crinum pauciflorum *Bak.* (1878)-F.T.A. 7: 399; F.W.T.A., ed. 1, 2: 372.

Narrow distichous leaves arising from a stout bulb; scape about 1 ft. high bearing 1-2 flowers, white with a pink median stripe; in seasonally flooded places with a thin soil layer over rock in transitional grassland.

Sen.: Niokolo-Koba (June) Adam 14239! **Guin.:** Conakry (May) Baldwin 5792! **S. L.:** Freetown (May) Morton SL 1307! York (May) Morton SL 1319! Deighton 5542! Kambia (June) Jordan 881! 882! **Ghana:** Afram Plains (Mar.) Johnson 641! Kintampo Scarp (Mar.) Hepper & Morton A3186! Kwahu Tafo (Apr.) Hall 3007! Tamale (Mar.) Adams 3889! Bawku (Aug.) Hall CC 546! **N. Nig.:** Nupe Barter 1504! Mando, Birnin Gwari Dist. (June) Keay FHI 25864! Yola (Aug.) Dalz. 251!

Extending to the **Sudan**.

3. PANCRACTIUM

Linn., Sp. Pl. 290 (1753); F.T.A. 7: 406; Morton in Kew Bull. 19: 337-347 (1965).

- 1 Bulbs gregarious; leaves 5-15 per bulb, linear, 20-35 cm, long, erect, twisted, broadly U-shaped in section, 4-7 mm. broad, glabrous, leaf epidermal cells tapered to each end, about twice as wide in the middle with straight cell-walls and stomata wider than the tips of the epidermal cells; peduncle equalling or exceeding the perianth-tube (9·5-) 10-13 (-14) cm. long; perianth-lobes (5·5-) 6-7 (-7·5) cm. long, corona 2/3 length of the lobes with 2 triangular-acuminate lobes between each pair of stamens *1. trianthum*

Bulbs solitary; leaves 1-5 per bulb, arching and not twisted, V-shaped in section, 5-10 mm. broad, often finely pubescent towards the base, leaf epidermal cells of equal width throughout their length with undulate walls and stomata equalling the epidermal cells in width; peduncle shorter than the perianth-tube; perianth-tube (9·5-) 12-13·5 (-15·5) cm. long; perianth-lobes (6·5-) 7-8·5 (-9·5) cm. long *2. hirtum*

1. *Pancratiun trianthum* *Herb.* in Ann. Nat. Hist. sér. 1, 4: 28 (1840); F.T.A. 7: 407; F.W.T.A., ed. 1, 2: 372, partly; Morton l.c. 340, fig. 2, pl. 13. *APD acc*

APD: *Synonym of Pancratiun tenuifolium Hochst. ex A. Rich.*

A bulbous plant occurring in large numbers, with numerous erect dull and glaucous leaves; flowers white, opening at night, sweetly scented, pollen pale-yellow, perianth-tube glaucous green.

Sen.: Heudetot 542! **Mali:** Timbuktu (July) Hagerup 237! **Iv. C.:** Zaakro (Mar.) Aké Assi 8553! **Ghana:** Damongo Scarp (Mar.) Morton GC 8690! Gambaga (Apr., May) Morton GC 7457! 9040! **N. Nig.:** Zungeru and Lokoja Lugard! Sherifuri (June) Thornehill 165! **S. Nig.:** Badagri (Jan.) Millen 128! Upper Ogun F.R., Oyo Dist. (Feb.) Keay FHI 23441!

Widespread in Africa.

2. *Pancratiun hirtum* *A. Chev.* in Mém. Soc. Bot. Fr. 2, 8: 88 (1908); Morton l.c. 337, fig. 1, pl. 12. *P. trianthum* of F.W.T.A., ed. 1, 2: 372, partly (Warnecke 93, Sc. Elliot 5213, 5287, Dalz. 253).

APD: *Synonym of Pancratiun tenuifolium Hochst. ex A. Rich.*

Solitary bulbs 1-2 in. in diameter giving rise to a few arching glossy leaves; flowers white, opening at night, scented, pollen golden yellow.

Port. G.: Bafata (May) Esp. Santo 2683! **S. L.:** Falaba (Mar.) Sc. Elliot 5213! 5287! **Iv. C.:** Bondoukou (Apr.) Aké Assi 8719! **Ghana:** Kintampo to New Longoro (Mar.) Morton & Hepper A3192! Ejura (Feb.) Andoh FH 5644! Dodowah to Senchi (Oct.) Morton A1687! Dodowah to Prampram Irvine 2797. **Togo Rep.:** Lomé Warnecke 93! **N. Nig.:** Nupe Barter 1501! Lokoja (Apr.) Elliot 225! Ancho, Plateau Prov. (Apr.) Hepburn 140! Magana, Jemaa Dist. (June) Summerhayes 55!

50 miles from Maifoni, Bornu Prov. Parsons! Yola (Apr.) Dalz. 253! **S. Nig.:** Abeokuta Barter 3328! Ibadan (Mar.) Meikle 1266! Iseyin (Apr.) Hambler 420!

Also in **C. African Republic.**

IRIDACEAE

Perennial herbs with underground rhizomes, corms or bulbs. Leaves often crowded at the base of the stem, mostly linear, flattened at the sides, sheathing at the base and equitant. Flowers hermaphrodite, actinomorphic, with a straight perianth-tube or the tube curved, or completely zygomorphic, usually ornamental and often mottled or spotted. Perianth petaloid, withering and persisting for some time; segments or lobes 6, 2-seriate, subequal and similar or different. Stamens 3, opposite the outer perianth-lobes; anthers 2-locular, opening by slits. Ovary inferior, 3-locular with axile, or 1-locular with parietal placentas; style 3-lobed, lobes sometimes petaloid. Ovules numerous. Capsule loculicidally dehiscent by valves. Seeds with copious endosperm.

Generally distributed throughout the world: most of the genera occurring in West Africa have many species in the southern part of the continent.

- 1 Style-branches petaloid; stamens opposite the style-branches; Iris-like flowers [1. *Moraea*](#)
Style-branches not petaloid; stamens alternate with the style-branches: **2**
- 2 Spathes many-flowered; stems compressed or winged [2. *Aristea*](#)
Spathes 1-flowered; stems not compressed: **3**
- 3 Flowers solitary, not spicate; leaves filiform-setaceous [3. *Romulea*](#)
Flowers spicate or cymose; leaves flat: **4**
- 4 Perianth-tube elongated and slender, many times as long as the limb; segments subequal [4. *Acidanthera*](#)
Perianth-tube comparatively short: **5**
- 5 Style-branches bifid; flowers cymose [5. *Lapeirousia*](#)
Style-branches or style entire: **6**
- 6 Perianth-segments subequal; seeds globose, not winged [6. *Hesperantha*](#)
Perianth-segments unequal; seeds usually winged: **7**
- 7 Perianth-limb oblique, not bilabiate [7. *Gladiolus*](#)
Perianth-limb bilabiate, the upper lobe hood-like, the 4 lower shorter and recurved [8. *Zygotritonia*](#)

Besides the above indigenous genera, several others are cultivated and some are more or less naturalized, such as monbretia (*Crocasmia aurea* Planch.) on Cameroon Mt., *Neomarica caerulea* (Lodd.) Sprague, *N. gracilis* (Herb.) Sprague and *Trimezia martinicensis* (Jacq.) Herb. All are from the New World.

1. MORAEA

Miller, Fig. Pl. 159, t. 238 (1758); F.T.A. 7: 338. Nom. cons.

- 1 Corm 2 cm. diam., giving rise to a peduncle about 30 cm. high and later to narrowly linear-lanceolate leaves up to 100 cm. long and 1 cm. broad, closely nerved, glabrous, rigid; stem-leaves bract-like, shortly overlapping each other and submembranous towards the apex; outer spathe-bract shorter than the inner, about 8 cm. long, closely nerved; ovary slightly exserted from the spathe, 2 cm. long; perianth 4-4.5 cm. long, mauve; capsule long-pedunculate, about 3.5 cm. long [schimperi](#)

***Moraea schimperi* (Hochst.) Pichi-Serm. in Webbia 7: 349 (1950). APD acc**

***Hymenostigma schimperi* Hochst. in Flora 27: 24 (1844).**

***Morea diversifolia* Bak. (1877)-F.T.A. 7: 339.**

***Moraea zambesiaca* Bak. (1877)-F.T.A. 7: 330; F.W.T.A., ed. 1, 2: 374.**

Highland plant with 1-3 mauve Iris-like flowers on stiff stems about 1 ft. high; flowers appearing after fire in the dry season, followed by the leaves.

N. Nig.: Vom, Jos Plateau, 4,000 ft. (Feb.) McClintock 199! Dent Young 245! Vogel Peak, Sardauna Prov., 5,400 ft. (Nov.) Hepper 1504! Mambila Plateau, 4,900-6,000 ft. (Jan.) Latilo & Daramola FHI 34380! Hepper 17741 **W. Cam.:** Bamenda to Santa (Jan.) Keay FHI 28345!

Widespread in the mountains of tropical Africa.

2. ARISTEA

Ait., Hort. Kew. 1: 67 (1789); F.T.A. 7: 346; H. Weimarck in Lunds Univ. Årssk. N.F. Avd. 2, 36: 1-140 (1940). *APD acc*

- 1 Capsules ovoid or oblong-ellipsoid about 5-9 mm. long, beaked by the spirally twisted perianth:2
Capsules cylindrical, elongate-oblong, 2 cm. long, valves with a deep groove in the middle; clusters of flowers 5-8 in an elongated spike; leaves about 30 cm. long, up to 1 cm. broad; (Sect. Pseudaristea) [3. ecklonii](#)
- 2 Clusters of flowers 7-10 in an elongated spike, axis of inflorescence slender, only lower portion slightly winged, inflorescence sometimes branched; basal leaves linear, up to 30 cm. long, stem leaves 4-6 reducing in size upwards, bracts subtending flower cluster about 8 mm. long, as long as the cluster; capsule 5-7 mm. long, 3-5-4 mm. broad; (Sect. Aristea) [1. angolensis](#)
Clusters of flowers 1-2, stems compressed and conspicuously winged; leaves linear up to 20 cm. long, 5 mm. broad, closely nerved; outer subtending spathe-bract leafy, longer than the flower cluster; floral bracts membranous; capsule 6-9 mm. long, 4-6 mm. broad; (Sect. Ancipites) [2a. alata subsp. abyssinica](#)

1. *Aristea angolensis* *Bak.* in Trans. Linn. Soc., ser. 2, 1: 270 (1878); F.T.A. 7: 347; Weimarck l.c. 18, fig. 2 1-p (1940). *APD acc*

Anthericum djalonis *A. Chev.*, Bot. 648 (1920), name only, and Hutch., F.W.T.A., ed. 1, 2: 341 (1936), Engl. descr. only.
Aristea djalonis *Hutch.*, F.W.T.A., ed. 1, 2: 378 (1936), Engl. descr. only, and Kew Bull. 1989: 246.

Slender herb 1-3 ft. high, with grass-like leaves, inflorescence sometimes branched; flowers bright or pale bluish; **in rocky highland.**

Guin.: Dalaba-Diaguissa Plateau (fl. June, fr. Sept., Oct., Apr.) Chev. 12652. 18859. Adames 277! **S. L.:** Bintumane Peak, summit 6,000 ft. (May) Deighton 5099! **N. Nig.:** Jos Plateau (Aug.) Lely P631! Bukuru to Hephram, 4,300 ft. (July) Lely 342! Naraguta F.R. (Aug.) Daramola FHI 44139! Mambila Plateau, 6,500 ft. (June) Chapman 75!

Also in **Kenya**, **Rhodesia**, **Malawi**, **Angola**, **Swaziland**, **Transvaal** and **Natal**.

2. *Aristea alata* *Bak.* in J. Linn. Soc. 21: 405 (1885); F.T.A. 7: 347; Weimarck l.c. 42, fig. 8a-e. *APD acc*
In Tanzania and Kenya.

2a. *Aristea alata* subsp. *abyssinica* (*Pax*) *H. Weim.* l.c. 44 (1940).

APD: *Synonym of Aristea abyssinica Pax*

Aristea abyssinica *Pax* (1892).
Aristea johnstoniana *Rendle* in Trans. Linn. Soc., ser. 2, 4: 48 (1894); F.T.A. 7: 346; F.W.T.A., ed. 1, 2: 374.

Herb with a markedly winged inflorescence 6 in.-2 ft. high bearing solitary or paired clusters of bright blue or purple flowers; **in rocky hills.**

N. Nig.: Jos Plateau (June) Lely P338! Vom Deni Young 240! Bukuru to Hephram (July) Lely 342a! Mambila Plateau (fl. A fr. June) Chapman 74! **W. Cam.:** Bapinyi Pass, Bamenda (May) Ujor FHI 30395! L. Bambulue (June) Saxer 48! Bum to Nchan (fl. & fr. June) Maitland 1600!

Also in **Ethiopia**, **the Congo** and highland in E. Africa southwards to Rhodesia.

3. *Aristea ecklonii* *Bak.* in J. Linn. Soc. 16: 112 (1878); Fl. Capensis 6: 64; Weimarck l.c. 58, fig. 14 f-k. *APD acc*

Aristea maitlandii *Hutch.*, F.W.T.A., ed. 1, 2: 374 (1936), Engl. descr. only.

In clumps 2 ft. high; **in wet upland grassland.**

W. Cam.: above Buea, 4,500 ft. (fr. Mar., July) Maitland 27! Morton K459!

Extending to **Uganda** and to many parts of S. Africa.

3. ROMULEA

Maratti, Diss. Romul. et Saturn. Romae 13, t. 1 (1772); F.T.A. 7: 344. Nom. cons.

- 1 Corm subglobose, about 2 cm. diam., with smooth scales; leaves filiform-setaceous, up to 30 cm. long, ribbed, glabrous; spathe-bracts 2, equal, lanceolate, closely nerved, 1.5 cm. long, acutely pointed; perianth 2 cm. long; fruit about 1 cm. long; seeds broadly obovoid-globose, flattened on two sides, nearly black, 2 mm. diam.
.....[camerooniana](#)

Romulea camerooniana *Bak.* in J. Bot. 14: 236 (1876). *APD acc*

Slender herb with fine leaves up to 1 ft. high; flowers white with blue margins.

W. Cam.: Cam. Mt., 7,700-11,500 ft. (fl. Sept., fr. Nov., Dec.) Mann 2185! Johnston 19! Maitland 845! Boughey! Bafut-Ngemba F.R., Bamenda (July, Aug.) Ujor FHI 29967! Brunt 791!

Also in **E. Cameroun**.

4. ACIDANTHERA

Hochst. in Flora 27: 25 (1844); F.T.A. 7: 358. *APD acc*

- 1 Spathe-bract 1/4-1/3 as long as the perianth-tube, linear, 4-6 cm. long, reddish; corm finely reticulate, ovoid; leaves very long and rather weak, 1-2 cm. broad; flowers few in a lax one-sided spike; nodes of inflorescence about 2.5-4 cm. apart; perianth white, the limb blotched with purple in the lower part; tube slender, about 12-14 cm. long, limb 4-5 cm. long; anthers exserted, 2 cm. long; capsule 2.5 cm. long [1. aequinoctialis](#)

Spathe-bract about half as long as the perianth-tube, linear-lanceolate, 7-8 cm. long; leaves 1-1.5 cm. broad, with 3-5 prominent nerves; flowers about 5 in the spike; nodes 2-3 cm. apart; perianth white, with purple streaks; tube 12-13 cm. long, limb 4 cm. long; anthers exserted [2. divina](#)

1. **Acidantha aequinoctialis** (*Herb.*) *Bak.* in J. Linn. Soc. 16: 160 (1877); F.T.A. 7: 358; Bot. Mag. t. 7393 (1895).

APD: Synonym of Gladiolus aequinoctialis Herb. var. aequinoctialis

Gladiolus aequinoctialis *Herb.* in Bot. Reg., Misc. No. 97 (1842).

Stem about 1 ft. high from a corm; flowers showy, 2 in. across, white with a mauve centre; **in rock crevices**.

Guin.: Nimba Mts. (July) Schnell 1561! N'Zérékoré (Sept.) Baldwin 13285! **S. L.:** Sugar Loaf Mt., 1,500-3,000 ft. (Oct.) Sc. Elliot 3954! T. S. Janes 250! Gumah (Nov.) Lane Poole 81! Konta to Bumban (Aug.) Deighton 1244! Tingi Mts. (Feb.) Morton & Gledhill SL 1904! Bintumane Peak, 6,000 ft. (May) Deighton 5087! **Iv. C.:** Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18051! Tonkoui Mt. (Oct.) Aké Assi 7015! **W. Cam.:** Bambili, Bamenda Dist. (Aug.) Ujor FHI 29970!

2. **Acidantha divina** *Vaupel* in Notizbl. Bot. Gart. Berl. 7: 375 (1920).

APD: Synonym of Gladiolus aequinoctialis var. divina (Vaupel) Marais

F. Po: above Basilé, north side of St. Isabel Peak, 7,000-8,500 ft. (Nov.) Mildbr. 7175!

Also in **E. Cameroun**.

[Although *A. divina* is distinguishable from *A. aequinoctialis* by the characters given in the key, they may in fact be taxonomically insufficient to maintain it as a distinct species. It should also be noted that the plant known as *A. bicolor* Hochst. (1844) is hardly distinct from *A. aequinoctialis*, which has the priority of name.-F.N.H.]

5. LAPEIROUSIA

Pourr. in Mém. Acad. Toul. 3: 79, t. 6 (1788); F.T.A. 7: 350, as *Lapeyrousia*.

- 1 Stems flexuous, about 3-leaved, ribbed; leaves linear, very acute, up to 15 cm. long, 2 mm. broad, 3-nerved, glabrous; cymes few-flowered, dichotomously branched; spathe-bracts ovate-elliptic, 5 mm. long; perianth about 2·3 cm. long, lobed to the middle; capsule globose, shorter than the bracts [Rhodesiana](#)

***Lapeyrousia rhodesiana* N. E. Br.** in Kew Bull. 1906: 169.

APD: Synonym of Lapeyrousia erythrantha (Klotzsch ex Klatt) Baker

***Lapeyrousia montana* Hutch.** in Kew Bull. 1921: 403; F.W.T.A., ed. 1, 2: 376, not of Klatt (1882).

N. Nig.: Liruwen-Kano Hills Carpenter! Jos Plateau (May) Lely P259! Vom, 3,000-4,500 ft. Dent Young 244! Naraguta (June) Lely 271! Zaranda Mt., 5,800 ft. (May) Lely 189! Rishi, Lame Dist., 3,200 ft. (June) G. V. Summerhayes 56!

Also in **Tanzania** and **Rhodesia**.

6. HESPERANTHA

APD: Synonym of Hesperantha petitiana (A. Rich.) Baker

Ker-Gawl. in Kon. & Sims, Ann. Bot. 1: 224 (1804); F.T.A. 7: 348.

- 1 Corm very small, subglobose; leaves few, cauline, narrowly linear, flat, up to 17 cm. long, 1-nerved, grass-like; inflorescence about 3-flowered; outer spathe-bract broadly lanceolate, 1·5-2 cm. long, several-nerved, shortly tubular at the base; perianth 2-2·5 cm. long, segments as long as the tube; capsule 1·5 cm. long, valves 3-nerved; seeds globose, 1·5 mm. diam. [alpina](#)

***Hesperantha alpina* (Hook. f.) Pax ex Engl.** in Abh. Preuss. Akad. Wiss. 1891: 174 (1892); F.T.A. 7: 348.

***Geissorhiza alpina* Hook. f.** in J. Linn. Soc. 7: 223 (1864).

Simple erect herb nearly 1 ft. high; flowers pink.

W. Cam.: Cam. Mt., 8,000-10,000 ft. (fl. & fr. Nov.) Mann 2134! Johnston 18! Preuss 968.

7. GLADIOLUS

Linn., Sp. Pl. 36 (1753); F.T.A. 7: 360.

- 1 Flowering stems with well-developed leaves: **2**
 Flowering stems with short scale-like leaves or very short leaves: **5**
- 2 Leaves over 1 cm. broad; inflorescences about 1 m. high: **3**
 Leaves 0·5-1 cm. broad; inflorescences much less than 1 m. high; flowers not hooded: **4**
- 3 Perianth (incl. tube) over 6 cm. long, yellow or yellow with orange spots or reddish areas, upper segment of inner whorl hooded; bracts about 6 cm. long; leaves 1·5-4 cm. broad; capsule 2-4·5 cm. long, transversely nerved **1.** [psittacinus](#)
 Perianth (incl. tube) up to 4 cm. long, purple, all segments spreading; bracts about 3 cm. long, closely nerved; leaves 1-1·5 cm. broad; capsule 2 cm. long, faintly transversely nerved **2.** [klattianus](#)
- 4 Perianth (incl. tube) about 4 cm. long, purple or white, segments obtuse; bracts 2-4 cm. long, closely nerved; capsule 1·5 cm. long, smooth; leaves nearly 1 cm. broad, rigid **3.** [gregarius](#)
 Perianth (incl. tube) over 6 cm. long, pink, campanulate, segments acute; bracts 4-5 cm. long, with spaced nerves; capsule 2 cm. long, thin; leaves flaccid, up to 5 mm. broad **4.** [oligophlebius](#)
- 5 Bracts about as long as the perianth-tube, 1·5 cm. long; flowers mauve-pink or white, usually numerous on the very slender spike; leaves very short and closely appressed to the stem; perianth about 3 cm. long; anthers 7 mm. long; capsule 1·5-2 cm. long, closely mottled with carmine, thin, not transversely nerved **5.** [unguiculatus](#)
 Bracts much longer than the perianth-tube, about 3 cm. long; capsules strongly transversely nerved; leafy shoots

arising alongside the inflorescences, often tomentose:6

- 6 Flowers not hooded, 3 (-6) cm. long (incl. tube), pale pink or vermillion, sometimes darker spotted6. *melleri*
 Flowers hooded, 6-8 cm. long (incl. tube), yellow with reddish markings and spots (see note after citations) ...1. *psittacinus*

1. *Gladiolus psittacinus* Hook. Bot. Mag. t. 3032 (1830).

APD: Synonym of Gladiolus dalenii Van Geel subsp. dalenii

APD: Synonym of Gladiolus dalenii Van Geel

Gladiolus guartinianus A. Rich. (1851)-F.T.A. 7: 371; F.W.T.A., ed. 1, 2: 379.

Gladiolus primulinus Bak. (1890)-F.W.T.A., ed. 1, 2: 379; Morton, W. Afr. Lilies & Orch. fig. 45.

Gladiolus buettneri Pax (1892)-Chev. Bot. 683.

Gladiolus occidentalis A. Chev., Bot. 634, name only.

Erect rather robust herb 2-4 ft. high with sword-like leaves; flowers large and showy, pure yellow or variously spotted with red or heavily mottled (or rarely white); **in rocky savanna.**

Mali: Bamako (July) Waterlot 1618! **Guin.:** Dindea (June) Pobéguin! Fabala, near Kérouané (July) Collenette 76! Botola, near Kankan (July) Collenette 79! **S. L.:** Freetown (Aug.) Burbridge 506! Bintumane Peak, 5,000 ft. (May) Deighton 5086! **iv. C.:** Man to Touba (July) Collenette 53! Gouékouma, Toura Chev. 21664! Mt. Dourou (May) Chev. 21725! **U. Volta:** Banfora (July) Aké Assi 5703! Gourma (July) Chev. 24488! **Ghana:** Yeji (Aug.) Pomeroy FH 1347! Kumawu (Aug.) Cansdale FH 4429! Logba Tota (June) Homes 927! **Togo Rep.:** Bismarkburg (July) Buettner 8! **Dah.:** Agouagon (July) Annet 20! Savalou (June) Annet 125! **N. Nig.:** Mando F.R., Burnin Gwari Dist. (Aug.) Keay FHI 28005! Vom, Jos Plateau, 3,000-4,500 ft. Dent Young 241! Zaranda, Jemaa Dist. (Sept.) G. V. Summerhayes 36! Yola (Aug.) Dalz. 250! Maisamari, Mambila Plateau (June) Ghampan 51! **S. Nig.:** Otokemeji (June) Foster 305!

Widespread in savanna in tropical and S. Africa.

[Smaller plants with pure yellow flowers are conveniently known as *G. primulinus* Bak., which appears to be only a colour form of *G. psittacinus*. Plants with leafless stems, sterile tomentose leafy shoots, commonly occur in the Bamenda area and also in highland E. Africa: they fall into the *G. psittacinus* complex.]

2. *Gladiolus klattianus* Hutch. F.W.T.A., ed. 1, 2: 379 (1936); Aké Assi, Contrib. 2: 24 [233].

APD: Synonym of Gladiolus gregarius Welw. ex Baker

Gladiolus spicatus Klatt (1867)-F.T.A. 7: 369, not of Linn. (1753).

Erect herb 2-4 ft. high with numerous reddish purple flowers in a long narrow spike; **in seasonally moist savanna.**

Sen.: Bignona, Casamance (Nov.) Berhaut 6439! **Mali:** Klela (Sept.) Demange 27541 **Port. G.:** Piche (Sept.) Pereira 3246! Piche to Canquelifá (Oct.) Esp. Santo 3108! **Guin.:** Kindia (Oct.) Jac.-Fél. 1859! Tinn'ti Oule, near Béyla (July) Collenette 81! **S. L.:** Suribolomia (Nov.) T. S. Jones 42! Kambia, Magbema (Oct.) Jordan 945! **iv. C.:** Sémien to Sifié (Oct.) Aké Assi 6054! **Ghana:** Larabanga (Oct.) Rose Innes GC 31006! Banda (Nov.) T. M. Harris! Ejura Cox 27! Maliato, Togo Plateau (Nov.) Morton! **Togo Rep.:** Büttner 143! **N. Nig.:** Jebba Barter! Zungeru (Sept.) Dalz. 252! Anara F.R., Zaria (July) Keay FHI 25952! Tangale to Waja (July) G. V. Summerhayes 71! **S. Nig.:** Ago-Are F.R., Shaki Dist. (Oct.) Sofoluwe FHI 38175! Olokemeji F.R. (Aug.) Keay FHI 25384!

Extends to Congo.

3. *Gladiolus gregarius* Welw. ex Bak. in Trans. Linn. Soc. ser. 2, 1: 268 (1878); F.T.A. 7: 365; Hopper in Kew Bull. 21: 493 (1968). *APD acc*

Gladiolus pseudogregarius Mildbr. ex Hutch., F.W.T.A., ed. 1, 2: 379 (1936), English descr. only.

A slender herb with very narrow leaves; flowers purple or white with purple throat.

Mali: Sadam, near Sikasso (Sept.) Jaeger 5140! **U. Volta:** Takalédougou (Sept.) Aké Assi 6343! **Ghana:** Lloyd Williams 554! Tono, Navrongo (Aug.) Irvine 4663! **Togo Rep.:** Basari (July) Kersting 128! Bafilo (Aug.) Davidson 22! **N. Nig.:** Kaciya to Zonkwa (July) G. V. Summerhayes 130! Amo, Jos Plateau, 4,000 ft. (Aug.) King in Hb. Hepper 2871! Vom, 3,000-4,500 ft. Dent Young 242! Hephram to Ropp, 4,600 ft. (July) Lely 357! Fobur to Korom, Jarawa Dist., 3,300 ft. (July) G. V. Summerhayes 15! **W. Cam.:** Bafut-Ngemba F.R. (Aug.) Tamajong FHI 26894! Binka, 6,500 ft. (Sept.) Savory UCI 368! Bamenda Nkwe to Bafut-Ngemba F.R. (Aug.) Daramola FHI 43210!

Extends to [Angola](#) and possibly Rhodesia.

[The plants from W. Cameroun have white flowers with a purple throat; all the others have purple flowers.]

4. *Gladiolus oligophlebius* *Bak.* in Kew Bull. 1895: 73; F.T.A. 7: 367. *APD acc*

Gladiolus caudatus *Bak.* (1895)-F.T.A. 7: 367.

A herb with grass-like leaves 1-2 ft. long, the same length as the inflorescence; flowers 2 in. long, pink with yellow inside; [in rock crevices and shallow soil](#).

Mali: Kita (July) Duong 519! **N. Nig.:** Mada Hills (Aug.) Hepburn 76! Amo, Jos Plateau, 4,000 ft. (Aug.) King in Hb. Hepper 2870! Jarawa Hills, Bauchi Prov., 5,000 ft. (Aug.) Lawlor & Hall 353!

Extends to Rhodesia.

5. *Gladiolus unguiculatus* *Bak.* in J. Linn. Soc. 16: 178 (1877); F.T.A. 7: 372; Mildbr. in Engl., Bot. Jahrb. 58: 232, for full synonymy. *APD acc*

APD: *Synonym of Gladiolus oatesii Rolfe*

APD: *Synonym of Gladiolus crassifolius Baker*

Antholyza labiata *Pax* (1892)-F.T.A. 7: 374.

A. fleuryi *A. Chev.*, Bot. 634, name only.

A. djalensis *A. Chev.*, Bot. 634, name only.

A. sudanica *A. Chev.*, Bot. 634, name only.

Slender herb about 1 ft. high; flowers dull purple fading to white; [in moist ground in savanna](#).

Sen.: Niokolo-Koba (June) Adam 14201! **Mali:** Simona to Toro (June) Chev. 977! **Guin.:** Near Pella Bantam, Pita (July) Adames 299! Nzo Mt., 5,400 ft. (Mar.) Chev. 21024! **S. L.:** Morson! Fontani, Bombali Dist. (May) Scotland in Hb. Deighton 713! Yifin to Banda Karafaia (Apr.) Deighton 5064! Bintumane Peak, 6,000 ft. (May) Deighton 5091! **Ghana:** Wa (Apr.) Morton A3316! Mangodi (June) Vigne FH 4512! Tamale (Apr.) Vigne FH 1699! Kete Krache (Apr.) Cox 111! Afram Plains Johnson 1071! Amedzofe Hill (May) Morton 7216! **N. Nig.:** Sokoto Dalz. 448! Anara F.R., Zaria (May) Keay FHI 22901! Vom, 3,000-4,500 ft. Dent Young 243! Tangale to Waja (May) G. V. Summerhayes 65! Abinsi & Katsina Ala (June, July) Dalz. 845! **S. Nig.:** Udi Highlands (May) Kitson! Abakaliki to Obubra (Apr.) Kitson! **W. Cam.:** Bum to Nehan, 4,000-5,000 ft. (June) Maitland 1777! Bambalong, Ndop Plain, 3,800 ft. (Apr.) Brunt 344! Bamessi, Ndop Plain, 3,800 ft. (Mar.) Brunt 262a! Bamenda, 5,000 ft. (Feb.) Migeod 460! Bamenda Ngure to Bafut-Ngemba (Apr.) Ujor FHI 30036!

Widespread in tropical Africa.

6. *Gladiolus melleri* *Bak.* in J. Bot. 14: 334 (1876); Bot. Mag. t. 8626; F.T.A. 7: 362. *APD acc*

A herb with almost leafless stems 2-3 ft. high and pale pink flowers; [in rocky upland savanna](#).

N. Nig.: Jos, Plateau (fl. & fr. May) Lely P284! Naranda Mt., summit 5,800 ft. (May) Lely 190!

[Plants occurring in Zaria Prov. (Keay FHI 25812, 25870; G. V. Summerhayes 192) have densely tomentose sterile shoots but they appear to be part of the *G. melleri* complex.]

8. ZYGOTRITONIA

Mildbr. in Engl., Bot. Jahrb. 58: 230 (1923).

- 1 Leaves very narrow, at most 5 mm. broad, about 15 cm. long, those on the stem gradually smaller, acute; flowers in simple or branched spikes much longer than the basal leaves; perianth very zygomorphic, about 1.5 cm. long, the upper lobe very narrow and hood-like over the style and stamens, the remainder shorter and recurved; capsule 3-lobed, about 5 mm. long, slightly reticulate [1. praecox](#)

Leaves about 2 cm. broad, up to 30 cm. long, mostly about 2 towards the base of the stem, acute; flowers in a simple or 3-branched panicle, very similar to the above, but a little larger; capsule warted [2. crocea](#)

1. *Zygotritonia praecox* *Stapf* in Hook., Ic. Pl. sub. t. 3120 (1927). *APD acc*

Corm about 1 in. diam., covered with reticulate-fibrous tunics; flowering while nearly leafless, flowers white; capsule slightly pustulate; **in alluvial soil among grass.**

Mali: Kita (Aug.) Jaeger 8! **Guin.:** Bissikrima Pobéguin 1123, partly! **N. Nig.:** Abinsi (June) Dalz. 847!

2. *Zygotritonia crocea* Stapf in Hook., Ic. Pl. t. 3120 (1927). *APD acc*

Corm covered with a rather coarsely reticulate tunic; leaves and flowers appearing together; flowers yellow-green or tinged red; **in shallow soil in savanna.**

Mali: Sikasso (May) Demange 2214! **Guin.:** Bissikrima Pobéguin 1123, partly! **Ghana:** Nalerugu, Gambaga Dist. (June) Akpabla 689! **N. Nig.:** Zungeru (June) Dalz. 558! Mande F.R., Birnin Gwari Dist. (June) Keay FHI 25854! Ancho (May) Hepburn 142! Katsina (June) Dalz. 848! Magaji de Leeuw 812b! **S. Nig.:** Enugu Floyer 4! Nsukka (July) Tuley 801! Ngwo, Udi Dist. (Aug.) Jones FHI 6165!

[Very close to the Sudanese *Z. bongensis* (Pax) Mildbr. (1923) from which it differs in the curled lower perianth segments and, possibly, in having broader leaves-F.N.H.]

DIOSCOREACEAE

Climbers (at least the West African species), spiny or not, annual or perennial with tubers annually renewed or perennial. Tubers toxic or edible, often protected by thorny roots. Aerial tubers (bulbils) present or absent. Stems glabrous or pilose. Leaves alternate or opposite (sometimes both on the same plant), often cordate, entire or lobulate, more or less digitately nerved or palmately compound, acuminate often large and glandulose. Petiole generally twisted and sometimes jointed at the base or with more or less leathery auricles. Basal leaves often reduced. Leaves moving, following the conditions of lighting. Plants dioecious; exceptionally on the same inflorescence are clustered male and female flowers. Inflorescence spicate, racemose or paniculate. Flowers small, inconspicuous, actinomorphic. Perianth campanulate or spreading, 6-lobed, lobes 2-seriate, often connate at the base. Male inflorescences: spikes generally several in the leaf axils, sometimes clustered in racemes or compound panicles. Male flowers sessile or shortly pedicelled. Bracteole generally present in oblique position. Flowers placed singly along the axis or in short few-flowered lateral cymes. Stamens 6, or 3 with or without 3 staminodes. Filaments free or shortly connate; anthers 2-locular. Rudimentary ovary frequent. Female inflorescences: spikes looser, longer than the male ones, solitary or paired or sometimes more numerous, in the leaf axils. Staminodes 0, 3 or 6. Ovary inferior, 3-locular. Style 3, free or connate. Placentation axile: 2 anatropous ovules in each loculus. Fruits (in the tropical African species) 3-valved capsules. Seeds winged, with albumen.

Distributed in all the intertropical countries; also present in the subtropical and temperate regions.











The tubers (yams) of some species of *Dioscorea* form an important food crop.



DIOSCOREA

Linn., Sp. Pl. 1032 (1753); *Kunth*, Enum. Pl. 5: 325 (1850); *Pax* in *E. & P.*, Pflanzenfam. 2, 5: 133 (1887); *F.T.A.* 7: 414 (1898); *Knuth* in *Engl.*, Pflanzenr. Diosc. 4, 43 (1924); *Prain & Burkill* in *Ann. Roy. Bot. Gard. Calcutta* 14: 302 (1938); *Burkill* in *Bull. Jard. Bot. Brux.* 15: 345 (1939).

KEY TO PLANTS WITH FEMALE FLOWERS OR FRUITS OR ONLY IN VEGETATIVE CONDITION

- 1 Twining stems sinistrorse (twining to the left i.e. clockwise as seen from above); capsules longer than broad with negative geotropism:2
- Twining stems dextrorse (twining to the right, i.e. anticlockwise as seen from above); fruits as broad as or broader than long; seeds attached near the middle of the placenta, annular more or less circular wing:7
- 2 Leaves compound, palmate; seeds winged at one end only:3
- Leaves entire, generally deeply cordate; seeds winged almost all round:4
- 3 Plants spiny and pubescent (some varieties glabrescent); leaves trifoliate; lateral leaflets asymmetrical,

- sometimes (principally the basal ones) lobulate or bilobed, median leaflet oblong, 8-18 cm. long, 5-10 cm. broad, 3-nerved from the base, setulose-pubescent above, softly tomentose beneath; petioles often spiny;  flowers in slender axillary spikes, softly tomentose all over; fruits oblong, 4 cm. long, 2 cm. broad (Fig. 369a) [1. dumetorum](#)
- Plants not spiny, more or less pubescent; leaves (3-) 5 (-7) foliolate, central leaflet 4-10 cm. long, 2-5 cm. broad with one median nerve, minutely and sparsely pubescent above, shortly and sparsely pubescent beneath or glabrescent; petioles not prickly;  flowers in short solitary or geminate-pedunculate spikes; fruits oblong-elliptic, 20-25 by 12-16 mm. (Fig. 369b) [2. quartiniana](#)
- 4** Plants with spiny stems and roots, pubescent (T-shaped hairs); leaves as broad as or broader than long, heart-shaped, 9-15-nerved, 6-10 cm. long, 8-10 cm. broad; petiole spinulose; plants sterile in West Africa, otherwise  flowers shortly pedicellate (1mm.) in long spikes (up to 40 cm.), perianth 3 mm. long, very small staminodes present; fruits reflexed 25-27 mm. long (Fig. 369c) [3. esculenta](#)
- Plants not spiny: **5**
- 5** Stems often winged or angular; plants robust, tomentose (T-shaped hairs more or less caducous), some forms glabrescent; leaves broadly ovate, cordate at the base, obliquely acuminate, acumen elongate, 9 main nerves and numerous transverse nerves, 10-30 cm. long, 8-35 cm. broad, villous-tomentose beneath, more or less pubescent or glabrous above;  inflorescences solitary, pendulous, up to 40 cm. long; fruits ascending, oblong, 50-60 by 30-40 mm. narrowly winged, pilose at first then glabrous; seeds with a prominent wing at each end (Fig. 369d) [4. preussii](#)
- Stems terete sometimes slightly furrowed, unarmed; plants glabrous, with bulbils; inflorescence pendulous;  flowers subsessile; fruits ascending: **6**
- 6** Leaves opposite in all mature plants except at the base of the stems; basal leaves often lobate or lobulate, the others entire, cordate at the apex bearing a long (up to 6 cm.) thick, glandular drip-tip; 9-11 main nerves, 10-20 cm. long, 12-45 cm. broad; petioles as long as the blades, with basal, thickened auricles; inflorescences 1-3 per node, up to 80 cm. long;  flowers subsessile, with six staminodes; fruits large, 50-60 by 18-25 mm.; seeds winged at both ends (Fig. 371d) [5. sansibarensis](#)
- Leaves entire, always alternate, broadly ovate, widely cordate at the base and apiculate to acuminate at the apex, 6-20 cm. long, 6-20 cm. broad; petiole slightly winged at the margins and auriculate at the base;  inflorescences 1-6 per node, up to 25 cm. long; fruits oblong-ellipsoid, 20-30 by 12-16 mm. (Fig. 371g) [6. bulbifera](#)
- 7** Plants pubescent, covered with stellate or branched hairs; lamina entire, cordiform with 7-9 main nerves; fruits reflexed (negative geotropism): **8**
- Plants glabrous except for a few club-shaped hairs, sparse or very fugacious juvenile hairs; capsules not reflexed (positive geotropism): **9**
- 8** Leaves minutely puberulous above (sometimes glabrescent), lamina 6-12 cm. long and nearly as broad;  spikes 1-5, 10-20 cm. long; perianth and ovary tomentose, fruits rounded, 18-20 by 20-25 mm.; seeds with rounded wings (Fig. 371c) [7. hirtiflora](#)
- Leaves with stellate indumentum, lamina 6-15 cm. long and nearly as broad;  inflorescences 10-15 cm. long; fruits about 25 mm. long with trapezoidal wings; seeds winged all round [8. schimperana](#)
- 9** Stems quadrangular, 4-winged; leaves opposite, sometimes alternate (at the base) or verticillate in 3's or 4's deeply cordate, elongate acuminate, broadly ovate, sinus deep, sometimes with overlapping lobes, 7-nerved, 6-22 cm. long, 5-18 cm. broad;  spikes simple, solitary, axillary, glabrous; fruits emarginate, 20-25 mm. long, 30-35 mm. broad; seeds suborbicular, winged all round (Fig. 370h) [9. alata](#)
- Stems terete, not winged, sometimes fluted or with narrow furrows: **10**
- 10** Stems perennial; stems very spiny especially in the basal area, rooting at the nodes when these are in contact with the soil; leaves coriaceous, epidermis hard to remove; rootstock hard, woody at soil level but bearing tubers deep in the ground: **11**
- Stems annual: **12**
- 11** Leaves orbicular or suborbicular, 5-7-nerved, veins from each side of the midrib embracing a broad obovate area, apices often overlapping, principally on those of the base, acumen abrupt, short (2-5 mm.), cornet-shaped, glandulose at least on the basal leaves, sinus shallow or absent, margins rounded overlapping slightly; lamina 6-17 cm. long, 6-17 cm. broad; fruits pruinose, 25-30 by 40-45 mm. (Fig. 370k) [10. minutiflora](#)
- Leaves ovate or ovate-lanceolate or ovate-oblong, 3-ribbed, the two outer ones very close to the margin of the leaf, rounded or rounded-cuneate at the base, sometimes indented; lamina 6-10 cm. long, 4-7 cm. broad; fruits pruinose, 23-28 by 32-42 mm. (Fig. 370l) [11. smilacifolia](#)
- 12** Tubers perennial; stems spiny: **13**
- Tubers annually replaced; leaves herbaceous or firm, not coriaceous: **14**
- 13** Stems 15-25 mm. thick, very young branches with a light fugaceous pubescence; leaves firm to coriaceous, similar to those of No. 10 but less hard and with a flat acumen not rolled to form a cornet and more or less spatulate-lanceolate, thick, glandulose, reddish or yellowish; lamina 5-12 cm. long, 4-10 cm. broad, 5-7-

- ribbed, network less dense than that of No. 10 with which this species shows great resemblance (Fig. 370m) [12. burkilliana](#)
- Stems 25-50 mm. thick, towards the base; basal leaves very modified, reduced to a pair of leathery auricles terminating in a very long acumen with reflexed margins making a kind of glandulose and thickened spindle; leaves alternate at the base, then opposite, not coriaceous, shortly cordate, 5-7-ribbed, 5-12 cm. long, 4-10 cm. broad;  flowers with 6 minute staminodes; fruits 20-27 mm. long, 30-36 mm. broad (Fig. 370n) [13. mangelotiana](#)
- 14** Plants of small stature bearing bulbils, stems wiry, mottled with red; leaves glaucous, more or less cordate to rounded at the base, often mucronate at the apex; lamina firm, thickish, 6-10 cm. long, 3.5-7 cm. broad, 5-7-ribbed, venation hardly visible; fruits rather small, 17-21 by 22-26 mm. (Fig. 370o) [14. togoensis](#)
- Plants without bulbils: **15**
- [15b. cayenensis subsp. rotundata](#)
- 15** Cultivated plants with superficial tubers; leaves frequently modified, reduced, often alternate at the base, opposite above; lamina sinus rather deep but with a deltoid attachment to the petiole, 5-7 nerved, the veins on either side of the midrib forming an acute angle (less than 45-50°), 6-12 cm. long, 5-10 cm. broad; 1-2 short  spikes (rarely exceeding 10 cm. in length), few-flowered, axillary (Fig. 370p) 15. cayenensis **16**
- Wild plants, tubers deep-seated or else protected by spiny roots; leaves herbaceous: **17**
- 16** Resting period short, two harvests in the season
- Resting period long, one harvest in the season [15a. cayenensis subsp. cayenensis](#)
- 17** Leaf length (measured along the midrib) less than 1.8 times the width, maximum width above the lowest quarter of the midrib (somewhere near the middle): **18**
- Leaves narrow, their length (measured along the midrib) equal to or more than 1.8 times the width, the maximum width in the lowest quarter of the lamina, or at the petiolar attachment, or even lower: **20**
- 18** Plants non-spiny; leaves cordate-ovate, basal lobes rounded, venation on either side of the midrib fairly close; tubers deep-seated (Fig. 370q) [16. abyssinica](#)
- Stems and roots spiny; basal leaves often modified and reduced to stipular formations (connivent when the leaves are opposite) and to an acumen of variable length: **19**
- 19** Plants sturdy, stems often pruinose, brown, red or purplish, stem 15-20 mm. thick; leaves shortly cordate (Fig. 370r) [17. praehensilis](#)
- Plants weaker, green; thickness of the stem generally less than 15 mm.; leaves deeply cordate more or less hastate, greatest width distinctly above the petiolar attachment (Fig. 370s) [18. liebrechtsiana](#)
- 20** Stems unarmed; leaves lanceolate, generally opposite, 5-7-ribbed, 8-12 cm. long, 3.5-6 cm. broad (Fig. 370t) [19. lecardii](#)
- Stems spiny at the least at the base; leaves long, sagittate, generally alternate (but not always), 5-7-ribbed, basal lobes of the lamina divergent, 9-16 cm. long, 3-6 cm. broad (Fig. 370u) [20. sagittifolia](#)

KEY TO PLANTS WITH FLOWERS

- 1** Male flowers with 3 fertile stamens and 3 staminodes; axis of the inflorescence pilose: **2**
- Male flowers with six fertile stamens: **4**
- 2** Inflorescences dense, formed of short axillary tomentose fasciculate spikes, axis not visible between the flowers; bracteoles absent; bract embracing the flower; staminodes linear or petaloid, with an entire or bifid apex; anthers sessile, on very short filaments (Fig. 371a) [2. quartiniana](#)
- Inflorescences more or less lax, axis generally visible between the flowers; bract not embracing the flower: **3**
- 3** Simple or branched racemes, 20-25 cm. long, clustered in the leaf axils; bract subulate; bracteole present; flowers 3-4 mm. distinctly pedicellate; perianth villose (T-shaped hairs); flowers opening wide at anthesis, possessing a small disk; stamens with short filaments curved over the disk; staminodes linear, at times bifid in the upper part (Fig. 371b) [4. preussii](#)
- Spikes 5-10 cm. long, fasciculate, 4-6 in the leaf axils; inflorescences forming long pendent more or less leafy racemes; axis and perianth covered, as on the stems, with characteristic stellate or dendroid hairs; flowers shortly or scarcely pedicelled, 3-5 mm. diam., solitary along the axis; at anthesis, sepals forming a roof, coherent at the tip, free in the middle part; stamens with a short filament and often a well-developed connective, staminodes long (Fig. 371c) [7. hirtiflora](#)
- 4** Inflorescence-axis pubescent: **5**
- Inflorescence axis glabrous: **7**
- 5** Inflorescence an axillary or terminal much-branched panicle of dense spikes, spikes formed of the cymules of 2-6 flowers crowded together, sessile, obscuring the axis; flowers small with glabrous perianth, protected by very pubescent bracts; perianth opening little or very little; stamens 6, at least in the first flowers of the cymules, in the successive flowers 4 or 5 stamens or fewer, filaments short, shorter or equal to the anthers (Fig. 371f) ... [1.](#)

dumetorum

- Inflorescences lax, axis visible between the flowers; flowers sessile and isolated on the axis:6
- 6 Perianth villous outside (hairs not stellate); stamens inserted on the tube, rudimentary ovary subpyramidal; flowers over 3 mm. long, sterile; bulbils absent (Fig. 369c) [3. esculenta](#)
- Perianth hairs stellate; flowers 2.5 mm. long or less at anthesis; bracts equal to or more than half the flower length; bulbils present [8. schimperana](#)
- 7 Flowers elongate, more than 3 mm. long, white at anthesis; bulbils present:8
- Flowers spherical, more or less fleshy, sessile, glabrous, small, 2.5 mm. long or less, perianth not opening wide at anthesis; bulbils absent:9
- 8 Spikes 20-40 cm. long, single or geminate, between the purple bulbil and the branches or forming a terminal panicle, rhachis striate or angular often with nectariferous glands; flowers solitary or 2-4 in cymes, 5-6 mm., subsessile, parts free at the top but not opening wide at anthesis; filaments of the stamens long (Fig. 371d) ..[5. sansibarensis](#)
- Spikes shorter, 3-12 cm. long, often united to form more complex inflorescences, aphyllous, about 20 cm. long or sometimes shorter; individual spikes pendulous or recurved toward the stem; flowers sessile, 3-6 mm. long; stamens of the outer whorl longer than those of the inner one (Fig. 371g) [6. bulbifera](#)
- 9 Stems winged, quadrangular; spikes in axillary panicles, aphyllous, 15 cm. long or more; spikes with 12-20 flowers alternately disposed on a zigzag axis; perianth 1.5-2 mm. long, disk thick; sepals ovate-elliptic; petals subspathulate; stamens short; anthers globose (Fig. 370h) [9. alata](#)
- Stems terete: 10
- 10 Male flowers on slender axes and rather less than their own diameter apart; leaves herbaceous or firm (plant not coarse); tertiary nervation relatively sparse, epidermis easily removed; spikes in clusters of 2-4 in the leaf axils; often forming large aphyllous inflorescences at least at their extremities: 11
- Male flowers generally on stout rigid axes of approximately the same diameter or rather more; geotropism nil:16
- 11 Stems spiny: 12
- Stems and roots not spiny; tubers annual: 15
- 12 Stem more than 2.5 cm. diam.; floriferous spikes with negative geotropism; tubers perennial; roots spiny; forest plant (Fig. 370n) [13. mangelotiana](#)
- Stems 2.5 cm. diam. or less; floriferous spikes with absent or positive geotropism; tubers replaced annually; roots spiny: 13
- 13 Leaves cordiform or more or less triangular, less than 1.8 times as long as broad: 14
- Leaves sagittate, 1.8 times or more longer than broad (Fig. 370u) [20. sagittifolia](#)
- 14 Male flowers with a narrow base (Fig. 371e) [18. liebrechtsiana](#)
- Male flowers with a broad base (Fig. 370r) [17. praehensilis](#)
- 15 Leaves cordate or more or less triangular, less than 1.8 times as long as broad (Fig. 370q) [16. abyssinica](#)
- Leaves long, sagittate or hastate, 1.8 times or more longer than broad (Fig. 370t) [19. lecardii](#)
- 16 Leaves herbaceous or firm, tertiary network of veinlets relatively diffuse: 17
- Leaves coriaceous, nerve network dense, epidermis removed with difficulty or not at all; floriferous axes stout, divergent, usually 8 or more per axil; inflorescences generally complex, aphyllous, sometimes branched; rootstock woody, hard, with fluted tubers at the base; stems spiny: 18
- 17 Bulbils small, 4-16 mm., with 1 or rarely 2 buds between the leaves and spikes; stems mottled, green and red; spikes 3-6 cm. long, 2-4 spikes in leaf-axils; leaves generally opposite at the inflorescence level, not spiny (Fig. 370o) [14. togoensis](#)
- Bulbils absent, plants unarmed or spiny, many cultivars and clones more or less hybrid; flowers in spikes, few in number (1-2 (-3) in the leaf-axils); spikes relatively short, rarely more than 5-6 cm. long, with a tendency to the reduction of sexual reproduction (Fig. 370p) [15. cayensis](#)
- 18 Aerial system annual; stems not rooting at the nodes (Fig. 370m) [12. burkilliana](#)
- Aerial system perennial; stems partially creeping on the ground, easily rooting at basal nodes: 19
- 19 Primary veins of leaves 5-7, the first pair embracing a broadly lanceolate area; lamina cordate, orbicular to oblong (Fig. 370k) [10. minutiflora](#)
- Primary veins of leaves usually 3, the first pair near the leaf margin, lamina elliptic or ovate, rounded at the base or with a small cleft (Fig. 370l) [11. smilacifolia](#)

1. **Dioscorea dumetorum** (*Kunth*) Pax in E. & P., Pflanzenfam., 2, 5: 134 (1888); Dur. & Schinz, Consp. Fl. Afr. 5: 274 (1893); F.T.A. 7: 419; Knuth in Engl., Pflanzenr. Dioscoreac. 4, 43: 132 (1924); Burkill in Bull. Jard. Bot. Brux. 15: 367 (1939); Miège, Contrib. Dioscor. Afr. occid. 75 (1952);

Berhaut, Fl. Sén. 17. *APD acc*

Helmia dumetorum Kunth (1850).

Dioscorea buchholziana Engl. (1886).

Dioscorea triphylla var. *dumetorum* (Kunth) Knuth, illegit. name.

Spiny climber, 9 ft. high, with rather prickly bulbils; annual tubers, several per plant and a common bead, near the soil surface; the species includes more or less poisonous wild varieties as well as cultivated edible varieties with either white or yellow-fleshed tubers.

Sen.: Ouassadou Berhaut 1264! 6480! **Mali:** Bamako Waterlot 1514! Sikasso Miège! **Guin.:** Kouroussa, Timbo Pobéguin 748! 1076! Kouria Caille in Hb. Chev. 14941! Fouta Djallon Chev. 18267! 18772! **S. L.:** Musaia (July) Deighton 4795! 4886! Thomas 2621! Kissy, Freetown, Balima Deighton 2765! 3070! **Iv. C.:** Mankono Chav. 21953! Odienné, Séguéla, Ferkessédougou, Dabakala & Oroumbo-boka, Miège 3038! **U. Volta:** N. Ouahigouya Chev. 24807! **Ghana:** Accra T. Vogel! Barter 1537! Achimota Irvine 2581! Thomas 36! Aburi Hills Johnson 482! Kibbi Glover 20! **Dah.:** Dassa Zoumé Chev. 23611! Konkobiri Chev. 24362! **N. Nig.:** Zaria Prov. Keay FHI 22878! Jos Plateau Batten-Poole 283! Lely 309! Yola Dalz. 226! **S. Nig.:** Oyo Prov. Oladoyinbo FHI 24253! Abeokuta Irving 108! **W. Cam.:** Preuss 1385! (Dec.) Latilo & Daramola FHI 28873! Mango Buchholz.

Also in **E. Cameroun**, **Chad**, **Congo** and **Angola**.

2. *Dioscorea quartiniana* A. Rich. Tent. Fl. Abyss. 2: 316 (1851); Engl., Hochgebirgsil. Trop. Afr. 172 (1892); Knuth l.c. 161; Burkill l.c. 362; Aké Assi, Contrib. 2: 25 (1962). *APD acc*

Dioscorea ancheitae Harms ex De Wild. (1914).

Dioscorea apiculata De Wild. (1902).

Dioscorea beccariana Martelli (1886).

Dioscorea cryptantha Bak. (1887).

Dioscorea dinteri Schinz (1900).

Dioscorea excisa Knuth (1924).

Dioscorea holstii Harms (1895).

Dioscorea pentaphylla of A. Rich. (1851), not of Linn.

Dioscorea phaseoloides Pax (1892).

Dioscorea schliebenii Knuth (1932).

Dioscorea schweinfurthiana Pax (1892).

Dioscorea stuhlmannii Harms (1895).

Dioscorea verdickii De Wild. (1902).

Botryosicyos pentaphylla Hochst. (1844).

A non-spiny climber 15-20 ft. high, without bulbils; annual tubers usually thin and joined together in groups of 3-6.

Gam.: Lecard 175! **S. L.:** Musaia (July) Deighton 4812! **Iv. C.:** Madinani Aké Assi 4593! **Ghana:** Boro, nr. Wa Adams! Pepease Akpabla 176! **N. Nig.:** Yola Prov. Dalz. 227! Vom, Jos Plateau Dent Young 247! Naraguta (May) Lely 246!

Extends to **Ethiopia**, Malawi and **Angola**; also in Madagascar.

[Numerous varieties have been distinguished by their pubescence and by the shape of the leaflets.]

3. *Dioscorea esculenta* (Lour.) Burkill in Gard. Bull. Str. Settl. 1: 396 (1917); Knuth l.c. 189; Prain & Burkill in Ann Roy. Bot. Gard. Calcutta 14: 80 (1936); Miège in Rev. Bot. Appliq. 28: 509 (1948); Miège, Contrib. Dioscoreac. 35 (1952). *APD acc*

Dioscorea aculeata Linn. (1724), not of (1753).

Dioscorea fasciculata Roxb. (1832).

Dioscorea papuana Warburg (1891).

Dioscorea spinosa Roxb. ex Wall. (1830), name only.

Dioscorea tiliifolia Kunth (1850).

Oncus esculentus Lour. (1790).

Spiny climber 30-40 ft. high, lacking bulbils and with numerous (up to 40) stalked edible tubers independent of each other.

Sparsely cultivated in coastal West Africa from Sierra Leone to E. Nigeria. Native of E. Asia.

In Africa the introduced clones are sterile.

4. *Dioscorea preussii* Pax in Engl., Bot. Jahrb. 15: 147 (1893); F.T.A. 7: 417; Knuth l.c. 221; Burkill l.c.

351; Miège, l.c. 55 (1952). *APD acc*

Dioscorea andongensis Rendle (1899).
Dioscorea chevalieri De Wild. (1914).
Dioscorea longespicata De Wild. (1914).
Dioscorea malchairii De Wild. (1912).
Dioscorea pterocaulon De Wild. and Th. Dur. (1899).
Dioscorea thonneri De Wild. & Th. Dur. (1899).

Robust non-spiny climber 20-30 ft. high, tubers generally deeply buried in the soil, often divided and lobed.

Sen.: Somone Adam 1654! 1658! Ouassadou, Toubacouta Berhaut 1263! 2195! 2196! Sokhone, Bignona & Sédhio, Miège & Doumbia C506! C898! C959! **Guin.:** Macenta Baldwin 9624! Timbo Maclaud 226! Nzérékoré Miège! Kouroussa, Timbo Pobéguin 1075! 1077! 1859! **S. L.:** Binkolo Thomas 1678! 1699! 1718! 1760! Bumbuna Thomas 3202! Kasokora, Bwedou Deighton 1243! 3170! Masumbu Glanville 1424! Marampa Tindall 41! **Iv. C.:** Toura Prov. Chev. 21612! 21956! Man Chev. 34153! Taï, Boundiali, Daloa, Baoulé & Abengourou Miège 454! 698! 651! 714! 979! 1008! 1298! 1951! **Ghana:** Bouyhey! **Dah.:** Adja Ouéré Le Testu 160! 161! **N. Nig.:** Dogon Kurmi, Jemaa Div. Killick 3! **S. Nig.:** Onochie FHI 20201! Kennedy 2719! Gambari to Mamu (Aug.) Jones FHI 20256! Mamu F.R., Gambari (Aug.) Keay FHI 16231! Abeokuta Irving 103! Lagos Millen 17! Benin (Sept.) Kennedy 1614! Oban Talbot 780! Aguku Thomas 975! 1020! 1748! **W. Cam.:** Preuss 504! Victoria, Cam. Mt. Maitland 68! 314! 1311! Mamfe Baldwin 13862!

Extends to the Congo, Gabon and C. African Republic.

5. *Dioscorea sansibarensis* Pax in Engl., Bot. Jahrb. 15: 146 (1892); F.T.A. 7: 416; De Wildeman in Ann. Mus. Congo, Bot., sér. 5, 2: 121 (1907); Knuth l.c. 87; Burkill in Blumea, suppl. 1: 232 (1937); Burkill l.c. 348; Perr. de la Bâthier in Not. Syst. 12: 200 (1946); Chevalier in Kev. Bot. Appliq. 32: 14 (1952); Miège, Contrib. Dioscor. 42 (1952). *APD acc*

Dioscorea macabiha Jumelle & Perr. de la Bâth. (1909).
Dioscorea macroura Harms (1897)-F.T.A. 7: 416; F.W.T.A., ed. 1, 2: 382.
Dioscorea toxicaria Bojer (1837), name only.
Dioscorea welwitschii Rendle (1899).

Glabrous non-spiny climber 15-20 ft. high, bearing purple or brownish toxic bulbils, the perennial tubers are also poisonous, female flowers white, veined purple.

Iv. C.: Mankona to Séguéla, Groumania Miège 244! 469! **Dah.:** Dassa Zoumé Chev. 23621! Savalou Chev 23692! **N. Nig.:** Jebba Barter 1533! **S. Nig.:** Olokemeji Chev.

Extends to **Angola**, Congo, E. Africa, Mozambique and Madagascar.

6. *Dioscorea bulbifera* Linn. Sp. Pl. 1033 (1753); Knuth l.c. 88; Prain & Burkill l.c. 111; Burkill l.c. 357; Chevalier in Rev. Bot. Appliq. 32: 16 (1952); Miège, Contrib. Dioscor. 63 (1952); Berhaut, Fl. Sén. 154. *APD acc*

Dioscorea anthropophagorum A. Chev. (1913).
Dioscorea bulbifera var. *anthropophagorum* (A. Chev.) Prain & Burkill (1931).
Dioscorea hoffa Cordemoy (1895).
Dioscorea latifolia Benth. (1849).
Dioscorea longipetiolata Baudon (1913).
Dioscorea perrieri Knuth (1924).
Dioscorea sativa of F.T.A. 7: 415, partly of Linn.
Dioscorea violacea Baudon (1913).
Hemia bulbifera (Linn.) Kunth (1860).

Glabrous non-spiny climber 10-20 ft. high, with bulbils 1-8 cm. in size, toxic or edible according to the variety; tubers renewed annually, globose, absent in several varieties or according to the method of cultivation; female flowers, when produced, white turning pink and then purple when old. Some edible cultivated varieties with large leaves have lost their ability to produce flowers, the bulbils are then larger and composed of a larger number (4-5) of buds. Wild varieties with toxic, angular, greyish bulbils and medium-sized leaves occur and others with small purplish bulbils, small leaves with a red base to the petiole.

Sen.: Ouassadou, Niamboto, Dougar & Sangalkam Berhaut 717! 2202! 3613! 5395! Niokolo-Koba, Dougar Miège! Adam 14261! 15734! **Guin.:** Kouroussa, Kindia & Timbo Pobéguin 744! 1071! 1325! 1860! 1861! Kouria Caille in Hb. Chev.

14700! 14752! 15070! Fouta Djallon Chev. 18258! 18290! 18511! 18519! 18617! N'Zérékoré Baldwin 13303! Miège 713! **S. L.:** Jigaya, Kabala & Mabum Thomas 1538! 2220! 2679! Kokupr Jordan 143! 144! Musaia, Mapaki & Njala Deighton 1200! 1201! 1351! 4394! 4865! 4918! **Lib.:** Webo Dist. Baldwin 6680! **Iv. C.:** Bingerville Chev. 15204! Mankono Chev. 21941! Baleyo Hédin 25! Man Nozerou! Séguéla, Ferkessédougou, Mankono, Katiola & Sakasso Miège 654! 991! 1952! **Ghana:** Achimota Irvine 2578! Pra Anum F.R. (Aug.) Darko 953! Behwai Vigne FH 1316! Tamale Sampson 4! **U. Volta:** Banfora Adam 15431! Miège! **N. Nig.:** Jebba Barter! Jos Plateau Batten-Poole 291! Katsina Dalz. 669! **S. Nig.:** Lagos Dawodu 134! 145! Dodd 440! Ondo Prov. Onochie FHI 33417! Nun R. T. Vogel 30! Oban Talbot 131! 717! **W. Cam.:** Bamenda Ujor 29295!

Widely distributed in the tropics.

7. *Dioscorea hirtiflora* **Benth.** in Fl. Nigrit. 537 (1849); F.T.A. 7: 416; Knuth l.c. 380; Burkill l.c. 374; Miège, Contrib. Dioscor. 84 (1952); Berhaut, Fl. Sén. 154. **APD acc**

Dioscorea anthropophagorum var. *sylvestris* A. Chev. (1913), name only.

Dioscorea dusenii Uline ex Knuth (1924).

Dioscorea polyantha Rendle (1894).

Dioscorea rubiginosa Benth. (1849).

Dioscorea sativa var. *sylvestris* A. Chev., Bot. 642, partly, name only;

Dioscorea spinosa Wall., name only.

Dioscorea stellatopilosa var. *cordata* De Wild. (1912).

Pubescent climber 10-20 ft. high, with or without bulbils and when present the bulbils have white or pinkish flesh; tubers annual, more or less lobed, considered to be poisonous.

Sen.: Thiès, Toubakouta, M'bao Berhaut 1167! 2000! 2199! Niokolo-Koba, Kolda Adam 8! 18512! Ziguinchor Berhaut 6467! Bayotte Forest Miège & Doumbia C701! **Guin.:** Madina Tossékéré (Oct.) Adam 12534! N'Zérékoré (Oct.) Baldwin 9695! Fouta Djallon (Sept.) Chev. 18269! 18649! Konkouré Caille in Hb. Chev. 14993! Kouria to Yombo Caille in Hb. Chev. 14979! Conakry Maclaud 69! 153! 154! Kindia, Lola & foot Mt. Nimba Miège 733! **S. L.:** Newton (Sept.) Deighton 5998! Bonganame (Oct.) Deighton 6009! Makump (Oct.) Thomas 3952! Bumbuna (Oct.) Thomas 3291! Yonibana (Oct., Nov.) Thomas 2164! 4680! 4704! 4756! Kameron Morton SL 2474! **Lib.:** Flumpa, Sanokwele Dist. (Sept.) Baldwin 9371! Harley 1243! Gbanga (Sept.) Linder 493! Peahtah Linder 1037! **Iv. C.:** Danané Nozerou! Taï, Odienné, Séguéla, Oroumbo-Boka, Abengourou & Man Miège 465! 471-2! 643-4! 701-2! 849! 990! 1006! **Ghana:** Shai Morton A4054! **N. Nig.:** Nupe Barter 561! "Quorra" (=Niger R.) T. Vogel 199! **S. Nig.:** Lagos Dawodu 211! Millen 29! Olokemeje F.R. (Sept.) Keay FHI 25424! Awba Hills F.R., Oyo (Oct.) Jones FHI 6302! Gambari F.R. (Nov.) Onochie FHI 34944! Oban Talbot 722! 724! 781! **W. Cam.:** Buea (Nov.) Migeod 95! Bamenda to Mamfe (Dec.) Baldwin 13860!

Extends to E. Cameroun, Congo, **Angola**, Zambia and Tanzania.

8. *Dioscorea schimperana* **Hochst. ex Kunth** Enum. Pl. 5: 339 (1850); F.T.A. 7: 419; Knuth l.c. 255; Burkill l.c. 371.

Dioscorea dawei De Wild. (1914).

Dioscorea fulvida Stapf (1906).

Dioscorea hockii De Wild. (1911).

Dioscorea stellato-pilosa De Wild. (excl. var. *cordata*) (1912).

Pubescent climber 10-20 ft. high; **in upland**.

N. Nig.: Vom, Jos Plateau Dent Young 248! **W. Cam.:** Bambui Brunt 83!

Extends to Central and E. Africa.

9. *Dioscorea alata* **Linn.** Sp. Pl. 1033 (1753); F.T.A. 7: 417; Knuth l.c. 265; Prain & Burkill l.c. 308; Burkill l.c. 380; Miège in Rev. Bot. Appliq. 32: 144 (1952); Miège, Contrib. Dioscor. 94 (1952). **APD acc**

Dioscorea colocasiifolia Pax (1912), (descr. based on mixture: leaves of *D. alata*, <Image p="female"> infl. of *D. dumetorum*)-F.T.A. 7: 417; F.W.T.A., ed. 1, 2: 382.

Dioscorea sapinii De Wild. (1912).

Glabrous climber with winged stems 10-25 ft. high, rarely flowering in our area and usually reproducing vegetatively; bulbils developed in some forms; tubers annual, their shape, size and colour very variable according to the cultivars.

Asiatic species, native of E. India, formerly introduced into E. Africa by Arabs, later in W. Africa by the Portuguese. Widely distributed in W. Africa principally from Ivory Coast to W. Cameroun.

Numerous varieties producing many different types of tubers, digitate or not, straight, curved or coiled having white, pink or purple flesh. They play an important role in the agricultural economy of W. Africa. Much cultivated throughout the tropics.

10. **Dioscorea minutiflora** *Engl.* Bot. Jahrb. 7: 332 (1886), and 15: 146 (1892); F.T.A. 7: 418; De Wildeman in Ann. Mus. Congo 3: 366 (1911-12); Knuth l.c. 300; Burkill l.c. 389; Burkill in Proc. Linn. Soc. 151: 57 (1939), and 159: 77 (1947); Miège in Rev. Bot. Appliq. 30: 428 (1950); Miège, Contrib. Dioscor. 138 (1952). *APD acc*

Dioscorea acarophyta *De Wild.* (1904), partly.

Dioscorea armata *De Wild.* (1914).

Dioscorea brevispicata *De Wild.* (1912).

Dioscorea ealaensis *De Wild.* (1912).

Dioscorea ekolo *De Wild.* (1914).

Dioscorea engbo *De Wild.* (1914).

Dioscorea grandebulbosa *Knuth* (1924).

Dioscorea hystrix *Knuth* (1914).

Dioscorea lilela *De Wild.* (1912).

Dioscorea litoie *De Wild.* (1914).

Dioscorea multiflora *Pax* (1892), in error for *D. minutiflora*.

Dioscorea praehensilis var. **minutiflora** *Bak.* in F.T.A. 7: 418 (1898), partly.

Dioscorea pynaertioides *De Wild.* (1914).

Perennial climber with spiny stems 12-30 ft high and rounded several-nerved leaves; abundant principally on the forest edges.

Sen.: Kaémé Forest, Casamance Berhaut 6621! **Guin.:** Nimba Mt. Miège 816! Schnell 3351! 3799! **S. L.:** (Feb.) Pym 107! Mabonto to Masumbiri Simiria (Nov.) Olanvitile 1626! Kinsuta, Samu (Dec.) Sc. Elliot 4235! Yonibana (Oct.) Thomas 3990! **Lib.:** Ganta (Jan.) Baldwin 14057! Bakratown (Oct.) Linder 857! Kakatown Whyte! **Iv. C.:** Bingerville, Chev. 16067! Guedéko Chev. 19012! Man Chev. 34174! Adiopodoumé Leeuwenberg! Yapo Giovanetti 324! Sassandra, Baléko, Agneby, Bingerville & Oroumbo-Boka Miège 915! 917! 922! 937! 942! Boulay I. de Wilde 815! **S. Nig.:** Lagos Moloney! Ibadan (Mar.) Keay FHI 25695! Ikom (Dec.) Keay FHI 28261! Oban Talbot 782! Nun R. Barter 2115! **W. Cam.:** Buea (Jan.) Maitland 289! Mungo (Sept.) Buchholz.

Extends to the Congo, N. **Angola**, **Uganda**.

11. **Dioscorea smilacifolia** *De Wild.* in Ann. Mus. Congo, Bot., sér. 2, 1: 58 (1899), and sér. 3, 1: 239 (1901); Knuth l.c. 303; Burkill l.c. 391; Miège, Contrib. Dioscor. 138 (1952). *APD acc*

Dioscorea demeusei *De Wild. & Th. Dur.* (1901) partly.

Dioscorea echinulata *De Wild.* (1911).

Dioscorea flamigni *De Wild.* (1912).

Dioscorea praehensitis of F.T.A. 7: 418, partly.

Perennial climber with spiny stems 12 ft. high and trinerved ovate leaves.

S. L.: Kenema (Jan., Nov.) Thomas 7620! Glanville 1526! Regent (Dec.) Sc. Elliot 4026! Lester Peak (Dec.) Sc. Elliot 4157! 4171! Bo (Jan.) Thomas 7434! **Lib.:** Barclayville, Grand Bassa (Mar.) Baldwin 11136! Fortsville, Grand Bassa (Mar.) Baldwin 11151! Nyaake, Webo Dist. (June) Baldwin 6186! **Iv. C.:** Bouroukrou Chev. 16652! 16882! Basse Comoé Chev. 17691! Adzopé Chev. 22674! Abouabou & Tai Leeuwenberg 2382! 3581! Adiopodoumé, Baléko, Niégré & Singrobo Miège 935! 940! 941! 951! 1219! Grand Bassam Pobéguin 201! **Ghana:** Plumtre 87! Irvine 590! Assin-Yan-Kumassi (Feb.) Irvine 120! Cummins! Assuantsi road (Jan.) Fishlock 3! **Dah.:** Tohoué Chev. 22777! **S. Nig.:** Lagos (Dec.) Millen 48! Ibadan (Feb.) Keay & Meikle FHI 25663! Onochie FHI 35329! Gambari F.R. (Nov.) Meikle 1193! Calabar Holland 117! Mann 2283! **W. Cam.:** Bambe R., S. Bakundu (Jan.) Binuyo & Daramola FHI 35194! Tiko (Jan.) Dunlap 180! **F. Po:** Musola (Nov.) Guinea 1277! 1279!

[A species closely related to *D. minutiflora*, though quite distinct. Distribution very similar.]

12. **Dioscorea burkilliana** *J. Miège* in Bull. I.F.A.N., sér. A, 20: 39 (1958). *APD acc*

Dioscorea minutiflora *Engl.* (1886), partly.

Dioscorea acarophyta *De Wild.* (1904), partly.

Climber with spiny annual stems 18-25 ft. high from perennial fibrous tubera protected by a woody rootstock, stellate in growth; acarodomatia (swellings used by mites) are always present at the base of the lamina; forest species.

S. L.: Njala Deighton 2547! 2872! Sandugu, Makump & Pendembu Thomas 591! 722! 1001! **Iv. C.:** Bouroukrou Chev. 16710! Man Chev. 34174! Adiopodoumé, Ayamé, Akpouasso, Daoukro & Divo Miège 978! 989! 1987!

[This species is very difficult to distinguish from *D. minutiflora* on dried specimens: in the field the distinction is easier as it does not root at the nodes.]

13. *Dioscorea mangelotiana* J. Miège l.c. (1958). *APD acc*

Dioscorea odoratissima Pax (1893), partly.

Dioscorea praehensilis Benth. (1849), partly.

The largest West African yam attaining a considerable size, 75-100 ft. in length annually from perennial tubers which become enormous reaching or exceeding 110 lbs; protective roots spiny; **in forest.**

Lib.: Carder! Morris farm, Monrovia (May) Dinklage 3045! Kakatown Linder (Aug.) 344! **Iv. C.:** Guédéko Chev. 16486! Divo, Yapo, Adiopodoumé & Assinie Miège 962! 969! 1318! 1880! 1881! **S. Nig.:** Lagos Dawodu 115! Oban Talbot 727!

[Near to *D. praehensilis* but male spikes with negative geotropism and stronger stems.]

14. *Dioscorea togoensis* Knuth in Engl., Pflanzenr. Dioscoreac. 4, 43: 299 (1924); Chevalier in Bull. Mus. Hist. Nat. Paris 8; 547 (1936). *APD acc*

Dioscorea abyssinica Hochst. ex Kunth (1850), partly.

Dioscorea caillei A. Chev. ex De Wild. (1914).

Dioscorea praehensilis Benth. (1849), partly.

Annual climber 2-6 ft. high, with rather weak development; bulbils small, grey-brown, reduced to a single bud, rarely two, 4-16 mm. falling off very easily and consequently seldom seen in herbarium specimens; tubers slender, **deeply rooted in savanna or in rocky places in forest.**

Sen.: M'Borouk Miège! **Gam.:** Dawe 69! **Guin.:** Macenta (Oct.) Baldwin 9818! Kouria Caille in Hb. Chev. 14973! Conakry Maclaud 130! Danané to N'Zérékoré Miège 706! **S. L.:** Rokupr (Sept.) Jordan 123! Yetaya (July) Thomas 2395! 2408! Njala (Oct., Nov.) Deighton 1340! 1345! 1780! Bumbuna (Oct.) Thomas 3167! Musaia (Oct.) Thomas 2645! **Iv. C.:** Issia rock, Kouroukouroun'ga, Niellé, Niangbo & Dabakala Miège 449! 587! 592! 600! 652! 972! **Ghana:** Djadje Akpabla 54! Achimota (Nov.) Irvine 2564! **Togo Rep.:** Lomé Warnecke 250! **Dah.:** Atacora Mts. Chev. 24148! **N. Nig.:** Nupe Barter!

15. *Dioscorea cayenensis* Lam. Encycl. Meth. 3: 233 (1789); Kunth, Enum. Pl. 5: 380 (1850); Knuth l.c. 298; Burkill l.c. 383; Miège, Contrib. Dioscor. 120 (1952); Miège in Rev. Bot. Appliq. 32: 144 (1952). *APD acc*

Dioscorea aculeata Balbis ex Kunth (1860).

Dioscorea berteriana Kunth (1850).

Dioscorea demeusei De Wild. & Th. Dur. (1901), partly.

Dioscorea liebrechtsiana De Wild. (1901), partly.

Dioscorea occidentalis Knuth (1924).

Dioscorea praehensilis of F.T.A. 7: 418, partly.

Dioscorea pruinosa A. Chev. (1913).

Cultivated plants with superficial tubers. In each subspecies numerous clones are characterized by the leaf-shape (more or less elongated, triangular or cordate); the shape, size and colour of the tubers and the persistence or not of rootlets on them; stem colour (lighter, dark or yellow green, pink or reddish, more or less pruinose); the base of the petiole is sometimes red; and the degree of spinescence of the stems and roots. Plants tending to a reduction of sexual reproduction. Some varieties with one annual harvesting, others with two.

15a. *Dioscorea cayenensis* Lam. subsp. *cayenensis*. *APD acc*

Two annual harvests with a short resting period.

15b. *Dioscorea cayenensis* subsp. *rotundata* (Poir.) J. Miège stat. nov. *APD acc*

Dioscorea rotundata Poir. (1813)-F.W.T.A., ed. 1, 2: 382.

Common in all West Africa but its cultivation is most intense from the Ivory Coast to S. Nigeria where it is the chief starchy root crop.

One annual harvest with long resting period. Species of hybrid origin, selected by the African farmers.

16. *Dioscorea abyssinica* *Hochst. ex Kunth* Enum. Pl. 5: 387 (1850); F.T.A. 7: 418; Knuth l.c. 294; Burkill l.c. 382. *APD acc*

Dioscorea lecardii *De Wild.* (1903), partly.

Dioscorea mildbraedii *Knuth* (1924), partly.

Dioscorea sagittifolia *Pax* (1892).

Dioscorea togoensis *Knuth* (1924), partly.

Non-spiny climber 6-12 ft. high, with deep seated tubers.

Mali: Bamako Waterlot 1513! **Lib.:** Sanokwele Dist., Flumpo & Ganta Baldwin 9351! 12494! **Iv. C.:** Baoulé region, Sénoufo Miège! **Ghana:** Achimota Irvine 1421! 1440! N. Prov. Patterson! **N. Nig.:** Jos Plateau Lely 310! Batten-Poole 287! 290! Katsina Datz. 225! 671!

[Probably one of the wild parents of *D. cayenensis*.]

17. *Dioscorea praehensilis* *Benth* in Fl.Nigrit. 536 (1849); F.T.A. 7: 418, partly; Chevalier in Bull. Soc. Bot. Fr. 59: 223 (1912); Knuth l.c. 299; Miège, Contrib. Dioscor. 112 (1952). *APD acc*

APD: *Synonym of Dioscorea cayenensis Lam. subsp. cayenensis*

Dioscorea odoratissima *Pax* in Engl., Bot. Jahrb. 15: 146 (1893); Burkill l.c. 381.

Sturdy climber 15-25 ft. high with spiny stems often pruinose, brown, red or purplish.

S. L.: Sc. Elliot! T. Vogel 21! Yonibana Deighton 5843! Thomas 4705! Bumba, Kaballa & Jagaya Thomas 1904! 2243! 2605! 2796! **Lib.:** Peahtah Linder 899! Firestone Plantation, Sangwin R., Sinoe Dist. Linder 182! **Iv. C.:** Mid. Sassandra Chev. 16481! 19057! Bouaké Chev. 22114! Taï (Aug.) Schnell 6039! Sangouiné, Baléko Nozerau! Divo, Sakasso, Béoumi, Toumodi, Bouaké, Abengourou & M'bahiakro Miège 840! 943! 947! 976! **Ghana:** Kibbi Glover 12! 15! **Togo Rep.:** Bismarckburg Büttner 104! **N. Nig.:** Nupe Barter 1536! Naraguta Lely 492! **S. Nig.:** Farquharson 2! Asaba Onochie FHI 33297! Benin (Sept.) Kennedy 1582! Oban Talbot 723! 728!

[Probably a parent of the several varieties of *D. cayenensis*.]

18. *Dioscorea liebrechtsiana* *De Wild.* in Bull. Herb. Boiss., sér. 2, 1: 63 (1900); in Ann. Mus. Congo, Bot., sér. 3: 362 (1912), and sér. 5, 3: 58 (1909); Burkill l.c. 381; Miège, Contrib. Dioscor. 111 (1952).

APD: *Synonym of Dioscorea praehensilis Benth.*

Spiny climber 15-25 ft. high, with tubers protected by spiny roots.

S. L.: Njala & Musaia Deighton 1352! 4127! 4375! **Iv. C.:** Adiopodoumé, Ayame & Taï Miège 964! 975! **Ghana:** Dogoro Dosusu Moor 333! **S. Nig.:** Farquharson 3! 4! Isu A win Foster 329!

[Very near to *D. praehensilis* but plants less strong and with different leaf bases.]

19. *Dioscorea lecardii* *De Wild.* in Ann. Mus. Congo, Bot. sér. 5, 1: 19 (1903); Knuth l.c. 295; Burkill l.c. 387.

APD: *Synonym of Dioscorea sagittifolia var. lecardii (De Wild.) Nkounkou*

Dioscorea mildbraeilii *Knuth* (1924).

Dioscorea zara *Baufon* (1913).

Unarmed climber 15-25 ft. high with tubers deep and protected by spiny roots.

Sen.: Lecard 214! 235! Merlier 439! **Mali:** Bellamy 186! **Guin.:** Kouroussa Pobéguin 1078! 1080! **S. L.:** Makump Glanville 1524! Deighton 4866! **Iv. C.:** N. Odienné, Boundiali Miège!

[Perhaps played a rôle in the *D. cayenensis* pedigree.]

20. *Dioscorea sagittifolia* *Pax* in Engl., Bot. Jahrb. 15: 147 (1892); F.T.A. 7: 416; Knuth l.c. 295. *APD acc*

Dioscorea lecardii *De Wild.* (1903).

Climber with stem spiny at least towards the base, 10-15 ft. high, tubers deep or protected by spiny roots.

Sen.: Tobor Forest, Bignona, Casamance & Tambacounda Berhaut 6429! 6749! **S. L.:** Makump Glanville 1524! **iv. C.:** Odienné, Oddia, Niempurgué & Soriforo Miége 1927! 2018! **U. Volta:** Banfora Falls Miége 1914!

AGAVACEAE

Rootstock a rhizome; stem short or well developed. Leaves usually crowded on or at the base of the stem often thick and fleshy, entire or with prickly teeth on the margin. Flowers bisexual, polygamous or dioecious, racemose to paniculate or subcapitate, sometimes in a very large thyrses, bracteate. Perianth segments free or united; corona never present. Stamens 6, inserted at the base of the lobes or on the tube; filaments filiform or thickened, free; anthers introrse, 2-locular, opening lengthwise. Ovary superior or inferior, often beaked, 3-locular, with axile placentas; style slender. Ovules numerous and superposed in two series to solitary. Fruit a capsule or berry. Seeds with fleshy endosperm.

Those genera of this family which are native in our area possess superior ovaries.

- 1 Herbs, shrubs or trees; stems and leaves usually not fibrous; leaves flat, not greatly thickened; fruit a berry [1. *Dracaena*](#)

Herbs with creeping rhizomes; stems and leaves usually fibrous; leaves erect, thick and fleshy; fruit with a thin pericarp falling away from the berry-like seeds [2. *Sansevieria*](#)

Agave sisalana Perrine ex Engelm.

The sisal plant and other *Agave* species, also the Mauritius hemp have been introduced into our area and they occasionally become more or less naturalized.

They are all American plants and they possess inferior ovaries.

Furcraea gigantea Vent.

F. selloa Koch

Cordyline terminalis Kunth

From tropical Asia, it is also cultivated in gardens.

With superior ovaries.

1. DRACAENA

Vand., Diss. (1762); F.T.A. 7: 436. *APD acc*

Pleomele *Salisb.* (1796)-N. E. Brown in Kew Bull. 1914: 273.

- 1 Herbs or at most undershrubs; lamina ovate or ovate-lanceolate, broadest at or below the middle, rather abruptly narrowed into a usually long slender petiole: [2](#)
- Shrubs or trees; lamina obovate to linear-oblong-lanceolate or linear, broadest about the middle, if elliptic then subsessile or shortly petiolate: [6](#)
- 2 Inflorescence spicate-racemose: [3](#)
- Inflorescence capitate; leaves ovate or ovate-elliptic: [4](#)
- 3 Inflorescence about 10 cm. long, shorter than the leaves, simple; perianth 12 mm. long, erect; fruit 2-3-lobed, fleshy; stem hardly developed, nodes congested; leaves ovate-lanceolate, 20-31 cm. long, 5-7 cm. broad, with numerous close parallel nerves and distinct transverse veins; petiole nearly as long as the lamina, slender, gradually broadened into a striate sheath at the base [1. *humilis*](#)
- Inflorescence about 30 cm. long, usually longer than the leaves, simple or with a few short lateral branches; perianth about 25 mm. long; stem distinctly developed; leaves oblong-lanceolate to ovate-lanceolate, (12-) 18-39 cm. long, (3-) 5-8 cm. broad [2. *thalioides*](#)
- 4 Petiole winged its full length, as long as or longer than the blade; blade ovate, acutely acuminate, 10-15 cm. long, 5-8 cm. broad, with numerous parallel nerves and distinct cross-veins; perianth 1.5 cm. long; fruiting head sessile [3. *elliottii*](#)
- Petiole winged only at the base and apex: [5](#)
- 5 Petiole nearly as long as or longer than the blade, slender; blade mottled, ovate-elliptic, acuminate, 15-25 cm.

- long, 6-10 cm. broad, faintly nerved; inflorescence capitate shortly pedunculate; bracts caudate-acuminate; fruit spherical, 1.5 cm. diam. [4. phrynioides](#)
- Petiole much shorter than the blade, the latter transversely variegated, ovate-elliptic, very acutely acuminate, 12-25 cm. long, up to 14 cm. broad; inflorescence sessile, 5 cm. diam.; bracts long-acuminate; perianth 3 cm. long [5. goldieana](#)
- 6** Lamina more or less elongate-linear, linear-lanceolate or oblanceolate: **7**
- Lamina elliptic to obovate or rarely broadly lanceolate: **16**
- 7** Trees; inflorescences paniculate: **8**
- Shrubs; lateral nerves spaced 0.5-1 mm. apart usually with transverse veins between: **11**
- 8** Pedicels very short and inconspicuous, at most 2 mm. long; perianth 1 cm. long; lateral nerves of the dry leaves fine, numerous and contiguous or nearly so, oblique transverse veins also visible; leaves 100 cm. or more long, up to 12 cm. broad, sheathing at the base, acute and mucronate at the apex; inflorescence a large branched panicle; lowland tree [6. smithii](#)
- Pedicels conspicuous, leaving fruiting "pegs" 4-5 mm. long: **9**
- 9** Leaves 6-7 cm. broad, very long, with very numerous subcontiguous nerves; bracteoles persistent on the infructescence; perianth about 14 mm. long; fruits nearly 2 cm. diam.; tall tree [7. arborea](#)
- Leaves 2-3 cm. broad; not sheathing at base: **10**
- 10** Perianth 11 mm. long; anthers 2 mm. long; S.Nigeria [8. manni](#)
- Perianth 25-30 mm. long; anthers 3.5 mm. long; fruit at least 2 cm. diam.; widespread [9. perrottetii](#)
- 11** Inflorescence very slender terminal panicle, about 25 cm. long, well branched, smooth; fruiting "pegs" 15-20 mm. long, slender; fruit about 1.5 cm. diam. [10. scoparia](#)
- Inflorescence stouter, paniculate or simple, fruiting "pegs" up to 5 mm. long: **12**
- 12** Rhachis of inflorescence aculeolate; bracts 5 cm. or more long, broadly lanceolate, acute; dense clusters of flowers several cm. apart; flowers subtended by numerous lanceolate bracteoles about 1 cm. long; perianth 3 cm. long; leaves oblanceolate, up to 70 cm. long and 10 cm. broad, sheathing at base [11. adamii](#)
- Rhachis of inflorescence smooth; perianth 1.3-3 cm. long: **13**
- 13** Inflorescence spicate, terminal or axillary: **14**
- Inflorescence terminal, paniculate, with short stout branches or more or less simple and with large spherical clusters of flowers: **15**
- 14** Inflorescence a dense continuous terminal spike furnished with long leafy bracts, the lowest bract about as long as the spike; perianth about 3 cm. long; leaves linear-oblanceolate, contracted towards the expanded base, up to 40 cm. long and 3 cm. broad, with numerous transverse nerves arcuately spreading from the midrib [12. talbotii](#)
- Inflorescence terminal and/or axillary spike of few-flowered clusters subtended by rather short ovate inconspicuous bracts; perianth nearly 2 cm. long, slender; leaves broadly linear, very acute, sheathing and amplexicaul at the base, about 20 cm. long, 1.2-3.9 cm. broad, 8-10-nerved on each side of midrib [13. viridiflora](#)
- 15** Leaves acute and mucronate at the apex, lamina oblanceolate, 20-60 cm. long, 5-14 cm. broad, tufted at the end of the shoot, sheathing at the base, nerves about 1 mm. apart; inflorescence usually with many short branches and numerous clusters of flowers; bracteoles deciduous after flowering; perianth 1.5-2 cm. long; lowland shrub [14. fragrans](#)
- Leaves attenuate and subulate-mucronate at the apex, lamina linear-lanceolate, 15-30 cm. long, 1.5-3 cm. broad, slightly narrowed towards the base and expanded into a clasping sheath 1 cm. long along the stem; inflorescence simple or with a few short branches and dense clusters of flowers; bracteoles persistent after flowering, conspicuous, 2 mm. long, scarious; perianth about 1.3 cm. long; montane shrub [15. deisteliana](#)
- 16** Flowers arranged in a lax panicle and not clustered on the axes; pedicels very slender, jointed at the top, about 1.5 cm. long; perianth about 1 cm. long in bud; leaves elliptic or oblong-elliptic, rather abruptly subulate; acuminate, cuneate at the base, 7-16 cm. long, 3-6 cm. broad, with spaced parallel nerves [16. laxissima](#)
- Flowers arranged in dense spikes or small panicles of clusters: **17**
- 17** Leaves spirally arranged and crowded, with very short internodes; petioles about 8-17 cm. long, winged; lamina obovate to oblanceolate, about 20 cm. long, 5-9 cm. broad, shortly acuminate; inflorescences shortly cylindrical 5-10 cm. long, 5 cm. diam., very dense with numerous flowers and bracts [17. bicolor](#)
- Leaves subverticillate, whorls distant from each other and with numerous scars or leaf sheath between: **18**
- 18** Lamina broadly oblanceolate, gradually narrowed to the base, 12-19 cm. long, (3-) 5 cm. broad, with spaced parallel nerves and very oblique veins; upper stems 2 mm. diam.; inflorescence terminal or subtorminal, reflexed, about 10 cm. long, slightly zigzag, with clusters of flowers sessile or shortly pedunculate on the slender axis; perianth about 2 cm. long; fruits up to 1.5 cm. diam. [18. camerooniana](#)
- Lamina elliptic or oblong-elliptic to broadly elongate-oblanceolate, more or less abruptly narrowed at each end: **19**

- 19** Perianth 3.5 cm. long; inflorescence sessile or subsessile, about 5 cm. long, with crowded flowers; fruits spherical, about 1.5 cm. diam.; upper stems 4 mm. diam.; leaves oblong-elliptic to broadly elongate-oblongate, 15-25 cm. long, 4-8 cm. broad, with spaced nerves [19. ovata](#)
- Perianth 2 cm. long; fruits less than 1 cm. diam.; upper stems 2 mm. diam.; leaves elliptic, 8-16 cm. long, 3-7 cm. broad, very acutely acuminate, with spaced parallel nerves: **20**
- 20** Inflorescences racemose with numerous flowers towards the apex and small bracteate clusters becoming well spaced in the middle of the axis [20a. surculosa var. surculosa](#)
- Inflorescences capitate on slender peduncles about 10 cm. long [20b. surculosa var. capitata](#)

1. *Dracaena humilis* Bak. in J. Bot. 12: 166 (1874); F.T.A. 7: 444; Chev. Bot. 646.

APD: Synonym of Dracaena aubryana Brongn. ex E. Morren

Dracaena poggei of Chev. Bot. 647, not of Engl.

Pleomele humilis (Bak.) N. E. Br. (1914).

A herb with imbricated leaf bases on a very short stem and an inflorescence about 1 ft. high, shorter than the leaves; flowers small and green; fruits greenish yellow or red; **in forest**.

Guin.: Foot of Nimba Mt. Schnell 557! **S. L.:** Bagroo R. Mann 898! Roruks (July) Deighton 3264! Kenema F.R. (Mar.) Deighton 4121! **Lib.:** Dukwia R., Grand Cape Mount Dist. (fr. Feb.) Cooper 168! Mimba (fr. June) Adam 21484! Kitoma Adam 16621! **Iv. C.:** Béyo (fl. & fr. Jan.) Leeuwenberg 2464! Adiopodoumé (fr. Jan.) Aké Assi 7297! Guébo (Feb.) Chev. 17030!

2. *Dracaena thalioides* Makog ex C. Morren in Belg. Hortic. 10: 348, with fig. (1860); F.T.A. 7: 445.

APD: Synonym of Dracaena aubryana Brongn. ex E. Morren

Dracaena humilis of F.T.A. 7: 445, partly (Soyaux 96), not of Bak.

A herb with the lower stem covered by imbricated leaf bases and an inflorescence 1-3 ft. high, usually rising above the leaves; flowers yellowish with reddish brown markings; **in riverine forest**.

W. Cam.: Lus, Nkambe Div., 2,500 ft. (Feb.) Hepper 1875! Jua, Bamenda, 3,500 ft. (fr. Apr.) Maitland 1714!

Also in **E. Cameroun**, **C. African Rep.**, **Gabon**, **Uganda** and **Angola**.

3. *Dracaena elliotii* Bak. in F.T.A. 7: 449 (1898); Aké Assi, Contrib. 2: 26 [234]. *D. ovata* of Chev. Bot. 464, not of Ker-Gawl. *Pleomele elliotii* (Bak.) N. E. Br. (1914).

APD: Synonym of Dracaena cristula W. Bull

Stems erect, 6 in. to 1 ft. high sheathed by the expanded leaf bases; inflorescence sessile; fruits globose, orange; **in forest**.

Guin.: Ziama (Feb.) Adam 3561! Nzo (fr. Mar.) Chev. 21017! Konkouré to Timbo (fr. Mar.) Chev. 12557! **S. L.:** York (Sept.) Melville & Hooker 623! Kukuna (Jan.) Sc. Elliot 4689! Sendugu (June) Thomas 568! Kambui F.R. (Feb.) Lane-Poole 346! Kenema (fr. Jan.) Thomas 7466! **Lib.:** Peahtah, Salala Dist. (Oct.) Bequaert in Hb. Linder 1063! Nimba Mts. (fr. July) Leeuwenberg & Voorhoeve 4791! Zeahtown, Tchien Dist. (fr. Aug.) Baldwin 6963! **Iv. C.:** Youkou Schnell 1686! **Ghana:** Kade (fr. June) Irvine 4897! Ankasa F.R. (fr. June) Enti & Ball GC 35599!

4. *Dracaena phrynioides* Hook. in Bot. Mag. t. 5352 (1862); F.T.A. 7: 447; Chev. Bot. 647. *APD acc*

Pleomele phrynioides (Hook.) N. E. Br. (1914).

Dracaena humilis of F.W.T.A., ed. 1, 2: 384, partly (Irvine 491, Johnson 763), not of Bak.

A herb with a short tough stem rooting at the base, roots smelling of violets, leaves with pale mottling; fruits red; interest.

Lib.: Kitoma, Sanokwele Dist. (fr. Mar.) Adam 16705! **Iv. C.:** Guidéko to R. Zozro (fr. June) Chev. 19048! Mt. Bô, Danané (fr. Sept.) Nozerau! **Ghana:** E. Akim (fr. June) Johnson 763! Blanka, Ashanti Irvine 491! **S. Nig.:** Oshugoko to Oke Ibode (fr. Mar.) Millson! Oban Richards 5202! **F. Po:** Mann 417!

Also in **E. Cameroun**.

5. *Dracaena goldieana* Bull Cat. 1871: viii; Baker in J. Linn. Soc. 14: 535; F.T.A. 7: 449; Bot. Mag. t. 6630. *APD acc*

Pleomele goldieana (Bull) N. E. Br. (1914).

Herb about 1 ft. high, the leaves very ornamental with transverse bars of dark green and silver grey; flowers white in a sessile terminal head.

S. Nig.: Uwet, Cross R. (Dec.) Holland 195! Calabar (cult. Kew) Goldie!

6. *Dracaena smithii* Bak. ex Hook. f. in Bot. Mag. t. 6169 (1875); F.T.A. 7: 440; Morton, W. Aft. Lilies & Orch. fig. 21; Aké Assi, Contrib. 2: 27 [235].

APD: *Synonym of Dracaena congoensis* Hua

APD: *Synonym of Dracaena fragrans* (L.) Ker Gawl.

Pleomele smithii (Bak. ex Hook. f.) N. E. Br. (1914).

Dracaena fragrans of Chev. Bot. 646, partly (Guin. specs.), not of (Linn.) Ker-Gawl.

A shrub used for hedges or developing into a tree up to 30 ft. high, branched at the base and above, bearing near the top a large crown of leaves several feet long; inflorescence a panicle about 2 ft. long, arising amongst the leaves, flowers yellowish green or white tinged red, opening at night, very fragrant; in drier forest.

Guin.: Labé Chev. 12391! Mamou to Kindia Chev. 13587. Longuery (Dec.) Caille in Hb. Chev. 14784! **S. L.:** Bathurst (Jan.) Dalz. 8254! York (cult., Jan.) Deighton 4586! Freetown (cult.) Deighton 2452! **Ghana:** Ankaful, Cape Coast (Feb.) Hall 1826! Tano-Ofin F.R. (Feb.) Lyon. FH 2873! Adamsu (Dec.) Vigne FH 3500! **Togo Rep.:** Kersting A366

[Another species used as a hedge plant in Sierra Leone has shorter leaves than either *D. smithii* or *D. arborea* and it may be *D. fragrans* (q.v.). It has an unbranched weak trunk up to 15 ft. high and, according to notes with Deighton 4616, it has not been seen to flower.]

7. *Dracaena arborea* (Willd.) Link Enum. Hort. Berol. 1: 341(1821); F.T.A. 7: 439; Keay, Onochie & Stanfield, Nig. Trees 2: 440 (1964). *APD acc*

Aletris arborea Willd. (1809).

Pleomele arborea (Willd.) N. E. Br. (1914).

Palm-like tree 30-45 ft. high, with several branches, leaves aggregated near branch ends; flowers creamy white in large shortly branched pendulous inflorescences 3-4 ft. long; fruits orange to red; often planted as a fence or ornamental tree, otherwise in upland forest often near streams.

S. L.: Regent (Nov.) Morton SL 122! Konnoh country Burbridge 483! Panguma (fr. Feb.) Deighton 4001! Tingi Mts. (Dec.) Marten & Gledhill 3022! **Lib.:** Paynesville, 'common' (Aug.) Voorhoeve 395! **Ghana:** Kumasi Cummins 167! Togo Plateau F.R., Hohoe Dist. (Oct.) St. Cl.-Thompson FH 3611! **S. Nig.:** Idanre, Akura Dist. (fl. & fr. Jan.) Bayo in Hb. Brenan 8717! Nun R. Mann 454! Calabar (fr. Mar.) Onyeachusim & Latilo FHI 54266! Oban Talbot 740! **W. Cam.:** Sabga, 6,500 ft. (fl. & fr. Feb.) Brunt 966!

Extending to **Angola** (?).

8. *Dracaena mannii* Bak. in J. Bot. 12: 164 (1874); F.T.A. 7: 438; Hepper in Kew Bull. 22: 451 (1968). *APD acc*

Pleomele mannii (Bak.) N. E. Br. (1914).

A tree about 30 ft. high; in forest.

S. Nig.: Calabar Thompson 8! Mann 2329!

9. *Dracaena perrottetii* Bak. in J. Bot. 12: 165 (1874), incl. var. minor Bak. in J. Linn. Soc. 14: 529 (1875); F.T.A. 7: 438.

APD: *Synonym of Dracaena mannii* Baker

Pleomele perrottetii (Bak.) N. E. Br. (1914).

Dracaena mannii of F.W.T.A., ed. 1, 2: 384, partly; of Sousa in Anais Junta Inv. Col. 6: 50 (1961); of Aubrév., Fl. For. C. Iv., ed. 2, 3: 320; of Keay, Onochie & Stanfield, Nig. Trees 2: 440 (1964), not of Bak.

Tree 20-40 or up to 70 ft. high, **often planted as a hedge**; paniculate inflorescences with white, fragrant flowers.

Sen.: Rio Nunez Heudelot! Casamance (Apr.) Perrottet 785! **Port. G.:** Cacheu Esp. Santo 1258. Safim, Bissau Esp. Santo 1911. Fonte, Bubaque Esp. Santo 2053. **Guin.:** Nzérékoré (Mar.) Adam 3903! **S. L.:** Thomas 9591! Yoni, Bonthe I. (Mar.) Deighton 2476! Bo (May) Lane Poole 189! **Iv. C.:** Moronou (Feb.) Aké Assi 8517! Man Aubrév. 1125! **Ghana:** Kumasi (Feb.) Vigne FH 1634! Akwapim (Apr.) Murphy 687! Aburi (Dec.) Johnson 870! **S. Nig.:** Lagos (Apr.) Moloney 2! Ibadan (Feb.) Latilo FHI 22745! Calabar to Mamfe (Feb.) Onyeachusim FHI 54072!

[Although most herbarium material named as *D. mannii* probably belongs to this species, only specimens bearing flowers have been cited above—see Hepper in Kew Bull. 22: 451, fig. 3 (1968).]

10. **Dracaena scoparia** A. Chev. ex Hutch. in Kew Bull. 1939: 247; Chev. Bot. 647.

APD: Synonym of Dracaena cerasifera Hua

A shrub 10-15 ft. high; slender panicle of white flowers, very fragrant; fruits red; **in forest**.

Iv. C.: Erymacougnié (Jan.) Chev. 16967! Alépé (fr. Feb.) Chev. 17484! Yapo forest (Oct.) de Wilde 3141! Tienkula (fr. Feb.) Bernardi 8294! **Ghana:** Irvine 1097! Axim (fr. Feb.) Irvine 2181! Tarkwa (Feb.) Kinloch FH 3230!

11. **Dracaena adamii** Hepper in Kew Bull. 22: 449, figs. 1 & 2 (1968). *APD acc*

APD: Synonym of Dracaena calocephala Bos

Dracaena densifolia Bak., partly (Mann [8] from F.Po).

Apparently a shrub; **in forest**.

Lib.: Nimba reserve, 2,100 ft. (June) Adam 21103! 21220! 21367! 21512! **Ghana:** Ankasa F.R. (Jan.) Enti & Hall GC 36297! **F. Po:** Mann 8! (Also specimen cult. in Berg-Garten, Herrenhausen from same collection.)

12. **Dracaena talbotii** Rendle in Cat. Talb. 112 (1913). *APD acc*

Pleomele talbotii (Rendle) N. E. Br. (1914).

Remarkable for its elongated sharply acuminate leaves and dense spikes with large bracts.

S. Nig.: Oban Talbot 1532!

13. **Dracaena viridiflora** Engl. & K. Krause in Engl., Bot. Jahrb. 45: 153 (1910); Hepper in Kew Bull. 21: 491 (1968).

APD: Synonym of Dracaena mildbraedii K. Krause

Dracaena vaginata Hutch. in F.W.T.A., ed. 1, 2: (1936), English descr. only.

Dracaena mannii of F.W.T.A., ed. 1, 2: 384, partly (Mildbr. 10571; Talbot 729), not of Bak.

A shrub with long slender branches and leaves sheathing at the base; lateral inflorescences about 4 in. long.

S. Nig.: Oban Talbot 729! Obudu Plateau, 5,000 ft. (Nov.) Tuley 1042! **W. Cam.:** Likomba, Victoria (Oct.) Mildbr. 10571!

Also in **E. Cameroun**.

14. **Dracaena fragrans** (Linn.) Ker-Gawl. in Bot. Mag. 1081 (1808). *APD acc*

APD: Synonym of Dracaena congoensis Hua

Aletris fragrans Linn. (1762).

Pleomele fragrans (Linn.) Salisb. (1796).

Shrub about 5 ft. high; flowers white with pink lines, very fragrant; **in drier lowland forest**.

Ghana: Aburi Hills (Mar.) Johnson 730! Tano-Ofin F.R. (Feb.) Lyon FH 2873! **S. Nig.:** Ubulubu (Feb.) Thomas 2305! Oban Talbot 1412! Aking, Mamfe to Calabar (Feb.) Onyeachusim & Latilo FHI 54003!

Extending to E. Africa.

[The distinction between *D. fragrans* and *D. smithii* is not entirely clear and further study of both herbarium and living material is desirable.-F.N.H.]

15. *Dracaena deisteliana* Engl. Bot. Jahrb. 32: 96 (1902).

APD: Synonym of Dracaena fragrans (L.) Ker Gawl.

Dracaena fragrans of F.W.T.A., ed. 1, 2: 384, partly (Dalz. 8348, Lehmbach 16), not of (Linn.) Ker-Gawl.

Shrub of upland forest above 4,000 ft. and commonly planted as a hedge, with several stems 8 or 9 ft. high; flowers white with pink lines.

W. Cam.: Buea, 4,000-5,000 ft. (Feb.) Maitland 357! Lehmbach 16. Cam. Mt., 5,000-6,000 ft. (Jan.- Mar.) Dalz. 8348! Dundas FHI 20374! Breteler et al. MC 178! Maitland 1328! Bambui, Bamenda (Feb.) Brunt 965!

Also in **E. Cameroun**.

[Plants from Jos Plateau, N. Nigeria (W. D. MacGregor 437, McClintock 202) have acute leaves and larger flowers like *D. fragrans*, but bracteoles as in *D. deisteliana*.]

16. *Dracaena laxissima* Engl. Bot. Jahrb. 15: 478 (1892); F.T.A. 7: 446. *APD acc*

***Dracaena elegans* Hua** (1898)-F.T.A. 7: 446.

***Pleomele laxissima* (Engl.) N. E. Br.** (1914).

***P. elegans* (Hua) N. E. Br.** (1914).

Slender shrub with a slender lax pendulous panicle.

S. Nig.: Ikpoba (June) Farquhar 13! **W. Cam.:** Su, Bamenda, 3,500 ft. (fr. May) Maitland 1686!

Also in **E. Cameroun, Rio Muni, S. Tomé, the Congos, Sudan, E. Africa, Zambia** and **Malawi**.

17. *Dracaena bicolor* Hook. in Bot. Mag. t. 5248 (1861); F.T.A. 7: 448; Hepper in Kew Bull. 22: 450 (1968). *APD acc*

***Dracaena cylindrica* Hook. f.** in Bot. Mag. t. 5848 (1870); F.T.A. 7: 448.

***Dracaena preussii* Eng.** (1892)-F.T.A. 7: 439.

***Pleomele bicolor* (Hook.) N. E. Br.** (1914).

***P. cylindrica* (Hook. f.) N. E. Br.** (1914).

A shrub a few feet high or a small tree up to about 15 ft. high; inflorescence dense, terminal, with white flowers and purple-red bracts; **in forest**.

Ghana?: cult. Kew 252-00! **S. Nig.:** Oban (Jan.) Talbot 1322! 2404! Onochie FHI 36261x! Calabar (Feb.) Mann 2328! Thomson 17! **W. Cam.:** Barombi Preuss 328 (seen for Ed. 1). **F. Po:** Mann 98!

Also in **E. Cameroun**.

18. *Dracaena camerooniana* Bak. in J. Bot. 12: 166 (1874); F.T.A. 7: 442; Chev. Bot. 646. *APD acc*

***Pleomele camerooniana* (Bak.) N. E. Br.** (1914).

Dracaena mayumbensis of Aké Assi, Contrib. 2: 27 [235] (as to *Iv. C. spec?*.) not of Hua.

***Dracaena lecomtei* Hua** (1897)-Aké Assi l.c. (excl. W. Afr. specs.).

A shrub of straggling habit up to 15 ft. high; flowers whitish green; **in forest undergrowth**.

Guin.: Kouria Chev. 14967! Santa to Timbo Chev. 12439! Diaguissa (Apr.) Chev. 12658! **S. L.:** Yonibana (Oct.) Thomas 4169! Bayabaya, Scarcies (Feb.) Sc. Elliot 4551! Lumbaraya, Talla Hills Sc. Elliot 5009! **Lib.:** Gbanga (Sept.) Linder 765! **Iv. C.:** Abouabou forest (fr. Jan.) Leeuwenberg 2362! Taté, Cavally (Aug.) Chev. 19806! **Ghana:** Burton! Kumasi (Dec.) Vigne 4091! Asamankese (Jan.) Plumtre 76! **S. Nig.:** Sapoba (fl. & fr. May) Kennedy 1135! 1783! Oban Talbot 730! **W. Cam.:** Cam. Mt., 3,500 ft. (Jan.) Mann 1204! Barombi Preuss 146!

Extending to Gabon, Congo, Zambia and **Angola**.

19. *Dracaena ovata* Ker-Gawl. in Bot. Mag. t. 1179 (by error 1180) (1809); F.T.A. 7: 449. *APD acc*

Dracaena afzelii Bak. (1874)-F.T.A. 7: 448.
Dracaena prolata C. H. Wright (1905).
Dracaena sessiliflora C. H. Wright (1914).
Pleomele prolata (C. H. Wright) N. E. Br. (1914).
Dracaena lecomtei of Aké Assi, Contrib. 2: 27 [23], not of Hua.

A shrub up to 5 ft. high with clusters of leaves; flowers creamy white, fragrant; **in forest or planted as a hedge.**

S. L.: Afzelius. Thomas 8444! Hedde's Farm, Freetown Lane-Poole 155! (Jan.) Dalz. 987! Guma Dam, Peninsula (fr. Mar.) Morton SL 1182! Njala (cult., Feb.) Deighton 3364! Mano (fr. Nov.) Deighton 2412! **Lib.:** Dukwia R. (Feb.) Cooper 170! Monrovia Whyte! Zwedru (fr. Aug.) Baldwin 7012! Sinoe Basin Whyte! 18 miles N. of Tapeta (Feb.) Voorhoeve 169! **Iv. C.:** Yapo forest (fr. Oct.) Leeuwenberg 1837! Amitioro forest (fr. Dec.) Aké Assi 8381! **S. Nig.:** Eket Dist. Talbot 3191!

Extending to the Congo.

[I have included several specimens (e.g. Baldwin 7012, Aké Assi 8381) with longer inflorescences which may be specifically distinct. Aké Assi (l.c.) regarded them as referable to *D. lecomtei* Hua, but this is a synonym of *D. camerooniana* Bak.-F.N.H.]

20. *Dracaena surculosa* Lindl. in Bot. Reg. t. 1169 (1828); F.T.A. 7: 443. *APD acc*

20a. *Dracaena surculosa* var. *surculosa*. *APD acc*

Dracaena godseffiana Sander ex Bak. (1894).
Pleomele surculosa (Lindl.) N. E. Br. (1914).
P. godseffiana (Sander ex Bak.) N. E. Br. (1914).

A well branched shrub about 3 ft., or at the most 6 ft. high; flowers greenish white; **in forest.**

S. L.: Freetown (Jan.) Dalz. 9447! S. Province (Mar.) Dawe 440! Kenema (Jan.) Thomas 7477! Joru (Jan.) Deighton 3859! **Lib.:** Duport, E. of Monrovia (Jan.) Voorhoeve 776! **Iv. C.:** Anguédédou forest, nr. Abidjan (Feb.) de Wilde 3433! Kassa forest (fr. Oct.) de Wilde 672! **Ghana:** New Jaubin (Mar.) Johnson 628! Swedru (Feb.) Dalz. 8292! **S. Nig.:** Lagos (cult. Kew) Millen! Agoi F.R., Calabar (Jan.) Binuyo FHI 45464! Oban Talbot 1421!

Also in **E. Cameroun**.

[Some plants heavily spotted with yellow on the leaf surface are cultivated as ornamentals in hot houses in temperate countries under the name *D. godseffiana*.]

20b. *Dracaena surculosa* var. *capitata* Hepper in Kew Bull. 22: 453 (1968).

APD: Synonym of Dracaena surculosa var. *maculata* Hook. f.

Dracaena surculosa of F.T.A. 7: 443, partly (Barter 2095, Mann 2327); of F.W.T.A., ed. 1, 2: 386, partly (fig. 316); of Morton, W. Afr. Lilies & Orch. t. 22, not of Lindl.

A shrub with slender stems up to 25 ft. high, little branched, young shoots bearing white sheaths and attaining a considerable height before bearing leaves; flowers white in ball-like inflorescences, fragrant; fruits scarlet; **in forest.**

S. L.: Binkolo (Aug.) Thomas 1813! Jigaya (Sept.) Thomas 2827! Kanya (Oct.) Thomas 2990! Ninia (Feb.) Sc. Elliot 4815! Musaia (Aug.) Haswell 132! **Lib.:** Du R., Montserrado Dist. (July) Linder 74! Monrovia, Montserrado Dist. Whyte! Peahtah, Salala Dist. (Oct.) Linder 1025! Gbata Creek, Suakoko, Gbanga Dist. (July) Leeuwenberg & Voorhoeve 4587! Sinoe Basin, Sinoe Dist. Whyte! **Iv. C.:** Amitioro forest (Sept.) de Wilde 279! Sassandra (Aug.) de Wilde 317! **Ghana:** Simin road (fr. Dec.) Hall 2829! Tano-Ofin F.R. (Jan.) Lyon FH 2865! Amuni (July) Vigne FH 1318! Accra Plains (Oct.) Brown 370! Mampong Scarp (July) Vigne FH 2061! **S. Nig.:** Lagos Millen 144! Angiama, Niger Delta Barter 2095! Calabar (fl. & fr. Feb.) Mann 2327! Oban Talbot 146!

Dracaena sp.

A herb with a very short stem bearing congested nodes and petiolate, lanceolate or linear-lanceolate leaves about 20 cm. long and 4-6 cm. broad; inflorescence apparently sessile and congested.

Lib.: Mecca, Boporo Dist. Linder 10424! Bumbumi to Maola Linder 1337! Duo, Sinoe Country Baldwin 11356!

Further fertile material is required. Imperfectly known species

2. SANSEVIERIA

Thunb., Prod. Pl. Cap. 65 (1794); F.T.A. 7: 332; N. E. Br. in Kew Bull. 1915: 185. Nom. cons.

- 1 Perianth about 8-10 cm. long; flowers in a dense continuous broad spike-like raceme; leaves flat, broadly oblanceolate, about 45-50 cm. long and 6 cm. broad, with hardened red-brown margins when dry; pedicels jointed above the middle; bracts 1-2.5 cm. long, thin and membranous [1a. longiflora var. fernandopoensis](#)
Perianth at most 5 cm. long; flowers in interrupted racemes: **2**
- 2 Perianth 5 cm. long; pedicels jointed above the middle; lower bracts broadly lanceolate, about 4 cm. long, persistent, upper bracts much smaller; leaves broadly oblanceolate, marked with transverse dark and light green bands, up to 10 cm. broad; margins red and white-scarious [2. liberica](#)
Perianth at most 3 cm. long; bracts small and membranous; leaf margins green: **3**
- 3 Leaves markedly banded with green and yellow, elongated-oblanceolate, up to 50 cm. long or more and 5 cm. broad; pedicels jointed a little above the middle [3. trifasciata](#)
Leaves not banded or only slightly so, up to 40 cm. long and 5 cm. broad; pedicels jointed about the middle ... [4. senegambica](#)

1. **Sansevieria longiflora** Sims in Bot. Mag. t. 2634 (1826); N. E. Br. in Kew Bull. 1915: 256. *APD acc*
In the [Congo](#) and [Angola](#).

- 1a. **Sansevieria longiflora var. fernandopoensis** N. E. Br. l.c. 257 (1915).

APD: *Synonym of Sansevieria longiflora* Sims

Stemless with a creeping rootstock; lower bracts with sharp slender points; inflorescence about 1 ft. high.

F. Po: Mann 1169! Barter 2060!

2. **Sansevieria liberica** Gér. & Labr. in Bull. Mus. Hist. Nat. Paris 1903: 170, 173, fig. 4; N. E. Br. l.c. 247. *APD acc*

A rather stout herb with several stiff red-margined leaves about 2 ft. high arising from the creeping rhizome, leaf-margins with a red line; inflorescence floriferous, flowers white; [in the drier shady places by streams and rock outcrops](#).

S. L.: Coast (Dec.) Dawe 408! Peninsula (Nov.) Morton & Gledhill SL 144! Sasseni, Scarcies R. (Jan.) Sc. Elliot 4532!
Lib.: cult. Kew! **iv. C.**: Issia rock (May) Leeuwenberg 4134! Siflé to Touba (July) Aké Assi 9108! **Ghana**: Half Assinie (July) Chipp 296! Accra (Sept.) Irvine 864! Mankrong (Aug.) Hall CC 204! Akuse (June) Dalz. 162! Keta (June) Thorold 302! **Togo Rep.**: L. Togo, Lomé (July) Davidson 11! **N. Nig.**: Imp. Inst. 30470! Yola (May) Dalz. 231! Nupe Barter 1508!
S. Nig.: Idanre (fr. Jan.) Brenan 8705!

Extending to C. African Republic.

3. **Sansevieria trifasciata** Prain *Bengal Plants 2: 1054* (1903); N. E. Br. in Kew Bull. l.c. *APD acc*

APD: *Synonym of Sansevieria zeylanica* (L.) Willd.

Sansevieria guineensis of Gér. & Labr. l.c., not of (L.) Willd.

Aloe guineensis Jacq. (1762), partly (description; see Brenan in Kew Bull. 17: 174-177 (1963)).

Erect herb with transversely barred leaves 2-21/2 ft. long.

S. Nig.: Enugu (Mar.) Hepper 2872! Oban Talbot!

Also in the Congo (as var. *laurentii* N. E. Br.).

4. **Sansevieria senegambica** Bak. in J. Linn. Soc. 14: 548 (1875); F.T.A. 7: 332; N. E. Br. in Kew Bull. 1915: 235; Sousa in Anais Junta Inv. Col. 6: 50 (1951); Schnell in Ic. Pl. Afr., I.F.A.N. 1: 22 (1953); Berhaut, Fl. Sén. 188. *APD acc*

Aloe guineensis of F.T.A. 7: 333, partly; of Chev. Bot. 633, not of Willd.

Sansevieria liberiensis M. Cornu ex A. Chev., Bot. 633, name only.

Sansevieria cornui Gér. & Labr. (1903).

A herb with leaves about 2 fl. long; flowers greenish white; **in shady places.**

Sen.: Cape Verde Berhaut 472. Sébikoutane Chev. 2580. Youni, Casamance Chev. 2562. Itou, Casamance Chev. 2579.

Porrottet 782! Richard Tol Richard 72! **Gam.:** (Jan.) Dalz. 8253! Foni Dawe 75! **Port. G.:** Pussubé Esp. Santo 1108.

Comura (Nov.) Raimundo & Guerra 169! **Guin.:** Kindia Chev. 12782. **S. L.:** Sugar Loaf Mt. (Dec.) Sc. Elliot 3980! **Iv. C.:** Siana to Nandala Chev. 21860. Mt. Lémélébou, Bomaké Chev. 22105.

PALMAE

Stems stout or slender, sometimes climbing, sometimes very short or almost nothing, often covered by the persistent bases of the leaves; primary root soon disappearing and replaced by roots from the base of the stem. Leaves in a terminal cluster or in the climbing species scattered, sometimes very large, entire, pinnately or digitately divided, the segments or leaflets folded induplicate or reduplicate in bud, often sharp at the apex and prickly on the margins or midrib; rhachis often expanded at the base into a fibrous sheath. Flowers small, actinomorphic, bisexual, monoecious or dioecious, sometimes polygamous, arranged in an often paniculate inflorescence (spadix) either amongst or below the leaves. Spathes various, sometimes numerous and enclosing the peduncle and branches of the inflorescence, or few, leathery or membranous; bracteoles often connate below the flowers. Perianth double. Sepals 3, separate or connate, imbricate or open in bud. Petals 3, separate or connate, usually valvate in the male flowers and imbricate in the female. Stamens usually 6, in two series, rarely numerous; anthers 2-locular, loculi globose to linear, opening by slits lengthwise; pollen smooth or rarely echinulate. Ovary superior, rudimentary or absent in the male flowers, 1-3 locular, rarely 4-7 locular, or carpels 3 and distinct or connate only at the base; ovule solitary and erect or pendulous from the inner angle of each carpel or loculus of the ovary. Fruit a berry or drupe, 1-2-locular, or fruiting carpels distinct; exocarp often fibrous, sometimes covered by reflexed scales. Seeds free or adherent to the endocarp; endosperm present, sometimes ruminant; embryo small.

Tropics and warm temperate regions.

- | | | |
|----|---|------------------------|
| 1 | Leaves fan-shaped: | 2 |
| | Leaves pinnate, pinnatisect or bifurcate: | 3 |
| 2 | Stem stout unbranched; flowering branches of female spadix very different from those of male | 10. <i>Borassus</i> |
| | Stem commonly branching dichotomously; flowering branches of male and female spadices not dissimilar .. | 11. <i>Hyphaene</i> |
| 3 | Stem not climbing, but erect, occasionally very short: | 4 |
| | Stem prostrate or climbing: | 9 |
| 4 | Leaf-segments induplicate in vernation (V-shaped in section) | 12. <i>Phoenix</i> |
| | Leaf-segments reduplicate in vernation (Λ-shaped in section): | 5 |
| 5 | Lateral segments rhomboid-oblongate or obliquely truncate: | 6 |
| | Lateral segments linear or ensiform: | 7 |
| 6 | Lateral segments narrowly rhomboid-oblongate, doubly dentate in the upper part; terminal segment broadly cuneate-rhomboid | 1. <i>Podococcus</i> |
| | Lateral segments obliquely truncate, curved as they meet the rhachis; stems very short, caespitose | 2. <i>Sclerosperma</i> |
| 7 | Fruit not cone-like and not covered with scales, but fibrous or spongy: | 8 |
| | Fruit cone-like, covered with scales | 5. <i>Raphia</i> |
| 8 | Male and female flowers on separate spadices | 3. <i>Elaeis</i> |
| | Male and female flowers on the same spadix | 4. <i>Cocos</i> |
| 9 | Stem prostrate, branched; estuarine palm | 13. <i>Nypa</i> |
| | Stem climbing: | 10 |
| 10 | Mature leaf invariably terminating in leafy segments; inflorescence borne on slender prickly leafless branches .. | 6. <i>Calamus</i> |
| | Mature leaf usually terminating in a hooked cirrus: | 11 |

-
- 11** Leaf-sheath with spines, or scars of caducous spines: **12**
 Leaf-sheath striate-veined without spines or scars [9. *Eremospatha*](#)
- 12** Spadix terminal; ochrea elongate, pointed or torn [7. *Ancistrophyllum*](#)
 Spadix axillary; ochrea short, obliquely truncate [8. *Oncocalamus*](#)
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1. PODOCOCCUS

Mann & Wendl. in Trans. Linn. Soc. 24: 426 (1864); F.T.A. 8: 99.

- 1** Leaves 6-9 in number, up to 2 m. long, pinnatisect; petiole 30-45 cm. long; leaf-segments 8-10, rhomboid-oblongate or fan-shaped, with many radiating nerves, the lower margins straight, the upper dentate; male spadix simple, pedunculate, the floriferous part about 30 cm. long, spike-like; male flowers many, commonly paired and sessile in pits of the spadix, stamens 6; female spadix similar with many flowers, usually solitary in pits of the spadix, the oblong ovary with 3 short recurved stigmas; fruit baccate, orange-red, oblong-cylindrical, 2.5 cm. long, 0.6 cm. wide [barteri](#)

Podococcus barteri *Mann & Wendl.* l.c. tt. 38, 40, 43 (1864); F.T.A. 8: 100. *APD acc*

A slender elegant palm of the [forest floor](#) with reed-like annulate stem 6-9 ft. high, covered in many of its parts with a rusty scurf.

S. Nig.: Brass Barter 36! 325! 1837! Oloibiri, Brass Tuley & Gottschalk 600! Nun R. (Aug.) Mann 452! Stubbs Creek F.R., Eket Onochie FHI 32917! Ukpe-Sobo Onochie FHI 33423!

Also in [Gabon](#) and [Congo](#).

2. SCLEROSPERMA

Mann & Wendl. in Trans. Linn. Soc. 24: 427 (1864); F.T.A. 8: 100.

- 1** Leaves borne near ground-level, erect, unarmed, with fibrous basal-sheath up to 40 cm. long; lamina sometimes nearly entire, more commonly segmented, the segments sub-opposite, 9-12 on each side of the rhachis, unequal in width, about 50 cm. long, obliquely truncate, slightly narrowed and curved at junction with the rhachis, shining green above, whitish below with conspicuous parallel veining; spathes 2, fibrous, persistent; spadix erect, with flowers spirally arranged, female flowers interspersed with male flowers in the lower part, male flowers only above; fruit a large drupe with fibrous mesocarp, and thin hard endocarp; the seed 2 cm. across, with very hard albumen when ripe [mannii](#)

Sclerosperma mannii *Wendl.* l.c. 427, tt. 38, 40 (1864); F.T.A. 8: 101. *APD acc*

A slender palm forming clumps, with fronds up to about 16 ft. high, borne on a very short stem; [in swampy places in areas of high rainfall](#).

Ghana: Ankasa F.R. Hall & Enti GC 36150! **S. Nig.:** Umon-Ndealachi F.R., Calabar Dist. Iyizoba FHI 20815! Ikot Okpora, Calabar Dist. Tuley s.n.! 654! Oban F.R. Onochie FHI 36356x! **W. Cam.:** Kembong F.R. Richards 5215!

Also in [Gabon](#) and [Angola](#).

3. ELAEIS

Jacq., Select. Stirp. Am. Hist. 280 (1763); F.T.A. 8: 124.

- 1** Leaves many, in a terminal crown, up to 5 m. long, arching, pinnate; petiole short, thick, commonly spiny at margins; segments in 4 ranks, ensiform, acuminate, glabrous, the lowest spinescent; spadices interfoliaceous, the male pedunculate with many, crowded, short, lateral floriferous branches, 10-15 cm. long, ending in a sharp hard point; male flowers densely crowded, minute, with linear sepals, linear-oblong petals, and 6 stamens; female spadix with short peduncle and branches congested into a globose capitulum, the bracts rigid, acuminate; female flowers much larger than the male, with ovoid ovary and relatively large revolute stigmas; fruit ovoid or somewhat angular, often bright red and shining black when ripe; pericarp spongy and oily, fibrous inside; endocarp hard and often thick, enclosing the adnate seed [guineensis](#)

Elaeis guineensis* Jacq. l.c. t. 172 (1763); F.T.A. 8: 125. *APD acc

The African Oil Palm, easily recognizable by its arching, dark-green leaves and straight trunk clothed when young with petiole-bases, is **cultivated and occurs spontaneously in much of the forest zone from Senegal to Cameroun, being particularly abundant near habitations, in land which has been tilled, and in river valleys**. Several forms, differing in structure and colour of the fruit, are described in Kew Bull. 1909: 33 and 1914: 285, and in Holland 4: 734.

Cultivated in other parts of the humid tropics.

A form occasionally seen, differing in vegetative characters, is the King Palm (*E. guineensis* var. *idolatrix* A. Chev.) with fronds held at an acute angle and leaf-segments remaining fused for the greater part.

4. COCOS

Linn., Sp. Pl. 1188 (1753); F.T.A. 8: 126.

- 1 Leaves pinnate, light-green, in a cluster at the top of the stem; petiole slightly sheathing, unarmed; segments almost equidistant, in 2 ranks, linear-lanceolate, mid-vein thick, yellowish; spadix 1 m. long or more, simply paniced, branches bearing usually few female flowers towards the base and many male flowers throughout their length; male flowers asymmetrical, small, with valvate sepals and petals; female flowers larger, 2.5 cm. long, globose, supported by broad bracteoles; fruit 20-30 cm. long, trigonously ovoid or globose, green or yellowish[nucifera](#)

Cocos nucifera* Linn. l.c. (1753); F.T.A. 8: 126. *APD acc

The Coconut, distinguished by its smooth, rather slender trunk which is seldom straight, its crown of pinnate leaves, and its well-known fruit

It is cultivated and grows chiefly in coastal areas from Senegal to Cameroun. Cultivated in similar situations throughout the tropics.

5. RAPHIA

P.Beauv., Fl. Oware 1: 75 (1806); F.T.A. 8: 104; Russell in Kew Bull. 19: 173-196 (1965).

- 1 Spadices curved, branching to form numerous hanging partial inflorescences:**2**
 Spadix central, forming a large erect panicle, the partial inflorescences arching, strongly compressed, with distichous spikes bearing rather similar male and female flowers; calyx extending beyond the bracteole, deeply and acutely tridentate; corolla segments lanceolate, slightly falcate, sharply pointed; stamens of male flowers 6, filaments free to the base; female flower with conspicuous inner bracteole, extended on one side in a triangular point, staminodes 6, borne on the mid part of the corolla; fruit obovoid or fusiform, tapering towards both ends, up to 7.5 cm. long, 3.5 cm. at greatest breadth, the beak 5 mm. long, broadly based but narrowing to a fine point; scales in 9 vertical rows, flattish or slightly convex, with faint shallow furrow and chaffy fringe, dark mahogany, shining[6. regalis](#)
- 2 Partial inflorescences short, solid, with conspicuous papery bracts from which protrude very short ultimate branchlets; fronds tall, erect, stiff, glaucous-green, segments thickly armed on margins and midvein with fine blackish spines; male flowers with calyx entire, lobed; stamens 10-12, filaments fused for half their length; fruit top-shaped, about 8 cm. long, 4.5 cm. wide, mahogany-red, shining, with stout blunt beak about 8 mm. long, and 9 or 10 vertical rows of rather flat or slightly convex scales with shallow furrow[4. sudanica](#)
- Partial inflorescence not thick and solid; the ultimate branchlets distinct, free, and spreading:**3**
- 3 Ultimate branchlets in mature partial inflorescence crowded in close ranks, more or less in one plane:**4**
 Ultimate branchlets in mature partial inflorescence lax, spreading on all sides:**5**
- 4 Bract at base of partial inflorescence small, the exposed partial inflorescence roughly racquet-shaped, with stout, coarse, crowded branchlets; upper part of trunk clothed with a mass of black fibres; fronds tall, dark green shining above; corolla segments distinctly thickened near the tip; male flower with (15-) 18-22 (-24) stamens; female flower with 12-15 narrowly sagittate staminodial points; fruit top-shaped or ellipsoid, variable in size from 6-12 cm. long, 4-5 cm. wide, with stout beak 1-1.5 cm. long, more or less obliquely tipped, and (11-) 12 (-14) vertical rows of scales, convex, slightly less broad than long, lightly and narrowly furrowed, chestnut-coloured, or cinnamon with darker point[2. hookeri](#)

Bract at base large, triangular, persistent, partly concealing the short partial inflorescence which has slender, light brown, polished branchlets; fronds tall, rising in a cluster from ground-level, or from a very short stem, dark green above, the segments armed on mid-vein and margins with many fine brown spines; male flowers with cup-shaped calyx, scarcely lobed; corolla with basal quarter fused with the filaments to form a solid column, the upper portion splitting into 3 narrow pointed segments scarcely thickened at the tip; stamens 6, the filaments thick, angular, joined for most of their length; female flowers numerous, much smaller than the male, with calyx slightly lobed enclosing the shorter sharply tridentate corolla; staminodes 6-9 with deltoid points; fruit top-shaped, 5.5-8.5 cm. long, 3.5 cm. wide, with rounded top ending abruptly in a fine beak 3-4 mm. long; scales in (9-) 10-11 (-12) vertical rows, convex with narrow median groove, chestnut or hazel, darker towards the point [5. *farinifera*](#)

- 5 Ultimate branchlets slender, tapering, flattened, with flowers superficially in 2 rows; fronds long, arching, with stout rhachis; male flower curved, calyx shortly tridentate, corolla segments little thickened at tip, with sharp, pricking point, stamens (6-) 9, filaments free for the greater part; female flower with usually 9 deltoid staminodes; fruit cylindrical-ellipsoid, 6.5-9 cm. long, 3.5-4 cm. wide, ending abruptly in a sharp beak 3-5 mm. long; scales in (8-) 9 vertical rows, rhomboidal, as broad as long, flat or slightly concave towards the point, with broad groove, hazel-brown or chestnut with darker margin, and membranous point lighter in colour [1. *vinifera*](#)

Ultimate branchlets not flattened but rounded, rather knobby, with flowers obviously in 4 ranks; fronds light green, not shining; male flowers with calyx distinctly segmented, sepals separated for about one-third of their length, rather sharply dentate, stamens usually 9-12, free to the base; fruit elongate-ovoid, tapering towards the tip, 8-9.5 cm. long, 4 cm. wide, the beak narrow, sharp, about 5 mm. long, scales in 8 or 9 vertical rows, bigibbous, with deep furrows running the length of the fruit [3. *palma-pinus*](#)

1. ***Raphia vinifera* P. Beauv.** Fl. Oware 1: 77, tt. 44-46 (1806), and in Desvaux, Jour. Bot. 2: 79-87 (1809); Mann & Wendland in Trans. Linn. Soc. 24: 437 (1864); F.T.A. 8: 106; Beccari in Webbia 3: 88 (1910), and in Agric. Colon. 4: t. 6 (1910); A. Chev. in Rev. Bot. Appliq. 12: 208 (1932); Russell in Kew Bull. 19: 179, figs. 1A, 5D (1965). **APD acc**

***Raphia gaertneri* Mann & Wendl.** l.c. (1864) (excl. syn. *Sagus palma-pinus* Gaertn.); F.T.A. 8: 105, partly.

***Raphia mannii* Becc.** in Webbia 3: 70 (1910).

***Raphia wendlandi* Becc.** l.c. 81 (1910).

A handsome palm of watery places, particularly abundant on the edge of creeks; the stout trunk of moderate size, attaining about 25 ft. in height, la crowned by large arching fronds up to 40 ft. long with sturdy midribs whose popular use as poles has prompted the common name of Bamboo-palm.

Dah.: Porto Novo fide Chev. l.c. **S. Nig.:** Okogbo, Benin Redhead FHI 48387! Nun R. Tuley! Okigwi Tuley! Oloibiri, Brass Tuley! Calabar J. Irvine! **F. Po:** Mann!

Also in E. Cameroun and south to Congo.

2. ***Raphia hookeri* Mann & Wendl.** in Trans. Linn. Soc. 24: 438 (1864); F.T.A. 8: 107; Beccari in Webbia 3: 109 (1910); Russell l.c. 181, figs. 2, 5E. **APD acc**

***Raphia gigantea* A. Chev.** in Rev. Bot. Appliq. 12: 198 (1932); F.W.T.A., ed. 1, 2: 388.

***Raphia sassandrensis* A. Chev.** l.c. 199 (1932).

The common Wine Palm of the forest zone, with trunk up to 30 ft. high, and large dark green, shining fronds. Over its wide range it shows some variation in characters, particularly in size and shape of fruit; in E. Nigeria, where it is abundant and sometimes cultivated, several forms are distinguished.

Guin.: Boké Jac.-Fél. 7503! **S. L.:** Pendembu Thomas 858! Neikehun, Jama Deighton! Ngerihun, Jaiama Jordan 1015-1018! 1022-1028! Bonthe McQuistan 1! **Iv. C.:** Dabou Chev. 15496! Bouroukrou Chev. 16530! Guidéko, Sassandra Chev. 19095! **Ghana:** Cameron 86/1882! R. Volta Rumsey 8/82! Yenahin, W. Ashanti Chipp 134! Axim Chipp 422! Prapragum, Cape Coast Hall 2442! **Dah.:** Porto Novo Chev.! **S. Nig.:** Ibadan Emwiogbon & Adebisuyi FHI 30148! Umuahia Tuley! Abak Tuley! Calabar Milne! **W. Cam.:** Mamfe Brunt 1143! **F. Po:** fide Mann l.c.

Extends to Rio Muni and Gabon.

3. ***Raphia palma-pinus* (Gaertn.) Hutch.** F.W.T.A., ed. 1, 2: 388 (1936); Russell l.c. 177, figs. 1B, 5A. **APD acc**

***Sagus palmapius* Gaertn.**, Fruct. 1: 27, t. 10 (1788).

Raphia gaertneri of F.T.A. 8: 105, partly, not of Mann & Wendl.

***Raphia gracilis* Becc.** in Agric. Colon. 4: t. 5 (1910), and in Webbia 3: 92 (1910); F.W.T.A., ed. 1, 2: 388.

Palm forming clumps or thickets in fresh or slightly brackish water, abundant in swamps behind the mangrove area; the trunk is usually 6-10 ft. high, but sometimes considerably more, and several stems may arise from the one rootstock. bearing fronds distinctively light-green in colour.

Sen.: Casamance Chev.! **Gam.:** Kayi Daniell! **Port. G.:** Teixeira Pinto, Cacheu Raimundo & Guerra 549! **Guin.:** Dubreka Dybowski 12! Kindia Chev. 13023! Friguiagbé Chilloul! Koba Jac.-Fél. 7502! **S. L.:** Berria Sc. Elliot 5002! Dodo, Sembehun Deighton 2398! Panguma, Kenema Deighton 2979! Bandajuma, Small Bo Jordan 1010-1014! Waterloo Lane-Poole SLH 254! **Lib.:** Dinklage 1947. **Iv. C.:** Bingerville Chev. 1/490! Azaguié Aké Assi 8915! **Ghana:** Bonsaso, E. of Tarkwa Chipp 428!

4. **Raphia sudanica** A. Chev. in Mém. Soc. Bot. Fr. 2, 8: 95 (1908), and in Rev. Bot. Appliq. 12: 206 (1932); Russell l.c. 182, figs. 3A, 5B.

APD: Synonym of Raphia mambillensis Otedoh

Raphia heberostris Becc. in Agric. Colon. 4: t. 5 (1910), and in Webbia 3: 96 (1910).

A palm of swampy land in savanna country of the Sudan zone, often forming thickets, with a stout trunk, usually 6-10 ft. but up to 25 ft. high, and easily recognizable by its stiff, rather upright, leaves, its spadix with greatly condensed, solid branches, and its blunt-nosed, mahogany-red fruits.

Sen.: fide Beccari l.c. **Gam.:** Kayi Daniell! **Mali:** Kati Chev.! Koulikoro Rogeon! **Guin.:** Kollangui Chev. 12570! 12867! Timbo, Fouta Djallon Chev. 12531! **S. L.:** Musaia Small 500! Jordan 1049! Kabala Glanville! **Iv. C.:** Mankono Chev. 21946! Vavoua Aké Assi 9115! **Ghana:** Ejura Vigne FH 3462! Nsawkaw, Wench Hall 2040! Sampa Tomlinson! **Dah.:** fide Beccari l.c. **N. Nig.:** Barter! **S. Nig.:** Eruwa Stanfield FHI 54314!

5. **Raphia farinifera** (Gaertn.) Hylander in Lustgarten 31: 91 (1952); Russell l.c. 187, figs. 3B, 5C; Hepper in Bull. I.F.A.N. 28, Sér. A: 126 (1966). *APD acc*

APD: Synonym of Raphia mambillensis Otedoh

Sagus fariniferus Gaertn. in Fruct. 2: 186, t. 120 (1791).

S. ruffia Jacq., Fragn. 7, t. 4/2 (1801).

Raphia ruffia (Jacq.) Mart., Hist. Nat. Palm. 3: 217 (1839).

Raphia pedunculata P. Beauv., Fl. Oware 1: 78, t. 46 (1806).

Raphia kirkii Engl., Pl. Ost. Afr. A: 10 (1895); Beccari in Webbia 3: 68 (1910).

Raphia humilis of Portères in Rev. Bot. Appliq. 27: 204 (1947).

This species, widely distributed in E. and Central Africa, is represented in highland W. Cameroun by a form without a clear trunk, but producing a great cluster of fronds at ground-level, or on a very short stem covered by petioles; common near villages at the edge of water courses, the midribs providing the chief local material for house building.

N. Nig.: S. end of Mambila Plateau fide Hepper l.c. **W. Cam.:** Bamenda Keay FHI 37938! Baforkum. Bambui Brunt 1139! 1140! Ndop Plain Brunt 1194-7!

6. **Raphia regalis** Becc. in Webbia 3: 125 (1910); Pellegrin, Fl. Mayombe 3: 56 (1938); Raponda-Walker & Sillans, Pl. Ut. Gabon 339; Russell l.c. 189, figs. 4, 5F.

Raphia monbuttorum of Rendle, Cat. Talb. 149.

Stem short and stout clothed with leaf-bases, the fronds tall with many segments (according to Beccari); the form of its spadix, and, in particular, the zigzag arrangement of flowers on the distichous spike, render it distinctive from other species; in Gabon and Angola it is said to grow not in swamps but on forested slopes.

S. Nig.: Obani Talbot 948!

Also in Gabon and Angola.

[This palm is represented from W. Africa by a single incomplete gathering in the British Museum.]

Imperfectly known species.

Raphia humilis A. Chev. in Rev. Bot. Appliq. 12: 204 (1932).

*APD: Synonym of *Raphia sudanica* A. Chev.*

The only herbarium specimen seen is a portion of leaf in the Paris Museum. Chevalier describes this as a palm forming no trunk or suckers, with short, very spiny leaves up to 3.5 m. long, bearing 60 pairs of segments. The short spadix is almost as broad as long, and the branches bear crowded spikes. Male flowers are large, up to 2.4 cm. in length, with 10-12 stamens, the filaments united for most of their length. The fruit, 4.5-7 cm. long and 2.5 cm. wide, has a large beak 1 cm. long, and scales in 10 (9-12) rows. **It was found by watercourses in savanna country.**

Dah.: Agouagon and Savé fide Chev. l.c.

6. CALAMUS

Linn., Sp. Pl. 325 (1753); F.T.A. 8: 107; Beccari in Ann. Roy. Bot. Gard. Calcutta 11: 73 (1908).

- 1 Sheathed stem 1.8-2.5 cm. diam., seldom straight; leaf-sheath often thickly armed with straight spines and sometimes bearing a spiny lateral flagellum; ochrea similarly spiny, 4-5 cm. long, marcescent; leaves distant from each other, about 1 m. long; segments rather numerous, linear-lanceolate, up to 30 cm. long, 2.5 cm. broad, with fine subulate spines on margin and often on lower surface; rhachis, with sharp recurved hooks, not ending in a cirrus; spadix long, slender, tapering to a fine flagellum armed with recurved thorns, with partial inflorescences few, strict, bearing floriferous branchlets about 5 cm. long; flowers solitary in male spadix, paired in the fruiting spadix, a female flower with a male or neuter in the same bracteole; bracteoles obliquely truncate; fruit oblong-ellipsoid, pointed, about 1.5 cm. long, with 16-21 vertical rows of triangular-ovate, fimbriate scales[deërratus](#)

Calamus deërratus Mann & Wendl. in Trans. Linn. Soc. 24: 429, t. 41 (1864); F.T.A. 8: 108; Chev. Bot. 673; Berhaut, Fl. Sén. 211. *APD acc*

Calamus barteri Becc. ex Drude (1895)-F.T.A. 8: 109.

Calamus heudelotii Becc. ex Drude (1895)-F.T.A. 8: 110.

Calamus leprieurii Becc. (1902).

Calamus perrottetii Becc. (1902).

Calamus akimensis Becc. (1908).

Calamus falabensis Becc. (1908).

A slender climber with prickly sterna, **scrambling to tops of trees in wet forest**; the male and fruiting spadices being borne on different plants.

Sen.: Heudelot 372! Perrottet 761! Cape Verde Adam 763! Sangalkam, Karang Berhaut 877. Near R. Casamance Leprieur!

Gam.: Ingram! **Mali:** Banancoro Chev. 500! **Port. G.:** Catió d'Orey 216! **Guin.:** Farana Chev. 13421. Konyaya, Coyah

Chillou 1905! **S. L.:** Bagroo R. (fr. Apr.) Mann 895! Musaia (Mar.) Sc. Elliot 5121! Kambia (fr. Jan.) Sc. Elliot 4738!

Pepor, Taiama (fr. July) Deighton 1847! Jigaya Thomas 2753! **Lib.:** Peahtah Linder 1078! 1116! Banga Linder 1226!

Kakatown Whyte! **Iv. C.:** Bouroukrou chev. 16592; 16594; 16597. Soubré Chev. 19103. 18 Km. NW. of Sassandra

Leeuwenberg 2882! Béréby Oldeman 589! **Ghana:** Bobiri F.R. (Dec.) Tomlinson! S. Fomangsu F.R. Vigne FH 3951!

Kibbi, Akim (fr. Dec.) Johnson 242! Yenahin, Ashanti (Mar.) Chipp 127! Amentia, Ashanti (Mar.) Vigne FH 1868! **N.**

Nig.: Koton Karifi (Nov.) Keay FHI 28091! Allison FHI 6994! **S. Nig.:** Ikorodu, Lagos Tuley 846! Okeluse, Ondo (fr.

Mar.) Unwin 223! Ifon Ayewoh FHI 3854! Onitsha Barter 110! Ahoada Imp. Inst. 347! **W. Cam.:** Cam. R. Mann 2147!

Extending eastwards to **Uganda** and south to **Angola**.

7. ANCISTROPHYLLUM

(Mann & Wendl.) Mann & Wendl. in Kerch., Pahn. 230 (1878); F.T.A. 8: 113. *APD acc*

- 1 Leaf-segments numerous, almost equidistant on the rhachis, elongate, linear-lanceolate sometimes sigmoid, variable in length up to 60 cm., commonly about 30 cm. long, 2-3 cm. broad, with numerous fine spines on the margin, often with 1 prominent vein (but sometimes 2, or as many as 5) ciliate-spinose on the upper surface; rhachis without pinnae near the base where it bears many long straight spines, usually prolonged above into a stout unarmed cirrus, triangular in section, bearing several pairs of sharply triangular hooks thickened at the base; spadix forming a large terminal panicle of many branches up to 50 cm. long, bearing numerous many-flowered branch-lets about 25 cm. in length; bracts imbricate, pointed, glabrous; bracteoles cupular, truncate, 4 mm. long; flowers 1-1.2 cm. long, 3 mm. broad, slightly curved, narrowed to a rather obtuse tip; calyx

campanulate 4 mm. long; fruit broadly ellipsoid, sharply mucronate, 1.5-1.8 cm. long, 1-1.2 cm. across, with 15-18 vertical rows of closely-packed, rhomboid-ovate, shining scales; seed smooth, flat on one side[1. secundiflorum](#)

Leaf-segments mostly broad, sigmoid, often inequidistant or in irregular clusters on the rhachis:[2](#)

- 2** Leaves tomentose at first; sheath tubular 30 cm. long, usually armed towards the top with crowded spines on laterally-flattened bases, extending into an ochrea 15-30 cm. long bearing similar spines; rhachis thickly armed with recurved spines throughout, usually produced into a fine cirrus bearing 4-6 pairs of hooks; segments lanceolate-sigmoid, marcescent, the longer 20-30 cm. long, 2 1/2-10 cm. broad, opaque, slightly rough, firm when dry; with 1-4 (seldom 5) main nerves more or less prominent the, margin commonly with fine spinules; spadix terminal up to 60 cm. long with 5 or 6 primary branches bearing many-flowered branchlets 10-20 cm. long, slender, pendulous; bracts acuminate, bracteoles 2-horned, the points distinct and firm; flowers paired, divergent, fusiform; calyx campanulate with lobes 4 mm. long, ovate, acuminate; corolla twice as long, lobes elliptic-lanceolate; fruit red when fresh, globose 1.5 cm. diam., with scales in 12 vertical rows; seed subglobose warty, deeply grooved on one side[2. opacum](#)

Like the preceding in many respects; the rhachis, which is usually produced into a cirrus and is armed throughout with recurved spines, has a rather persistent tomentum; leaf-segments sigmoid, gradually acuminate with a long fine point, smooth, shining on both surfaces, papery when dry, commonly, though not invariably, with 2 prominent main veins, margins unarmed; fruits sub-globose up to 1.5 cm. in length with 18 vertical rows of very small fimbriate scales; seed smooth, flattened on one side[3. laeve](#)

1. *Ancistrophyllum secundiflorum* (P. Beauv.) Wendl. in Kerch., Palm. 230 (1878); F.T.A. 8: 115; Chev. Bot. 675.

*APD: Synonym of *Laccosperma secundiflorum* (P. Beauv.) Kuntze*

Calamus secundiflorus P. Beauv., Fl. Oware 1: 15, t. 9-10.

A large rattan, **common in many areas of wet forest**, with rather smooth stems, 100 ft. or more in length, scrambling over trees, and with handsome clusters of red fruits.

Port. G.: Cacine d'Orey 262! **Guin.:** Ditinn Chev. 12630. Farana Chev. 13421. Irié Roberty! **S. L.:** Kwaoma, Tunkia (fr. Mar.) Deighton 4119! Gorahun (fr. May) Jordan. 2064! 2065! Tabe (Sept.) Deighton 3090! Njala Deighton 2593! Gola Forest, Bagbe Small 697! **Lib.:** Nimba Adam 20746! **Iv. C.:** Anguédédou de Wilde 3101! Bianouan Leeuwenberg 3954! Bouroukrou Chev. 16358. Fort Binger Chev. 19536. Makougné Chev. 16596. **Ghana:** Mampong, Ashanti (Aug.) Vigne FH 2410! Bobiri Tomlinson! Ankafu F.R. Hall 3371! **S. Nig.:** Ifon, Ondo (Mar.) Ayewoh FHI 3853! Okomu F.R., Benin (fr. Dec.) Brenan 8580! Nun R. (Aug.) Mann 453! Ikot Arna (Aug.) Maggs 150! Calabar (fr. June) J. Smith 53!

Also in **E. Cameroun, Congo, and Angola.**

[Beccari, in Webbia 3: 255 (1910), described from Cameroun a species, *A. acutiflorum* Becc. differing from *A. secundiflorum* in its more sharply apiculate flowers, less rigid leaf-segments, and other minor characters. Tuley, in correspondence, states there are two forms in Nigeria, one having drooping leaf-segments, the other more rigid segments held horizontally. Nevertheless all the flowering material at Kew, including collections of Tuley, seems referable to *A. secundiflorum*.]

2. *Ancistrophyllum opacum* (Mann & Wendl.) Drude in Engl., Bot. Jahrb. 21: 111 (1895); F.T.A. 8: 115.

*APD: Synonym of *Laccosperma opacum* (G. Mann & H. Wendl.) Drude*

Calamus opacus Mann & Wendl. in Trans. Linn. Soc. 24: 431, tt. 41, 43 (1864).

A scrambling palm, with stems up to 100 ft. long and bright red fruits; **in forest.**

Ghana: Awoso, W.P. (Dec.) Morton A3618! Kakum F.R. Hall 2748! Awisa, Akim (Dec.) Irvine 2075! Banka, Ashanti Vigne FH 1365! Amentia (Mar.) Vigne FH 1875! **S. Nig.:** Calabar Milne! **W. Cam.:** Victoria (fr. Oct.) Maitland 761! Mongu Kwankam Cam. 2/40! **F. Po:** Barter! (fl. Apr., fr. Dec.) Mann 97!

Also in **Gabon.**

3. *Ancistrophyllum laeve* (Mann & Wendl.) Drude in Engl., Bot. Jahrb. 21: 111 (1895); F.T.A. 8: 114; Chev. Bot. 674.

*APD: Synonym of *Laccosperma laeve* (G. Mann & H. Wendl.) H. Wendl.*

Calamus laevis Mann & Wendl. in Trans. Linn. Soc. 24: 430 (1864).

A slender climbing palm of **dense and swampy forests**.

Lib.: Banga Linder 676! 1228! **iv. C.:** Attié (fr. Dec.) Chev. 22658! Bouroukrou Chev. 16796. Sanvi, Assinie Chev. 17859. Issia Boughey 14732! Anguédédou de Wilde 3432! Banco Oldeman 137!

Also in **E. Cameroun** and **Gabon**.

8. ONCOCALAMUS

(*Mann & Wendl.*) *Hook f.* in Benth. & Hook. f. Gen. Pl. 3: 881, 936 (1883); F.T.A. 8: 110.

- 1** Leaf-segments, usually about 16 on each side of the rhachis, linear-lanceolate, acute, or slightly falcate, up to 25 cm. long, 1.75-2 cm. across, rather stiff, with a prominent mid-rib; rhachis, leafy to the base without stout, hooked prickles, and extended above into a slender cirrus furnished with reflexed hooks; leaf-sheath with flattened spines, which are caducous, leaving a scar oblique to the axis; ochrea truncate 2-3 cm. long; flowers in groups, a female with male on each side; fruit unknown [1. mannii](#)

Leaf-segments few, usually 5-7 on each side of the rhachia, broadly lanceolate or sigmoid, 10-15 cm. long, 2.5-5 cm. broad, thin, papery, the broader with 2 or more prominent veins; rhachis leafy almost to the base, where are a few stout hooked prickles on the margin, and extended upwards into a cirrus as in the previous species; leaf-sheath and ochrea as above; flowers unknown; fruits light-yellow [2. wrightianus](#)

- 1. *Oncocalamus mannii* (Wendl.) Wendl.** in Kerch., Palm. 252. Calamus (*Oncocalamus*) *mannii* Wendl. in Trans. Linn. Soc. 24: 436, tt. 41, 43 (1864). *APD acc*

A slender-stemmed rattan of **swampy forest**, climbing to 60 ft.

S. Nig.: Calabar, Ikot Okpora Tuley 1078!

Also in **Gabon**.

- 2. *Oncocalamus wrightianus* Hutch.** in Kew Bull. 17: 181 (1963). *O. mannii* of F.T.A. 8: 111 partly, not of (Wendl.) Wendl. *APD acc*

A slender climbing palm of **secondary forest**, probably not uncommon in S. Nigeria but inadequately recognized and collected.

S. Nig.: Lagos I. Barter 2220! Ebute Metta Millen 18! Sunmoge, Ijebu Janes & Onochie FHI 17419!

9. EREMOSPATA

(*Mann & Wendl.*) *Mann & Wendl.* in Kerch., Palm. 244 (1878); F.T.A. 8: 111.

- 1** Leaf-segments less than 5 times longer than broad: **2**

Leaf-segments more than 5 times longer than broad, usually narrow, 15-35 cm. long, 2-3 cm. broad, pointed at each end, with many prominent parallel nerves and numerous sharp subulate teeth on the margin; rhachis prolonged into a cirrus with opposite hooks but not armed with prickles; spadix with very few short lateral branches; flowers crowded, paired, sessile; calyx campanulate, sub-truncate, striate 4-5 mm. long; fruit oblong-ellipsoid, 3 cm. long, mucronate, with 18-22 vertical rows of thin closely-packed rhomboid scales [3. macrocarpa](#)

- 2** Segments of leaves obovate, oblanceolate, or almost rhomboid but with side of the cuneate portion more or less rounded, with several sharp teeth on the margin; median nerve having on each side about 5 prominent veins nearly parallel; transverse veinlets irregular, not very close, crooked; rhachis produced into a slender cirrus armed with opposite hooks and usually with many black recurved prickles; spadix with several branches, slightly scabrid, branches with very short nodes; fruit ovoid-cylindrical with rounded apex, about 2.5 cm. long, 1.7 cm. wide, with 20-21 vertical rows of rhomboid scales, and with persistent perianth at the base, the inner segments short, 0.3 cm. long, minutely papillose on the outer side, dark-brown; seeds 1 or 2, peltate, ellipsoid, 2 cm. long, 1.2 cm. broad, 6 mm. thick [1. hookeri](#)

Segments of leaves rhomboid or fan-shaped, the sides of the cuneate portion straight, the apex ovate-triangular, toothed, with several or many conspicuous straight veins radiating fan-wise from the base; transverse veinlets very crowded, nearly parallel and straight; rhachis prolonged into a cirrus with opposite hooks and armed with recurved prickles; fruit cylindrical, 2.3 cm. long, 1.3 cm. wide, terminating abruptly in a flat top bearing in the centre a conspicuous umbo, with scales small, rhomboid, in 19-20 vertical rows, and with persistent perianth at

the base, the broad inner segments 6 mm. long, with pronounced thickening in the lower half; seeds up to 3, ovate, rather flat, 1·8 cm. long, 8 mm. broad, 3 mm. thick [2. wendlandiana](#)

1. *Eremospatha hookeri* (Mann & Wendl.) Wendl. in Kerch., Palm. 244 (1878); F.T.A. 8: 112, partly. *APD acc*

Calamus hookeri Mann & Wendl. in Trans. Linn. Soc. 24: 434, t. 41 (1864).

A climbing palm up to 100 ft. high; in forest.

S. L.: Mofari Sc. Elliot 4442! Njala Deighton 2591! KambuI Hills Small 832! **Iv. C.:** Yapo Hallé 272! **S. Nig.:** Nun R. (fr. Aug.) Mann 451! Ifon, Ondo Ayewoh FHI 3852! Kwa Falls, Calabar Maggs 160! Oban Tuley 651! **W. Cam.:** Kalbreyer 65!

2. *Eremospatha wendlandiana* Dammer ex Becc. in Webbia 3: 290 (1910). *APD acc*

Eremospatha hookeri of F.T.A. 8: 112, partly, not of Wendland.

A scrambling palm of high forest.

S. Nig.: Ikot Okpora, Calabar Tuley 652! Oban (fr. Feb.) Aninza FHI 15402! **W. Cam.:** S. Bakundu F.R., Kumba Dundas FHI 8381! Badun Rosevear Cam. 30/38! Kembong Richards 5209! Barombi Preuss 460. Also in B. Cameroun.

3. *Eremospatha macrocarpa* (Mann & Wendl.) Wendl. in Kerch., Palm. 244 (1878); F.T.A. 8: 113. *APD acc*

Calamus macrocarpus Mann & Wendl. in Trans. Linn. Soc. 24: 434, tt. 41, 43 (1864).

Eremospatha hookeri of Chev. Bot. 674, not of Wendland.

A climbing palm of swamp-forest, with smooth, polished stems of great length and 1·5 cm. diameter, and with conspicuous buff-yellow inflorescence.

S. L.: Bagroo R. Mann! Giewahun Deighton 4118! **Lib.:** Bumbumi, Moala Linder 1341! Wanau forest (fr. Jan.) Harley 2174! **Iv. C.:** Niapidou Leeuwenbery 2515! Bingerville Chev. 15208; 15209; 15466. **Ghana:** Juaso (Feb.) Vigne FH 1829! Kumasi Vigne FH 4858! **N. Nig.:** Koton Karifi, Kabba (fr. Oct.) Daramola & Adebusuyi FHI 38415! **S. Nig.:** Osho (fr. Apr.) Jones & Onochie FHI 17237! Onipanu, Ondo (Dec.) Onochie FHI 5243! Uregin, Benin (fr. July) Unwin 107! Ahoda (Feb.) Imp. Inst. 346! Calabar (Feb.) Mann 2330! **W. Cam.:** Ndop Brunt 207!

10. BORASSUS

Linn., Sp. Pl. 1187 (1753); F.T.A. 8: 117.

- 1** Leaves flabellate; lamina divided less than halfway into broad and relatively short segments, bifid at the tip, transverse veinlets prominent giving the lower surface in dried material a corrugated appearance; petiole concave on upper surface, the margins flanged, thin, dark-brown, with irregular spine-like excrescences; male spadix branched from the base, branches poker-like, flowering part about 30 cm. long, 3 cm. across, male flowers several and densely packed within each bracteole; female spadix dissimilar, with few large flowers; fruit ovoid or globose with fibrous pericarp, enclosing usually 3 ovoid-compressed pyrenes; albumen homy, hollow [aethiopum](#)

***Borassus aethiopum* Mart.** Münch. Gel. Anzeig. 639 (1838), 46 (1839), and in Hist. Nat. Palm. 3: 220, tt. 108, 121, 162; Beccari in Webbia 4: 325 (1914), and in Palme Borass. 8 (1924). *APD acc*

Borassus flabellifer var. *aethiopum* (Mart.) Warb. in Engl., Pfl. Ost. Afr. B: 20, C: 130 (1895); F.T.A. 8: 117.

The tallest of African palms, often 70 ft. high and sometimes as much as 100 ft., with trunk swollen above the middle; in dry savanna. The palm is dioecious, the female conspicuous by its large orange fruits.

Sen.: Brunner! **Iv. C.:** Assinie Chev. 16312! Béréby Oldeman 625! **Ghana:** Ejura, Ashanti Chipp 773! **N. Nig.:** Nupe Barter 792!

Widely distributed in tropical Africa.

11. HYPHAENE

Gaertn., Fruct. 1: 28 (1788); F.T.A. 8: 118.

- 1 Leaves flabellate, segments divided for more than half their length, petiole armed on the margins with black hooks upwardly curved; male spadix with several spiciform flowering branches about 20 cm. long, 1 cm. diam.; male flowers in groups of three, each group sunk in a pit enclosed by a ribbed bracteole, from which one flower at a time projects at anthesis; branches of female spadix of similar length but stouter, covered in the fruiting stage by dense tomentose cushions; fruit globose-quadrangular, sometimes irregularly gibbous, about 6 cm. long, 5 cm. broad, with shiny brown coat, fibrous pericarp, and woody endocarp to which the single seed is adnate; seed with white albumen, hollow [thebaica](#)

Hyphaene thebaica (Linn.) Mart. Hist. Nat. Palm. 3: 226, tt. 131-3 (1839); F.T.A. 8: 120; Beccari in Agric. Col. 2: 162 (1908), and in Palme Borass. 23 (1924); Chev. Bot. 676; Chev. & Dubois in Rev. Bot. Appliq. 18: 93 (1938). *APD acc*

Corypha thebaica Linn., Sp. Pl. 1187 (1753).

A dioecious palm of **hot dry localities**, easily recognized by its common, though not invariable, habit of branching.

Although poorly represented in herbarium collections, the Dum palm is widely distributed from Senegal and Gambia to N. Nigeria chiefly between 12° and 18°N., and is abundant in many areas including the Upper Niger (fide Chevalier & Dubois l.c.), the Northern Region of Ghana (Irvine), and Bornu (Drude). It extends through C. African Republic to **Egypt**, Somali and **Arabia**.

[Further study may show other species to occur in W. Africa. Beccari (Palme Borass.) gives two variants, *H. dahomeensis* Becc. and *H. togoensis* Dummer, and Thonning's *H. guineensis* may be in this region. For lack of adequate herbarium material it has not been possible to ascertain how steadfastly these differ from *H. thebaica* or what is their range. Until the situation is made plain it is considered preferable to refer all to *H. thebaica* (Linn.) Mart.-T.A.R.]

12. PHOENIX

Linn., Sp. Pl. 1188 (1753); F.T.A. 8: 102.

- 1 Fruit fleshy, ellipsoid, 3-5 cm. long, with thick sweet pericarp; fronds 3-6 m. long, glaucous; segments lanceolate-linear, stiff; plants dioecious, male flowers rounded at the tip [1. dactylifera](#)
- Fruit dry, oblong-ellipsoid, about 2 cm. long, with thin pericarp; fronds typically arched, shining green; segments many, the lower spinescent, the remainder with sharp tip, or sometimes bifid; flowers dioecious; male spadix with many flexuous branches, flowers lanceolate, acute; female spadix with lower branches subverticillate others spirally arranged, corolla cup-shaped persistent, calyx barely half as long, with mucronate sepals; seed about 1.3 cm. long, ovoid, slightly curved, with deep furrow [2. reclinata](#)

1. **Phoenix dactylifera** Linn. l.c. (1753); F.T.A. 8: 102. *APD acc*

The Date palm, with characteristic tall, straight trunk, clothed with rather persistent leaf-bases, and head of stiff fronds, is **not uncommon in the hotter dry parts of the region, being planted for ornament as much as for food**.

2. **Phoenix reclinata** Jacq. Fragm. 1: 27, t. 24 (1801); Beccari in Malesia 3: 349 (1890); F.T.A. 8: 103. *APD acc*

Phoenix spinosa Schum. & Thonn., Beskr. Guin. Pl. 437; Chevalier in Rev. Bot. Appliq. 32: 222 (1952).

A tufted palm, often forming clumps, the stems occasionally as tall as 28 ft. but commonly much less; **in sunny places where there is good moisture for its roots**.

Sen.: (Dec.) Chev. 2598! S. Senegambia Brunner! Farmar! **Gam.:** Bathurst (fr. Mar.) Dawe 70! Brooke 1932! **Port. G.:** Uana-Porto d'Orey 208! Prabis Pereira 2121! **Guin.:** Candéca, Boké Chillou! **S. L.:** Bonthe I. (fr. Nov.) Deighton 2397! Oldfield! Tumbo I. Pelly 408! **Lib.:** Monrovia (fr. Nov.) Linder 1439! **Iv. C.:** Foro-foro (Nov.) Oldeman 402! **Ghana:** Axim Johnson! Aburi Hills Johnson! Sampa, Ashanti (fr. Dec.) Vigne FH 3493! Kpedsu (fr. Dec.) Howes 1074! **N. Nig.:** Anara F.R., Zaria (Oct.) Keay FHI 21104! Zaria (fr. Oct.) Cons. of For.! Jos Batten-Poole! Mambila Plateau Hepper 1705! **S. Nig.:** Ibadan Meikle 973! Nun R. Mann 528! Aguku Thomas 342! Bonny (fr. Dec.) Unwin! Obudu Plateau Tuley 52! **W.**

Cam.: Ninong, Kumba Dist. (fr. Mar.) Unwin! Widely distributed in Africa, eastwards to Uganda and Kenya, southwards to the Cape.

[Chevalier (l.c.) affirms that this palm in lowland habitats of W. Africa differs sufficiently from the S. African *P. reclinata* Jacq. to be regarded as a distinct species, for which he uses Schumacher and Thonning's name of *P. spinosa*. He further recognizes two other species, *P. djalensis* and *P. baoulensis*, growing at higher elevations. In the material here examined, I have failed to find consistent characters separating the W. African from *P. reclinata*, and have preferred the earlier opinion of Beccari (l.c.) that the Phoenix occurring naturally in different parts of Africa are of one species, *P. reclinata* Jacq.-T.A.R.]

13. NYPA

Steck, De Sagu 15 (1757).

- 1 Leaves pinnate, erect and recurved, 5-10 m. long, bright green above, glaucous beneath, with many linear-lanceolate segments; spadix terminal, erect in flower, later drooping; male flowers in catkin-like lateral branches, minute, surrounded by setaceous bracteoles; female flowers crowded in a terminal head, much larger; fruit a large globose syncarp of many irregularly hexagonal 1-seeded carpels; pericarp fibrous, endocarp spongy; seed ovoid, about 7 cm. long, 4 cm. wide, grooved on one side[fruticans](#)

Nypa fruticans *Wurmb.* in Verh. Batav. Genootsch. 1: 349 (1779); Martius, Hist. Nat. Palm. 3: 305, t. 208 (1839); Holland in Kew Bull., Add. Ser. 12, 4: 715 (1922). *APD acc*

A prostrate-stemmed, gregarious palm growing in [estuarine conditions similar to mangrove](#).

Introduced from Singapore Botanic Gardens to Calabar in 1906 and Oron in 1912. It has since spread in the estuary of the Cross River and has more recently been transferred to the Niger Delta. Its natural range is from India to Queensland.

PANDANACEAE

Trees or shrubs, trunk and branches often with aerial roots. Leaves in 4 rows or spirally arranged and crowded towards the top of the shoots, linear, sheathing at the base, keeled, mostly spinulose on the margins and keel. Flowers dioecious, paniculate or densely crowded into spadices, the latter axillary and terminal, fasciculate or paniculate, enclosed at first by spathaceous sometimes coloured or leafy bracts. Perianth rudimentary or absent. Male flower: stamens numerous; filaments free or connate; anthers erect, basifixed, 2-celled, the cells sometimes again once divided. Female flower: staminodes absent or small and hypogynous or adnate to the base of the ovary. Ovary superior, 1-celled, free or confluent with adjacent ovaries into bundles with separate or united stigmas; style very short or absent. Ovules solitary to many, basal or parietal. Syncarps oblong to globose; mature carpels woody, drupaceous or baccate, pulpy inside. Seeds minute, with fleshy endosperm and minute embryo.

Tropics and subtropics, especially in oceanic islands.

PANDANUS

Linn. f., Suppl. 64 (1781); F.T.A. 8: 127.

Ovaries with solitary ovules, free or connate into clusters; placentas subbasal; fruit woody or drupaceous; staminodes absent from the female flowers.

- 1 A tree by water up to 10 m. high; leaves broadly linear, gradually narrowed to the apex, up to 1 m. long, 2.5-5 cm. broad, very closely nerved, with numerous upwardly directed sharp teeth on the margin; male inflorescences in the axils of large bracts, the lower bracts with leafy tops, the others thin and serrulate; flowering axes up to 15 cm. long, flowers very numerous; anthers about 2 mm. long; infructescence oblong-ellipsoid, about 16-17 cm. long and 10 cm. diam.; drupes angular at the top and bluntly pointed .[candelabrum](#)

Pandanus candelabrum *P. Beauv.* Fl. Oware 1: 37, tt. 21-22 (1805); F.T.A. 8: 132; Berhaut, Fl. Sén. 187. *P. leonensis* Lodd. ex Wendl., Index Palm. 46 (1854), name only. *APD acc*

Pandanus heudelotianus (*Gaud.*) *Balf. f.* in J. Linn. Soc. 17: 49 (1878); Chev. Bot. 676.

Pandanus barterianus *Rendle* in J. Bot. 32: 324 (1894).

- Pandanus togoensis* Warb in Notizbl. Bot. Gart. Berl., Append. 22, 2: 43 (1909), name only.
Pandanus kerstingii Warb. in Notizbl. Bot. Gart. Berl., Append. 22, 2: 43 (1909), name only.
Pandanus unwinii Martelli in Webbia 2: 434 (1908).
Pandanus umbellatus Martelli in Webbia 4: 435 (1914).
Tuckeya candelabrum (P. Beauv.) Gaud., Voy. Bonite, Bot. Atlas, t. 26, figs. 10-20 (1841).
Heterostigma heudelotianum Gaud. l.c. t. 25, figs. 15-31 (1841).

A tree 10-30 ft. high with conspicuous stilt-roots and thorny trunk; female inflorescences whitish. Screw-pine.

Sen.: Niokolo-Koba Berhaut 1516. Sedhiou Chev. **Mali:** Fincolo Chev. 775. Sikasso Chev. 802. **Guin.:** Timbo Chev. 12433; 12450. Kollangui Chev. 12868; 13539. **S. L.:** Guma R. fide Hepper. Yungera Thomas 7318! Njala (<Image p="Fefemale"> Dec.) Deighton 2579! Ninia Sc. Elliot 4918! Sasseni (<Image p="female">) Sc. Elliot 4504! **Lib.:** Monrovia (<Image p="female"> Jan.) de Wit 9128! Ganta (mature <Image p="female">Feb.) Harley 834! **iv. C.:** Niega Lagoon Aubrév. 1265. **N. Nig.:** Sanga River F.R., Jemaa Dist. Keay FHI 22255! Gashaka Dist. (<Image p="Fefemale"> Feb.) Latilo & Daramola FHI 34478! Vogel Peak, 4,000 ft. (old <Image p="Fefemale"> Dec.) Hepper 1547! **S. Nig.:** Agolo Thomas 159! Various localities vide Hopkins in Nig. Field 27: 36, tt. 1-5 (1962). **W. Cam.:** Nkambe, 5,000 ft. (young <Image p="female"> Feb.) Hepper 1914! Brunt 849! Amba Bay (<Image p="Fefemale"> Feb.) Mann 780!

In spite of the additional collections since the first edition no progress has been made in the elucidation of the taxonomy of *Pandanus* in W. Africa. Further collections should show the female inflorescence or fruit, apical and basal portions of a leaf or the whole leaf may be pressed concertina-wise; male inflorescences are only useful when associated, with females growing in the vicinity. Mature fruits may be collected and sectioned longitudinally.

Pandanus utilis Bory

Recorded by Berhaut (Fl. Sén. 187) as being cultivated in Senegal.

Pandanus veitchii Hort.

Recorded by Berhaut (Fl. Sén. 187) as being cultivated in Senegal.

HYPOXIDACEAE

Herbs with a tuberous rhizome or a corm. Leaves mostly all radical, usually prominently nerved and often clothed with long hairs. Flowers solitary, spicate, racemose or subumbellate, mostly white or yellow, actinomorphic. Perianth-tube nothing or very short or consolidated into a long beak on top of the ovary; segments 6, spreading, equal. Stamens 6 or rarely 3, opposite the perianth-segments and inserted at their base; anthers 2-celled, opening lengthwise. Ovary inferior, 3-celled, style short or 3 styles separate. Ovules numerous in 2 series on axile placentas, or rarely few. Fruit a capsule opening by a circular slit or by vertical slits near the top, or indehiscent and fleshy. Seeds small; embryo in abundant endosperm.

Mainly Southern Hemisphere and tropical Asia.

- 1 Ovary immediately below the perianth-segments, the latter free to the base; fruit dehiscent by a circular split around the middle or into valves [1. Hypoxis](#)
- Ovary far below the perianth-segments which are separated from it by a long slender stipe-like tube; fruit indehiscent [2. Curculigo](#)

Molineria capitata (Lour.) Merrill

Originally from Assam, it is commonly cultivated in Freetown.

1. HYPOXIS

Linn., Syst. ed. 10, 986 (1759); F.T.A. 7: 377; Nel in Engl., Bot. Jahrb. 51: 301 (1914).

- 1 Leaves about 1-2 cm. broad with about 10 principal nerves; rhizome massive, more than 2 cm. diam., surmounted by old fibrous leaf-bases; anthers entire at apex; perianth-segments 1 cm. long, the inner whorl nearly glabrous: [2](#)
- Leaves up to 5 mm. broad, from a few cm. to 30 cm. long, with about 4 principal nerves, margins and midrib outside villous; rhizome fusiform, about 1 cm. diam. usually without old fibrous leaf-bases; inflorescences 1-3-flowered, densely appressed-pilose; perianth segments 4-5 mm. long, the inner whorl glabrous or pilose in the middle; anthers slightly divided at apex [3. angustifolia](#)

- 2 Inflorescences ascending and leaves more or less markedly recurved; inflorescences densely pilose, with (2-)3-6 flowers; leaves developing just after the inflorescence and sometimes markedly recurved with the young ones appearing almost contorted, folded, finally attaining a length of 30-40 cm., ciliate or pilose at the margins and on the midrib outside [1. recurva](#)
- Inflorescences and leaves nearly straight and erect; inflorescences densely long-pilose, with 4-8(-10) flowers; leaves finally attaining a length of up to 80 cm., long-pilose at the margins and on the midrib outside, and sometimes also on the other surface [2. urceolata](#)

1. **Hypoxis recurva** Nel in Engl., Bot. Jahrb. 51: 325 (1914).

APD: *Synonym of Hypoxis camerooniana Baker*

Hypoxis ledermannii Nel l.c. 314.
Hypoxis thorbeckei Nel l.c. 328.
Hypoxis lanceolata Nel l.c. 325.
Hypoxis suffruticosa Nel l.c. 335
Hypoxis villosa var. **foliis recurvis** Hook. f. in J. Linn. Soc. 7: 223 (1864).
Hypoxis villosa of F.T.A. 7: 379, partly, not of Linn. f.

Subterranean rhizome giving rise to several massive erect rhizomes bearing succulent white roots and masses of old leaf fibres; inflorescences appearing during the dry season before the leaves, which develop before flowering is completed; flowers yellow, frequented by bees; [in montane grassland](#).

S. Nig.: Obudu Plateau, 5,000 ft. (Feb.) Tuley 583! **W. Cam.:** Cam. Mt., 7,000-8,000 ft. (Nov.-Feb., Apr.) Mann 1224! 2133! Maitland 1023! Brenan 9567! Bafut-Ngemba F.R., Bamenda, 6,000 ft. (Mar.) Richards 5311! L. Bambuluwe, Bamenda, 7,000 ft. (Feb.) Thorbecke 231! 275! Hepper 2111! Kufum (Dec.) Ledermann 2007! Brunt 840!

Also in **E. Cameroun**.

[Several species described by Nel can hardly be maintained as distinct in this confusing genus. The appearance of the plants changes as the leaves develop. However, field workers should observe the variation within populations to determine the taxonomic worth of the various characteristics. Nel seems to have been in error in attributing divided anthers to *H. ledermannii*.-F.N.H.]

2. **Hypoxis urceolata** Nel l.c. 336 (1914); Morton, W. Afr. Lilies & Orch. fig. 36. *APD acc*

APD: *Synonym of Hypoxis suffruticosa Nel*

Large rhizome bearing fibrous leaf bases; inflorescences up to 10 ins. high appearing before and with the leaves; flowers yellow; [in upland savanna](#).

N. Nig.: Jos Plateau (Apr.) Lely P202! Naraguta (July) Lely 14! Lawlor & Hall 121! Zelau (Apr.) Lely 114! Werran, Plateau Prov. (Apr.) Gregory 25!

Extending to E. Africa.

[Typically with 6 perianth lobes but 4 may be found. Some plants approach *H. angustifolia* Lam. in having narrow leaves with 2-4 principal nerves, but larger flowers and rhizome.]

3. **Hypoxis angustifolia** Lam. *Encycl. 3: 182* (1789); F.T.A. 7: 378; Nel l.c. 303; Morton l.c. fig. 36.

APD: *Synonym of Curculigo pilosa subsp. minor (Guinea) Wiland_Szymanska*

Hypoxis camerooniana Bak. in F.T.A. 7: 577 (1898); Nel l.c. 302; P.W.T.A., ed. 1, 2: 394.
Hypoxis djalensis Hutch. in F.W.T.A., ed. 1, 2: 394 (1936), English descr. only.
Curculigo djalensis A. Chev., Bot. 635 (1920), name only.

A small herb with narrow grass-like leaves; flowers yellow, [in upland savanna](#).

Guin.: Passo, nr. Pita, Fouta Djallon (July) Adames 293! **S. L.:** Musaia, Koinadugu Dist. (Aug.) Haswell 37! Bintumane Peak, Loma Mt., 6,000 ft. (May, Aug.) Deighton 5090! Jaeger 1048! **N. Nig.:** Anara F.R., Zaria Prov. (May) Keay FHI 25779! Jos Plateau (July) Lely P700! Zaranda Mt., Jos Plateau, 5,800 ft. (May) Lely 193! Mambila Plateau, Sardauna Prov., 5,500 ft. (July) Chapman 66! **S. Nig.:** Obudu Plateau, Ogoja Prov., 5,500 ft. (Aug.) Stone 47! **W. Cam.:** Buea Preuss 848! Jango, Cam. Mt., 6,900-7,000 ft. (Apr.) Brenan 9681! Mann's Spring to Buea, 8,000 ft. (Apr.) Morton GC 6795! Bafut-Ngemba F.R., 6,000 ft. (Mar.) Richards 5308! Bum, Bamenda (May) Maitland 1526! Bamenda to Bansa (Mar.) Onochie FHI 34879!

Extending to **Ethiopia**, E. Africa and Madagascar.

[Note 1: The dwarf plants occurring on Cameroon Mt. may be separated under the name of *H. camerooniana* Bak. and similar ones in the mountains of Guinée and Sierra Leone as *H. djalensis* Hutch., but they are hardly distinct from *H. angustifolia*. Note 2: Plants from Kwahu Tafo, Ghana, (Hall CC 136) have very long peduncles and nearly glabrous flowers and they also fall into the *H. angustifolia* aggregate-F.N.H.]

2. CURCULIGO

Gaertn., Fruct. 1: 63, t. 16 (1789); F.T.A. 7: 377.

- 1 Perianth-segments about 7 mm. long, 2-3 mm. broad, nearly glabrous; flowers solitary; anthers 2 mm. long on filaments half as long; leaves folded, half width 2-4 mm. broad, up to 30 cm. long usually much less, nearly glabrous or with some long weak hairs [1. minor](#)
- Perianth-segments about 20 mm. long, 5-6 mm. broad, pilose outside; flowers solitary or paired, the peduncle short and hidden in the leaf-sheaths; anthers 5-6 mm. long on filaments half as long; fruit oblong, sessile, crowned by the persistent tube of the perianth; leaves folded, half width 4-15 mm. broad, up to 50 cm. long very acute at apex, thinly pilose with weak hairs [2. pilosa](#)

1. **Curculigo minor** *E. Guinea* Ensayo Geobot. Guin. Continent Espan. 258 (1946), and in An. Jard. Bot. Madrid 6, 2: 471 (1946).

APD: *Synonym of Curculigo pilosa subsp. minor (Guinea) Wiland_Szymanska*

A small herb with narrow leaves and small yellow flowers; **in moist sandy places in savanna.**

S. L.: Lumley (May) Deighton 2682! Hoya (Apr.) Adames 40!! **Lib.:** Paynesville (Feb., Apr., May) Harley! 1562!!! 1858!!! 1900!! Leeuwenberg 4893! Mt. Barclay (June) Bunting 36! **S. Nig.:** Eket Dist. Talbot 3268!! Calabar Robb!

Also in **Rio Muni**, **Uganda** and **the Congos**.

2. **Curculigo pilosa** (*Schum. & Thonn.*) *Engl.* in Engl. & Drude, Veg. der Erde 9, 2: 353 (1908); Morton, Lilies & Orch. fig. 37. *APD acc*

Gethyllis pilosa *Schum. & Thonn.*, Beskr. Guin. Pl. 172 (1827).

Curculigo gallabatensis *Schweinf. ex Bak.* (1878)-F.T.A. 7: 383; Chev. Bot. 635.

Hypoxis villosa of Chev. Bot. 635, partly (Chev. 21988), not of Linn. f.

Common herb with stout erect rhizome of **seasonally marshy savanna**; flowers golden yellow, towards the end of the dry season, together with the developing leaves which eventually reach a length of 2 ft.

Gam.: Hayes 540a! **Mali:** Diagara to Sienso Chev. 1019! **Guin.:** Kouroussa Brossart in Hb. Chev. 15638. Farana, 3,300 ft. (Mar.) Sc. Elliot 5374! **S. L.:** York (May) Deighton 5535! Rokupr (July) Jordan 47! Gbap (Mar.) Adames 21! Kabala (Mar.-Apr.) Hargreaves in Hb. Deighton 1910! **Iv. C.:** Buandougou to Marabadiassa Chev. 21988! Touba (Mar.) Bouquet in Hb. Leeuwenberg! **U. Volta:** Banfora to Sindou (June) Leeuwenberg 4305! **Ghana:** Navrongo (May) Andoh FH 5181! Kintampo (Mar.) Dalz. 76! Hepper & Morton A3185! Salaga Krause! Afram Plains (Mar.) Johnson 701! Kpeshi Lagoon, nr. Labadi (Mar.) Adams 3832! **Togo Rep.:** Biamarckburg (Jan.) Büttner 381! **N. Nig.:** Nupe Barter 1506! Zungeru (May) Dalz. 272! Falingo Gabo, Kano Prov. (July) Onwudinjoh FHI 22398! Bui (May) Noble 47! **S. Nig.:** Ogboro (May) Denton 25! Upper Ogun F.R. (Apr.) Oriafio FHI 38203! Olokemeji to Iseyin (Apr.) Hamblen 423! Olla hills F.R. (Mar.) Binuyo FHI 36917! **W. Cam.:** Mamfe (Mar.) Richards 5226!

Widespread in tropical Africa and in Madagascar.

VELLOZIACEAE

Stems woody and fibrous, dichotomously branched, covered with the persistent bases of the fallen leaves; habit arborescent or shrubby. Leaves crowded in a tuft at the ends of the branches, narrow, often pungent-pointed. Flowers solitary on each peduncle, white, yellow, or blue, sometimes very handsome, actinomorphic, bisexual. Perianth-tube very short or absent; segments equal, spreading. Stamens 6, or numerous and in 6 bundles of 2-6; anthers linear, basifixed, opening by longitudinal slits. Ovary inferior, 3-locular; style slender, with a capitate stigma or 3 short arms. Ovules very numerous on axile, stalked placentas. Fruit a dry or hard capsule, often flat or concave on the top, crowned with

the scar of the perianth, or 6-toothed, sometimes spiny, loculicidally dehiscent. Seeds numerous, embryo small in copious, rather hard endosperm.

A small family occurring in S. America, Southern Africa, tropical Africa, Madagascar and [Arabia](#).

VELLOZIA

APD: Synonym of Xerophyta Juss.

Vand., Fl. Lusit. Bras. Sp. 32, t. 2, fig. 11 (1788).

- 1** Perennial herb, stems numerous up to 50 cm. long, 1.5-2 cm. diam.; leaves linear, coriaceous, acute at apex, up to 32 cm. long and 6 mm. broad, glabrous but the margin and dorsal nerves minutely and inconspicuously aculeate towards the apex; peduncles solitary in leaf axils, shorter than the leaves, setose in the upper part; perianth-lobes linear-lanceolate, acute at apex, 3 outer ones about 3.5 cm. long and 8 mm. broad, 3 inner ones about 3 cm. long and 10 mm. broad; anthers 17-20 mm. long; style 16 mm. long, ovary 6 mm. long, obscurely 3-angled; ovules numerous; fruit subglobose 1.7 cm. long, 1.5 cm. diam.; seeds subcylindrical, 3 mm. long, nearly 1 mm. diam. [schnitzleinia var. occidentalis](#)

Vellozia schnitzleinia (Hochst.) Bak. in F.T.A. 7: 409 (1898).

APD: Synonym of Xerophyta schnitzleinia (Hochst.) Baker

Hypoxis schnitzleinia Hochst (1844).

var. schnitzleinia is widespread in eastern Africa and var. somaliensis Terrac. occurs in Somalia.

Vellozia schnitzleinia var. occidentalis Milne-Redh. in Kew Bull. 5: 381 (1951).

APD: Synonym of Xerophyta schnitzleinia (Hochst.) Baker var. *schnitzleinia*

A stout perennial herb with stems about 11/2 ft. long, covered with old leaves; flowers white; [forming thick mats on bare rock in savanna woodland](#).

N. Nig.: Anara F.R., Zaria (May) Keay FHI 22903! 25758! Olorunfemi FHI 24356! Gawu Hills, Niger Prov. (June, Aug.) Onochie FHI 35936! E. W. Jones FHI 42224! NE. of Kaduna (July) Jackson FHI 55409!

TACCACEAE

Perennial herbs with a tuberous or creeping rhizome. Leaves all radical, large, entire or much lobed. Flowers actinomorphic, hermaphrodite, umbellate; bracts forming an involucre, the inner often thread-like. Perianth with a short tube and 6 lobes, lobes 2-seriate, mostly somewhat corolline. Stamens 6, inserted on the perianth; filaments short; anthers 2-celled, opening lengthwise. Ovary inferior, 1-celled, with 3 parietal placentas; style short, the 3 stigmas often petaloid and reflexed over the style; ovules numerous. Fruit a berry or rarely opening by valves. Seeds numerous, with copious endosperm and minute embryo.

Tropical regions and China, with two genera.

TACCA

J. R. & G. Forst., Char. Gen. Pl. 69 (1776); F.T.A. 7: 413. Nom. cons.

Characters of the family; fruit a berry.

- 1** Leaves erect, shining, 3-partite, each segment 2-forked, pinnatipartite, the lower lobes separated, the upper ones connected, sometimes one segment not 2-forked, glabrous; peduncle long and rather slender; involucre bracts about 6, obovate-spathulate, strongly nerved outside, 3-4 cm. long, acuminate and sometimes lobed at the apex; innermost bracts up to 10 cm. long and thread-like; fruit ovoid-ellipsoid, about 3.5 cm. long; seeds ribbed

[*leontopetaloides*](#)

Tacca leontopetaloides (Linn.) O. Ktze. Rev. Gen. Pl. 2: 704 (1891); Carter in F.T.E.A. Taccac. 1, fig. 1 (1962). *APD acc*

Leontice leontopetaloides Linn. (1753).

Tacca involucrata Schum. & Thonn., Beskr. Guin. Pl. 177 (1827); Limpricht in Engl., Pflanzenr. Taccac. 29 (1902); Chev. Bot. 638; F.W.T.A., ed. 1, 2: 396; Berhaut, Fl. Sén. 11; Morton, W. Afr. Lilies & Orch. fig. 48.

Tacca pinnatifida J. R. & G. Forst. (1776)-F.T.A. 7: 413; Chev. Bot. 638.

Ovoid tuber several inches across usually giving rise to one or two erect leaves 2-4 ft. high and an inflorescence 3-6 ft. high; involucre greenish, flowers yellowish with inner bracts thread-like, purplish; [in thickets and amongst grass](#).

Sen.: Berhaut 250. Kaolak 84 Kaichinger. **Gam.:** Mungo Park! Bathurst (fr. Sept.) Frith 114! **Mali:** Banankalidoro to Bama Chev. 933. San (Sept.) Chev. 2397. **Port. G.:** Buruntuma, Nova Lamego (fr. July) Pereira 3081! **Guin.:** Kaba Chev. 13243. **S. L.:** Coast near Freetown (May, Aug.) Deighton 2684! Melville & Hooker 251! Musaia (Oct.) Thomas 2654! **Iv. C.:** Gouékouma Chev. 21689. Bouaké (Apr.) Leeuwenberg 3289! Kouroukourounga (Apr.) Aké Assi 8746! **Ghana:** Cape Coast Don! Accra (June) Johnson! Bosomoa F.R., Kintampo (June) Enti FH 6724! Mampong (Apr.) Vigne FH 1924! Nkoranza, N. Ashanti (Apr.) Irvine 916! **Dah.:** Agouagon Chev. 23538. Kouandé to Konkobiri Chev. 24270. **N. Nig.:** Nupe Barter 1541! Katagum Dalz. 238! Anara F.R., Zaria (May) Keay FHI 22869! Nabardo, 2,800 ft. (May). Lely 209! Vom, 4,000 ft. Dent Young 246! **S. Nig.:** Lagos W. MacGregor 62! Abeokuta (Apr.) Baldwin 12006! Obu Dist. Thomas 452! Obokoffia to Oborotta Talbot 3802! **W. Cam.:** Mbaw Plain (May) Brunt 4011

Throughout tropical Africa, Madagascar and the Old World Tropics, China, N. Australia and the Pacific Islands.

BURMANNIACEAE

- 1 Stamens 3; flowers actinomorphic:2
 Stamens 6; flowers zygomorphic with 6 similar narrow perianth-lobes; saprophytic; ovary 1-celled with 3 parietal placentas; perianth deciduous [4. Afrothismia](#)
- 2 Perianth with 3 broad lobes and 3 much smaller lobes or which may be absent, perianth persistent:3
 Perianth with 6 similar subulate lobes, deciduous; saprophytic; ovary 1-celled with 3 parietal placentas [3. Oxygyne](#)
- 3 Ovary 1-celled, with 3 parietal placentas; saprophytic [1. Gymnosiphon](#)
 Ovary 3-celled, with axile placentas; saprophytic or perianth-tube winged in some species [2. Burmannia](#)

1. GYMNOSIPHON

Blume, Enum. Pl. Jav. 1: 29 (1827); F.T.A. 7: 11; Jonker, Monogr. Burmanniac. 168 (1938).

- 1 Saprophytic herb 7-18 cm. high; stems with a few minute scale leaves; cymes laxly bifurcate with the arms up to 7 cm. long and flowers arranged along them; pedicels slender, 2-4 mm. long; perianth-tube urceolate, 4 mm. long, shortly 3-lobed; fruit subglobose, capped by the persistent perianth [longistylus](#)

Gymnosiphon longistylus (Benth.) Hutch. F.W.T.A., ed. 1, 2: 899 (1936); Jonker l.c. 201; Aké assi, Contrib. 2: 28. *APD acc*

Dictyostegia longistyla Benth. (1849)-F.T.A. 7: 12.

Gymnosiphon squamatus Wright in F.T.A. 7: 12 (1897).

Colourless saprophyte on the [forest floor amongst decaying leaves](#).

S. L.: John Obey, Peninsula (Sept.) Melville & Hooker 393! **Lib.:** Banga (Oct.) Under 1217! Zuie, Boporo Dist. (Nov.) Baldwin 10231! Bobel Mt., Sanokwele Dist. (Sept.) Baldwin 9582! Bilimu Mt. (Sept.) Harley 1631! 3 miles N. of Getti Rwaji, Gola (June) Bunting! **Iv. C.:** Tiapleu Forest Manganot & Miège IA 2694. Yapo Forest de Wilde 3145! Aké Assi 6894! **Ghana:** Ankasa F.R. (Dec.) Vigne FH 3216! **S. Nig.:** Apapa, Lagos (Jan.) Dalz. 1277! Nun B. Mann 516, partly. Annye (Sept.) Unwin 144! Oban Talbot 700! 715!

Also in **E. Cameroun** and **Gabon**.

2. BURMANNIA

Linn., Sp. Pl. 287 (1753); F.T.A. 7: 11; Jonker, Monogr. Burmanniac. 57 (1938).

- 1 Perianth-tube without distinct wings; small plants about 3(-13) cm. high, without basal rosette:2
- Perianth-tube distinctly winged; plants (7-) 10-32 cm. high, basal rosette usually present:4
- 2 Flowers with 6 ridges on the 3-5 mm, long perianth-tube; usually only 1-2-flowered; stem-leaves 2-3 mm. long and 3-5 mm. apart [1. *hexaptera*](#)
- Flowers without ridges on the 3-5-6 mm. long perianth-tube; usually with a terminal cluster of flowers:3
- 3 Flowers 2-7; stem leaves scale-like about 2 mm. long and 5 mm. apart; stem 3-10 cm. high; margin of outer perianth-lobes not crenate, inner lobes obovate [2. *congesta*](#)
- Flowers numerous, up to 27; stem leaves 2-6 mm. long, up to 15 mm. apart; stem up to 32 cm. high, with 1-2-branched inflorescence; margin of outer perianth lobes broadly spatulate [3. *densiflora*](#)
- 4 Wings 3-5 mm. broad, 7-13 mm. long, half-elliptic to half-obovate, usually purple; anther connective with 2 broad crests and acute basal spur [4. *latialata*](#)
- Wings 1-5-3 mm. broad, 5-7 mm. long, bluish or yellow:5
- 5 Anther connective with 2 broad crests; wings half-obovate, decurrent along the basal part of the ovary, about 3 mm. broad; inner perianth-lobes nearly as long as the outer [5. *liberica*](#)
- Anther connective with 2 acute processes; wings half-elliptic to half-obovate, about 1-5 mm. broad; inner perianth-lobes much shorter than the outer [6. *welwitschii*](#)

1. **Burmattia hexaptera** *Schltr.* in Engl., Bot. Jahrb. 38: 143 (1906); Jonker, Monogr. Burmanniac. 93 (1938). *APD acc*

Small erect saprophyte; flowers white, the lower part orange yellow.

W. Cam.: Man O' War Bay (Oct.) Schlechter 15785! 15786!

Also in **E. Cameroun**.

2. **Burmattia congesta** (*Wright*) *Jonker* l.c. 94 (1938).

APD: Synonym of Campylosiphon congestus (C.H. Wright) Maas

Gymnosiphon congestus *Wright* in F.T.A. 7: 12(1898); F.W.T.A., ed. 1, 2: 399.

Bumannia aptera *Schltr.* (1906).

Small erect yellow or white saprophyte with a terminal cluster of white flowers; **in forest in damp silty soil**.

Lib.: Gbanga (Oct.) Linder 1216. Wanau (fr. Nov.) Harley 2060! **Ghana:** Ankasa F.B. (Jan.) Hall & Enti GC 36371! **S.**

Nig.: Nun R. (Sept.) Mann 515, partly! Orem, Oban F.R. (Jan.) Onochie & Okafor FHI 36132x! Oban Talbot 716! **W.**

Cam.: Moliwe (Sept.) Schlechter 15787!

Also in **E. Cameroun**, **Congo** and **Angola**.

3. **Burmattia densiflora** *Schltr.* in Engl., Bot. Jahrb. 38: 141 (1906); Jonker l.c. 95.

APD: Synonym of Campylosiphon congestus (C.H. Wright) Maas

Erect saprophyte up to 1 ft. high; **in forest**.

W. Cam.: Moliwe Stammler!

Also in **E. Cameroun**.

4. **Burmattia latialata** *Hua ex Potéguin* Ess. Fl. Guin. Fr. 166 (1906); Jonker l.c. 104.

APD: Synonym of Burmannia madagascariensis Baker

Burmattia le-teitui *Schltr.* (1926).

Burmattia bicolor of F.W.T.A., ed. 1, 2: 399, partly, not of Mart.

Slender erect simple annual herb 31/2-11 in. high; flowers whitish with bluish wings; **in moist places on rock outcrops**.

Guin.: Farmer 200! Mt. Gangan Schnell 74811 Bouria Chev. 14704! Fon Massif Schnell 6628! Dalaba (Oct.) Adames 406! Kindia (Oct.) Pobéguin 1392! **S. L.:** Kanya (Oct.) Thomas 2979! **Lib.:** Genna Loffa, Kolahun Dist. (Nov.) Baldwin 10083! **Ghana:** Sampa (Apr.) Morion A3260! Kwahu Tafo (Aug.) Hall CC 133! **N. Nig.:** Mada Halls Hepturn 85! Kontagora (Dec.) Dalz. 2631 **S. Nig.:** Mt. Orosun, Idanre Hills (Oct.) Keay FHI 22599!

Also in **E. Cameroun**, **the Congos**, **Uganda**, **Zambia**, **Rhodesia** and **Angola**.

5. **Burmattia liberica** Engl. Bot. Jahrb. 48: 505 (1913); Jonker l.c. 103.

APD: *Synonym of Burmannia madagascariensis Baker*

Burmattia bicolor of F.W.T.A., ed. 1, 2: 399, partly, not of Mart.

Burmattia bicolor var. **micrantha** Engl. ex Gilg (1903).

Erect very slender often wavy stems, 7-10 in. high; flowers whitish with corolla-lobes sometimes reddish, wings bluish or white; **in moist places on sandy soil or rock outcrops.**

Guin.: Macenta (Oct.) Baldwin 9801! **S. L.:** Juring to Blama (Dec.) Deighton 298! Bumban (Aug.) Deighton 1305! Mapotolon, Samu (Sept.) Jordan 919! Mabonto (Aug.) Jordan 509! **Lib.:** Duport (Nov.) Linder 1491! Monrovia savanna (Aug., Oct.) Dinklage 2831! Harley 1682! Baldwin 58561 9189! 13038! Mt. Barclay (June, Nov.) Bunting 21! 32! **Iv. C.:** Mossou, Grand Bassam Schnell 6552!

Also in **E. Cameroun**, **the Congos** and **Angola**.

[Note: I have maintained the species concept of Jonker in his Monograph, but *B. latialata* and *B. liberica* are not satisfactorily separable on the wing characters. Other tropical African species can also be included in the complex. -F.N.H.]

6. **Burmattia welwitschii** Schltr. in Fedde, Rep. 21: 84 (1925).

APD: *Synonym of Burmannia madagascariensis Baker*

A small erect annual 21/2-5 in. high, sometimes branched; flowers in a terminal cluster or solitary; **in wet places.**

Guin.: near Pita Pobéguin!

Widespread in tropical Africa.

3. OXYGYNE

Schltr. in Engl., Bot. Jahrb. 38: 140(1906); Jonker, Monogr. Burmanniac. 260 (1938).

- 1 A tiny saprophyte about 4 cm. high; stem 1-flowered, covered with several scales; bract similar to the upper scales, rounded; flower erect, about 2.2 cm. long; perianth narrowly campanulate, tube about 1 cm. long, lobes broadly triangular-acuminate, narrowly caudate-acuminate [1. triandra](#)

Oxygyne triandra Schltr. l.c. 140, fig. 1 G-M (1906), and in Notizbl. Bot. Gart. Berl. 8: 45 (1921); Jonker l.c. *APD acc*

W. Cam.: Moliwe (Sept.) Schlechter 15790!

4. AFROTHISMIA

(Engl.) *Schltr.* in Engl., Bot. Jahrb. 38: 138 (1906); Jonker, Monogr. Burmanniac. 222 (1938). *APD acc*

- 1 Perianth with a right-angle bend in the middle, perianth-lobes 6, narrowly triangular or filiform and spreading from the open throat, 4.5-15 mm. long; plants 2.5-12 cm. high, 1-3-flowered, stem usually simple with the underground part possessing spherical clusters of tubers or bulbils bearing fine rootlets [1. winkleri](#)
- Perianth obovoid sometimes bent at the base, perianth-lobes 6, shortly subulate and clustered over the small throat, about 2 mm. long; habit similar to the last [2. pachyantha](#)

1. **Afrothismia winkleri** (Engl.) Schltr. l.c. 139 (1906), and in Notizbl. Bot. Gart. Berl. 8: 44 (1921);

Jonker l.c. 223. *APD acc*

A small white saprophyte in the [forest floor litter](#); " ovary and fruit cream, base of perianth-tube cream with six white (or purple?) V-shaped marks, centre of perianth white with crimson patch above, mouth and lobes of perianth yellow, stamens cream " (Keay).

S. Nig.: Aponmu, Akwe F. B. (Nov.) Keay FHI 25540! **W. Cam.:** New Tegel, near Buea (July) Winkler 225! Moliwe (Sept.) Schlechter 15788!

Also in **E. Cameroun** and **Uganda**.

2. *Afrothismia pachyantha* *Schltr.* in Engl., Bot. Jahrb. 38: 139, fig. 1, A-F (1906), and in Notizbl. Bot. Gart. Berl. 8: 44; Jonker l.c. 224. *APD acc*

A tiny saprophyte up to 11/2 in. high; perianth about 1/4 in. long; [in forest](#).

W. Cam.: Moliwe (Sept.) Schlechter 15789!

ORCHIDACEAE

Perennial, terrestrial, epiphytic or saprophytic herbs with rhizomes or tuberous roots or rootstock; stem leafy or scapose, frequently thickened at the base into pseudobulbs and bearing aerial assimilating roots. Leaves undivided, alternate and often distichous, rarely opposite, sometimes all reduced to scales, often fleshy, sheathing at the base. Flowers bracteate, hermaphrodite or very rarely polygamous or monoecious, zygomorphic; inflorescence spicate, racemose or paniculate, or flowers solitary. Perianth epigynous, composed of 6 petaloid segments (tepals) in 2 whorls, or the outer whorl calyx-like and the inner corolla-like, or the outer rarely corolla-like and the inner minute, free or variously connate in each whorl; outer segments (sepals) imbricate or subvalvate, the middle segments of each whorl generally different in size and colour from the lateral ones, especially the middle petal which is often extremely complicated in structure and is termed the lip or labellum; the basal part of the labellum, the hypochile, is often articulated to the base of the column or is much constricted, when it is termed the claw; the middle part, the mesochile and the apical part, the epichile, may be variously lobed and often bear outgrowths. On account of the twisting of the ovary through 180°, the labellum is often placed in an abaxial position; frequently the labellum or more rarely the odd sepal is prolonged into a sac or spur, sometimes very long. Stamens 2 or 1; stamens and style united to form a special structure (column), the apex of which may be produced vertically into stielidia or laterally into wings, and the base of which may be produced downwards to form a foot; anther or anthers 2-locular, introrse, opening by a slit lengthwise; often operculate, i.e. can be lifted like a little cap; pollen granular or generally agglutinated into mealy, waxy or bony masses (pollinia); at one end the pollinium may be extended into a sterile portion (caudicle); the pollinia may be free in the anther-loculi or more or less loosely united. Ovary inferior, 1-locular with 3 parietal placentas or very rarely 3-locular with axile placentas, usually produced at the apex to form the column; stigmas 3 fertile, or more frequently the lateral 2 fertile, the other sterile and transformed into a small outgrowth (rostellum) which lies between the anther and the stigmas; a portion of the rostellum is sometimes modified into a viscid disk or disks (viscidia) to which the pollinia are attached, often by a stalk or stipes. Ovules very numerous and minute. Fruit usually a capsule, mostly opening laterally by 3 or 6 longitudinal slits. Seeds very numerous, minute, often drawn out at each end, or rarely winged, without endosperm; embryo not differentiated.

Widely distributed, most numerous and of very diverse form in the tropics; main centres of distribution Indo-Malaya and tropical America.

KEY TO THE GENERA

- 1 Anther attached to the column by its base, loculae adnate to the column and persistent; pollinia granular, with caudicles and 2 (or rarely 1) viscidia; mostly terrestrial with erect annual leafy stem and terminal inflorescence, a few epiphytic or saprophytic:2

Anther attached to the column by its apex (usually at the back of the column), either operculate (i.e. the anther can be lifted like a little cap, the pollinia often being carried with it) or erect and persistent, the caudicle and

- viscidium being then at the top:..... **13**
- 2** Lip with 1 or 2 distinct but sometimes rather short spurs:..... **3**
 Lip sometimes concave at the base but with no distinct spur: **9**
- 3** Spurs 2; lip at top of flowers (flowers not resupinate); sepals and petals similar, more or less united to one another and to the lip; column slender, somewhat curved; stigma superior, cushion-like, fleshy; anther pendulous [9. *Satyrium*](#)
 Spur 1: **4**
- 4** Lip more or less united to the column; leaves radical, orbicular [1. *Holothrix*](#)
 Lip quite free from the column:..... **5**
- 5** Stigmas sessile; stems leafy all the way up; bracts leaf-like [3. *Brachycorythis*](#)
 Stigmas borne on or forming club-shaped processes, projecting from the front of the column, free or partly united to the lateral lobes of the rostellum: **6**
- 6** Stigmatic processes partly united to the lateral lobes of the rostellum; rhachis and ovary frequently glandular pubescent:..... **7**
 Stigmatic processes free from the rostellum:..... **8**
- 7** Flowers bluish, side lobes of lip entire [4. *Cynorkis*](#)
 Flowers green, side lobes of lip fimbriate [5. *Habenaria*](#)
- 8** Middle lobe of rostellum concave, frequently placed some way in front of the anther; lip entire or with a small tooth-like lobe on each side at the base; petals entire or with a small lobe at the base, more or less falcate; dorsal sepal large, convex, laterals sharply deflexed; inflorescence few-flowered [6. *Platycoryne*](#)
 Middle lobe of rostellum usually flat or subulate, more or less adpressed to the anther; other characters not associated as in last [5. *Habenaria*](#)
- 9** Dorsal sepal drawn out into an erect or pendulous spur; lip entire or with short tooth-like lateral lobes; rostellum small, tooth-like: **10**
 Dorsal sepal without a spur: **11**
- 10** Petals free from dorsal sepal; anther erect or horizontal [7. *Disa*](#)
 Petals united to dorsal sepal; anther horizontal [8. *Brownleea*](#)
- 11** Rostellum large, more or less orbicular, forming a shield-like process covering the anther; lip united to the column at the base; dorsal sepal and petals united to form a variously shaped hood; lateral sepals each with a small spur-like sac near the inner margin [10. *Disperis*](#)
 Rostellum rather small, cucullate, shorter than the anther; lip free from the column; dorsal sepal and petals free: **12**
- 12** Plants with numerous leaves; inflorescence usually many-flowered [3. *Brachycorythis*](#)
 Dwarf leafless plants; inflorescence up to 4-flowered [2. *Schwartzkopffia*](#)
- 13** Pollinia granular or much divided into small masses attached to a common axis: **14**
 Pollinia waxy, entire, 2, 4 or 8, either free, or adhering at one end by viscid outgrowths (the caudicles), or attached to 1 or 2 sticky gland-like structures (the viscidia); anther operculate: **23**
- 14** Tall climbers with fleshy green stems and usually with leaves; flowers in short axillary racemes, rather large (perianth at least 2 cm. long); lip more or less united to the long curved column, disk bearing either scales or lines of hairs [11. *Vanilla*](#)
 Terrestrial, erect or rarely somewhat decumbent herbs with usually terminal but rarely lateral inflorescences: **15**
- 15** No leaves at time of flowering or saprophytic and non-chlorophyllose; flowering stems arising from underground tuber; rostellum short or minute: **16**
 Leafy plants usually with slender creeping rhizome or fibrous rootstock; rostellum elongate: **18**
- 16** Lip with a distinct spur; saprophytic [13. *Epipogium*](#)
 Lip without a spur: **17**
- 17** Slender saprophytic plants with short raceme of small flowers (less than 1 cm. long); lip simple with a slender claw; petals and sepals united to one another in the lower part; capsule borne on elongated pedicels [14. *Auxopus*](#)
 Flowers appearing on leafless scapes before the leaves; leaf solitary, reniform or ovate with a long or short petiole; flowers over 1 cm. long, usually few; lip more or less trilobed, bearing either numerous hairs or 2 distinct keels; petals and sepals free [12. *Nervilia*](#)
- 18** Stems up to 6 ft. high, rigid, leafy; leaves plicate, lanceolate or narrowly elliptical, lamina 15-35 cm. long; inflorescences axillary or terminal, paniculate; perianth-segments over 5 cm. long, linear; Up very like other segments but broadly ovate at apex [20. *Corymborkis*](#)

- Stems less than 3 ft. high including inflorescence, not very rigid, often decumbent at the base; leaves soft and thin, frequently with a long petiole, lamina less than 20 cm. long, usually much shorter; flowers less than 1 cm. long: **19**
- 19** Lateral sepals united to one another and to the petals for at least half their length; column with 2 terminal appendages: **20**
- Lateral sepals free or only united at the very base: **21**
- 20** Stem elongated, decumbent below, erect and leafy at apex; lip free from the sepals, with a spreading limb, narrow claw and concave base; appendages of column entire [17. *Cheirostylis*](#)
- Stem very short with a bunch of radical leaves; lip united to the sepals, at the base of the free part provided with 2 small reflexed marginal appendages; appendages of column serrate [15. *Manniella*](#)
- 21** Column much longer than broad; arms of rostellum long, subulate, acute [16. *Platylepis*](#)
- Column short, nearly as broad as long; arms of rostellum short and acute, or if larger linear-spathulate, obtuse: **22**
- 22** Column with 2 usually parallel longitudinally placed keels on the front; flowers usually not resupinate [19. *Hetaeria*](#)
- Column without keels on the front; flowers resupinate [18. *Zeuxine*](#)
- 23** Growth sympodial, consisting either of annual growths from a tuberous underground root or stem, or of a series of erect or creeping lateral shoots, the stem in each growth being often partly thickened to form a fleshy pseudobulb; inflorescence terminal on the year's growth, or axillary: **24**
- Growth monopodial, continued by a relatively slow-growing apical bud; no pseudobulbs; leaves when present more or less distichous, fleshy, conduplicate, very frequently unequally bilobed at the apex; inflorescences always axillary; pollinia with stipes and viscidium; nearly all epiphytic: **36**
- 24** Pollinia 8: **25**
- Pollinia 2 or 4, in the latter case sometimes united in pairs: **27**
- 25** Lip adnate to the column, with a long slender spur; inflorescence tall, many-flowered, apparently terminal; column short; leaves plicate [26. *Calanthe*](#)
- Lip free from column, spur absent or broadly sac-like; inflorescence short, 1-3-flowered: **26**
- 26** Inflorescence lateral from base of leafy pseudobulb; leaves plicate; column long and slender; pollinia equal, elongate, attached to a sticky appendage [27. *Ancistrochilus*](#)
- Inflorescence terminal between leaves at apex of pseudobulb, leaves conduplicate; column short; pollinia 4 large and 4 small, pyriform, free; low creeping plants [25. *Stolzia*](#)
- 27** Anther 2-locular; pollinia free or joined together by a sticky appendage, neither attached to the rostellum nor possessing a distinct viscidium: **28**
- Anther incompletely 2-locular; pollinia attached by a stalk (stipes) to the viscidium (both stipes and viscidium are part of the rostellum), which comes away with them: **30**
- 28** Column not produced downwards into a foot; lip continuous with the base of the column; inflorescence terminal on the annual leafy growths; pseudobulbs not well defined and often absent: **29**
- Column usually short, produced downwards into a foot often nearly as long as itself; lip articulated on the column-foot and freely moving; inflorescences arising from the base of the pseudobulbs; pseudobulb well defined, bearing 1-2 (rarely 3) leaves at the apex [28. *Bulbophyllum*](#)
- 29** Anther attached at the back below the apex of the column; rostellum terminal; column short; sympodial growths usually forming a slender creeping rhizome, the erect stems being distant from one another; pseudobulbs absent; leaves some way from the base of the stem [21. *Malaxis*](#)
- Anther attached at the apex of the column; rostellum subterminal; column rather long, often curved; sympodial growths usually closely placed, often pseudobulbous; leaves usually near the base of the stem [22. *Liparis*](#)
- 30** Flowers not resupinate (lip uppermost); mostly epiphytic or on rocks: **31**
- Flowers resupinate (dorsal sepal uppermost); mostly terrestrial, a few epiphytic: **33**
- 31** Terrestrial with underground tubers but without pseudobulbs; column without a foot; leaves plicate; viscidium large, transversely rhomboid [32. *Pteroglossaspis*](#)
- Mostly epiphytic or on rocks, no tubers but often with pseudobulbs; column with a distinct foot; leaves not plicate; viscidium small, often poorly developed: **32**
- 32** Inflorescence terminal on the leafy shoots; petals easily visible [24. *Polystachya*](#)
- Inflorescence axillary from the base of the distantly placed pseudobulbs; petals minute [29. *Genyorchis*](#)
- 33** Lip without a spur; epiphytic; pseudobulbs tall, fusiform, many-leaved; inflorescence paniculate; sepals and petals similar [23. *Ansellia*](#)
- Lip with a distinct spur or very concave sac at the base: **34**
- 34** Epiphytic; rostellum long, beak-like; inflorescence paniculate [33. *Graphorkis*](#)

- Terrestrial, or very rarely epiphytic; rostellum very short and broad: 35
- 35 Lip 4-lobed or 3-lobed with clearly retuse middle-lobe.; pseudobulbs well-developed, 1-2-leaved; petioles articulated irregularly above junction with pseudobulb; leaves fleshy, conduplicate, often variegated30.
[Eulophidium](#)
- Lip entire to 3-lobed, middle lobe scarcely retuse; pseudobulbs often lacking, but plant with tuberous underground stem; leaves plicate, often not developed at time of flowering 31. [Eulophia](#)
- 36 Leaves absent; roots very abundant, assimilating:..... 37
- Leaves present: 40
- 37 Sepals and petals united to one another in the lower two-thirds; lip with a cucullate apex and retrorse point on upper surface at apex; spur almost spherical 37. [Taeniophyllum](#)
- Sepals and petals free to the base: 38
- 38 Rostellum long and slender, sword-like, projecting forwards from the column; stipes long and narrow; viscidium linear-ligulate 40. [Encheiridion](#)
- Rostellum not sword-like, usually quite short: 39
- 39 Lip lamina reduced to a small point in front of the spur; mouth of spur with tall erect 3-angled tooth-like callus; apex of stipes much enlarged, partially enveloping the pollinia; viscidium short 41. [Chauliodon](#)
- Lip lamina variously developed, usually quite large; no vertical tooth in mouth of spur 39. [Microcoelia](#)
- 40 Rostellum not elongated, so deeply cleft that the apex of the column appears to be bifid, in front; lip usually very concave, entire, the base more or less enveloping the column, frequently with a central longitudinal keel; mouth of spur wide, the disk of the lip gradually passing into the spur 36. [Angraecum](#)
- Rostellum elongated, easily distinguishable, often deeply bifid, sometimes with an additional central lobe: 41
- 41 Lip with a small tooth-like or rim-like callus in the centre at the mouth of the spur; mouth of spur narrow; pollinia with separate stipes and common viscidium or each with its own stipes and viscidium 42.
[Diaphanathe](#)
- Lip without any tooth-like callus:..... 42
- 42 Column long and slender, terete below the stigma, 3.5-4 cm. long; perianth-segments all very similar, the lip broader than the others; spur over 15 cm. long 48. [Barombia](#)
- Column usually rather thick, 1 cm. or less in length, rarely terete; spur very rarely over 15 cm. long, usually much shorter:..... 43
- 43 Pollinia on a single stipes and viscidium, the stipes very rarely bilobed in the upper part and bearing one pollinium on each lobe: 44
- Pollinia with separate stipes and either a common viscidium or 2 separate viscidia: 51
- 44 Stipes of pollinia elliptical, somewhat constricted below the middle, the apex running down into a deep depression at the back of the androclinium, the pollinia attached near the centre of the ovate upper part; viscidium rectangular, attached to the anticous margin of the stipes; lip trilobed; stem long; inflorescences several-flowered 52. [Dinklageëlla](#)
- Stipes of pollinia linear or somewhat widened in the upper part, the pollinia attached near or at the apex: 45
- 45 Rostellum produced downwards and then sharply reflexed parallel to itself so that the apex points upwards, bipartite almost from the base; stipes somewhat shortly bifid at the apex; viscidium long and narrow, attached to nearly the whole length of the rostellum; inflorescences short and dense-flowered, arising at the base of the plant in the axils of the oldest leaves or leaf-bases 54. [Ancistrohynchus](#)
- Rostellum not sharply recurved upwards in the apical part: 46
- 46 Stems elongated, bearing leaves at more or less regular intervals usually for the greater part of their length: .. 47
- Stems short, bearing all the leaves closely together: 50
- 47 Spur with a narrow mouth, easily distinguishable from the limb of the lip, almost straight, not or only slightly thickened in the apical part: 48
- Spur with a wide mouth, gradually merging into the limb of the lip, narrowest in the middle and swollen at the apex: 49
- 48 Viscidium large, nearly as long as the stipes, elliptical or oblong; lip entire, without thickened basal auricles 56.
[Eggelingia](#)
- Viscidium small, much shorter than the long narrow stipes; lip frequently 3-lobed, the side-lobes sometimes tooth-like, in most species with thickened auricles on each side of the mouth of the spur 57. [Tridactyle](#)
- 49 Spur abruptly recurved near the apex, about as long as the rest of the lip; lip usually distinctly 3-lobed; perianth-segments acuminate 35. [Calyptrochilum](#)
- Spur straight or very gently curved, much longer than the rest of the lip; lip indistinctly 3-lobed or entire; perianth-segments obtuse 51. [Solenangis](#)

- 50 Spur with a narrow mouth, easily distinguishable from the limb of the lip, usually much longer than the rest of the lip and not or scarcely thickened in the apical part; lip acute, very similar in shape to the other perianth-members [47. *Aërangis*](#)
- Spur with a wide mouth, gradually merging into the limb of the lip, about the same length as the rest of the lip, distinctly thickened and recurved in the apical part; lip obtuse, obscurely trilobed, much broader than the other perianth-segments [53. *Eurychone*](#)
- 51 Leaves terete, or Iris-like, radiating like a fan from a common point, the 2 surfaces facing sideways, quite entire at the apex, closely imbricate at the base, fleshy; pollinia with a common viscidium: **52**
- Leaves not terete nor Iris-like, the surfaces usually placed horizontally and frequently much reflexed, or if vertically placed the apices more or less unequally bilobed: **55**
- 52 Leaves terete; stems elongated; inflorescences short, few-flowered; lip bilobed with elliptical rounded lobes; stipites slender, shorter than the pollinia [58. *Nephrangis*](#)
- Leaves Iris-like; lip entire or more or less trilobed: **53**
- 53 Inflorescences much shorter than the leaves, rather dense-flowered, flowers with long pedicels; spur much longer than the limb of the lip, swollen at the apex, nearly straight; lip entire [34. *Podangis*](#)
- Inflorescences about as long as, or longer than, the leaves, sometimes a little shorter; spur not swollen towards the apex: **54**
- 54 Flowers with long pedicels; sepals over 6 mm. long; lip entire, ovate or lanceolate; spur longer than the limb of the lip, incurved at the apex only [49. *Rangaëris*](#)
- Flowers with very short pedicels; sepals less than 4 mm. long; lip with rounded side-lobes and acute middle-lobe; spur equal to or shorter than the limb of the lip, sharply curved forward under the lip [44. *Bolusiella*](#)
- 55 Flowers in very dense almost spherical subsessile inflorescences at the base of the leaves; bracts large, as long as the flowers; rostellum produced downwards and then recurved sharply parallel to itself, deeply bifid; viscidium elongated, attached to nearly the whole length of the rostellum [54. *Ancistrohynchus*](#)
- Flowers in long and usually relatively lax inflorescences, bracts much shorter than the flowers; rostellum never as above: **56**
- 56 Rostellum long and beak-like, longer than the short column, bifid for two-thirds of its length; viscidium elongated, either linear or with a broad rolled-up portion to which the stipites are attached and a narrow hyaline portion adnate to the apical part of the rostellum; lip similar to perianth-segments, all narrow and acuminate; spur somewhat widened towards the mouth, at least twice as long as the lip [50. *Cyrtorchis*](#)
- Rostellum shorter than the column; viscidium as broad as long or rarely shortly rectangular: **57**
- 57 Lip deeply 3-lobed, the lateral lobes narrow and spreading; petals more or less deltoid, the anticous margin rounded and projecting a long way forward [55. *Angraecopsis*](#)
- Lip entire, very shortly 3-lobed at the apex only, or rarely with almost orbicular side lobes at the base: **58**
- 58 Mouth of spur some distance from base of lip, base of column and attachment of lateral sepals; inflorescence erect, very dense; flowers small; leaves with parallel margins, closely imbricate at the base; viscidium common [38. *Listrostachys*](#)
- Mouth of spur immediately below base of column or attachment of lateral sepals: **59**
- 59 Viscidium 1, common to 2 pollinia and stipites: **60**
- Viscidium 2, each with pollinium and stipes: **62**
- 60 Spur swollen at the apex; flowers small (sepals 3-6 mm. long), sometimes opposite or whorled [45. *Chamaeangis*](#)
- Spur tapering towards the apex, often much longer than the lip; flowers rather small (sepals 7 mm. long) to large: **61**
- 61 Lip indistinctly 3-lobed at the apex, lateral lobes rounded, somewhat toothed, middle lobe much longer, acuminate, at the base of the lip a toothed projection on each side of the mouth of the spur; rostellum long, subulate; viscidium small, rounded [46. *Plectrelminthus*](#)
- Lip quite entire, with no toothed projection, on the sides at the base, rarely 3-lobed with almost orbicular side lobes; rostellum shorter, usually bifid, or trifid [49. *Rangaëris*](#)
- 62 Lip indistinctly 2-3-lobed, obtuse; sepals and petals obtuse: **63**
- Lip quite entire, acute; sepals and petals acute or acuminate [49. *Rangaëris*](#)
- 63 Lip much longer than broad, distinctly constricted in the middle; petals oblong [43. *Sarcorrhynchus*](#)
- Lip usually broader than long, sometimes length and breadth about equal; petals nearly orbicular or broadly ovate [42. *Diaphananthe*](#)

Diceratostele gabonensis Summerh. APD acc

Additional genus: since this account was written, it has been discovered in the Ivory Coast (Tiapleu Forest (Sept.) Aké Assi 3297!)

Spathoglottis plicata *Bl. APD acc*

Many species of orchids from tropical America and tropical Asia are cultivated as ornamentals throughout Africa. Occasionally a species may become more or less naturalized and a well-known example of this is the Asiatic species above.

1. HOLOTHRIX

Rich. ex Lindl., Gen. & Sp. Orch. Pl. 257, 283 (1835); F.T.A. 7: 190. Nom. cons.

Deroemera *Rchb. f.* (1852)—F.T.A. 7: 193; F.W.T.A., ed. 1, 2: 405.

- 1 Scape densely and retrorsely pubescent, without sheaths, 6-16 cm. long; leaves 2, 1-1.5 cm. long, upper smaller; lip 7-toothed; flowers in a short, spike, white, tinged with mauve; sepals and petals 3-toothed at apex [1. tridentata](#)

Scape glabrous, with numerous lanceolate acuminate sheaths in the lower part, up to 18 cm. high; leaf solitary, withering just before or at flowering time; lip elliptical, 3-lobed, side lobes rounded, middle lobe narrow, acute, 4-5 mm. long; inflorescence 10-30-flowered; petals oblong, triapiculate, the middle lobe longest [2. aphylla](#)

1. Holothrix tridentata (*Hook. f.*) *Rchb. f.* Otia Bot. Hamburg. 119 (1881); F.T.A. 7: 193. *APD acc*

Peristylus tridentatus *Hook. f.* in J. Linn. Soc. 7: 221 (1864).

Holothrix platydactyla *Kraenzl.* (1893)-F.T.A. l.c.

A dwarf herb up to 5 in. high with 2 basal flattened leaves and mauve-white flowers.

W. Cam.: Cam. Mt., 7,000-11,000 ft. (Oct.-Nov.) Mann 2128! Preuss 1036! Johnston!

Also in [Ethiopia](#).

2. Holothrix aphylla (*Forsk.*) *Rchb. f.* Otia Bot. Hamburg. 119 (1881). *APD acc*

Orchis aphylla, *Forsk.*, Fl. Aegypt. Arab. 156 (1775).

Holothrix ledermannii *Kraenzl.* in Engl., Bot. Jahrb. 48: 385 (1912).

Holothrix calva *Kraenzl.* l.c. 386.

Deroemera ledermannii (*Kraenzl.*) *Schltr.* in Engl., Bot. Jahrb. 53: 486 (1915), in obs.; F.W.T.A., ed. 1, 2: 405.

D. calva (*Kraenzl.*) *Schltr.* l.c. (1915), in obs.

A dwarf herb up to 6 in. high with 1 basal flattened leaf and white or pale bluish flowers.

N. Nig.: Ropp, Plateau Prov., 4,600 ft. (Nov.) King 102! Mambila Plateau (Jan.) Hepper 1785! **W. Cam.:** Kufum, Bansa Mts., 6,700 ft. (Dec.) Ledermann 2005! Mbai, 6,000 ft. (Feb.) Brunt 969! Bamenda, 8,000 ft. (Jan.-Feb.) Daramola FHI 40506! Bafut-Ngemba F.R., Bamenda (Feb.) Hepper 2159! Kumbo, 4,000 ft. (Dec.) Ledermann 1988!

Eastwards to [Ethiopia](#), [Kenya](#) and [Arabia](#).

2. SCHWARTZKOPFFIA

Kraenzl. in Engl., Bot. Jahrb. 28: 177 (1900).

- 1 Terrestrial, probably saprophytic; leaves absent; scape up to 9 cm. high, glabrous, covered with large overlapping acute sheaths; flowers 2-3, subcapitate, lilac; lip nearly equally 3-lobed, with a sac-like base surrounded by 2 wing-like calli running down from the column and uniting in front, disk naked [pumilio](#)

Schwartzkopffia pumilio (*Lindl.*) *Schltr.* Die Orchid. 63 (1914). *APD acc*

Penthea pumilio *Lindl.* (1862).

Brachycorythis pumilio (*Lindl.*) *Rchb. f.* (1882)-F.T.A. 7: 203.

B. rosea *A. Chev.*, Bot. 621 (1920).

Schwartzkopffia buettneriana *Kraenzl.* in Engl., Bot. Jahrb. 28: 177 (1900).

A dwarf leafless herb up to 4 in. high with lilac flowers.

S. L.: Bagroo R. (Apr.) Mann 904! Jephun (Jan.) Smythe 220! S. Kambui Hills (Mar.) Dawe 452! **Lib.:** Jui, Gola Forest (Apr.) Bunting! **iv. C.:** Middle Cavally R., Fort Binger to Mt. Niènkoué (July) Chev. 19502! **Togo Rep.:** Bismarckburg Büttner 40! **N. Nig.:** Kwarra, Wamba King 110! Nr. Jemaa, Zaria Prov, King 110a!

3. BRACHYCORYTHIS

Lindl., Gen. & Sp. Orch. Pl. 363 (1838); F.T.A.. 7: 200; Summerhayes in Kew Bull. 9: 226 (1955).

Diplacorchis Schltr. (1921)-F.W.T.A., ed. 1, 2: 405.

Phyllomphax Schltr. (1919)-F.W.T.A., ed. 1, 2: 407.

- 1 Leaves softly velvety; lip without obvious spur; lamina of lip flat, trilobed towards apex, lobes about equal or middle shorter than laterals [10. pubescens](#)
 Leaves quite glabrous; lip spurred or unspurred: **2**
- 2 Spur of lip conical with an acute apex or elongated and obtuse, often over 4.5 mm. long: **3**
 Spur of lip very broad and rounded or absent, the base then boat-shaped: **5**
- 3 Leaves broadly lanceolate or elliptical-lanceolate, up to 13 cm. long and 5 cm. broad, more or less spreading, not very stiff; all but lowest flowers considerably longer than the bracts; lamina of lip broadly obcordate, 1.5-2 cm. long and broad; spur with a narrow acute apex from a broader swollen base, 7.5-10 mm. long; petals quite free from column [1. macrantha](#)
 Leaves narrowly lanceolate, up to 9 cm. long and 1.5 cm. broad, suberect, rather stiff; flowers equalling or shorter than the bracts; petals united at their base to the column: **4**
- 4 Lamina of lip broadest at the base, sometimes with a lobe on each side, apical part narrow, tongue-shaped, 5-8.5 mm. long; spur equally broad to apex or somewhat thickened in apical part, apex obtuse, 4.5-8.5 mm. long. [2. tenuior](#)
 Lamina of lip broadest above the middle, obovate, truncate in front, tapering towards the base; spur distinctly conical with a broad mouth and narrow acute apex, 2.5-6 mm. long [3. conica](#)
- 5 Largest leaves in lower part of stem, upper part with few usually much smaller leaves; middle lobe of lip usually much longer than laterals, latter quite rounded and not at all sickle-shaped; lower bracts shorter than the flowers; spur of labellum short and rounded [4. paucifolia](#)
 Largest leaves in middle or upper part of stem, lower part of stem usually covered with sheaths; middle lobe of lip equalling or shorter than laterals and always much smaller, laterals more or less sickle-shaped or incurved and acute; lower bracts usually longer than the flowers: **6**
- 6 Epichile (apical part) of lip with a conical projecting callus just in front of the sac-like hypochile, reniform, the middle lobe shorter and smaller than the lateral lobes; dorsal sepal 4-5 mm. long; spike dense, 1-2 cm. diam.; sides of basal part of lip broadly angled [6. buchananii](#)
 Epichile of lip without a conical basal callus but usually with a longitudinal ridge terminating in the middle lobe; dorsal sepal 5-14 mm. long; spike over 2 cm. diam.: **7**
- 7 Lip scarcely longer than the sepals, about 1 cm. long, the middle lobe about the same length as the laterals; plant about 70-100 cm. high with many-flowered inflorescence 10-18 cm. long and 3-4 cm. diam.; spur rounded, up to 4.5 mm. long [5. sceptrum](#)
 Lip considerably longer than the sepals, the middle lobe much shorter than the lateral lobes; spur absent, base of lip boat-shaped: **8**
- 8 Hypochile of lip short, 1.5-2 mm. long from back to front, sides triangular; leaves terminating in a very long fine point, lanceolate or narrowly lanceolate; petals lying forward from column, semi-orbicular or broadly obovate; stem and leaves becoming black on drying; leaves and flowers numerous [7. pleistophylla](#)
 Hypochile of lip 3.5-6 mm. long from back to front, sides sloping down from column, not or scarcely angled; leaves acuminate but usually not very finely pointed, lanceolate or broadly lanceolate; petals ovate or elliptical-ovate; stem and leaves not blackening on drying: **9**
- 9 Plant usually 40-100 cm. high, terrestrial; leaves numerous, closely overlapping, stiff and rigid; flowers numerous in a long spike, rather fleshy; petals erect on either side of column; lip 1-2 cm. long [8a. ovata subsp. schweinfurthii](#)
 Plant usually 20-40 cm. high, frequently epiphytic; leaves less than 15, rather thin in texture, not closely overlapping; flowers in a loose spike, less than 22 in number, thin in texture; petals set forward from column or spreading; lip 2-3 cm. long [9. kalbreyeri](#)

1. *Brachycorythis macrantha* (Lindl.) Summerh. in Kew Bull. 9: 236 (1956). *APD acc*

Gymnadenia macrantha Lindl. (1835).

Platanthera helleborina (Hook. f.) Rolfe (1898)-F.T.A. 7: 204.

Phyllomphax helleborina (Hook. f.) Schltr. (1919)-F.W.T.A., ed. 1, 2: 407.

A stout herb up to 15 in. high, the upper half bearing up to 20 green and mauve flowers.

Guin.: Fouta Djallon, Ditinn (Sept.) Chev. 18533! Manfara to Tendou, Kissidougou (July) Martine 345! Kouria to Languery (Aug.) Caille in Hb. Chev. 14652! Timbo (July) Chev. 18517! Nimba Mts. (Sept.) Schnell 1857! **S. L.:** Sugarloaf Mt. (Dec.) Sc. Elliot 4061! Jigaya (Sept.) Thomas 2738! Bagwema, Bafi R. (July-Aug.) Dawe 547! Mahinto, Tonko Limba (Sept.) Adames 195! junction Port Loko and Kambia, roads (Sept.) Adames 244! **Lib.:** Nimba Mts., 2,500 ft. (July) Leeuwenberg & Voorhoeve 4811! Sanokwele, Central Prov. (Sept.) Baldwin 7536! **N. Nig.:** Anara F.R., Zaria (July) Keay FHI 25960! **S. Nig.:** Idanre Hills, Ondo Hoskyns-Abrahall FHI 36068! (Aug.) Gillett 15312! Iseyin, Oyo Prov. Latilo FHI 53918! **W. Cam.:** Fonfaka, Bamenda, 3,000 ft. (June) Maitland 1639! Bambui, 4,800 ft. (May) Brunt 1136!

Also in **E. Cameroun**, **Gabon** and **C. African Republic**.

2. *Brachycorythis tenuior* *Rchb. f.* in Flora 48: 183 (1865). *APD acc*

Platanthera tenuior (*Rchb. f.*) *Schltr.* (1895)-F.T.A. 7: 205.

P. engleriana (*Kraenzl.*) *Rolfe* in F.T.A. 7: 204 (1898).

Diplacorchis engleriana (*Kraenzl.*) *Schltr.* (1921)-F.W.T.A., ed. 1, 2: 407.

A slender herb up to 3 ft. high; raceme 4 in. long or less, bracts not much projecting; flowers reddish, sepals with greenish tips.

Guin.: Nimba Mts., 5,300 ft. (June, July, Aug.) Schnell 1558b! 2997! 3379! Fon Massif, 5,300 ft. (July, Aug.) Schnell 3098b! 3317! **S. L.:** Bintumane Mt., 5,000-6,000 ft. (July) Bakshi 227! 230! **Iv. C.:** Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18075! 18077a! 18093! **N. Nig.:** Katsina Ala (Aug.) Dalz, 835!

Generally distributed in tropical Africa, southwards to Transvaal and Natal.

3. *Brachycorythis conica* (*Summerh.*) *Summerh.* in Kew Bull. 9: 244 (1955). *APD acc*

Diplacorchis conica *Summerh.* in Kew Bull. 1938; 141.

A slender herb up to 18 in. high; with a short raceme of purple or violet flowers.

N. Nig.: Mambila Plateau, Sardauna Prov. (June) Chapman 2!

Also in **Gabon**, **Congo** and **Zambia**.

4. *Brachycorythis paucifolia* *Summerh.* in Kew Bull. 1: 123 (1948). *APD acc*

A herb 8-20 in. high with a rather short and dense flower spike.

Guin.: Man, Nimba Mts. (Apr.) Roberty 3107! Nzérékoré, Mt. Nimba, 6,000 ft. (Oct.) Jac.-Féb. 1936! Nimba Mts. (Aug.-Sept.) Schnell 1853! 3372! 3405! **S. L.:** Bintumane Pk., Loma Mts., 5,000-5,300 ft. (Aug.) Jaeger 375! 1027! 1132! Da-Oulen Mt., 5,200 ft. (Aug.) Jaeger 1278! 1327!

5. *Brachycorythis sceptrum* *Schltr.* in Beih, Bot. Centralbl. 38, II: 114 (1921). *APD acc*

Diplacorchis ashantensis *Summerh.* in Kew Bull. 1931: 378(1931); F.W.T.A., ed. 1, 2: 407.

A slender leafy herb 2 1/2-3 ft. high with white and purple flowers.

Sen.: Kaème Forest, Oussouye (Sept.) Doumlia 849! **Guin.:** Kindia (Aug.) Pobéguin 1375! **Ghana:** Amoma (July) Chipp 531! **N. Nig.:** Kagarko, Zaria (July) G, V. Summerhayes 122! Jemaa, Zaria (Aug.) King 145! Kabba (Apr.) Westwood! **S. Nig.:** Oyo (July) Sanford 1785/65!

Also in **E. Cameroun**.

6. *Brachycorythis buchananii* (*Schltr.*) *Rolfe* in F.T.A. 7: 570 (1898). *APD acc*

Brachycorythis parviflora *Rolfe* in F.T.A. 7: 202 (1898).

A herb 1-2 1/2 ft. high with a dense narrow spike of small pink, mauve or purple flowers.

N. Nig.: Mambila Plateau, 5,500 ft. (June) Chapman 4! **S. Nig.:** Obudu Plateau, Ogoja Prov., 5,300 ft. (June) Horwood in Hb. King 158!

Also in E. Africa from **Uganda** and **Kenya** Southwards to Rhodesia.

7. *Brachycorythis pleistophylla* *Rchb. f.* in Otia Bot. Hamburg. 104 (1881); F.T.A. 7: 202. *APD acc*

A herb 1-3 1/2 ft. high, with numerous very finely pointed leaves and a spike of purple, mauve or violet flowers.

N. Nig.: Ropp, Plateau Prov., 4,300 ft. (May) King 42! Sara Hills, Bauchi Prov., 5,400 ft. King s.n!

Generally in tropical Africa, southwards to [Angola](#).

8. *Brachycorythis ovata* Lindl. Gen. & Sp. Orch. 363 (1838). *APD acc*

Widespread in tropical Africa.

8a. *Brachycorythis ovata* subsp. *schweinfurthii* (Rchb. f.) Summerh. in Kew Bull. 9: 257 (1955). *APD acc*

Brachycorythis schweinfurthii Rchb. f. (1878)-F.T.A. 7: 201; F.W.T.A., ed. 1, 2: 405.

A slender leafy herb with purple-spotted flowers.

Sen.: Oussouye (Nov.) Berhaut 6549! **Iv. C.:** Kong Dist. Bouet 2560! **N. Nig.:** Lapai, Niger Prov. Onochie FHI 35386! Zungeru (June) Dalz. 561! Abinsi (June-July) Dalz. 836! Wana, 1,700 ft. (June) Hepburn 119! Anara F.R., Zaria (July) Keay FHI 25968! **W. Cam.:** Lakom, Bamenda, 6,000 ft. (Apr.) Maitland 1787! Bali-Ngemba F.R. (May) Ujor FHI 30324a! Mbaw Plain, Sabonuri, 2,600 ft. (May) Brunt 405!

Eastwards to [Sudan](#) and [Kenya](#).

The only subspecies so far recorded from the area of the flora.

9. *Brachycorythis kalbreyeri* Rchb. f. in Flora 61: 77 (1878); F.T.A. 7: 201. *APD acc*

A slender herb with large lilac or violet flowers in a short raceme; [epiphytic or on rocks](#).

Guin.: Bandalcene, SW. of Pita (July) Adames 290! **S. L.:** Heddles Farm (June) Lane-Poole 376! Makump (July) Thomas 894! Ndijajula, near Njala (May, June) Deighton 700! 4315! **Lib.:** St. Paul R., Dobli Isl. (Apr.) Bequaert 173! Ganta (July) Harley 2138! Nimba Adam 21547! **W. Cam.:** Cam. Mt. 5,500-6,000 ft. (Mar.) Kalbreyer 145!

Also in [Congo](#) and [Kenya](#).

10. *Brachycorythis pubescens* Harv. Thes. Cap. 1: 35, t. 54 (1859); F.T.A. 7: 201. *APD acc*

Brachycorythis sudanica Schltr. in Beih. Bot. Centralbl. 38(2): 111(1921); F.W.T.A., ed. 1, 2: 405.

A slender herb 18-30 in. high with pink, bluish or reddish-purple, or rarely white, flowers.

Mali: Folo (May) Chev. 827! **Guin.:** Sabodougou, near Touba (July) Collenette 61! **Iv. C.:** Séguéla (Oct.) Aké Assi 5633! **Togo Rep.:** Bassari Thienemann. Fasugu (May) Bttner 647 **N. Nig.:** Lokoja Lugard! Zangeru (July) Dalz. 571! Vom Dent Young 232! Naraguta, 4,000 ft. (May) Lely 237! Tangale-Woja, Bauchi Prov. (May) G. V. Summerhayes 66! Mambila Plateau, 5,500 ft. (June) Chapman 8! **W. Cam.:** Lakom, Bamends, 6,000 ft. (Apr.) Maitland 780! Jua, Bamenda, 3,000-3,500 ft. (Apr.) Maitland 1625! Jakiri (June) Gregory 144!

Also generally in tropical Africa, southwards to Transvaal and Natal.

4. CYNORKIS

Thou. in Nouv. Bull. Sci. Soc. Philom, Paris 1: 317 (1809); F.T.A. 7: 259.

- 1** Lip 5-lobed, lowest 2 lobes reduced to teeth, other 3 lobes oblong, subacute, middle longer than laterals; leaves 1-2, lanceolate, oblanceolate or oblong, up to 10.5 cm. long and 3 cm. broad; spike dense, up to 8 cm. long; intermediate sepal 2-2.5 mm. long, spur 2-3 mm. long [1. *debilis*](#)

Lip entire, ligulate or narrowly oblong, obtuse; leaves 2-5, oblanceolate or narrowly oblanceolate, acuminate, up to 14 cm. long and 1.5 cm. broad; spike dense, usually 2-4 cm. long, but exceptionally up to 9 cm.; intermediate sepal 2-3 mm, long, spur about the same length or a little longer [2. *anacamptoides*](#)

1. *Cynorkis debilis* (Hook.f.) Summerh. in Kew Bull. 1933; 246. *APD acc*

Habenaria debilis Hook. f. (1864)-F.T.A. 7: 213.

A [terrestrial](#) herb up to 9 in. high with small white flowers with wine-coloured spotted lip.

W. Cam.: Cam. Mt., 5,000-7,000 ft. (Nov.) Mann 2127! **F. Po:** Moka, 4,550 ft. (Sept.) Wrigley & Melville 616!

Also in [S. Tomé](#) and [Congo](#).

2. *Cynorkis anacamptoides* *Kraenzl.* in Engl., Pflanzenr. Ost-Afrika C: 151 (1895), and in Engl., Bot. Jahrb. 22: 18 (1896); F.T.A. 7: 260. *APD acc*

A slender *terrestrial* herb 6-20 in. high with a dense spike of small pink or purple flowers.

W. Cam.: Jakiri, Bamenda Div. (Feb.) Hepper 1958! **F. Po:** Las Corteras (Jan.) Guinea 2125! Carretera Moka (Jan.) Guinea 1895! Mioka, 5,000 ft. (Dec.) Boughey 156!

Also in **Congo**, **Ethiopia**, **Uganda**, **Kenya**, **Tanzania**, **Angola** and **Rhodesia**.

5. HABENARIA

Willd., Sp. Pl. 4: 44(1805); F.T.A. 7: 206.

- 1 Lip superior, trilobed at apex only; sepals and ovary hairy; spur erect, somewhat recurved, 10-15 mm. long; petals shortly bidentate at apex; scape 15-30 cm. tall; leaf radical, ovate, more or less adpressed to the ground, variegated with reticulate markings [47. occidentalis](#)
Lip inferior: **2**
- 2 Petals undivided: (to p. 191)..... **3**
Petals bilobed or bipartite, the posterior lobe often adnate to the dorsal sepal: (from p. 189) **27**
- 3 Lip entire: **4**
Lip trilobed: **6**
- 4 Dorsal sepal 6.5-11 mm. long; anther canals elongated, over 2 mm. long; stigmas free: **5**
Dorsal sepal 4-6 mm. long; anther canals very short; posterior half of petal infolded; stigmas usually connate [10. zambesina](#)
- 5 Leaves narrowly lanceolate, up to 18 cm. long and 5 cm. broad; petals ovate or elliptical, obtuse or rounded, posterior margin slightly infolded; lip 9-12.5 mm. long; anther canals straight, 2-3 mm. long [8. leonensis](#)
Leaves broadly or oblong-lanceolate, up to 12 cm. long and 4 cm. broad; petals broadly lanceolate, acute, posterior margin, not infolded; lip 11-13 mm. long; anther canals much incurved, 3.5-4 mm. long [9. stenochila](#)
- 6 Side lobes of lip pectinate or fimbriate: **7**
Side lobes of lip entire: **11**
- 7 Flowers small; dorsal sepal 5-7 mm. long; lip 1-1.5 cm. long, middle lobe flabellate, emarginate with a central apiculus, front margin pectinate, spur 2-3 cm. long; plant 7-15 cm. high, 1-2-flowered; leaves linear-lanceolate, 1-4 cm. long, 2-4 mm. broad [21. jacobii](#)
Flowers large; dorsal sepal over 12 mm. long; lip at least 2 cm. long, middle lobe linear or linear-oblong, entire, subacute; plant 15-70 cm. high, usually over 4-flowered; leaves 5-25 cm. long, 0.75-7 cm. broad: **8**
- 8 Side lobes of lip semi-ovate or fan-shaped, shortly pectinate; spur over 5 cm. long; anther-loculi approximate; leaves broadly oblong-lanceolate, 3-7 cm. broad: **9**
Side lobes of lip linear or slightly broadened upwards, divided into many narrow segments on the outer edge; anther loculi distant from one another at the ends of the narrow ribbon-shaped connective; leaves linear-lanceolate, 0.75-3 cm. broad: **10**
- 9 Lip about 2.5-4 cm. across, lobes divergent; side lobes fan-shaped, deeply cordate on each side of claw; spur 12-15 cm. long [19. englerana](#)
Lip about 2-5 cm. across, lobes nearly parallel; side lobes semi-ovate, bases at right angles with claw; spur about 5 cm. long [20. prionocraspedon](#)
- 10 Spur 1.2-2.2 cm. long; side lobes of lip only slightly widened upwards, threadlike segments rising pinnately; receptive portions of stigmas stalked; anther canals 3-5 mm. long [23. mannii](#)
Spur 3.5-7.5 cm. long; side lobes of lip considerably widened upwards, threadlike segments arising almost palmately; receptive portions of stigmas sessile; anther canals only 2 mm. long [24. jaegeri](#)
- 11 Leaf suborbicular, radical, closely appressed to the ground, 2-6.5 cm. broad; perianth-segments ovate-lanceolate, acuminate, 7-10 mm. long; lip-segments narrowly lanceolate, of equal length, the middle one broader; spur 3-6 cm. long [48. lelyi](#)
Leaves cauline, or if radical neither suborbicular nor closely appressed to the ground: **12**
- 12 Column elongated, over 13 mm. high, the anther at the apex; anther-canals free from the side lobes of the rostellum; stigmas cushion-like, partially confluent; leaves in a tuft at the base, lanceolate, up to 25 cm. long; lobes of lip filiform; dorsal sepal 1.8-3 cm. long [7. macrandra](#)
Column short, less than 6 mm. high; anther-canals united to the side lobes of the rostellum; stigmas stalked or

- nearly sessile, but not cushion-like nor confluent: 13
- 13 Spur 4 cm. or more long; dorsal sepal 8-12 mm. long: 14
- Spur less than 3 cm. long; dorsal sepal up to 6.5 mm. long: 16
- 14 Epiphytic plant (rarely in humus); leaves lanceolate or narrowly ovate, up to 30 cm. long, 2-7 cm. broad; spur 6-10 cm. long; inflorescence rather dense, usually 10-30-flowered [11. procera](#)
- Terrestrial plants; leaves lanceolate or narrowly lanceolate, 0.5-4 cm. broad; inflorescence rather lax, almost always less than 12-flowered: 15
- 15 Leaves linear- or narrowly lanceolate, up to 1 cm. broad; spur 4-5 cm. long; growing on rocks by streams [12. weilerana](#)
- Leaves narrowly lanceolate or lanceolate, 1-4 cm. broad; spur 5-12 cm. long; growing in humus or grassy places among rocks [13. gabonensis](#)
- 16 Leaves in a tuft at the base of the stem with often a smaller leaf on the scape above: 17
- Leaves at intervals along stem, but often closer in lower part: 18
- 17 Plant 15-55 cm. high; leaves ascending, elliptical-lanceolate, shortly stalked, 4-14 cm. long, 1.5-3.5 cm. broad; inflorescence 5-20-flowered; dorsal sepal 5-7 mm. long; lobes of lip all narrowly linear; spur decurved, inflated in distal half [6. buntingii](#)
- Plant up to 15 cm. high; leaves spreading or more or less recurved, broadly linear or linear-lanceolate, 1-2.5 cm. long, 2-4 mm. broad; inflorescence 1-2-flowered; dorsal sepal 4-5.5 mm. long; side lobes of lip narrow, middle lobe suddenly fan-shaped from a narrow base; spur pendulous, almost straight, scarcely inflated [22. parva](#)
- 18 Spur 1-1.5 mm. long, shorter than the lip; anther canals very short: 19
- Spur 10 mm. or more long, equalling or longer than the lip: 20
- 19 Lip broad, 2-2.5 mm. long, shortly trilobed, three lobes about equal in length, middle lobe triangular with an elevated keel; stigmas nearly sessile; leaves elliptic-lanceolate, acuminate, up to 10 cm. long and 4 cm. broad; rostellum small, tooth-like; spike slender, up to 1 cm. diam.; dorsal sepal 2-2.5 mm. long [5. microceras](#)
- Lip longer than broad, 7.5-9.5 mm. long, the middle lobe much longer than the spreading laterals, ligulate, base of lip deeply cordate with 2 rounded auricles; stigmas oblong or club-shaped, 1.5-2 mm. long; leaves narrowly lanceolate, acute, up to 25 cm. long and 2 cm. broad; rostellum large, folded, shield-like when flattened, spike rather stout, 1.5-3 cm. diam.; dorsal sepal 4-6.5 mm. long [18. peristyloides](#)
- 20 Spur almost filiform, not much thickened near the apex, always much longer than the lip; dorsal sepal up to 5 mm. long; flowers numerous in a long spike: 21
- Spur stouter, more or less markedly club-shaped near apex: 24
- 21 Petals ovate or narrowly ovate; segments of lip ligulate or narrowly oblong, up to 5.5 mm. long; middle lobe of rostellum short, hooded: 22
- Petals linear or narrowly lanceolate; segments of lip linear, up to 9 mm. long; middle lobe of rostellum narrow, elongated, more or less acute: 23
- 22 Leaves 1 or 2 near base of stem, with several much smaller bract-like ones above; pedicels (and ovaries) more or less appressed to rhachis so that spike is very narrow, 1 cm. diam.; dorsal edge of petals folded inwards; side lobes of rostellum very short, middle lobe obtuse, clearly hooded; side lobes of lip up to 2.5 mm. long [1. attenuata](#)
- Leaves 4-8 all along stem below inflorescence; pedicels (and ovaries) arcuate so that spike is 1.5-2.5 cm. diam.; dorsal edge of petal not folded inwards; side lobes of rostellum relatively long and narrow, middle lobe very short, slightly hooded; side lobes of lip 2.5-5.5 mm. long [2. bracteosa](#)
- 23 Leaves oblong or narrowly lanceolate, about 5-6 times as long as broad, up to 10 cm. long; stigmas papillose underneath; rostellum middle lobe without tall keel [3. filicornis](#)
- Leaves linear, 10-20 times as long as broad, up to 17 cm. long; stigmas smooth underneath; rostellum middle lobe with tall keel [4. chlorotica](#)
- 24 Dorsal sepal 2.5-4 mm. long; spur shortly bifurcate at apex, about 7 mm. long; leaves linear to lanceolate-linear, at least 8 times as long as broad, 7-13 cm. long, 5-10 mm. broad; inflorescence 4-17-flowered; anther-loculi divergent [17. nigrescens](#)
- Dorsal sepal 5-7 mm. long; spur rounded or entire at apex, not bifurcate; leaves lanceolate or oblong-lanceolate, at most 7 times as long as broad: 25
- 25 Leaves longest immediately below the inflorescence, lower half of stem almost covered by 4-5 rather loose sheaths; leaves lanceolate, 2.5-8 cm. long, 7-12 mm. broad; lower bracts longer than the flowers; petals curved lanceolate; side lobes of lip shorter than middle lobe; spur about equalling or longer than lip [16. nigerica](#)
- Leaves all along stem or in the lower part only, basal sheaths very inconspicuous; lower bracts shorter than the flowers; petals obovate, rounded; side lobes of lip equalling or longer than middle lobe; spur considerably longer than lip: 26
- 26 Stigmas club-shaped; leaves mostly near base of the stem, up to 9 cm. long and 1-7 cm. broad; spur much dilated

- at apex; anther loculi some distance apart on the broadened connective [14. obovata](#)
- Stigmas awl-shaped; leaves all along the stem, 5-15 cm. long, 2-4 cm. broad; spur moderately dilated at apex;
anther loculi contiguous [15. dinklagei](#)
- 27** Leaves borne along the stem, neither orbicular nor adpressed to the ground: **28**
- Leaves 1-2, radical, suborbicular or heart-shaped and adpressed to the ground: **49**
- 28** Spur 5 cm. or more in length: **29**
- Spur less than 5 cm. in length: **32**
- 29** Lobes or lip and anterior petal-lobe lanceolate; anther canals much shorter than stigmas; lateral sepals not rolling
up lengthwise; spur 13-17 cm. long; dorsal sepal 11-15 mm. long [46. walleri](#)
- Lobes of lip and anterior petal-lobe linear or linear-lanceolate, latter horn-like; anther canals slightly longer than
stigmas; lateral sepals rolling up lengthwise; dorsal sepal over 15 mm. long: **30**
- 30** Anterior petal-lobe lanceolate-linear, 2-3.5 cm. long; spur up to 7 cm. long, swollen at apex [42. holubii](#)
- Anterior petal-lobe filiform or narrow-linear, 4.5-7.5 cm. long; spur 5-17 cm. long: **31**
- 31** Spur 12-17 cm. long, moderately swollen near end, tapering again towards apex itself [43. cirrhata](#)
- Spur 5-8 cm. long, suddenly swollen at apex to form a rounded obtuse sac [44. laurentii](#)
- 32** Anterior petal-lobe slender, fleshy, subulate, rather like a long curved horn, 2-4 times as long as the erect dorsal
sepal; dorsal sepal over 5 mm. long; spur much swollen at apex; stigmas suddenly broadened at apex; leaves
mostly in lower part of stem, 1-3 cm. broad: **33**
- Anterior petal-lobe not as above: **34**
- 33** Stigmas 8-12 mm. long; dorsal sepal 11-17 mm. long; spur 3-5 cm. long; side lobes of lip very slender, entire,
longer than the anther canals [41. clavata](#)
- Stigmas 4.5-6 mm. long; dorsal sepal 6-9 mm. long; spur 1.5-2.5 cm. long; side lobes of lip narrowly lanceolate,
often with several comb-like teeth or threads on the outside edge [45. cornuta](#)
- 34** Dorsal sepal 1 cm. long or more: **35**
- Dorsal sepal less than 9 mm. long: **37**
- 35** Petal-segments linear or almost filiform; spur less than 2 cm. long; leaves 1.5-7 cm. broad, up to 12 cm. long: **36**
- Petals divided two-thirds down, posterior segment lanceolate, anterior curved, oblong or linear, much shorter or
equal in length; spur 3-4 cm. long; leaves narrower, 1-2 cm. broad, up to 6 cm. long [40. phylacochaira](#)
- 36** Petals divided nearly to base, segments glabrous; side lobes of lip longer than the middle lobe, side lobes
spreading, middle lobe hanging vertically downwards, narrow; leaves in a group just above the middle of the
stem; stigmas not swollen at apex; inflorescence up to 10-flowered [26. barrina](#)
- Petals divided two-thirds down, segments ciliate; side lobes of lip shorter than the middle lobe; leaves in lower
half of stem; stigmas club-shaped; inflorescence 15-70-flowered [25. longirostris](#)
- 37** Leaves lanceolate, oblong-lanceolate or oblanceolate, 1.5-5 cm. broad, mostly in central part of stem, lower part
of stem more or less covered by sheaths; stigmas obliquely club-shaped or scarcely thickened upwards: **38**
- Leaves lanceolate, linear-lanceolate or linear, never more than 2 cm. broad and usually much narrower, when
lanceolate the largest near the base of the stem: **40**
- 38** Lamina of leaves lanceolate or oblong-lanceolate, the basal part broadest and usually more or less enfolding the
stem, up to 14 cm. long, 1.5-3.5 cm. broad; lower leafless part of stem 5-10 cm. long, sheaths loose, funnel-
shaped; dorsal sepal 4.5-6.5 mm. long; inflorescence dense-flowered; spur 10-15 mm. long [27. papyracea](#)
- Lamina of leaves oblanceolate, narrowing gradually to the base, 5-16 cm. long, 1.5-5 cm. broad; lower leafless
part of the stem 5-20 cm. long. sheaths tight; inflorescence rather loose-flowered; dorsal sepal 3.5-5.5 mm.
long: **39**
- 39** Pedicel and ovary bending out from rhachis so that flowers are nearly horizontal, inflorescence 3-5 cm. diam.;
spur 1.2-2.5 cm. long, slightly thickened in distal half; anterior petal-lobe equalling, shorter than or slightly
longer than the posterior [28. buettnerana](#)
- Pedicel and ovary diverging from rhachis at about 45°, flowers bending forward slightly or vertical, inflorescence
2-3 cm. diam.; spur 9-16 mm. long, thickest in centre and tapering towards both ends, much incurved; anterior
petal-lobe longer and narrower than the posterior [29. malacophylla](#)
- 40** Anterior petal-lobe shorter and narrower than posterior; stigmas club-shaped, not obliquely truncate-capitate at
apex; dorsal sepal erect, about 4 mm. long; inflorescence dense, many-flowered, about 2 cm. diam.; leaves
lanceolate or narrowly lanceolate, in lower part of stem; spur descending, slightly inflated in distal half, 8-10
mm. long [30. bongensium](#)
- Anterior petal-lobe longer than or rarely equalling the posterior, usually broader; stigmas slender in lower part,
obliquely truncate-capitate at apex; dorsal sepal more or less reflexed; leaves usually linear or linear-lanceolate:
..... **41**
- 41** Spur spirally twisted in middle and sharply incurved, much swollen at apex, 9-13 mm. long; lobes of lip narrowly

- linear, middle lobe 9-11 mm. long, longer than laterals [31. genuflexa](#)
- Spur straight or slightly curved, not spirally twisted or if so not incurved: **42**
- 42** Petals divided for two-thirds of the length only, anterior segment narrower than posterior; spur very slender, slightly incurved, not thickened at end, 5-7 mm. long; lobes of lip narrowly linear; stigmas 6-7 mm. long .. [32. dalzielii](#)
- Petals divided almost to the base; lateral sepals obliquely obovate, laterally apiculate; lobes of lip narrowly linear, not very acute, middle distinctly longer than laterals: **43**
- 43** Bracts equalling or longer than pedicel + ovary; dorsal sepal 5-8 mm. long; spur 15-20 mm. long, thickened in lower half, rather acute [36. huillensis](#)
- Bracts considerably shorter than pedicel + ovary: **44**
- 44** Anterior segment of petals about the same length as, or shorter than, the posterior segment; spur 6-8 mm. long: **45**
- Anterior segment of petals much longer and usually broader than the posterior segment; spur 1-3 cm. long: ... **46**
- 45** Posterior petal-segment much broader than anterior, about the same length; dorsal sepal 5-6 mm. long; inflorescence often rather lax, 1.5-2.5 cm. diam.; leaves up to 13 cm. long and 8 mm. broad; anther canals 4-5 mm. long [33. angustissima](#)
- Posterior petal segment narrower and longer than anterior; dorsal sepal 3-4 mm. long; inflorescence dense, 1.5-2 cm. diam.; leaves up to 23 cm. long and 1 cm. broad; anther canals about 2.5 mm. long [35. pauper](#)
- 46** Stamines tongue-shaped, entire; leaves rather short, 4-10 cm. long; stigmas obliquely truncate at apex; spur 18-22 mm. long, distinctly swollen in the lower half and narrowly club-shaped [37. linguiformis](#)
- Stamines bilobed; leaves longer, up to 30 cm. long: **47**
- 47** Spur equal in thickness nearly to apex where there is a very slight swelling, 12-21 mm. long; stamines large, deeply bilobed with a distinct stalk; racemes rather densely many-flowered [38. chirensis](#)
- Spur distinctly club-shaped and swollen in the apical half or third; stamines about 1 mm. long, sessile: **48**
- 48** Leaves linear, up to 20 cm. long and 8 mm. broad; ovary 5-6 mm. long, much shorter than the long slender pedicel; spur 1-3 cm. long, swollen in the apical third; inflorescence rather lax [34. ichneumonea](#)
- Leaves narrowly lanceolate, up to 10 cm. long, 10-14 mm. broad; ovary 8-9 mm. long, often nearly as long as the pedicel; spur 10-11 mm. long, swollen in the apical half [39. maitlandii](#)
- 49** Rhachis and flowers hairy; leaf on flowering stem 1, rarely with a much smaller additional one near the base of the scape or young flowering plants with 2 leaves; dorsal sepal 5-8 mm. long; scape up to 45 cm. high: **50**
- Rhachis and flowers glabrous; leaves on adult plants 2; dorsal sepal 8 mm. long or more; spur 5-20 cm. long; scape 30-70 cm. high: **51**
- 50** Spur about 6 cm. long; leaf about 3-4 cm. long and broad, margins densely hairy, otherwise almost glabrous; dorsal sepal about 6 mm. long; segments of lip and anterior petal-segments filiform [49. lecardii](#)
- Spur 10-14 mm. long; leaf (or leaves) (1.5-)4-12 cm. long, including basal lobes, (1-)4-11 cm. broad, margins hairy, often with scattered long hairs on upper surface; dorsal sepal 5-8 mm. long; segments of lip and anterior petal-segment linear or very narrowly strap-shaped [50. keayi](#)
- 51** Segments of lip and anterior petal-segments oblanceolate, up to 2 cm. long, 2.5-9 mm. broad; leaves 3-8 cm. long; scape almost covered with large sheaths; stigmatic arms thick all the way up, truncate at apex, 3-5 mm. long [51. macrura](#)
- Segments of lip and anterior petal-segments filiform, 2.5-4.5 cm. long; leaves 4-16 cm. long, 9-20 cm. broad; sheaths on scape small, distant; stigmatic arms clavate-capitate from a very slender base, 6-10 mm. long ... [52. armatissima](#)

1. Habenaria attenuata Hook. f. in J. Linn. Soc. 7: 221(1864); F.T.A. 7: 216; F.W.T.A., ed. 1, 2: 410 (excl. syn. *H. clarencensis* Rolfe, partly). *APD acc*

A slender **terrestrial** herb up to 18 in. high with small green flowers in a narrow spike.

W. Cam.: Cam. Mt., 7,000 ft. (Nov.) Mann 2188! 8,000-10,000 ft. Johnston 30! 33! **F. Po:** Clarence Peak, on summit, 10,000 ft. (Dec.) Mann 645 (partly)!

Also in **Congo**, **Ethiopia** and **Uganda** (Mt. Elgon).

2. Habenaria bracteosa Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 292 (1851); F.T.A. 7: 217. *APD acc*
Habenaria clarencensis Rolfe (1898)-F.T.A. 7: 216, partly.

An erect leafy **terrestrial** plant up to 3 1/2 ft. high with a long dense spike of green or greenish-yellow flowers.

W. Cam.: Preuss 970! Lakom, Bamenda, 6,000 ft. Maitland! **F. Po:** Clarence Peak, on summit, 10,000ft. (Dec.) Mann 645 (partly)!

Also in **Ethiopia**, **Uganda**, **Kenya** and **Tanzania**.

3. **Habenaria filicornis** *Lindl.* Gen. & Sp. Orch. Pl. 318 (1835); F.T.A. 7: 216; Chev. Bot. 620; F.W.T.A., ed. 1, 2: 410 (excl. Dalz. 232). *APD acc*

A slender herb up to 18 in. high; flowers small, green, in an open spike; in damp grassy plains, etc.

Iv. C.: Kodiokoffi (Aug.) Chev. 22345. **Ghana:** Thonning 58! Nandom (Sept.) Hall CC 779! Lawra to Wa (Sept.) Hall CC 632! **N. Nig.:** Jos Plateau (June) Lely P330! Hephram to Ropp, 4,600 ft. (July) Lely 374! Vom, 3,000-4,500 ft. Dent Young!

Also in **Ethiopia**, **Sudan**, **Uganda**, **Kenya**, **Tanzania**, **Angola**, **Congo**, **Malawi** and **Rhodesia**.

4. **Habenaria chlorotica** *Rchb. f.* in Flora 48: 178 (1865); F.T.A. 7: 217.

APD: Synonym of Habenaria filicornis Lindl.

A slender herb up to 2 ft. high, with long narrow leaves; flowers small, green, in an open spike; in marshy or damp grassy places.

Guin.: Timbi, Fouta Djallon (June) Adam 14580! Labré (July) Adames 304! **S. L.:** N. of Loma Mansa, Loma Mts., (Nov.) Jaeger 578! **N. Nig.:** Zungeru (Sept.) Dalz. 232! Dorofi, Mambila Plateau, 5,500 ft. (June) Chapman 19!

Eastwards to **Uganda** and **Kenya**, southwards in E. Africa to Natal, also **Angola**.

5. **Habenaria microceras** *Hook. f.* in J. Linn. Soc. 7: 221 (1864); F.T.A. 7: 213. *APD acc*

Peristylus preussii (*Kraenzl.*) *Rolfe* in F.T.A. 7: 199(1898).

A leafy terrestrial or epiphytic herb up to 2 1/2 ft. high; flowers small, green, in a narrow spike 2-10 in. long.

W. Cam.: Cam, Mt., 7,000-10,000 ft. (Sept.-Nov.) Mann. 2116! Johnston 31! Preuss 967! **F. Po:** Moka, 4,600 ft. (Sept.) Melville 417!

6. **Habenaria buntingii** *Rendle* Cat. Talb. 109 (1913).

APD: Synonym of Habenaria physuriformis Kraenzl.

Terrestrial up to 18 in. high; leaves in a basal tuft; flowers white or pale pinkish green; in forests or shady places.

S. L.: Sennihun to Gene (Nov.) Deighton 305! Makene (Jan.) Deighton 3610! **Lib.:** Tawata, Boporo (Nov.) Baldwin 10306! Nekabozu, Vonjama (Oct.) Baldwin 10038! Dzipla, Webo (July) Baldwin 6307! Toué Tié-Tié (Dec.) Adam 16318! Ganta (Dec.) Harley 1846! **Iv. C.:** Péhiri to Kopréagou, Sassandra R. (Nov.) de Wilde 3309! **Ghana:** Aburi Hills (Oct.), Johnson! Santrokofi, Hohoe. (Oct.) Thompson 1489!

Also in **Gabon** and **Congo**.

7. **Habenaria macrandra** *Lindl.* in J. Linn. Soc. 6: 139 (1862); Cat. Talb. 109. *APD acc*

Podandria macrandra (*Lindl.*) *Rolfe* in F.T.A. 7: 206 (1898).

A terrestrial herb to 2 ft. high, with thick woolly roots, a tuft of radical leaves and a lax raceme of star-like white and pale green flowers; in forests.

Guin.: Nimba Mts., in summit forest, 4,000 ft. (Sept.) Schnell 3514! **S. L.:** Konina (Nov.) Glanville 122! Sennihun to Gene (Nov.) Deighton 306! Bedu Falls, Kailahun (Nov.) Deighton 4671! Gola Forest, Lalahun (Dec.) King 90b! Bage to R. Pampana (Nov.) Marmo 41! **Lib.:** Wohmen, Vonjama Baldwin 10053! Nyalai (Oct.) Linder 1007! Bobei Mt., Sanokwele (fr. Sept.) Baldwin 9600! Bobei (Oct.) Harley 1832! Ganta (Nov.) Harley 1758! **Iv. C.:** Mt. Tonkoui (Sept.) Schnell 1745! **Ghana:** Popokyeré, Tarquan (Apr.) Chipp 198! Aburi Hills (Oct.) Johnson 454! Assuantsi Fishlock 30! Konango, Ashanti (Nov.) Cansdale 131! Tano Suhein F.R., W. Prov. (Dec.) Morton A3632! Afegame Falls (Sept.) Westwood 44! **S. Nig.:** Bonny R. (Oct.) Mann 518! Owam F.R., Benin (Oct.) Keay FHI 28059! Sapoba (Oct., Nov.) Ujor FHI 23923! Keay FHI 28062! Oban Talbot 775! **W. Cam.:** Cam. Mt., 3,000 ft. (Nov.) Mann 2117!

Also in **E. Cameroun**, **Congo**, **Uganda**, **Tanzania** and **Angola**.

8. **Habenaria leonensis** *Dur. & Schinz* Consp. Fl. Afr. 5: 80 (1895); F.T.A. 7: 212. *APD acc*

Usually terrestrial, often on rocks, but sometimes epiphytic; leaves broad and thin; flowers white.

Guin.: Dalaba-Diaguissa Plateau, 3,000-4,000 ft. (Oct.) Chev. 18787b! Mt. Gangan, Kindia Brun 622! Mt. Nimba, 6,000 ft. (Sept., Oct.) Jac.-Fél. 1934! Schnell 3731! **S. L.:** Sugar Loaf Mt. (Oct.) T. S. Jones 261! Yakala (Sept.) Thomas 2364! Bunbuna (Aug.) Deighton. 1212! Sakasakala (Sept.) Deighton 5142! S. of Loma Mansa, Bintumane Mt. (Aug.) Jaeger 1279! Da-Oulen Mt., summit (Aug.) Jaeger 1353! **Lib.:** Sanokwele (Sept.) Baldwin 9522! **Iv. C.:** Tonkouï Mt. (Aug.-Sept.) Schnell 1728! 1747! Raberty 3097!

9. **Habenaria stenochila** *Lindl.* in J. Linn. Soc. 6: 139 (1862); F.T.A. 7: 212. *APD acc*

Terrestrial or epiphytic herb 18-24 in. high with leafy stem; flowers white.

W. Cam.: Metchum Falls, Bamenda, 2,000 ft. (Aug.) Savory 361!

Also in **Principe** and **C. African Republic**.

10. **Habenaria zambesina** *Rchb. f.* Otia Bot. Hamburg, 96 (1881); F.T.A. 7: 211. *APD acc*

Habenaria baoulensis *A. Chev.*, Bot. 620, name only.

A ground orchid up to 4 ft. high with leafy stem; flowers white in dense spike; in meadows or marshes.

Sen.: Adam 18152! **Port. G.:** Bafata to Capé (Aug.) Esp. Santo 3318! Bafata Esp. Santo 3366! Bissora to Cuale (Aug.) Esp. Santo 3233! **Guin.:** Férédougoua R., Beyla, 1,750 ft. (July) Collenette 67! Kissinkoro, Kissidougou (July) Martine 350! Fon Massif, summit, 5,300 ft. (July, Aug.) Schnell 3098! 3309! Nimba Mts., crest (Aug.) Schnell 3377! **S. L.:** Gloucester Saddle (Aug.) Lane-Poole 383! Jigaya (Sept.) Thomas 2711! Binkolo (Aug.) Thomas 1797! Mayaki, Mambolo (Sept.) Adames 243! Nasadou to Kamaro (Aug.) Jaeger 894! **Iv. C.:** Marabadiassa to Gotoro (July) Chev. 22034! Toumodi, Dimbokro (Aug.) Roberty 3085! Tonkouï, 3,300-4,000 ft. (Aug.) Boughey GC 18331! **Ghana:** Kintampo, Ashanti (June, July) Vigne FH 3060! 3934! Kumasi to Tamale (July) Cox 21! Pepease (July) Akpabla 178! Ejura (Aug.) Andoh FH 5061! Kpandu to Soloknati (July) Westwood 18! Amedzofe, 2,500 ft. (Aug.) Westwood 18a! **Togo Rep.:** Sokodé (Aug.) Davidson 21! **N. Nig.:** Gawa to Abuja, Niger Prov. Onochie FHI 35749! Katsina Ala (June) Dalz. 837! Naraguta (July) Lely 461! Mongu, 4,300 ft. (July) Lely 405! Agameti (Aug.) Hepburn. 147! Lekitaba to Gembu, Mambila Plateau, 5,500 ft. (June) Chapman 16! **S. Nig.:** S. of Oyo (Aug., Sept.) Keay FHI 28038! J. B. Gillett 15410! Forest Hill, Ibadan (Oct.) Jones & Keay FHI 13721! Ogoja Reservoir 69/29! **W. Cam.:** Nchan, Bamenda, 5,600 ft. (June) Maitland 1387! Jakiri (June) Gregory 145! Nkom-Wum F.R. (July) Ujor FHI 29287!

Generally in tropical Africa from E. Cameroun, **Uganda** and **Kenya** southwards to **Angola** and Rhodesia.

11. **Habenaria procera** (*Sw.*) *Lindl.* Gen & Sp. Orch. Pl. 318 (1835); F.T.A. 7: 220; Chev. Bot. 621; Cat. Talb). 147. *APD acc*

Usually an epiphyte (often on oil palms) up to 2 ft. high with leafy stem and white flowers.

S. L.: Mapaki (Aug.) Deighton 1217! Gbap (Sept.) Adames 80! Madina (Sept.) Adames 77! Zimi, Makpele (Sept.) Deighton 5170! Kinto to Sinikoro, Lomo Mts. (Sept.) Jaeger 1816! **Iv. C.:** Mt. Niénokué, 1,700 ft. (July) Chev. 19467! **Ghana:** Efiduasi, Ashanti (Aug.) Cox 3! Afoso (Aug.) Fishlock 82! Mpraeso, 1,500 ft. (Sept.) Vigne FH 4253! **S. Nig.:** Mt. Orosun, Idanre (Oct.) Keay FHI 22589! Oluwa F.R., Ondo (July) Onochie FHI 33419! **W. Cam.:** Victoria (Sept.) Ngongi FHI 15084! Buea Deistel! Masama damp, Bnea, 5,000 ft. (May) Maitland 786! Mamfe (July) Swarbrick 2050!

Also in **Gabon** and **Uganda**.

12. **Habenaria weilerana** *Schltr.* in Engl., Bot. Jahrb. 38: 149 (1906); Cat. Talb. 147. *APD acc*

Herb up to 1 ft. high, with leafy stem and white flowers; among rocks by streams.

S. Nig.: Ndebbige, Oban (Oct.) Talbot 844! **W. Cam.:** Bibundi (Nov.) Weiler! Mildbr. 10660! Tsoni, Cam, Mt. (Nov.) Jungner 179!

Also in **Gabon**.

13. **Habenaria gabonensis** *Rchb. f.* in Bot. Zeit. 10: 934 (1852); F.T.A. 7: 220. *APD acc*

A terrestrial herb up to 2 1/2 ft. high, leafy in lower part of stem; flowers white; in humus among rocks.

S. L.: Kafoko (Sept.) Thomas 2115! **Lib.:** Wanau (July) Harley 2039! **iv. C.:** Mi. Niénokué (Aug.) Schnell 1650! Issia, Rock (Aug.) de Wilde 429! **N. Nig.:** Gembu, Mambila Plateau, 5,500 ft. (July) Chapman 22! **W. Cam.:** Mamfe (Sept.) Gregory 322! **F. Po:** Ureka (Feb.) Guinea 2497!

Also in **E. Cameroun**, **Principe**, **Gabon** and **Congo**.

14. **Habenaria obovata** *Summerh.* in Kew Bull. 1932: 191. *APD acc*

Roeperocharis occidentalis *Kraenzl.* in Engl., Bot. Jahrb. 17: 67 (1893).

A **terrestrial** herb up to 18 in. high; flowers small, green, in a dense spike.

W. Cam.: Cam. Mt., 7,000-10,000 ft. (Sept.-Dec.) Maitland 804! Kingsley! Johnston 29! Preuss 980!

15. **Habenaria dinklagei** *Kraenzl.* in Engl., Bot. Jahrb. 51: 374 (1914). *APD acc*

A **terrestrial** herb 12-18 in. high with leafy stem: leaves broadly lanceolate, acute; flowers white in short spike.

Lib.: Sinoe (Nov.) Dinklage 2330! **S. Nig.:** Idanre, Ondo (Aug.) Jones FHI 20721!

16. **Habenaria nigerica** *Summerh.* in Kew Bull. 7: 575 (1953). *APD acc*

A **terrestrial** herb 6-12 in. high; flowers yellowish green in a leafy bracteate spike.

N. Nig.: Mando F.R., Zaria (July) Keay FHI 25993! 25986! Zongon Katab, Zaria (June, July) G. V. Summerhayes 109! 128! Mongu F.R., Plateau Prov. (Aug.) King 29!

17. **Habenaria nigrescens** *Summerh.* in Kew Bull. 20: 165 (1966). *APD acc*

A **terrestrial** herb 9 in.-2 ft. high; flowers pale or yellow-green in a short spike.

W. Cam.: Bamenda-Nkwe to Bafut-Ngemba (May, July) Daramola FHI 41177! 41568! Bafut-Ngemba F.R. (July) Brunt 774! Lowe 72!

18. **Habenaria peristyloides** *A. Rich.* in Ann. Sci. Nat. sér. 2, 14: 270, t. 17, flg. III (1840); F.T.A. 7: 214. *APD acc*

Habenaria cardiochila *Kraenzl.* (1892)-F.T.A. 7: 214.

Habenaria rendlei *Rolfe* in F.T.A. 7: 213 (1898).

A **terrestrial** rather leafy herb up to 4 ft. high with numerous green or yellowish green flowers in long dense spikes.

N. Nig.: Kan lyaka, Mambila Plateau, 5,500 ft. (July) Chapman 3! **S. Nig.:** Obudu Plateau, 5,500 ft. (Aug.) Stone 54!

Also in **eastern Congo**, **Ethiopia**, **Sudan**, **Uganda**, **Kenya** and **Tanzania**.

19. **Habenaria englerana** *Kraenzl.* in Engl., Bot. Jahrb. 17: 68, t. VA (1893); F.T.A. 7: 222. *APD acc*

Habenaria hunteri *Rolfe* in Kew Bull. 1918: 238.

A herb up to 2 ft. high with lanceolate acute leaves up to the inflorescence; flowers large, white.

Guin.: Guéchédou (July) Jac.-Fél. 1022! **S. L.:** Kimadougou, Loma Mts. (Aug.) Jaeger 933! **Ghana:** Hunter! Southern Scarp F.R., Obomen (July) Darko FH 5091! **Togo Rep.:** Bismarckberg (Apr.) Büttner 692! **N. Nig.:** Kagoro R., Jemaa, Zaria Prov. (June) King 186! **S. Nig.:** Ibadan (July) Westwood 268! Mt. Orosun, Idanre Hills E. W. Jones FHI 25342!

20. **Habenaria prionocraspedon** *Summerh.* in Kew Bull. 1932: 342. *APD acc*

A **terrestrial** herb with lanceolate acute leaves all up the stem, and a dense raceme of rather large white flowers.

S. Nig.: Boshi, Ogoja, 3,500 ft. Rosevear 61/29!

21. **Habenaria jacobii** *Summerh.* in Kew Bull. 1935: 196. *APD acc*

A **terrestrial** herb about 6 in. high with narrow leaves and 1 or 2 white and green flowers.

Guin.: Kindia (Aug.) Jac.-Fél. 140! 7040! Passo, Pita (July) Adames 292! **S. L.:** Kponkponto to Waie, Sule Mts, (July) Marmo 158!

22. *Habenaria parva* (Summerh.) Summerh. in Kew Bull. 1938: 148. *APD acc*

Cynorchis parva Summerh. in Kew Bull. 1932: 338; F.W.T.A., ed. 1, 2: 407.

A small ground orchid 2-6 in. high with 1 or 2 green and white flowers [grassy plains or open woodland](#).

Guin.: Timbo (July) Pobéguin 1592! **N. Nig.:** Jos Plateau (June) Lely P 337! Hephama to Ropp, 4,600 ft. (July) Lely 361! Randa (July) Hepburn 121! Mando F.R., Zaria (July) Keay FHI 25989! Zongon Katab, Zaria (June) G. V. Summerhayes 111! **W. Cam.:** Bum, Bamenda, 4,000 ft. (May, June) Maitland 1398! 1669!

Also in **C. African Republic**.

23. *Habenaria mannii* Hook.f. in J. Linn. Soc. 7: 222 (1864); F.T.A, 7: 225. *APD acc*

An erect herb up to 2 ft. high with a leafy stem and a dense raceme of a few to 25 large green or whitish green flowers.

N. Nig.: Zonkwa, Zaria (July) G. V. Summerhayes 132! Vom, 3,000-4,500 ft. Dent Young 234! Naraguta and Jos (Sept.) Lely 560! Jos (July, Aug.) Keay FHI 20184! Lawlor & Hall FHI 45581! **S. Nig.:** Obudu Cattle Ranch, Ogoja Prov. (Aug.) Stone 82! **W. Cam.:** Cam. Mt., 5,000-9,000 ft. (Nov., fr. Feb.) Mann 2119! Basenako-Lakom, Bamenda, 6,000 ft. (June) Maitland 1617! Nchan, Bamenda, 5,000 ft. (June) Maitland 1643b! Bafut-Ngemba F.R. (Aug.) Ujor FHI 29956: Manenguba Mts., 6,000 ft. (June) Gregory 300! **F. Po:** Moka (Sept.) Tessmann 2829! Wrigley & Melville 623!

Also in **E. Cameroun**.

24. *Habenaria jaegeri* Summerh. in Kew Bull. 1: 124 (1948). *APD acc*

An erect [terrestrial](#) herb 1-2 ft. high with a leafy stem and a broad raceme of up to 12 large white flowers.

Guin.: Fon Massif, on crest, 5,300 ft, (June-Aug.) Schnell 3100! 3316! **S. L.:** Bintumane Peak, Loma Mts. (Aug.) Jaeger 976! Koya Mt., Bafodia, Koinadugu, 2,400 ft. (Aug.) Haswell 73!

25. *Habenaria longirostris* Summerh. in Kew Bull. 1932: 192. *APD acc*

An erect leafy herb 1-3 ft. high; flowers fragrant, green and white, in a many-flowered raceme; [grassy plains and open woodland](#).

Port. G.: Gabu, near Oco Esp. Santo 2! **N. Nig.:** Naraguta (July, Aug.) Lely 462! Keay FHI 20170! Vom, 3,000-4,500 ft. Dent Young Wana (Aug.) Hepburn. 120! Jarawa & Gumau, Bauchi Prov. (July, Aug.) G. V. Summerhayes 16! 22! Tangale Waja, Bauchi Prov. (Sept.) G. V. Summerhayes 74!

Also in **Uganda**.

26. *Habenaria barrina* Ridl. in Bol. Soc. Brot. 5: 202, t. D, fig. B (1887); F.T.A. 7: 229, in syn. under *H. thomana* Rchb. f.; Cat. Talb. 147. *APD acc*

A leafy [terrestrial](#) herb up to 18 in. high with a few-flowered loose racemes, [in forests](#).

Iv. C.: Keéta, Cavally Basin (July) Chev. 19364! **S. Nig.:** Ilaro (Sept.) Punch! Ibadan (Sept.) Ahmed & Chizea FHI 19779! Mamu F.R., Onitsha Dist. (Aug.) Ajayi FHI 26974!

Also in **S. Tomé and Congo**.

27. *Habenaria papyracea* Schltr. in Engl., Bot. Jahrb. 53: 498 (1915). *APD acc*

A [terrestrial](#) herb 1-2 1/2 ft. high with leafy stem and numerous small green flowers in a rather dense spike.

N. Nig.: Mongu F.R., Plateau Prov. (Nov.) King 100! Naraguta F.R., Plateau Prov. (Sept.) King 100a! Jos (Sept.) King 100b! Batten-Poole 345! 354!

Also in **Congo, Tanzania, Zambia and Rhodesia**.

28. *Habenaria buettnerana* *Kraenzl.* in Engl., Bot. Jahrb. 16: 68 (1892); F.T.A. 7: 237. *APD acc*

Habenaria graminea A. Chev., Bot. 620, name only, partly.

A leafy herb up to 31/2 ft. high with a long rather lax raceme of small green flowers; in forests.

Port. G.: Tulacunda. (Oct.) Esp. Santo 2218! Cambasse to Geba (Aug.) Esp. Santo 3297! Bafata to Tantom Cossé (Sept.) Esp. Santo 3346! **Guin.:** Mamou (Aug.) Pobéguin 1676! Kouria to Irébeléya (Sept.) Chev. 18232! Kindia Brun 1295! **Lib.:** Sanokwele (Sept.) Baldwin 9552! **Ghana:** Santrokofi (Oct.) St. Clair-Thompson 1482! **Togo Rep.:** Bismarckburg (June) Büttner 213! 288! **N. Nig.:** Nindam F.R., Zaria (Sept.) King 96! **S. Nig.:** Olofin, Akure (Sept.) Savory 31! Ibadan, Awba Hills F.R. (Oct.) Jones FHI 6981!

Also in **Uganda**.

29. *Habenaria malacophylla* *Rchb. f.* Otia Bot. Hamburg. 97 (1881); F.T.A. 7: 230. *APD acc*

A slender **terrestrial** herb, 1-31/2 ft. high, leafy in the middle of the stem, with numerous small green flowers in a long loose raceme; in forest.

S. L.: Mt. Fuen-Koli, Loma Mts. (Nov.) Jaeger 1424! **N. Nig.:** Dogon Kurmi, Sanga F.R., Jemaa Dist. (Aug.) Killick 21! **S. Nig.:** Mamou F.R., Ibadan (Sept.) Latilo FHI 7927! Eket Talbot 3355! **W. Cam.:** Cam. Mt., above Buea, 4,000-5,000 ft. (Sept.) Dundas FHI 15309! Bafut-Ngemba F.R., Bamenda (July) Daramola FHI 41572!

Also in **Congo** and E. Africa from **Ethiopia** and **Uganda**, southwards to Natal and the eastern Cape Province.

30. *Habenaria bongensium* *Rchb. f.* Otia Bot. Hamburg, 58 (1878); F.T.A. 7: 233. *APD acc*

A slender **terrestrial** herb up to 18 in. high with a dense spike of small white flowers.

N. Nig.: Randa (July) Hepburn. 122! Mongu, 4,300 ft. (July) Lely 407! Keay & King FHI 37089! Mando, Zaria, (July) Keay FHI 25981! Abinsi Dalz. 854!

Also in **E. Cameroun** and **Sudan**.

31. *Habenaria genuflexa* *Rendle* in J. Bot. 33: 279 (1895); F.T.A. 7: 242. *APD acc*

Habenaria anaphysema of F.W.T.A., ed. 1, 2: 412, not of Rchb. f.

An erect **terrestrial** herb up to 2 ft. high; flowers greenish white in lax racemes; in grassland and among rocks.

Sen.: Casamance (Feb.) Berhaut 6857! Sedhiou, Portères! **Port. G.:** Pussube, Bissau (Nov.) Esp. Santo 1391! Peluba, Bissau (Jan.) Esp. Santo 1706! **Guin.:** Kouria to Ymbo (Oct.) Caille in Hb. Chev. 14966! Timbo (Oct.) Jac.-Fél. 1888! Mamou, Bilima, 3,300 ft. (Sept.) Jac.-Fél. 1820! Nzérékore (Oct.) Jac.-Fél. 1951! Nimba Mts., on crests (Sept.) Schnell 1854! 3727! **S. L.:** Kanya (Oct.) Thomas 3058! Gbap, Nongoba Bullom (Oct.) Jordan 607! Sérélen-Konko Massif, Loma Mts. (Sept.) Jaeger 1552! Kailahun (Sept.) Deighton 3766! Rokupr, Magbema (Oct.) Adames 252! **Lib.:** Devilbush-Duport, 10 miles E. of Monrovia (Sept.) Voorhoeve 507! Duport (Nov.) Linder 1506! Poro-bush, Duport (Sept.) van Dillewijn 100! Gbau, Sanokwele (Sept.) Baldwin 9434! **iv. C.:** Man (Sept, Oct.) Chev. 2555! Sassandra & Cavally Rivers Chev. 34172! Banfora (Sept.) Adam 15230! **Ghana:** Takoradi (Aug.) Vigne FH 4785! Jato, near Ejura (Sept.) Westwood 151! **N. Nig.:** Vom, 3,000-4,500 ft. Dent Young! Naraguta (Aug.) Lely 508! Dogon Kurmi, Jemaa Dist. (Aug.) Killick 42! Jos (Aug.) Keay FHI 20175! Mada Hills (Sept.) Hepburn 152! Jawando, Bauchi Prov. (Aug.) G. V. Summerhayes 21! Mambila Plateau (July) Chapman 21! **S. Nig.:** Ibadan to Oyo (July) Savory 191! Igboere (Aug.) Savory 267! Badagry (Aug.) Onochie FHI 33476! Apkpo, Ogoja Prov. (Aug.) Stone 33! **W. Cam.:** Bum, Bamenda, 4,000 ft. (June) Maitland 1640! 1641!

Eastwards to **Uganda** and Tanzania, also in **Angola**.

[Many of the specimens, especially from Sierra Leone, bear only abnormal flowers in which the lip is more or less reduced, e.g. Deighton 3766, Adames 252.]

32. *Habenaria dalzielii* *Summerh.*, in Kew Bull. 1932: 339. *APD acc*

An erect **terrestrial** herb up to 3 ft. high with a loose raceme of green flowers.

S. L.: Hill Station, Freetown (Oct.) Deighton 2173! **N. Nig.:** Kurum, Plateau Prov. (June) King 92! Kilba country, Yola (Aug.) Dalz. 222!

[These may possibly be abnormal specimens of some other species.]

33. *Habenaria angustissima* Summerh. in Kew Bull. 1933: 249. *APD acc*

A slender **terrestrial** herb 6-15 in. high with rather small white flowers in a loose raceme 1 1/2-5 in. long.

Guin.: Mamou (Aug.) Pobéguin 1680! Kinsom, near Kindia (July) Jac.-Fél. 1802! Timbi, Fouta Djallon (June) Adam 14579! Bondakuri, SW. of Pita (July) Adames 291!

34. *Habenaria ichneumonea* (Sw.) Lindl. Gen. & Sp. Orch. Pl. 313 (1835); F.T.A. 7: 240. *APD acc*

Orchis ichneumonea Sw. in Schrad., Neues Journ. 1: 21 (1805).

A very slender herb up to 2 1/2 ft. high with an open raceme of small green or reddish green flowers; **in damp grasslands or open rocky hills.**

Sen.: Badiouré to Touloumé (July) Doumlia 410! Ziguinchor, Casamance (Sept.) Broadbent 93! **Mali:** Folo (May) Chev.!

Guin.: Kouria to Irébéléya (Sept.) Chev.! Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9802! Timbi, Fouta Djallon Adam 14745! below Nimba Mts. (June) Schnell 3027! **S. L.:** Afzelius Waterloo (Aug.) Deighton 2064! Melville & Hooker 280! Wellington (Aug.) Harvey 56! **N. Nig.:** Vom, Plateau Prov., 3,000-4,500 ft. Dent Young! Delimi, Plateau Prov. (Aug.) King 175!

Eastwards to **Ethiopia** and **Uganda**, south to **Angola** and Rhodesia.

35. *Habenaria pauper* Summerh. in Kew Bull. 1932: 341. *APD acc*

A slender **terrestrial** herb 12-18 in. high with very small white flowers in a rather dense raceme; **damp or stony grasslands.**

N. Nig.: Mambila Plateau, 5,500 ft. (July) Chapman. 1! **W. Cam.:** Bamenda, 5,000 ft. (May) Maitland 1562!

Also in **E. Cameroun**, **Congo**, **Uganda** and **Tanzania**.

36. *Habenaria huillensis* Rchb. f. in Flora 48: 179 (1865); F.T.A. 7: 240. *APD acc*

An erect herb 1-3 ft. high; flowers green or whitish in rather dense, many-flowered racemes up to 1 ft. long.

Sen.: Near Kaème Forest, Oussouye (Sept.) Doumlia 867! **Port. G.:** Nova Lamego to Sonaco (July) Esp. Santo **Ghana:** Amedzofe, 3,000 ft. (July, Aug.) Westwood 27! 27a! Abamanasu (Sept.) Rose Innes GC 31331! **N. Nig.:** Zaria (Sept.) Bryant.! Jos Plateau (Sept.) Lely P732! Vom, 3,000-4,500 ft. (Aug.) Dent Young! Rahama, Zaria Prov. (Aug.) G. V. Summerhayes 29! Wanda (Sept.) Hepburn 124! **S. Nig.:** Ibadan (Sept.) Keay FHI 22442! Collier FHI 22440!

Also in **Sudan**, **Uganda**, **Kenya** and **Angola**.

37. *Habenaria linguiformis* Summerh. in Kew Bull. 1932: 340. *APD acc*

An erect herb 12-18 in. high; flowers green and white.

N. Nig.: Zongon Katab, Zaria Prov. (June) G. V. Summerhayes 110! Bukuru to Hephram, 4,300 ft. (July) Lely 343a! Kuru, Plateau Prov. (July) G. V. Summerhayes 160! N'gell, Plateau Prov. (June) King 27!

38. *Habenaria chirensis* Rchb.f. Otia Bot. Hamburg. 99 (1881); F.T.A. 7: 238. *APD acc*

An erect herb up to 3 ft. high; flowers green and white in rather dense racemes; **in grasslands.**

N. Nig.: Jos Plateau (June) Lely P379! King 28! Bukuru to Hephram, 4,300 ft. (July) Lely 343! Kuru Station, Plateau Prov. (July) G. V. Summerhayes 148!

Also in **E. Cameroun**, **Ethiopia**, **Uganda**, **Kenya** and **Tanzania**.

39. *Habenaria maitlandii* Summerh. in Kew Bull. 1932: 341. *APD acc*

A **terrestrial** herb up to 1 ft. high; flowers white in short racemes.

W. Cam.: Nchan, Bamenda, 5,600 ft. (June) Maitland 1386!

40. *Habenaria phylacochaira* Summerh. in Kew Bull. 1932: 190. *APD acc*

An erect herb up to 18 in. high; flowers green and white in a short few-flowered raceme.

N. Nig.: Ropp, 4,600 ft. (July) Lely 451! Vom, 3,000-4,500 ft. Dent Young! Heipan, 4,000 ft. (July) G. V. Summerhayes 150! King 16!

[It is possible that these specimens are abnormal examples of *H. clavata* (Lindl.) Rchb. f. or some similar species.]

41. **Habenaria clavata** (Lindl.) Rchb. f. in Flora 48: 180 (1865). *APD acc*

APD: *Synonym of Habenaria holubii Rolfe*

Bonatea clavata Lindl. in Hook. Comp. Bot. Mag. 2: 208 (1837).

An erect herb 1-2 1/2 ft. high with leafy stem and rather loose raceme of green or greenish-white flowers; in grassland and open woodland.

N. Nig.: Zonkwa, Zaria (July) G. V. Summerhayes 134!

Also in **E. Cameroun, Congo, Tanzania, Rhodesia** and southwards to Cape Province.

42. **Habenaria holubii** Rolfe in F.T.A. 7: 249 (1898), *H. valida*. Schltr. in Engl., Bot. Jahrb. 38: 148 (1906). *APD acc*

An erect herb 1-2 1/2 ft. high with leafy stem and rather loose raceme of large greenish-white flowers; in grassland and open woodland.

Port. G.: Gabu, Nova Lamego to Canjadude (Oct.) Esp. Santo 3538! **Togo Rep.:** Quamikrum (Mar.) Thienemann.! **N. Nig.:** Zungeru & Lokoja Lugard! Zungeru (Aug.) Dalz. 229! Yelwa, Zaria (Aug.) Keay FHI 28015! Mando F.R., Zaria (Aug.) Keay FHI 28002! Abinsi (Oct., Nov.) Dalz. 839!

Also in **C. African Rep., Uganda, Kenya, Tanzania, Congo, Angola** and the Zambesi valley.

43. **Habenaria cirrhata** (Lindl.) Rchb. f. in Flora 48: 180 (1865); F.T.A. 7: 248. *APD acc*

An erect herb 1 1/2-4 1/2 ft. high with leafy stem and loose raceme or large greenish-white flowers; in grasslands.

Guin.: Bonhourri (July) Pobéguin 375! Kindia (July) Jac.-Fél. 1! **S. L.:** N. of Mongo, Musaia (Aug.) Haswell 65! **Ghana:** Vane (July) Harris! **N. Nig.:** Jos Plateau (Aug.) Lely P615! Kagarko, Zaria Prov. (July) G. V. Summerhayes 125! Anara F.R., Zaria Prov. (July) Keay FHI 25958! Nindam F.R., Zaria, Prov. (July) King 46a! Kilba country, Yola (Aug.) Dalz. 221!

Also in **E. Cameroun, Congo, Sudan, Ethiopia, Uganda, Tanzania, Malawi, Zambia**, and **Madagascar**.

44. **Habenaria laurentii** De Wild. Not. Pl. Util. Congo 2: 325 (1904). *APD acc*

A leafy erect herb 1-3 ft. high, with a loose raceme of large pale green and white flowers.

Mali: Kita Massif (July) Jaeger! **Guin.:** Kinsam Plateau, Kindia (July) Jac.-Fél. 1801! **S. L.:** Bintumane Peak, Loma Mts. (July) Bakshi 232! **N. Nig.:** Naraguta (June) Lely 319! Jos Plateau (July) Lely 397! Kontagora (June) Dalz. 565! Ancho (Aug.) Hepburn 145! Mando, Zaria (July) Keay FHI 25980! Abinsi & Katsina Ala (Sept.) Dalz. 840! **S. Nig.:** Ago-Are F.R., Oyo Dist. (Aug.) Onochie FHI 40879!

Also in **E. Cameroun, C. African Rep., Congo, Kenya** and **Rhodesia**.

45. **Habenaria cornuta** Lindl. in Hook., Comp. Bot. Mag. 2: 208 (1837). *APD acc*

Habenaria ceratopetala, A. Rich. (1840)-F.T.A. 7: 231.

Habenaria ruwenzoriensis Rendle (1895)-F.T.A. 7: 233; F.W.T.A., ed. 1, 2: 412.

An erect herb up to 2 1/2 ft. high; flowers green in a rather dense raceme; in damp grasslands and marshes.

N. Nig.: Zungeru (Sept.) Dalz. 228! Naraguta, Jos Plateau (June) King 176!

Eastwards to **Ethiopia** and **Kenya**, southwards in E. Africa to the eastern Cape Province and Natal.

[*H. ruwenzoriensis* Rendle consists entirely of plants with abnormal flowers in which the anterior petal-lobe is very much reduced.]

46. *Habenaria walleri* *Rchb. f.* Otia Bot. Hamburg. 98 (1881); F.T.A. 7: 247. *APD acc*

A slender **terrestrial** herb 1-4 ft. high; flowers large, white, up to 12, in narrow racemes.

Guin.: Yaoulalay, Pita (July) Adames 300! **N. Nig.:** Minna (June) Dudgeon! Jos (June) Lely 315! Naraguta F.R. Kennedy FHI 8062! Shitikan, Kwaya (Aug.) Daggash FHI 24864! Mando, Zaria (July) Keay FHI 25979! Kilba country, Yola (Aug.) Dalz. 220!

Eastwards to **Kenya**, southwards in E. Africa to Malawi.

47. *Habenaria occidentalis* (*Lindl.*) *Summerh.* in Kew Bull. 1933: 246. *APD acc*

Amphorchis occidentalis *Lindl.* (1862)-F.T.A. 7: 262,

A. atacorensis *A. Chev.*, Bot. 621, name only.

A **ground orchid** 6-12 in. high; leaf with white markings; flowers orange or yellow.

iv. C.: Bauna Reserve (Apr.) Aké Assi 8651! **Dah.:** Atacora Mts. (June) Chev. 24194! **N. Nig.:** Jebba Barter 148! Anara F.R., Zaria (May) Keay FHI 22906! Mando F.R., Zaria (June) Keay FHI 25834! Bonu, Niger Prov. (June) E. W. Jones 224!

Also in **C. African Republic**.

48. *Habenaria lelyi* *Summerh.* in Kew Bull. 1932: 188. *APD acc*

An erect herb 1-2 ft. high with single basal leaf; raceme 7-13-flowered; flowers white.

Guin.: Gali to Hinde, Fouta Djallon (July) Adames 318! **N. Nig.:** Ropp, 4,600 ft. (July) Lely 457! Anara F.R., Zaria (July) Keay FHI 25967! Kujuru, Zaria (July) G. V. Summerhayes 131! Kagarko, Zaria (July) G. V. Summerhayes 121! Heipan, Plateau Prov., 4,000 ft. (July) G. V. Summerhayes 149!

[In many plants the flowers are abnormal, the spur being more or less completely suppressed and/or the lateral lobes of the lip are very short and sometimes tooth-like.]

49. *Habenaria lecardii* *Kraenzl.* in Engl., Bot. Jahrb. 16: 150 (1892); F.T.A. 7: 228. *APD acc*

Slender herb up to 15 in. high with single basal leaf; flowers white, hairy, in short lax racemes.

Sen.: Mahina Lécard 190! **U. Volta:** Firon to Konkobiri, Gourma (July) Chev. 24350! **N. Nig.:** Tegna, Zungeru (June) Dalz. 566!

50. *Habenaria keayi* *Summerh.* in Bot. mus. Leaflet. Harv. Univ. 14: 217 (1951). *APD acc*

A **terrestrial** herb 3-18 in. high with a basal heart-shaped leaf (young plants with 2 leaves); flowers hairy, green, in a rather long loose raceme.

N. Nig.: Kaduna (July) Cole! Dogon Kurmi, Jemaa (Sept.) King 30a! Naraguta F.R., Plateau Prov. (July) King 30! Sara Mts., Bauchi Prov. (July) King 30b! **I S. Nig.:** Ibadan (Sept.) Keay FHI 25395!

51. *Habenaria macrura* *Kraenzl.* in Engl., Bot. Jahrb. 16: 152 (1892); F.T.A. 7: 229. *APD acc*

A slender **terrestrial** herb 1-2 1/2 ft. high with 2 basal leaves; flowers greenish white in few-flowered racemes.

N. Nig.: Vom, Jos Plateau, 3,000-4,500 ft. Dent Young!

Eastwards to **Ethiopia** and **Kenya** and south to **Angola** and Rhodesia.

52. *Habenaria armatissima* *Rchb. f.* Otia Bot. Hamburg. 98 (1881); F.T.A. 7: 227. *APD acc*

Habenaria eburnea *Ridl.* in J. Bot. 34: 293 (1886).

Habenaria yatengensis *A. Chev.*, Bot. 621, name only.

A slender **terrestrial** herb about 1 ft. high, with 2 large round basal leaves; flowers white in few-flowered racemes.

Mali: Yatenga (Aug.) Chev. 24809! **N. Nig.:** Mandara E. Vogel!

East to **Ethiopia** and **Kenya**, south to SW. Africa and Mozambique.

6. PLATYCORYNE

Rchb. f. in Bonplandia 3: 212 (1855); F.T.A. 7: 255.

- 1 Lip quite entire; leaves evenly scattered along the stem, up to 5 cm. long and 1 cm. broad:2
 Lip with a short tooth-like lobe on each side near the base; leaves mostly in a bunch at base of the stem, but a few scattered all along, up to 2.5 cm. long and 4.5 mm. broad; inflorescence 2-6-flowered; dorsal sepal 6.5-7.5 mm. long; petals entire; lip 5-7 mm. long, lateral lobes 0.3-0.5 mm. long, middle lobe 4-5 mm. long, much broader, spur much thickened, in the lower part, 9-11.5 mm. long; anther shortly apiculate, canals 1.5-3 mm. long; rostellum middle lobe narrowly lanceolate, acute, shorter than the anther, side lobes rather stout; stigmas club-shaped, 1.5-2 mm. long [3a. crocea subsp. elegantula](#)
- 2 Inflorescence usually 1-3-, rarely 4-5-flowered; middle lobe of rostellum narrowly lanceolate, either short and tooth-like or up to nearly as long as the anther and closely appressed to it, side lobes slender, not much wider than the anther-canals, the latter 2.8-4 mm. long; dorsal sepal 6.5-9.5 mm. long; petals entire; lip usually 5-7 (sometimes to 9) mm. long, spur 8-11.5 mm. long, sometimes shorter by partial abortion; stigmas club-shaped, 2-2.8 mm. long [1. paludosa](#)
- Inflorescence 3-9-flowered; middle lobe of rostellum lanceolate, much broadened at the base, overtopping the anther, and placed some distance in front of it, side lobes stout from a broad base, much wider than the anther-canals, the latter 2-2.5 mm. long; dorsal sepal 6-7 mm. long; petals entire; lip 6-7 mm. long, spur much thickened in lower part, 12-16 mm. long; stigmas with broad flattened ovate apex, 2-2.5 mm. long [2. megalorrhyncha](#)

1. *Platycoryne paludosa* (Lindl.) Rolfe in F.T.A. 7: 256 (1898); Chev.Bot. 622. *APD acc*

Platycoryne aurea (Kraenzl.) Rolfe in F.T.A. l.c. (1898).

Platycoryne wilfordii (Ridl.) Rolfe in F.T.A. l.c. (1898).

A slender **terrestrial** herb up to 18 in. high with a very short raceme of usually 1-3 deep yellow or orange flowers; **in marshes or damp grassy places.**

Sen.: Upper Senegal Lécard 204! Djebel, Ziguinchor (Sept.) Doumlia 752! Broadbent 102! Casamance (Aug.) Berhaut. 6347! **Mali:** Mt. Kita, 5,300 ft. (July) Jaeger! **Port. G.:** Farim to Begene (Aug.) Esp. Santo 2400! Pitche to Buruntuma, Gabu (July) Esp. Santo 2715! Buruntuma, Nova Lamego (July) Pereira 3084! **Guin.:** Timbo (July) Pobéguin 1653! Sabodougou, Touba (July) Collenette 60! Timbi, Fouta Djallon (June) Adam 14558! Dalaba (June) Adames 275! **S. L.:** Waterloo Burbridge 149! Brookfields, Freetown (July) Deighton 3990! Wellington (June) Deighton 5547! Sendugu (June) Thomas 692! **Iv. C.:** Boundiali to Korhogo (July) Aké Assi 5613! **Ghana:** Bawku (Aug.) Cansdale 161! **Dah.:** Konkobiri to Diapaga (July) Chev. 24403! **N. Nig.:** Nupe Barter 1479! Zungeru (July) Dalz. 233! Neill's Valley, Naraguta (June) Lely 269! Mada Hills, 2,000 ft. (June) Hepburn 67! Anara F.R., Zaria (July) Keay FHI 25955! Birni, Bornu (Aug.) Daggash FHI 24858!

Also in **E. Cameroun.**

2. *Platycoryne megalorrhyncha* Summerh. in Kew Bull. 1933: 250. *APD acc*

A **terrestrial** somewhat leafy herb 6-12 in. high with yellow flowers; **in marshes, swamps or on wet rocks.**

N. Nig.: Likitaba to Gembu, Mambila Plateau (June) Chapman 11! **W. Cam.:** Wum (June) Daramola FHI 41084! Fougom, Bamenda, 3,500 ft. (Apr.) Maitland 1509! Bafut, Bamenda (June) Ujor FHI 30450!

3. *Platycoryne crocea* (Schweinf. ex Rchb. f.) Rolfe in F.T.A. 7: 257 (1898) *APD acc*

Widespread in tropical Africa.

3a. *Platycoryne crocea* subsp. *elegantula* (Kraenzl.) Summerh. in Kew Bull. 17: 532 (1964). *APD acc*

Platycoryne elegantula Kraenzl. in Engl., Bot. Jahrb. 51: 376 (1914).

A slender **terrestrial** herb 5-10 in. high with white or yellow flowers; **in grasslands or marshes.**

W. Cam.: Bum, Bamenda, 4,000 ft. (May, June) Maitland 1443! 1538!

Also in **E. Cameroun** and **Zambia.**

7. DISA

Berg., Pl. Cap. 348, t. 4, fig. 7 (1767); F.T.A. 7: 275.

- 1 Dorsal sepal with a long narrow claw, 2-2.5 cm. long, spur usually curved upwards, 5-6 mm. long; petals with an ear-shaped lower part and a narrow twisted upper portion, nearly as long as the dorsal sepal; lip simple, thread-like, 1.5 cm. long; anther erect [4. erubescens](#)
Dorsal sepal narrowed at the base but with no distinct claw, 5-10 mm. long: **2**
- 2 Spur upright or curved downwards in the upper part only; petals entire; anther horizontal: **3**
Spur pendulous from its base; petals bilobed, anterior lobe shorter, ovate or semi-orbicular, posterior lobe upright, narrow, acute or obtuse; anther erect: **5**
- 3 Dorsal sepal, including spur, upright, slightly swollen at apex, 6-13 mm. long; slender plant 20-70 cm. high; inflorescence rather lax: **4**
Spur curved downwards in the upper part, tapering from a broad base, 7-8 mm. long; rather stout plant, 35-80 cm. high; inflorescence dense, bracts large, 1-2 cm. long; leaves linear-lanceolate, 8-15 cm. long, 1.5-2 cm. broad [3. hircicornis](#)
- 4 Bracts narrowly lanceolate, scarcely encircling the pedicel and ovary, 4-10 mm. long; leaves on stem narrowly lanceolate, up to 8 mm. broad [2. nigerica](#)
Bracts oblong- or elliptical-lanceolate, more or less encircling the pedicel and ovary; leaves on stem lanceolate, up to 15 mm. broad [1. equestris](#)
- 5 Flower spike very dense, 13-30 cm. long, 1.5 cm. diam.; flowers yellow; sepals 5-8 mm. long, spur 7-8.5 mm. long; petala 4-6.5 mm. long, anterior lobe much shorter than posterior, more or less truncate, narrowed towards base [5. ochrostachya](#)
Flower spike rather dense, 10-18 cm. long, 2-3 cm. diam.; flowers pink or purple; sepals 6-12 mm. long, spur 5-8 mm. long; petals 6-8 mm. long, anterior lobe nearly as long as or equalling posterior, semi-orbicular, posterior oblong-lanceolate, acute or obtuse [6. welwitschii](#)

1. *Disa equestris* *Rchb. f.* in Flora 48: 181 (1865); F.T.A. 7: 284. *APD acc*

APD: *Synonym of Herschelianthe baurii (Bolos) Rauschert*

A slender **terrestrial** herb 1-2 ft. high with a rather lax inflorescence of small purple flowers.

N. Nig.: Jos (June) King 90! Daffo, 4,200 ft. (July) Horsman in Hb. King 90a! **W. Cam.:** Ndop Plain, 3,800 ft. (Mar.) Brunt 260a!

Also in E. Cameroun, C. African Rep., Congo, Tanzania, southwards to **Angola** and Mozambique.

2. *Disa nigerica* *Rolfe* in Kew Bull. 1914: 214. *APD acc*

A slender **terrestrial** herb 8-12 in. high with a rather lax inflorescence about 4 in. long of small purple flowers.

N. Nig.: Ropp, 4,600 ft. (July) Lely 446! Sara Mt., Bauchi Prov. (May) King 52! 52a! **W. Cam.:** Bafut-Ngemba F.R., Bamenda, 6,000 ft. (Mar.) Richards 5313!

3. *Disa hircicornis* *Rchb. f.* Otia Bot. Hamburg. 105 (1881); F.T.A. 7: 283. *APD acc*

A slender to rather stout **terrestrial** herb, 1-2 1/2 ft. high, with a dense cylindrical flower spike 2-7 in. long; flowers purple with darter markings; **in damp grassy places and marshes**

N. Nig.: Vom, Plateau Prov., 3,000-4,500 ft. (July) Dent Young! King 161! Kan lyaka, Mimbila Plateau, 5,500 ft. (July) Champman 23! **W. Cam.:** Lakom, Bamenda, 6,000 ft. (June) Maitland 1781!

East to **Kenya**, south to **Angola** and Rhodesia.

4. *Disa erubescens* *Rendle* in J. Bot. 33: 297 (1895); F.T.A. 7: 277. *APD acc*

A **terrestrial** herb 1-3 ft. high, with the lower sheaths spotted; leaves on separate barren shoots linear or narrowly lanceolate, 6-18 in. long; spike about 2-6 in. long, rather lax, 3-10-flowered; flowers orange, flame-coloured or deep red, spotted in parts; **in grassy places and marshes.**

N. Nig.: Lekitaba to Gembu, Mambila Plateau, 5,500 ft. (June) Chapman 12! **W. Cam.:** Bafut-Ngemba F.R., 6,200 ft. (July) Brunt 838! Basenako, Bamenda, 6,000 ft (June) Maitland 1503! Manenguba Mts., 6,000 ft. (June) Gregory 301!

Also eastern Congo, E. Africa, from **Sudan** southwards to **Angola** and Zambia.

5. **Disa ochrostachya** *Rchb. f.* in Flora 48: 181 (1865); F.T.A. 7: 279. *APD acc*

An erect **terrestrial** herb, 1-3 ft. high, with sheathing lanceolate leaves on flowering stems; foliage leaves on separate shoot, narrow, up to 15 in. long; flower spike long and slender; flowers yellow with orange markings; **in grassland**.

W. Cam.: Nchan, Bamenda, 5,000 ft. (Apr.) Maitland 1779!

Also in eastern Congo, E. Africa from **Uganda** and **Kenya** south to **Angola** and Rhodesia.

6. **Disa welwitschii** *Rchb f.* in Flora 48: 181 (1865); F.T.A. 7: 280.

Disa subaequalis *Summerh.* in Kew Bull. 1936: 221; F.W.T.A., ed. 1. 2: 414.

Disa scutellifera of F.W.T.A., ed. 1, 2: 414, not of A. Rich.

An erect **terrestrial** herb, 1-3 ft. high, with linear leaves up to 18 in. long on sterile shoots and sheaths on the scape; flowers pink or purple; **in grasslands and swamps**.

Guin.: Nimba Mts., 5,300 ft. (June-Sept.) Schnell 1491! 1558! 1830! 3394! **S. L.:** summit Bintumane Peak, Loma Mts. (Aug.) Jaeger 1042! **Iv. C.:** Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18047! **N. Nig.:** Vom, 3,000-4,500 ft. Dent Young! Heipan, Plateau Prov., 4,000 ft. (July) G. V. Summerhayes 152! King 18! Kan lyaka, Mambila Plateau, 5,500 ft. (July) Chapman 17! **W. Cam.:** Basenako, Bamenda, 6,000-6,000 ft. (June) Maitland 1545! Basenako-Lakom, 5,000-6,000 ft. (June) Maitland 1616b! Bum to Nchan, Bamenda, 4,000-5,000 ft. (May) Maitland 1788! Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30324!

Widespread in tropical Africa.

8. BROWNLEEAE

Harv. ex Lindl. in Hook., Lond. J. Bot. 1: 16 (1842); F.T.A. 7: 287.

- 1 Slender terrestrial herb 20-60 cm. high; leaves 2-3, erect, the lower one 7-22 cm. long, narrowly lanceolate, acute, the upper much smaller but otherwise similar; spike dense, 3-7 cm. long, 1-1.5 cm. diam.; flowers small, purple; dorsal sepal 3 mm. long, hooded, with a short curved spur; petals united to dorsal sepal, obliquely elliptical; lip very small, entire; anther horizontal; rostellum erect, notched or cleft at apex [parviflora](#)

Brownleea parviflora *Harv. ex Lindl.* l.c. (1842). *B. alpina* (Hook. f.) N. E. Br. in F.T.A. 7: 287 (1898); F.W.T.A., ed. 1, 2: 417. *APD acc*

W. Cam.: Cam. Mt., 6,000-8,000 ft. (Sept.-Nov.) Mann 2120! Johnston 86! Preuss 973!

Also In E. Africa from **Kenya** southwards to eastern Cape Province.

9. SATYRIUM

Sw. in Vet.-akad. Handl. Stockholm, ser. 2, 21: 214 (1800); F.T.A. 7: 262. Nom. cons.

- 1 Leaves 2, radical, broadly orbicular, more or less adpressed to the ground, up to 6 cm. long and 9.5 cm. broad; inflorescence short, up to 18-flowered; sepals and petals a little longer than the lip; lip 1-1.7 cm. long, spurs rapidly tapering from a swollen base, shorter than or equalling the lip; column bow-shaped; stigma oblong; rostellum middle lobe shovel-shaped, side lobes rounded [l. carsonii](#)
- Leaves cauline, or if radical, not orbicular nor adpressed to the ground: 2
- 2 Spurs slender, only slightly tapering from the base, much longer than the lip; bracts sharply reflexed at time of flowering: 3
- Spurs rather stout, tapering towards the apex, shorter than or at most equalling the lip, 4-6 mm. long; inflorescence dense, up to 17 cm. long, with large often spreading bracts; lip 6-8 mm. long with a rather broad opening; sepals and petals about as long as the lip; rostellum with 3 almost equally long lobes, the middle one refuse or more or less bifid [5. atherstonei](#)

- 3 Lip rather fleshy with narrow opening; leaves on flowering-stem sheath-like, true foliage leaves on a separate short stem:4
- Lip rather membranous with a broad opening; leaves on flowering stem narrowly or oblong-lanceolate, acute, up to 30 cm. long and 5 cm. broad; inflorescence rather dense, many-flowered, up to 40 cm. long; flowers white, rose-pink or purplish; lip about 5 mm. long, lateral sepals and petals about the same length; spurs 8-12 mm. long; rostellum middle lobe ovate or orbicular with a narrow claw4. *crassicaule*
- 4 Flowers white or purple; inflorescence rather dense, up to 15 cm. long, lip more or less globose, 5 mm. long, spurs 9-13 mm. long; lateral sepals slightly longer than the lip; dorsal sepal and petals glabrous; middle lobe of rostellum triangular, acute2. *coriophoroides*
- Flowers green or brownish-green; inflorescence rather lax, many-flowered, up to 40 cm. long; lip flattened, ellipsoid, 4-5-6 mm. long, spurs 1-2 cm. long; lateral sepals about as long as the lip; petals densely pubescent; middle lobe of rostellum broadly triangular-oblong with a narrow claw3. *volkensii*

1. *Satyrium carsonii* Rolfe in F.T.A. 7: 265 (1898). *APD acc*

Satyrium leucanthum Schltr. in Engl., Bot. Jahrb. 53: 525 (1915); F.W.T.A., ed. 1, 2: 417, fig. 327.

Satyrium nigericum Hutch. in Kew Bull. 1921: 402.

A **terrestrial** herb up to 2 ft. high with white or pink-tinged rather waxy flowers; **in grasslands**.

N. Nig.: Jemaa (June) G. V. Summerhayes 109! Zonkwa to Kaciya, Zaria (July) G. V. Summerhayes 126! Vom, 3,000-4,500 ft. (July, Aug.) Dent Young 237! Lely P398! Bukuru to Hephram, 4,300 ft. (July) Lely 344!

Also in **B. Cameroun, Congo, Kenya, Tanzania, Malawi** and **Zambia**.

2. *Satyrium coriophoroides* A. Rich. in Ann. Sci. Nat. sér. 2, 14: 274, t. 18, fig. 11, 1-5 (1840); F.T.A. 7: 269. *APD acc*

A **terrestrial** herb up to 3 ft. high; **in grasslands**.

W. Cam.: Bubaaki, Bamenda, 4,500 ft. (Apr.) Maitland 1786! Bansa, 5,000 ft. (June) Gregory 140!

Also in **E. Cameroun, Kenya** and **Ethiopia**.

3. *Satyrium volkensii* Schltr. in Engl., Bot. Jahrb. 24: 425 (1897). *APD acc*

Satyrium dizygoceras Summerh. in Kew Bull. 1932: 508; F.W.T.A., ed. 1, 2: 417.

A slender **terrestrial** herb up to 3 ft. high; **in grasslands**.

N. Nig.: Jos Plateau (May) Lely P318! Naraguta, 4,000 ft. (May) Lely 243! Kassa, Plateau Prov., 4,200 ft. King! **W. Cam.:** Lakom, Bamenda, 6,000 ft. (May) Maitland 1366! Bali-Ngamba F.R. (May) Ujor FHI 30324b! Babungo, Ndop Plain, 3,800 ft. (May) Brunt 451!

Also in **Kenya, Congo, Tanzania, Malawi** and **Rhodesia**.

4. *Satyrium crassicaule* Rendle in J. Bot. 33: 295 (1895); F.T.A. 7: 271. *APD acc*

A **terrestrial** moderately stout to stout herb up to 3 1/2 ft. high; **in wet grassy places, marshes or even in water**.

N. Nig.: Nguroje, Mambila Plateau, 5,500 ft. (July) Chapman 20! **W. Cam.:** Nchan, Bamenda, 5,000 ft. (June) Maitland 1385!

Also in **E. Cameroun, northern Congo, Ethiopia, Kenya** and **Tanzania**.

5. *Satyrium atherstonei* Rchb. f. in Flora 64: 328 (1881).

APD: *Synonym of Satyrium trinerve* Lindl.

Satyrium occultum Rolfe in F.T.A. 7: 273 (1898); F.W.T.A., ed. 1, 2: 417.

Satyrium djalonis A. Chev., Bot. 621.

A **terrestrial** herb up to 3 1/2 ft. high with 2-3 lanceolate, acute or subacute leaves on the stem and white flowers; bracts often whitish; **in marshes and grasslands**.

Guin.: Dalaba-Diaguissa Plateau, 3,000-4,000 ft. (Oct.) Chev. 18814! Dalaba (Aug.) Jac.-Fél. 7059! Boula, Baizia (Apr.) Adam 12067! Fon Massif, Simandou, 5,300 ft. (July, Aug.) Schnell 3090! 3322! **S. L.:** Bintumane Peak, Loma Mts. (May,

July, Aug.) Jaeger 1049! Bakshi 233! Deighton 5092! **N. Nig.:** Maisamari, Mambila Plateau, 5,500 ft. (June) Chapman 9! **S. Nig.:** Obudu Plateau, Ogoja Dist., 5,300 ft. (June) Howard in Hb. King 157! **W. Cam.:** Bum, Bamenda, 4,000 ft. (June) Maitland 1575!

Generally in tropical Africa; southwards to Transvaal, Natal and eastern Cape Province.

10. DISPERIS

Sw. in Vet.-akad. Handl. Stockholm, ser. 2, 21: 218 (1800); F.T.A. 7: 288.

- 1 Leaves 1-3, alternate, sessile:2
 Leaves 2, opposite, broadly ovate, acute, cordate at base; hood formed by dorsal sepal and petals cylindrical or helmet-shaped; petals variously lobed:4
- 2 Hood formed by the dorsal sepal and petals helmet-shaped, narrow, 4-6 mm. long; appendage of lip entire, linear, slightly broadened at the apex, placed vertically within the hood; lamina of lip sharply reflexed, narrowly oblong, about 0.5 mm. long; arms of rostellum short, apices sharply incurved; leaves ovate, up to 7 mm. long and 4 mm. wide [1. parvifolia](#)
 Hood formed by dorsal sepal and petals broad and shallow, not helmet-shaped; appendage of lip bifid with apparently two divergent lobes; lamina of lip much broadened at apex, longer than the appendages:3
- 3 Petals cordate at the base; hood 6-8 mm. long, bent forward, narrowed towards the apex; lateral sepals 8-10 mm. long, united in lower half or below, obliquely ovate, apices turned outwards, sub-acute; lip 5-6 mm. long, claw narrow, lamina transversely elliptical with tall narrow keel in lower centre, appendages elliptical-oblong; leaves ovate or lanceolate, cordate at base, up to 3 cm. long and 2 cm. broad [2. togoensis](#)
 Petals narrowed at the base, not cordate; hood 8-10 mm. long, much bent forward, more or less rounded at apex; lateral sepals 8-10 mm. long, united in lower third, semi-elliptical, apices rather obtuse; lip about 6 mm. long, claw narrow, lamina ovate with high keel in centre of lower part, appendages linear-oblong; leaves orbicular-ovate, elliptical-ovate or lanceolate, cordate at base, up to 2.5 cm. long and 1.5 cm. broad; bracts much smaller, lanceolate or ovate [3. johnstonii](#)
- 4 Hood of flowers rather short and rounded, 4.5-5.5 mm. long; appendages of lip 2, parallel, cuneate, bilobed in upper part, 2.3-3.7 mm. long:5
 Hood of flowers narrow, cylindrical, over 6.5 mm. long:6
- 5 Spurs on lateral sepals much projecting, 1.7-3 mm. long; lateral sepals 5-6 mm. long; basal lobe of petals usually short and narrow; free part of claw of lip much longer than appendages, the latter 2.7-4 mm. long; rostellum arms 1.5-2 mm. long [4. thomensis](#)
 Spurs on lateral sepals scarcely projecting, 0.7-1 mm. long; lateral sepals about 9.5 mm. long; basal lobe of petals large and rounded; free part of claw of lip only equalling or slightly longer than the appendages, the latter about 2.5 mm. long; rostellum arms 0.5-0.7 mm. long [5. nitida](#)
- 6 Anterior or upper petal-lobes slender, acuminate, projecting from front of hood like two horns about 4 mm. long; claw of lip 12 mm. long, dilated in the middle to form two small rounded projections; appendix at apex pendulous, 2.8-3.5 mm. long, divided at apex only or almost to base, apex of claw reflexed beneath appendages, about 1 mm. long; hood 12-16 mm. long [6. mildbraedii](#)
 Anterior or upper petal-lobes triangular or semi-elliptical, acute or rounded, 2 mm. long; claw of lip not dilated in middle:7
- 7 Apex of lip widened to form a triangular lamina about 3 mm. long bearing at its base on the upper surface two hairy retrorse clavate outgrowths; upper petal-lobe triangular, acute; claw of lip 6.5-7 mm. long; hood 6.5-10 mm. long [7. kamerunensis](#)
 Apex of lip shortly bent over, oblong, entire, appendage also pendulous, a little longer than the apex itself, divided irregularly to form a sort of fringe about 1.5 mm. long; upper petal-lobe semi-elliptical, rounded; claw of lip 8-12 mm. long; hood 10-17 mm. long [8. anthoceros](#)

1. *Disperis parvifolia* Schltr. in Engl., Bot. Jahrb. 53: 547 (1915). *APD acc*

Flowers pink or yellowish.

W. Cam.: Basenako to Nchan, Bamenda, 5,000 ft. Maitland!

Also in **Tanzania**.

2. *Disperis togoensis* Schltr. in Engl., Bot. Jahrb. 38: 2 (1905). *APD acc*

Disperis cardiopetala Summerh. in Hook. Ic. Pl. 33: t. 3270 (1935); F.W.T.A., ed. 1, 2: 418.

Disperis atacorensis A. Chev., Bot. 622, name only.

A dwarf **terrestrial** herb 2-6 in. high; leaves green with whitish veins above, purplish beneath; flowers 2-10 in a short raceme, rose, pink or pale mauve; **among rocks or at edge of forests**.

Ghana: Akpafu, 2,000 ft. (Apr.) Scholes 20! **Togo Rep.:** Mt. Agome, near Ashanti-Kpoeta (Mar.) Schlechter 12990! **Dah.:** Forfa, Atacora Mts. (June) Chev. 24060! **W. Cam.:** Bum, Bamenda, 4,000 ft. (Apr.) Maitland 1519!

Also in **E. Cameroun**, **Uganda** and **Tanzania**.

3. **Disperis johnstonii** *Rchb. f. ex Rolfe* in F.T.A. 7: 291 (1898). *APD acc*

A slender **terrestrial** herb 2-8 in. high; leaves veined on upper surface, purple beneath; flowers 2-6 in a short raceme, mauve and white or pink; **among rocks**.

N. Nig.: Anara F.R., Zaria Prov. Cole! Naraguta (Aug.) Lely 485! Keay FHI 20169! Jos Batten-Poole 385! Daramola FHI 44137!

Also in **E. Cameroun** and **Tanzania**.

4. **Disperis thomensis** *Summerh.* in Kew Bull. 1937: 458. *APD acc*

A **terrestrial** or epiphytic herb 3-8 in. high; leaves green or bronzy above, purplish beneath; flowers 1-6, in a short raceme, white with faint purplish markings; **in forests**.

Guin.: Mamou, Mt. Bilima, 3,300 ft. (Sept.) Jac.-Fél. 1838! Dalaba, Fouta Djallon (Aug.) Adames 328! Nimba Mts., crests, 4,000 ft. (Sept.) Schnell 3534! **S. L.:** Sugar Loaf Mt., 2,000 ft. (fl. Sept., fr. Nov.) T.S. Jones 273! Milne-Redhead 5191! Da-Oulen, Loma Mts. (Aug.) Jaeger 1289! **Lib.:** Bilimu (Sept.) Harley 1537! **Ghana:** Mt. Ejuanima, Mpraeso (Aug.) Hall CC 258! **F. Po:** Moka, 4,600 ft. (Sept.) Melville 419!

Also in **S. Tomé** and **Angola**.

5. **Disperis nitida** *Summerh.* in Kew Bull. 10: 222 (1956). *APD acc*

An **epiphytic or terrestrial** herb 5-12 in. high; leaves dark green, satiny; flowers 1-4 in a short raceme, white; **in montane forest in deep shade**.

W. Cam.: L. Bambulue, Bamenda, 6,000-7,000 ft. (Sept.) Savory UCI 475! above L. Oku, Bamenda, 6,000-7,000 ft. (Sept.) Savory UCI 451!

6. **Disperis mildbraedii** *Schltr. ex Summerh.* in Kew Bull. 1933: 268; *Schltr.* in Wiss. Ergebn. 1910-11, 2: 180 (1922), name only. *APD acc*

A **terrestrial** herb 4-11 in. high; flowers 1-4, in short raceme, white; **in forests**.

W. Cam.: L. Bambulue, Bamenda (Aug.) Ujor FHI 29965! **F. Po:** S. Isabel Mt., above Basilé, 3,700-4,700 ft. (Aug.) Mildbr. 6312!

7. **Disperis kamerunensis** *Schltr.* in Engl., Bot. Jahrb. 24: 431 (1897); F.T.A. 7: 575. *APD acc*

Disperis preussii *Rolfe* l.c. 291.

A **terrestrial** herb 4-8 in. high; flowers 1-3, in a short raceme.

W. Cam.: Cam. Mt., above Buea, 3,600-3,900 ft. (Sept.) Preuss 609! Musake Camp, 6,000 ft. Maitland 106!

8. **Disperis anthoceros** *Rchb. f. Otia* Bot. Hamburg. 103 (1881); F.T.A. 7: 292. *APD acc*

A **terrestrial** herb 2-11 in. high; flowers 1-4, in a short raceme, white or pale pink with lilac or pale purple markings.

N. Nig.: R. Bauna F.R., Plateau Prov., 4,200 ft. (Aug.) King 187!

Eastern Congo and eastern Africa from **Ethiopia** southwards to Natal.

11. VANILLA

Mill., Gard. Dict. Abr. ed. 4 (1754); F.T.A. 7: 176.

- 1 Sepals and petals 2-3 cm. long; outgrowths on lip composed of several thin flat overlapping cuneate jagged scales:2
- Sepals and petals 3-5 cm. or more long; outgrowths on lip consisting of hair-like structures:4
- 2 Leaves oblong-lanceolate or oblong-elliptical, acuminate in the distal half, rounded at the base, up to 12 cm. long and 2-5 cm. broad; sepals and petals 2-2.5 cm. long; lip united to column for three-quarters of length of latter forming a wide tube; side lobes broadly rounded, projecting forward from the point of union with, and front margin approximately at right angles to, the column; total length of lip 2 cm., crest at base of middle lobe composed of 4-5 scales, below this a rough narrow keel to the base of the lip; column 1-6 cm. long, slightly incurved [1. africana](#)
- Leaves elliptical or oblong-elliptical, shortly acuminate or broadly apiculate in the distal third or quarter, rounded at the base, up to 20 cm. long and 8 cm. broad; sepals and petals 2-3 cm. long; lip united to column for two-thirds of length of latter, forming a wide tube; front margin of side lobes forming a backwardly directed acute angle with the column, edges somewhat reflexed, both side and front lobes somewhat crenulate; crest composed of 4-5 scales, 2-4 mm. long, a raised smooth keel running from this towards base of the lip:3
- 3 Inflorescences many-flowered, often branched at the base; bracts very small, triangular, never leaf-like; lip 1-4-1-6 cm. long, front lobe 6-7 mm. broad; column 1-3-1-8 cm. long [2. ramosa](#)
- Inflorescences many-flowered, always simple; upper bracts small, triangular, lower ones often leaf-like, orbicular or elliptical, apiculate or shortly acuminate, up to 6 cm. long and 4-5 cm. broad, or the inflorescence-branch bearing small leaves below the flowers; lip 1-5-2 cm. long, front lobe 7-11 mm. broad; column 1-8-2-3 cm. long [3. crenulata](#)
- 4 Bracts of inflorescence small, 4 mm. long; sepals and petals 3-5-4 cm. long, white; tube formed by lip and column broad; leaves narrowly oblong-lanceolate, bluntly acuminate, 15-25 cm. long, 3-5-4-5 cm. broad; inflorescence up to 6 cm. long, 4-5-flowered; lip united to column for 1-2 cm., 3 cm. long, margins crenulate, coarsely hairy near the mouth [4. nigerica](#)
- Bracts of inflorescence ovate, imbricating, 1-3 cm. long; sepals and petals 6-8 cm. long, yellow or cream; tube formed by lip and column narrow and cylindrical at base, much widened above, blotched with purple or rose; leaves elliptical or oblong-obovate, shortly but broadly apiculate, 12-25 cm. long, 5-12 cm. broad; inflorescence up to 15 cm. long, densely many-flowered; lip united to column nearly to anther, 5-6 cm. long, obscurely trilobed, side lobes broadly rounded enveloping the apex of the column, middle lobe acute, front margin of lip very crenulate and folded; callus in centre of lip consisting of a dense tuft of fine hairs, tube of flower hairy inside middle lobe of lip with thicker long papillae especially at extreme apex [5. imperialis](#)

Vanilla planifolia Andr.

Is cultivated in our area as it is throughout the tropics for the sake of the vanilla flavouring obtained from the capsules.

1. Vanilla africana Lind. in J. Linn. Soc. 6: 137 (1862); F.T.A. 7: 176. *APD acc*

A **high-climbing** herb with short racemes of fragrant white or yellow flowers with purplish markings on the lip; **in rain forest**.

Guin.: Nzérékoré (May) Schnell 2761! Peahtah (Oct.) Linder 1108! Sinoe Basin Whyte! Nimba (Dec.) Adam 20267! **Iv. C.:** Béréby (Nov.) Oldeman 575! Guessabo to Duékoué (Nov.) de Wilde 843! **Ghana:** Akropong Hills, 1,500 ft. (Oct.) Johnson 859! Aburi (Sept.) Johnson 798! **S. Nig.:** Brass R. Barter 47! Agoi-Ibami F.R., Abakaliki Prov. (Mar.) Sanford 531/66!

Also in **Rio Muni**.

2. Vanilla ramosa Rolfe in J. Linn. Soc. 32: 457 (1896); F.T.A. 7: 177. *APD acc*

Vanilla ovalifolia Rolfe (1896)-F.T.A. 7: 178.

A fleshy **climbing** herb; flowers white or creamy white, lip marked with purple or mauve; **in rain forest**.

Ghana: Fumisua, Ashanti (Apr.) Andoh FH 5257! Axim (Feb.) Irvine 2197! **S. Nig.:** Lagos Rowland! Sapoba Kennedy 220! 2081! Angiama Barter 20134! Calabar Thomson 132! Oban Talbot! **W. Cam.:** Mbalange F.R., Kumba (Mar.) Binuyo & Daramola FHI 35648!

Also in **E. Cameroun**, **Rio Muni**, **Gabon** and **the Congos**.

3. Vanilla crenulata Rolfe in J. Linn. Soc. 32: 477 (1896); F.T.A. 7: 178. *APD acc*

Vanilla crenata A. Chev., Bot. 624, name only.

A **climbing** herb with long hanging racemes of white or yellow flowers with purple markings on the lip; **in rain forest**.

Guin.: base of Nimba Mts. (Mar.) Schnell 799! 3086! **S. L.:** Bumbuna (Apr.) Thomas 3432! Robis to Koinadugu (Mar.) Deighton 2963! Bo, Kakua (Oct.) Deighton 6151! Bumban to Lokko (Apr.) Sc. Elliot 5733! S. Province (Mar.) Dawe 439! **Lib.:** Barclayville, Grand Bassa (Mar.) Baldwin 11116! Brewersville, Montserrado (Dec.) Baldwin 10966! Firestone Plantation 3, Du R. (July) Linder 76! Road to White Plains (Apr.) Barker 1265! Mt. Barclay (May) Bunting! **Iv. C.:** Yapo F.R. (Sept.) de Wilde 576! Agboville (Nov.) Chev. 22383! Tai to Guiglo (Mar.) Leeuwenburg 3054! Alépé, Attié (Mar.) Chev. 17504! Man (Sept., Oct.) Chev. 34171! **Ghana:** Bunsu, Akim (Mar.) Irvine 1808! Begoro, Akim (Apr.) Irvine 1186! Kumasi, 1,000 ft. (Aug.) Vigne FH 3062! Mensahkrom, W. Prov. (Oct.) Darko 1018! R. Fia, Techiman to Nkoranza (Feb.) Westwood 112! **S. Nig.:** Aguna (Dec.) Miles!

Also in **Principe**.

4. **Vanilla nigerica** *Rendle* Cat. Talb. 108 (1913). *APD acc*

A fleshy **climbing** herb; flowers white with rosy markings on the lip.

S. Nig.: Oban Talbot 776!

Also in **E. Cameroun**.

5. **Vanilla imperialis** *Kraenzl.* in Notizbl. Bot. Gart. Berl. 1: 155, t. 1 (1896); F.T.A. 7: 178. *APD acc*

A fleshy **climbing** herb with thick stems and dense racemes of large cream or yellow flowers with purple or rosy markings on the lip.

Iv. C.: Bafing Forest (July) Aké Assi 9041! **Ghana:** Ashanti, Mfrim, 1,500 ft. (Aug.) Vigne FH 2412! R. Fia, Techiman to Nkoranza (May) Westwood 113!

Also in **E. Cameroun, Congo, Uganda** and **Tanzania**.

12. NERVILIA

Commerson ex Gaud. in Frey., Voyage, 421 (1829); F.T.A. 7: 186 (as *Pogonia* Juss.). Nom. cons.

- 1 Inflorescence 1-flowered, much elongating in fruit:.....2
 Inflorescence 2-12-flowered; lip trilobed in upper half, side lobes short, acutely obtuse, middle lobe larger, triangular, recurved, disk with 2 longitudinal keels extending to the base of the middle lobe and a thickened vein between:5
- 2 Lip more or less wedge-shaped, trilobed at or near the apex, side lobes small, rounded, middle lobe much broader, margins erose, fimbriate or broadly toothed and much undulate; sepals and petals 8-19 mm. long; column 6-8 mm. long:3
 Lip trilobed at or below the middle, side lobes enveloping the column and about the same length, middle lobe much larger and longer, margin entire, with fleshy median pubescent callus; sepals and petals 12-20 mm. long:4
- 3 Middle lobe of lip erose or fimbriate, not much longer than the side lobes, with long hair-like outgrowth often projecting beyond the margins; leaf purple beneath; lip 8-18 mm. long[1. petraea](#)
 Middle lobe of lip shortly toothed or crenate, much undulate, distinctly longer than the side lobes, with short outgrowths along the centre and fine hairs scattered all over lip; leaf green on both sides; lip 14-17 mm. long [2. reniformis](#)
- 4 Middle lobe of lip much longer than basal entire part, broadly elliptical, 4-6 mm. broad; side lobes distinct, triangular, subacute or obtuse, about 1 mm. long; lip 13-17 mm. long; leaves irregularly marked with paler and darker green on upper surface; column 5-6 mm. long[3. fuerstenbergiana](#)
 Middle lobe of lip about equalling or shorter than basal entire part, narrowly elliptical, 2-4 mm. broad; side lobes rounded, obscure; lip 9-17 mm. long; column 7-10.5 mm. long; leaves uniformly green[4. adolphii](#)
- 5 Inflorescence 10-30 cm. high, rather slender; tubers spherical, 1-2 cm. diam.; leaf broadly or reniform-ovate, apiculate, cordate at base, with short petioles, lamina 6-17 cm. long, 9-13 cm. broad, mature petiole 1-6 cm. long; sepals ligulate, acute, 11-19 mm. long; petals similar, but relatively broader, 9-17 mm. long; lip 10-19 mm. long, side lobes 1-2 mm. broad, middle lobe 4-6 mm. long[5. kotschy](#)
 Inflorescence 20-40 cm. high, rather stout; tubers 1.5-2.5 cm. diam.; leaf ovate-orbicular, long-apiculate, deeply cordate at base, with long petiole, lamina when full-grown 10-15 cm. long, 12-17 cm. broad, mature petiole 17-22 cm. long; sepals ligulate, obtuse, 2-3-4 cm. long; petals similar but a little shorter; lip 2.5-4 cm. long, side lobes 3-6 mm. broad, middle lobe 7.5-10 mm. long, 9-15 mm. broad[6. umbrosa](#)

1. **Nervilia petraea** (Afzel. ex Pers.) Summerh. in Bot. Mus. Leafl. Harv. Univ. 11: 249 (1945).

Arethusa petraea Afzel. ex Pers., Syn. Pl. 2: 512 (1807).

Nervilia afzelii Schltr. (1911)-F.W.T.A., ed. 1, 2: 420.

Pogonia thouarsii Rolfe in F.T.A. 7: 187 (1898), not of Bl.

P. fineti A. Chev., Bot. 620, name only.

A small **terrestrial** orchid about 2-5 in. high; flower with yellowish-green tepals and whitish lip; leaf small, reniform, purple underneath.

Guin.: Farana (May) Chev. 13406! **S. L.:** Afzelius! York (May) Deighton 5537! Kassewe to Moyamba (May) Jordan 879!

N. Nig.: Bukuru (May) Baldwin 12003! Kwoi, Zaria Prov. (May) King 81! Abinsi (June) Dalz. 844! **W. Cam.:** Bum, Bamenda, 4,000 ft. (May) Maitland 1528!

Also in **C. African Rep., Congo, Uganda** and **Tanzania**.

2. **Nervilia reniformis** Schltr. in Engl., Bot. Jahrb. 53: 551 (1915).

APD: Synonym of Nervilia simplex (Thouars) Schltr.

A small **terrestrial** orchid 2-10 in. high; tepals white to pale yellow, lip with reddish veins and centre yellow streak; leaves pale green, reniform.

N. Nig.: Sanga River F.R., Jemaa, Zaria Prov. (May) E. W. Jones! 69! King 111! Richa, Plateau Prov. (May) King 111a! 111b! **S. Nig.:** Olla Hills F.R., Ibadan (Apr.) Binuyo FHI 36921!

Also in **Tanzania**.

3. **Nervilia fuerstenbergiana** Schltr. in Fedde Rep. 9: 331 (1911). *APD acc*

APD: Synonym of Nervilia adolphii Schltr. var. adolphii

APD: Synonym of Nervilia gassneri Borge Pett.

APD: Synonym of Nervilia stolziana Schltr.

A small **terrestrial** orchid 2-5 in. high; tepals white or greenish, lip with reddish markings; leaf reniform, mottled above.

S. L.: S. Kambui Hills (Mar.) Dawe 451! **N. Nig.:** Nindam F.R., Zaria Prov. King 95!

Also in **Cameroun**.

4. **Nervilia adolphii** Schltr. in Engl., Bot. Jahrb. 53: 552 (1915), and in Fedde Sep., Beih. 68: t. 46, No. 182 (1932). *APD acc*

APD: Synonym of Nervilia adolphii var. seposita N. Hallé & Toill.-Gen.

APD: Synonym of Nervilia gassneri Borge Pett.

A small **terrestrial** orchid 2-8 in. high; flowers greenish-yellow or yellowish, tinged and marked mauve; leaves reniform, green above, tinged purple beneath.

N. Nig.: Dogon Kurmi, Jemaa, Zaria Prov. King. 112b! Monguna, Plateau Prov. (Apr.) King 112a!

Also in **Uganda, Tanzania** and **Zambia**.

5. **Nervilia kotschy** (Rechb. f.) Schltr. in Engl., Bot. Jahrb. 45: 404 (1911). *APD acc*

APD: Synonym of Nervilia ballii G. Will.

Pogonia kotschy Rechb. f. (1864)-F.T.A. 7: 187.

Nervilia purpurata (Rechb. f. & Sond.) Schltr. (1911)-F.W.T.A., ed. 1, 2: 420.

A slender **terrestrial** herb 4-12 in. high, with a short raceme of 2-5 pale olive-green flowers with purple veins on the lip; leaf broadly ovate, short-petioled, lamina 3-7 in. long.

Mali: Kita Massif Jaeger 2221! **N. Nig.:** Naraguta F.R., Plateau Prov. (Apr.) King 107! Zelau, 3,200 ft. (Apr.) Lely 117! Amban, Plateau Prov. (Apr.) King 107a! Anara F.R., Zaria (May) Keay FHI 22949! Kaciya to Zonkwa, Zaria Prov. (Mar.) G.V. Summerhayes 141! Lame Dist., Bauchi Prov. (May) G.V. Summerhayes 50!

Eastwards to **Sudan** and **Uganda**, south to **Angola**, Mozambique and Transvaal.

6. **Nervilia umbrosa** (*Rchb. f.*) *Schltr.* Westafr Kautsch.-Exped. 274 (1900).

APD: *Synonym of Nervilia shirensis (Rolfe) Schltr.*

APD: *Synonym of Nervilia renschiana (Rchb. f.) Schltr.*

APD: *Synonym of Nervilia bicarinata (Blume) Schltr.*

Pogonia umbrosa *Rchb. f.* (1867)-F.T.A. 7: 186.

Nervilia shirensis of F.W.T.A., ed. 1, 2: 420, not of (Rolfe) Schltr.

A **terrestrial** herb 8-16 in. high with 2-12 greenish or yellowish flowers with purplish-red or brown veins on the lip; leaf often purple beneath.

Sen.: Sedhiou, Casamance (July) Berhaut 6134! **Port. G.:** Bafata (June) Esp. Santo 2685! Bananto to Canjambarim (June) Esp. Santo 2398! **Guin.:** Dalaba, Fouta Djallon Caille in Hb. Chev. 18146! Diaguissa, 4,000 ft. (Apr.) Chev. 12651! **S. L.:** Falaba (Mar.) Sc. Elliot 5119! **Ghana:** cult. specimen. **Togo Rep.:** Kewe (Mar.) Schlechter 12947! **N. Nig.:** Nupe (leaves only) Barter 1540! Zelau, 3,200 ft. (Apr.) Lely 117a! Randa (Mar.) Hepburn 131! Naraguta F.R., Plateau Prov. (Apr.) King 38! Abinsi (leaves only, June) Dalz. 843! **S. Nig.:** between Igboho and Ogun F.R., Oyo (Feb.) Keay FHI 23430! Ibadan (Mar.) Keay FHI 37569!

Also in **C. African Rep.**, **Congo**, **Angola**, **Tanzania**, **Malawi** and **Zambia**.

13. EPIPOGIUM

R. Br., Prodr. Fl. Nov. Holl. 330, 331 (1810); F.T.A. 7: 188.

- 1 Saprophytic leafless terrestrial herb up to 45 cm. high; tuber ovoid, up to 4 cm. long and 2.5 cm. diam.; scape erect, rather fleshy, with numerous blunt loosely sheathing scales on the lower part; raceme up to 25-flowered, 3-15 cm. long; flowers usually pendulous, whitish or cream with small purplish or pink spots; sepals and petals narrow, acute, nearly 1 cm. long; lip entire, narrowly ovate, with the cordate base enveloping the column, acute, about 1 cm. long, with 2 lines of short hairs running from base to apex, the latter somewhat thickened; spur up to 5 mm. long; column with swollen stigmatic lobes at the base, and much thickened at the apex [roseum](#)

Epipogium roseum (*Don*) *Lindl.* in J. Linn. Soc. 1: 177 (1857). *APD acc*

Limodorum roseum *Don* (1825).

Epipogium nutans (*Bl.*) *Rchb. f.* (1857)-F.T.A. 7: 188.

Epipogium africanum *Schltr.* in Engl., Bot. Jahrb. 45: 399 (1911).

Ghana: Puso Puso, Asiakwa (Feb.) Morton A3866! **W. Cam.:** Ambas Bay (Feb.) Mann 784! Moliwe, Buea (Feb.) Dalz. 8205! Mimbria, 4,000 ft., Cam. Mt. Richards 9346! Ebite to Boviongo, Kumba (Jan.) Keay FHI 37388! **F. Po:** 4,000-5,000 ft. (Jan.) Exell 795!

Also in **Annobon**, **Congo**, **Angola**, **Uganda**, **Indo-Malaysia**, **Australia** and **New Hebrides**.

14. AUXOPUS

Schltr., Westafr. Kautsch. Exped. 275 (1901), and in Engl., Bot. Jahrb. 38: 3 (1905). *APD acc*

- 1 Perianth segments less than 4 mm. long; labellum cuneate, emarginate at apex; tuber globose or cylindrical, up to 5.5 cm. long and 6-7 mm. diam.; stems slender, rather weak and flexuous, up to 27 cm. high, with a few very small sheathing scales; capsules 1-1.5 cm. long [1. kamerunensis](#)
- Perianth segments 5.5-7 mm. long; labellum oblanceolate, obtuse at apex; tubers narrowly cylindrical, up to 5 cm. long and 4-8 mm. diam.; stems slender, flexuous at the base only, 15-30 cm. high, with a few sheathing scales; capsules about 1.5 cm. long [2. macranthus](#)

1. *Auxopus kamerunensis* Schltr. in Engl., Bot. Jahrb. 38: 4, fig. 2 (1905); Cat. Talb. 147. *APD acc*

Whole plant pale brown or yellowish; in deep shade in forest.

Lib.: Kle, Boporo (Dec.) Baldwin 10629! **Iv. C.:** Adzopé to Boudepé (Dec.) Chev. 22681! **Ghana:** Tano Anwia F.R. (Dec.) Adams 2259! **N. Nig.:** Nupe Barter! **S. Nig.:** Sapele to Benin (Dec.) Sanford WS/49! BC/66! Okomu F.R., Benin (Dec.) Brenan 8483! 8535! Oban Talbot 1450! Itu, Calabar (Jan.) Jones 2545 (FHI 6873)! **W. Cam.:** S. Bakundu F.R., Kumha (Jan.) Keay FHI 28570!

Also in **E. Cameroun**.

2. *Auxopus macranthus* Summerh. in Kew Bull. 5: 467 (1952). *APD acc*

Auxopus kamerunensis var. *grandiflora* Summerh. in F.W.T.A., ed. 1, 2: 420 (1936); Kew Bull. 1936: 222.

Plant brown, flowers orange or olive; in forests.

Iv. C.: Makougnié (Jan.) Chev. 17025! **Ghana:** Kumasi (Jan.) Baldwin 14033! Wenchi to Chiraa (Dec.) Adams 3187! Koti Pare, N. of Accra (Jan.) West-Skinn 320! Nsawam to Aburi (Jan.) Morton GC 25318! **S. Nig.:** Okomu F.R., Benin (Jan.) Brenan 8535a! 8777!

Also in **Congo** and **Uganda**.

15. MANNIELLA

Rchb. f., Otia Bot. Hamburg. 109 (1881); F.T.A. 7: 185.

- 1 Terrestrial herb 50-90 cm. high; leaves radical, long stalked, lamina obliquely ovate, shortly acuminate, 4.5-16 cm. long, 2.5-7 cm. broad, green usually with white spots, petiole somewhat sheathing at the base, 5-14 cm. long; scape slender, erect, with a few large membranous sheaths; spike slender, many-flowered, rather lax, 15-40 cm. long; flowers small, suberect, brownish or pink; sepals 6 mm. long [gustavii](#)

***Manniella gustavii* Rchb. f.** Otia Bot. Hamburg. 109 (1881); F.T.A. 7: 185; Cat. Talb. 147. *APD acc*

S. L.: Sankan Biriwa Massif (Jan.) Cole 159! **Lib.:** Bobei Mt., Sanokwele (Jan.) Harley! Bili (Nov.) Harley 2080! Nimba reserve (Dec.) Adames 841! Nimba Adam 20334! 20780! **Ghana:** Tumfa Hills, Akim (Dec.) Johnson 274! **S. Nig.:** Owhy, Cross R. Holland 194! Oban Talbot 1339! **W. Cam.:** Cam. Mt., 4,000 ft. (Jan.) Mann 1336! **F. Po:** Ruiché to Caldera San Carlos, 4,000 ft. (Jan.) Sanford 4326!

Also in **S. Tomé**, **E. Cameroun**, **the Congos**, **Uganda** and **Tanzania**.

16. PLATYLEPIS

A. Rich., in Mém. Soc. Hist. Nat. Paris 4: 34 (1828); F.T.A. 7: 184. Nom. cons.

- 1 Terrestrial herb, 15-50 cm. high; stem creeping at base, bearing many tomentose roots; leaves rather close together on the lower part of the stem, petiolate, lamina obliquely elliptical, shortly acuminate; 4-11 cm. long, 2-5 cm. broad, petiole sheath-like below, 2-5 cm. long; scape with several sheaths; raceme densely many-flowered, 5-12 cm. long, bracts broad, glandular-pilose; flowers white; sepals and petals 7-9 mm. long; lip united to the column for half its length, 7 mm. long, with a short broad reflexed lobe at the apex, 2 narrow calli in the upper part, and forming at the base 2 short outwardly directed spurs; rostellum about equalling the lip; anther acuminate [glandulosa](#)

***Platylepis glandulosa* (Lindl.) Rchb. f.** in Linnaea 41: 62(1877); F.T.A. 7: 184. *APD acc*

Notiophys glandulosa Lindl. (1882)

Platylepis taltbotii Rendle, Cat. Talb. 147 (1913).

Port. G.: Ihla Formosa, Mato de Amadi (Apr.) Esp. Santo 1972! **Guin.:** Ditinn to Dalaba (Sept.) Chec. 18524! 18542! **Lib.:** Wanau (July) Harley 2042! Suacoco, Gbanga, Central Prov. (Aug.) Daniel 241! **Iv. C.:** Soubré to Peturi (June) Chev. 19185! **Ghana:** Johnson 1072! Nsuem, Agona to Tarkwa (Aug.) Hall 3348! **S. Nig.:** Lagos (July) Killick 246! Oban Talbot 1463! **F. Po:** 2,000 ft. Mann 1481!

Also in **S. Tomé**, **Annobon**, **Principe**, **Congo**, **C. African Rep.**, **Sudan**, **Angola**, **Zambia**, **Mozambique** and **Natal**.

17. CHEIROSTYLIS

Blume, Bijdr. 413, t. 16 (1825); F.T.A. 7: 182.

- 1 Leaves ovate, shortly acuminate, rounded or slightly cordate at base, 1-4 cm. long, 0.8-2.5 cm. broad, petiole shorter than lamina; labellum equalling the perianth or slightly longer, 3.5-5.5 mm. long; herb 10-30 cm. high, stem creeping at base; raceme dense, short, up to 20-flowered; perianth 3.5-4.8 mm. long; labellum lobes broad, divergent, entire or obscurely toothed [1. *lepida*](#)
- Leaves broadly ovate or orbicular-ovate, very shortly acuminate, distinctly cordate at base, 7-18 mm. long, 6-16 mm. broad, petiole about equalling lamina; labellum distinctly longer than the perianth, 4.8-5.8 mm. long; herb 7-16 cm. high, creeping at base; raceme short, 3-10-flowered; perianth 3.5-4.2 mm. long; labellum lobes broad, divergent, distinctly toothed [2. *divina*](#)

1. **Cheirostylis lepida** (*Rchb. f.*) *Rolfe* in F.T.A. 7: 182(1897); F.W.T.A., ed. 1, 2: 421 (excl. S.L. specimen); Cat. Talb. 147. *APD acc*

Monochilus lepidus *Rchb. f.* (1881).

A small creeping plant rooting in lower part with a short raceme of white flowers; **in shade in forest.**

S. Nig.: Ikwette Plateau, Sonkwala, 5,300 ft. (Dec.) Savory & Keay FHI 25168! Oban Talbot 870! **W. Cam.:** Cam. Mt., 3,000-6,000 ft. (Nov.-Jan.) Dunlap 95! Mann 2130! Maitland 899! Schlechler 12845! **F. Po:** Ruiché to Caldera San Carlos 4,000 ft. (Jan.) Sanford 4324!

Also in **S. Tomé**, **Congo**, **Uganda** and **Tanzania**.

2. **Cheirostylis divina** (*Guinea*) *Summerh.* in Kew Bull. 7: 131 (1953). *APD acc*

Mariarisqueta divina *Guinea*, Ensayo Geobot. Guinea Contin. Espan. 268, fig. 46 (1946).

A small creeping plant, rooting in the lower part, with a short raceme of white flowers with buff spots in the throat; **on mossy or damp rocks.**

S. L.: Sugar Loaf Mt., 2,000-2,500 ft. (Nov., Dec.) Sc. Elliot 4027! T. S. Jones 281! Picket Hill, 2,000-2,800 ft. (Nov.) T. S. Jones 186! 209! **Lib.:** Nimba, 1,500 ft. (Nov.) Adames 788! **Ghana:** Nyinahin Range, Chairaiso, 1,500 ft. (Nov.) Morton A2812!

Also in **Rio Muni**.

18. ZEUXINE

Lindl., Collect. Bot. App. (1825); F.T.A. 7: 180. Nom. cons.

- 1 Plant 15-45 cm. high; lower part of stem decumbent, rooting, upper part erect; leaves in a bunch at base of the erect part, shortly stalked from a sheathing base, lamina lanceolate-ovate or lanceolate, acute, rounded at base, up to 7 cm. long and 3 cm. broad, petiole and sheath 1-2.5 cm. long; raceme slender, rather laxly many-flowered, 4-13 cm. long; flowers small, green and white; sepals and petals 2-3 mm. long; lip the same length, with a concave claw below bearing 2 hooked calli at the base, and a transversely elliptical or semi-orbicular often more or less bilobed lamina at the apex [1. *elongata*](#)
- Plant 8-18 cm. high, very shortly decumbent at base, otherwise erect; leaves all up the stem, linear, acute, somewhat sheathing at base, 1-3.5 cm. long, 2-4 mm. broad; spike short, 1-2.5 cm. long, densely up to 20-flowered; sepals and petals about 2.5 mm. long; lip the same length, more or less oblong, somewhat cordate at base, narrowed towards apex, obtuse, the margins incurved and more or less erose, the whole surface strongly papulose [2. *africana*](#)

1. **Zeuxine elongata** *Rolfe* in Bol. Soc. Brot. 9: 142 (1892); F.T.A. 7: 181; Cat. Talb. 147. *APD acc*

Flowers greenish-white, sometimes tinged pink. Up with orange or reddish claw; **in plantations or forest.**

S. L.: Lomaburu, Talla (Feb.) Sc. Elliot 5020! Taiama (Jan.) Deighton 5738! Kangahun, Gardima (Feb.) Deighton 6039! **Iv. C.:** Tos Forest, Bouaflé to Sinfra (Dec.) Aké Assi 7222! Yaokro (Jan.) Aké Assi 7307! **Ghana:** Cadbury Hall, Kumasi (Mar.) Cox 115! Atewa Range F.R., Boma (Jan.) de Wit & Morton A2938! Saunders Falls, Kintampo (Jan.) Westwood 116!

S. Nig.: Mawkawlawki, near Abeokuta (Dec.) Burtt B8! Ikene, Ijebu-Ode (Jan.) Burtt B25! Oban Talbot 1360! **W. Cam.:** Basuma to Bafla, Victoria (Feb.) Keay FHI 37512! Lus, Nkambe (Feb.) Hepper 1883!

Also in **S. Tomé**, **Principe**, **Annobon**, **E. Cameroun**, **Congo**, **C. African Rep.**, **Uganda** and **Tanzania**.

2. Zeuxine africana *Rchb. f.* in Flora 50: 103 (1867); F.T.A. 7: 181. *APD acc*

A short herb up to 6 in. high; in marshes.

N. Nig.: Sokoto (Jan.) Dalz. 447!

Also in **Angola** and **Natal**.

19. HETAERIA

Blume, *Bijdr.* 409 (1825), as *Etaeria*, corr. *Blume*, *Praef. Fl. Java vii* (1828); F.T.A. 7: 183.

- 1 Lip inferior; raceme 1-6 cm. long, rather densely 3-20-flowered; plant up to 20 cm. high; leaves aggregated in middle of stem; lamina lanceolate, acute, rounded or subcordate at base, 1.5-4.5 cm. long, 6-18 mm. broad; petiole and sheath 7-12 mm. long; dorsal sepal and petals 3-5 mm. long, lateral sepals a little shorter; lip 4-5 mm. long with a concave claw with 2 hooked calli at the base and 2 obovate divergent lobes at the apex [1. heterosepala](#)
Lip superior; raceme 3-20 cm. long, many-flowered: [2](#)
- 2 Lamina of lip entire, broadly deltoid or somewhat diamond-shaped with the long axis transverse, claw furnished just below lamina with a thickened incurved wing on each side and with a series of hooked calli on each side at the base; outgrowths on face of column united inwards so as to form a pouch below the rostellum; plant 15-35 cm. high, leaves 3-7 in the middle of the stem, lamina obliquely oblong-ovate, shortly acuminate, 3-8 cm. long, 1-3.5 cm. broad, petiole and sheath 1.5-2.5 cm. long; raceme 3-9 cm. long, dense; sepals and petals 3-4.5 mm. long; lip 2.5-4 mm. long [2. stammleri](#)
Lamina of lip divaricately bilobed, lobes narrowest at base, claw unthickened below lamina; outgrowths on face of column free from one another; leaves all along upper part of stem, lamina over 3 cm. long, petiole and sheath over 1.5 cm. long; raceme rather lax, 5-18 cm. long: [3](#)
- 3 Rostellum longer than the column, 2.5-3 mm. long; leaves obliquely elliptical-ovate or ovate, 3-10 cm. long, 1.5-4 cm. broad; inflorescence 5-15 cm. long; sepals 5-7.5 mm. long; lip 6.5 mm. long (to apex of middle lobe or central apiculus), lateral lobes 4-6 mm. long, 1-6-3 mm. broad [3. tetraptera](#)
Rostellum equalling or shorter than the column, 0.9-1.2 mm. long; lobes of lip 1.5-4 mm. long: [4](#)
- 4 Lobes of lip reflexed, oblong or narrowly oblanceolate but not much widened above, 1.5-2 mm. long; claw 3-4 mm. long, base forming two rounded sacs not projecting more than 0.5 mm. below the insertion of the lip; sepals 3-4.5 mm. long; arms of rostellum 0.9 mm. long; plant 30-45 cm. high; leaves obliquely lanceolate, lamina 9-14 cm. long, 2-5 cm. broad [4. mannii](#)
Lobes of lip spreading, broadly cuneate from a narrow base, rounded at apex, 2.5-4 mm. long, 2-3 mm. broad; claw 4-5.5 mm. long, base forming two distinct rounded spurs 1-2 mm. long; sepals 4-6.5 mm. long; arms of rostellum 0.9-1.2 mm. long; plant 30-60 cm. high; leaves obliquely lanceolate or elliptical-lanceolate, lamina 6-16 cm. long, 2-5 cm. broad [5. occidentalis](#)

1. Hetaeria heterosepala (*Rchb. f.*) *Summerh.* in *Kew Bull.* 1934: 207.

APD: *Synonym of Zeuxine heterosepala* (*Rchb. f.*) *Geerinck*

Cheirostylis heterosepala *Rchb. f.* (1881)-F.T.A. 7: 183.

Zeuxine commelinoides *A. Chev.*, *Bot.* 619, name only.

A herb with the lower part of the stems creeping and rooting, and small green and white flowers; in forests.

Lib.: Krah Bassa Forest (Jan.) van Harten 309! Nimba Adam 20803! **Iv. C.:** Cavally Basin, Grabo (July) Chev. 19814! **W. Cam.:** Cam. Mt., 3,000 ft. (Nov.) Mann 2130a!

Also in **S. Tomé**, **E. Cameroun**, **Congo** and **Tanzania**.

2. Hetaeria stammleri (*Schltr.*) *Summerh.* in *Kew Bull.* 1934: 208.

APD: *Synonym of Zeuxine stammleri* *Schltr.*

Zeuxine stammleri Schltr. in Engl., Bot. Jahrb. 38: 151 (1906); Cat. Talb. 147.

Stem creeping and rooted at the base, erect above; sepals pinkish brown or green, petals white; **in shade in forest.**

Iv. C.: Assikasso, Moyen Comoe (Dec.) Chev. 25601! Yapo Forest, N. of Abidjan (Dec., fr. Feb.) de Wilde 1017! Aké Assi 7348! **S. Nig.:** Shasha F.R., Ijebu (Feb.) Richards 3072! Okomu F.R., Benin (Dec.-Jan.) Brenan 8603! 8781! 8781a-d! Oban Talbot 922! 1364! **W. Cam.:** Moliwe Stammler. Tiko (Jan.) Dunlap 245! S. Bakundu F.R., Kumba (Jan.) Keay FHI 28569! **F. Po:** Basilé, 2,000 ft. (Dec.) Sanford 4052! 4054!

Also in **Principe** and **C. African Republic.**

3. *Hetaeria tetraptera* (Rchb. f.) Summerh. in Kew Bull. 1934: 207.

APD: Synonym of Zeuxine tetraptera (Rchb. f.) T. Durand & Schinz

Monochilus tetraapterus Rchb. f. (1881).

Zeuxine tetraptera (Rchb. f.) Dur. & Schinz (1895)-F.T.A. 7: 181.

Z. batesii Rolfe in F.T.A. 7: 182 (1897).

Herb with stem creeping and rooting below, erect above, 8-12 in. high; flowers white, greenish outside; **in damp ground in forest.**

S. Nig.: Baba Eko, Ijebu (May) Ross 284! **W. Cam.:** S. Bakundu F.R., Kumba (Mar., Apr.) Brenan 9447! Daramola FHI 41006!

Also in **E. Cameroun, Gabon** and **Congo.**

4. *Hetaeria mannii* (Rchb. f.) Dur. & Schinz Consp. Fl. Air. 5: 57 (1895); F.T.A. 7: 184.

APD: Synonym of Zeuxine mannii (Rchb. f.) Geerinck

Herb with stem creeping and rooting at base, erect above.

W. Cam.: Bafut Ngemba F.R., Bamenda Dist. (June) Daramola FHI 41067!

Also in **E. Cameroun (Mann 2131)** and **Gabon.**

5. *Hetaeria occidentalis* Summerh. in Kew Bull. 1934: 206.

APD: Synonym of Zeuxine occidentalis (Summerh.) Geerinck

Zeuxine elongata of Chev. Bot. 619, not of Rolfe.

Z. batessii of Cat. Talb. 147, not of Rolfe.

Herb with stem creeping and rooting in lower part, erect above; flowers white tinged pink, lip with yellow markings; **in forests or damp ravines.**

Port. G.: Dandum (Mar.) Esp. Santo 470! **Guin.:** Mangata, Farana (Jan.) Chev. 20424! **S. L.:** Mabandu (Dec.) Marmo 68! **Lib.:** Bilimu (Dec.) Harley 2085! **Iv. C.:** Macoupué (Jan.) Chev. 16999! Banco Forest, Abidjan (Jan.) de Wit 9019! Leeuwenberg 2330! Aké Assi 7270! Maféré (fr. Feb.) Aké Assi 7334! **Ghana:** Kibbi, Akim (Dec.) Johnson 592! Atewa Range F.R., Boma (Jan.) de Wit & Morton A2938! Afao Hills F.R., W. Prov. (Dec.) Adams 1969! Wenchii to Chiraa (Dec.) Adams 3186! **N. Nig.:** Kontagora (Jan.) Dalz. 231! **S. Nig.:** Oban Talbot 920! 921! Shagamu, Ijebu-Ode (Jan.) Burt B19! Afi River F.R., Ogoja (Dec.) Keay FHI 28242! Iloro (Sept.) Punch! Okomu F.R., Benin (Dec., Jan.) Brenan 8603a! 8603b! Richards 3854!

Also in **E. Cameroun, Congo** and **C. African Republic.**

20. CORYMBORKIS

Thou. in Nouv. Bull. Sci. Soc. Philom. Paris 1: 318 (1809); F.T.A. 7: 179.

- 1 Terrestrial erect herb; leaves with a narrow sheathing base and a short petiole; lamina 16-35 cm. long, 3.5-8.5 cm. broad, many-veined; inflorescence up to 7 cm. long, up to 20-flowered, bracts small; flowers erect; perianth-segments 5-7 cm. long, broadened near apex; column long and slender, partially enveloped by the lip [corymbosa](#)

Corymborkis corymbosa *Thou.* Orch. Iles Austr. Afr. Prem. Tabl. Synopt. tt. 37, 38 (1822); F.T.A. 7: 180.

APD: Synonym of Corymborkis corymbis Thouars

Corymborkis welwitschii *Rchb. f.* (1866)-F.T.A. 7: 180; Chev. Bot. 624; F.W.T.A., ed. 1, 2: 423.

Flowers white or greenish; in forests.

Guin.: Macenta (May) Jac.-Fél. 912! Nimba Mts. Schnell 2868! **S. L.:** Freetown Burbridge 521! **Iv. C.:** Guidéko (Mar.-May) Chev. 19014! Yapo Forest Giovannetti 380! **Ghana:** Farmar 580! Kibbi Hills, Akim (Dec.) Johnson 272! Kwabeng, Atewa Range (Dec.) Adams 4340! Kade (May) Morton A4182! **S. Nig.:** Gambari F.R., Ibadan (July) Onochie FHI 19106! Ifi F.R., Oyo Olorunfemi FHI 41504! Akure, Ondo (fr. Oct.) Agoi-Ibami, Abakaliki Prov. Sanford WS/603/66! Ujor FHI 26199! Ikom (May) Jones FHI 4616! **W. Cam.:** S. Bakundu F.R., Kumba Akuo FHI 15162! **F. Po:** Barter 1478! (June) Mann 430!

Generally distributed in tropical Africa, southwards to Natal and eastern Cape Province, Réunion and Madagascar.

21. MALAXIS

Soland. ex Sw., Prodr. Veg. Ind. Occ. 119 (1788);

Microstylis (*Nutt.*) *Eaton.*, F.T.A. 7: 17

- 1 Flowers close together at apex of inflorescence, forming a false umbel; petals almost as wide as sepals; margin of lip denticulate or fimbriate:2

Flowers in an elongated raceme or spike; petals much narrower than sepals; margin of lip entire:3

- 2 Lip bearing 2 parallel ridges at the base, often with a needle-like projecting point just in front on the median vein; sepals and petals 4-6 mm. long, the latter ciliolate; lip flabellate or transversely elliptical, emarginate at apex, 3.5-5.5 mm. broad; stems 3-6 cm. high, 3-4-leaved; leaves ovate or lanceolate-ovate, 4-7 cm. long, 2.5-5 cm. broad [1. maclaudii](#)

Lip bearing a single oblong entire callus at the base; sepals and petals 2.5-3 mm. long, all entire; lip quadrate-cuneate, emarginate at apex, basal margins much thickened, 2.5-3 mm. long, 2.5-3 mm. broad; stems 2.5-5 cm. high, 3-leaved; leaves narrowly ovate, 4-7 cm. long, 1.5-3 cm. broad [2. chevalieri](#)

- 3 Lip with a single central pubescent cushion at the base; sepals and petals 1.5-2.5 mm. long; column very short (0.3-0.7 mm. long), anther horizontal:4

Lip with 2 lateral pubescent cushions:5

- 4 Leaves at about the middle of the total height (10-16 cm.) of the plant, the vegetative stem more or less equalling the inflorescence; leaves 2-5, elliptical-lanceolate, 1-6 cm. long, 1-3 cm. broad; rhizome slender, creeping ..[3. prorepens](#)

Leaves near the base of the plant (total height 7-30 cm.), often almost on the soil, the vegetative stem (up to 4 cm. long) being much shorter than the inflorescence; leaves 2-3, elliptical to ovate, 2.5-8 cm. long, 1-6 cm. broad; no creeping rhizome, root a tuber 1-2 cm. diam [4. katangensis](#)

- 5 Lip oblong, longer than broad, with small rounded purple auricles, otherwise pale yellowish, 3-5 mm. long (auricles included); sepals and petals 3 mm. long; column 0.8 mm. long; stems 3-8 cm. high, 4-5-leaved; leaves lanceolate or broadly lanceolate, 2-5 cm. long, 1-2 cm. broad [5. melanotoessa](#)

Lip more or less quadrate or broadly orbicular, broader than long, narrowed at the front, auricles large, almost forming distinct side lobes, lip 2.5-3 mm. long (auricles included); sepals and petals 3-4 mm. long; column 1-6 mm. long; stems 3-12 cm. high, 3-leaved; leaves ovate, 3-5 cm. long, 1-3 cm. broad [6. weberbauerana](#)

1. **Malaxis maclaudii** (*Finet*) *Summerh.* in Kew Bull. 1934: 208.

APD: Synonym of Kornasia maclaudii (Finet) Szlach.

Microstylis maclaudii *Finet* (1907).

Flowers flesh to deep rose-coloured.

Guin.: Macenta, Mbalasso (June) Jac.-Fél. 891! Songoya Maclaud 81! foot of Nimba Mts. (June) Schnell 3093! **S. L.:** Loma Mts. (July) Jaeger 6840! **Lib.:** S. Nimba (June) Adam 21468! **Ghana:** R. Fia, Techiman, Ashanti (June) Westwood 139! **N. Nig.:** Sanga River F.R., Zaria Prov. (June, July) King 103! Keay FHI 37122! **S. Nig.:** Idanre Hills, Ondo Prov. (ft. cult. Ibadan May, June) Sanford WS/1503/65! **F. Po:** Pico S. Isabel, 4,000 ft. (fr. Jan.) Sanford 4116!

Also in **E. Cameroun**, **C. African Republic** and **Sudan**.

2. **Malaxis chevalieri** *Summerh.* in Kew Bull. 1934: 208.

APD: Synonym of Kornasia chevalieri (Summerh.) Szlach.

Liparis sassandrae *A. Chev.*, Bot. 613, name only.

Flowers greenish crimson.

Sen.: Diantène, Casamance (July) Doumlia 520! Oussouye (Aug.) Berhaut 6239! **iv. C.:** Toura, Sassandra R. valley (May) Chev. 21786! **S. Nig.:** Olokemeje F.R., Abeokuta (July, fr. Dec.) Keay & Jones FHI 14188! Keay FHI 16229!

Also in **C. African Republic**.

3. **Malaxis prorepens** (*Kraenzl.*) *Summerh.* in Kew Bull. 1934: 208.

APD: Synonym of Lisowskia prorepens (Kraenzl.) Szlach.

Microstylis prorepens *Kraenzl.* (1893)-F.T.A. 7: 18.

Flowers green, purple, or brownish.

Guin.: Kindia Jac.-Fél. 135! Mt. Gangan (Aug.) Jac.-Fél. 7037! Tangama F.R., Dalaba (Aug.) Adames 321! **S. L.:** Sugar Loaf Mt. (June) Preuss! **N. Nig.:** Jemaa, Zaria Prov. (June) King 117! Bonu Kurmi, Niger Prov. (June) E. W. Jones 168! **S. Nig.:** Idanre Hills, Ondo Prov. (May) Sanford 1601/65!

Also in **C. African Republic**.

4. **Malaxis katangensis** *Summerh.* in Bot. Mus. Leafi. Harv. Univ. 14: 221 (1951). *APD acc*

Flowers pale green, turning brown or orange.

S. L.: Musaia (Aug.) Haswell 33! **N. Nig.:** Jemaa, Zaria Prov. (Aug.) King 98! Nimbia F.R., Zaria Prov. (July) King 98a!

Also in **Congo** and **Tanzania**.

5. **Malaxis melanotoessa** *Summerh.* in Kew Bull. 1934: 209. *APD acc*

Flowers pale greenish-yellow, lip dark purple at base.

Lib.: Gola Forest, S. of Ba (May) Bunting!

6. **Malaxis weberbaueriana** (*Kraenzl.*) *Summerh.* in Kew Bull. 1934: 208.

APD: Synonym of Malaxis welwitschii (Rchb. f.) ined.

Liparis weberbauerana *Kraenzl.* (1908).

Flowers brown or pink.

W. Cam.: Cam. Mt. Weberbauer 42! Bali-Ngemba, Bamenda (June) Ujor FHI 30424! Bafut-Ngemba F.R., Bamenda (May) Keay FHI 37935! Nkom Wum F.R. Wum (June) Daramola FHI 41083! **F. Po:** (cult. Ibadan, June) Sanford 4331!

22. LIPARIS

L. C. Rich. in Mém. Mus. Paris 4: 43, 52 (1818); F.T.A. 7: 19. Nom. cons.

- 1 Stems swollen at base to form an almost globose pseudobulb; stem 1·5-2 cm. long; leaves ovate, almost sessile, in a tuft at the base, 2-4 cm. long, 1-3 cm. broad; scape erect, 7-11 cm. long, flowering nearly to the base; fruit ellipsoid, 6-8 mm. long, about 4 mm. diam.; flowers unknown [1. kamerunensis](#)
- Characters not combined as above: **2**
- 2 Lip distinctly 3-lobed, about 4 mm. long, side lobes shortly triangular, middle lobe long and narrow, the margins inrolled so as to make it appear subulate, sharply inflexed at the middle, 2·5-3 mm. long, lip bearing a short bilobed callus at the base; leaves in a tuft at the base, narrowly oblong-ob lanceolate, acute, up to 7 cm, long and 1·8 cm. broad, margins sometimes very crinkled; inflorescence overtopping the leaves, many-flowered,

- bracts rather large, almost cordate at the base [2. tridens](#)
- Lip bilobed, or if trilobed the middle lobe reduced to an apiculus, the side lobes much larger and rounded: [3](#)
- 3** Stem long and slender, lower part creeping and rooting, upper part erect, leafy; leaves with short sheathing base and rather long petiole, lamina ovate or lanceolate-ovate, cordate or rounded at the base, 1-4 cm. long, 1-2 cm. broad; inflorescence about 4 cm. long, several-flowered; sepals and petals about 5 mm. long, the lateral sepals united shortly at the base; lip transversely oblong, about 4 mm. long and 7 mm. broad, side lobes almost orbicular, front lobe triangular, much smaller, lip with a large tooth at the base [3. goodyeroides](#)
- Primary stem short, consisting of a sympodial series of upright flowering shoots close together, the shoots sometimes thickened to form a pseudobulb: [4](#)
- 4** Petals almost twice as long as the dorsal sepal; leaves ovate or lanceolate, up to 6 cm. long, and 12 mm. broad; pseudobulbs 12-20 mm. long, 2-4-leaved; inflorescence flaccid, pendulous, up to 14-18 cm. long, many flowered, rhachis sharply 2-4 winged, 5 mm. broad; lower flowers aborted with up to 4 linear segments; fertile flowers, dorsal sepal 5-10 mm. long, petals narrowly linear, 8-15 mm. long; lip obovate or oblong from a cuneate base, 3-5-5 mm. long, bilobed, lobes rounded [4. caillei](#)
- Petals equal to or only slightly longer than the dorsal sepal; leaves lanceolate or lanceolate-ovate, mostly over 3 cm. long and usually at least 3 times as long as broad: [5](#)
- 5** Flowers large, lip over 1 cm. wide, transversely elliptical, with a broad retuse tooth-like callus in front of the column and a yellowish rounded swollen area on each side at the base; pseudobulbs ovoid, up to 2 cm. long and 2 cm. broad; leaves lanceolate to elliptical-lanceolate, up to 17 cm. long and 1-8 cm. broad; sepals 8-13 mm. long, the laterals united nearly to the apex; petals very narrow, 11-14 mm. long [5. platyglossa](#)
- Flowers rather small, lip under 7 mm. broad, suborbicular, elliptical, obcordate or obcordate-flabellate, with 2 small teeth or calli at the base; inflorescence usually much overtopping the leaves, many-flowered: [6](#)
- 6** Terrestrial plants, very rarely epiphytic; inflorescences 15-60 cm. high; lamina of leaves 5-25 cm. long, 0-9-8-5 cm. broad; lip obcordately bilobed, somewhat recurved, 2-5-4 mm. long, 2-5-4-5 mm. broad, lobes rounded; sepals 4-6 mm. long; petals narrower, 4-5-5-5 mm. long: [7](#)
- Epiphytic plants, rarely terrestrial on rocks; inflorescences 5-13 cm. high; lamina of leaves 2-10 cm. long, 0-4-1-8 cm. broad; lip suborbicular, elliptical, or obcordately flabellate: [8](#)
- 7** Leaves lanceolate, narrowly lanceolate or lanceolate-linear, with short petiole, 7-25 cm. long, 0-9-5 cm. broad, usually less than half the height of the inflorescence; lip rather fleshy; stem distinctly swollen at base forming a corm-like structure [6. rufina](#)
- Leaves elliptical or lanceolate-elliptical with a long petiole, 5-20 cm. long, 2-8-5 cm. broad, often more than half the height of the inflorescence; lip thin in texture; stem hardly swollen at the base [7. guineensis](#)
- 8** Leaves narrowly oblong or oblong-lanceolate, 4-12 mm. broad, tapering gradually to the petiole, obtuse or rounded and emarginate at apex, 2-11 cm. long; scape usually longer than the leaves; flowers green; dorsal sepal 5-6 mm. long; petals narrower, 5-6 mm. long; lip elliptical-obcordate, side lobes rounded, middle lobe reduced to an apiculus, lip 3-5-4-5 mm. long, 3-4 mm. broad, calli small, tooth-like [8. epiphytica](#)
- Leaves lanceolate or elliptical-lanceolate, usually over 15 mm. broad, acute, 3-10 cm. long: [9](#)
- 9** Lip flabellate, deeply emarginate, lobes rounded, whole lip 6 mm. long and broad; dorsal sepal 8-9 mm. long; petals very narrow, 9 mm. long; scape much exceeding the leaves [9. deistelii](#)
- Lip suborbicular, narrowed at the base, trilobed or truncate at the apex, side lobes large, rounded, middle lobe an apiculus, or scarcely visible, whole lip 4-5 mm. long, 4-5 mm. broad; dorsal sepal about 7 mm. long; petals narrower, equal in length; scape longer than the leaves [10. suborbicularis](#)

1. *Liparis kamerunensis* Schltr. in Engl., Bot. Jahrb. 53: 560 (1915). *APD acc*

Liparis capensis of F.T.A. 7: 22, not of Lindl.

W. Cam.: Cam. Mt., 6,000-7,000 ft. (Nov.) Mann 2129!

2. *Liparis tridens* Kraenzl. in Engl., Bot. Jahrb. 28: 162 (1900); Cat. Talb. 145. *APD acc*

A small epiphytic herb 2-5 in. high with small yellow or yellow-green flowers.

S. Nig.: Oban Talbot 872! 873! Sapoba Kennedy 2635! Akure F.R., Ondo Prov. (July) Onochie FHI 23417! Calabar Wright 102! **F. Po:** Moka, 4,200 ft. (fr. Sept.) Wrigley 652!

A fruiting specimen from Iv. C. (Tiapleu (fr. Oct.) Aké Assi 6027!) is probably referable to this species. Also in E. Cameroun and Uganda.

3. *Liparis goodyeroides* Schltr. in Engl., Bot. Jahrb. 38: 152 (1906). *APD acc*

APD: Synonym of *Liparis nervosa* (Thunb.) Lindl.

W. Cam.: Moliwe Stammler!

4. **Liparis caillei** *Finet* in Bull. Soc. Bot. Fr. 56: 97, t. I, fig. 1-13 (1909). *APD acc*

An epiphytic herb with a few small leaves and a long flattened rhachis with rather widely spread yellowish or brownish-maroon flowers.

Guin.: Caille Nzérékoré (fr. Sept.) Jac.-Fél. 1126! **S. L.:** Jama (fr. Sept.) Deighton 3062! Musaia (July) Deighton 4832!

Lib.: Du R. (July) Linder 78! St. John R., Gbanga (fr. Aug.) Baldwin 9138! Fo R., Kpalala (July) Harley 1507! **N. Nig.:** Jemaa, Zaria Prov. (June, July) King 86! **W. Cam.:** N'dlan (May) Wright 126!

Also in **Uganda**.

5. **Liparis platyglossa** *Schltr.* in Engl., Bot. Jahrb. 38: 152 (1906). *APD acc*

Liparis winkleri *Schltr.* l.c. 153 (1906).

Flowers reddish.

S. Nig.: cult. spec.! **W. Cam.:** Victoria (May) Stossel 5b! 21a! Victoria to Buea (July) Winkler 240! M'bonge Wright 60/58!

6. **Liparis rufina** (*Ridl.*) *Rchb. f. ex Rolfe* in F.T.A. 7: 19 (1897); Chev. Bot. 613.

APD: *Synonym of Liparis nervosa (Thunb.) Lindl.*

Liparis elata var. **rufina** *Ridl.* (1886).

Flowers green or yellow to reddish- or purplish-brown; **damp places in grassland or among rocks, sometimes in scrub.**

Sen.: Borofaye, Zinguinchor (Sept.) Doumlia 624! **Port. G.:** Bissau, Antula (Sept.) Esp. Santo 1342! **Guin.:** Benty (June) Jac.-Fél. 1680! Hollandé Tossékéré (fr. Oct.) Adam 12729! Yanaya, Kissidougou (July) Martine 351! Timbi, Fouta Djallon (June) Adam 14484! 14559! **S. L.:** Mabonto to Bumban (July) Deighton 2218! Roboli, Rokupr (July) Jordan 290!

Brookfields, Freetown (Aug.) Jordan 73! Nyandehun, Valunia (July) Deighton 5799! Kakama, Gbo (Aug.) Deighton 6106! **Lib.:** Memmeh's Town (Aug.) Linder 345! Monrovia (fr. Aug.) Baldwin 9203! SW, of Kaka Town (fr. Aug.) Linder 349! Paynesville (July) Harley 2156! Ganta (July) Harley 1817! **Iv. C.:** Kodiokoffi to Tiégoualcro Chev. 22346! Oroumba Boka, S. of Toumodi (fr. Oct.) de Wilde 662! **Ghana:** Ofinso (Aug.) Cox 100! **N. Nig.:** Heipan, 3,900 ft., Plateau Prov. (July) G. V. Summerhayes 158! Omo, Plateau Prov. (June) King 24! **S. Nig.:** Lagos Barter 20202! Mt. Orosiln, Idanre (fl. May, fr. Aug.) Jones FHI 20722! Keay & Brenan FHI 22404! Benin Unwin! Nun R. Barter 20122! Generally in tropical Africa southwards to Angola and Rhodesia.

7. **Liparis guineensis** *Lindl.* in Bot. Reg. 20: t. 1671 (1835); F.T.A. 7: 20; Cat. Talb. 145.

Liparis atacorensis *A. Chev.*, Bot. 613, name only.

Flowers green, yellow, brown or purple; **among rocks in forest or open woodlands, rarely epiphytic.**

Sen.: Schnell F183! Fogni, Casamance (Dec.) Berhaut 6767! **Guin.:** Macenta (June) Jac.-Fél. 997! Ziamma Massif, 4,000-4,300 ft. (fr. May) Schnell 2631! **S. L.:** Sugar Loaf Mt., 2,400 ft. (fr. Oct.) T. S. Jones 256! Rowala (July) Thomas 1074! Bumban, N. Prov. (July) Deighton 2219! Sumbuya (fr. Oct.) Deighton 4900! Da Oulen, 5,230 ft., Loma Mts. (Aug.) Jaeger 1344! **Lib.:** So (fr. Oct.) Linder 11271 E. of Zwedru, Tchien Dist. (Aug.) Baldwin 7049! Tawata, Boporo Dist. (fr. Nov.) Baldwin 10289! Bobei Mt., Sanokwele Dist. (Sept.) Baldwin 9571! Ganta (Oct.) Harley 1839! **Iv. C.:** Tonkouli, 3,600-4,000 ft. (Aug.) Boughey GC 18215! Issia Rock (Aug.) de Wilde 421! Adiopodoumé (July) Leeuwenberg 4581! **Ghana:** Efiduase (June) Cox 22! **Dah.:** Atacora Mts., 1,300-2,000 ft. (June) Chev. 24193! **S. Nig.:** Mt. Orosun, Idanre (June) Charter FHI 38713! Utanga, Ogoja Prov. (July) Ejiofor FHI 25341! Uzuakoli, Ogoja (July) Stone 28! Oban Talbot 713! 777! **W. Cam.:** Mankom, Bamenda (June) Daramola FHI 41553! R. Ife, Bamenda (July) Ujor FHI 30461! **F. Po:** lava flow (Sept.) Wrigley 544!

Also in **E. Cameroun**, **Principe**, (?) **Annobon**, **Congo**, **C. African Republic**, **Tanzania**, **Zambia** and **Malawi**.

8. **Liparis epiphytica** *Schltr.* in Engl., Bot. Jahrb. 38: 6, fig. 3 (1905). *APD acc*

Liparis lloydii *Rolfe* in Kew Bull. 1906: 31.

Iv. C.: Tai Forest (Oct.) Aké Assi 6029! **S. Nig.:** Calabar (Aug.) Lloyd 3! Eket Talbot! **W. Cam.:** M'Bonge Wright 58/58!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Uganda**.

9. *Liparis deistelii* Schltr. l.c. 151 (1906). *APD acc*

Flowers yellow.

W. Cam.: Cam. Mt., 6,000 ft. (June) Deistel. **F. Po:** Moka (Sept.) Wrigley 652a!

Also in (?) **Uganda** and **Kenya**.

10. *Liparis suborbicularis* Summerh. in Kew Bull. 1934: 210. *APD acc*

Liparis epiphytica of Cat. Talb. 145, not of Schltr.

Flowers greenish yellow; in rock crevices.

S. Nig.: Oban Talbot 87! **W. Cam.:** Nkambe to Binka, 6,500 ft. (Sept.) Savory UCI 380!

Also in **E. Cameroun**.

23. ANSELLIA

Lindl., Bot. Reg. 1844, sub. t. 12 (1844); F.T.A. 7: 100. *APD acc*

- 1 Petals and sepals elliptical, petals often broader than sepals; lip broad, usually broader than long, front lobe more or less orbicular and somewhat retuse, keels 2, the central one either absent or very slightly developed; spots on flowers usually large and dark *1. africana*

Petals and sepals elliptical or more frequently narrowly elliptical, petals never broader than sepals; lip narrow, usually longer than broad, front lobe elliptical or almost oblong, obtuse, keels 3, the central one smaller but usually quite well developed; spots on flowers usually small and pale *2a. gigantea* var. *nilotica*

1. *Ansellia africana* Lindl. Bot. Reg. 1844, sub. t. 12; F.T.A. 7: 101. *APD acc*

Ansellia confusa N. E. Br. (1886)-F.T.A. 7: 102.

A robust epiphyte, up to 3-5 ft. high; flowers yellow with red or purple spots; in forest or bush.

Lib.: Lamco road, Nimba Mts. Harley 2248! **Iv. C.:** Kagbe (Nov.) Aké Assi 9332! **Ghana:** Abene, Kwahu (Jan.) Chipp 626! Adum Bansu, W. Prov. (Jan.) Fishlock 84! Abetifi, Kwahu, 2,000 ft. (Dec.) Irvine 1820! Mampong, Ashanti (Dec.) Vigne FH 4116! Degoro Moore 167! **S. Nig.:** Oban Talbot 1387! Atijere, Ondo Prov. Dawodu! **F. Po:** Clarence (Oct.) T. Vogel 25! Ansell!

Also in **E. Cameroun**, **Gabon**, **Congo**, **Angola**, **Uganda** and **Kenya**.

2. *Ansellia gigantea* Rchb. f. in Linnaea 20: 673 (1874). *APD acc*2a. *Ansellia gigantea* var. *nilotica* (Bak.) Summerh. in Kew Bull. 1937: 462. *APD acc*

Ansellia africana var. *nilotica* Bak. (1875).

Ansellia nilotica (Bak.) N. E. Br. (1886)-F.T.A. 7: 101; F.W.T.A., ed. 1, 2: 425.

An epiphyte about 2-3 ft. high; flowers yellow with brown or orange spots; in open forest and savanna.

N. Nig.: Sokoto (Dec., Jan.) Kennedy 2994! near Zungeru and Lokoja Lugard! Katagum Dalz. 432! Vom, 4,500 ft. Dent Young 231! Kurmi-Sauchi, Zaria Prov. (Feb.) Daggash FHI 31418!

Eastward to **Kenya** and south to Rhodesia and Mozambique.

24. POLYSTACHYA

Hook., Exot. Fl. 2: t. 103 (1824); F.T.A. 7: 103 Nom. cons.

- 1 Pseudobulbs or stems narrowly cylindrical or rarely swollen at apex, superposed, each one arising some distance above the base of the preceding one and continuing the growth in the same direction:2
 Pseudobulbs or stems tufted or closely placed, their bases forming a short creeping rhizome:9
 2 Flowers rather large, sepals over 6 mm. long:3

- Flowers small, sepals 5 mm. long or less:6
- 3 Flowers solitary, almost sessile; leaves knife-shaped, fleshy, often with many overlapping sheaths at base; stems widely creeping or hanging; sepals 8-9 mm. long, hairy; lip more or less oblong, side lobes small or very small, front lobe oblong, slightly reflexed at apex, 10-11 mm. long, 5-6 mm. broad:.....4
- Flowers in simple or branched inflorescences; leaves lanceolate-linear or lanceolate, gradually tapering towards the acute apex, up to 22 cm. long, 4-14 mm. broad; each pseudobulb arising some distance below apex of the preceding one, up to 30 cm. long, with 3 or more leaves; front lobe of lip triangular, acute:.....5
- 4 Leaves 8-15 cm. long, 6-8 mm. broad; each pseudobulb or stem arising from apex of preceding one; all stems 1-leaved; side lobes of lip distinct46. *crassifolia*
- Leaves 2-4.5 cm. long, 5-9 mm. broad; each pseudobulb or stem arising from upper part or apex of preceding one; some stems with numerous distichous leaves, others 1-leaved; side lobes of lip obscure 47. *mystacioides*
- 5 Dorsal sepal 10-16 mm. long, narrowly lanceolate, acuminate, sepals sparsely hairy; inflorescence simple, laxly 3-11-flowered; stems erect; lip in general shape lanceolate, side lobes shortly acutely triangular, front lobe long-triangular, sharply acute, lip 8-13 mm. long, 5-8 mm. broad; pseudobulbs arising from upper part of preceding one, 3-9-leaved, 5-20 cm. long43. *microbambusa*
- Dorsal sepal 6-9 mm. long, lanceolate to broadly lanceolate, sepals sparsely hairy; inflorescence branched with up to 4 branches, many-flowered, branches up to 2 cm. long; stems pendulous; lip when spread out more or less fan-shaped with a short claw, distinctly 3-lobed in the upper part, side lobes broad, rounded, middle lobe broadly triangular, acute, lip 6.5-8 mm. long and broad; each pseudobulb arising from lower part of preceding one, 3-7-leaved, 12-30 cm. long2b. *albescens* subsp. *angustifolia*
- 6 Raceme simple; pseudobulbs arising from one-third way up the preceding one, 3-7.5 cm. long, 2-4-leaved; leaves linear-ligulate, apex shortly bilobed, 3-12 cm. long, 3-8 mm. broad; raceme 3-13 cm. long, many-flowered; sepals 2.5-3.5 mm. long; lip 3-lobed, more or less hastate in outline, about 3-5 mm. long, side lobes acute, recurved, middle lobe lanceolate, acuminate23. *calluniflora*
- Inflorescence a panicle, often many-flowered; pseudobulbs arising from upper part of preceding one:7
- 7 Dorsal sepal 2-3 mm. long, obtuse; lip distinctly trilobed, hastate or cruciform; upper internode of stem not much swollen:8
- Dorsal sepal 4.5-5 mm. long, acuminate; lip obscurely trilobed, rhomboid-oblongate, 7 mm. long; upper internode of stem much swollen to form an ovoid or ellipsoid pseudobulb; stem with 4-5 leaves along its length and a single one at apex of the terminal pseudobulb; leaves 1.5-3.5 cm. long and 1-1.5 cm. broad; inflorescence very short, branched almost from the base42. *camaridioides*
- 8 Pseudobulbs 3.5-8 cm. long, 2-4-leaved; leaves linear-ligulate, 4-9 cm. long, 4-8 mm. broad; inflorescence 3-5 cm. long, branches simple; sepals 2-2.5 mm. long; lip 2 mm. long, broadly hastate, side lobes recurved, middle lobe broadly ovate, lip with small callus at base44. *superposita*
- Pseudobulbs up to 22 cm. long, 4-7-leaved; leaves oblong-lanceolate, unequally bilobed at apex, lamina 5-16 cm. long, 6-16 mm. broad; inflorescence 4-8 cm. long, branches compound; sepals 2-3 mm. long; lip 2-2.5 mm. long, cruciform, side lobes slightly incurved, middle lobe oblong-ovate, no callus at base of lip .45. *fusiformis*
- 9 Pseudobulbs much flattened, more or less prostrate on the substratum, 1 or more leaved at apex:10
- Pseudobulbs or stems vertically placed, usually much longer than broad, and never much flattened in the plane of the substratum:11
- 10 Inflorescence developing after the leaves at the apex of the mature pseudobulb; pseudobulbs orbicular or broadly elliptical, up to 5 cm. long and broad; stems erect, slender, 1-3-leaved, up to 12 cm. long; leaves oblanceolate, lamina 6-20 cm. by 2-5 cm., often purplish beneath; inflorescence with a few branches, usually longer than the leaves; bracts large, frequently longer than flowers, ovate-lanceolate, acuminate; flowers hairy; sepals 6-7.5 mm. long; lip obscurely 3-lobed, 5.5-8 mm. long, side lobes rounded, front lobe obtuse, lip with a pubescent keel in the lower part40. *affinis*
- Inflorescence developing with the leaves on the young pseudobulb; pseudobulbs elliptical, 2.5-5 cm. long, 1-2 cm. broad, with a single leaf at the apex and a leaf on each side at the base; leaves narrowly oblong, with a rounded slightly bilobed apex, 5-15 cm. long, 0.8-2.5 cm. broad; inflorescence branched, up to 17 cm. high; sepals 6.5-16 mm. long; lip 3-lobed, 7.5-11 mm. long, side lobes obtuse, middle lobe shortly acuminate, recurved, lip with short keel at base thickened into a callus in centre of middle lobe41. *obanensis*
- 11 Mature pseudobulbs or stems 1-leaved at apex, terete or almost so, sometimes gradually tapering upwards: ...12
- Pseudobulbs or stems 2 or more leaved, leaves sometimes fallen off at time of flowering:17
- 12 Lateral sepals each produced at the base into a hollow spur 2 mm. long; stems very slender, terete, 2-7 cm. long; leaf linear, tapering very gradually upwards, apex shortly bilobed, 4-16 cm. long, 2-4 mm. broad; inflorescence paniculate, 3-6.5 cm. long, peduncle and rhachis very slender, branches 1-4, very short, almost umbellate; dorsal sepal 3.5-4 mm. long; lip 3-lobed, about 6 mm. long, side lobes small, oblong, front lobe cuneate; lip with a small callus at base53. *bicalcarata*
- Lateral sepals not produced into spurs at base:.....13
- 13 Dorsal sepal 8-17 mm. long; laterals united with foot of column to form a mentum 13-22 mm. long; lip 3-lobed, 13-25 mm. long, side lobes small, ovate, middle lobe ovate to orbicular, all lip pubescent inside; stems 6-15

- cm. high, rather stout; leaf elliptical-oblong, apex rounded or subacute, 10-25 cm. long, 1-3 cm. broad; inflorescence 4-18 cm. long, simple or with a few very short branches [49. *galeata*](#)
- Dorsal sepal 7 mm. long or less: **14**
- 14** Leaves oblong-oblancoate, oblong or elliptical-oblong, suddenly narrowed at base and thus appearing cordate, 1-5 cm. broad, up to 23 cm. long; pseudobulbs tapering from the base, narrowly cylindrical to conical, 0.7-1.7 cm. long; inflorescence up to 22 cm. long, usually paniculate in the upper part; bracts with a broad thin base, suddenly narrowed into a slender point, up to 5 mm. long; dorsal sepal 4-6.5 mm. long; lip obscurely trilobed, 4-6 mm. long, side lobes rounded, middle lobe ovate, apiculate or acuminate, disk with callus running from base to centre [50. *cultriformis*](#)
- Leaves 12 mm. or less broad, narrowed gradually at base and not at all cordate; stems very slender, not tapering, up to 18 cm. long; bracts small, triangular, of even texture, not exceeding 2 mm. in length: **15**
- 15** Dorsal sepal 4-7 mm. long; mentum 9-12 mm. long; side lobes of lip rounded, obscure; leaves narrowly elliptical-oblong, gradually tapering towards base, 5-16 cm. long, 6-12 mm. broad; inflorescence much shorter than the leaves, 2-6-flowered; lip 9-11 mm. long, with a long claw, middle lobe more or less orbicular [48. *supfiana*](#)
- Dorsal sepal 1.5-3 mm. long; mentum 2.6-4.5 mm. long; lip ecallose, side lobes nearly as long as front lobe, incurved, acute or obtuse; inflorescence up to 20 cm. long, with 4-8 short branches: **16**
- 16** Leaves more or less terete with a groove along the upper surface, 1-3 mm. diam., 12-22 cm. long; lip 2.5-4 mm. long, 2-5 mm. broad, front lobe broadly ovate or orbicular [51. *tenuissima*](#)
- Leaves narrowly oblong or linear, unequally bilobed at apex, 5-14 cm. long, 3-6 mm. broad; claw of lip longer than the limb, front lobe orbicula [52. *inconspicua*](#)
- 17** Pseudobulbs ellipsoid to longly cylindrical, 6-19 cm. long, more or less flattened, thicker in the middle, 1-1.5 cm. thick, 3-5-leaved in the upper half; leaves oblong or oblong-elliptical, rounded and shortly bilobed at apex, 8-30 cm. long, 1.5-4 cm. broad; inflorescence paniculate, 9-25 cm. long, with several large sheathing bracts at the base, branches long, only rarely branched again; flowers yellowish to reddish-orange; sepals 3-4 mm. long; lip entire, elliptical-ovate, subacute, 3 mm. long [1. *paniculata*](#)
- Pseudobulbs or stems, if elongated, not more than 1 cm. diam., if thickened, short and often somewhat conical, the leaves arising in a tuft: **18**
- 18** Bracts longly setaceous-subulate from a very short broad base, usually spreading or reflexed; flowers small, dorsal sepal 2-4 mm. long: **19**
- Bracts short, lanceolate or very broad, obtuse or acute or sometimes with a short slender point, if with a long point then the dorsal sepal over 4 mm. long; flowers large or small: **23**
- 19** Inflorescence simple with no arrested branches in the axils of the lower bracts; leaves strap-shaped: **20**
- Inflorescence branched, the branches sometimes represented by buds in the axils of the lower bracts; lip without calli: **22**
- 20** Lateral sepals long-acuminate; callus on lip absent or consisting of a fleshy central cushion; petals linear, lanceolate or oblanceolate, acute: **21**
- Lateral sepals acute only; calli on lip basal, paired, bow-shaped, converging at base and in front; petals ovate or elliptical, obtuse; pseudobulbs 3-7.5 mm. long, 2-4-leaved; leaves 3-12 cm. long, 3-8 mm. broad; raceme 3-13 cm. long; sepals 2.5-3.5 mm. long; lip hastate in outline, side lobes small, acute, recurved, middle lobe lanceolate [23. *calluniflora*](#)
- 21** Side lobes of lip oblong-elliptical or elliptical-orbicular, broader than front lobe, latter sharply recurved, lanceolate, acuminate, disk setose or glabrous; pseudobulbs 1-5 cm., rarely to 9 cm., long; leaves 4-20 cm. long, 4-14 mm. broad; inflorescence 3-14 cm. long; dorsal sepal 2.5-4 mm. long [26. *adansoniae*](#)
- Side lobes of lip spreading, narrowly triangular-oblong, acute, much smaller than the middle lobe, latter broadly triangular, oblong or almost orbicular, acute or apiculate; pseudobulbs 3-18 cm. long; leaves 7-32 cm. long, 1-2.2 cm. broad; inflorescence 7-22 cm. long; dorsal sepal 2-2.5 mm. long [27. *polychaete*](#)
- 22** Stem more or less elongated, the leaves arising some distance from the base, lower part covered with sheaths; leaves strap-shaped or lanceolate-oblong, widest about or below the middle, up to 15 cm. long, 5-16 mm. broad; dorsal sepal 2-2.5 mm. long; lip obscurely 5-lobed, the lowermost pair of lobes infolded, densely pubescent outside, the front lobe broadly deltoid or rounded triangular; plant up to 30 cm. tall [19. *elegans*](#)
- Stem short, the leaves arising close together in a basal tuft, their bases covered by overlapping chaffy sheaths; leaves oblanceolate, widest in upper part, 3-8 cm. long, 4-20 mm. broad; dorsal sepal 3-4 mm. long; lip 3-lobed in upper half, pubescent inside, side lobes rounded, front lobe triangular-ovate, acute or shortly acuminate; plant up to 12 cm. tall [20. *coriscensis*](#)
- 23** Stems slender, elongated, not thickened at the base, with no foliage leaves in the lower part which is covered by sheaths and the leaves scattered more or less regularly along the whole length above: **24**
- Stems usually short, often thickened at base to form a more or less conical pseudobulb, internodes short so that the leaves are borne in a tuft near the base; if stem elongated the lowest foliage leaf-base arises from base of stem (this leaf may sometimes be somewhat reduced): **33**

- 24 Plant small, 4-11 cm. high, including inflorescence; leaves narrowly oblong, 1-2 cm. long, 1-2 mm. broad, erect; dorsal sepal 1 mm. long; stems slender 1.5-4 cm. high, 2-6-leaved; inflorescence overtopping the leaves, peduncle thread-like, simple or much branched, racemes very short, up to 10-flowered; lip entire, rhombic, acute, 1-75 mm. long [22. seticaulis](#)
- Plant much taller, 12-50 cm. high, including inflorescence, or with hanging stems up to 75 cm. long; leaves over 4 cm. long and usually much longer, over 5 mm. broad; dorsal sepal over 2.5 mm. long: 25
- 25 Rhachis of branches of inflorescence and of terminal spike markedly zigzag with the very broad bracts distichously arranged at the angles; inflorescence usually with few branches, entirely glabrous; leaves more or less oblanceolate or elliptical-oblanceolate, broader above the middle; lip (spread out) as broad as long or broader than long, with broad central callus; capsules 3-3.5 cm. long: 26
- Rhachis of branches of inflorescence and of terminal spike not zigzag, bracts not distinctly in two rows: 27
- 26 Leaves 1.5-5 cm. broad, 6-17 cm. long, thin in texture and somewhat undulate, much tapering towards base; dorsal sepal 8-11 mm. long; lip about as broad as long, side lobes large, rounded; stem 15-35 cm. tall, 3-6-leaved [3. caloglossa](#)
- Leaves 0.8-2 cm. broad, 6-12 cm. long, thinly coriaceous, not undulate; dorsal sepal 6 mm. long; lip broader than long, side lobes triangular-ovate; stem 5-18 cm. tall, 3-5-leaved [5. fractiflexa](#)
- 27 Flowers pubescent; bracts of inflorescence small, spreading, acuminate; vegetative stems 7-25 cm. long, 2-6-leaved; lip with large rounded side-lobes and triangular or ovate acute middle lobe: 28
- Flowers glabrous: 29
- 28 Inflorescence usually a spreading panicle with rather long slender branches, 4-30 cm. long; branches rarely reduced to short tufts; leaves oblanceolate or oblanceolate-elliptic, 1.5-5.5 cm. broad, 8-26 cm. long; dorsal sepal 5-9 mm. long; lip as broad as long [6. laxiflora](#)
- Inflorescence a narrow panicle with short dense-flowered branches, 7-30 cm. long; leaves narrowly lanceolate, oblong-lanceolate or ligulate, 1-3 cm. broad, narrowing gradually towards apex; dorsal sepal 6.5-10 mm. long; lip longer than broad [7. stricta](#)
- 29 Lip middle lobe triangular, acute or obtuse, not reflexed, callus in centre of lip, side lobes rounded; rhachis glabrous; inflorescence simple or with up to 4 branches: 30
- Lip middle lobe rounded or retuse at apex, callus basal; lip distinctly longer than broad, side lobes much smaller than middle lobe, triangular or ligulate: 32
- 30 Leaves very narrowly to elliptical-lanceolate, up to 22 mm. broad; lip up to 8 mm. long, mid lobe not long pointed: 31
- Leaves elliptic or lanceolate-elliptic 20-30 mm. broad; lip 16 mm. long [4. cooperi](#)
- 31 Leaves lanceolate or elliptical-lanceolate, acute at apex, 5.5-14 cm. long, 6-22 mm. broad; stems erect, 11-30 cm. tall; lip distinctly longer than broad, about 6 mm. long [2a. albescens subsp. albescens](#)
- Leaves very narrowly lanceolate, very acutely 2-3-lobed at apex, 8-17 cm. long, 4-11 mm. broad; stems pendulous, up to 30 cm. long; lip about as broad as long, 6.5-8 mm. long [2b. albescens subsp. angustifolia](#)
- 32 Mentum or chin of flower longer than the dorsal sepal, conical, obtuse, 5.5-8 mm. long; stems more or less stiffly erect, 10-50 cm. high, slender, 4-12-leaved; leaves linear-lanceolate, 4-16 cm. long, 4-15 mm. broad, apex broadly if sometimes acutely bilobed; inflorescence unbranched, 4-12 cm. long; dorsal sepal 2.5-4.5 mm. long; lip oblong, 3-lobed above the middle, 6-9 mm. long, side lobes small, acute, front lobe oblong, lip with large more or less orbicular hairy callus at base and small tooth in centre just in front [8. bifida](#)
- Mentum shorter than the dorsal sepal, rounded conical, 3-5 mm. long; stems rather flaccid and flexuous, 12-40 cm. long, 4-11-leaved; leaves narrowly lanceolate, 5-21 cm. long, 5-23 mm. broad, apex acute, very narrowly bilobed; inflorescence simple or more usually somewhat branched, 4-12 cm. long; dorsal sepal 5-7 mm. long; lip 3-lobed at base, 5-7.5 mm. long, lateral lobes spreading, narrow, middle lobe much larger, broadly cuneate [9. rhodoptera](#)
- 33 Inflorescence branched, the branches sometimes arrested and represented by short shoots in the axils of the lower bracts (rarely quite simple inflorescences may be found on individual shoots): 34
- Inflorescence simple, no arrested branches in axils of lower bracts: 47
- 34 Stems leafless or almost so at time of flowering, swollen at the base to form a conical pseudobulb; leaves linear or ligulate, up to 2 cm. broad; scape enveloped in tight chaffy sheaths: 35
- Stems leafy at time of flowering; leaves oblong, lanceolate or oblanceolate, usually over 1 cm. broad; flowers rather fleshy; lip usually distinctly 3-lobed, never bearing long clavate hairs: 37
- 35 Dorsal sepal 6-7.5 mm. long: 36
- Dorsal sepal 3.5-4 mm. long; lip distinctly trilobed, more or less cruciform, middle lobe much recurved, side lobes shorter, erect, centre with whitish mealy hairs; flowers rather fleshy, yellow or greenish-yellow, sometimes with red markings; scape rather stout, 4-25 cm. long, branches of inflorescences up to 7, rather stout, less than 2 cm. long; leaves ligulate, 3-10 mm. broad; rhachis pubescent, flowers almost glabrous [24. steudneri](#)

- 36** Rhachis, ovary and sepals almost or quite glabrous; lip oblong in shape with a very obscure rounded lobe on each side at the middle, bearing numerous long clavate hairs; flowers thin in texture, purplish red; scape very slender, 15-50 cm. high, branches of inflorescence slender, sometimes branched again at the base, up to 7 cm. long; leaves linear, up to 4 mm. broad [54. bequaertii](#)
- Rhachis and sepals pubescent, ovary densely so; lip trilobed with large rounded side-lobes, with short clavate hairs on the disk; flowers rather fleshy, greenish white, middle lobe of lip yellow; scape rather stout, branches stout, up to 7 cm. long; leaves ligulate, 1.5-1.8 cm. broad [25. kingii](#)
- 37** Branches of inflorescence secund (all turning to the same side of the rhachis) or almost so: **38**
- Branches of inflorescence not secund, sometimes represented by a single short branch: **41**
- 38** Lip without a distinct longitudinal keel in the lower part but with a cushion of short mealy hairs; leaves usually 0.5-1.5 cm. broad, rarely up to 3 cm.: **39**
- Lip with a distinct keel running from the base to the middle or above; leaves 1-6 cm. broad, usually over 1.5 cm.; inflorescence up to 80 cm. high, usually over 15 cm.: **40**
- 39** Leaves fleshy, narrowly oblong with almost parallel sides, V-shaped in section, apex broad, obtusely bilobed, 4-18 cm. long, 5-30 mm. broad; inflorescence 6-35 cm. high with up to 8 laterals; laterals up to 5 cm. long, many-flowered; upper part of sheaths on rhachis tight; dorsal sepal 1.5-3 mm. long; lip trilobed, 2.5-3 mm. long, side lobes ovate, rather incurved, middle lobe elliptical, retuse [34. golungensis](#)
- Leaves thin in texture, narrowly oblanceolate or oblong-oblanceolate, not markedly V-shaped in section, apex narrow, rounded or acute, up to 20 cm. long, 5-22 mm. broad; inflorescence up to 15 cm. high with up to 6 laterals; laterals up to 2 cm. long; upper part of sheaths on rhachis rather loose; dorsal sepal 2.5-3.5 mm. long; lip trilobed, 3-4.5 mm. long, side lobes rounded, middle lobe elliptical-quadrate, bullate [33. modesta](#)
- 40** Leaves narrowly elliptical-lanceolate, acutely bilobed at apex, 1-3.5 cm. broad, 7-30 cm. long; dorsal sepal 3.5-5 mm. long; lip 3-lobed at apex only, 4-7 mm. long; lobes almost the same in length, middle lobe very broadly deltoid-semiorbicular, apiculate, margins very undulate, with a small keel in the centre separate from the basal one; stem somewhat elongated; branches of inflorescence up to 7, rarely branched again [32. mukandaensis](#)
- Leaves oblanceolate or oblong-elliptical, obtusely or subacutely bilobed at apex, 1.5-6 cm. broad, 6-30 cm. long; dorsal sepal 2.5-4.5 mm. long; lip 3-lobed at the middle, 4-5.5 mm. long, middle lobe oblong or almost orbicular, much longer than the laterals, with the margin undulate towards the base, no keel at the apex; branches of inflorescence up to 14, frequently branched again near the base [31. tessellata](#)
- 41** Lip entire, narrowly oblanceolate, apex acuminate, 5-6 mm. long, scarcely 2 mm. broad, with a bilobed basal callus; sepals densely pubescent, narrowly lanceolate, about 7 mm. long; leaves lanceolate or narrowly lanceolate to 6 cm. long, 3-14 mm. broad, very acutely bilobed at apex [36. oblanceolata](#)
- Lip trilobed, lobes sometimes obscure but lip then nearly as broad as long, callus entire or absent: **42**
- 42** Lip without a callus; fruits 4-9 mm. long: **43**
- Lip with a callus at the base or in the centre; fruits 9-18 mm. long: **44**
- 43** Dorsal sepal 2.5-3.5 mm. long; inflorescence with 1-6 short side branches not much diverging from the main axis and up to 2 cm. long; lip 3-4.5 mm. long, side lobes rounded, middle lobe elliptical-quadrate, bullate; leaves narrowly oblanceolate or oblong-oblanceolate, 5-22 mm. broad [33. modesta](#)
- Dorsal sepal 1.8-2 mm. long; leaves oblong-elliptical or oblanceolate, acute, 4-18 cm. long, 1-3 cm. broad; inflorescence a spreading compound panicle with slender many-flowered branches, 6-25 cm. high; lip 3-lobed in the upper half, 2.5-4 mm. long, margins incurved below, ecallose, side lobes spreading, rounded-triangular, middle lobe elliptical, smaller than the side lobes but projecting in front of them, 0.7-0.8 mm. long; fruits 4-8 mm. long [28. ramulosa](#)
- 44** Panicle large with spreading branches, 13-40 cm. high; side lobes of lip incurved, acute, middle lobe oblong, refuse at apex; leaves oblanceolate or rarely almost linear, acute, 5-30 cm. long, 0.5-4.5 cm. broad: **45**
- Panicle small with erect or suberect branches, 4-24 cm. high; side lobes of lip rounded, sometimes rather obscure, not incurved, middle lobe triangular, ovate or elliptical, acute or apiculate at apex: **46**
- 45** Dorsal sepal 3-4 mm. long; lip 4-4.5 mm. long, front lobe nearly quadrate or longer than broad, callus short, central, not continuous to the base; fruits 9-12 mm. long [29. puberula](#)
- Dorsal sepal 4.5-5 mm. long; lip 6-7.5 mm. long, front lobe transversely oblong, broader than long, callus a linear keel extending from the base to the centre; fruits 12-18 mm. long [30. odorata](#)
- 46** Rhachis and flowers densely pubescent; leaves of young growth not properly developed at time of flowering; leaves narrowly oblong, apex obtusely bilobed, 8-30 cm. long, 1.2-2.2 cm. broad; dorsal sepal 3.5-6 mm. long; lip 5-7.5 mm. long, 3-4.6 mm. broad; fruits 10-15 mm. long [35. dolichophylla](#)
- Rhachis more or less pubescent, flowers almost or quite glabrous; leaves of young growth fully expanded at time of flowering; leaves ligulate or oblanceolate, apex acute, acutely bilobed, 6-21 cm. long, 0.6-3 cm. broad; dorsal sepal 3.5-5.5 mm. long; lip 4.5-5 mm. long, 2.7-4.5 mm. broad; fruits 9-12 mm. long [37. subulata](#)
- 47** Sepals densely pubescent, narrowly lanceolate, about 7 mm. long; mentum very short; lip oblanceolate, acuminate, with bilobed basal callus and central hair-cushion, 5-6 mm. long; plant up to 7 cm. high; leaves lanceolate-linear or lanceolate, up to 6 cm. long and 3-14 mm. broad, very acutely 2-lobed at apex [36.](#)

oblanceolata

- Sepals almost or entirely glabrous; mentum quite prominent, cylindrical, conical or rounded, often longer than the dorsal sepal: 48
- 48 Flowering scapes 30 cm. or more in height, the peduncle almost covered with chaffy sheaths, the rachis many-flowered; flowers pale mauve with one or more yellow cushions of hairs on the lip, thin in texture; lip bent back like a knee in the middle; dorsal sepal 2.5-4 mm. long: 49
- Flowering scape 20 cm. or less in height, usually much shorter: 50
- 49 Lip with a short keel-like callus just above the base and two parallel almost touching hair cushions in the centre; stems leafless at time of flowering; sepals each with a horn-like projection on the back just below the tip; apical part of lip (epichile) bent upwards, broadly orbicular or transversely elliptical with a wavy margin; leaves narrowly strap-shaped, up to 10 cm. long and 1 cm. broad [11. pseudo-disa](#)
- Lip without any callus in basal part but with a single hair-cushion stretching right across the centre; leaves present at time of flowering; sepals without horn-like projections at the back; epichile of lip not bent upwards, more or less bifid or bilobed; leaves 2-4 to each stem, very narrowly lanceolate or strap-shaped, 10-16 cm. long, 4-8 mm. broad [12. geniculata](#)
- 50 Flowers borne on leafless pseudobulbs: 51
- Flowers borne on leafy pseudobulbs, usually rather fleshy; sepals without a horn-like projection below the apex: 58
- 51 Sepals rather fleshy, hairy outside; ovary densely pubescent; flowers greenish white; middle lobe of lip yellow, disk and lobes with numerous hairs but these not forming dense hair cushions; sepals 6-7 mm. long; lip distinctly 3-lobed, lobes nearly equal; leaves ligulate, 3-12.5 cm. long, 1.5-1.8 cm. broad [25. kingii](#)
- Sepals thin in texture, quite glabrous, frequently with a horn-like projection just below the apex; ovary glabrous or rarely with very few scattered hairs; flowers white, rose or lilac; disk of lip with 1 or 2 dense cushions of yellow hairs; roots often flattened, frequently green and assimilating: 52
- 52 Lip not sharply reflexed, 5-5.5 mm. long, lower part (hypochile) more or less concave, orbicular from a narrow base, 4-4.5 mm. long, with 2 hairy cushions in the upper part and a tooth-like callus at the base, apical part (epichile) more or less inflexed, transversely oblong or semi-orbicular, margins much undulate; dorsal sepal 3.5-4 mm. long; mentum 6.5 mm. long [10. dalzielii](#)
- Lip sharply reflexed below the middle: 53
- 53 Lip without a callus or keel at the base and with a single cushion of hairs in the upper part: 54
- Lip with a callus or keel at the base, reflexed just at base of cushions of hairs, hair-cushions 2, elongated, contiguous or separated: 55
- 54 Lip not hollowed out at apex, 7 mm. long, 3-lobed, side lobes spreading, linear, 1.5 mm. long, middle lobe much larger, oblong-elliptical, rounded at apex, with a single cushion of hairs in the centre; dorsal sepal 3 mm. long; mentum 4-4.5 mm. long; inflorescence 5-8 cm. long, many-flowered [13. monolenis](#)
- Lip hollowed out at apex into a sac or hood, 4 mm. long, entire, pandurate-oblong with a narrow claw, sac furnished with a large transversely elliptical cushion of hairs; dorsal sepal 2.5 mm. long; mentum 3 mm. long; inflorescence 4-12 cm. long [14. saccata](#)
- 55 Mentum of flower curved, 10-11 mm. long; lip 15-17 mm. long (stretched straight), claw narrow, 4-5-5 mm. long, middle part (mesochile) with obtusely triangular side lobes, hair-cushions contiguous, epichile orbicular, more or less emarginate at apex, inflexed, 4-5 mm. diam.; dorsal sepal 6-7 mm. long [15. elastica](#)
- Mentum scarcely curved, 6-9 mm. long; lip 8.5-13 mm. long: 56
- 56 Claw widened or lobed below the hair-cushions: 57
- Claw not widened below the hair-cushions, which are at broadest part of lip and do not reach the margins; epichile more or less orbicular, margin dentate [18. victoriae](#)
- 57 Callus at base of lip forming a high quadrate keel; hair-cushions separate, reaching nearly to the edges of the mesochile; epichile flabellate, not truncate at the base [16. pobeguinii](#)
- Callus at base of lip tooth-like, not much elevated; claw of lip frequently with narrow lateral lobes; hair-cushions contiguous, with a broad glabrous border to the mesochile; epichile transversely oblong or semi-orbicular, basal angles truncate [17. reflexa](#)
- 58 Mentum narrow, more or less cylindrical, slightly longer than or equalling the dorsal sepal; leaves narrowly ligulate or linear-oblong, rounded and shortly bilobed at apex, up to 1.2 cm. broad; inflorescence short, up to 10-flowered: 59
- Mentum broad, rounded-conical, considerably longer than the dorsal sepal; leaves lanceolate or oblanceolate, acute at apex, 1-3 cm. broad, 8-20 cm. long; inflorescence 9-30 cm. long, many-flowered, bracts much shorter than the ovary and pedicel; stem up to 5 cm. long, 3-5-leaved; lip more or less obovate, acutely 3-lobed at apex, 4.5-6.5 mm. long [38. leonensis](#)
- 59 Claw (narrow basal part) of lip hairy outside, upper part ovate or elliptical with a large 2-4-6-lobed flat callus wider than the lamina; dorsal sepal 5.5-6.5 mm. long; stems erect, 2-7 cm. high, swollen (0.5-1 cm. diam.) at

base; leaves 2.5-9 cm. long, 3-12 mm. broad; inflorescence up to 9 cm. long[21. alpina](#)

Claw of lip glabrous, upper part distinctly 3-lobed, middle lobe broadly ovate or almost orbicular, side lobes rounded triangular, decurrent on to the longer middle lobe, no callus; dorsal sepal 4-5.5 mm. long; stems 1-2 cm. high, forming ovoid pseudobulbs in the lower part; leaves 2-7 cm. long, 1-7 mm. broad; inflorescence up to 5 cm. long[39. parva](#)

1. *Polystachya paniculata* (Sw.) Rolfe in F.T.A. 7: 113 (1897). *APD acc*

Flowers orange with red markings.

Guin.: Nzo (fr. Mar.) Chev. 21051! **S. L.:** Afzelius! Kékédou to Kissidougou (Oct.) Jaeger 2162! **Lib.:** Ganta, Busi road (Nov.) Harley 1836! **Ghana:** Aburi Hills (Nov.) Johnson 483! Ofinso (Oct.) Cox 104! Effiduase Cox 57! Kadjakpe, Togo Plateau F.R. (Oct.) St. Cl.-Thompson 1509! Amedzofe (Sept.) Westwood 45! **S. Nig.:** Akure F.R., Ondo (Aug.) Keay FHI 25371! Usonigbe F.R., Sapoba (fr. Nov.) Ejiofor FHI 24653! Degema Talbot 3610! Kundeve, Sonkwala, Ogoja (Sept.) Keay FHI 25381! Ikom to Mamfe, Ogoja Prov. (Mar.) Sanford 310/65! **W. Cam.:** Victoria (Sept.) Ngongi FHI 15341! Tombel, Kumba (fr. Mar.) Thorold CM17!

Also in **E. Cameroun, Gabon, the Congos** and **Uganda**.

2. *Polystachya albescens* Ridl. in Bol. Soc. Brot. 5: 199 (1888); F.T.A. 7: 111. *APD acc*

Polystachya imbricata Rolfe in Kew Bull. 1893: 172; F.T.A. 7: 112.

2a. *Polystachya albescens* subsp. *albescens* Summerh. in Kew Bull. 12: 74 (1958). *APD acc*

Flowers greenish or whitish, sometimes with reddish veins, lip tinged or veined red.

S. Nig.: Obudu Plateau, Ogoja, 3,500-5,000 ft. (May) Head 96! Cooper 84! **W. Cam.:** Bambui, Ndop Plain, 5,000 ft. (May) Brunt 450! **F. Po:** Basilé to Estrada, 3000 ft. (Dec.) Sanford 4008!

Also in **S. Tomé, Principe** and **Annobon**.

2b. *Polystachya albescens* subsp. *angustifolia* (Summerh.) Summerh. in Kew Bull. 12: 75 (1958). *APD acc*

Polystachya imbricata subsp. *angustifolia* Summerh. in Kew Bull. 10: 227 (1956).

Flowers white or cream, the lip with brownish markings within.

W. Cam.: Buea, 3,000 ft. (Apr., July) Gregory 165! 284! Keay FHI 22411! Ejiofor FHI 25340!

3. *Polystachya caloglossa* Rchb. f. Otia Bot. Hamburg. 111 (1881); F.T.A. 7: 128. *APD acc*

APD: *Synonym of Polystachya excelsa Kraenzl.*

Polystachya excelsa Kraenzl. in Engl., Bot. Jahrb. 36: 117 (1905).

Polystachya rolfeana Kraenzl. in Engl., Bot. Jahrb. 33: 61 (1902), not Kraenzl. (1900).

Flowers cream, yellow or orange.

W. Cam.: Cam. Mt., 5,000 ft. (Nov.) Mann 2110! Buea, 3,200-4,000 ft. (May, Nov.) Maitland 728! Migeod 25! Deistel! **F. Po:** SW. of island Mildbr. 7110. Moka, 4,600 ft. (Aug.) Melville 412!

Also in **E. Cameroun, Gabon, Congo** and **Uganda**.

4. *Polystachya cooperi* Summerh. in Kew Bull. 17: 553 (1964). *APD acc*

Flowers greenish-white or cream.

S. Nig.: Obudu Plateau, Ogoja (Nov.) Cooper 2a!

5. *Polystachya fractiflexa* Summerh. in Kew Bull. 10: 224 (1956). *APD acc*

W. Cam.: Tombel (fr. Nov.) Thorold TN37!

Also in **Congo**.

6. *Polystachya laxiflora* Lindl. in J. Linn. Soc. 6: 129 (1862); F.T.A. 7: 111; Cat. Talb. 146.

APD: Synonym of Polystachya stricta var. laxiflora (Lindl.) Perez-Vera

Polystachya dixantha *Rchb. f.* (1882)-F.T.A. 7: 126.

Flowers white, yellow or orange-yellow, sometimes with red markings on the side lobes of the lip.

Guin.: Macenta, 2,000 ft. (May) Collenette 7! Jac.-Fél. 865! Dalaba (Mar.) Caille in Hb. Chev. 18107! Kouria (Apr.) Pobéguin 1559! Nimba Mts. (fr. Apr.) Schnell 1204! **S. L.:** Mt. Horton (Jan.) Deighton 6035! Musaia (July) Deighton 4837! Masingbe to Mamansu (Mar.) Austin in Hb. Deighton 5748! Ndilajula, Kori (Oct.) Deighton 6021! Loma Mts., 5,000 ft. (Feb.) Jaeger 4236! **Lib.:** Bumbuna (Oct.) Linder 1324! Suen (Nov.) Linder 1324a! Dobli I., St. Paul R. (Apr.) Bequaert 169! Brewersville (Sept., Oct.) Harley 1831! Ya R., Sanokwele (Sept.) Baldwin 9515! Nimba (Dec.) Adames 839! **Iv. C.:** Man to Danané (Nov.) de Wilde 849! Mt. Tonkoui, SW. of Man (Mar.) Leeuwenberg 2956! Yapo Forest (Aug.) Oldeman 249! **Ghana:** Bunsu (Mar.) Westwood 131! **S. Nig.:** Mt. Orosun, Idanre, Ondo (Apr.) Symington FHI 3372! Nun R. Barter 2126! Brass Barter 1055! Newi, Onitsha (July) Jones FHI 6129! Oban Talbot 918! Afi River F.R., Ogoja (June) Jones & Onochie FHI 17344! **W. Cam.:** Moliwe (Aug.) Schlechter 15778! Victoria (June) Preuss 1216! Rosevear 51/37! S. Bakundu F.R., Kumba (Mar., Apr.) Onochie FHI 31198! Daramola FHI 29809! **F. Po:** (June) Mann 437!

Also in **E. Cameroun** and **Gabon**.

7. *Polystachya stricta* *Rolfe* in Kew Bull. 1909: 63. *APD acc*

Flowers pale yellow, often more or less tinged with pink, rarely mauve-pink.

N. Nig.: Mambila Plateau, 3,000-4,600 ft. (Jan., Feb.) Wimbush 61! (= King 35!) Hepper 2882!

Also in **E. Cameroun**, **Uganda**, **Kenya** and **Tanzania**.

8. *Polystachya bifida* *Lindl.* in J. Linn. Soc. 6: 129 (1862); F.T.A. 7: 108. *APD acc*

Polystachya farinosa *Kraenzl.* (1893)-F.T.A. 1.c.

Flowers white tinged mauve, lip mostly mauve.

S. Nig.: Obudu Plateau, Ogoja, 3,500 ft. (Nov.) Cooper 84! **W. Cam.:** Cam. Mt., 4,000-5,000 ft. (Nov.-Jan.) Mann 1339! 2115! Johnston 100! Migeod 32! Buea, 3,300 ft. (Oct., Jan.) Preuss 1064! Gregory 613! **F. Po:** 4,000 ft. (Dec.) Mann 649!

Also in **S. Tomé**, **Gabon** and **Congo**,

9. *Polystachya rhodoptera* *Rchb. f.* in Hamburg. Gartenz. 14: 214(1858); F.T.A. 7: 109. *P. ensifolia* *Lindl.* (1862)-F.T.A. 7: 108. *APD acc*

Polystachya pyramidalis *Lindl.* (1862)-F.T.A. 7: 109; Cat.Talb. 146.

Polystachya subcorymbosa *Kraenzl.* in Kew Bull. 1929: 288.

Flowers white or yellow, often tinged rose.

S. L.: Sc.Elliot! Niawa (Oct., Nov.) Deighton 4919! **Lib.:** Moylakwelli-Totokwelli (Oct.) Linder 1290! Duport.(Nov.) Linder 1496! Wohmen, Vonjama, Western Prov. (Oct.) Baldwin 10063! Tawata, Boporo (Nov.) Baldwin 10337! Ganta (Oct.) Harley 2050! Nimba (Dec.) Adames 842! **Iv. C.:** Guillaumet 282! **S. Nig.:** Sapoba Kennedy 1917! Nun R., (Sept.) Mann 522! Oban Talbot 903!

Also In **Principe**, **E. Cameroun**, **Gabon** and **Congo**.

10. *Polystachya dalzielii* *Summerh.* in Kew Bull. 1927: 418. *P. sp.* F.T.A. 7: 123, under *P. angularis* *Rchb. f.* *APD acc*

Flowers white to lilac or pale purple.

Guin.: Dalaba (Mar.) Dalz. 8433! Gangan, Kindia, 3,700 ft. (Jan.) Jac.-Fél. 424! **S. L.:** Bintumane Peak, Loma Mts., 5,400 ft. (Feb., Mar.) T. S. Jones 169! Loma Mts., 5,300 ft. (Feb.) Jaeger 4249! 4256! **Lib.:** Grand Bassa (fr. Apr.) T. Vogel 104! Mt. Wolagwisa, near Pandamai, 4,500 ft. (Mar.) Bequaert 100! Blli (Feb.) Harley 17731 Bilimu (Mar.) Harley 1999! Nimba Adam 211281 **Iv. C.:** Mt. Gbon, 3,300 ft. (fr. May) Chev. 214121 Mt. Tonkoui, SW. of Man, 3,900 ft. (Mar.) Leeuwenberg 29691

11. *Polystachya pseudo-disa* *Kraenzl.* in Kew Bull. 1926: 293. *APD acc*

Flowers mauve or purplish with yellow hairs on lip; on rocks or on *Calagyna pilosa*.

S. L.: Sefadu (Mar.) Deighton 3517! 3569! 3626! **T. S. Jones** 170! **Lib.:** Ballowallah, Kailahun to Bolahun (Feb.) Bequaert 69! **iv. C.:** Mt. Tonkoui, 3,400 ft. (Apr.) Leeuwenberg 3858!

[The original locality of Uganda given for this species was probably an error-V.S.S.]

12. *Polystachya geniculata* Summerh. in Kew Bull. 10: 229 (1956). *APD acc*

Flowers mauve or yellowish.

W. Cam.: Mamfe (May, Sept.) Gregory 124! 323! Banyang, Mamfe (Aug.) Eyeku FHI 22304! Manenguba Mts., 6,000 ft. (June) Gregory 302!

13. *Polystachya monolenis* Summerh. in Kew Bull. 1935: 198. *APD acc*

Polystachya expansa Ridl., partly-F.T.A. 7: 122, partly.

S. L.: Wilford!

14. *Polystachya saccata* (Finet) Rolfe in Orch. Rev. 26: 107 (1918). *APD acc*

Epiphora saccata Finet in Notulae Syst. 2: 30 (1911).

Flowers white and rose, hair-cushion on lip yellow, fragrant.

Port. G.: Chitole, Cosselinta (June) Esp. Santo 3192! **Guin.:** Pita (Apr.) Pobéguin 2294! 2302b! Adam 11641! Ditinn (Apr.) Chev. 12985! Gangan, Kindia (Apr.) Adam 11916! **N. Nig.:** Kagarko, Zaria (Apr.) G. V. Summerhayes 90! Gimi River F.R., Zaria (Apr.) Keay & Jones FHI 37620! Sanga River F.R., Zaria (Apr.) Keay & Jones FHI 37639

15. *Polystachya elastica* Lindl. in J. Linn. Soc. 6: 131 (1862); F.T.A. 7: 129. *APD acc*

APD: *Synonym of Polystachya reflexa Lindl.*

Flowers lavender or rose with yellow hairs on lip.

S. L.: Afzelius. Bagroo R. (Apr.) Mann. 902! **Lib.:** Ganta (May) Harley 1924!

16. *Polystachya pobeguini* (Finet) Rolfe in Orch. Rev. 26: 107 (1918). *APD acc*

Epiphora pobeguini Finet in Notulae Syst. 2: 29 (1911).

Flowers rose or lilac with yellow hairs on lip.

Guin.: Ninkan Plateau (Apr.) Pobéguin 2087! Labé Pobéguin 2089. Dalaba (Apr.) Caille in Hb. Chev. 18141! Gangan (May) Roberty 17763! Nimba Mts., 3,000-5,300 ft. (Feb., June) Schnell 463! 3023! **S. L.:** Bandakaraia to Yalumbu (May) Deighton 5080! Loma Mts., 5,500 ft. (Jan.) Jaeger 4185! **Lib.:** Nimba (Mar.) Adam 21156! **iv. C.:** Brafouédi (cult. Abidjan, Dec.) Aké Assi 9353!

17. *Polystachya reflexa* Lindl. Bot. Reg. 27: Misc. 18 (1841); F.T.A. 7: 127, partly. *APD acc*

Polystachya smytheana Rolfe in Kew Bull. 1908: 71.

Polystachya liberica Rolfe l.c. 72 (1908).

Polystachya elastica of Chev. Bot. 616, partly, not of Lindl.

Flowers pale rose-purple with yellow hair-cushions on lip.

S. L.: Whitfield! Hamilton (Feb.) Smythe 56! Mano Bonjema, near L. Mape (Jan.) Adames 6! 114! Kambui Hills (Apr.) Small 905! Bureh Town, 30 miles from Freetown (Jan.) Deighton 5961! **Lib.:** Johnston! **iv. C.:** Mt. Dou, Dyola country, 4,500 ft. (May) Fleury in Hb. Chev. 21470! Adiopodoumé (Nov.) Aké Assi 4468! **Ghana:** Amedzofe (Apr) Rose Innes GC 30556!

18. *Polystachya victoriae* Kraenzl. in Engl., Bot. Jahrb. 28: 165 (1900). *APD acc*

Flowers white or pale lilac with yellow hairs.

W. Cam.: Victoria (Feb.) Simon 14! Deistel 190! Nkolanjeng (Feb.) Schorkopf 30f!

19. *Polystachya elegans* Rchb. f. Otia Bot. Hamburg. 113 (1881); F.T.A. 7: 119. *APD acc*

APD: Synonym of Polystachya calyptrata Kraenzl.

Polystachya mannii Rolfe in F.T.A. 7: 117 (1897).

Flowers greenish white or yellowish white, sometimes tinged mauve.

S. Nig.: Sonkwala, Ogoja Prov. (Aug.) Keay FHI 25376! **W. Cam.:** Cam. Mt. 4,000-6,000 ft. (Nov.-Jan.) Mann 1338! 2113! Johnston 99! Bansa to Jikiri, Bamenda, 5,600 ft. (Sept.) Savory UCI 385! **F. Po:** nr. S. Isabel (fr. Dec.) Sanford 4013!

20. Polystachya coriscensis Rchb. f. l.c. 112 (1881); F.T.A. 7: 120. *APD acc*

Polystachya kiessleri Schltr. in Engl., Bot. Jahrb. 38: 153 (1906).

Flowers pale green or yellow, with brown or rose-coloured stripes.

S. Nig.: Sapoba, Benin Prov. (fl. cult. Ibadan, May) Sanford WS/ 185/66! Eket Talbot! **W. Cam.:** Moliwe (Aug.) Schlechter 15780! M'bonge Wright 58/11!

Also in **E. Cameroun**, **Gabon** and **Congo**.

21. Polystachya alpina Lindl. in J. Linn. Soc. 6: 131(1862); F.T.A. 7: 128. *APD acc*

Polystachya preussii Kraenzl. (1893)-F.T.A. 7: 128; Cat. Talb. 146.

Polystachya winkleri Schltr. in Engl., Bot. Jahrb. 38: 154(1906).

Polystachya talbotii Rolfe in Kew Bull. 1910: 282; Cat. Talb. 146.

Flowers white or rose.

S. Nig.: Oban, Niagi (Oct.) Talbot 835! 919! **W. Cam.:** Cam. Mt., 5,000-6,750 ft. (Apr., May) Preuss 934! 1021! Maitland 726! Winkler 1267! Nkom-Wum F.R. (June) Daramola FHI 41078! Bafut-Ngemba F.R. (July) Daramola FHI 41566! **F. Po:** 6,000 ft. (Dec.) Mann 647!

22. Polystachya seticaulis Rendle in Cat. Talb. 104 (1913). *APD acc*

Flowers white or pale yellow, tinged rose or purple.

S. Nig.: Oban Talbot 926! **W. Cam.:** Lohe, M'bonge (Sept.) Wright 164!

Also in **Gabon** and **Congo**.

23. Polystachya calluniflora Kraenzl. in Engl., Bot. Jahrb. 28: 166 (1900). *APD acc*

Flowers white and pink.

W. Cam.: Cam. Mt., Buea, 3,000 ft. (Apr., May) Deistel 75! Maitland! 341! Gregory 288! Preuss 1009. Also in **E. Cameroun** and **Uganda**.

24. Polystachya steudneri Rchb. f. Otia Bot. Hamburg. 113 (1881); F.T.A. 7: 117. *APD acc*

Flowers yellow or greenish yellow with red stripes or markings.

N. Nig.: Rukuba, Jos Plateau (Jan., Feb.) King! Pankshin to Mongu, Plateau Prov. Cole 18! Gembu, Mambila Plateau (Jan.) Hepper 1825!

Also in **Ethiopia**, **Sudan**, **Uganda** and **Kenya**.

25. Polystachya kingii Summerh. in Kew Bull. 17: 555, fig. 18 (1964). *APD acc*

Flowers greenish white with yellow lip.

W. Cam.: Mambila Plateau (Apr.) Howard in Hb. King 141! Nash in Hb. King 181!

26. Polystachya adansoniae Rchb. f. in Flora 48: 186(1865); F.T.A. 7: 121; Cat. Talb. 146. *APD acc*

Polystachya albo-violacea Kraenzl. (1893)-F.T.A. 7: 120; F.W.T.A., ed. 1, 2: 431.

Polystachya nigerica Rendle, Cat. Talb. 103.

Polystachya caillei Guillaum. in Bull. Mus. Nat. Hist. Paris, 26: 672 (1920).

Guin.: Kouria (Aug.) Pobéguin 1676! Seoua, Pita (Sept.) Adames 371! Nzérékoré (May) Collenette 331 Schnell 2785! Nimba Mts. (June) Schnell 2832b! **S. L.:** Yagoi, Jong R. (Aug.) Adames 66! Seli R., Kamadugu (June) Deighton 5938! Bafodia, Koinadugu (fr. Aug.) Haswell 93! **Lib.:** Sanokwele (fr. Sept.) Baldwin 9521! Yasona (Sept.) Harley 1928! Ganta

(May) Harley 2132! Nimba (Sept.) Adames 517! (Feb.) Adam 20928! **Iv. C.:** Yaou (Mar.) Chev. 17760! Goureni (May) Chev! W. of Niapidou, N. of Sassandra (fr. Feb.) Leeuwenberg 2779! **Ghana:** Aburi (May, June) Johnson 223! Irvine 2831! Ofinso (May) Vinge FH 4867! Kamawu Cox 34! Juaso, Ashanti (May) Cansdale 94! Amedzofe (fr. Sept.) Westwood 46! **N. Nig.:** Bonu, Gwari, Niger Prov. (Jan.) Onochie FHI 40169! E. W. Jones 223! **S. Nig.:** Boyogbe, Benin Prov. (fl. cult. Ibadan, June) Sanford WS/216a, 221/66! Okomu F.R., Benin Prov. (Jan.) Keay FHI 22438! Oban Talbot 867! 929! Kundeve, Ogoja Prov. (May) Ejiofor FHI 25317! **W. Cam.:** Buea (Apr., May) Maitland 727! Gregory 293! Bibundi (Apr.) Schlechter 12409! Barombi (June) Preuss 298! Kake II, Kumba (fr. July) Thorold TN31!

Also in **Gabon, Congo, Uganda, Kenya, Tanzania** and **Angola**.

27. *Polystachya polychaete* Kraenzl. in Engl., Bot. Jahrb. 17: 50 (1893); F.T.A. 7: 120; Cat. Talb. 146. *APD acc*

Flowers greenish white or greenish yellow, sometimes tinged reddish.

S. L.: Vaama, Barri (Dec.) Deighton 3848! Jaluahun, Barri (Nov.) Deighton 4391! **Lib.:** Peterstown (Oct.) Bunting 104! Tawata, Boporo Dist. (Nov.) Baldwin 10322! Ganta (Nov.) Harley 2067! Nimba (Oct.) Adames 726! **Iv. C.:** Yapo Forest, N. of Abidjan (Oct.) de Wilde 806! **Ghana:** Aburi (Oct.) Johnson 224! Agogo-Akim, Ashanti (Nov.) D. Gillett 8! **S. Nig.:** Oban Talbot 927! 928! **W. Cam.:** Buea, 3,000 ft. (Mar.-May) Maitland 731! Deistel 89! Cam. Mt., 4,300-5,000 ft. Preuss 881! Gregory 89! Bamuko F.R., Kumba (Nov.) Keay FHI 37698! **F. Po.:** Las Cortesas (Jan.) Guinea 2130! Bokoko, above Basilé, 3,300-4,200 ft. Mildbr. 6445; 6954. Moka (fr. Sept.) Wrigley 650!

Also in **E. Cameroun, Gabon, Congo, Uganda** and **Tanzania**.

28. *Polystachya ramulosa* Lindl. in Bot. Reg. 24: Misc. 76 (1838); F.T.A. 7: 118; Cat. Talb. 146. *APD acc*

Flowers white, yellow or orange, tinged with pink.

S. L.: Sugar Loaf Mt. cult. by Loddiges! Picket Hill, 2,900 ft. (Nov.) Jones 172! Njala (July) Deighton 1742! Sanbaia (Nov.) Deighton 4335! **Lib.:** Loffa R., Boporo Dist. (fr. Dec.) Baldwin 10665! Bomi Hills (Sept.) Voorhoeve 438! Zuie, Boporo (fr. Nov.) Baldwin 12108! Gondolahun, Kolahun Dist. (fr. Nov.) Baldwin 10107! Nimba (June) Adam 21548! **Ghana:** Kanyankov, W. Prov. (Nov., Dec.) Miles 22! Assin Yan Kumasi (fr. Nov.) Cummins 73! **S. Nig.:** Sapoba, Benin Prov. (fl. cult. Ibadan, Apr.) Sanford WS/184/66! Degema Talbot 3647! Oban Talbot 864!

Also in **E. Cameroun, the Congos, Gabon** and **Uganda**.

29. *Polystachya puberula* Lindl. in Bot. Reg. 10: t. 851 (1824); F.T.A. 7: 114. *APD acc*

Flowers yellow or yellow-green.

Port. G.: Catio, Quebil (May) Esp. Santo 2057! **Guin.:** Konikouré (June) Pobéguin 1624! Nzérékoré (Sept.) Jac.-Fél. 1248! **S. L.:** Njala (June) Deighton 4828! Ndilajula, Njala (May) Deighton 712! Kamakwie (June) Deighton 4829! Above Véré near Kinto, Loma Mts. (fr. Sept.) Jaeger 1778! Dilleh-Juleh rocks, R. Taia (June) Bunting 58! **Lib.:** Mt. Barclay (June) Bunting 5! Kailahun, Kolahun Dist. (fr. Nov.) Baldwin 10141! Ganta (May, Nov.) Harley 1944! 2133! **Iv. C.:** Adiopodoumé Boyco K223!

30. *Polystachya odorata* Lindl. J. Linn Soc. 6: 130 (1862); F.T.A. 7: 113. *APD acc*

30a. *Polystachya odorata* var. *odorata*

APD: Synonym of Polystachya odorata Lindl. subsp. odorata

Flowers white or yellow, tinged rose.

Iv. C.: Bouroukrou Chev. 16604! Sanrou to Ouodé (May) Chev. 21607! **U. Volta:** nr. Koualé, 3,000 ft. (May) Chev. 21740! **Ghana:** Offin Valley (fr. Oct., Dec.) Miles 13! Ksi-Mampong, Kumasi (Apr.) Westwood 106! Efiduasé Cox 58! **N. Nig.:** Mambila Plateau (Apr.) Howard in Hb. King. 154! **S. Nig.:** Onitsha Barter 1483! Sapoba Kennedy 1686! Shasha F.R., Ijebu (May) Richards 3409! Orukim to Unyene, Eket (May) Onochie FHI 33176! Lower Enyong F.R., Itu (May) Onochie FHI 33209! **W. Cam.:** Victoria (May, fr. Sept.) Maitland 729! Ngongi FHI 15085a! Bibundi (Apr.) Schlechter 12431! Buea, 3,000 ft. (May) Preuss 1218! Bamenda (Apr.) King 5! **F. Po.:** (June) Mann 436!

Also in **E. Cameroun, Gabon, C. African Republic, Congo** and **Uganda**.

30b. *Polystachya odorata* var. *trilepidis* Summerh. in Kew Bull. 3: 433 (1949).

APD: Synonym of Polystachya odorata subsp. trilepidis (Summerh.) Stévant

Leaves very narrowly lanceolate; inflorescence narrow with short branches; side lobes of lip more obtuse than in type, middle lobe recurved; flowers yellow with paler lip; at edges of patches of *Trilepis pilosa*.

S. Nig.: Mt. Orosun, Idanre, Ondo Prov. (Apr., Aug., Oct.) Jones FHI 20729! Keay & Onochie FHI 21559! Symington FHI 3374!

31. *Polystachya tessellata* Lindl. l.c. (1862); F.T.A. 7: 114; Cat. Talb. 146.

APD: Synonym of Polystachya concreta (Jacq.) Garay & H.R.Sweet

***Polystachya lehmbachiana* Kraenzl.** in Engl., Bot. Jahrb. 28: 166(1900).

***Polystachya praealta* Kraenzl.** l.c. 86: 118 (1905); Stapf in Johnston, Lib. 654.

Flowers greenish to pale yellow with orange to purple markings.

Guin.: Songuéta (June) Pobéguin! Kindia Jac.-Fél. 10! Mt. Benna, 3,300 ft. (June) Jac.-Fél. 1773! Macenta, 2,000-2,500 ft. (fr. Oct.) Baldwin 9822! **S. L.:** Gloucester (Aug.) Deighton 150! Dilleh-Juleh rocks, R. Taia (Aug.) Bunting 75! Bo (Aug.) Deighton 4333! Njala (Aug.) Deighton 4332! Bonthe (Aug.) Adames 60! **Lib.:** Grand Bassa (Sept.) Dinklage 2069! Woeme, Vonjama Dist. (fr. Oct.) Baldwin 10109! Flumpa, Sanokwele Dist. (fr. Sept.) Baldwin 9370! Ganta (July) Harley 1646! White Plains Road (June) Barker 1343! **Iv. C.:** Brafoédi, NW. of Abidjan (fr. Dec.) Leeuwenberg 2312! Danané (June) Collenette 42! 50! 51! **Ghana:** Aburi (May, June) Irvine 3031! Sanrou to Ouodé (May) Chev. 21626! Efiduase (May) Cox 23! Tarkwa (July) Vigne FH 4767! Juaso, Ashanti (May) Cansdale 95! Amedzofe (May) Scholes 71! **N. Nig.:** Kushanka, Zaria Prov. (Apr.) King 54! Omewo (July) Elliott 80! **S. Nig.:** Nun R. (Aug.) Mann! Akure F.R., Ondo (Aug.) Keay FHI 25363! Sonkwala, Ogoja (July) Ejiofor FHI 25344! Stubbs Creek F.R., Eket (May) Onochie FHI 33190! Calabar (Sept.) Keay FHI 13348! **W. Cam.:** Buea, 3,000 ft. (Apr. May) Maitland 724! Dundas FHI 15339! Gregory 101! Victoria (Sept.) Ngongi FHI 15085! Bapinyi, Bamenda (fr. June) Ujor FHI 30423! **F. Po:** Bokoko Mildbr. 6917.

Throughout tropical Africa, (? **Kenya**), southwards to **Angola**, Zambia and Malawi.

32. *Polystachya mukandaensis* De Wild. Not. Pl. Util. Congo 1: 139 (1903).

APD: Synonym of Polystachya concreta (Jacq.) Garay & H.R.Sweet

***Polystachya plehniana* Schltr.** in Engl., Bot. Jahrb. 38: 8 (1905).

***Polystachya dorotheae* Rendle,** Cat. Talb. 103 (1913).

Flowers yellow-green or whitish green with brown-purple markings.

Ghana: Kumasi (Aug., fr. Dec.) Vigne FH 1522a! Cox 101! Bechem (Aug., Sept.) Westwood 111! Mampong, Ashanti (Oct.) Cansdale 129! Alavanyo F.R., Hohoe (Sept.) St. Cl.-Thompson 1473! Odomi, Jasikan (Aug.) Westwood 26! **S. Nig.:** Onika Olono (fr. Oct.) Thomas 1902! Olokemeji F.R., Abeokuta (June) Keay FHI 22410! Onitsha (fr. Feb.) Jones FHI 6128! Oban Talbot 861! Obudu scarp, Ogoja Cooper 80!

Also in **E. Cameroun**, **Congo**, **Angola** and **Uganda**.

33. *Polystachya modesta* Rchb. f. in Flora 50: 114 (1867); F.T.A. 7: 116.

APD: Synonym of Polystachya concreta (Jacq.) Garay & H.R.Sweet

Flowers whitish or greenish yellow, sepals often pink or purplish.

Ghana: Cox 52! **N. Nig.:** Zaria Cole 13! Mongu F.R., Plateau Prov. (July) King 31! Sanga River F.R., Zaria Prov. (Sept.) Keay FHI 22443! **S. Nig.:** Eleyele, Ibadan (Aug.) Keay FHI 22429!

East to **Uganda**, south to **Angola**, Zambia and Malawi.

34. *Polystachya golungensis* Rchb. f. in Flora 48: 185(1865); F.T.A. 7: 118. *APD acc*

***Polystachya johnsonii* Kraenzl.** in Kew Bull. 1926: 291.

Flowers yellow or greenish yellow, sometimes tinged pink or brown, colour intensifying with age.

Mali: Diaragonéla (Feb.) Chev. 473! **Lib.:** Beidin (Dec.) Harley 1844! **Iv. C.:** Bouroukrou (Dec., Jan.) Chev. 16906!

Ghana: Aquapim Hills (Dec.) Johnson 588! Juaso, Ashanti (Nov.) Cansdale 133! Awaso Blayne 16! Osien (Nov.)

Westwood 61! **N. Nig.:** Kogin Delll, Zaria Prov. (Jan.) King 22! Kaciya, Zaria Prov. (Jan.) G. V. Summerhayes 146! Kabba

Prov. (Mar.) Westwood! **S. Nig.:** Olokemeji F.R., Abeokuta (Oct.) Keay FHI 22712! Aponmu, Akure F.R., Ondo (Dec.) Keay 28294! Obudu (Jan.) Savory & Keay FHI 25281!

Tropical Africa southwards to **Angola**, Zambia and Tanzania.

35. **Polystachya dolichophylla** *Schltr.* in Engl., Bot. Jahrb. 38: 8 (1905). *APD acc*

Polystachya hamiltonii *W.W. Sm.* in Notes Bot. Gard. Edin. 8: 347 (1916).

Polystachya guerzorum *A. Chev.*, Bot., 617 (1920), name only.

Polystachya simoniana *Kraenzl.* in Fedde Rep., Beih. 39: 61 (1926).

Polystachya oxychila *Schltr. ex Kraenzl.* l.c. 98 (1926).

Flowers yellow or cream-coloured; sometimes terrestrial in **Trilepis** mats.

Guin.: Moribadou to Nionmoradougou (Mar.) Chev. 20960! **S. L.:** Musaia (May) Deighton 4309! 5054! Makene (May) Deighton 4637! Njala (Mar.-May) Deighton 4599! 4672! **Ghana:** Kumawu, Ashanti (Mar.) Cansdale 80! FH 4369! Jasikan (Apr.) Westwood 66! **N. Nig.:** S. of Benue R. Hamilton! Nindam F.R., Zaria (Apr.) King 39! **S. Nig.:** Osun F.R., Ijebu Prov. (Apr.) Latilo FHI 26118! Akure F.R., Ondo (fr. Aug.) Jones FHI 19543! Mt. Orosun, Idanre Hills, Ondo (Mar., Apr.) Symington FHI 3373! Keay FHI 25304! Coombe 154! **W. Cam.:** Man ø' War Bay, S. of Victoria Baum! Victoria (Feb.) Simon 14! Buea, 3,000 ft. (Jan.) Schlechter 12837! Dunlap 145!

Also in **E. Cameroun** and **Gabon**.

36. **Polystachya oblanceolata** *Summerh.* in Kew Bull. 10: 231 (1956). *APD acc*

Flowers bright pink; on boulders.

Guin.: Gangan, Kindia (May) Roberty 17764! Jac.-Fél.! **S. L.:** Loma Mts., 3,000 ft. (Mar.) Morton & Gledhill SL 1048!

37. **Polystachya subulata** *Finet* in Notulae Syst. 2: 26 (1911). *APD acc*

Polystachya inaperta *Guillaum.* in Bull. Mus. Hist. Nat. 29: 543 (1923).

Flowers cream, white or greenish white, mentum or callus sometimes violet.

Guin.: Tabelli Blanc! Boulou Kountou (June) Pobéguin 1625! **S. L.:** Sefadu (July) Deighton 4830! 5053! **Iv. C.:** Sanrou to Ouodé, Toura country (May) Chev. 21601! Ouodé to Gouréni (May) Chev. 21637! **N. Nig.:** Ribako F.R., Zaria Prov. (May) Keay FHI 22898! Mongu F.R., Plateau Prov. (May) Keay FHI 37667! Rukuba, Plateau Prov. (May, June) King! Kaciya to Zonkwa, Zaria (Apr.) G. V. Summer-hayes 91!

38. **Polystachya leonensis** *Rchb. f.* Otia Bot. Hamburg. 112 (1881); F.T.A. 7: 107. *APD acc*

Flowers brownish or yellowish green, lip white.

Guin.: Nimba Mts., 5,000 ft. (Feb., fr. Apr.) Schnell 309! 309b! 1024! **S. L.:** (May) Barter! Sugar Loaf Mt. (May) Sc. Elliot 5822! Luke 2010! Tindall 64! Picket Hill, 1,300 ft. (June) Deighton 5917! **Lib.:** Mt. Wolagwisa, Pandamal, 4,500 ft. (Mar.) Bequaert 99! **Iv. C.:** Abidjan Aké Assi L439! Mt. Tonkoui, SW. of Man, 3,300-3,800 ft. (Feb., Mar.) Leeuwenberg 2937! de Wit 9149! **W. Cam.:** Amba Bay Lord Scarborough!

Also in **E. Cameroun**.

39. **Polystachya parva** *Summerh.* in Bot. Mus. Leaflet Harv. Univ. 10: 285 (1942). *APD acc*

Flowers white, tinged greenish, lip sometimes orange or purple, anther purple.

Ghana: Amedzofe (Aug.-Oct.) Westwood 39! 39b! **N. Nig.:** Mambila Plateau (June) Nash in Hb. King 198!

Also in **Zambia**.

40. **Polystachya affinis** *Lindl.* Gen. & Sp. Orch. Pl. 73 (1830); F.T.A. 7: 126. *APD acc*

Flowers yellow with red or brownish markings, fragrant.

Guin.: Sambadougou, Faranah (Jan.) Chev. 20550! Faranah (Jan.) Chev. 20478! **S. L.:** Makuta Thomas 483! Kenema Town (May) Lane-Poole 226! Karina (Jan.) Glanville 150! Wallia (fr. Jan.) Sc. Elliot 4627b! Makali (Jan.) Deighton 4567! **Lib.:** Adam 20761! Bolahun (Feb.) Bequaert 61! Ganta (Feb.) Harley 1772! **Iv. C.:** Tiapleu Forest (cult. Abidjan, Feb.) Aké Assi 9418! **Ghana:** Brafu Edru (Jan.) Cummins 15! Efiduase (May) Cox 31! Amedzofe (Jan.) Vohringer! Westwood 32! **S. Nig.:** Abeokuta to Ijebu Ode (Jan.) Burt B27! Usonigbe F. R., Sapoba (Nov.) Keay FHI 24666! Owo, Ondo Prov. (Sept.) Keay FHI 22714! Onitsha Barter 1863! Olibo, Degema Talbot 3776!

Also in **E. Cameroun**, **Gabon**, **C. African Republic**, **Congo** and **Angola**.

41. **Polystachya obanensis** *Rendle* Cat. Talb. 102, t. 13, fig. 1-2 (1913). *APD acc*

Flowers cream or yellow.

Lib.: Ganta (June) Harley 1645! **IV. C.:** Mt. Tonkoui (Oct.) Aké Assi 6026! **S. Nig.:** Oban Talbot 930!

Also in **E. Cameroun**.

42. **Polystachya camaridioides** *Summerh.* in Kew Bull. 11: 111 (1957). *APD acc*

About 2-3 in. tall; flowers very pale yellow or greenish yellow.

S. Nig.: Calabar (July) Wright 101!

43. **Polystachya microbambusa** *Kraenzl.* in Kew Bull. 1926: 245. *APD acc*

Polystachya cyperacearum *A. Chev.*, Bot. 616 (1920), name only.

Nienokuea lutea *A. Chev.* l.c. 622, name only.

N. bambusoides *A. Chev.* (1945).

N. microbambusa (*Kraenzl.*) *A. Chev.* (1945).

A yellow-flowered bamboo-like herb growing on granite outcrops often on or among the roots of *Trilepis pilosa*.

Guin.: Nzo Mt., 5,450 ft. (Mar.) Chev. 21037! Macenta, 2,000-2,500 ft. (Oct.) Baldwin 9810! Nimba Mts. (Feb.) Schnell 323! **S. L.:** Selu, Valunia (July) Deighton 5817! Makeni Hill (Aug.) Jordan 500! Sefadu (May-Sept.) Small 66! Mandu, Bo to Mongeri (July) Deighton 1965! Bintumane Peak, Loma Mts., 6,000 ft. (May-Aug.) Jaeyer 1046! Kukunia Mt., 4,300 ft. (Sept.) Jaeger 1676! **Lib.:** Palilah, Gbanga (Aug.) Baldwin 9150! Sanokwele (Sept.) Baldwin 9520! 20 miles E. of Zwedru, Tchien (Aug.) Baldwin 7076! Nimba (Feb.) Adam 20881! **IV. C.:** Mt. Nienokué, 1,700 ft. (Sept.) Chev. 19466! Bouaké, Mt. Lèmelébon (July) Fleury in Hb. Chev. 22093! Mt. Dou, 4,000 ft. (May) Chev. 21471! Toulepleu (May) Schnell 1254! Nimba Mts., 2,500-5,000 ft. (Aug.) Boughey GC 18088!

44. **Polystachya superposita** *Rchb. f.* Otia Bot. Hamburg. 111 (1881); F.T.A. 7: 129. *APD acc*

Flowers reddish.

W. Cam.: Cam. Mt., 5,000 ft. (Nov.) Mann 2125! Buea (Oct.) Deistel. **F. Po:** Baca Peals (Jan.) Sanford 4281!

45. **Polystachya fusiformis** (*Thou.*) *Lindl.* in Bot. Reg. 10: sub. t. 851 (1824); F.T.A. 7: 129. *APD acc*

Dendrobium fusiforme *Thou.* (1822).

Polystachya composita *Kraenzl.* in Fedde, Rep. Beih. 39: 103(1926); F.W.T.A., ed. 1, 2: 429.

Flowers greenish suffused with purple, to deep purple or plum-coloured.

W. Cam.: Buea, 3,000 ft. Preuss 1072! Gregory! **F. Po:** Moka, SE. of island, 4,000-6,000 ft. (Nov.) Mildbr. 70681 Las Corteras (fr. Jan.) Guinea 2138!

Also in **Congo**, **Uganda**, **Kenya**, **Tanzania**, **Zambia**, **Madagascar** and **Réunion**.

46. **Polystachya crassifolia** *Schltr.* in EngL, Bot. Jahrb. 38: 7 (1905).

APD: *Synonym of Polystachya mystacioides De Wild.*

A creeping epiphyte with pale brownish flowers.

W. Cam.: Moliwe (Jan.) Schlechter 12841!

47. **Polystachya mystacioides** *De Wild.* Not. Pl. Util. Congo 1: 133(1903); Kraenzl. in Fedde ep., Beih. 39: 10(1928). *APD acc*

A creeping or hanging epiphyte; flowers white with red or purplish markings.

IV. C.: Tai Forest (Oct.) Aké Assi 6030!

Also in **E. Cameroun** and **Congo**.

48. *Polystachya supfiana* *Schltr.* in Engl., Bot. Jahrb. 38: 10, fig. 4 (1905). *APD acc*

Flowers yellow with brown markings.

S. Nig.: Oban Talbot! Kwa R. (Mar.) Talbot 440! Eket Talbot 3306! **W. Cam.:** Bibundi (Apr.) Schlechter 12415!

Also in **Gabon**.

49. *Polystachya galeata* (*Sw.*) *Rchb. f.* in Walp. Ann. 6: 637 (1863). *APD acc*

Dendrobium galeatum *Sw.* (1805).

Polystachya grandiflora *Lindl.* (1839)-F.T.A. 7: 127; Chev. Bot. 817.

Flowers large, helmet-shaped, white, green, yellow or yellow-green with red or purplish markings.

Guin.: Benna, Kindia, 3,000 ft. (June) Jac.-Fél. 1776! Milo, Macenta (Apr.) Adam 11876! Diani R. (fr. Jan.) Schnell 182!
S. L.: Ndilajula, Njala (May) Deightmt 711! Benduma, Mongeri (July) Deighton 2220! Musaia (Apr.) Deighton 4636!
Mesima (Apr.) Deighton 3697! Baiima, Gbo (May) Deighton 6765! **Lib.:** Ganta (Mar.) Harley 1633! Begwai, St. Johns R.
(Sept.) Bunting 9! Peter's Town (Oct.) Bunting 93! Yah R., Sanokwele Dist. (Sept.) Adames 537! **Iv. C.:** Man, Dyolas
country (May) Ripert in Hb. Chev. 21533! Mt. Nienokoué, 1,500 ft. (July) Chev. 19495! Banco F. H. (fl. Nov., fr. Sept.)
Paulian 47! de Wilde 3210! **S. Nig.:** Okomu F. R., Benin (Feb.) Brenan 9116! Keay FHI 22738a! Ajagbodudu, Sapele
(May, June) Wright 128! Degema Talbot 3726! Ogoja Plain (July) Cooper 82!

Also In **Gabon** and **Congo**.

50. *Polystachya cultriformis* (*Thou.*) *Spreng.* Syst. Veg. 3: 742 (1826). *APD acc*

Dendrobium cultriforme *Thou.* (1822).

Polystachya cultrata *Lindl.* (1824)-F.T.A. 7: 109.

Polystachya appendiculata *Kraenzl.* in Notizbl. Bot. Gart. Berl. 3: 238 (1903); F.W.T.A., ed. 1, 2: 431.

Flowers white, yellowish, pink or purplish.

W. Cam.: Buea, Cam. Mt., 3,000-4,000 ft. (Nov.) Preuss 1009! Migeod 75! Gregory 574! Lehmbach. Bafut-Ngemba F. R.
(Dec.) Dioh FHI 41109! Mbiambi, 6,000 ft. (June) Brunt 762! **F. Po:** Moka, 4,600 ft. (fr. Sept.) Melville 431! Lava flow
(Sept.) Melville 449!

Also in **Gabon**, **Congo**, **Ethiopia** and E. Africa, southwards to Rhodesia and Mozambique, Madagascar and Mascarene Islands.

51. *Polystachya tenuissima* *Kraenzl.* in Engl., Bot. Jahrb. 19: 250 (1894); F.T.A. 7: 110. *APD acc*

Flowers pale yellow.

Iv. C.: Mt. Bono, Zoaulé (fr. May) Chev. 21467! **Ghana:** Amedzofe, 2,800 ft. (Aug.) Westwood 39d!

Also in **E. Cameroun**.

52. *Polystachya inconspicua* *Rendle* in J. Linn. Soc. 37: 218 (1905).

APD: *Synonym of Polystachya tenuissima Kraenzl.*

Polystachya ashantensis *Kraenzl.* in Kew Bull. 1926: 294; F.W.T.A., ed. 1, 2: 431.

Flowers yellow or greenish-yellow marked with purple or brown, or almost entirely purplish.

Iv. C.: Tiapleu Forest, (Oct.) Aké Assi 9227! **Ghana:** Agogo (Sept.) Chipp 578! Nyinahin range (June) Morton A3401!
Mampong, Ashanti (Oct.) Cansdale 127! Kamawu Cox 43! Begoro, Eastern Prov. (Sept.) Westwood 39a! Amedzofe (Nov.)
Westwood 53! Morton A3415!

Also in **Congo**, **Uganda**, **Kenya** and **Tanzania**.

53. *Polystachya bicalcarata* *Kraenzl.* in Engl., Bot. Jahrb. 38: 118 (1905). *APD acc*

A small densely-tufted epiphyte with white and purple or rose flowers.

W. Cam.: Cam. Mt., Buea and above, 3,000-6,000 ft. (Aug., fr. May) Deistel 62c! 79! Maitland 730! Dundas FHI 15303!
F. Po: Biao Crater, 6,300 ft. (Sept.) Melville 495!

54. *Polystachya bequaertii* *Summerh.* in Kew Bull. 1: 131 (1948). *APD acc*

Flowers purplish red.

S. L.: Mt. Da-Oulen, Loma Mts., 5,000 ft. (Nov.) Jaeger 660! Sankan Biriwa summit, 6,000 ft. (Jan.) Cole 138! **Lib.:** Ballawallah, Kailahun to Bolahun (Feb.) Bequaert 70! Mt. Mpaka Fossa, Kolahun, 1,960 ft. (Jan.) Bequaert 40!

25. STOLZIA

Schltr. in Engl., Bot. Jahrb. 53: 564 (1915).

- 1 Peduncle very slender, setaceous, 2-3 cm. long; sepals and petals very long acuminate, 5-5-7 mm. long; leaves oblanceolate, 1-2 cm. long, distinctly narrowed towards base; flowers greenish-white; pseudobulbs more or less globose with depressed centre so as often to appear bilobed [1. elaidum](#)

Peduncle rather stout, very short, scarcely exceeding 5 mm.; sepals and petals obtuse or acute, 3-7 mm. long; leaves elliptical or nearly orbicular, almost sessile, 5-12 mm. long, not at all narrowed at base; flowers orange, ochre-coloured or reddish, often with darker red stripes; pseudobulbs scarcely thickened, club-shaped [2. repens](#)

1. *Stolzia elaidum* (Lindl) Summerh. in Kew Bull. 17: 567 (1964). *APD acc*

Bulbophyllum elaidum Lindl. (1862)-F.T.A. 7: 29; F.W.T.A., ed. 1, 2: 439.

A low creeping epiphyte with spaced-out pseudobulbs bearing pairs of leaves and single greenish white flowers.

Lib.: Duport (Nov.) Linder 1495! Begwai to Peter's Town (Oct.) Bunting 100! Jaurazon, Sinoe (Mar.) Baldwin 11473! **S. Nig.:** Brass R. Barter 73! 1841!

Also In **Principe**.

2. *Stolzia repens* (Rolfe) Summerh. in Kew Bull. 7: 141 (1963). *APD acc*

Polystachya repens Rolfe in Kew Bull. 1912: 132.

A low creeping plant with pairs of leaves at intervals and single orange or red flowers.

S. Nig.: Sapoba, Jamieson R. (Sept., Dec.) Onochie FHI 34269! Sanford 146/66! **W. Cam.:** Bamenda, 6,000 ft. Gregory 267!

Also in **Congo, Uganda, Kenya, Tanzania** and **Zambia**.

26. CALANTHE

R. Br. in Edw., Bot. Reg- t. 573 (1821); F.T.A. 7: 45. Nom. cons.

- 1 Rhizome stout; leaves 3-5, long-petiolate, lanceolate or elliptical-lanceolate, acuminate, lamina 15-35 cm, long, 4-13 cm. broad, petiole 10-17 cm. long, dilated at the base; inflorescence erect, 30-75 cm. high; flowers white, mauve or pink; sepals oblong-lanceolate, acute, 12-18 mm. long; lip trilobed at the base, 8-14 mm. long, side lobes short, rounded, front lobe divaricately bilobed with a short claw, side lobules oblong, more or less toothed on the outside, disk with a warty crest in front of the column, spur 12-28 mm. long, slender [corymbosa](#)

Calanthe corymbosa Lindl. in J. Linn. Soc. 6: 129 (1862); F.T.A. 7: 46.

APD: *Synonym of Calanthe sylvatica* (Thouars) Lindl.

APD: *Synonym of Calanthe sylvatica* (Thouars) Lindl. var. *sylvatica*

Calanthe delphinioides Kraenzl. (1893)-T.T.A. l.c.

Terrestrial, in forests.

Guin.: Dalaba to Diaguissa, 3,000-4,000 ft. (Sept., Oct.) Chev. 18852! **W. Cam.:** Cam. Mt., 5,000 ft. Johnson 107! Mimbria, 3,600 ft. Preuss 1061! Fonfuka, Bamenda, 3,000 ft. (June) Maitland 1785! Bafut-Ngemba to Bamenda Nkwe (May) Daramola FHI 41063! **F. Po:** 5,000-6,000 ft. (Dec.) Mann 3921 Boughey 133! Moka, 4,600 ft. (Sept.) Wrigley 567!

Also in **S. Tomé, Annobon, Gabon, Congo, Uganda** and **Angola**.

27. ANCISTROCHILUS*Rolfe* in F.T.A. 7: 44 (1897). *APD acc*

- 1 Pseudobulbs orbicular, flattened, up to 2.5 cm. diam.; leaves narrowly lanceolate or elliptical-lanceolate, up to 21 cm. long and 3 cm. broad; sepals and petals lanceolate, acuminate, 3.5-4.5 cm. long, white, greenish at base; lip middle lobe 16-25 mm. long, very slender, often more or less recurved, bright purple, side lobes green with brown markings [1. thomsonianus](#)
- Pseudobulbs conical or pyriform, up to 5 cm. diam.; leaves lanceolate, elliptical-lanceolate or oblanceolate, up to 40 cm. long and 7.5 cm. broad; sepals broadly lanceolate to oblanceolate, acute or obtuse, 2-3 cm. long; petals oblanceolate, distinctly narrower than the sepals but only slightly shorter; all tepals rose-coloured to mauve, rarely almost white; lip middle lobe 8-12 mm. long, purple with a yellow apex, side lobes green with brown markings [2. rothschildianus](#)

1. *Ancistrochilus thomsonianus* (Rchb.f) Rolfe in F.T.A. 7: 44 (1897); Cat. Talb. 146, partly. *APD acc**APD*: *Synonym of Ancistrochilus rothschildianus O'Brien**Pachystoma thomsonianum* Rchb. f. (1879).

In forests.

S. Nig.: Calabar Kalbreyer! Oban Talbot 88! **W. Cam.:** Victoria (Sept.) Schlechter 15762!Also in **E. Cameroun**.**2. *Ancistrochilus rothschildianus* O' Brien** in Gard. Chron. ser. 3, 41: 51, fig. 24 (1907). *APD acc*

In forests.

Guin.: (Oct., Nov.) Harley 1605! 1840! **S. L.:** Denkali R., Loma Mts., 2,700 ft. (Oct.) Jaeger 271! (?) Kono Bowden! **Lib.:** Wohmen, Vonjama Dist. (Oct.). Baldwin 10077! near Bolahun Earthy 26! **Iv. C.:** Touba to Man (Nov.) Aké Assi 2126! Gagnoa to Sassandra (Dec.) de Wilde 3341! **S. Nig.:** Jamieson R., Sapoba (Nov.) Ross 227! Agba to Urbehue, Usonigbe, Benin (Oct.) Ujor FHI 15290! Usonigbe F.K., Sapoba (Nov.) Ejiofor FHI 24654! Sapoba (Dec.) Ujor PHI 239411 Owam F.R., Benin (Nov.) Keay FHI 22688! **W. Cam.:** M'bonge Wright 58/4!

Also in **Uganda**.**28. BULBOPHYLLUM***Thou.*, Orch. Iles. Austr. Afr. tt. 93-97 (1822); F.T.A. 7: 22, including *Megaclinium* Lindl. Nom. cons.

- 1 Pseudobulbs normally 1-leaved: (to p. 230) **2**
- Pseudobulbs normally 2-leaved, rarely 3-leaved (weak plants may have some of the pseudobulbs 1-leaved): (from p. 226) **29**
- 2 Leaves terete, over 15 cm. long, 1.5-2 mm. diam.; pseudobulbs narrowly cylindrical, 2.5-3 cm. long; scapes much shorter than leaves, flowering nearly from base, rhachis rather swollen but not much flattened, bracts 2 mm. long [14. teretifolium](#)
- Leaves flat: **3**
- 3 Lip with pink, red or brown hairs at least as long as half the width of the lip and usually much longer, linear or tongue-shaped; sepals nearly similar to each other, narrowly lanceolate, 6-18 mm. long; petals linear-subulate, quite glabrous; column with long subulate stielidia: **4**
- Lip glabrous, papillose, or if ciliate or hairy the hairs colourless: **9**
- 4 Longer hairs on lip with club-shaped swollen ends; pseudobulbs much flattened, elliptical or circular in outline, 1.5-3 cm. long, 1.5-2.7 cm. broad; inflorescence 9-20 cm. long, laxly many-flowered, bracts spreading; leaves oblong or elliptical, 2.5-11 cm. long, 1-2.8 cm. broad [28. barbigerum](#)
- Longer hairs on lip not club-shaped or swollen at ends; bracts not spreading: **5**
- 5 Inflorescence shorter than the leaves, 5-9 cm. long, densely flowered in the upper half or two-thirds; flowers all open at once; sepals 6-7 mm. long; pseudobulbs ovoid, or conical-ovoid, flattened, obscurely 3-4-angled; leaves elliptical or oblong, 4-5-12 cm. long, 1.5-2.5 cm. broad; bracts 5-7 mm. long; lip with a shallow U-bend in the middle [23. saltatorium](#)

- Inflorescence longer, usually much longer, than the leaves, 15-60 cm. long, flowering in the upper half or quarter only; flowers opening singly or a few out together; sepals over 7 mm. long; lip without a shallow U-bend in the middle: **6**
- 6** Bracts 4-15 mm. long, 2-4 mm. broad, greenish; flowers opening singly; leaves 7-19 cm. long, 1.5-4 cm. broad; hairs on lip deep red or purplish; pseudobulbs conical or ovoid, those first produced lenticular, later ones 3-4-angled, 1-4 cm. long, 1-2.5 cm. diam.; base of lip fleshy: **7**
- Bracts 17-30 mm. long, 6-10 mm. broad, yellow, pink or orange; several flowers open at once, or rarely flowers opening singly; leaves 15-30 cm. long, 2.5-5.5 cm. broad; hairs on lip red-brown, purplish-brown or chocolate; pseudobulbs ovoid, 3-4-angled, 2-4 cm. long, 1.5-3 cm. diam.: **8**
- 7** Longer hairs on lip arising from underside of margins only, margins densely pubescent, upper surface glabrous; lip tongue-shaped, fleshy [25. calamarium](#)
- Longer hairs on lip arising from margins both above and beneath and also from the surfaces; lip linear, not very fleshy, often with 2 reflexed papillose more or less hyaline auricles on the fleshy base just above the point of attachment [24. distans](#)
- 8** Petals 6.5-7.5 mm. long [26. phaeopogon](#)
- Petals 4.5-5.2 mm. long [27. schinzianum](#)
- 9** Sepals with long hairs, 8-11 mm. long; petals lanceolate or spatulate-lanceolate, densely papillose, 3-4 mm. long; lip very fleshy, densely papillose; stelidia of column obtuse; rhachis more or less swollen and fleshy, pendulous: **10**
- Sepals glabrous or very shortly papillose, or pubescent: **11**
- 10** Sepals hairy over the whole surface, only slightly keeled at back; scape 6-13 cm. long; leaves 10-24 cm. long, 1.3-2.7 cm. broad [16. comatum](#)
- Sepals with prominent hairy keels on outside, otherwise only pubescent; scape 3.5-7.5 cm. long; leaves 8-11 cm. long, 1.6-4 cm. broad [17. inflatum](#)
- 11** Rhachis fleshy and more or less flattened; bracts reflexed after flowering; scape 15-45 cm. long, robust: **12**
- Rhachis terete, not or only slightly thicker than the peduncle; bracts sometimes spreading but not reflexed: ... **14**
- 12** Rhachis flattened, not very fleshy, 5-12 mm. wide; bracts very narrow, subulate from a broader base, 3-6 mm. long; pseudobulbs flattened, ovoid or ellipsoid, 3-4-angled, 1-6 cm. long; leaves oblong-elliptical, 4-21 cm. long, 8-34 mm. broad; sepals acuminate, dorsal 1 cm. long; lip very fleshy with often serrulate keels; scape 20-45 cm. long; column with broad rounded wings [57. colubrinum](#)
- Rhachis fleshy, not much flattened, 4-7 mm. broad; bracts as broad as the rhachis, deltoid-ovate, obtuse; lip much curved, with rounded basal lobes, and a thin longitudinal keel underneath; lateral sepals falcate-ovate, recurved: **13**
- 13** Lip entire at the base; petals 1-8 mm. broad, 3-nerved, not papillose; dorsal sepal lanceolate, acute, 8.5 mm. long; pseudobulbs ovoid, 3-angled, 1-2 cm. long; leaves 7-9 cm. long, 1.5 cm. broad [62. magnibracteatum](#)
- Lip pectinate at the base; petals 0-6 mm. broad, 1-nerved, papillose; dorsal sepal lanceolate, 7.5 mm. long; pseudobulbs elongate-ovoid, 3-4-angled, 2-4 cm. long; leaves 10-20 cm. long, 1.3-2.2 cm. broad .. [65. linderi](#)
- 14** Pseudobulbs very small, not exceeding 1 cm. in length, usually spaced out on a slender creeping rhizome; leaves linear or narrowly ligulate, 3-7 mm. broad: **15**
- Pseudobulbs exceeding 1 cm. in length, adjacent to or at short distances from one another (occasionally small plants will have pseudobulbs less than 1 cm. long); leaves lanceolate, ligulate, oblong or elliptical, usually more than 1 cm. wide: **16**
- 15** Scape very slender, up to 18 cm. long, flowers up to 12, sometimes only 2 or 3, usually widely spaced; bracts usually very small, up to 3 mm. long, shorter than the flowers; leaves 1-10 cm. long; sepals 2.5-6 mm. long; petals oblong or broadly oblanceolate; lip entire or more or less trilobed at the base, the side lobes and margins often ciliate [15. intertextum](#)
- Scape stout, 2-5 cm. long, peduncle almost covered by overlapping sheaths; flowers in a dense spike; bracts 3-6 mm. long, nearly as long as the flowers; leaves 1.5-5 cm. long; sepals 4.5-6.5 mm. long; petals linear or linear-lanceolate; lip entire, papillose but not ciliate [8. pipio](#)
- 16** Lip trilobed at base, side lobes separated from larger middle lobe by narrow acute sinuses; column furnished with a sharp tooth-like projection at the base of each stelidium, and with a rounded knob-like projection in the centre of the foot; pseudobulbs 1.5-4 cm. long, conical-ovoid; leaves narrowly strap-shaped, 8-20 cm. long, 5-14 mm. broad; peduncle very short, inflorescence flowering nearly to base; sepals 3.5-6 mm. long; petals narrowly lanceolate, acute, 1-2.2 mm. long; lip lobes ciliate or denticulate [7. nigrisianum](#)
- Lip entire or with rounded very obscure basal lobes: **17**
- 17** Margins of lip entire or shortly papillose, not ciliate: **18**
- Margins of lip ciliate or ciliate, keels sometimes also ciliate or pubescent: **24**
- 18** Petals lanceolate or broadly lanceolate with a short stalk and markedly papillose margins; lip rounded and cordate at the base, very acute at the apex, with 2 calli near the base; peduncle very short, inflorescence

- flowering nearly to base, 8-24 cm. long; leaves elliptical, rounded at apex, 2-7 cm. long, 8-20 mm. broad; sepals 4-6.5 mm. long, white to pale yellow [9. buntingii](#)
- Petals not stalked; lip not cordate at base nor sharply acute at apex: **19**
- 19** Sepals 2.5-5 mm. long, broadly lanceolate; petals oblong or elliptical, 1.5- 2.5 mm. long; inflorescence flowering in upper half only; leaves elliptical-ob lanceolate, obtuse or acute at apex, 3-12 cm. long, 1-2 cm. broad; lip elliptical or ovate, rounded at base, papillose at apex [10. recurvum](#)
- Sepals exceeding 5 mm. in length, narrowly lanceolate: **20**
- 20** Stelidia shorter than the column (the latter measured from its base to the apex of the filament); petals oblong-lanceolate, acute: **21**
- Stelidia longer than the column; leaves oblanceolate or oblong, often narrowed for some distance at both ends; petals oblong, obtuse or sub-acute: **23**
- 21** Leaves with a marked petiole 1.5-3 cm. long, 11.5-20 cm. long, 1-3 cm broad; pseudobulbs narrowly ovoid or conical-ovoid, 2-3 cm. long sepals orange in apical part, lip pale orange; sepals 8-12 mm. long inflorescence 15-35 cm. long; petals 3.5-4.5 mm. long [4. josephii](#)
- Leaves with a short petiole 5-10 mm. long; pseudobulbs ovoid, up to 2.5 cm. long; sepals magenta, red-purple or pale yellow-green, lip deep magenta or red; inflorescence 11-20 cm. long: **22**
- 22** Sepals 6-7 mm. long, 1.5-2 mm. broad; leaves 7-12 cm. long, 1 cm. broad; petals 2.5-3 mm. long; sepals magenta or red-purple with white base, lip deeper magenta; pseudobulbs 1-1.5 cm. diam [5. modicum](#)
- Sepals 10 mm. long, 2.5-4 mm. broad; leaves 12-19 cm. long, 3-4.5 cm. broad; petals 5.5 mm. long; sepals pale yellow-green, lip red with yellow base; pseudobulbs 2-3 cm. diam. [6. calvum](#)
- 23** Flowers white, lip sometimes yellowish; sepals 6.5-10 mm. long, laterals suddenly widened at base; lip about the same width all along, more or less V-shaped in section; pseudobulbs ovoid, 1-2 cm. long; leaves oblanceolate or oblong, 4.5-12 cm. long, 1.3-2.3 cm. broad, obtuse or rounded at apex; scape 9-19 cm. long [2. schimperanum](#)
- Flowers greenish-yellow, sometimes tinged reddish or purplish or entirely red-purple; sepals 5-9 mm. long, widened gradually at base; lip narrowing towards the front and papillose; pseudobulbs conical or narrowly conical, 1-2.5 cm. long; leaves oblanceolate or narrowly oblong, 5-14 cm. long, 1-3 cm. broad, acute at apex; scape 7-18 cm. long [1. flavidum](#)
- 24** Sepals 2.5-5 mm. long: **25**
- Sepals 5-17 mm. long; inflorescence slender, 7-45 cm. in length, many-flowered: **28**
- 25** Sheaths on peduncle with loose swollen apex; flowers very densely placed; pseudobulbs ovoid, reddish with wrinkled surface; leaves lanceolate to oblanceolate, acute, 4-16 cm. long, 1-2.5 cm. broad; inflorescence shorter than the leaves; sepals triangular-lanceolate, laterals with much dilated front margin at base, 2.5-4.5 mm. long, pale at base, red or purple at apex; petals elliptical-oblong, apiculate, 1.5-2.5 mm. long; stelidia slightly longer than the column [12. winkleri](#)
- Sheaths on peduncle tight, not swollen at apex: **26**
- 26** Peduncle much shorter than the rhachis; inflorescence slightly longer, or shorter than the leaves; leaves oblong to oblong-lanceolate, 4-10.5 cm. long, 1-1.5 cm. broad; sepals narrowly lanceolate, 4-5 mm. long, cream-coloured; petals narrowly oblong, 1.8-2.5 mm. long; stelidia shorter than the column [13. porphyroglossum](#)
- Peduncle distinctly longer than the rhachis, often much longer; inflorescence 3-20 cm. long, as long as or usually longer than the leaves; stelidia longer than the column; petals oblong, 1.5-2.5 mm. long: **27**
- 27** Keels of lip glabrous; sepals greenish-yellow, tinged reddish, 2.3-5 mm. long; pseudobulbs ovoid or conical-ovoid, obscurely 4-angled, 1-2 cm. long; leaves elliptical-ob lanceolate, obtuse or acute, 3-12 cm. long 1-2 cm. broad; lip very shortly ciliate in the lower part, papillose near the apex [10. recurvum](#)
- Keels of lip pubescent or long-papillose; sepals dark red, obtuse, 3.2-4.7 mm. long; pseudobulbs ovoid, somewhat flattened, obscurely 2-3-angled, 1.3-2.5 cm. long; leaves oblong-elliptical, 4.5-15 cm. long, 1.3 cm. broad; lip densely ciliate all round [11. pavimentatum](#)
- 28** Inflorescence 14-45 cm. long; sepals long acuminate, 8.5-14 mm. long, white or cream-coloured, often flushed pink or purple; pseudobulbs ovoid, biconvex or 3-4-angled, 1.5-4 cm. long; leaves lanceolate or oblong-lanceolate, acute, 8-27 cm. long, 1-3 cm. broad; petals oblanceolate, denticulate, 2.5-3.5 mm. long [3. cocoinum](#)
- Inflorescence 7-18 cm. long; sepals acute or shortly acuminate, 5-9 mm. long, greenish yellow, sometimes tinged reddish or wine-coloured, or even almost entirely wine-coloured; pseudobulbs conical or narrowly conical, 1-2.5 mm. long; leaves oblanceolate or narrowly oblong, 5-14 cm. long, 1-3 cm. broad; petals oblong, obtuse or sub-acute, 1.7-2.8 mm. long [1. flavidum](#)
- 29** Lip hairy, hairs often very long; rhachis slender, not thicker or wider than the peduncle: **30**
- Lip glabrous, rarely papillose or with a few short cilia along the margins: **33**
- 30** Bracts short, 3-4 mm. long, not imbricate; hairs on lip in length less than half width of lip; sepals 4-6 mm. long; petals lanceolate or ligulate, acute or subacute, 1.5-2.5 mm. long; lip tongue-shaped from a broader fleshy base, 1.5-2.6 mm. long, ciliate; pseudobulbs narrowly conical or cylindrical, 2-4 cm. long, 3-13 mm. diam.;

- leaves oblong or narrowly oblong, 5-14 cm. long, 5-13 mm. broad; scape 10-16 cm. long [18. tenuicaule](#)
- Bracts large, broad and boat-shaped, 6-11 mm. long, spreading, and more or less imbricate; hairs on lip longer than half the width of the lip; lip ligulate from a narrower base: [31](#)
- 31** Scape 10-24 cm. long; leaves 4-20 cm. long: [32](#)
- Scape 35-60 cm. long; leaves 11-23 cm. long, 11-18 mm. broad; pseudobulbs conical-cylindrical, 8-12 cm. long, 7-12 mm. diam. at base; sepals 7-7.5 mm. long; petals falcate-ligulate, 2-2.7 mm. long; lip 4-4.5 mm. long [21. manni](#)
- 32** Pseudobulbs elongate-ovoid, 4-angled, 2-3.5 cm. long; leaves 6-12 cm. long, 5-8 mm. broad; sepals 6-7 mm. long; petals oblong-ligulate, 2-3 mm. long; lip 5.5 mm. long, 1.5 mm. broad, base very thick and fleshy [19. gravidum](#)
- Pseudobulbs narrowly cylindrical, sometimes slightly flattened, 2.5-10 cm. long, 3-15 mm. diam.; leaves 4-16 cm. long, 4-15 mm. broad; sepals 4-7.5 mm. long; petals subfalcate-lanceolate, fleshy, 1-2.5 mm. long; lip 2-7-5 mm. long, less than 1 mm. broad [20. cochleatum](#)
- 33** Bracts large, spreading, strictly distichous, often imbricate, more or less rigid, 6 mm. or more long, equalling or much longer than the flowers; rhachis often more or less angular or more or less flattened, but only a little wider than the peduncle: [34](#)
- Bracts less than 9 mm. long, spreading or reflexed; rhachis unthickened, or fleshy and thickened, or much flattened and broad: [39](#)
- 34** Lip very broad and short, almost orbicular, with fleshy centre and thin toothed margins: [35](#)
- Lip distinctly longer than broad, margins entire, sometimes with a few cilia: [37](#)
- 35** Bracts closely overlapping at time of flowering, boat-shaped, covering the flowers; lateral sepals connivent, not spreading; flowers white or greenish yellow with red or purple markings, or deep purple: [36](#)
- Bracts not closely overlapping at time of flowering, only slightly convex, the flowers easily visible; lateral sepals deflexed; flowers yellow with purple markings; pseudobulbs 4-6-angled, 4-5-6 cm. long; leaves elliptical-ligulate, 13-16 cm. long, 2-2.5 cm. broad [37. wrightii](#)
- 36** Rhachis and bracts with numerous short blackish or purplish scaly hairs; bracts fawn-coloured or pale brown, the margins straight or slightly convex; central part of lip not very fleshy, wings rather broad; leaves 10-23 cm. long, 1-8-4.5 cm. broad; scape 15-40 cm. long [38. lupulinum](#)
- Rhachis and bracts glabrous; bracts usually purple but rarely green the margins slightly concave so that apices appear incurved; central part of lip very fleshy, wings very narrow, apex tuberculate; leaves 6-16 cm. long, 1-3-2.3 cm. broad; inflorescence (including peduncle) 8-16 cm. long [39. porphyrostachys](#)
- 37** Pseudobulbs very narrowly conical or cylindrical, 4-12 cm. long, 3-8 mm. diam.; inflorescence distinctly secund with all flowers facing towards one side; bracts 6-7 mm. long; flowers nearly as long as the bracts, easily visible, reddish-brown or deep red; labellum tongue-shaped from a short fleshy base, sometimes very shortly ciliate in the lower part; sheaths of peduncle tight, acute; leaves linear-ligulate, 7-21 cm. long, 6-22 mm. broad; sepals blunt, 4-5.5 mm. long [22. bequaertii](#)
- Pseudobulbs ellipsoid or ovoid, with several sharp angles, 1-3 cm. diam.; flowers distichous; lip fleshy, recurved in middle or upper part: [38](#)
- 38** Petals orbicular-oblong, the apex rounded, entire; bracts rather rigid, straw-coloured, distinctly longer than the flowers; pseudobulbs 1.5-3.5 cm. long; leaves linear or linear-oblong, 3-12 cm. long, 6-10 mm. broad; flowers whitish or rose-coloured [35. bifarium](#)
- Petals broadly elliptical or oblong, 3-lobed at apex, the central lobe or tooth longest; bracts not very rigid, buff-coloured, about as long as the flowers; pseudobulbs up to 2.5 cm. long; leaves oblong-elliptical, up to 5.5 cm. long and 12 mm. broad; flowers green and purple [36. nigericum](#)
- 39** Pseudobulbs narrowly cylindrical, slightly tapering upwards, 5-10 cm. long, 6 mm. diam.; leaves broadly oblanceolate, 9-20 cm. long, 2-4 cm. broad; scape 30-40 cm. long, rhachis flattened into broad wings with undulate margins, about 1.5 cm. broad, flowers in a row along centre of each side of rhachis; bracts small, triangular, reflexed; floral parts unknown [47. longibulbus](#)
- Pseudobulbs ellipsoid, ovoid or conical-ovoid, frequently flattened or angular, up to 7 cm. long, but then not cylindrical, and much thicker: [40](#)
- 40** Lip pectinate in the lower half, entire above: [41](#)
- Lip not pectinate in the lower half: [44](#)
- 41** Rhachis much flattened with broad leaf-like wings on one or both sides of the midrib, 5-15 mm. broad; bracts narrow, triangular, acuminate; pseudobulbs sharply 3-4-angled, 2-7 cm. long; scape 18-40 cm. long; leaves 5-18 cm. long, 1-3-4 cm. broad; sepals acuminate, laterals recurved; petals glabrous, linear, curved: [42](#)
- Rhachis fleshy, only slightly flattened, 4-10 mm. broad; bracts almost as broad as the rhachis, ovate-triangular, obtuse; petals more or less papillose, linear, curved; dorsal sepal lanceolate, acute: [43](#)
- 42** Margins of rhachis markedly undulate; rhachis 1-1.5 cm. broad, the apex abruptly narrowed into a short point, the flowers arranged along a central line; dorsal sepal caudate-acuminate; labellum not much narrowed in front

- [59. maximum](#)
- Margins of rhachis not or scarcely undulate; rhachis 0.5-1.5 cm. broad, the apex gradually narrowed into a long blunt point, the flowers along the centre or frequently much nearer one edge; dorsal sepal acuminate; labellum distinctly narrowed in front, the apex much recurved [58. oxypterum](#)
- 43** Rhachis whitish-green, flowers orange and yellow; petals nearly as long as dorsal sepal, latter 6-9 mm. long; pseudobulbs ovoid, 3-4-angled, 3-7 cm. long; leaves 11-18 cm. long, 1-3 cm. broad; scape 15-35 cm. long [64. leucorrhachis](#)
- Rhachis green or purplish or blackish, flowers dull purple- or black-spotted on a green ground; petals distinctly shorter than dorsal sepal, latter 7-11 mm. long; pseudobulbs ovoid, rather flattened, 3-angled, 3-7 cm. long; leaves 8-21 cm. long, 1-3.5 cm. broad; scape 18-65 cm. long [63. imbricatum](#)
- 44** Bracts almost white, scarious, spreading, almost as long as the flowers, 4-8 mm. long; sheaths on peduncle similar, adpressed; lip fleshy, bent like a knee just below the middle; rhachis not widened, angular; dorsal sepal triangular-ovate, apiculate, 4-4.5 mm. long; petals obliquely orbicular-elliptical, rounded at apex, 4-4.5 mm. long, 3-3.5 mm. broad; leaves 1.5-8 cm. long, 5-12 mm. broad [34. scariosum](#)
- Bracts and sheaths not white and scarious; lip either fleshy and usually not curved (if so, then petals denticulate), or thin and often much recurved; petals linear, oblanceolate, oblong or ovate, obtuse to acuminate but not rounded at apex: **45**
- 45** Lip very fleshy, not much curved; lateral sepals not recurved in the upper part; flowers distichous; rhachis slender or if slightly flattened the flowers borne on the edges; scapes up to 15 cm. long but frequently much shorter: **46**
- Lip relatively thin and flat, often much curved, sometimes with a longitudinal keel running along the middle of the lower surface; lateral sepals usually, and frequently abruptly, reflexed in the upper half, more or less falcate; rhachis slender or variously flattened, in the latter case with the flowers borne along the flat surfaces; dorsal sepal frequently spathulate: **50**
- 46** Petals ovate, acute, denticulate, 4 mm. long; lip dorsally flattened, papillose at the base underneath, much folded down the centre; scape slender, rhachis quite unthickened, nodding; pseudobulbs ovoid, 4-5-angled, 3 cm. long; leaves oblong, 7-9 cm. long, 1-1.5 cm. broad; sepals 5-6 mm. long, papillose [29. denticulatum](#)
- Petals linear, obtuse, entire, 2-3.5 mm. long; scape erect or decurved, somewhat flattened and often winged; pseudobulbs oblong-ellipsoid, 4-angled, 1.5-4.5 cm. long; leaves elliptical or oblong-elliptical, 1.5-11 cm. long, 0.5-2 cm. broad; lip with 2 prominent smooth keels in the lower part: **47**
- 47** Rhachis, and to a less extent the sepals, more or less densely pubescent-papillose or velvety; lip slightly dorsally compressed; sepals 3-6 mm. long; stelidia entire, acute, curving forwards [32. fuscoides](#)
- Rhachis quite glabrous, the margins on which the flowers are borne more or less deeply canaliculate: **48**
- 48** Lip dorsally compressed, distinctly 3-lobed at the base, the side lobes triangular-ovate and slightly incurved; sepals 2.5-3.6 mm. long; flowers in inflorescence all open at same time [30. fuscum](#)
- Lip laterally compressed, side lobes reduced to very low ridges on the outside of the lip near the base; sepals 3-7 mm. long; only some flowers open at any time: **49**
- 49** Rhachis angled or narrowly winged, the wings quite entire; flowers somewhat incurved [31. oreonastes](#)
- Rhachis broadly winged, the wings toothed and continuous with the toothed base of the bract above; flowers spreading or somewhat recurved; pedicel and base of flowers usually deeply sunk in hollows between the wings [33. zenkeranum](#)
- 50** Petals filiform with a thickened club-shaped apex, resembling the antennae of a butterfly; dorsal sepal lanceolate-linear, acute, 10-12 mm. long, 1-2.5 mm. broad; pseudobulbs elongate-conical-ovoid, biconvex or 3-4-angled, 3-5 cm. long; leaves linear-oblong, 7-16 cm. long, 7-20 mm. broad; scape 12-25 cm. long with short loose sheaths on peduncle; rhachis swollen and more or less flattened, up to 14 mm. broad; bracts broadly ovate, often nearly as wide as the rhachis; lip with erect rounded side lobes [46. tentaculigerum](#)
- Petals linear, oblanceolate or oblong, obtuse or acuminate, not like antennae: **51**
- 51** Rhachis fleshy and swollen, somewhat flattened, not leaf-like; bracts broad, triangular-ovate, nearly as broad as the rhachis; leaves over 1.5 cm. broad; dorsal sepal linear-lanceolate, acute, never spathulate or oblanceolate; petals linear, nearly as long as the dorsal sepal: **52**
- Rhachis either slender unthickened or somewhat flattened, or widened on each side to form a flat thin leaf-like wing; bracts in the latter two cases distinctly narrower than the rhachis: **53**
- 52** Rhachis nearly terete, 2-3 mm. broad, 3-4 cm. long; petals glabrous, sub-obtuse; lip ovate, obtuse, 2 mm. long; pseudobulbs ovoid, flattened, distinctly 4-angled, 6-7 cm. long, 2-2.5 cm. diam.; leaves oblong, obtuse, 16-22 cm. long, 2-3 cm. broad; scape 18-19 cm. long; dorsal sepal 8 mm. long [60. bibundiense](#)
- Rhachis flattened, 6-8 mm. broad, about 10 cm. long; petals papillose, acute; lip oblong, acuminate, 3 mm. long; pseudobulbs ovoid, 3-angled, 3-5-4 cm. long, 1.5-2 cm. diam.; leaves elliptical-oblong, 7-5-9 cm. long, 1-5-2 cm. broad; scape 27-47 cm. long; dorsal sepal 5 mm. long [61. kamerunense](#)
- 53** Dorsal sepal more or less spathulate or widened above the middle, the sides of the widened part thick and fleshy, apiculate or rounded at the apex, rarely acute: **54**

- Dorsal sepal acute, usually narrowed gradually from the base, not thickened at the sides in the apical part; leaves usually over 1 cm. broad: **61**
- 54** Petals obtuse or rounded and somewhat thickened at the apex which is often yellow, falcate, linear or oblong, 1.7-2.7 mm. long, a little less than half as long as the dorsal sepal; pseudobulbs ovoid or elongate-ovoid, 3-4-angled, 2-6 cm. long; leaves oblong-lanceolate or oblanceolate, 4-16 cm. long, 6-23 mm. broad; scape up to 35 cm. long; rhachis thin, a little sinuate at the margin, up to 14 mm. broad; dorsal sepal 4.5-7 mm. long; wings of column terminating in a rounded lobe below the very short stelia [51. *falcatum*](#)
- Petals not thickened at the apex, either very acute or almost subulate and usually more than half as long as the dorsal sepal, or obtuse or subacute and from a third to a fifth of the length of the dorsal sepal: **55**
- 55** Dorsal sepal 2 1/2-11/2 times as long as the very acute or acuminate petals, not exceeding 6.5 mm. in length; wings of column with a distinct lobe below the stelia; lip ovate or elliptical, not much narrowed in the apical part; leaves ligulate, oblong or elliptical, not more than 10 times as long as broad; ovary and sepals with many short reddish hairs: **56**
- Dorsal sepal 3-5 times as long as the short, obtuse or subacute petals: **58**
- 56** Flowers 1-2.5 mm. apart (both sides of rhachis included); dorsal sepal 2.5-3.5 mm. long; rhachis 1-8 mm. broad; leaves oblong-oblanceolate, obtuse, 1-9 cm. long, 2-13 mm. broad; pseudobulbs narrowly ovoid, 1-3.5 cm. long; scape 2-9 cm. long [50. *melanorrhachis*](#)
- Flowers 2.5-8 mm. apart; dorsal sepal 3.5-6.5 mm. long; scape 5-21 cm. long; pseudobulbs biconvex or obtusely 3-angled: **57**
- 57** Rhachis flattened, 4-15 mm. broad; flowers 2.5-4 mm. apart; pseudobulbs ellipsoid or conical-ovoid, 1.5-4.5 cm. long; leaves ligulate or narrowly oblanceolate, 4-15 cm. long, 5-25 mm. broad; scape 5-13 cm. long [49. *velutinum*](#)
- Rhachis not flattened, very slender, rather flexuous; flowers 3-8 mm. apart; pseudobulbs ovoid or ellipsoid, 1-2.5 cm. long; leaves elliptical-oblong or linear-oblong, 2-8 cm. long, 5-11 mm. broad; scape 9-21 cm. long [48. *simonii*](#)
- 58** Leaves 1-3.7 cm. broad, 6.5-20 cm. long, oblanceolate; wings of column terminating in a distinct rounded lobe below the stelia; pseudobulbs ovoid or conical-ovoid, biconvex, 3-7 cm. long; scape 16-30 cm. long, erect; rhachis variously flattened, sometimes no wider than the peduncle, up to 11 mm. broad; dorsal sepal 6-9 mm. long, usually broadly spatulate; petals lanceolate-oblong, subacute, 1.5-2.2 mm. long [53. *bufo*](#)
- Leaves less than 1.5 cm. broad, usually less than 1 cm., linear or narrowly ligulate; wings of column not terminating in a distinct lobe below the stelia, but gradually merging into the column: **59**
- 59** Rhachis horizontal or recurved below the pseudobulb away from the light, much flattened, 1.5-2 cm. broad, crinkled at the edges; pseudobulbs conical-ovoid, obtusely 4-angled, 2-4 cm. long; leaves narrowly ligulate or linear-ligulate, 20-24 cm. long, 6-9 mm. broad; scape 8-12.5 cm. long; dorsal sepal broadly spatulate, about 6.5 mm. long; petals obliquely narrowly ovate, about 1.5 mm. long [56. *lucifugum*](#)
- Rhachis erect, not at all recurved, variable in width: **60**
- 60** Leaves ligulate or linear-ligulate, 5-19 cm. long, 4-13 mm. broad, from 10-33 times as long as broad; scape 16-65 cm. long; rhachis slender or broadly flattened, up to 15 mm. broad; flowers reflexed after opening; pseudobulbs ovoid, conical or cylindrical-conical, more or less 3-angled, 1-6 cm. long; dorsal sepal broadly spatulate, 5.5-8.3 mm. long, often somewhat recurved; petals oblong, 1-2 mm. long [55. *calyptarum*](#)
- Leaves linear, grass-like, 9-32 cm. long, 3-10 mm. broad, from 26-80 times as long as broad; scape 10-28 cm. long; rhachis slender or only very slightly flattened; flowers not reflexed after opening, usually somewhat incurved; pseudobulbs conical-cylindrical to conical-ovoid, 3-4-angled, 1-5 cm. long; dorsal sepal 6-7.5 mm. long, more or less incurved; petals oblong or lanceolate-oblong, 1.7-2.6 mm. long [54. *graminifolium*](#)
- 61** Scape over 8 cm. long, usually much longer; rhachis slender or flattened: **62**
- Scape less than 8 cm. long, often much shorter; rhachis always slender, with the flowers closely placed; dorsal sepal less than 5 mm. long, lanceolate; petals narrow and acute; leaves up to 1 cm. broad: **65**
- 62** Flowers densely hairy; rhachis up to 4.5 cm. broad, often twisted spirally, heavily blotched purple; leaves oblanceolate, 13-25 cm. long, 3-5 cm. broad, purple speckled beneath; peduncle with several short loose sheaths; pseudobulbs oblong, flattened, 5-8 cm. long; petals narrowly lanceolate, acuminate [52. *purpureorhachis*](#)
- Flowers glabrous or sparsely puberulous: **63**
- 63** Petals falcate-oblanceolate, wider in the upper part, 0.9-1.5 mm. broad; leaves oblanceolate, 10-24 cm. long, 3-5.5 cm. broad; pseudobulbs elongate ellipsoid, 3-5-angled, 4-10 cm. long; scape 16-25 cm. long, rhachis flattened, 7-20 mm. broad, sinuate at the edge; dorsal sepal lanceolate, acute, sides inrolled, 6-8 mm. long [45. *fuerstenbergianum*](#)
- Petals falcate linear or very narrowly lanceolate, not broader in the upper part, less than 0.8 mm. broad; leaves ligulate, or oblong-elliptical, 8-35 mm. broad: **64**
- 64** Dorsal sepal triangular-lanceolate, 3-3.5 mm. long; scape 35-55 cm. long, rhachis very slender; petals curved oblong, 2 mm. long; pseudobulbs elongate ovoid, angular, 2.5-4 cm. long; leaves oblong-elliptical, 6-7 cm. long, 10-16 mm. broad; wings of column terminating below stelia in a broad short rounded lobe; lateral

sepals apiculate [43. filiforme](#)

Dorsal sepal narrowly lanceolate, acute, 5.5-8 mm. long; scape 8-66 cm. long, rhachis more or less flattened, up to 10 mm. broad; petals linear, much curved, 3-5 mm. long; pseudobulbs elongate ovoid or conical, 3-5-angled, 2-7.5 cm. long; leaves ligulate or oblong, 6.5-16 cm. long, 8-35 mm. broad; wings of column terminating below steldia in a narrow subacute or obtuse lobe; lateral sepals acuminate [44. congolanum](#)

- 65** Plant very small; pseudobulbs less than 1 cm. long; leaves 6-9 mm. long, 3-4 mm. broad; scape less than 2 cm. high, few-flowered; dorsal sepal about 3-5 mm. long; petals 2-3 mm. long, falcate-linear, very acute; lip curved, ovate, 1-5 mm. long; wings of column terminating in narrow rounded-triangular lobes [42. parvum](#)

Plant larger, pseudobulbs 1-3.5 cm. long, biconvex; leaves 1-6 cm. long, 3-10 mm. broad; scape 3-8 cm. long; petals falcate-ligulate, acute; wings of column terminating in broad rounded lobes: **66**

- 66** Flowers 1.5-2 mm. apart, bronze-yellow to purple, the bracts equalling or longer than the internodes; lip ovate, not narrowed much in front; pseudobulbs up to 3.5 cm. long; leaves 1.5-6 cm. long; scape 4-8 cm. long, many-flowered; dorsal sepal 2.5-5 mm. long; petals 1.5-3 mm. long [41. rhizophorae](#)

Flowers 2-3.5 mm. apart, yellow, the bracts distinctly shorter than the internodes; lip distinctly narrowed in front from an ovate base; pseudobulbs 1-2.5 cm. long; leaves 1-4.5 cm. long; scape 3-6 cm. long, few-flowered; dorsal sepal 4-5 mm. long; petals 2.5-3.5 mm. long [40. falcipetalum](#)

1. *Bulbophyllum flavidum* Lindl. in Bot. Reg. 26: Misc. 83 (1840); F.T.A. 7: 30.

APD: *Synonym of Bulbophyllum pumilum* (Sw.) Lindl.

(?) *B. herminiostachys* (Rchb. f.) Rchb. f. (1861)-F.T.A. 7: 35.

Bulbophyllum moliwense Schltr. in Engl., Bot. Jahrb. 38: 157(1906).

Flowers yellow or yellowish-green, marked or tinged with red or pink, or rarely deep purple.

Guin.: Macenta (July) Jac.-Fél. 1044! **S. L.**: Musaia (July, Aug.) Deighton 4327a! Koidu, Kisi Kama (Aug.) Deighton 5913! Bumpe Peri (July) Deighton 4836! Fanima, Soro (July) Deighton 4640! 4653! Kasasa, Tonko Limba (Sept.) Adames 194! **Lib.**: Yoma, Montserrado Dist. (Aug.) Leeuwenberg 4830! **Iv. C.**: Lecoufle K509! **Ghana**: Amedzofe (June, July) Scholes 86! Morton A3413! **S. Nig.**: Idanre Hills, Ondo (May) Keay & Brenan FHI 22405! Usonigbe F.R., Benin (July) Keay FHI 26720! Abure F.R. (July) King 184! **W. Cam.**: Moliwe (Aug.) Schlechter 15757! **F. Po.**: lava flow (Sept.) Wrigley 543!

Also in **Gabon** and **S. Tomé**.

2. *Bulbophyllum schimperanum* Kraenzl. in Engl., Bot. Jahrb. 33: 71 (1602). *APD acc*

Bulbophyllum xanthoglossum Schltr. in Engl., Bot. Jahrb. 38: 158 (1906).

Flowers white.

S. Nig.: Ajagbodudu, Warri Prov. (Sept.) Wright 135! 161! **W. Cam.**: Victoria (Sept.) Schimper 341! Moliwe (Aug.) Schlechter 15755! Buea (Mar.) Deistel 54.

Also in **Congo** and **Uganda**.

3. *Bulbophyllum cocoinum* Batem. ex Lindl. in Bot. Reg. 23: t. 1964 (1837); F.T.A. 7: 31. *APD acc*

Bulbophyllum viliense Rolfe in Kew Bull. 1893: 5.

Flowers white, cream-coloured or greenish, tinged pink or with pink apices.

S. L.: cult. spec.! **Lib.**: (July) Harley 2046! Mt. Barclay (June) Bunting 10! **Ghana**: Ofinsu (May) Vigne FH 4864! Bunsu (May) D. Gillett! Efiduase (May) Cox 25! Boanim to Mampong (Apr.) Westwood 134! Mampong to Nsula Westwood 103!

Also in **Annobon** and (?) **Uganda**.

4. *Bulbophyllum josephii* (Kuntze) Summerh. in Bot. Mus. Leaf. Harv. Univ. 11: 250 (1945). *APD acc*

Phyllorchis josephii Kuntze, Rev. Gen. Pl. 676 (1891).

Bulbophyllum aurantiacum Hook. f. (1864)-F.T.A. 7: 30, not of F. Muell.

Bulbophyllum gustavii Schltr. in Fedde Rep. 9: 165 (1911), in obs.; F.W.T.A., ed. 1, 2: 439.

Flowers orange or orange-red and whitish green.

Guin.: Nimba Mts., 5,300 ft. (Oct.) Schnell 3845! **S. L.**: Loma Mts., Jaeger 1191! **Iv. C.**: Mt. Tonkoui (Oct.) Aké Assi 5667! **S. Nig.**: Obudu Plateau Horwood 165! Mambila Plateau Wimbush in Hb. King 149! **W. Cam.**: Cam. Mt., 5,000-6,000 ft. (Nov.) Mann 2124! Buea, 3,000 ft. Gregory 597! 890!

5. *Bulbophyllum modicum* Summerh. in Kew Bull. 11: 114 (1957).

APD: *Synonym of Bulbophyllum josephii* var. *mahonii* (Rolfe) J. J. Verm.

Flowers magenta and white, column green.

W. Cam.: Buea, 3,000ft. (Oct.) Gregory 193! 558! Keay FHI 25439!

6. *Bulbophyllum calvum* Summerh. in Kew Bull. 20: 185, fig. 8 (1966). APD acc

Sepals pale yellow-green, lip red with yellow base and white flecks above.

N. Nig.: Maisamari, Mambila Plateau, 6,000 ft. (Oct.) Nash & Wimbush in Hb. King 178!

7. *Bulbophyllum nigratianum* Rendle Cat. Talb. 99 (1913). APD acc

Flowers white or pale yellow, sometimes tinged green.

S. L.: Gegbwema (Dec.) Deighton 2823! Kebawana, Gaura (Nov.) Deighton 4649! 4946! Lib.: Suen (Nov.) Linder 1393! Tawara, Boporo Dist. (Nov.) Baldwin 10307! Iv. C.: Tiapleu (Oct.) Aké Assi 9124! Ghana: Awaso Blayney 2! S. Nig.: Oban Talbot 933!

Also in Congo.

8. *Bulbophyllum pipio* Rchb. f. in Linnaea 41: 92 (1877); F.T.A. 7: 32. APD acc

Bulbophyllum milesii Summerh. in Kew Bull. 1935: 200; F.W.T.A., ed. 1, 2: 439.

Flowers cream or yellow, purplish in centre.

S. L.: York I. (Nov.) Adames 106! Victoria Creek (Oct.) Adames 99! Yagoi, Jong R. (Oct., Nov.) Adames 100! Ghana: Sekondi (Apr.) Cox 129! Western Prov. (Nov., Dec.) Miles 19!

Also in E. Cameroun.

9. *Bulbophyllum buntingii* Rendle Cat. Talb. 99 (1913).

APD: *Synonym of Bulbophyllum ivorense* P.J. Cribb & Perez-Vera

APD: *Synonym of Bulbophyllum oxychilum* Schltr. var. *oxychilum*

Pseudobulbs often reddish; flowers white, cream-coloured or very pale pink.

Guin.: Sérédou Pujol L363! Lib.: Begwai (Oct.) Bunting 291! Tawata, Boporo Dist. (Nov.) Baldwin 10300! Ganta (Oct.) Harley 1759! Kitoma (Oct.) Harley 1833! Yah R., Sanokwele Dist. (Oct.) Adames 664! Iv. C.: Tai Forest (Oct.) Aké Assi 6033! N. Nig.: Kwarra, Plateau Prov. (Aug.) King 200! S. Nig.: Oban Talbot 935! Kundeve to Bagga, Obudu (Oct.) Keay FHI 25430! W. Cam.: M'bonge Wright 58/56!

Also in the Congos and Uganda.

10. *Bulbophyllum recurvum* Lindl. Gen. & Sp. Orch. Pl. 53 (1832); F.T.A. 7: 31; F.W.T.A., ed. 1, 2: 439 (excl. Lagos specimen).

APD: *Synonym of Bulbophyllum pumilum* (Sw.) Lindl.

Sepals yellowish green, sometimes tinged purple, lip dark red or purple.

S. L.: Sugar Loaf Mt. (Apr.) Sc. Elliot 5778! Njala (Aug.) Deighton 1148! Messima, Messi Krim (June) Adames 46! Roruks (May) Deighton 4652! Kasewe F.R. (May, June) Deighton 4651! Lib.: Ganta (Nov.) Harley 1762! W. Cam.: M'bonge Wright 58/57! F. Po: S. Isabel to Basilé, 3,000 ft. (fr. Dec.) Sanford 4035!

11. *Bulbophyllum pavimentatum* Lindl. J. Linn. Soc. 6: 128 (1862); F.T.A. 7: 32.

APD: *Synonym of Bulbophyllum pumilum* (Sw.) Lindl.

Bulbophyllum dorotheae Rendle, Cat. Talb. 100 (1913).

Bulbophyllum recurvum of F.W.T.A., ed. 1, 2: 439, partly (Lagos specimen), not of Lindl.

Flowers deep crimson, violet or purple.

S. Nig.: Lagos Moloney! Nun R. (Sept.) Mann 519! Okomu F.R., Benin (Sept.) Keay FHI 22445! FHI 25420!1 Ajagbodudu, Sapele (Sept.) Wright 130! Oban Talbot 934!

Also in **E. Cameroun**, **Gabon** and **Congo**.

12. **Bulbophyllum winkleri** *Schltr.* in Engl., Bot. Jahrb. 38: 158 (1906). *APD acc*

APD: Synonym of Bulbophyllum pumilum (Sw.) Lindl.

APD: Synonym of Bulbophyllum josephii (Kuntze) Summerh. var. josephii

Bulbophyllum imogeniae *K. Hamilt.* in Trans. Bot. Soc. Edinb. 27: 228(1917).

Leaves often purplish beneath; sepals pale, white or greenish at base, upper part red or purple, apices sometimes yellow or brownish.

Lib.: Ganta (Mar.) Harley 1634! 2025! **N. Nig.:** N. of Katsina R. Hamilton! Jemaa, Zaria Prov. (June) King 10! Cole 25! Sha, Plateau Prov. King 10a! Hoss, Plateau Prov. King 10b! **S. Nig.:** Kundeve, Obudu (Apr.) Keay & Savory FHI 25309! **W. Cam.:** Buea (July) Winkler 157!

Also in **E. Cameroun** and **Congo**.

13. **Bulbophyllum porphyroglossum** *Kraenzl* in Engl., Bot. Jahrb. 22: 24 (1895); F.T.A. 7: 34.

APD: Synonym of Bulbophyllum pumilum (Sw.) Lindl.

Bulbophyllum calabaricum *Rolfe* in Kew Bull. 1906: 114.

Sepals cream to yellowish-green; lip dull red or purple.

S. Nig.: Calabar Holland! Eket Talbot 3288! Stubbs Creek F.R., Eket (May) Latilo FHI 32916! **W. Cam.:** Bibundi (Apr.) Schlechter 12361! Victoria (May) Preuss 1299! Rosevear Cam. 53/37!

Also in **E. Cameroun**.

14. **Bulbophyllum teretifolium** *Schlr.* in Engl., Bot. Jahrb. 38: 18 (1905). *APD acc*

W. Cam.: Bibundi Schlechter 12362!

15. **Bulbophyllum intertextum** *Lindl.* in J. Linn. Soc. 6: 727 (1862); F.T.A. 7: 29. *APD acc*

Bulbophyllum viride *Rolfe* in Kew Bull. 1893: 170; Cat. Talb. 146.

Bulbophyllum triaristellum *Kraenzl. & Schltr.* in Orchis 2: 98 (1908).

Bulbophyllum amauryae *Rendle* Cat. Talb. 101, t. 12, fig. 11, 12 (1913).

Flowers pale green with or without red markings, or entirely red or purple.

S. L.: Sugar Loaf Mt. (May, Oct.) Barter! Deighton 6022! Roruks (July-Sept.) Deighton 4329! **Lib.:** Du R.(Aug.) Linder 334a! Tawata, Boporo Dist. Baldwin 10301! Truo, Sinoe Baldwin 11380! **Ghana:** Kumasi road, Accra Westwood 170! Nkawkaw (Oct.) Westwood 206! **N. Nig.:** Assob B., Jemaa, Zaria (Sept., Oct.) King 58! **S. Nig.:** Nun R. (Sept.) Mann 527! Oban Talbot 952! 955! Ikette, Obudu (Sept.) Keay & Savory FHI 26398! **W. Cam.:** Victoria (June) Rosevear Cam. 67/37! Bibundi (May) Keay FHI 42336! Mimbria, 3,600 ft. (Mar.) Brenan & Richards 9350! Moliwe (Aug.) Schlechter 15756! N'dian (June-Sept.) Wright 138! **F. Po:** Moka, 4,600 ft. (Sept.) Melville 437!

Also in **Gabon**, **Angola**, **Kenya**, **Tanzania**, **Malawi** and **Seychelles**.

16. **Bulbophyllum comatum** *Lindl.* in J. Linn. Soc. 6: 128 (1862); F.T.A. 7: 32. *APD acc*

Flowers purple with long white hairs on perianth.

S. L.: Maloloka (July) Thomas 1299! Ikette, Ogoja Prov., 5,200 ft. (Dec.) Savory & Keay FHI 25245! **Iv. C.:** Mt. Momi (Oct.) Aké Assi 9198! 9200! **F. Po:** 2,000 ft. (Dec.) Mann 642! Pico S. Isabel, 3,000 ft. (Dec.) Sanford 4055!

17. **Bulbophyllum inflatum** *Rolfe* in Gard. Chron. ser. 3, 9: 334 (1891); F.T.A. 7: 33.

APD: Synonym of Bulbophyllum comatum var. inflatum (Rolfe) J. J. Verm.

Flowers yellowish-green with purple flecks.

S. L.: cult. specimens! **Lib.:** Bili (Dec.) Harley 2083!

18. **Bulbophyllum tenuicaule** *Lindl.* in J. Linn. Soc. 6: 126 (1862); F.T.A. 7: 27.

APD: Synonym of Bulbophyllum cochleatum var. tenuicaule (Lindl.) J. J. Verm.

Flowers red-purple, whitish at base.

N. Nig.: Mambila Plateau Wimbush in Hb. King 150! **W. Cam.:** Buea, 3,000 ft. (Sept.) Gregory 612! Cam. Mt., 6,000 ft. Cole 28! **F. Po:** 5,000 ft. (Dec.) Mann 648!

(?) Also in S. Tomé.

19. **Bulbophyllum gravidum** *Lindl.* in J. Linn. Soc. 6: 126 (1862); F.T.A. 7: 27.

APD: Synonym of Bulbophyllum cochleatum var. gravidum (Lindl.) J. J. Verm.

W. Cam.: Cam. Mt., 5,000 ft. (Nov.) Mann 2126! **F. Po:** 3,000 ft. (Dec.) Mann 650! Pico S. Isabel, 4,000 ft. Sanford 4112! 4163!

20. **Bulbophyllum cochleatum** *Lindl.* in J. Linn. Soc. 6: 125 (1862); F.T.A. 7: 28. *APD acc*

Bulbophyllum talbotii *Rendle*, Cat. Talb. 100 (1913).

Bulbophyllum jungwirthianum *Schltr.* (1922).

Pseudobulbs and leaves often purplish; sepals yellow-green with purple lip or whole flower purple or red.

Guin.: Diaguissa to Dalaba, Fouta Djallon, 3,000-4,500 ft. (Sept-Dec.) Chev. 18817! 20280! Des Abbayes 1325! Nimba Mts., 3,300 ft. (Apr.) Schnell 1224! **S. L.:** Bintumane Mt., 5,000-6,000 ft. (Oct.-Feb.) Jaeger 294! 4232! Deighton 5719! T. S. Jones 167! 168! **Lib.:** Jaurazon, Sinoe (Mar.) Baldwin 11478! Truo, Sinoe Baldwin 11382! Bili (Mar.) Harley 1786! **Iv. C.:** Mt. Tonkoui (Feb.) Aké Assi 6943! **N. Nig.:** Vogel Peak, 4,900 ft. (Nov.) Hepper 1507! Kakara, Mambila Plateau, 4,800 ft. (Jan.) Hepper 1798! Wimbush 128! 134! **S. Nig.:** Oban Talbot 931! 1268! Koloishe, Obudu, 6,000 ft. (Dec.) Savory & Keay FHI 25098! Kwa Falls, Calabar Maggs! **W. Cam.:** Lake Mbuluwe, Bamenda, 7,200 ft. (fl. & fr Jan.) Migeod 376! Keay & Lightbody FHI 28374! **F. Po:** 4,000 ft. (Dec.) Mann 643!

Also in **E. Cameroun, Sudan, Uganda, Kenya, Tanzania, Zambia.**

21. **Bulbophyllum mannii** *Hook. f.* in J. Linn. Soc. 7: 218 (1864); F.T.A. 7: 28.

APD: Synonym of Bulbophyllum cochleatum Lindl. var. cochleatum

S. L.: Loma Mts., 5,500 ft. (Jan.) Jaeger 4161! **W. Cam.:** Cam. Mt., 4,000-5,000 ft. (Dec.) Mann 1337! 2111! Buea, 2,700 ft. (Jan.) Schlechter 12836! **F. Po:** Moka, 4,600 ft. (Sept.) Melville 461!

22. **Bulbophyllum bequaertii** *De Wild.* in Rev. Zool. Afr. 9, suppl. bot, 28 (1921).

APD: Synonym of Bulbophyllum cochleatum var. bequaertii (De Wild.) J. J. Verm.

APD: Synonym of Bulbophyllum cochleatum var. tenuicaule (Lindl.) J. J. Verm.

APD: Synonym of Bulbophyllum cochleatum var. brachyanthum (Summerh.) J. J. Verm.

Flowers red or reddish brown.

W. Cam.: Bum, Wum Div., 3,500 ft. (Feb.) Hepper 1918! Bamenda (Apr.) Sanford WS/695/65! **F. Po:** Pico S. Isabel, 3,000 ft. (fr. Dec.) Sanford 4109!

Also in **eastern Congo, Uganda, Kenya** and **Tanzania.**

23. **Bulbophyllum saltatorium** *Lindl.* Bot. Reg. 23: t. 1970 (1837); F.T.A. 7: 34. *APD acc*

Flowers reddish or pink.

S. L.: Ndilajula, Njala (Apr.-June) Deighton 4317! 4638! Kambui F.R., Kenema (May) Jordan 2085! **Ghana:** Mansu (Dec.) Miles 31!

24. **Bulbophyllum distans** *Lindl.* in J. Linn. Soc. 6: 125 (1862); F.T.A. 7: 34.

APD: Synonym of Bulbophyllum finetii Szlach. & Olszewski

Bulbophyllum kindtianum *De Wild.* (1904)-F.W.T.A., ed. 1, 2: 437.

Bulbophyllum nudiscapum *Rolfe* in Kew Bull. 1909: 365; Cat. Talb. 146 (1913).

Sepals yellowish green, or variously tinged maroon or purplish, lip maroon or purplish.

Lib.: Peahtah (Oct.) Linder 1020! Bomi Hills (Sept.) Voorhoeve 436! Mt. Barclay (June) Bunting 11! Ganta (Nov.) Harley 1841! Nimba (Oct.) Adames 686! **iv. C.:** Tiapleu (cult. Abidjan, Nov.) Aké Assi 9224! **Ghana:** Nsudem (Nov., Dec.) Miles 23! **S. Nig.:** Sapoba (Mar.-Apr.) Onyeagocha FHI 7131! Jones FHI 1085! Nun R. (Sept.) Mann 525! Oban Talbot 779! Eket Talbot 3309! **W. Cam.:** Man of War Bay Cole 35! **F. Po:** Las Corteras (Jan.) Guinea 2135!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Uganda**.

25. **Bulbophyllum calamarium** *Lindl.* in Bot. Reg. 29: Misc. 70 (1843); F.T.A. 7: 33, partly; F.W.T.A., ed. 1, 2: 437, partly (both as to S.L. specimen only).

APD: Synonym of Bulbophyllum saltatorium var. calamarium (Lindl.) J. J. Verm.

Sepals green or yellow-green, marked reddish, lip greenish or red with red or purplish hairs.

S. L.: Fielding! Roruks (Oct.) Deighton 4371! **Lib.:** Ganta (Apr.) Harley 2130! Bilimu (July) Harley 2038! **S. Nig.:** Agaghodudu, Sapele (May-Sept.) Wright 137! Sonkwala Mts., Obudu Dist. (Dec.) Keay FHI 28687!

26. **Bulbophyllum phaeopogon** *Schltr.* in Engl., Bot. Jahrb. 38: 157 (1906); Cat. Talb. 146. *APD acc*

Flowers yellow with brown or purple spots.

iv. C.: Tai Forest (cult. Adiopodoumé, June) Aké Assi 9654! **Ghana:** Efiduase Cox 35! Tafo (Mar.) Westwood 73! **S. Nig.:** Degema Talbot 3724! Eket Talbot 3308! Oban Talbot 778! **W. Cam.:** Bimbria road, Victoria (Apr.) Preuss 1225! Maitland 733! Victoria (May) Winkler 14a! Nyoke (July) Schlechter 15791!

Also in **E. Cameroun** and **Gabon**.

27. **Bulbophyllum schinzianum** *Kraenzl.* in Bull. Soc. Bot. Belg. 38: 57 (1900). *APD acc*

Bulbophyllum calamarium of F.T.A. 7: 33, partly and F.W.T.A., ed. 1, 2: 437, partly (S. Nig. specimen).

Sepals pale yellow, marked red; lip with chocolate or purple hairs.

Lib.: Wohmen, Vonjama Disk. (Oct.) Baldwin 10100! **N. Nig.:** Nsube, Niger Dist. Barter 1482!

Also in **Gabon** and **Congo**.

28. **Bulbophyllum barbigerum** *Lindl.* in Bot. Reg. 23: t. 1942 (1837); F.T.A. 7: 34. *APD acc*

Flowers deep red or wine-coloured, sepals tinged greenish.

S. L.: confluence of Gbagbi and Bafi rivers (Aug.) Smythe 117! Koindu, Kissi Kama (Nov.) Deighton 4657! Panguma (Oct.) Deighton 5609! **Lib.:** Genne Loffa, Kolahun Dist. (Nov.) Baldwin 10079! Cocopa, Yasono (Sept.) Harley 1926! **iv. C.:** Merle! Sanguiné Forest (Nov.) Aké Assi 9223! **Ghana:** Juaben, Ashanti (July) Cox 127! **S. Nig.:** Lagos Moloney! Niger Delta Dalton! Insofan (Jan.) Holland 297! Afi River F.R., Ogoja Prov. (May) Jones FHI 18782! **W. Cam.:** Victoria (May) Keay FHI 43914!

Also in **Congo**.

29. **Bulbophyllum denticulatum** *Rolfe* in Kew Bull. 1891: 197; F.T.A. 7: 25. *APD acc*

Sepals brownish green; lip orange.

S. L.: cult. specimen!

30. **Bulbophyllum fuscum** *Lindl.* in Bot. Reg. 25: Misc. 3 (1839); F.T.A. 7: 24, partly.

APD: Synonym of Bulbophyllum melinostachyum Schltr.

APD: Synonym of Bulbophyllum acutebracteatum var. rubrobrunneopapillosum (De Wild.) J. J. Verm.

Flowers mustard yellow, brownish red or brown.

Guin.: Pita, Fouta Djallon (Dec.) Jac.-Fél. 664! **S. L.:** Njala (Nov.) Deighton 5244! Kasewe F.R. (Nov.) Deighton 4923! Kamaranka Bridge, Magbema Adames 198! **Lib.:** Suen, Montserrado (Nov.) Baldwin 10454! **Iv. C.:** Kagbé Forest (cult. Abidjan, Jan.) Aké Assi 9411! **N. Nig.:** Tof, Plateau Prov., 3,800 ft. King 191! **S. Nig.:** Agbadi, Sapoba (Nov.) Meikle 599! Ajagbodudu, Sapoba Wright 141! Calabar, Cooper 42/2! **W. Cam.:** Little Cam. Mt., 3,000 ft. Cole 36!

Also in **the Congos** and **Tanzania**.

31. Bulbophyllum oreonastes Rchb. f. Otia Bot. Hamburg. 118 (1881); F.T.A. 7: 24. *APD acc*

APD: Synonym of Bulbophyllum elliotii Rolfe

APD: Synonym of Bulbophyllum acutebracteatum De Wild. var. acutebracteatum

APD: Synonym of Bulbophyllum melinostachyum Schltr.

Bulbophyllum fuscum of F.T.A. 7: 24, partly; Cat. Talb. 146 (1913).

Bulbophyllum obanense Rendle, Cat. Talb. 101, t. 12, fig. 9-10 (1913).

Flowers yellow, orange, brown or reddish brown.

Guin.: Pita, Fouta Djallon (Dec.) Jac-Fél. 663! Célimélé (June) Jac-Fél. 1785! **S. L.:** Sugar Loaf Mt. (May-Nov.) Sc. Elliot 4023! Barter! Deighton 5648! Kasewe F.R. (Nov., Dec.) Deighton 4922! Kambui F.R., Kenema (May) Jordan 2086! **Lib.:** Banga (Oct.) Linder 1249! Tawata, Boporo Dist. (Nov.) Baldwin 10298! 10313! 10343! Boporo (Nov.) Baldwin 10389! **Iv. C.:** Grabo, Cavally Basin (July) Chev. 19696! **Ghana:** cult. specimen! **N. Nig.:** Vogel Peak, 3,500 ft. (Nov.) Hepper 1430! Mambila Plateau Howard in Hb. King 152! **S. Nig.:** Shasha F.R., Ijebu (May) Richards 3457! Afi River F.R. (May) Jones FHI 18780! Niaji Peak, Oban (Oct.) Talbot 925! Ikette Plateau & Mt. Koloishe, Sonkwala, 5,400-6,200 ft. (Apr.) Olorunfemi FHI 25313! FHI 28293! Tuley 616! **W. Cam.:** Cam. Mt., 5,000 ft. (Nov.) Mann 2122! near Buea, 5,700 ft. (June) Preuss 943! **F. Po:** Las Corteras (Jan.) Guinea 2145!

Throughout tropical Africa eastwards to **Uganda** and Tanzania, south to **Angola** and Mozambique.

32. Bulbophyllum fuscoides J. B. Petersen in Bot. Tidsskr. 49: 163, fig. 3-5 (1952).

APD: Synonym of Bulbophyllum acutebracteatum var. rubrobrunneopapillosum (De Wild.) J. J. Verm.

Flowers dark red, lip bright red or yellow.

W. Cam.: M'bonge Wright 58/1! **F. Po:** Pico S. Isabel 2,500 ft. (Dec.) Sanford 4002!

Also in **E. Cameroun**.

33. Bulbophyllum zenkeranum Kraenzl. in Engl., Bot. Jahrb. 48: 391 (1912).

APD: Synonym of Bulbophyllum oreonastes Rchb. f.

Flowers orange-yellow to orange-brown.

S. L.: Lalehun, Gaura (May) Bakshi 192! **Lib.:** Kitoma (Apr.) Harley 1795! **Ghana:** Puso-puso (Jan.) Hall 2449! **N. Nig.:** Mambila Plateau Wimbush in Hb. King 135! **W. Cam.:** Mimbia, 3,900 ft. Brenan 9568! Buea, 3,000 ft. (Apr.) Schlechter 12377! Cam. Mt., path to Mann's Spring (Mar.) Hamblen 153!

Also in **E. Cameroun**, **C. African Republic** and **Zambia**.

34. Bulbophyllum scariosum Summerh. in Kew Bull. 7: 145 (1953). *APD acc*

Flowers creamy white or flesh coloured.

Guin.: Dalaba-Diaguissa Plateau, 1,300 ft. (Nov.) des Abbayes 1326! Nimba Mts., 5,300 ft. (Apr.) Schnell 1094! **S. L.:** Bintumane Peak, Loma Mts., 5,300-5,400 ft. (Jan.) T. S. Jones 64! Jaeger 568! 4145! **Lib.:** Nimba Mts. (Jan.) Harley 2204!

35. *Bulbophyllum bifarium* Hook. f. in J. Linn. Soc. 7: 219(1864); F.T.A. 7: 27. *APD acc**APD: Synonym of Bulbophyllum bidenticulatum subsp. joyceae J. J. Verm.**APD: Synonym of Bulbophyllum bidenticulatum J. J. Verm. subsp. bidenticulatum**Bulbophyllum pallescens* Kraenzl. in Engl., Bot. Jahrb. 51: 385(1914).

Flowers whitish or bluish rose; bracts straw coloured.

iv. C.: Mt. Tonkoui (May) Aké Assi 5606! **W. Cam.:** Cam. Mt., 5,000 ft. (Nov.) Mann 2121! Buea, 3,300 ft. (Nov.) Maitland 781! Bimbia road, Victoria (fr. Apr.) Maitland 732! Bibundi (Apr.) Schlechter 12418. Nyassossa, 2,700 ft. Schlechter 12896! Mfongu, Bagangu, 5,700-6,300 ft. (Oct.) Ledermann 5860!36. *Bulbophyllum nigericum* Summerh. in Kew Bull. 16: 307, fig. 21 (1962). *APD acc**APD: Synonym of Bulbophyllum bidenticulatum J. J. Verm. subsp. bidenticulatum*Flowers green and purple, **always on rocks**.**iv. C.:** Mt. Momi (Oct.) Aké Assi 9218! **N. Nig.:** Garawuri Hills, Plateau Prov. (Oct.) King 124!

Also recorded from several other localities in Plateau Province.

37. *Bulbophyllum wrightii* Summerh. in Kew Bull. 16: 309, fig. 22 (1982).*APD: Synonym of Bulbophyllum tetragonum Lindl.*

Flowers yellow with purple markings.

W. Cam.: M'bonge, Kumba Div. Wright 58/18!38. *Bulbophyllum lupulinum* Lindl. in J. Linn. Soc. 6: 126 (1862); F.T.A. 7: 28. *APD acc**APD: Synonym of Bulbophyllum tetragonum Lindl.*(?) *B. tetragonum* Lindl. (1830)-F.T.A. 7: 32.*Bulbophyllum urbanianum* Kraenzl. in Engl., Bot. Jahrb. 28: 163 (1900).

Flowers yellow with red spots, red or dark purple; bracts pale brown with purplish tinge.

Guin.: Télimélé (Jan.) Roberty 16450! **S. L.:** Niénankolia (Jan.) Chev. 20569! Ninia (Feb.) Sc. Ellio 4915! Makali to Mamansu, Kunike (cult., Dec.) Capstick in Deighton 5718! Fromager to Kamaro (Jan.) Jaeger 3902! Alikalia (Feb.) Bunting 31! **Ghana:** Amedzofe (fl. & fr. Nov.) Westwood 3! **N. Nig.:** Karamti, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28943! **S. Nig.:** Mt. Orosun, Idanre (Jan.) Brenan et al. 8643! Koloishe Mt., Sonkwala, 5,000 ft. (Dec.) Savory & Keay FHI 25272! **W. Cam.:** Amba Bay (Feb.) Mann 783! Victoria (Jan.) Deistel 79! Buea, 3,700 ft. (Jan.) Schlechter 12844! Bum, Wum Div. (Feb.) Hepper 1923!Also in **E. Cameroun** and **Congo**.39. *Bulbophyllum porphyrostachys* Summerh. in Bot. Mus. Leaflet. Harv. Univ. 14: 230 (1951). *APD acc*

Flowers green or yellow with red or purple spots or markings; bracts crimson, chocolate, red or purple, rarely green.

S. Nig.: Okomu F.R. (Oct.) Keay FHI 22711! Sapoba F.R. (Oct.) Keay & Onochie FHI 21590! Agbadi, Sapoba (Nov.) Meikle 600! Urhehue, Usonigbe F.R. (Nov.) Meikle 601! Akamkpa Rubber Estate, Calabar Dist. (Mar.) Latilo FHI 41339! **W. Cam.:** Cam. Mt. (Nov.) Keay & Brenan FHI 28133! Victoria Rosevear Cam. 60/37!40. *Bulbophyllum falcipetalum* Lindl. in J. Linn. Soc. 6: 128 (1862); F.T.A. 7: 26. *APD acc**Megaclinium lutescens* Rolfe in Kew Bull. 1910: 158.Flowers yellow or yellow-green; **usually on mangroves**.**S. L.:** Yagoi, Jong R. (Oct.) Adames 111! **iv. C.:** Yapo Forest, N. of Abidjan (Oct.) de Wilde 688! **Ghana:** Band! **S. Nig.:** Nun R. (Sept.) Mann 526! **W. Cam.:** Man of War Bay Cole 33!

Also in **E. Cameroun**.

41. **Bulbophyllum rhizophorae** *Lindl.* in J. Linn. Soc. 6: 125 (1862); F.T.A. 7: 26.

APD: Synonym of Bulbophyllum velutinum (Lindl.) Rchb. f.

APD: Synonym of Bulbophyllum resupinatum var. filiforme (Kraenzl.) J. J. Verm.

APD: Synonym of Bulbophyllum resupinatum Ridl. var. resupinatum

Flowers bronze-yellow to reddish violet or deep purple.

S. L.: Yagoi, Jong R. (Nov.) Adames 110! **iv. C.:** Yapo Forest, N. of Abidjan (Dec.) de Wilde 980! **Ghana:** Tarquah Miles **S. Nig.:** Nun R. Barter 20118! Oban Talbot! **W. Cam.:** M'bonge, Kumba Div. Wright 58/5!

Also in **Congo**.

42. **Bulbophyllum parvum** *Summerh.* in Kew Bull. 11: 122 (1957). *APD acc*

Flowers purple.

S. L.: Picket Hill, 2,300 ft. (Nov.) T. S. Jones 235!

43. **Bulbophyllum filiforme** *Kraenzl.* in Engl., Bot. Jahrb. 22: 25 (1895); F.T.A. 7: 27.

APD: Synonym of Bulbophyllum resupinatum var. filiforme (Kraenzl.) J. J. Verm.

Bulbophyllum longispicatum *Kraenzl. & Schltr.* in Orchis, 2: 98 (1908).

W. Cam.: Victoria to Bimbia (Apr.-Sept.) Preuss 1242! Man of War Bay Schlechter 15759!

Also in **E. Cameroun**.

44. **Bulbophyllum congolanum** *Schltr.* in Engl., Bot. Jahrb. 38: 14 (1905).

APD: Synonym of Bulbophyllum scaberulum (Rolfe) Bolus var. scaberulum

Megaclinium clarkei *Rolfe* (1891)-F.T.A. 7: 41.

M. pobeguinii *Finet* in Notulae Syst. 1: 167 (1910).

Bulbophyllum pobeguinii (*Finet*) *De Wild.*, Pl. Bequaert. 1: 95 (1921); F.W.T.A., ed. 1, 2: 440.

Bulbophyllum chevalieri *De Wild.* l.c. 80 (1921).

Rhachis green variously mottled red or crimson, or entirely crimson; flowers yellow, greenish or crimson.

Guin.: Komassa Pobéguin 636! Banko Pobéguin 925! Ditinn (Apr.) Chev. 12838! Farana (Mar.) Sc. Elliot 5341! **S. L.:** Musaia (Feb.-Apr.) Deighton 4274! Kpindu, Kissi Kama (Nov.) Deighton 4656! Yengema, Kono (Nov.) Deighton 4655! 5131! **Lib.:** Ganta (Nov.) Harley 1837! 1943! **iv. C.:** Bouroukrou Chev. 16839! Moossou (Nov.) de Wilde 805! **Ghana:** Ninting, Ashanti (Oct.) Vigne FH 4869! Awaso, Blayney 17! Mampong (Oct.) Cansdale 126! 136! Juaso, Ashanti (Oct.) Cansdale 04! Dayi R., Hohoe (Oct.) Westwood 48! **N. Nig.:** Assob B., Zaria Prov. (July) King 21! Tof, Plateau Prov. (Feb.) King 180a! Tibba Plat. Horsman! Delimi B. Gorge, Naraguta (Oct.) Westwood! Vogel Peak, 3,500 ft. (Nov.) Hepper 1431! **S. Nig.:** Mamu F.R., Ibadan (Oct.) Keay FHI 25426! Akure F.R., Ondo (Oct.) Keay FHI 22668! 25473! Mt. Orosun, Idanre (Nov.) Keay & Brenan FHI 28130! Obudu, Ogoja Prov. (Dec.) Keay FHI 28296!

Also in **E. Cameroun**, **Gabon**, **C. African Republic**, **Congo** and **Uganda**.

45. **Bulbophyllum fuerstenbergianum** (*De Wild.*) *De Wild.* Pl. Bequaert. 1: 86 (1921).

APD: Synonym of Bulbophyllum scaberulum var. fuerstenbergianum (De Wild.) J. J. Verm.

Megaclinium fuerstenbergianum *De Wild.* in Cogn. Dict. lc. Orch. Megacl. t. 1 (1905).

Rhachis green, mottled brown; flowers green, mottled brown, petals crimson, purple or chocolate.

N. Nig.: Mambila Plateau Wimbush in Hb. King 129! **S. Nig.:** Ikette, Sonkwala, 5,200 ft. (Dec.) Savory & Keay FHI 25183! Cooper 38! **F. Po:** Pico S. Isabel 4,000 ft. (Dec.) Stanford 4134!

Also in **Congo**.

46. **Bulbophyllum tentaculigerum** *Rchb. f.* in Flora 61: 77 (1878).

APD: Synonym of Bulbophyllum sandersonii (Hook. f.) Rchb. f. subsp. sandersonii

Megaclinium tentaculigerum (*Rchb. f.*) *Dur. & Schinz* (1895)-F.T.A. 7: 42.

Bulbophyllum stenopetalum *Kraenzl.* in Engl., Bot. Jahrb. 22: 25 (1895).

Flowers yellow, yellow with purple markings or purple.

Lib.: Sinoe Basin Whyte! **iv. C.:** 35 km. S. of Guéyo (Mar.) Leeuwenberg 3776! **Ghana:** Ashanti Miles! **S. Nig.:** Akamkpa Estate, Calabar R. (Mar.) Latilo FHI 41331! **W. Cam.:** Mopanya, 5,000-6,000 ft. (Mar.) Kalbreyer. Bibundi (Apr.) Schlechter 12358! Victoria Preuss 1217! Cam. Mt., 5,700-6,100 ft. (Feb.-Nov.) Brenan 9569! Keay FHI 37501! Tombel (Mar.) Thorold CM16!

Also in **E. Cameroun** and **Uganda**.

47. **Bulbophyllum longibulbus** *Schltr.* in Engl., Bot. Jahrb. 38: 17 (1905).

APD: Synonym of Bulbophyllum bufo (Lindl.) Rchb. f.

W. Cam.: Nyassosso, 2,700 ft. Schlechter 12893!

48. **Bulbophyllum simonii** *Summerh.* in Kew Bull. 1935: 204.

APD: Synonym of Bulbophyllum velutinum (Lindl.) Rchb. f.

Megaclinium lasianthum *Kraenzl.* in Engl., Bot. Jahrb. 48: 393 (1912).

Flowers yellowish with brown or purple markings or entirely brown or purple.

S. Nig.: Akamkpa Estate, Calabar (Mar.) Latilo FHI 41342! **W. Cam.:** Victoria (Feb.-Apr.) Schlechter 12373! Simon 11! Rosevear Cam. 56/37! 58/37! Bakangili, Victoria (Mar.) Thorold CM15!

Also in **E. Cameroun**.

49. **Bulbophyllum velutinum** (*Lindl.*) *Rchb. f.* in Walp., Ann. 6: 258 (1861). *APD acc*

Megaclinium velutinum *Lindl.* (1847)-F.T.A. 7: 39.

M. melanorrhachis of F.T.A. 7: 41, partly (excl. spec. cult. Saunders).

Rhachis green variously tinged purple, or entirely purple; flowers red or purple.

S. L.: Jaluahun, Barri (Dec.) Deighton 4375! Moria, Mapaki (Dec.) MacDonald in Hb. Deighton 5714! Jagbwema, Luawa (Nov.) Oliphant in Hb. Deighton 6011! **Lib.:** Banga (Oct.) Linder 1255! Totokwelli-Moylakwelli (Oct.) Linder 1289! Ganta (Nov.) Harley 2066! **iv. C.:** Abidjan Aké Assi L77! Adiopodoumé (Dec.) Aké Assi 7149! Gribo rapids, Sassandra R. (Nov.) de Wilde 3292! **Ghana:** Kanyankor, W. Prov. (Nov.-Dec.) Miles 20! Ancobra R. (Dec.) Johnson 855! Assin Yan Kumasi (Jan.) Cummins 78! Awaso Blayney 24! Efduse Cox 17! **W. Cam.:** M'bonge Wright 58/39!

Also in **S. Tomé**.

50. **Bulbophyllum melanorrhachis** (*Rchb. f.*) *Rchb. f.* ex De Wild. Pl. Bequaert. 1: 93 (1921).

APD: Synonym of Bulbophyllum velutinum var. melanorrhachis (Rchb. f.) Perez-Vera

Megaclinium minutum *Rolfe* (1893)-F.T.A. 7: 40.

M. millenii *Rolfe* in F.T.A. 7: 40 (1897); Cat. Talb. 146.

M. angustum *Rolfe* in Kew Bull. 1922: 26.

Rhachis purple or brown; flowers greenish or yellow variously marked purple, or entirely purple or reddish.

Guin.: Forécaria Jac.-Fél! **S. L.:** Sugar Loaf Mt., 3,000 ft. Sc. Elliot! Maswari (Apr.) Adames 209! **Lib.:** Bumbuma to Moala (Nov.) Linder 1347! Tawata, Boporo Dist. (Nov.) Baldwin 10339! **Ghana:** Jasikan Westwood 63a! **S. Nig.:** Lagos Millen! Jamieson R., Sapoba (Nov.) Keay FHI 28074! Calabar Holland! Oban Talbot 1576! Eket Talbot 3288!

Also in **E. Cameroun**, **Annobon**, **Gabon** and **Congo**.

51. *Bulbophyllum falcatum* (Lindl.) Rchb. f. in Walp., Ann. 6: 258 (1861). *APD acc**Megaclinium falcatum* Lindl. (1826)-F.T.A. 7: 41.*M. endotrachys* Kraenzl. in Engl., Bot. Jahrb. 36: 115 (1905).*Bulbophyllum leptorrhachis* Schltr. in Engl., Bot. Jahrb. 38: 17(1905).

Rhachis green to purple; flowers green or variously marked purple, or entirely red or purple, apex of petals often yellow.

Guin.: Sérédou Pujol L364! **S. L.:** Sugar Loaf Mt., 1,800 ft. Deighton 5653! Mafari, Dixing (Nov.) Adames 200! Pendembu (Dec.) Deighton 4376! Sefadu (Nov.) Deighton 4658! Bintumane Peak, Loma Mts., 3,000 ft. (Nov.) Deighton 5910! **Lib.:** Begwai (Oct.) Bunting 25! Grand Bassa Dinklage 1852! Vahun, Kolahun Dist. (Nov.) Baldwin 10174! Buchanan (Nov.) Adam 16033! Kitoma (Oct.) Harley 1838! **Iv. C.:** Tai Forest (Oct.) Aké Assi 6035! **Ghana:** Kanjankor, W. Prov. (Nov., Dec.) Miles 21! Ninting, Ashanti (Oct.) Vigne FH 4870! Efiduase Cox 11! 14! Hohoe, Ntumada, 1,000-2,250 ft. (Nov.) St.-Cl. Thompson 1607! Jasikan (Nov.) Lange in Hb. Westwood 63! **S. Nig.:** Okomu F.R., Benin (Oct.) Brenan FHI 22713! Agbadi, Sapoba (Nov.) Meikle 603! Akure F.R., Ondo (Nov.) Keay FHI 28127! Koloishe Mt., Sonkwala, 6,000 ft. (Nov.) Savory & Keay FHI 28131! Kundere, Sonkwala, 2,800 ft. (Nov.) Savory & Keay FHI 28132! **W. Cam.:** Cam. Mt. Brawn FHI 28295! Onochie FHI 32436! Moliwe (Jan.) Schlechter 12992! Batoki Cole 42! **F. Po:** S. Isabel to San Carlos (fr. Jan.) Sanford 4220!

Also in **Principe**, **Congo** and **Uganda**.

52. *Bulbophyllum purpureorhachis* (De Wild.) Schltr. Die Orchid. 328 (1914). *APD acc*

Megaclinium purpureorhachis De Wild., Not. Pl. Util. Congo 126 (1903); Gard. Chron. ser. 3, 45: 293, fig. 126 (1909); Rolfe in Bot. Mag. 135: t. 8273 (1909).

Rhachis closely and heavily blotched purple with numerous blackish hairs; flowers purplish or dark brown.

Iv. C.: Tai Region (July) Aké Assi 5639! Hiré Region (Dec.) Aké Assi 9338!

Also in **E. Cameroun**, **Gabon** and **Congo**.

53. *Bulbophyllum bufo* (Lindl.) Rchb. f. in Walp., Ann. 6: 258 (1861). *APD acc**Megaclinium bufo* Lindl. (1844)-F.T.A. 7: 43.*M. deistelianum* Kraenzl. in Engl., Bot. Jahrb. 33: 72 (1902).*Bulbophyllum bakossorum* Schltr. in Engl., Bot. Jahrb. 38: 13, fig. 6A, 1-11 (1905).

Rhachis green, blotched crimson or entirely crimson or purple; flowers cream or pale yellow, spotted crimson, or entirely crimson or purple.

Guin.: Plateau de Benna Jac.-Fél! Sérédou Pujol L365! **S. L.:** cult. specimen! **Lib.:** Gbanga (Oct.) Linder 1179! 1210! Peter's Town (Oct.) Bunting 102! Ganta (Oct.) Harley 1761! Zogowi (Nov.) Harley 1835! **Iv. C.:** Mt. Momi (Oct.) AKé Assi 9195! **Ghana:** cult. specimen! **S. Nig.:** Usonigbe F. R., Benin (Nov.) Keay FHI 28134! Akure F.R., Ondo (Oct.) Keay FHI 25474! Utanga, Obudu (Oct.) Keay & Savory FHI 25425! **W. Cam.:** Buea Deistel! Nyassosso, 2,700 ft. (Jan.) Schlechter 12898! **F. Po:** S. Isabel to San Carlos (fr. Jan.) Sanford 4219!

Also in **Congo**.

54. *Bulbophyllum graminifolium* Summerh. in Kew Bull. 11: 117 (1957).

APD: Synonym of *Bulbophyllum calyptratum* var. *graminifolium* (Summerh.) J. J. Verm.

Bulbophyllum calyptratum of F.W.T.A., ed. 1, 2: 440, partly, not of Kraenzl.

Flowers greenish white or greenish yellow, sometimes with small red spots near base.

Guin.: Bembaya, Farana (Feb.) Chev. 20670! **S. L.:** Musaia (Feb.) Deighton 4273! Seli R., Kamadugu (Feb.) Glanville in Hb. Deighton 5744! Karina (Feb.) T. S. Jones in Hb. Deighton 5745! **Lib.:** Vahun, Kolahun Dist. Baldwin 10173! Soplina, Vonjama Dist. Baldwin 10036! Repula (Dec.) Harley 1950! Ganta (Nov.) Harley 2064! **Ghana:** Aburi (Nov.) Johnson 217! Agogo (Nov.) D. Giltett 7! Efiduase Cox 20! Awaso Blayney 20! Osiem, near Tafo (Nov.) Westwood 62!

55. *Bulbophyllum calyptratum* Kraenzl. in Engl., Bot. Jahrb. 22: 24 (1895); F.T.A. 7: 26; F.W.T.A., ed. 1, 2: 440, partly (Nigerian specimens). B. lindleyi (Rolfe) Schltr., Die Orchid. 327 (1914); F.W.T.A., ed. 1, 2: 440. *APD acc*

Megaclinium lindleyi Rolfe (1897)-F.T.A. 7: 43.

M. lepturum Kraenzl. in Ann. Natur. Holmus. Wien 30: 61 (1916).

Rhachis green, sometimes spotted or tinged with red or purple; flowers greenish or greenish-yellow with small red or purple spots.

S. L.: Yagoi, Jong R. (Oct.) Adames 84! 98! Kamasu, Tunkai (Jan.) Deighton 4576! Kebawana, Gaura (Mar.-Apr.) Deighton 4598! 5026! **iv. C.:** Merle K519! **Ghana:** Techiman to Nkoranza (Jan.) Westwood 114! **S. Nig.:** Okomu F.R., Benin (Feb.) Brenan FHI 22735! Eket Talbot 3302! Obanliko-Unya, Obudu (Mar.) Keay & Savory FHI 25307! Oban F.R. (Nov.) Latilo FHI 45812! **W. Cam.:** Victoria (Apr.) Schlechter 12369! Preuss 1215! Rosevear Cam, 59/37! Tombel (Mar.) Thorold CM18! Bibunde (Mar.) Rosevear 114/36 (FHI 11136)!

Also in **Gabon** and **Congo**.

56. Bulbophyllum lucifugum Summerh. in Kew Bull. 11: 119 (1957).

APD: Synonym of Bulbophyllum calyptratum var. lucifugum (Summerh.) J. J. Verm.

Rhachis green spotted purple; flowers green and yellow with purple spots.

S. L.: Makali, Kunike Barina (Nov.) Deighton 4377! Gegbwema, Tunkia (Dec.) Deighton 6154!

57. Bulbophyllum colubrinum (Rchb. f.) Rchb. f. in Walp., Ann. 6: 257 (1861). *APD acc*

Megaclinium colubrinum Rchb. f. (1855)-F.T.A. 7: 40.

M. imschootianum Rolfe (1895)-F.T.A. 7: 39.

Bulbophyllum imschootianum (Rolfe) De Wild., Pl. Bequaert. 1: 86 (1921).

Rhachis green with brown or purplish spots, or entirely brown; flowers yellow, speckled purple or entirely purple.

S. L.: Great Scarcies R. (Sept.) Adames 128! **iv. C.:** Bouroukrou Chev. 16524! **S. Nig.:** Usonigbe F.R., Sapoba (Nov.) Ejiofor FHI 24652! Akure F.R., Ondo Prov. (Nov.) Keay FHI 28129! Sanford 1567/65!

Also in **Gabon** and **Congo**.

58. Bulbophyllum oxpterum (Lindl.) Rchb. f. in Walp., Ann. 6: 258 (1861). *APD acc*

Megaclinium oxpterum Lindl. (1839)-F.T.A. 7: 39, partly (excl. Principe specimen).

Bulbophyllum ciliatum Schltr. in Engl., Bot. Jahrb. 38: 156 (1906).

Bulbophyllum maximum of F.W.T.A., ed. 1, 2: 439, partly, not of (Lindl.) Rchb. f.

Rhachis green, variously spotted purple or almost entirely purple; flowers yellow with purple spots or entirely purple.

S. L.: cult specimen! **Ghana:** Efiduase Cox 13! **N. Nig.:** Kagoma, Zaria Prov. (Mar.) King 126! Joe to Wamba (July) Sanford 1368/65! **S. Nig.:** Ajagbodudu, Sapele (May, June) Wright 134! Akure F.R., Ondo (Oct.) Keay FHI 21552! **W. Cam.:** near Bimbia (Sept.) Schlechter 15768!

Also in **Annobon**, **Congo**, **Kenya**, **Tanzania**, **Zambia**, **Rhodesia** and **Mozambique**.

59. Bulbophyllum maximum (Lindl.) Rchb. f. in Walp., Ann. 6: 259 (1861), excl. descr.; F.W.T.A., ed. 1, 2: 439, partly. *APD acc*

APD: Synonym of Bulbophyllum maximum var. oxpterum (Lindl.) Perez-Vera

Megaclinium maximum Lindl. (1830)-F.T.A. 7: 38.

Rhachis and flowers green, spotted purple, or entirely purple or red.

S. L.: Smeathman! Afzelius! Mano Bonjema (Nov.) Adames 109! Bonthe (Nov., Dec.) Adames 112! **Lib.:** Wumbi (Sept.) Linder 827! Ganta (Oct.) Harley 1932! **iv. C.:** Brafouédi, Dabou to N'Douci (fr. Dec.) de Wilde 1012! Abouabou Forest, Abidjan to Grand Bassam (fr. Dec.) de Wilde 1013! **Ghana:** Mansu (Dec.) Miles 32! Begoro, E. Prov. (Nov.) Westwood 156! **S. Nig.:** Brass R. Barter 1854! Bagga-Balinge, Sonkwala (Dec.) Savory & Keay FHI 25163!

Also in **Congo**.

60. Bulbophyllum bibundiense Schltr. in Engl., Bot. Jahrb. 38: 155 (1906).

APD: Synonym of Bulbophyllum sandersonii (Hook. f.) Rchb. f. subsp. sandersonii

W. Cam.: Moliwe (Oct.) Schlechter 15784!

61. Bulbophyllum kamerunense *Schltr.* in Engl., Bot. Jahrb. 38: 15, 16, fig. 6B and C (1905).

APD: Synonym of Bulbophyllum imbricatum var. luteum W. Sanford

S. Nig.: Sapoba F.R., Benin Prov. (fl. cult. Ibadan Feb.) Sanford 136/66!

Also in **E. Cameroun**.

62. Bulbophyllum magnibracteatum *Summerh.* in Kew Bull. 1935: 203. *APD acc*

Ghana: Imbraim (Oct.-Dec.) Miles 11! **S. Nig.:** Ijebu to Benin (Aug.) Sanford 1726/65!

63. Bulbophyllum imbricatum *Lindl.* Bot. Reg. 1841: Misc. 37. *APD acc*

Bulbophyllum stenorrhachis *Kraenzl.* in Engl., Bot. Jahrb. 22: 25 (1895).

Megaclinium imbricatum (*Lindl.*) *Rolfe* in F.T.A. 7: 37 (1897).

M. triste *Rolfe* in F.T.A. 7: 38 (1891).

Flowers blackish purple, rarely with green markings.

S. L.: Kabala to Musaia (Dec.) Deighton 4392! Giema, Dama (Nov.) Deighton 4954! **Lib.:** Peabtah (Oct.) Linder 938! Gbanga (Sept.) Linder 669! Ganta (Oct.) Harley 1827! **iv. C.:** Abouabou Forest, Abidjan to Grand Bassam (Dec.) de Wilde 1025! **Ghana:** Blayney! **S. Nig.:** Ajagbodudu (Apr.) Wright 149! **W. Cam.:** Victoria (Apr.) Preuss 1241! M'bonge Wright 58/44!

Also in **Gabon** and **Congo**.

64. Bulbophyllum leucorrhachis (*Rolfe*) *Schltr.* in Engl., Bot. Jahrb. 38: 17 (1905).

APD: Synonym of Bulbophyllum imbricatum var. luteum W. Sanford

Megaclinium leucorrhachis *Rolfe* (1891)-F.T.A. 7: 37.

Rhachis pale green; flowers yellow and orange.

S. L.: Smythe 114! **S. Nig.:** Lagos Moloney! Millen 189! Okomu F.R., Benin (Dec.) Keay FHI 22715!

Also in **Gabon** and **Congo**.

65. Bulbophyllum linderi *Summerh.* in Kew Bull. 1935: 202.

APD: Synonym of Bulbophyllum imbricatum var. purpureum W. Sanford

Rhachis and flowers cream coloured or whitish.

S. L.: Mesima, Pukumu Krim (Nov.) Deighton 4921! **Lib.:** Bumbuma (Oct., Nov.) Linder 1325! Harley 1947! Nimba (Jan.-Oct.) Adam 20685! Adames 685! **iv. C.:** Tiapleu (Oct.) Aké Assi 9129!

29. GENYORCHIS

Schltr. in Engl., Bot. Jahrb. 38: 11 (1905).

- 1** Pseudobulb 2-leaved, scarcely flattened:.....**2**
Pseudobulbs 1-leaved, somewhat flattened, 1-1.7 cm. long, 5-10 mm. broad; leaves oblong-elliptical, 1.5-4.5 cm. long, 4-9 mm. broad; scape slender, 10-14 cm. long, 5-17-flowered in the upper half; mentum helmet-shaped, 2.5-3 mm. long; lip about 3 mm. long, front lobe recurved, tooth-like[5. platybulbon](#)
 - 2** Lateral lobes of the lip as long as, or longer, than the remainder of the lip below the recurved middle lobe; mentum of flower very short and rounded, the margins of the lateral sepals equal; pseudobulbs up to 12 mm. long; leaves 1-3 cm. long, 2-3 mm. broad; scape 2-4 cm. long, very slender; rhachis zigzag, up to 10-flowered[1. micropetala](#)
- Lateral lobes of the lip much shorter than the remainder of the lip below the recurved middle-lobe; mentum of

flower helmet-shaped or conical, the upper margin of the lateral sepals much longer than the lower:3

- 3 Middle lobe of lip small, tooth-like; stelidia lanceolate, acute, much overtopping the androclinium, scarcely angled on each side of the stigmatic cavity:4

Middle lobe of lip large, almost orbicular, entirely adnate to the lower surface; stelidia scarcely overtopping the androclinium, forming triangular projections on each side of the stigmatic cavity; mentum 3 mm. long, upper margins of lateral sepals over 6.5 mm. long; lip curved, 4.5-5 mm. long, side lobes very short; pseudobulbs 1-2 cm. long; leaves 1-3 cm. long, 3-7 mm. broad; scape to 6.5 cm. long, up to 7-flowered4. *macrantha*

- 4 Dorsal sepal over 4 mm. long, lateral sepals somewhat spreading so that flower appears open, upper margins over 5.5 mm. long; apex of lip middle lobe incurved, quite free from the lower surface; wings of column somewhat curved backwards; pseudobulbs 10-12 mm. long; leaves broadly or elliptical-oblong, 1-2 cm. long, 5-7 mm. broad; scape very slender, 8 cm. long, 5-flowered in the upper 1 cm.2. *apertiflora*

Dorsal sepal 2.5-3 mm. long; lateral sepals more or less parallel in position, upper margins 3.5-4.5 mm. long; apex of lip middle lobe not incurved, whole of lobe adnate to the lower surface; wings of column straight; pseudobulbs 6-15 mm. long; leaves ligulate or oblong, 7-20 mm. long, 2-5 mm. broad; scape up to 17 cm. long, up to 12-flowered in the upper third or quarter3. *pumila*

1. *Genyorchis micropetala* (Lindl.) Schltr. in Engl., Bot. Jahrb. 38: 11 (1905). *APD acc*

Bulbophyllum micropetalum Lindl. in J. Linn. Soc. 6: 127 (1861).

Polystachya micropetala (Lindl.) Rolfe in F.T.A. 7: 131 (1897).

F. Po: 4,000 ft. (Dec.) Mann 644! Pico Boca, 5,400 ft. Sanford 4267!

Also in (?) Congo.

2. *Genyorchis apertiflora* Summerh. in Kew Bull. 11: 123 (1967). *APD acc*

Sepals white. lip pale yellow.

S. Nig.: Mt. Orosun, Idanre Hills, Ondo (Nov.) Keay FHI 25545!

3. *Genyorchis pumila* (Sw.) Schltr. in Engl., Bot. Jahrb. 38: 12 (1905).

APD: *Synonym of Genyorchis apetala* (Lindl.) J. J. Verm.

APD: *Synonym of Bulbophyllum pumilum* (Sw.) Lindl.

Dendrobium pumilum Sw. (1805).

Polystachya bulbophylloides Rolfe (1891)-F.T.A. 7: 131.

Flowers white or greenish white.

S. L.: Afzelius! Bagroo R. Mann! Benkia, Port Loko Creek (Mar.) Glanville in Hb. Deighton 1816! Maswari, Peninsula (Mar.) Adames 203! Yagoi, Jong R. (Nov.) Adames 101! **iv. C.:** Abouabou (Dec.) Aké Assi! Yapo Forest (Dec.) de Wilde 978! **Ghana:** Agma, W. Prov. (Dec.) Cox 107! **S. Nig.:** Brass R. Barter 72! Okomu F.R., Benin (Jan.) Brenan 8754! 8914! Sapoba F.R., Benin (Jan.) Keay FHI 37736! Akilla, Ijebu Ode (Jan.) Onochie & Ladipo FHI 20669! Mt. Orosun (Dec.) Gregory! **F. Po:** Basilé to Estrada (fr. Dec.) Sanford 4009!

Also in **E. Cameroun**, **Principe**, **the Congos** and **Uganda**.

4. *Genyorchis macrantha* Summerh. in Kew Bull 11: 124 (1957). *APD acc*

Sepals white or very pale pink; lip pink with yellow apex.

W. Cam.: Mann's Spring, Cam. Mt., 7,500 ft. (Apr.) Brenan & Richards 9570!

5. *Genyorchis platybulbon* Schltr. in Engl., Bot. Jahrb. 38: 155 (1906). *APD acc*

W. Cam.: Moliwe Stammler! Victoria Unknown Coll. (491) FHI 11155!

30. EULOPHIDIUM

APD: *Synonym of Oeceoclades* Lindl.

Pfitz., Entw. Nat. Anord. Orch. 87 (1887).

- 1 Labellum without any calli at the base, 7 mm. long, 4-6 mm. broad, broadly 3-lobed, the middle lobe clearly emarginate; leaves 2-3 to the pseudobulb, lamina 5-13 cm. long, 1.5-4.5 cm. broad, rounded at base; pseudobulbs long and slender, up to 13 cm. long, usually less than 5 mm. diam.; inflorescence slender, shorter than the leaves, nearly always branched; sepals and petals ligulate, a little broader above, 7-9 mm. long, the petals a little shorter than the sepals; spur slightly swollen, 3-4 mm. long [1. latifolium](#)
- Labellum with 2 calli close together at the base, as broad as long or a little broader than long, almost equally 4-lobed, the two parts of the middle lobe separated by a deep cleft; leaves 1-2 (rarely 3) to the pseudobulb, lamina almost always over 9 cm. long and often much longer; inflorescence usually longer than the leaves: ... **2**
- 2 Leaves always 1 to a pseudobulb, lamina narrowly lanceolate, thick and leathery, tapering gradually into a broad folded petiole, pale green with irregular transverse bands of darker spots, 8-32 cm. long, 2-5.5 cm. broad, petiole much shorter than the lamina; pseudobulbs narrowly conical or cylindrical, up to 4 cm. long and 1.5 cm. diam.; tepals about 1 cm. long, the petals a little broader than the sepals; spur 4-4.5 mm. long [2. maculatum](#)
- Leaves 1-3 to a pseudobulb, lamina broadly lanceolate, leathery but not very thick, dark green in colour, 10-22 cm. long, 4-8 cm. broad, narrowing rather abruptly into an almost terete channelled petiole which is nearly as long as the lamina; pseudobulbs narrowly conical to narrowly cylindrical, up to 20 cm. long and 1.5 cm. diam.; tepals about 1 cm. long, the petals distinctly shorter and broader than the sepals; spur 5 mm. long [3. saundersianum](#)

1. *Eulophidium latifolium* (Rolfe) Summerh. in Bull. Jard. Bot. Brux. 27: 396 (1957).

*APD: Synonym of *Oeceoclades ugandae* (Rolfe) Garay & P. Taylor*

Eulophia latifolia Rolfe (1891, pub. 1892)-F.T.A. 7: 50.

Eulophidium ugandae Rolfe in Kew Bull. 1913: 339.

Flowers white, with faint reddish or purplish markings.

Ghana: Breniesi, E. Krachi, Ashanti (fr. Dec.) Westwood 147!

Also in **S. Tomé**, **Congo** and **Uganda**.

2. *Eulophidium maculatum* (Lindl.) Pfitz. Entw. Natur. Anordn. Orch. 88 (1887).

*APD: Synonym of *Oeceoclades maculata* (Lindl.) Lindl. var. *maculata**

*APD: Synonym of *Oeceoclades maculata* (Lindl.) Lindl.*

Angraecum maculatum Lindl., Collect. Bot. t. 15 (1821).

Eulophia ledienii Stein ex N. E. Br. (1889-90)-F.T.A. 7: 50.

Eulophidium ledienii (Stein ex N.E. Br.) De Wild. in Ann. Mus. Congo, sér. 5, 1: 115 (1904); F.W.T.A., ed. 1, 2: 440.

Eulophidium warnekeanum Kraenzl. in Engl., Bot. Jahrb. 33: 70 (1902).

Flowers greenish white with pink blotches on the lip.

Sen.: Boukitingo Forest, Oussouye (Nov.) Berhaut 6527! **Port. G.:** Bissau, Cumura (fr. Nov.) Esp. Santo 2226! **S. L.:** Njala (Aug.) Deighton 2208! R. Seli, Kombile (Oct.) Small 818! Banana Is. (Aug.) Melville & Hooker 375! York (Sept.) Melville & Hooker 384! Bunce Is. (Sept.) Milne-Redhead 5143! **Lib.:** Ganta (Aug.) Harley 1825! Gbanga, Central Prov. (July) Daniel & Barker 215! **iv. C.:** Issia rock (Aug.) de Wilde 417! **Ghana:** Aburi (Apr.) Cox 96! Ashanti cult. plant! Bana Hill, Krobo Irvine 2883! Kpeve (Aug.-Oct.) Westwood 15! 15a! **Togo Rep.:** Lomé (July) Warnecke 196! **N. Nig.:** Bonu, Niger Prov. (Aug.) Onochie FHI 18259! **S. Nig.:** Ukungu (fr. Jan.) Thomas 2196! Ibadan (Oct.) Jones FHI 13733a! Milliken Hill, Enugu, Cole 51! Ofumbougha, Obubra, Abakaliki Prov. Sanford 667/66!

Also in **S. Tomé**, **the Congos**, **Sudan**, **Uganda**, **Tanzania** and **Brazil**.

3. *Eulophidium saundersianum* (Rchb. f.) Summerh. in Bull. Jard. Bot. Brux. 27: 401 (1957).

*APD: Synonym of *Oeceoclades saundersiana* (Rchb. f.) Garay & P. Taylor*

Eulophia saundersiana Rchb. f. (1866)-F.T.A. 7: 50; F.W.T.A., ed. 1, 2: 444.

Flowers green, yellow-green or yellow, with purplish veins and markings; **in forest**.

S. L.: Kambui F.R., Kenema (Apr.) Jordan 2035! Loma Mts. (Feb.) Jaeger 4311! **Lib.:** Sanokwele (Sept.) Baldwin 7513! Zuole, Central Prov. (Apr.) de Wilde 3755! Ganta (Apr.) Harley 2026! **Iv. C.:** Bouroukrou (Dec.-Jan.) Chev. 16905! Banco F.R. de Wit 8168! Yaokro, Bouaflé to Sinfra (Dec.) Aké Assi 7223! **Ghana:** Assin-Yan-Kumasi Cummins 222! Aburi Johnson 219! Mirouam, Ashanti (Jan.) Chipp 668! Efiduase (Dec.) Cox 51 (FH 4133)! **S. Nig.:** Ijebu-Ode (Jan.) Tamajong FHI 21052! Ikene, Ijebu-Ode (Jan.) Burt B28! Ijaiye F.R., Oyo (Feb.) Keay FHI 21158! Ibadan North F.R. (Dec.) Jones FHI 7177! Oban Talbot 924! **W. Cam.:** Barombi (Sept.) Preuss 96! 546. **F. Po:** Musola (Jan.) Guinea 1140! 1231!

Also in **E. Cameroun, Gabon, Congo, Uganda, Tanzania** and **Angola**.

31. EULOPHIA

R.Br. ex Lindl., Bot. Reg. t. 686 (1823); F.T.A. 7: 47, 70. Nom. cons.

Lissochilus *R. Br.* (1821)-F.T.A. 7: 70.

- 1 Spur 1.5-3 cm. long, very slender; sepals and petals similar, green or brownish, lanceolate acute, spreading and somewhat reflexed, 2-3 cm. long; lip 3-lobed, 2-4 cm. long, without calli, pink, side lobes small, middle lobe much larger, ovate to suborbicular, acute to retuse; scape 40-90 cm. high; leaves up to 45 cm. long, 4-13 cm. broad:2
- Spur up to 1.5 cm. long, usually less than 1 cm., if over 1 cm. then very wide in lower part:3
- 2 Leaves fully developed at time of flowering; lip ovate, elliptical or obovate, more or less acute at apex; usually in forest or woodlands [1. guineensis](#)
- Leaves developing after the inflorescence; lip broadly obovate or almost orbicular, broadly rounded or slightly emarginate at apex; usually in savanna [2. quartiniana](#)
- 3 Lip truncate, shorter than the spur, the front margin longly ciliate, callus tooth-like near margin in centre; leaves opening with flowers, lanceolate, 1-5 cm. broad; scape 40-95 cm. high, laxly many-flowered; sepals lanceolate, acute, 10-12 mm. long; petals similar but smaller; spur clavate at the apex, widened at the base, 8 mm. long; rarely epiphytic [3. gracilis](#)
- Lip not truncate, usually considerably longer than the spur, margin sometimes slightly toothed but never ciliate: 4
- 4 Bracts tapering from the base or just above, usually linear-lanceolate and long-acuminate, or if broader less than 1 cm. long:5
- Bracts broad from a much narrower base, apiculate to acuminate in the upper part, over 1 cm. long and 7-30 mm. broad; scapes 1-2 m. high; leaves at least 3 cm. broad: 32
- 5 Sepals more or less connivent or somewhat spreading, not reflexed, in most species very similar to the petals in shape and colour (see species 12, 15, 16, 17 & 18 where petals are broader):6
- Sepals sharply reflexed, in most species markedly different from the petals in shape and colour: 24
- 6 A leafless pale yellow saprophyte; underground stem rather thin, fleshy, with numerous obtuse scale-leaves and semiglobose whitish tubercles (? arrested roots); scape 10-25 cm. high, up to 5-flowered; sepals and petals oblanceolate, 1.5-2.5 cm. long; lip 3-lobed, 1.5-2 cm. long, side lobes very small, rounded, middle lobe much larger, emarginate, lip covered in the front part with small purplish papillae [19. galeoloides](#)
- Plants with leaves, which may expand after the flowers; stems fleshy tubers or pseudobulbs:7
- 7 Sepals 4-12 mm. long; leaves in most species not expanding until after flowering:8
- Sepals 13-35 mm. long; bracts narrowly lanceolate or linear, acuminate: 18
- 8 Inflorescence branched; scape 40-70 cm. high; no leaves at time of flowering; mature leaves 5-6, linear, spreading; bracts very short; sepals narrow, acute, about 7 mm. long; petals similar, a little shorter; lip 3-lobed, 6-7 mm. long, side lobes obtuse, middle lobe orbicular, disk with 5 slightly rough keels; spur 2-3 mm. long [14. ramifera](#)
- Inflorescence not branched, but sometimes 2 inflorescences arise from the same stem (rarely a single branch in No. 13):9
- 9 Leaves 4-6 on the stem, narrowly linear, up to 20 cm. long but less than 4 mm. broad, usually well-developed at time of flowering; stems swollen at base to form narrowly conical aerial pseudobulbs; inflorescences often paired, up to 25 cm. long, rather lax; flowers spreading, becoming pendulous in fruit; sepals ligulate, 8-11 mm. long, petals a little shorter and broader; lip 3-lobed in upper part, middle lobe elliptical, veins with several rows of quadrate calli or bearing interrupted keels [9. lindiana](#)
- Leaves 1 on the flowering shoot, or 2-4 on a separate sterile shoot, or absent at time of flowering; stems in form of underground tubers: 10
- 10 Calli of lip consisting of verrucose keels which may be more or less confluent, not of hairs: 11
- Calli of lip consisting mainly of hair-like outgrowths: 14

- 11 Petals distinctly shorter than the sepals but much broader, 4.5-6 mm. long; leaves partly developed at time of flowering, 2-4 on distinct sterile shoots, broadly lanceolate or elliptical, when mature up to 30 cm. long and 7 cm. broad; scape 30-50 cm. tall, many-flowered in upper part; sepals 6-8 mm. long; lip 3-lobed, side lobes short, adnate to column, middle lobe much longer, keels of callus confluent into a single mass, spur 4-5 mm. long [17. leonensis](#)
- Petals equalling or longer than the sepals; no leaves at time of flowering; scape 30-40 cm. long, many-flowered: 12
- 12 Spur narrow and elongated from a broad base, total length, from apex of ovary, 6-8.5 mm.; sepals 6.5-8 mm. long, ligulate; lip distinctly 3-lobed, side lobes erect, semi-elliptical, middle lobe elliptical, 4-6.5 mm. long with 5-7 verrucose keels; petals much broader than sepals and usually a little longer, broadly elliptical or almost orbicular [18. stenoplectra](#)
- Spur very short, less than 2 mm. long; sepals less than 6.5 mm. long: 13
- 13 Lip side lobes very small, triangular, not much diverging from the much larger orbicular front lobe; keels of lip rather indistinct, the thickenings transversely arranged; sepals 4.5-6.5 mm. long, oblong-lanceolate, apiculate; petals broader than sepals and about the same length, elliptical; leaves on separate shoots, linear acute [15. sordida](#)
- Lip side lobes basal, spreading, broadly triangular; keels of lip prominent with a group of irregular taller calli just in front of the spur opening; sepals 3.5-6.5 mm. long, oblong, acute; petals broader than sepals, the same length or longer, elliptical to nearly orbicular; leaves on separate shoots, linear-lanceolate, fleshy .. [16. parvula](#)
- 14 Petals about half to two-thirds as long as the sepals, narrowly elliptical; sepals narrowly oblanceolate, subacute, 7.5-14 mm. long; lip 3-lobed, side lobes very small, more or less incurved, middle lobe elliptical or almost orbicular, much larger; spur swollen at the end, about 3-4 mm. long, incurved; scape 30-60 cm. tall; raceme lax, 6-15-flowered, bracts very small [13. brevipedata](#)
- Petals about the same length as the sepals: 15
- 15 Raceme short (3-7 cm. long), dense; peduncle completely encased in overlapping chaffy brown sheaths; bracts similar, longer than the pedicels; scape 40-80 cm. tall; sepals and petals very similar, ovate or lanceolate, 9-12 mm. long; lip 3-lobed, side lobes triangular, middle lobe oblong, disk with 2 thickened keels below the hairy veins; leaves 1 or 2 on a separate sterile shoot, narrowly oblanceolate, 30-90 cm. long, 7-19 mm. broad [8. shupangae](#)
- Raceme relatively long, lax; sheaths of peduncle not overlapping; sepals narrow or oblong-lanceolate: 16
- 16 Sepals linear-ligulate, acute, 10-12 mm. long; petals ligulate, a little shorter and broader; lip side lobes obtusely triangular, middle lobe obovate, lip about 9 mm. long; raceme 15 cm. long [12. monile](#)
- Sepals oblong or oblong-lanceolate, 4-7 mm. long; petals similar but a little shorter; lip 3-lobed, middle lobe rectangular or slightly wider in front, emarginate, margins irregular, veins bearing numerous hair-like outgrowths; scape 15-40 cm. tall, raceme to 10 cm.; leaf single or rarely 2, almost thread-like or very narrowly linear, up to 33 cm. long: 17
- 17 Side lobes of lip not diverging from middle lobe; disk with thickened callus or calli; spur 2-4.5 mm. long, rather slender [11. warneckeana](#)
- Side lobes of lip divergent; disk without thickened calli but 3 central veins only slightly thickened; spur about 1.5-2 mm. long, slightly widened at the apex [10. milnei](#)
- 18 Spur represented by a broad rounded sac; lip bearing 2 quadrate calli in the centre and hairs on the veins of the broadly ovate or semiorbicular middle lobe; petals a little shorter and broader than the sepals; leaves lanceolate, 3-10 cm. broad, appearing with the flowers; scape 40-120 cm. high, many-flowered, bracts very narrow [20. alta](#)
- Spur acute or, if obtuse, much narrowed: 19
- 19 Leaves more or less well-developed at time of flowering, 1.5-6 cm. broad; lip 12-25 mm. long; sepals rather longer: 20
- Leaves scarcely developed at time of flowering, apparently much less than 1 cm. broad; plants with irregular tubers: 22
- 20 Leafy stems thickened at base to form tall cylindrical somewhat tapering green pseudobulbs; lip elliptical in general outline, side lobes small, triangular, middle lobe ovate, crenulate, central nerves thickened to form 2-3 low keels; spur 6-8 mm. long, wider at apex; scapes 40-200 cm. high; raceme 20-40 cm. long; sepals and petals similar in shape and colour [4. euglossa](#)
- Leafy stems thickened only at the very base, not forming pseudobulbs; scapes 30-70 cm. high: 21
- 21 Sepals and petals differently coloured, 1.5-2 cm. long, the petals broader than the sepals; lip nearly as broad as long, disk and front lobe with 3-5 verrucose keels sometimes bearing hair-like outgrowths; raceme rather lax, 10-20 cm. long; spur 3-4 mm. long, tapering towards apex [5. stachyodes](#)
- Sepals and petals the same colour, 2-3.5 cm. long, the petals narrower than the sepals; lip longer than broad, disk with 2 low keels, front lobe bearing numerous slender hairs; raceme very dense, usually less than 10 cm. long; spur 2-4 mm. long, more or less incurved, slender not tapering [6. zeyheri](#)

- 22 Petals about half to two-thirds as long as the sepals; sepals narrowly oblanceolate, subacute, 7.5-14 mm. long; spur swollen at end, 3-4 mm. long; lip 3-lobed, side lobes much smaller than the elliptical or almost orbicular middle lobe; scape 30-60 cm. tall; raceme lax, 6-15-flowered [13. brevipedata](#)
- Petals nearly as long as the sepals; sepals lanceolate, acute; spur tapering towards the apex:..... **23**
- 23 Flowers green with brownish, purple or crimson markings on lip; petals oblong, narrower or not broader than the sepals, 13-20 mm. long; lip 10-20 mm. long, disk with 2 low keels, veins of front lobe bearing short hairs or much-interrupted keels; scape 28-80 cm. [7. adenoglossa](#)
- Flowers pale yellow or cream-coloured with sometimes the veins of the lip purplish; petals oblong-elliptical, broader than the sepals; sepals 17-29 mm. long; lip 20-27 mm. long, the orbicular crenulate middle lobe with 5-9 low verrucose keels; scape 30-100 cm. [22. flavopurpurea](#)
- 24 Sepals more or less spathulate, widest near the rounded apex, 1.3-2.5 cm. long; petals elliptical or oblong-elliptical, about as long as the sepals and at least 2-3 times as wide; scapes 0.5-1.5 m. high; lip indistinctly 3-lobed, side lobes broad, rounded: **25**
- Sepals not wider at the apex than below, obtuse or acuminate: **26**
- 25 Petals white to red; leaves very narrow, 5-15 mm. broad; central veins of lip bearing numerous short hair-like outgrowths and 3 low keels towards the base [24. caricifolia](#)
- Petals yellow; leaves broader, 12-45 mm. broad; lip with 3 semicircular or lamellae-like keels in the centre and 3 lower ones at the base [25. angolensis](#)
- 26 Flowers yellow, petals with reddish veins or entirely red beneath; sepals 6-11 mm. long, rarely to 14 mm., obovate-elliptical, shortly acuminate; petals ovate-orbicular, 11-20 mm. long and almost as broad; lip 3-lobed, middle lobe ovate more or less convex, side-lobes erect, adnate to the foot and also the base of the column: **27**
- Flowers various shades of pink or mauve; sepals 12-33 mm. long; **28**
- 27 Leaves more or less developed at time of flowering, long and round, almost terete in section, rush-like, less than 5 mm. diam.; spur upcurved, total length to apex of ovary 3-7.5 mm.; sides and apex of lip middle-lobe more or less incurved and somewhat undulate, keels 5, rather low; sepals 6.5-9 mm. long; petals 11-14.5 mm. long [33. juncifolia](#)
- Leaves developed after flowering, strap-shaped or lanceolate, 1-3 cm. broad; spur almost straight, often with long cylindrical apex, total length to apex of ovary 11-19 mm.; lip with 3 tall keels and 1 or 2 additional lower ones on each side; sepals 7.5-14 mm. long; petals 12.5-20 mm. long [34. orthoplectra](#)
- 28 Sepals and petals similar, more or less oblong, the latter a little broader; lip relatively narrow, 1.3-2.2 cm. long, trilobed, the middle lobe elliptical or elliptical-ovate, disk with 2 semicircular entire keels towards the base and 5-7 much-broken-up keels in front; spur narrowed into an acute somewhat up-turned apex; raceme 20-45 cm. long, 13-40-flowered; leaves narrowly lanceolate, 2-6 cm. broad, appearing after the flowers [23. cristata](#)
- Sepals and petals very dissimilar, the latter much wider, broadly elliptical or almost orbicular; lip broad, trilobed, the middle lobe more or less bilobed or retuse: **29**
- 29 Spur relatively narrow, conical; lip less than 2 cm. long, middle lobe with several low rugulose keels but no erect calli [21. calantha](#)
- Spur very broad and rounded, scarcely distinct from rest of lip; lip 2-3.5 cm. long, ecallose or with 2 erect calli at the base of the middle lobe and a few lower ones in front: **30**
- 30 Lip with no calli, front lobe with a distinct narrow claw; sepals more or less oblong, obtuse; petals retuse at apex; leaves appearing after the flowers [28. buettneri](#)
- Lip with 2 erect narrow quadrate calli in the centre and the veins just in front variously keeled and/or with small horn-like outgrowths, front lobe not much narrowed at base; petals rounded or minutely apiculate at apex: . **31**
- 31 Leaves appearing after the flowers, linear, up to 1.5 cm. broad [26. cucullata](#)
- Leaves appearing with the flowers, lanceolate, 2.5-6 cm. broad [27. dilecta](#)
- 32 Petals much longer and broader than the narrow sepals, 2.5-3 cm. long, suborbicular; sepals narrowly spathulate-oblong, 1.5-2 cm. long, 5-7 mm. broad; bracts obovate, apiculate; spur more or less inflated underneath in the lower part, suddenly narrowed near the apex; lip about 3 cm. long, 3-lobed, side lobes rounded, middle lobe ovate, obtuse, disk with 3 rather short keels in the centre [31. oedoplectron](#)
- Petals not much longer than or equalling the sepals in length, but broader; bracts broadly lanceolate or ovate, acuminate or apiculate:..... **33**
- 33 Lip indistinctly 3-lobed, 2.5-4 cm. long and broad, front lobe much broader than long, disk with 3-5 keels; sepals obovate, obtuse, 2.5-3 cm. long, 1-2 cm. broad; spur conical with a narrow upcurved apex; bracts 2-5 cm. long, 1.5-2.5 cm. broad; petals not much spreading, orbicular or broader than long [32. latilabris](#)
- Lip distinctly 3-lobed, front lobe longer than broad or length and breadth about equal, disk with 3 keels, semicircular at the base and running out into crenulate lamellae in front; petals broadly elliptical or almost orbicular, usually longer than broad: **34**
- 34 Sepals oblanceolate or obovate, apiculate or shortly acuminate, much narrowed in the lower part, 1.7-2.7 cm. long; lip 2-4 cm. long, 1.6-4 cm. broad across the side lobes [29. horsfallii](#)

Sepals oblong-ob lanceolate, obtuse, not much narrowed in the lower part, 1.3-1.7 cm. long; lip 1.6-2.5 cm. long, 1.5-2.5 cm. broad across the side lobes [30. barteri](#)

1. ***Eulophia guineensis* Lindl.** in Bot. Reg. 8: t. 686 (1823); F.T.A. 7: 69, partly; F.W.T.A., ed. 1, 2: 444, partly (excl. syn. *E. quartiniana* A. Rich.). *APD acc*

A terrestrial herb 1-3 ft. high with several leaves arising from the base and spike of pink and greenish flowers; **in forest**.

Gam.: Kudang (June) Brooks 58! Genieri, Dyjia Kunda (July) Fox 145! **Mali:** Massif de Kita (fr. Sept.) Jaeger 2638! **Guin.:** Timbi Toumi, Fouta Djallon (Sept.) Adames 370! **S. L.:** Yonibana (Nov.) Thomas 4676! Njala (Nov.) Deighton 2405! foot of Mt. Péran-Konko, Loma Mts. (Sept.) Jaeger 1749! Bafodia to Kamba (Sept.) Deighton 5186! Musala, Koinadugu (Aug.) Haswell 128! **Iv. C.:** Oroumba Boca, BaouM (Aug.) de Wit 1017! **Ghana:** Tanosu, W. Ashanti (Jan.) Chipp 70! Aburi (Nov.) Irvine 800! NE. of Obenyeml (Nov.) Morton GC 6068! Kumasi (Sept.) Andoh 4464! Mampong Scarp (Dec.) Adams 4530! **N. Nig.:** Kabba (Oct.) Parsons L106! **S. Nig.:** Akilla F.R., Ijebu Dist. (Oct.) Emwiogbon FHI 37953! Abo to Iddah (Sept.) T. Vogel 1! Sapoba Kennedy 2651! Akpaka F.R., Onitsha (Sept.) Onochie FHI 33449! Eket Talbot 3650!

Also in **Congo**, **Uganda**, **Tanzania** and **Angola**.

2. ***Eulophia quartiniana* A. Rich** Tent. Fl. Abyss. 2: 284, t. 81 (1851).

APD: Synonym of Eulophia guineensis Lindl.

Eulophia guineensis of F.W.T.A., ed. 1, 2: 444, partly, not of Lindl. (1823).

A terrestrial herb 1-3 ft. high with a bunch of leaves at the base and a spike of pink flowers; **in savanna and among rocks**.

Sen.: Hann F.R., Cape Verde Peninsula (July) Naegelé 4490! **Mali:** Dogoma, Ségou N. (July) Roberty 2510! **Ghana:** Gambaga (June) Harris! **N. Nig.:** Nupe Barter 1485! Fatika, Zaria Prov. (May) Daggash FHI 31439! Zungeru (June) Dalz. 234! Tilde Filani, 3,300 ft. (May) Lely 232! Anara F.R., Zaria Prov. (May) Keay FHI 22904! **S. Nig.:** Old Oyo F.R. (May) Keay FHI 16210!

Also in **E. Cameroun**, **C. African Republic**, **Congo**, **Sudan**, **Ethiopia**, **Uganda**, **Kenya** and **Tanzania**.

3. ***Eulophia gracilis* Lindl.** in Bot. Reg. 9: t. 742 (1823); F.T.A. 7: 51. *APD acc*

***Eulophia preussii* Kraenzl.** (1893).

***Eulophia virens* A. Chev.**, Bot. 614 (1920), name only.

Leaves basal, long and narrow, flowers green in a long rather lax inflorescence.

Sen.: Frey M1682! Lonia Forest, Oussouye (July) Berhaut 6210! **Port. G.:** Quitafine, Cacine (Jan.) Raimundo & Guerra 739! **S. L.:** Sugar Loaf Mt. (Sept.) Preuss! Near Jama (Apr.) Deighton 3724! Njala (May) Deighton 680! Bagroo R. (Apr.) Mann 903! Bumban to Loko (Apr.) Sc. Elliot 5738! Gola Forest (Apr.) Small 610! **Lib.:** Gola National Forest (Apr.) de Wilde 3802! Ganta (Apr.) Harley 1812! Paynesville, Monrovia (Apr.) Bequaert 185! Nyaake, Webo Dist. (June) Baldwin 6170! Duo, Sinoe Co. (Mar.) Baldwin 11345! **Iv. C.:** Bingerville to Potou Lagoon (Feb.) Chev. 20077! Banco F.R., Abidjan (May) Oldeman 59! de Wit 8169! **Ghana:** Thonning 261! Dixcove (Mar.) Morton A255! Hohoe (Apr.) Morton GC 9176! **N. Nig.:** Kabba to Ilorin (Mar.) Westwood 276! **S. Nig.:** Apapa, Lagos (Jan.) Dalz. 1284! Ijaiye F.R., Oyo Prov. (Apr.) Onochie FHI 21982! R. Ogun, Oyo Prov. (Mar.) Keay FHI 22535! Sapoba F.R. (Mar.) Emwiogbon FHI 45340! Oban Talbot 313!

Also in **E. Cameroun**, **Congo** and **Angola**.

4. ***Eulophia euglossa* (Rchb. f.) Rchb.f.** in Bot. Mag. 92: t. 5561 (1866); F.T.A. 7: 57; Cat. Talb. 146; Chev. Bot. 613. *APD acc*

***Eulophia dusenii* Kraenzl.** (1894)-F.T.A. 7: 52.

Terrestrial with tall cylindrical leafy pseudobulbs and tall Inflorescence; flowers greenish, lip white with pink or purple veins.

S. L.: Sugar Loaf Mt. (May) Barter! **Iv. C.:** Mt. Goula, Danané (Apr.) Chev. 21228! Dahoukro (July) Hallé! Brafouédi (Apr.) Leeuwenberg 3343! **Ghana:** Aburi (July) Johnson 1065! Bensu, W. Prov (Aug.-Dec.) Miles 3! Efiduase (June) Cox 24! Agu to Anum (Aug.) Westwood 81! **N. Nig.:** Ake to Opim, Osi Dist. (Dec.) Ajayi FHI 19300! **S. Nig.:** Idanre Hills,

Ondo Prov. (May) Keay & Brenan FHI 19200! Oban Talbot 162! **W. Cam.:** Bande, Bamenda (Aug.) Ujor FHI 29951! Bamenda (June) Daramola FHI 41556!

Also in **Gabon**, **Congo** and **Uganda**.

5. *Eulophia stachyodes* *Rchb. f.* Otia Bot. Hamburg. 66 (1878); F.T.A. 7: 58. *APD acc*

Eulophia lambii *Rolfe* in Kew Bull. 1914: 212.

Herb to 21/2 ft. high with broad leaves and a rather close spike of brown and white flowers.

N. Nig.: Vom (June) Dent Young! Lamb! Kassa, Plateau Prov. (June) King 119! **W. Cam.:** Nchan, Bamenda, 5,000 ft. (June) Maitland 1783! Basenako, Bamenda, 5,000 ft. (June) Maitland 1507!

Also in **E. Cameroun**, **Congo**, **Sudan**, **Ethiopia**, **Uganda** and **Kenya**.

6. *Eulophia zeyheri* *Hook f.* in Bot. Mag. 119: t. 7330 (1893).

APD: Synonym of Eulophia welwitschii (Rchb. f.) Rolfe

Eulophia milanjiana *Rendle* (1895)-F.T.A. 7: 63.

A herb up to 21/2 ft. high with broad leaves and a short dense spike of yellow flowers which often have a deep orange, brown or plum-coloured centre.

N. Nig.: Vom, Plateau Prov., 4,200 ft. (May) King 155!

Also in **Congo** and eastern Africa from **Sudan** southwards to the Eastern Cape Province.

7. *Eulophia adenoglossa* (*Lindl.*) *Rchb. f.* Otia Bot. Hamburg. 66 (1878); F.T.A. 7: 59. *APD acc*

A herb up to 21/2 ft. high with very narrow leaves developing after the flowers, the flowers green and brown.

N. Nig.: Nupe Barter! Kontagora (June) Dalz. 562! Keana, Nassarawa Prov. (May) Hepburn 23! Randa (June) Hepburn 61! Source of Jarawa R., Bauchi Prov. King 109a! Mando F.R., Zaria Prov. (June) Keay FHI 25815!

Also in **Kenya**.

8. *Eulophia shupangae* (*Rchb. f.*) *Kraenzl.* in Engl., Pflanzenw. Ost-Afr. C: 157 (1895); F.T.A. 7: 66.

APD: Synonym of Eulophia odontoglossa Rchb. f.

Eulophia propinqua *Hutch.* in Kew Bull. 1921: 410; F.W.T.A., ed. 1, 2: 446.

Eulophia baoulensis *A. Chev.*, Bot. 613, name only.

Flowers in a dense head, white, yellow with brown or purple markings, or entirely brownish or purplish.

Guin.: Massif de Fon (Aug.) Schnell 3320! 3321! Nimba Mts. (Aug.) Schnell 3382! **S. L.:** Kortright (Sept.) Gledhill 50! Sugar Loaf Mt. (Aug.) Melville & Hooker 57! Kasokora (Aug.) Deighton 1234! Bintumane Peak, Loma Mts. (Aug.) Jaeger 971! Koya Mt., Bafodia (Aug.) Haswell 68! **iv. C.:** Baoulé (July) Chev. 22175! Nimba Mts. (Aug.) Boughey GC 18155! **Ghana:** Gemmi, Amedzofe (Aug.) Westwood 28! 28a! **N. Nig.:** Hephham to Ropp (July) Lely 353! Vom Dent Young 233! Jos (Aug.) Keay FHI 20087! Nguroje to Lekitaba, Mambila Plateau (June) Chapman 14! **S. Nig.:** Ogoja Rosevear 67/29! **W. Cam.:** Bum to Nchan, Bamenda (June) Maitland 1638! Bafut-Ngemba F.R. (May) Keay FHI 37927! Manenguba Mts. (June) Gregory 304! Ndop to Sabgo (June) Brunt 769!

Generally distributed in tropical Africa.

9. *Eulophia lindiana* *Kraenzl.* in Engl., Bot. Jahrb. 51: 388 (1914).

APD: Synonym of Eulophia penduliflora Kraenzl.

A herb up to 1 ft. high with narrow grass-like leaves; flowers greenish, lip white or cream with purple veins.

Ghana: Dutukpene (Mar.) Hepper & Morton A3061! **N. Nig.:** Anara F.R., Zaria Prov. (May) Keay FHI 22863! Mando F.R., Zaria Prov. (June) Keay FHI 25827! Kulfana, Bauchi Prov. (May) G. V. Summerhayes 51!

Also in **Tanzania**, **Malawi** and **Rhodesia**.

10. *Eulophia milnei* Rchb. f. Otia Bot. Hamburg. 116 (1881); F.T.A. 7: 52. *APD acc*

A slender herb up to 15 in. high with very narrow leaves and small yellow flowers in a rather short spike.

S. Nig.: Calabar Robb! **F. Po:** Milne!

Also in **E. Cameroun**, **Rio Muni**, **Gabon**, **C. African Republic**, **Congo**, **Zambia** and **Rhodesia**.

11. *Eulophia warneckeana* Kraenzl. in Engl., Bot. Jahrb. 33: 67 (1902).

APD: *Synonym of Eulophia milnei Rchb. f.*

***Eulophia lutea* Lindl.** (1862)-F.T.A. 7: 52; F.W.T.A., ed. 1. 2: 446; Chev. Bot. 614; not of Blume.

***Eulophia pusilla* Rolfe** in Kew Bull. 1914: 212.

***Eulophia microdactyla* Kraenzl.** in Engl., Bot. Jahrb. 51: 389 (1914).

A slender herb up to 18 in. high with very small leaves and narrow, pale yellow flowers.

Sen.: Santiaba, Oussouye (July) Berhaut 6176! **Port. G.:** Gabu, Canguelifa (July) Esp. Santo 2938! **Guin.:** Nzo, Nimba Mts. (Mar.) Schnell 872! Beyla (Mar.) Chev. 20876! Siredougou, NW. of Beyla (Apr.) Collenette 1! Héremakon (= Herimankuna) (Mar) Sc. Elliot 5248! **Lib.:** Paynesville (Feb.-Apr.) Bequaert 164! Harley 1857! Monrovia (Feb.-June) Baldwin 5916! 11083! **Ghana:** Sesiameang (Feb.) A. S. Thomas D137! Afram Plains (Feb.-May) Burbridge 245! Johnson 853! Jati-zonzo, Ashanti (Mar.) Westwood 127! Winneba Plains (Apr.) Morton A2018! **Togo Rep.:** Lomé (May) Warnecke 328! Badja (June) Schlechter 12971! **N. Nig.:** Kontagora Dalz. 446! Nupe Barter 1480! Maska, Katsina Prov. (June) Keay FHI 25889! **S. Nig.:** Upper Ogun Estate, Oyo Prov. (May) Sanford WS/899/65! WS/765/66!

Also in **E. Cameroun**, **Congo**, **Sudan**, **Uganda**, **Kenya** and **Zambia**.

12. *Eulophia monile* Rchb. f. in Flora 50: 105 (1867); F.T.A. 7: 53. *APD acc*

Flowers greenish, in a rather lax spike.

N. Nig.: Keana Hepburn 55!

Also in **Angola** and **C. African Republic**.

13. *Eulophia brevipetala* Rolfe in F.T.A. 7: 53 (1897).

APD: *Synonym of Eulophia monile var. brevipetala (Rolfe) Perez-Vera*

Flowers greenish or brownish with reddish markings, in a long rather lax spike.

Guin.: valley of R. Kaba (May) Chev. 13179! **S. L.:** above Falaba (Mar.) Sc. Elliot 5224! **N. Nig.:** Bonu, Abuja, Niger Prov. (June) E. W. Jones 139! Anara F.R., Zaria Prov. (May) Keay FHI 25776! Mando F.R., Zaria Prov. (June) Keay FHI 25851! Mayere, Jemaa Dist. King 139!

Also in **C. African Republic**.

14. *Eulophia ramifera* Summerh. in Kew Bull. 12: 80 (1958).

APD: *Synonym of Eulophia filicaulis Lindl.*

***Eulophia elliotii* Rolfe** in F.T.A. 7: 54 (1897); F.W.T.A., ed. 1,2: 446; not of Rolfe (1891).

Sen.: Niombato (Mar.) Adam 10425! **S. L.:** Falaba (Mar.) Sc. Elliot 5116! **N. Nig.:** Andaha (Mar.) Hepburn 113! Jos (Apr.) Cole 36! King 108!

15. *Eulophia sordida* Kraenzl. in Engl., Bot. Jahrb. 23: 69 (1902).

APD: *Synonym of Eulophia pyrophila (Rchb. f.) Summerh.*

Flowers small, yellow and brownish in a long raceme.

Ghana: Achimota (Feb., Mar.) Irvine 1368! 1999! 2853! Legon Hill (Feb.) Adams FH 3751! Afram Plains (Feb.) Cansdale 7! **Togo Rep.:** Lomé (Mar.) Warnecke 95! **N. Nig.:** N'gell, Plateau Prov. (Mar.) King 61! Kumbul, Plateau Prov. (Feb.) King! **S. Nig.:** Ilorin to Jebba (Feb.) Richards 5026!

16. *Eulophia parvula* (Rendle) Summerh. in Kew Bull. 11: 125 (1967). *APD acc*

Lissochilus parvulus Rendle (1895)-F.T.A. 7: 74.

Flowers small, yellow and brown or maroon, in a long raceme.

N. Nig.: Kaciya to Zonkwa, Zaria Prov. (Mar.) G. V. Summerhayes 142! 143!

Eastwards to **Kenya** and southwards in E. Africa to Rhodesia.

17. *Eulophia leonensis* Rolfe in F.T.A. 7: 51 (1897). *APD acc*

Leaves at base of plant, developing with the flowers, broad; flowers in long raceme, greenish brown, tinged purple.

Gam.: Genieri (July) Fox 119! **Port. G.:** Madina de Mamadi Alfa (June) Esp. Santo! **Guin.:** Boulivet to Toukan (Apr.) Chev. 12942! **S. L.:** Bafodeya (Apr.) Sc. Elliot 5536! Musaia (Apr.) Deighton 4735! **N. Nig.:** Anara F.R., Zaria Prov. (May) Keay FHI 25777! Kabba (Apr.) Westwood! Vom Dent Young! Naraguta (May) G. V. Summerhayes 156! 157! Rukuba, Plateau Prov. (May) King 73!

Also in **C. African Republic** and **Uganda**.

18. *Eulophia stenoplectra* Summerh. in Kew Bull. 12: 81 (1958). *APD acc*

Flowers in long raceme, red or brownish, lip yellow.

Ghana: Afram Plains (Feb.) Cansdale 5! 12! Jaketi to Anyaboni (Feb.) Morton A3021!

Also in **Sudan** and **Uganda**.

19. *Eulophia galeoloides* Kraenzl. in Engl., Bot. Jahrb. 24: 508 (1898). *APD acc*

Saprophyte with brown scales on paler stem and whitish or cream flowers.

Ghana: Tano-Ofin F.R. (Feb.) Lyon FH 2874! **S. Nig.:** Etemi, Ijebu Ode (Dec.) Tamajong FHI 20295!

Also in **Kenya** and **Tanzania**.

20. *Eulophia alta* (Linn.) Fawcett & Rendle Fl. Jam. 1: 112 (1910). *APD acc*

Limodorum altum Linn., Syst. Nat. ed. 12, 2: 594 (1767).

Eulophia woodfordii (Sims) Rolfe in F.T.A. 7: 68 (1897).

Eulophia longifolia (H.B.K.) Schltr. (1914)-F.W.T.A., ed. 1, 2: 446.

Leaves lanceolate, up to 4 ft. long and 4 in. broad; scape up to 4 ft. high, flowers numerous, green and purple.

Sen.: M'bidjem (Sept.) Berhaut 6348! **Guin.:** Madina Tossekéré (Oct.) Adam 12539! **S. L.:** Kimadougou, Loma Mts. (Oct.) Jaeger 177! **Lib.:** Gbanga (Aug.) Traub 251! Ganta (May) Harley 2134! Nimba (Dec.) Adam 20097! **Iv. C.:** Sassandra (Aug.) de Wilde 358! **Ghana:** Burton & Cameron! Nkawkaw Morton A3406! **S. Nig.:** Lagos Millen! **W. Cam.:** Mamfe (July) Nditapah FHI 51337!

Also in **Gabon**, **Congo**, **C. African Republic**, **Sudan**, **Uganda**, **Zambia**, **Rhodesia** and **tropical America** and **the W. Indies**.

21. *Eulophia calantha* Schltr. in Warb., Kun.-Samb. Exped. 215 (1903). *APD acc*

Leaves narrow, linear; scape 1-3 1/2 ft. high; flowers up to 12, white and pink or purple.

Guin.: Mirire, Fouta Djallon (July) Adames 301!

Also **Congo**, **Uganda**, **Kenya**, **Tanzania**, **Zambia** and **Angola**.

22. *Eulophia flavopurpurea* (Rchb. f.) Rolfe in F.T.A. 7: 65 (1897). *APD acc*

Lissochilus millsoni Rolfe in F.T.A. 7: 79 (1897).

- L. lacteus* Kraenzl. in Engl., Bot. Jahrb. 43: 398 (1909).
L. andersoni Rolfe in Kew Bull. 1910: 159.
L. johnsoni Rolfe l.c. 160 (1910).
Eulophia millsoni (Rolfe) Summerh. in F.W.T.A., ed. 1, 2: 446 (1936).

No leaves at time of flowering; flowers greenish or yellowish, lip sometimes with purple veins or streaks.

IV. C.: Adioukrou, Dabou (Jan., Feb.) Chev. 17119! Portières 618! de Wilde 1062! **Ghana:** Accra Plains (Apr.) Johnson 854! Afram Plains (Apr.) Johnson 851! Achimota (May) Irvine 1614! **Togo Rep.:** Misahöhe (Mar.) Baumann 24! **N. Nig.:** Ilorin Millson 86! Rowland! Zungeru, Niger Prov. (May) Keay FHI 22847! Anara F.R., Zarin Prov. (May) Keay FHI 22937! Kontigora (Apr.) Dalz. 445! Hoss, Plateau Prov. (Apr.) Gregory 269a! Abinsi (May) Dalz. 841! **S. Nig.:** Ikiri Foster 209! Ugbogin, Benin (Apr.) Dundas FHI 21460! Enugu (Mar.) Abrahall FHI 27567! Udi to Enugu Ngwo (Feb.) Jones FHI 7368! **W. Cam.:** Boviongo, Kumba (Jan.) Keay FHI 37392! Jua, Bamenda (Apr.) Maitland 1626! Ndop village, Ndop Plain (Apr.) Brunt 363!

Eastwards to **Sudan** and **Uganda**, Malawi, Zambia, Rhodesia and Mozambique.

23. *Eulophia cristata* (Sw.) Steud. Nomen. Bot. ed. 2, 1: 605 (1840). *APD acc*

- Limodorum cristatum* Sw. in Schrad., Neues Journ. 1: 86 (1805).
Lissochilus purpuratus Lindl. (1862)-F.T.A. 7: 79.
L. heudelotii Rchb. f. (1878).
L. uliginosus Rolfe in Kew Bull. 1913: 340.

Terrestrial herb up to 4 ft. high with long raceme of pink or purplish flowers with darker lip.

Sen.: Heudelot! **Gam.:** (July) Brooks 30! Kuntaur (June) Brooks 57! N. bank Gambia R. (July) Ozanne 21! **Port. G.:** Abu, Formosa I. (Apr.) Esp. Santo 1951! Boé (June) Esp. Santo 3205! **S. L.:** Mange, Port Loko Dist. (Apr.) Hepper 2606! Bonjema (July) Deighton 5953! Njala (Mar.) Deighton 1117! Kondembaia (Apr.) Deighton 5074! Falaba to Sinkunia (Apr.) Deighton 5413! **Lib.:** Pandamai (Mar.) Bequaert 98! **IV. C.:** Yamoussokro to Bouaflé (Jan.) Aké Assi 7263! Bouna to Bondoukou (Mar.) de Wilde 3503! **Ghana:** Achimota (Apr.) Bally 11! Afram Plains (Feb.) Cansdale 1! Legon Hill (Mar.) Morton GC 6487! Chama (Apr.) Chipp 192! Gambaga (May) Vigne 4698! **Togo Rep.:** Lomé Warnecke 96! Kpeve (Feb.) Westwood 84! Yendi (Apr.) Williams 172! **Dah.:** Massé to Ketou, Zagnanado Dist. (Feb.) Chev. 23014! **N. Nig.:** Zungeru to Zaria (May) Dalz. 287! Zongon Katab, Zaria (Mar.) G. V. Summerhayes 81! Vom, Jos Plateau Dent Young! Kulfana Lame, Bauchi Dist. (May) G. V. Summerhayes 52! Biu (Apr.) Noble 45! **S. Nig.:** Lagos to Abeokuta (Feb.) Burt B33! Abeokuta Barter 3331! Olokemeji F.R., Egba Div. (Mar.) Hepper 2302! Ovo to Iseyin (Mar.) Onochie FHI 31547! Odongele to Okuri (Feb.) Rosevear 25/31! **W. Cam.:** Bu to Mudele, Bamenda (Feb.) Gregory 251!

Also in **E. Cameroun**, **C. African Republic**, **Congo**, **Sudan**, **Ethiopia** and **Uganda**.

24. *Eulophia caricifolia* (Rchb. f.) Summerh. in F.W.T.A., ed. 1, 2: 444 (1936). *APD acc*

- Lissochilus caricifolius* Rchb. f. (1877)-F.T.A. 7: 77.
L. longifolius Benth. (1849)-F.T.A. 7: 77; Stapf in Johnston, Lib. 654.

Leaves very long and narrow; sepals red or purplish, petals white to red, crests on lip yellow.

Guin.: Benty (June) Jac.-Fél. 1694! Nzérékoré (June) Jac.-Fél. 959! **S. L.:** Blama to Sendumi (Mar.) Dawe 460! Falaba, Southern Prov. (Apr.) Deighton 1626! Mano Salija (Nov.) Deighton 432! Perewahun, Nongoba Bullom (Mar.) Adames 14! Rhombe (Mar.) Adames 153! **Lib.:** Sangwin, Sinoe (Mar.) Baldwin 11325! Monrovia (June) Baldwin 5863! Paynesville (Apr.) Barker 1237! Grand Bassa (July) T. Vogel 8! **IV. C.:** Abouabou (Mar.) Raynal 13648! NE. of Grand Bassam (Sept.) de Wit 1212! Moossou, Grand Bassam (Aug.) de Wilde 212! **Ghana:** Asientum (July) Chipp 284! Atwabo Fishlock 55! **S. Nig.:** Ikoyi Plains, Lagos (May) Dalz. 964! Epe (June) Harper FHI 36089! Sapele, Sapoba Kennedy 2389! Uke to Nobi, Onitsha Dist. (May) Onochie FHI 35801! Eket Talbot 3160!

Also in **Gabon**, **Congo**, **Uganda** and **Tanzania**.

25. *Eulophia angolensis* (Rchb. f.) Summerh. in Kew Bull. 12: 76 (1958). *APD acc*

- Lissochilus angolensis* (Rchb. f.) Rchb. f. (1878)-F.T.A. 7: 76.
L. lindleyanus Rchb. f. (1878)-F.T.A. 7: 77.
Eulophia lindleyana (Rchb. f.) Schltr. in Westafr. Kauts.-Exped. 279 (1900); F.W.T.A., ed. 1, 2: 444.

Leaves narrowly lanceolate, 1-21/2 in. wide; flowers with reddish or brownish sepals and yellow petals and lip.

Sen.: Ziguinchor (Sept.) Broadbent 99! Doumbia 625! **Gam.:** Kuntaur Ruxton 98! **Port. G.:** S. Domingos (Aug.) Esp. Santo 3074! 3076! Farim to Bigerre (Aug.) Esp. Santo 3081! **S. L.:** Fogbo, Peninsula (July) T. S. Jones 413! Rokupr (Aug.)

Harvey 8! Rokon (July) Adames 239! Gbinti (July) Deighton 2511! Njala (June) Deighton 2525! **Iv. C.:** Férédougoua R. to Touba (July) Collenette 64! Mankono (July) Chev. 22005! **Ghana:** Gura (June) Vigne FH 3911! Ejura (fl. & fr. Sept.) Westwood 189! Kpandu to Golokuati (Aug.) D. Gillett 67! **N. Nig.:** Nupe Barter 1486! Ibaji Ojoko F.R., Igala Dist. (June) Howard FHI 47764! Samara, Zongon Katab Dist. (June) G. V. Summerhayes 108! Maska, Katsina Dist. (June) Keay FHI 25898! Kilba, Yola (Aug.) Dalz. 219! **S. Nig.:** Ogoya, Lagos (Feb.) Richards 5087! Oyo (July) J. B. Gillett 15192! Orle F.R., Kukuru District. (Aug.) Onochie FHI 33293! Igboere, Kuramo (Aug.) Savory UCI 265! Mamu R., Awka Dist. (Aug.) Jones FHI 6692! **W. Cam.:** Wum, Bamenda (June) Daramola FHI 41076! Ujor FHI 29252! Mbaw Plain (May) Brunt 419!

Eastwards to **Kenya** and in E. Africa south to Rhodesia.

26. *Eulophia cucullata* (Sw.) Steud. Nomen Bot. ed. 2, 1: 605 (1840). *APD acc*

***Limodorum cucullatum* Sw.** in Schrad. Neues Journ. 1: 86 (1805).

***Lissochilus arenarius* Lindl.** (1862)-F.T.A. 7: 82.

Leaves narrow, appearing after the flowers; flowers few, large, pink or purplish with yellow or white inside the broad spur; in **savanna**.

Sen.: Zankoré, Casamance (Aug.) Berhaut 6343! Ziguinchor (Sept.) Broadbent 100! **Gam.:** Aboku (June) Brooks 59! **Mali:** Kroukoto, Kita (July) Jaeger! Fana, Bamako East (June, July) Roberty 2426! 2475! **Port. G.:** Cacheu, Chorubrigue (Aug.) Esp. Santo 2495! Ingoré to Barro (Aug.) Esp. Santo 3075! Bafalá to Capé (Aug.) Esp. Santo 3319! **Guin.:** Bonhour! (July) Pobéguin 375! Kindia (June) Jac.-Fél. 1772! **S. L.:** Port Loko (May) Deighton 4780! Yifin to Bandakarafaia (Apr.) Deighton 5065! Samaia (May) Deighton 4792! Bambaia, Samu (July) Adames 212! **Iv. C.:** Baoulé-Nord (Aug.) Chev. 22234! Séguéla (Apr.) Leeuwenberg 3271! **Ghana:** Weila, N. Ashanti (Apr.) Kinloch FH 3275! Attabubu to Krachi (Mar.) Westwood 133! Damongo (Mar.) Adams 3978! **Togo Rep.:** Lomé (June) Davidson 2! **N. Nig.:** Nupe (Apr.-June) Barter 1488! Gawu to Abuja, Gwari Dist. Onochie FHI 18698! Anara F.R., Zaria Keay & Mutch FHI 22932! Zungeru Dalz. 230! **S. Nig.:** Borgu Bariba, Lagos, (May) Punch! Orle River, F.R., Benin Prov. (June) Umana FHI 29132! Ikom Rosevear 42/29! **W. Cam.:** Bamessi (Mar.) Brunt 271! Bamali to Bambalang (Apr.) Brunt 354! Bambuluwe L., Bamenda (May) Daramola FHI 41062!

Throughout the savanna areas of tropical Africa, also in Natal and Comoro Is.

27. *Eulophia dilecta* (Rehb. f.) Schltr. in Westafr. Kauts.-Exped. 279 (1900).

APD: *Synonym of Eulophia cucullata (Afzel. ex Sw.) Steud. var. cucullata*

***Lissochilus dilectus* Rehb. f.** (1878)-F.T.A. 7: 83.

Similar to *E. cucullata* but leaves broader and developed at time of flowering; flowers a little larger.

Ghana: Nsawkaw, Wenchi (Aug.) Hall 2043! **Togo Rep.:** between Golokuati and Kpandu (July, Aug.) D. Gillett 64! Westwood 20! **N. Nig.:** Okwoga to Idah (July) Kitson! Kabba (May) Westwood! Bokkos, Plateau Prov. King 94! **S. Nig.:** Ogoja Talbot!

Also in **Congo**, **Cabinda** and **Angola**.

28. *Eulophia buettneri* (Kranzl.) Summerh. in F.W.T.A., ed. 1, 2: 446 (1936). *APD acc*

***Lissochilus buettneri* Kraenzl.** (1893)-F.T.A. 7: 84.

Similar to *E. cucullata* but flowers smaller, fragrant.

Guin.: Nimba Mts. (Mar.) Tournier 1! 2! **S. L.:** Falaba (Mar.) Sc. Elliot 5144! **Lib.:** Mt. Mpaka Fossa, Kolahun (Jan.) Bequaert 39! **Ghana:** Afram Plains, Ashanti (Mar.) Johnson 852! Cansdale 2! Dodi to Dain, Trans-Volta Prov. (Mar.) Westwood 82! Kpandu (Feb.) Robertson 125! **Togo Rep.:** Anganje, Bismarckburg (Feb.) Büttner 415! **N. Nig.:** Amban, Plateau Prov. King 195! **S. Nig.:** Old Oyo F.R., Oyo Prov. (Feb.) Keay FHI 23436! **W. Cam.:** Bambuko F.R., Kumba (Jan.) Keay FHI 37460!

Also in **E. Cameroun**.

29. *Eulophia horsfallii* (Batem.) Summerh. in F.W.T.A., ed. 1, 2: 446. *APD acc*

***Lissochilus horsfallii* Batem.** (1865)-F.T.A. 7: 84.

***L. roseus* Lindl.** (1843)-F.T.A. 7: 85, partly; Stapf in Johnston, Lib. 654 (all excl. syn. *Dendrobium roseum* Sw.).

Leaves in a tuft, up to 6 ft. high and 5 in. broad; scapes to 8 1/2 ft. tall, with a long raceme of white and pink or purple flowers.

Port. G.: Bafata, Capé (Aug.) Esp. Santo 2943! **S. L.:** Port Loko (Apr.) Sc. Elliot 5744! Tawia (Jan.) Sc. Elliot 4472! Yataya (Sept.) Thomas 2425! Kasawa to Moyamba (Dec.) King 63b! Waterloo (Aug.) Melville & Hooker 174! **Lib.:** Grant's Farm, Sinoe R. Johnston! Dukwia R., Monrovia (Oct.-Nov.) Cooper 35! Zwedru, Tchien Dist. (Aug.) Baldwin 7042! Monrovia (June) Baldwin 5866! Blazie (Dec.) Adam 16292! **Iv. C.:** Béreby (Nov.) Oldeman. 662! Danané (June) Collenette 49! Banco Forest, N.W. of Abidjan (Aug.) de Wilde 207! Adiopodoumé (Oct.) de Wilde 684! **Ghana:** Oda (Aug.) Howes 969! Aburi (Apr.) Johnson! Niru (Nov.) Vigne FH 2574! Assin West-Skinn 36! Busua Bay (Dec.) Morton A2537! **Dah.:** Porto-Novo (Jan.) Chev. 22724! **N. Nig.:** Kabba (Oct.) Parsons L107! Bida to Zungeru (Jan.) Meikle 1023! Vom Dent Young 236! Abinsi (June) Dalz. 834! **S. Nig.:** Lagos Phillips 46! Mawkawlawki, Abeokuta (Dec.) Burt Bill! Ibadan (Jan.) Latilo FHI 8187! Sapoba, Benin Prov. (Jan.) Richards 3916! Onyeagocha FHI 7620! **W. Cam.:** Buea (Apr.) R. H. Brown 105a! Bamenda (May) Ujor FHI 30400! Kumbo to Oku, 6,000 ft. (Feb.) Hepper 1999! **F. Po:** Moka (Aug., Dec., Jan.) Exell 852! Boughey 54! Melville 403!

Eastwards to **Kenya** and Tanzania, Zambia and Malawi.

30. *Eulophia barteri* Summerh. in F.W.T.A., ed. 1, 2: 442, 444 (1936), and in Kew Bull. 1936: 224. *APD acc*

Lissochilus roseus of Rolfe F.T.A. 7: 85, partly, not of (Sw.) Lindl.

Similar to *E. horsfallii* but flowers smaller, lilac and reddish or brownish purple.

Guin.: Kindia (Sept.) Jac.-Fél. 458! **S. L.:** Mapaki, N. Prov. (Aug.) Deighton 1213! Giema (Nov.) Deighton 364! Sawula, Kagbaro R. (Feb.) Deighton 3560! Newton (June) Deighton 4786! **Lib.:** Paynesville, Monrovia (Apr.) Bequaert 184! Gbanga, Central Prov. (July) Daniel & Barker 206! **Iv. C.:** Touba, Férédougou R. (July) Collenette 66! **Ghana:** Kintampo (July) Vigne FH 3935! **N. Nig.:** Nupe Barter 1481! Sare Barter 3429!

31. *Eulophia oedoplectron* Summerh. in Kew Bull. 1936: 223.

APD: Synonym of Eulophia bouliawongo (Rchb. f.) J. Raynal

Lissochilus macranthus Lindl. (1833)-F.T.A. 7: 86.

L. elatus Rolfe in F.T.A. 87 (1897).

Similar in growth to *E. horsfallii*, up to 10 ft. high; flowers pink, rose or purple.

S. Nig.: Bonny Shepherd 6! **F. Po:** Pico S. Isabel, 3,000 ft. (Dec.) Sanford 4000!

Also in **E. Cameroun**, **Gabon** and **Congo**.

32. *Eulophia latilabris* Summerh. l.c. (1936). *APD acc*

Lissochilus schweinfurthii Rchb. f. (1878)-F.T.A. 7: 88.

Habit as in *E. horsfallii*, 3-6 ft. in height; flowers purple, pink and white.

N. Nig.: Zongon Katab, Zaria (June) G. V. Summerhayes 118! Vom, Plateau Prov. Dent Young 236a! Gembu, Mambila Plateau, 5,500 ft. (July) Chapman 5!

Eastwards to **Sudan** and **Kenya**, southwards in E. Africa to Zambia and Malawi.

33. *Eulophia juncifolia* Summerh. in Kew Bull. 12: 78 (1958). *APD acc*

Eulophia involuta Summerh. in F.W.T.A., ed. 1, 2: 444 (1936). partly (excl. syn. *Lissochilus smithii*).

Leaves 11/2 -21/2 ft. long, rush-like; flowers yellow with red veins on the petals.

Port. G.: Farim, Cajambarim (Oct.) Sousa in Hb. Esp. Santo 2317! **Iv. C.:** Mankono (July) Chev. 21977! **Ghana:** Anum Plains (Aug.) Johnson 1094! Attabubu (Aug.) Cox 110! Ejura (Aug., Sept.) Andoh FH 5047! Westwood 16a! Nungua, Accra Plains (June) Morton A911! Kpandu to Golokuati (July) Westwood 16!

34. *Eulophia orthoplectra* (Rchb. f.) Summerh. in Kew Bull. 1939: 499, in obs. *APD acc*

Lissochilus orthoplectrus Rchb. f. (1878)-F.T.A. 7: 95.

L. milanjanus Rendle (1894)-F.T.A. 7: 98.

Eulophia involuta Summerh. in F.W.T.A., ed. 1, 2: 444 (1936), partly.

Leaves broad and flat, appearing after the flowers; flowers yellow, petals with red veins or almost entirely red beneath.

Ghana: Ejura (Aug.) Hall CC 329! **Togo Rep.:** Lomé (July) Davidson 7! **N. Nig.:** Vom, Plateau Prov. (Feb.) Dent Young! McClintock 207! Mambila Plateau, 5,000 ft. (Jan., Feb.) Hepper 1755! Wimbush FHI 48389! **S. Nig.:** Sonkwala, Ogoja Prov. (Dec.) Keay & Savory FHI 25120! **W. Cam.:** Jua, Bamenda (Apr.) Maitland 1778!

Eastwards to **Kenya** and southwards in E. Africa to Rhodesia and Mozambique.

32. PTEROGLOSSASPIS

Rchb. f., Otia Bot. Hamburg. 67 (1878); F.T.A. 7: 99.

- 1 Terrestrial; stem underground, composed of lobed fleshy tubers; leaves 1 or 2 on very short aerial stem, surrounded by sheaths at base, narrowly lanceolate, long-petiolate, 35-70 cm. long and 6-18 mm. broad; scape erect, up to 85 cm. high, bearing a number of flowers in a short terminal raceme about 8 cm. long; bracts long and slender, over-topping the flowers; tepals all rather similar, oblong- or elliptical-lanceolate, more or less acuminate, about 1 cm. long, greenish; lip nearly as long as tepals but much more fleshy, 3-lobed in lower part, blackish-purple, middle lobe covered with parallel verrucose crests, spur quite absent[distant](#)

Pteroglossaspis distant *Summerh.* in Kew Bull. 12: 82 (1958). *APD acc*

S. L.: Taigbe, Bonthe Dist. (Oct.) Adames 92! Jordan 620!

33. GRAPHORKIS

Thou. Nouv. Bull. Sci. Soc. Philom. Paris 1: 318 (1809). *Eulophiopsis* Pfitz. (1887)-F.W.T.A., ed. 1, 2: 446.

- 1 Pseudobulbs cylindrical-fusiform or conical-ovoid, 3-9 cm. long, 1-3 cm. diam., 4-6-leaved; leaves lanceolate, up to 40 cm. long and 3.5 cm. broad; inflorescence appearing before the leaves, 15-50 cm. high, branches spreading; flowers yellow and brown; sepals spatulate-oblong, about 5-6 mm. long; petals elliptical, a little shorter; lip 3-lobed, middle lobe more or less retuse or bifid, disk of lip with 2 keels at the base; spur sharply bent forward, nearly as long as the lip; column with a hairy auricle on each side at the base[lurida](#)

Graphorkis lurida (*Sw.*) *O. Ktze.* Rev. Gen. Pl. 662 (1891). *APD acc*

Limodorum luridum *Sw.* in Schrad. Neues Journ. 1: 87 (1805).

Eulophia lurida (*Sw.*) *Lindl.* (1833)-F.T.A. 7: 53; Cat. Talb. 146; Stapf in Johnston, Lib. 654.

Eulophiopsis lurida (*Sw.*) *Schltr.* (1914)-F.W.T.A., ed. 1, 2: 446.

Sen.: Oussouye, Casamance (Apr., July) Adam 19146! Berhaut 6181! **Port. G.:** Acoco, Formosa (fr. Apr.) Esp. Santo 1959! Prabis, Bissau (Feb.) Esp. Santo 1824! Antula, Bissau Sousa 2325! **Guin.:** Timbi-Madina, Pita (Mar.) Adm 11634b! Bembaya, Farana (Feb.) Chev. 20670! Nzo (Mar.) Chev. 21049! Kindia Jac.-Fél. 10! **S. L.:** Ninia (Feb.) Sc. Elliot 4812! Bumban to Port Loko (fr. Apr.) Sc. Elliot 5741! Mt. Aureole, Freetown (Feb.) Dalz. 1020! Njala (Jan.) Deighton 2460! Fairo, Soro (Jan.) Deighton 4566! **Lib.:** Kakatown Whyte! Jabrocca, Grand Cape Mt. (Dec.) Baldwin 10849! Ziatown (Dec.) Adam 16338! Epi (Dec.) Harley 1766! **Iv. C.:** Bouroukrou (Jan.) Chev. 16916! Adiopodoumé (Dec.) Giovannetti! **Ghana:** Dunkwa (Jan.) Dalz. 77! Opar Valley, W. Prov. (Jan.) Irvine! Aburi (Jan.) Johnson 218! Kumasi (Dec.) Vigne FH 1522! Amedzofe (Nov.) Westwood 10! **N. Nig.:** Assob Escarpment, Plateau Prov. (Apr.) King 40a! Wana, Plateau Prov. (Dec.) Hepburn 156! Kaciya-Zonkwa, Zaria Prov. (Jan.) G. V. Summerhayes 144! Kwoi, Zaria Prov. King 40b! **S. Nig.:** 51 miles SE. of Ilorin Clarke 28! Nun R. Barter 20121! A beokuta to Ijebu-Ode (Jan.) Burt 14! Okomu F.R., Benin (Jan.) Jones & others s.n.! Badagry Thorold 2021! Oban Talbot 772! **W. Cam.:** Ambas Bay (Feb.) Mann 782! Kang, Kumba (fr. Mar.) Thorold CM14! **F. Po:** S. Isabel to Basilé, 3,000 ft. (Dec.) Sanford 4010!

Also in **E. Cameroun**, **Gabon**, **Congo**, **Uganda** and **Burundi**.

34. PODANGIS

Schltr. in Beih. Bot. Centralbl. 36. 2: 82 (1918).

- 1 Stem up to 11 cm. long, usually much shorter, leafy at apex; leaves 4-16 cm. long, 5-12 mm. broad; inflorescences (including flowers) up to 6 cm. long; sepals and petals more or less elliptical, obtuse, 3.5-5 mm. long; lip more or less orbicular, about 6 mm. long; spur 11-14 mm. long, wide at mouth, constricted in middle, swollen and often shortly lobed at apex[dactyloceras](#)

Podangis dactyloceras (*Rchb. f.*) *Schltr.* l.c. (1918). *APD acc**Listrostachys dactyloceras* *Rchb. f.* (1865)-F.T.A. 7: 168.*L. forcipata* *Kraenzl.* (1894)-F.T.A. 7: 168.

Flowers white; anther green.

Guin.: Kondian, Kissi (Feb.) Chev. 20742! Dalaba (Apr.) Caille in Hb. Chev. 18128! **S. L.:** Shingama, Serabu (June) Deighton 1955! **Ghana:** Amedzofe, 2,500 ft. (Feb-July) Irvine 163! Scholes 91! Westwood 22! **N. Nig.:** Zonkwa-Kaciya, Zaria Prov. (Jan.) G. V. Summerhayes 140! Gembu, Mambila Plateau, 4,600 ft. (Jan.) Hepper 1824! **W. Cam.:** Buea, 3,200-4,300 ft. (Mar.) Maitland 699! Bamenda, 5,000-6,000 ft. (Feb.-Apr.) Maitland 1415! Gregory 255! Binka, Nkambe, 5,200 ft. (Feb.) Hepper 2832!

Also in **E. Cameroun**, **Congo**, **Uganda**, **Tanzania** and **Angola**.**35. CALYPTROCHILUM***Kraenzl.* in Engl., Bot. Jahrb. 22: 30 (1895).

- 1 Inflorescence many-flowered, very dense, up to 5 cm. long, bracts closely imbricate, middle ones 4-7 mm. long; leaves 6-17 cm. long, 2.5-5 cm. broad; lip obscurely 3-lobed in front, side lobes broadly rounded, middle lobe much smaller, acute; sepals about 1 cm. long; lip including spur 2 cm. long *L. emarginatum*

Inflorescence usually 6-9-, sometimes up to 12-flowered, rather lax, up to 4 cm. long, bracts not imbricate, middle ones 2-4 mm. long, rachis more or less zigzag; leaves 3-13 cm. long, 0.8-2.5 cm. broad; lip distinctly 3-lobed, lobes rounded, middle lobe much larger and longer than side lobes, emarginate; sepals 6-8 mm. long; lip including spur 1-8 cm. long *2. christyanum*

1. Calyptrochilum emarginatum (*Sw.*) *Schltr.* in Beih. Bot. Centralbl. 36, 2: 84 (1918). *APD acc**Limodorum emarginatum* *Sw.* in Schrad. Neues Journ. 1: 86 (1805).*Angraecum imbricatum* *Lindl.* (1862)-F.T.A. 7: 144; Chev. Bot. 618.

Flowers white with yellow or yellow-green lip, very fragrant, especially at night.

Guin.: Kissi, Korodou chev. 20727! Nimba Mts. Schnell 184! 801! **S. L.:** Makuta (June) Thomas 473! Taninahun Bumpé (Apr.) Deighton 1728! Roruks (June) Deighton 5109! Bubuya (May) Adams 175! Bumban to Port Loko (Apr.) Sc. Elliot 5734! **Lib.:** Ganta (May) Harley! Boporo (fr. Nov.) Baldwin 10391! Suacoco, Gbanga (May) Daniel & Prior 440! **Iv. C.:** Mt. Goula, Danané (Apr.) Chev. 21227! Issia (Aug.) de Wilde 426! Tiassalé, Bandama R. (fr. Dec.) Leeuwenberg 2147! Brafouédi (Apr.) Leeuwenberg 3339! **Ghana:** Offin Valley, Ashanti (Oct., fr. Dec.) Miles 12! Juaso, Akim (Apr.) Cansdale FH 4388! Kukurentumi (Apr.) Johnson 759! Abari Howes 1172! Ofinso, Ashanti (May) Vigne FH 4865! **S. Nig.:** Baba Eko, Ijebu (Apr.) Ross 246! Ibadan (May) Onochie FHI 20697! Olokemeji F.R. (fr. Feb.) Onyeachusim FHI 46997! Onitsha Barter 1484! Ubijaja F.R., Ishan Dist. (Apr.) Daramola FHI 31267a! **W. Cam.:** Victoria to Bimbina (Apr.) Preuss 1240! **F. Po:** San Fernando (Dec.) Sanford 4050!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Angola**.**2. Calyptrochilum christyanum** (*Rchb. f.*) *Summerh.* in F.W.T.A., ed. 1, 2: 450 (1936). *APD acc**Angraecum christyanum* *Rchb. f.* (1880)-F.T.A. 7: 142.*A. moloeyi* *Rolfe* in F.T.A. 7: 145 (1897).*A. ivorense* *A. Chev.*, Bot. 618, name only.

Flowers white or cream, the base of the lip often greenish, yellow or orange.

Mali: Kita Mt. (Nov.) Jaeger 3601! **Port. G.:** Bissau (Jan.) Esp. Santo 1635! Chitol, Casaelinta (June) Esp. Santo 3191! Comura (Nov.) Raimundo & Guerra 157! **Guin.:** Kindia (May) Roberty 17695! Nzo to Sakomanta (Mar.) chev. 21083! Nimba Mt. (Mar.) Schell 800! **S. L.:** Kambia to Kukuna (May) Deighton 5050! Bubuya (May) Adames 176! Matiti (May) Deighton 5049! Musaia (May) Deighton 4306! **Lib.:** (cult.) Christy! Jabrocca, Grand Cape Mount Dist. (Dec.) Baldwin 10863! Zuie, Boporo Dist. (Nov.) Baldwin 10260! Ganta, Sanokwele Dist. (Nov.) Harley 1763! **Iv. C.:** Gourémi, Upper Sassandra (May) Ripert in Hb. Chev. 21640! Béyo (Jan.) Leeuwenberg 2556! **Ghana:** Kumasi (Jan.) Vigne FH 2736! **N. Nig.:** Beari Dalz. 13! Anara F.R., Zaria (May) Keay & Mutch FHI 22933! Vogel Peak, Sardauna Prov. (Nov.) Hepper 1479! **S. Nig.:** Olokemeji F.R. (Feb.) Keay FHI 22487! Lagos Rowland! Ijaiye F.R., Ibadan Dist. (Feb.) Keay FHI 21166! Ubijaja F.R., Ishan Dist. (fl. & fr. Apr.) Daramola FHI 31267! Mt. Orosun, Idanre Hills (Feb.) Brenan & Keay FHI 22485!

Also eastwards to **Sudan**, **Kenya** and Tanzania, and south to **Angola** and Zambia.

36. ANGRAECUM

Bory, Voy. 1: 359 (1804); F.T.A. 7: 133, partly. APD acc

- 1 Leaves with sharp points, not closely imbricate at the base; pollinia attached directly to the broad viscidium, stipes absent: **2**
- Leaves without sharp points, though sometimes acute: **3**
- 2 Leaves subulate-terete, more or less falcate, 3-13 cm. long, 1-2.5 mm. diam.; sepals about 4 mm. long; lip boat-shaped, very broad when flattened out, pointed in front, spur 5 mm. long [5. subulatum](#)
- Leaves oblong-lanceolate, flattened, fleshy, 2-4 cm. long, 3-6 mm. broad; sepals 6-7 mm. long; lip much broader than long, spur 4.5 mm. long [4. pungens](#)
- 3 Flowers solitary on short (6 mm. long or less) peduncles; sepals 7 mm. long or less; leaves less than 3 cm. long, closely imbricate at base, lying in the vertical plane of the stem: **4**
- Flowers either solitary on long peduncles or peduncles several-flowered; sepals usually 6 mm. or more long; leaves flat, more or less unequally bilobed at the apex, usually more than 4 cm. long, not lying in the vertical plane of the stem: **6**
- 4 Leaves falcately oblong-elliptical, obtuse; spur 5-7 mm. long: **5**
- Leaves narrowly lanceolate-oblong, almost straight, subacute, 10-18 mm. long, 2-3 mm. broad; sepals 4.5-5 mm. long; spur 4.5-6 mm. long [3. podochiloides](#)
- 5 Leaves 5-11 mm. long, 3-7 mm. broad, groove on upper margin narrow, only extending half way to apex; lip indistinctly 3-lobed [1. distichum](#)
- Leaves 14-25 mm. long, 6-10 mm. broad, groove on upper margin broad, extending nearly to apex; lip distinctly 3-lobed [2. aporoides](#)
- 6 Sepals over 3 cm. long: **7**
- Sepals 2.5 cm. or less long; lip usually with a central low keel in basal part: **9**
- 7 Spur (measured from apex of ovary) over 10 cm. long, sharply incurved, narrowly conical in basal part; sepals lanceolate-linear, 6-8 cm. long; stem elongated, rooting; leaves oblong or elliptical, unequally lobed, up to 16 cm. long and 4 cm. broad; peduncle 4-7 cm. long, pedicel about equalling the peduncle; lip boat-shaped, broadly elliptical with a long apiculus, equalling the sepals [16. infundibulare](#)
- Spur less than 5 cm. long, almost straight, broadly conical at the base, constricted in the middle, fusiform in the apical portion; lip broad, nearly orbicular or more or less wedge shaped, nearly as long as sepals, long apiculate: **8**
- 8 Sepals 3.5-5 cm. long (usually less than 4.5 cm.); lip almost orbicular, 2.5-3.5 cm. broad, side lobes rounded, not projecting forward beyond the base of the central apiculus; leaves 7-14 cm. long, 1.5-3.5 cm. broad [14. birrimense](#)
- Sepals 3.5-6 cm. long (usually not less than 4.5 cm.); lip broadest in the front, 4-5 cm. broad, side lobes projecting forward beyond the base of the central apiculus so that the lip is more or less cordate; leaves 7-10 cm. long, 1.5-4 cm. broad [15. eichleranum](#)
- 9 Stems short, usually less than 4 cm. long; flowers up to 5, very small, green, sepals less than 4 mm. long; ovary short, twisted round the short obtuse spur; leaves linear or narrowly ligulate, 2-7 cm. long, 2-6 mm. broad; sepals broadly lanceolate; petals linear; lip a little shorter, very concave with a short apiculus. ... [6. sacciferum](#)
- Stems elongated; flowers larger, sepals 7 mm. long or more: **10**
- 10 Spur about equalling the lip in length; flowers white, flesh-coloured or pale buff; leaves much narrowed in upper part, often with a more or less acute bilobed apex: **11**
- Spur distinctly longer than the lip; flowers green, yellow-green or pale yellow; leaves more or less oblong, usually only narrowed at or near the apex itself: **13**
- 11 Lip triangular-ovate with a broad almost cordate base, 14-21 mm. long; petals thread-like from a broad base, much narrower than the sepals; leaves narrowly or ovate-lanceolate, very unequally and acutely lobed at apex, 4-9 cm. long, 8-23 mm. broad; spur with a swollen base and club-shaped apex, 12-19 mm. long; flowers white or pale buff-coloured [13. angustipetalum](#)
- Lip narrowly or broadly lanceolate, not much wider at the base and not at all cordate; petals narrower than the sepals but not thread-like: **12**
- 12 Leaves very narrowly lanceolate or almost linear, with a long narrow apex, 3-8.5 cm. long, 4-8 mm. broad, unequally and acutely bilobed at the apex; sepals about 2 cm. long, narrowly lanceolate; lip similar, about 15 mm. long; spur a little shorter than the lip, with a narrow conical basal half and a somewhat swollen apical half which is slightly inflexed; inflorescence 103-flowered [12. modicum](#)
- Leaves broadly elliptical-lanceolate or elliptical-oblong, with a blunt, bilobed apex. 1.5-4.5 cm. long, 7-20 mm.

broad; sepals 6-11 mm. long, broadly lanceolate or elliptical; lip lanceolate-ovate, 4-7.5 mm. long; spur about 7 mm. long, swollen at apex with an almost globose or ellipsoid sac [11. egertonii](#)

- 13** Lip narrowed just above the column, suddenly widened in the middle, running out at the apex into a long narrow point, about 13 mm. long; spur 2 cm. long, the base wide, middle constricted, apical half rather swollen; leaves very unequally and acutely bilobed, 3-7 cm. long, 6-12 mm. broad; inflorescence 2-4-flowered ... [9. angustum](#)

Lip widest just above the column, lanceolate to ovate, usually less than 10 mm. long: **14**

- 14** Leaves narrowly strap-shaped, usually less than 1 cm. broad, often much narrower and never exceeding 1.5 cm., parallel sided almost to apex, apex unequally bilobed with the two lobes rounded, 3-7 cm. long; pollinia attached to a single large strap-shaped pointed viscidium, stipites short and pointed; sepals 10-17 mm. long; lip with a recurved pointed apex, nearly 1 cm. long; spur gently curved, slightly swollen in apical part, 15-20 mm. long [10. chevalieri](#)

Leaves oblong or narrowly oblong, usually over 1 cm. broad, narrowing somewhat below the apex, apical lobes more or less connivent; pollinia attached to separate viscidia, stipites wider and rounded at apex: **15**

- 15** Spur widest just beyond the middle, tapering in both directions but mouth again widened, apex almost acute, 11-14 mm. long; leaves markedly unequally bilobed at the apex, the shorter lobe very short sometimes scarcely evident, 3-10 cm. long, 1-2 cm. broad; sepals and petals lanceolate, acute, 8-10 mm. long; lip ovate, acute, about 6 mm. long [7. multinominatum](#)

Spur widest near the apex, where it is swollen and club-shaped, the apex itself rounded, 10-14 mm. long; leaves only slightly unequally bilobed, the shorter lobe quite distinct, 2.5-11 cm. long, 7-22 mm. broad; sepals and petals oblong or oblong-lanceolate, obtuse or acute, 6-11 mm. long; lip ovate, acute, 5.5-7.5 mm. long [8. pyriforme](#)

1. *Angraecum distichum* Lindl. in Bot. Reg. 21: t. 1781 (1836); Cat. Talb. 146. *APD acc*

Mystacidium distichum (Lindl.) Pfitz. (1889)-F.T.A. 7: 175.

Flowers white.

Guin.: Nzo, foot of Nimba Mts. (Mar.) Schnell 829! Tawia to Herimankuna (Jan.) Sc. Elliot 4492! **S. L.:** Rokupr (Aug.) Adames 116! Njala (Aug.) Deighton 1403! Kangama, Gorama Mende (July) Deighton 5115! Kruto to Sini-koro, Loma Mts. (Sept.) Jaeger 1808! **Lib.:** Suacoco, Gbanga (July) Daniel & Barker 219! Bomi Hills (Sept.) Voorhoeve 434! Vahun, Kolahun (Nov.) Baldwin 10175! Yah R., Sanokwele (Sept.) Adames 539! Zwedru, Tchien (Aug.) Baldwin 7030! **Iv. C.:** Danané to Goutokouma (Apr.) Chev. 21300! 15 km. NE. of Bianovan (Apr.) Leeuwenberg 3961! Yapo Chev. 16841! Yonkou (Aug.) Schnell 1653! **Ghana:** Anjoala F.R., Akim Oda (Apr.) Andoh FH 5145! Shiare, Buem-Krachi Hall 1358! Bibiani (Nov.) Darko 853! Amedzofe (July, Aug.) Westwood 30! Scholes 85! **Dah.:** Porto Novo Roberty 1547! **N. Nig.:** Kagerko, Zaria Prov. King 105a! **S. Nig.:** Jamieson R., Sapoba (Nov.) Meikle 519! Okomu F.R., Benin (Aug.) Brenan 9033! Idanre Hills, Ondo (June) Keay & Brenan FHI 22406! Okigwi, Owerri (Dec.) Jones FHI 6183! Oban Talbot 784! **W. Cam.:** Victoria (Sept.) Ngongi FHI 15090!

Also in **S. Tomé**, **Principe**, **E. Cameroun**, **Gabon**, **the Congos**, **Angola** and **Uganda**.

2. *Angraecum aporoides* Summerh. in Kew Bull. 17: 560 (1964). *APD acc*

Mystacidium distichum var. *grandifolium* De Wild. in Ann. Mus. Congo, sér. 5, 2: 240 (1907).

Angraecum distichum var. *grandifolium* (De Wild.) Summerh. in Kew Bull. 12: 261 (1958).

Flowers white.

S. Nig.: Brass R. Barter 1854! Ono (Feb.) Cooper 82/3! **W. Cam.:** M'bonge Wright 58/49! **F. Po.:** (Apr.) Westwood 92!

Also in **Principe**, **E. Cameroun** and **Congo**.

3. *Angraecum podochiloides* Schltr. in Engl., Bot. Jahrb. 38: 162 (1906); Cat. Talb. 146. *APD acc*

Monixus aporum Finet in Mém. Soc. Bot. France 9: 19, t. 3, figs. 9-12 (1907).

Lib.: Tawata, Boporo Dist. (Nov.) Baldwin 10299! 10342! Kulo, Sinoe Co. (Mar.) Baldwin 11420! Ganta (June) Harley 1641! **Iv. C.:** Upper Cavally ft. (June) Pobéguin 58! Gliké, Tabou (Aug.) Schnell 1688! **S. Nig.:** Akampa, Calabar (July) Latilo FHI 45831! Oban Talbot 894! **W. Cam.:** Bibundi (Oct.) Schlechter 15769!

Also in **Congo**.

4. *Angraecum pungens* Schltr. in Engl., Bot. Jahrb. 38: 163 (1906); Cat. Talb. 147. *APD acc*

Flowers white.

S. Nig.: Calabar Latilo FHI 56898! Oban Talbot 892! **W. Cam.:** Little Cam. Mt., 3,000 ft. Cole 7! Man of War Bay, near Bimbila (Sept.) Schlechter 15774! **F. Po.:** (May) Westwood 91! Pico 8. Isabel, 6,000 ft. (Dec.) Sanford 4211!

Also in **E. Cameroun** and **Congo**.

5. **Angraecum subulatum** *Lindl.* in Hook. Comp. Bot. Mag. 2: 206 (1837); Cat. Talb. 147. *APD acc*

Listrotachys subulata (*Lindl.*) *Rchb. f.* (1864)-F.T.A. 7: 168.

Flowers white or creamy white, singly or in pairs.

S. L.: Potolo (Dec.) Sc. Elliot 4334! Nyandehun, Valunia (Aug.) Deighton 6117! Punduru to Pangwama, Gorama Mende (June) Deighton 5101! **Lib.:** Wohmen, Vonjama Dist. (Oct.) Baldwin 10059! Tawata, Boporo Dist. (fr. Nov.) Baldwin 10286! Zolopla, Sanokwele (Sept.) Baldwin 9381! Kitoma (Apr.) Harley 1799! Ganta (May) Harley 1636! **Iv. C.:** Bouroukrou (Dec., Jan.) Chev. 16524! **Ghana:** Mim, Goaso Dist. (May) Andoh FH 5535! Mampong, Ashanti (Mar.-July) Westwood 102! **S. Nig.:** Olokemeji F.R., Abeokuta (Nov.) Jones et al. FHI 4916! Akure F.R., Ondo (Aug.) Jones FHI 19541! Sapoba, Benin Prov. Kennedy 1796! Nun R. Barter 2125! Oban Talbot 902! **W. Cam.:** S. Bakundu F.R., Kumba (Apr.) Daramola FHI 29819! **F. Po:** (June) Barter!

Also in **E. Cameroun** and **the Congos**.

6. **Angraecum sacciferum** *Lindl.* in Hook. Comp. Bot. Mag. 2: 205 (1837). *APD acc*

A very small plant with a tuft of narrow leaves and few-flowered inflorescences of pale green flowers.

W. Cam.: Buea, 3,000 ft. (Aug.) Gregory 582!

Eastwards to **Kenya** and southwards through E. Africa to Natal and the Cape Province.

7. **Angraecum multinominatum** *Rendle* Cat. Talb. 107 (1913). *APD acc*

Mystacidium clavatum (*Rendle*) *Rolfe* in F.T.A. 7: 172 (1897).

Flowers green or yellow-green, often tinged with orange.

Guin.: Kindia Jac.-Fél. 89! **S. L.:** Bafodeya (Apr.) Sc. Elliot 5555! Musaia (May) Deighton 5044! Taninanun, Bumpe (Apr.) Deighton 1727! Waka, Kunike Barina (May) Deighton 5043! Lunsar, Marampa (June) Adames 211! **Ghana:** Aburi (Jan.) Cox 88! Jasikan (July) Westwood 24! Dukuse, Afram Plains (Apr.) Cansdale 86! **Togo Rep.:** Quamikrom (Mar.) Schlechter 12952! **S. Nig.:** Otta to Abeokuta Barter 3352! Olokemeji F.R. (Mar.) Keay FHI 19189! Ibadan South F.R. Keay FHI 25305! Onitsha Barter 477!

Also in **Gabon**.

8. **Angraecum pyriforme** *Summerh.* in Kew Bull. 1936: 230; F.W.T.A., ed. 1, 2: 452. *APD acc*

Angraecum multinominatum of Cat. Talb. 147.

Flowers green and white.

Iv. C.: Tai Forest (Oct.) Aké Assi 6028! **S. Nig.:** Shasha Forest, Ijebu (May) Richards 3476! Sapele (June) Wright 154! Ajagbodudu, Sapele (July-Sept.) Wright 132! Oban Talbot 888!

9. **Angraecum angustum** (*Rolfe*) *Summerh.* in F.W.T.A., ed. 1, 2: 452 (1936). *APD acc*

Mystacidium angustum *Rolfe* in F.T.A. 7: 570 (1898).

Flowers white, tinged brown or yellow.

S. Nig.: Itu, Cross R. (Apr.) Holland 27!

10. **Angraecum chevalieri** *Summerh.* in F.W.T.A., ed. 1, 2: 452; Kew Bull. 1936: 230.

APD: *Synonym of Angraecum moandense De Wild.*

Flowers yellow, yellow-green or greenish white.

Guin.: Foredaka, Fouta Djallon (June) Adames 28! **Lib.:** Ganta (May) Harley 1637! **Iv. C.:** Sogui to Koualé, Toma country (May) Chev. 21690! **Ghana:** Aburi (May) Cox 95! Westwood 13! Efiduase Cox 19! **N. Nig.:** Kagoro R., Jemaa, Zaria (June, July) King 113! **S. Nig.:** Ibadan South F.R., Oyo Prov. (Apr.) Mutch FHI 22806! Akure F.R., Ondo (Aug.) Jones FHI 20223! **F. Po:** Lago Louto Sanford 4299!

Also in **Gabon**, **Congo** and **Uganda**.

11. *Angraecum egertonii* Rendle Cat. Talb. 107: t, 15, figs. 1-2 (1913). *APD acc*

Flowers white or greenish white.

S. Nig.: Sapele, Sapoba (June) Wright 157! Oban Talbot 889!

Also in **Gabon**.

12. *Angraecum modicum* Summerh. in Kew Bull. 12: 84 (1958). *APD acc*

Flowers flesh coloured.

Lib.: Ganta (May) Harley 1923! 2131!

13. *Angraecum angustipetalum* Rendle Cat. Talb. 106, t. 14, figs. 10-12 (1913). *APD acc*

Flowers white or pale buff-coloured.

Ghana: Akim Hills (Dec.) Johnson 593! Juaben (July) Cox 50! Akatin, E. Prov. (Oct.) Vigne FH 4039! Bunsu (Mar.-June) D. Gillett! Westwood 36! **S. Nig.:** Sapoba Kennedy 1918! Ajagbodudu, Sapele (June) Wright 153! Oban Talbot 890!

Also in **E. Cameroun**, **Gabon** and **Congo**.

14. *Angraecum birrimense* Rolfe in Kew Bull. 1914: 214. *APD acc*

Sepals and petals pale green, lip white with green centre.

S. L.: Bowden! **Lib.:** Du R. (July, Aug.) Linder 77! 212! Gletown, Tchien Dist. (July) Baldwin 6985! **Iv. C.:** Niapidou, N. of Sassandra (fr. Jan.) Leeuwenberg 2425! **Ghana:** Birrim (Oct.) Miles! Mpraeso (Sept.) Vigne FH 4252! Kumasi (Oct.) Vigne FH 4868! Juaso, Ashanti (Aug.) Cansdale 116! Bunsu (July) D. Gillett! **S. Nig.:** Onishere F.R., Ondo (May) Onochie & Latilo FHI 34699! Sapoba Kennedy 280! Mile 20, Owerri to Port Harcourt (June) Cooper 25/6! **W. Cam.:** Buea, 3,200 ft. (July, Aug.) Dundas FHI 15301! Gregory 169! Keay FHI 25374!

Also in **E. Cameroun**.

15. *Angraecum eichleranum* Kraenzl. in Wittm. Gart. Zeit. 1: 434, fig. 102 (1882); F.T.A. 7: 143; Cat. Talb. 146. *APD acc*

Sepals and petals pale green, lip white with green centre.

S. Nig.: Calabar (Aug.) Pierrez! Binuyo FHI 41428! Oban Talbot 899! **W. Cam.:** Debunscha (July) Thorold TN34! Buea (Aug.) Keay FHI 25375!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Angola**.

16. *Angraecum infundibulare* Lindl. in J. Linn. Soc. 6: 136 (1862). *APD acc*

Mystacidium infundibulare (Lindl.) Rolfe in F.T.A. 7: 170 (1897).

Sepals and petals green, lip white, spur green.

S. Nig.: Brass R. Barter 1860! **W. Cam.:** Victoria Rosevear 55/37!

Also in **Principe**, **the Congos** and **Uganda**.

37. TAENIOPHYLLUM

Blume, Bijdr. 335, t. 70 (1825).

- 1** Plant very small, inflorescence scarcely reaching 2 cm. in height, few-flowered; flowers orange; sepals and petals united in a tube in the lower part, total length 1.5-2 mm.; lip free, very concave with the apex hooded and terminating in an inflexed sharp point, 1.5-2 mm. long; spur almost globose or ellipsoid, 0.6-0.9 mm. long and a little narrower; column very short with two rounded lobes in front; anther 4-lobed; pollinia 4, 2 large and 2 small [coxii](#)

Taeniophyllum coxii (Summerh.) Summerh. in Kew Bull. 12: 278 (1958). *APD acc*

Ankylocheilos coxii Summerh. in Bot. Mus. Leafi. Harv. Univ. 11: 169 (1943).

Ghana: Aburi (Apr.) Cox 92!

Also in **Congo**.

38. LISTROSTACHYS

Rchb. f. in Bot. Zeit. 10: 930 (1852); F.T.A. 7: 150, partly.

- 1 Stem usually less than 6 cm., rarely up to 15 cm. long; leaves 8-35 cm. long, 1-2 cm. broad, almost equally or slightly unequally bilobed at the apex, lobes obtuse; inflorescences 10-25 cm. long, peduncle 2-5 cm. long; sepals ovate, 2-3 mm. long; petals a little shorter and narrower; lip obovate or almost quadrate, shortly and broadly apiculate; spur clavate at the apex, 3-5-5 mm. long [pertusa](#)

Listrostachys pertusa (Lindl.) *Rchb. f.* in Bot. Zeit. 10: 930 (1852); F.T.A. 7: 61. **APD acc**

Angraecum pertusum Lindl. (1837)-Cat. Talb. 147.

Listrostachys jenischiana *Rchb. f.* in Bot. Zeit. 10: 930 (1852).

Listrostachys behnickiana *Kraenzl.* in Notizbl. Bot. Gart. Berl. 5: 122 (1909).

Flowers white, sometimes with minute red spots towards the base and with a red spur.

S. L.: Njala (Nov.) Deighton 2552! Messina, Kpukumo Krim (Nov.) Deighton 4690! **Lib.:** Fisherman's Lake, Grand Cape Mt. (Dec.) Baldwin 10881! Yasono (Oct.) Harley 1936! Begwai (Oct.) Bunting 26! Peter's Town (Oct.) Bunting 97! Nimba (Nov.) Adames 739! **iv. C.:** Mt. Nienokoué Chev. 19662! Moossou, Grand Bassam (Nov.) de Wilde 807! Niapidou, N. of Sassandra (fr. Jan.) Leeuwenberg 2625! **Ghana:** Axim (June) Cox 116! **S. Nig.:** Nun R. (fr. Sept.) Mann 524! Brass R. Barter 1826! Waru (Jan.) Gregory 506! Oban Talbot 916! Eket Talbot 3382!

Also in **E. Cameroun**, **Principe**, **Gabon** and **Congo**.

39. MICROCOELIA

Lindl., Gen. and Sp. Orch. Pl. 60 (1830).

- 1 Limb of lip very small, 2-4 mm. long, less than half as long as the straight spur: **2**
Limb of lip nearly equalling or longer than the spur which is usually curved: **3**
- 2 Rostellum very short, arising from near the apex of the short thick column; viscidium reniform-oblong, about as long as broad; limb of lip 2 mm. long with 2 very obscure small lateral lobes at the base; spur about 2 cm. long, narrowed from the mouth to 5 mm. from apex, then suddenly swollen, tapering from there to the end; sepals and petals 2-3-5 mm. long [2. microglossa](#)
Rostellum arising from near the base of the long slender column and projecting upwards, bilobed from the base; stipes long and slender, sharply bent in the middle so that the 2 halves are nearly parallel; viscidium oblong-lanceolate, nearly as long as the rostellum; limb of lip 2-4 mm. long, narrowed towards the base; spur 8-13 mm. long, narrowed just near the mouth, much swollen in the middle and again slightly at the apex; sepals and petals 2-5-4 mm. long [3. caespitosa](#)
- 3 Lip obovate, 2-5-3-5 mm. long; column short, truncate at apex; anther transversely placed on column, not drawn out into a point in front; rostellum shortly 2-lobed, at apex of column; stipes of pollinium short, viscidium oblong; sepals and petals 2-4 mm. long; spur about the same length as the lip, slightly incurved or recurved, not at all swollen at the apex; inflorescence up to 13 cm. long, many-flowered [1. guyoniana](#)
Lip over 5 mm. long, much narrowed at the base, sometimes with a distinct claw; column relatively long, very obliquely truncate; anther obliquely placed on column, drawn out into a long point, covering the pollinarium; rostellum near base of column with 2 projecting fleshy lobes; stipes of pollinium long and slender, viscidium linear; inflorescences up to 9 cm. long, many-flowered: **4**
- 4 Spur sharply bent beneath the lip, much swollen and rounded at apex, 5-5-6-5 mm. long; lip ovate or elliptical-ovate narrowed to a short claw at base, total length 6-9 mm. long; lobes of the rostellum narrow and more or less pointed; stipes of pollinia forked in the upper part; sepals 4-7 mm. long, laterals markedly curved [4. dahomeensis](#)
Spur more or less S-shaped, incurved with the apex slightly recurved, not much swollen at apex, 6-5-11 mm. long; lip ovate or diamond-shaped, narrowed at base, 5-8-5 mm. long; lobes of rostellum blunt and rounded; stipes of pollinia entire; sepals 4-8-5 mm. long, laterals oblique but scarcely curved [5. koehleri](#)

1. **Microcoelia guyoniana** (*Rchb. f.*) *Summerh.* in Bot. Mus. Leafi. Harv. Univ. 11: 144 (1943).

APD: Synonym of Microcoelia globulosa (Ridl.) L. Jonss.

Angraecum guyonianum *Rchb. f.* (1849)-F.T.A. 7: 148.

Flowers white, apical part of spur greenish, brownish or salmon-coloured.

N. Nig.: Gindiri, E. edge of Jos Plateau, 3,000 ft. (Mar.) King! Heipang, Jos (Apr.) Keay et al. FHI 37609!

Also in **C. African Republic, Congo, Uganda, Kenya, Ethiopia, Angola** and **Zambia**.

2. *Microcoelia microglossa* *Summerh.* in Kew Bull. 1936: 231, and in F.W.T.A., ed. 1, 2: 454. *APD acc*

Flowers with a brown line down centre of sepals.

S. Nig.: Oban Talbot!

Also in **Uganda**.

3. *Microcoelia caespitosa* (*Rolfe*) *Summerh.* in F.W.T.A., ed. 1, 2: 454 (1936). *APD acc*

Angraecum caespitosum *Rolfe* in F.T.A. 7: 150 (1897); Cat. Talb. 146.

A. andersonii *Rolfe* in Kew Bull. 1912: 134.

Flowers white, sepals with central green line, lip with central green blotch.

S. L.: Njala (June-Aug.) Deighton 717! 5113! Roruks (July) Deighton 3250! Jala (Sept.) Bunting 77! **Lib.:** Gbanga (Sept.) Linder 603! **iv. C.:** Zago to Gaouloubéré (May) Chev. 16340! Yapo Forest, N. of Abidjan (fr. July) de Wilde 143! Banco Forest, NW. of Abidjan (Sept., fr. Oct.) de Wilde 731! Aké Assi 6021! **Ghana:** Tarquah (Sept.-Dec.) Miles! Kumasi Cox 62! Bunsu (fr. Nov., Mar.) Westwood 59! 59a! Asuanta (July) Benton! **S. Nig.:** Akure F.R., Ondo Prov. (fl. cult. Ibadan, June) Sanford WS/744/64! Gambari F.R., Ibadan (Aug.) Cooper! Sapele (Aug.) Wright! Sapoba, Benin (Aug.) Keay FHI 37911! Oban Talbot 89!

Also in **E. Cameroun, Congo** and **Uganda**.

4. *Microcoelia dahomeensis* (*Finet*) *Summerh.* in F.W.T.A., ed. 1, 2: 454 (1936).

APD: Synonym of Microcoelia konduensis (De Wild.) Summerh.

Dicranotaenia dahomeensis *Finet* in Mém. Soc. Bot. Fr. 9: 47, t. 9, figs. 28-38 (1907).

Flowers white, fragrant.

iv. C.: Yapo Forest, N. of Abidjan (Dec.) de Wilde 1016! **Ghana:** Bunsu, Akim (May) D. Gillett! Irvine 3011! Assuantsi (Aug.) Miles! **Dah.:** Adja Ouére Le Testu 125. **S. Nig.:** Sapoba, Benin Prov. (Dec.) Sanford WS/164/66! Gambari F.R., Ibadan Prov. (May) Sanford WS/927/925/65!

Also in **E. Cameroun, Congo** and **Uganda**.

5. *Microcoelia koehleri* (*Schltr.*) *Summerh.* in Bot. Mus. Leaf. Harv. Univ. 11: 158 (1943). *APD acc*

Angraecum koehleri *Schltr.* in Engl., Bot. Jahrb. 38: 162 (1906).

Flowers white, sepals with brownish or salmon-coloured central line, apex of spur orange or salmon-coloured.

S. Nig.: Ibadan South F.R., Oyo Prov. (Aug.) Keay FHI 22430!

Also in **Rwanda, Burundi, Uganda, Kenya** and **Tanzania**.

40. ENCHEIRIDION

Summerh. in Bot. Mus. Leaf. Harv. Univ. 11: 161 (1943).

- 1 Rostellum much longer than the column, arising from near its apex and projecting forward like a bird's beak; stipes of pollinia very narrow, as long as rostellum, suddenly widened just below insertion of pollinia; viscidium linear, much shorter than the stipes; lip 3-lobed from the base, lateral lobes small, erect, triangular, middle lobe broadly transversely elliptical from a narrow claw, retuse with an apiculus, margins lacerate; spur incurved, swollen at apex, 8-11 mm. long (straightened); sepals and petals 4-6 mm. long; stem short; inflorescence 3-15 cm. long [*macrorrhynchium*](#)

Encheiridion macrorrhynchium (Schltr.) Summerh, l.c. 162 (1943).*APD: Synonym of Microcoelia macrorrhynchia* (Schltr.) Summerh.*Angraecum macrorrhynchium* Schltr. in Engl., Bot. Jahrb. 38: 22 (1905).*Microcoelia macrorrhynchium* (Schltr.) Summerh. in F.W.T.A., ed. 1, 2: 454 (1936).

Flowers white or yellowish, tinged rose or purplish.

Lib.: Ganta (May-July) Harley 1642! 1819! **iv. C.:** Merle 310! **Ghana:** Pamu Berekum F.R. (Sept.) Vigne FH 2490! Juaben, Ashanti (July) Cox 124! Ejura (Sept.) Cox 119! Dodi to Mpreasem (fr. Dec.) Westwood 78! Anum, Trans-Volta (Sept.) Westwood 35! **N. Nig.:** Kotokerifi, Kabba (Oct.) Daramola & Adebuseyi FHI 38404! **S. Nig.:** Olokemeji F.R., Abeokuta (July) Onochie & Latilo FHI 38349! Sanford 1356/65! Akure F.R., Ondo (Aug.) Tamajong FHI 20222!

Also in **E. Cameroun**, **Gabon**, **Congo** and **Uganda**.**41. CHAULIODON***Summerh. in Bot. Mus. Leaf. Harv. Univ. 11; 163 (1943).*

- 1** Stem very short; inflorescences slender, up to 60 cm. long, rather laxly many-flowered; bracts very small; sepals and petals 3-5 mm. long, lateral sepals wider in the upper part, curved abruptly in the middle; lip consisting mostly of the large incurved spur; limb very short and acute, with a tooth-like erect callus about 2 mm. tall just in front of the spur opening; spur 12-14 mm. long, 3-3.5 mm. broad at the mouth, narrowing to just beyond the middle where it is abruptly curved forward, the apical portion slightly swollen; column rather short and recurved, anther drawn out into a long point in front; stipes of pollinia much widened above and enveloping the pollinia, viscidium very small [buntingii](#)

Chauliodon buntingii Summerh. l.c. 164 (1943).*APD: Synonym of Chauliodon deflexicalcaratum* (De Wild.) L. Jonss.

Flowers pale or orange-brown.

Lib.: Mt. Barclay (June) Bunting 9! **Ghana:** Tarkwa (Jan., July) Vigne FH 4838! Cox 120! Bunsu (fr. Sept.) Westwood 150! 163! **S. Nig.:** Ogba Farm, Benin City (July) Maggs 125! Ajagbodudu, Benin (Aug.) Wright 57! Eket Talbot 3287!

42. DIAPHANANTHE*Schltr., Die Orchid. 593 (1914) (incl. Rhipidoglossum Schltr.).*

- 1** Stipites of pollinia attached to a common viscidium; rostellum pointed, divided into two narrow lobes on removal of the viscidium: **2**
 Stipites each with a separate viscidium; rostellum obtuse or rounded, fleshy, shortly 3-lobed on removal of viscidium: **8**
- 2** Stem short, bearing the leaves in a relatively dense tuft, sometimes as much as 9 cm. long but with leaves only in the upper half: **3**
 Stems much elongated, reaching over 1 m. in length, bearing the leaves at more or less regular intervals; leaves oblong-lanceolate to narrowly ovate, very distinctly and acutely bilobed at the apex, 5-14 cm. long, 1.5-4.5 cm. broad; inflorescences 5-18 cm. long, many-flowered, pendulous; sepals 3-5 mm. long; lip quadrate, 3-5 mm. long; spur a little longer than the lip [7. bidens](#)
- 3** Lip quadrate (4-sided) or nearly orbicular, not much narrowed in front, with a short apiculus in the centre of the broad often more or less truncate apex, the margins often toothed or fimbriate: **4**
 Lip narrowly ovate, elliptical-ovate, or elliptical, narrowed towards the apex which is obtuse or subacute, the margins almost or quite entire: **6**
- 4** Sepals 9-11 mm. long; leaves oblanceolate, curved, unequally bilobed or almost entire at the apex, 15-70 cm. long, 2.5-7 cm. broad; inflorescences many-flowered, pendulous, 15-55 cm. long; lip quadrate, 8-11 mm. long, margins shortly fimbriate; spur about as long as the lip [2. pellucida](#)
 Sepals less than 7 mm. long; leaves narrowly oblanceolate or ligulate, acutely bilobed or entire at apex, up to 20 cm. long, 7-30 mm. broad; inflorescences slender, less than 15 cm. long: **5**

- 5 Spur of lip shorter than lamina, less than 3 mm. long; lip suborbicular, 4 mm. long, 4-5 mm. broad, margins scarcely toothed; leaves linear-ob lanceolate, 5-7.5 cm. long, 7-13 mm. broad; inflorescences short, up to 4.5 cm. long, up to 6-flowered; sepals 3.5-4 mm. long [5. suborbicularis](#)
- Spur of lip longer than lamina or rarely equalling it, 5-8 mm. long; lip quadrate or quadrate-ovate, 5-6 mm. long, 4-6 mm. broad, margins usually toothed; leaves narrowly lanceolate or ligulate, up to 20 cm. long, 8-30 mm. broad; inflorescences up to 13 cm. long, many-flowered; sepals 4.5-6.5 mm. long [4. plehniana](#)
- 6 Leaves broadly oblanceolate, 2-5 cm. broad, 10-23 cm. long, unequally acute at apex; lip without any callus at mouth of spur, elliptical-ovate or elliptical, 6.5-8 mm. long, 4-5 mm. broad; spur about equalling the lip; inflorescence 10-25 cm. long, many-flowered [1. dorotheae](#)
- Leaves narrowly lanceolate or ligulate, 0.5-2 cm. broad, 4-15 cm. long; lip with callus at mouth of spur, narrowly ovate or elliptical-ovate; spur distinctly longer than the lip: [7](#)
- 7 Sepals 6-8.5 mm. long; spur 12-15 mm. long, apex broadened, truncate, more or less emarginate; stipites of pollinia very broad, adnate along their inner margins, long fimbriate on outer margins; lip narrowly or lanceolate-ovate, 4-8.5 mm. long; inflorescence 6-15 cm. long, 6-10-flowered; leaves lanceolate-ligulate, acute, 8-20 mm. broad [3. bueae](#)
- Sepals 3.5-5.5 mm. long; spur 6.5-13.5 mm. long, swollen in upper half but apex itself narrow, obtuse; stipites of pollinia narrow, linear, quite separate, entire; lip ovate or narrowly ovate, 3-4.5 mm. long; inflorescence 6-28 cm. long, 6-20-flowered; leaves ligulate or oblong-ligulate, acute or more frequently obtuse, 6-15 mm. broad [6. quintasii](#)
- 8 Stem very short, leaves in a bunch at its apex: [9](#)
- Stem elongated, leaves spaced out along the apical part: [11](#)
- 9 Lip 3-lobed, lateral lobes longly pectinate, front lobe much smaller, tooth-like, entire; petals shortly pectinate; spur filiform, about 2 cm. long; sepals and petals 4-4.5 mm. long; leaves linear-lanceolate, unequally and acutely bilobed at apex, 6-10 cm. long, 7-10 mm. broad; inflorescence 6-11 cm. long, 5-9-flowered [8. polydactyla](#)
- Lip entire or shortly toothed in front, shortly apiculate at apex; petals entire or very shortly toothed or fimbriate: [10](#)
- 10 Spur not quite so long as the lip; lip obovate from a narrow base, margins shortly toothed in front, 1.7-1.9 cm. long, callus at mouth of spur tooth-like; sepals 1.5-2 cm. long; leaves oblanceolate-linear to oblanceolate, 25-50 cm. long, 2-5 cm. broad; inflorescences 10-30 cm. long [9. kamerunensis](#)
- Spur more than 3 times as long as the lip, 10.5-16 mm. long; lip ovate or nearly orbicular with a broad base, 2.5-3 mm. long, callus at mouth of spur rim-like; sepals 3.5-4.5 mm. long; leaves oblanceolate, 4-17 cm. long, 1-4.5 cm. broad; inflorescences 10-35 cm. long, many-flowered [10. curvata](#)
- 11 Spur 2 or more times as long as the lip, not or hardly swollen towards apex; lateral sepals 3-4 mm. long; inflorescence many-flowered: [12](#)
- Spur less than twice as long as the lip, distinctly swollen in the apical part; lateral sepals 2-2.5 mm. long; lip transversely elliptical, about 1.5 mm. long and 3 mm. broad: [13](#)
- 12 Lip longer than broad, 3-3.5 mm. long, quadrate, truncate in front, slightly emarginate with sometimes a small apiculus in the sinus, margins irregular; spur 11-13 mm. long, very slender; viscidia more than half as long as stipites; leaves 9-14 cm. long, 6-16 mm. broad, acute [11. longicalcar](#)
- Lip broader than long, about 2-3 mm. long, 2.5-4.5 mm. broad, flabellate-elliptical, obscurely 3-4-lobed in front; spur 5-12 mm. long; viscidia very small, much less than half as long as stipites; leaves 6-15 cm. long, 5-30 mm. broad, unequally and obtusely bilobed [12. rutila](#)
- 13 Leaves 1.5-2.5 cm. broad, 6-11 cm. long; flowers 1-1.5 mm. apart; inflorescence many-flowered; lip slightly retuse [13. obanensis](#)
- Leaves 5-10 mm. broad, 4-11 cm. long; flowers 4-5 mm. apart; inflorescence up to 20-flowered; lip with a broad blunt projecting apex [14. laxiflora](#)

1. *Diaphananthe dorotheae* (Rendle) Summerh. in Kew Bull. 3: 44 (1949). *APD acc*

Angraecum dorotheae Rendle, Cat. Talb 107 t. 15, figs. 3-5 (1913).

Rangaeris dorotheae (Rendle) Summerh. in F.W.T.A., ed. 1, 2: 450 (1936).

S. Nig.: Oban Talbot 914! 915!

2. *Diaphananthe pellucida* (Lindl.) Schltr. *Die Orchid.* 593 (1914). *APD acc*

Angraecum pellucidum Lindl. (1861)-Cat. Talb. 147.

Listrostachys pellucida (Lindl.) Rchb. f. (1864)-F.T.A. 7: 162.

Flowers white, pale yellow or pinkish.

Guin.: Farana (Feb.) Chev. 20655! Nimba Mts. (Aug., Sept.) Schnell 1868! 3471! 3673! **S. L.:** Kamba (Sept.) Deighton 5184! Njala (Nov.) Deighton 2554! Sini-Koro (Sept.) Jaeger 2040! Kinto to Sini-Koro (Sept.) Jaeger 1815! Kordu, Kisi Kama (Nov.) Glanville 5911! **Lib.:** Moylakwelli to Tolokwelli (Oct.) Linder 1375! Devilbush, Duport (Nov.) Voorhoeve 618! Rebbo to Peters Town (Nov.) Bunting 30! Sanokwele (Sept.) Baldwin 9553! Ganta Harley 1829! **Iv. C.:** Massif de Dans (May) Schnell 1293! Mt. Tonkoui, SW. of Man (fr. Mar.) Leeuwenberg 2962! Oroumba Boka, Toumodi (Oct.) de Wilde 650! **Ghana:** Pamu-Berekum F.R. (Sept.) Vigne FH 2489! Bon, W. Prov. (Nov.) Vigne FH 1586! Akwapim Hills (Oct.) Johnson 857! Juaso, Ashanti (Oct.) Cansdale 124! Alavanyo, Hohoe (Sept.) St.-Cl. Thompson FH 1439! **S. Nig.:** Akure F.R., Ondo (Aug.) Jones FHI 19536! E. of Ondo (Sept.) Keay FHI 22662! Brass R. Barter 37! Ukpon F.R., Ogoja Prov. (July) Latilo FHI 36867! Oban Talbot 900! W. Cam: Barombi (Aug.) Preuss 445! Mahom Nkom-Wum F.R., Bamenda (July) Ujor FHI 30482!

Also in **Annobon**, **E. Cameroun**, **Gabon**, **the Congos** and **Uganda**.

3. *Diaphanante bueae* (Schltr.) Schltr. in Beih. Bot. Centralbl. 36, 2: 96 (1918). *APD acc*

Angraecum bueae Schltr. (1906).

Flowers white and green.

W. Cam.: Buea, 3,300 ft. (June-Aug.) Deistel! Gregory 153!

4. *Diaphanante plehniana* (Schltr.) Schltr. l.c. 97 (1918). *APD acc*

Angraecum plehnianum Schltr. (1905).

Flowers pink to apricot-coloured.

S. Nig.: Down R., Sapoba (Dec.) Sanford. 121/66! Okomu F.R., Benin Prov. (May) Brenan FHI 25330! Onochie FHI 34696! Ajagbodudu Wright 140! Afi Kiver F.R., Ogoja Prov. (June) Jones & Onochie FHI 17343! **W. Cam.:** M'bonge Wright 58/19!

Also in **E. Cameroun**.

5. *Diaphanante suborbicularis* Summerh. in Kew Bull. 12: 278 (1958). *APD acc*

Flowers purplish or pinkish.

Ghana: Kpandu to Wurobong (Oct.) Westwood 158!

6. *Diaphanante quintasii* (Rolfe) Schltr. in Beih. Bot. Centralbl. 36, 2: 99 (1918).

APD: *Synonym of Diaphanante rohrii* (Rchb. f.) Summerh.

Angraecum quintasii Rolfe (1891)-F.T.A. 7: 141.

Flowers greenish white or greenish yellow.

Ghana: Aburi (Oct.) Cox 87! Amedzofe (Sept., Oct.) Westwood 31! 31a! **F. Po:** Moka, 4,600 ft. (Sept.) Melville 436!

Also in **S. Tomé**, **Angola**, **Uganda** and **Kenya**.

7. *Diaphanante bidens* (Sw.) Schltr. Die Orchid. 593 (1914). *APD acc*

Limodorum bidens Sw. (1800)-F.T.A. 21: 243.

Listrostachys bidens (Sw.) Rolfe in F.T.A. 7: 160 (1897).

L. ashantensis (Lindl.) Rchb. f. (1895)-F.T.A. 7: 159.

Mystacidium productum Kraenzl. (1895)-F.T.A. 7: 174.

Angraecum bidens (Sw.) Rendle Cat. Talb. 147 (1913).

Flowers salmon-pink, yellowish pink, flesh-coloured or white.

Port. G.: Cabuchangue to Guébu, Catio (June) Esp. Santo 2069! Bedanda, Jambarem (fr. Jan.) Pereira 2690! **Guin.:** Lola to Nzo (Mar.) Chev. 20991! Nimba Mts. (Apr.) Schnell 1080! **S. L.:** Moa R. (July, Aug.) Dawe 533! Makali (July) Deighton 4404! Njala (Aug.) Deighton 1210! Rokupr (Aug.) Adames 117! Baiima, Gbo (Aug.) Deighton 6110! **Lib.:** Du R. (July) Linder 79! Mt. Barclay (July) Bunting 161! Palilah, Gbanga Dist. (Aug.) Baldwin 9209! St. John R., Ganta (June) Harley 1816! Putu, Eastern Prov. (Mar.) de Wilde & Voorhoeve 3669! **Iv. C.:** Guidéko (May) Chev. 16439! Adiopodoumé (fr. Nov.) Roberty 15502! Issia Rock, Daloa (fr. Nov.) de Wilde 828! Sassandra R. (Apr.) Leeuwenberg 4012! 15 km. NE. of Bianovan (Apr.) Leeuwenberg 3959! **Ghana:** Juaso, Ashanti (Apr.) Cansdale FH 4383! Mankrong, Kwahu (Apr.) Morton A566! Aburi (Apr.) Irvine 516! Nsawami to Aburi (Apr.) Morton A3648! Kumasi (June) Morton A3409! Amedzofe (May)

Scholes 82! **S. Nig.:** Shasha F.R., Ijebu (May) ross 283! Mamu F.R., Ibadan (fr. Sept.) Onochie FHI 7892! Udo, Benin Prov. (May) Umana FHI 29112! Calabar (May) Holland 46! Oban Talbot 912! **W. Cam.:** Victoria (May) Maitland 725! Victoria to Bimbila (May) Preuss 1227! Barombi Preuss 335! Kake II, Kumba (fr. July) Thorold TN30! **F. Po:** nr. S. Isabel Sanford 4011!

Also in **E. Cameroun, Gabon, Rio Muni, the Congos, C. African Republic, Uganda and Angola.**

8. *Diaphanante polydactyla* (Kraenzl.) Summerh. in F.W.T.A., ed. 1, 2: 456 (1936).

*APD: Synonym of *Rhipidoglossum polydactylum* (Kraenzl.) Garay*

Listrostachys polydactyla Kraenzl. in Engl., Bot. Jahrb. 51: 394 (1914).

Crossangis polydactyla (Kraenzl.) Schltr. in Beih. Bot. Centralbl. 36, 2: 142 (1918).

Flowers greenish white.

W. Cam.: Kufum, Bansa Mts., 5,800 ft. (Oct.) Ledermann 5716a!

9. *Diaphanante kamerunensis* (Schltr.) Schltr. in Orchis 8: 137 (1914), in obs.

*APD: Synonym of *Rhipidoglossum kamerunense* (Schltr.) Garay*

Angraecum kamerunense Schltr. in Engl., Bot. Jahrb. 38: 161 (1906).

Flowers pale green.

W. Cam.: Neu Tegel (July) Winkler 209. Ediki (July) Schlechter 15768! Buea, 3,300 ft. (July, Aug.) Deistel! Gregory 566!

Also in **Uganda and Zambia.**

10. *Diaphanante curvata* (Rolfe) Summerh. in F.W.T.A., ed. 1, 2: 456 (1936).

*APD: Synonym of *Rhipidoglossum curvatum* (Rolfe) Garay*

Mystacidium curvatum Rolfe in F.T.A. 7: 174 (1897).

Angraecum curvatum (Rolfe) Schltr. in Engl., Bot. Jahrb. 38: 22 (1905), in obs.; Cat. Talb. 146.

Flowers white, pale green or yellowish green.

S. L.: Grewahum, Tunkia (Aug.) Deighton 4646! **IV. C.:** Lower Sassandra R. to Cavally R. (June, July) Chev. 19248. Boulay I., Ebrie Lagoon (Nov.) de Wilde 827! Assakra, Dimbokro (Nov.) de Wilde 32171 **Ghana:** Ofin Headwaters F.R. (Nov.) Vigne FH 3415! Aburi Johnson 285! Konongo, Ashanti (Nov.) Cansdale 132! Juaben, Ashanti (June) Cox 125! Tapa, Ashanti (Nov.) Westwood 120! **S. Nig.:** Mamu F.R., Oyo Prov. (Aug.) Keay FHI 16243! Ibadan South F.R. (July) Ahmed & Chizea FHI 19778! Gambari F.R., Ibadan (fl. cult. Ibadan, June) Sanford 980/65! Akure F.R., Ondo (June) Charter FHI 38728! Oban Talbot 938!

Also in **E. Cameroun.**

11. *Diaphanante longicalcar* (Summerh.) Summerh. in Kew Bull. 14: 142 (1960). *APD acc*

Rhipidoglossum longicalcar Summerh. in Kew Bull. 1936: 226; F.W.T.A., ed. 1, 2: 449.

Flowers very pale green.

S. Nig.: Ife F.R., Oyo (July) Latilo & Adebisuyi FHI 43454! Kwa R., Obutong Beach Talbot 939! Oban Talbot 937!

12. *Diaphanante rutila* (Rchb. f.) Summerh in Kew Bull. 14: 143(1960).

*APD: Synonym of *Rhipidoglossum rutilum* (Rchb. f.) Schltr.*

Aéranthus rutilus Rchb. f. (1885).

Mystacidium rutilum (Rchb. f.) Dur. & Schinz (1885)-F.T.A. 7: 173.

Rhipidoglossum rutilum (Rchb. f.) Schltr. (1918)-F.W.T.A., ed. 1, 2: 449.

Flowers translucent, pale green or pale yellow, often tinged with rose, brown or purple; **in forests.**

Guin.: Kouria (Aug.) Pobéguin 1678! **S. L.:** Njala (July) Deighton 2784! 4639! Musaia (July) Deighton 4641! Pujehun, Valunia (July) Deighton 5803! **IV. C.:** Tiapleu Forest (July) Aké Assi 8152! Abidjan Lecoufle K508! **Ghana:** Wurubong, Kpandu (Oct.) Westwood 228! Ofinso (July) Vigne FH 4866! Efiduase Cox 38! Buasa (May) D. Gillett! **N. Nig.:** Pankshin,

Plateau Prov. (Aug.) King 125! **S. Nig.:** Mt. Orosun, Idanre Dist. (June) Charter FHI 38714! Okomu F.R., Benin (June) Onochie FHI 31226! Iwo, Oyo (Aug.) Thorold TN33! Ibadan (June, July) Keay FHI 22433! 25334! **W. Cam.:** Mamfe Cole 44b!

Also in **S. Tomé**, **E. Cameroun**, **Gabon** and eastwards and southwards to **Sudan**, **Kenya**, Tanzania, **Angola** and Zambia.

13. Diaphananthe obanensis (Rendle) Summerh. in Kew Bull. 14: 142 (1960).

APD: Synonym of Rhipidoglossum obanense (Rendle) Summerh.

Angraecum obanense Rendle, Cat. Talb. 104, t. 14, flgs. 1-2 (1913).

Rhipidoglossum obanense (Rendle) Summerh. in F.W.T.A., ed. 1, 2: 449 (1936).

Flowers greenish white.

S. Nig.: Oban Talbot 896! Oban F.R., Calabar (Nov.) Markham FHI 50084! **W. Cam.:** M'bonge Wright 58/66!

14. Diaphananthe laxiflora (Summerh.) Summerh. in Kew Bull. 14: 141 (1960). *APD acc*

Rhipidoglossum laxiflorum Summerh. in Kew Bull. 1936: 225; F.W.T.A., ed. 1, 2: 449.

Flowers whitish green or yellow-green.

Iv. C.: Mt. Goula, near Danané (Apr.) Chev. 21213! **Ghana:** Aburi (Mar.) Johnson 858! Amedzofe (Mar.) Westwood 52!

43. SARCORHYNCHUS

Schltr. in Beih. Bot. Centralbl. 36, 2: 104 (1918).

- 1 Stem up to 15 cm. long; leaves linear-oblong, unequally and connivently bilobed at the apex, 3-9 cm. long, 5-13 mm. broad; inflorescence 4-22 cm. long, many-flowered; sepals 2-5-4 mm. long; lip 2-7-3-6 mm. long; spur shorter than the lip, swollen in the apical part [polyanthus](#)

Sarcorhynchus polyanthus (Kraenzl.) Schltr. l.c. 105 (1918).

APD: Synonym of Rhipidoglossum polyanthum (Kraenzl.) Szlach. & Olszewski

Mystacidium polyanthum Kraenzl. (1914).

Sarcorhynchus saccolabioides Schltr. l.c. 105 (1918).

Flowers greenish-white or very pale yellow; **in forest.**

W. Cam.: Kumbo, 6,700 ft. (Oct.) Ledermann 5741! 5763! Bafut-Ngemba F.R., Bamenda (July)! Daramola FHI 41573! **F. Po:** Parador to Moka (fr. Jan.) Sanford 4304!

44. BOLUSIELLA

Schltr. in Beih. Bot. Centralbl. 36, 2: 105 (1918).

- 1 Leaves with a deep V-shaped groove along the upper surface, very fleshy, more or less triangular in section, recurved, 1-5-4 cm. long; inflorescences usually overtopping the leaves, up to 5-5 cm. long; bracts shorter than the flowers; sepals 2-3 mm. long; lip oblong, rounded, 2-2-5 mm. long, spur ellipsoid, a little shorter than the lip [l. iridifolia](#)
Leaves not grooved along the upper surface or margin, flattened in a vertical plane, and arranged in a fan-like manner, more or less fleshy: **2**
- 2 Bracts nearly as long as, or longer than the flowers, overlapping one another at their base; leaves rather fleshy with convex surfaces, 1-3-5 cm. long, 3-9 mm. broad; inflorescences up to 7 cm. long, densely many-flowered; sepals 3-4 mm. long; lip narrowly oblong, 2-3 mm. long, spur shorter than the lip, not much swollen [2. imbricata](#)
Bracts distinctly shorter than the flowers, scarcely overlapping; leaves only slightly fleshy, the surfaces slightly convex or almost flat, up to 8 cm. long: **3**
- 3 Peduncle usually longer than the rhachis; spike dense with flowers almost touching one another; leaves parallel-sided with nearly rounded apices, up to 6 cm. long and 7 mm. broad; inflorescences up to 20 cm. long; sepals

and lip about 3 mm. long; spur nearly as long as the lip [3. batesii](#)

Peduncle usually shorter than the rachis but sometimes equalling it in length; spike relatively lax with distinct spaces between the flowers; leaves narrowly lanceolate, distinctly narrowed in the upper half, the apices acute, up to 8 cm. long and 12 mm. broad; inflorescence up to 10 cm. long; sepals 1.7-4 mm. long; lip 1.7-2.5 mm. long, with a broad base and narrow acute apical part, spur conical, a little longer than or equalling the lip [4. talbotii](#)

1. **Bolusiella iridifolia** (Rolfe) Schltr. in Beih. Bot. Centralbl. 36, 2: 106 (1918). *APD acc*

Listrostachys iridifolia Rolfe in F.T.A. 7: 48 (1897).

Flowers white.

iv. C.: Hiré, Kagbe to Dekadougou (Dec., Aké Assi 9342! **Ghana:** Ofinso (Nov.) Cox 106! Konongo, Ashanti (fr. Jan.) Westwood 79a! Kumasi (fr. Dec.) Westwood 79! Prasu (Oct.) Westwood 178!

Also in **E. Cameroun**, **Congo**, **Uganda**, **Kenya** and **Angola**.

2. **Bolusiella imbricata** (Rolfe) Schltr. l.c. 106 (1918).

APD: Synonym of Bolusiella maudiae (Bolus) Schltr.

Listrostachys imbricata Rolfe in Kew Bull. 1910: 161.

Flowers white, spur pale olive green.

Ghana: Akumadan, Ashanti (Aug.) Vigne FH 2436! Dunkwa (Oct.) Blayney! Ksi to Tamale (fr. Nov.) Westwood 98! Tarkwa (July) Cox 121! Agu Junction, Anum (Sept.) Westwood 42!

Also in **Uganda** and **Kenya**.

3. **Bolusiella batesii** (Rolfe) Schltr. l.c. 106 (1918). *APD acc*

Listrostachys batesii Rolfe in F.T.A. 7: 167 (1897).

Flowers white.

iv. C.: Glike, Tabou (Aug.) Schnell 1689! Davo R., E. of Beyo (fr. Jan.) Leeuwenberg 2595! Tal Forest (Oct.) Aké Assi 6034! Brafouedi rock (Oct.) Aké Assi 4437! **Ghana:** Tarkwa (Nov.) Vigne FH 4809! Asuansi, Central Prov. Westwood 162! Awaso Blayney 3!

Also in **E. Cameroun**.

4. **Bolusiella talbotii** (Rendle) Summerh. in F.W.T.A., ed. 1, 2: 456 (1936). *APD acc*

Angraecum talbotii Rendle, Cat. Talb. 108 t. 15, figs. 6-7 (1913).

Flowers white.

S. L.: Makump (Aug.) Deighton 1436! Makan (Aug.) Thomas 1633! Da Oulen Mt., Loma Mts. (Sept.) Jaeger 1377! **Lib.:** Kailahun, W. Prov. (fr. Nov.) Baldwin 10139! Gowi (July) Harley 1818! Nimba Mts., 1,500 ft. (July) Leeuwenberg & Voorhoeve 4615! 4686! **iv. C.:** 56 km. N. of Sassandra, 300 ft. (July) Leeuwenberg 4561! **Ghana:** Aburi (June) Johnson 4! Tarkwa (fr. Nov.) Vigne FH 4809a! Asuansi Westwood 162a! **S. Nig.:** Oban Talbot 941! Sapoba, Benin Prov. Sanford 341/66! 342/66! **F. Po:** Parador to Moka (Jan.) Sanford 4310!

Also in **Annobon**.

45. CHAMAEANGIS

Schltr. in Beih. Bot. Centralbl. 36, 2: 107 (1918).

1 Flowers always 1 at each node of the inflorescence: **2**

Most of flowers in pairs, or in whorls of 3-6 at each node of the inflorescence (the lower flowers sometimes occur singly); lip entire; inflorescences 8-35 cm. long: **3**

2 Lip oblong, shortly 3-lobed or 3-toothed at the apex, 5-6 mm. long; spur 13-18 mm. long, swollen part ellipsoid-fusiform, 6-10 mm. long; petals oblong, obtuse; leaves 17-43 cm. long, 2.5-4.5 cm. broad; inflorescences 20-50 cm. long; sepals 5-6 mm. long [1. ichneumonea](#)

Lip lanceolate or triangular-lanceolate, acute at the apex, 2.5-3.5 mm. long; spur about 12 mm. long, swollen part about 3-4 mm. long; petals lanceolate, acute; leaves 6-28 cm. long, 0.7-2 cm. broad; inflorescences up to 35 cm. long; sepals 3.5-5 mm. long [2. lanceolata](#)

- 3 Leaves oblong to ligulate, with usually rounded unequally bilobed apices, 10-24 cm. long, 1.5-3 cm. broad, leathery but not very fleshy; flowers in whorls of 3-6; sepals obtuse, 1.5-2.5 mm. long; petals orbicular or very broadly ovate; lip elliptical, about 2 mm. long, spur only slightly swollen in apical half, 7-12 mm. long [3. odoratissima](#)

Leaves linear or narrowly lanceolate, with acute apices, often much curved, 15-40 cm. long, 0.7-3 cm. broad, fleshy, often V-shaped in section; flowers single in lower part of inflorescence, in twos or threes in upper part; sepals acute, 1.5-3 mm. long; petals lanceolate; lip lanceolate, 1.5-3 mm. long, spur at apex swollen into an ellipsoid or globular sac, 4.5-10 mm. long [4. vesicata](#)

1. **Chamaeangis ichneumonea** (Lindl.) Schltr. in Beih. Bot. Centralbl. 36,2: 108 (1918). *APD acc*

Angraecum ichneumoneum Lindl. (1862).

Listrostachys ichneumonea (Lindl.) Rchb. f. (1887)-F.T.A. 7: 163.

Flowers white, cream coloured or greenish brown, fragrant, especially at night.

S. L.: Juring (Dec.) Deighton 318! Massa, Peri (Nov.) Deighton 4959! **Lib.:** Mt. Barclay (June, July) Bunting 15! 157! Karmadhun, Kolahun (Nov.) Baldwin 10201! **Ghana:** Kumasi (Aug.) Cox 122! **S. Nig.:** Jamieson R., Sapoba (Nov.) Keay FHI 22704! Nun R. (Sept.) Mann 520! Degema Talbot 3259!

Also in **Gabon**.

2. **Chamaeangis lanceolata** Summerh. in Kew Bull. 12: 279 (1958). *APD acc*

Flowers greenish ochraceous, faintly fragrant.

S. Nig.: Jamieson R., Sapoba (Nov.) Meikle 607! Kennedy 2731! 2732! Oban F. R. (Nov.) Markham FHI 50083!

3. **Chamaeangis odoratissima** (Rchb. f.) Schltr. in Beih. Bot. Centralbl. 36, 2: 108 (1918). *APD acc*

Angraecum odoratissimum Rchb. f. in Bonplandia 4: 326 (1856).

Flowers pale green, greenish yellow or greenish ochraceous.

S. L.: Jau, Gegbwema (Jan.) Deighton 3889! Sefadu (Oct., Nov.) Deighton 4920! **Lib.:** Soplina, Vonjama Dist. (Oct.) Baldwin 10038a! Sanokwele (Sept.) Baldwin 9524! **iv. C.:** Diapé to Adzopé (Oct.) de Wilde 746! Davo R., E. of Béyo (fr. Jan.) Leeuwenberg 2585! **N. Nig.:** Tibba Plateau, Sardauna Prov. King 190! **S. Nig.:** Orakin, Eket Dist. (Oct.) Daramola FHI 55294! Ukon River F. R., Obubra Floyer 6! **W. Cam.:** Buea (May, Oct.) Gregory 153a! 299! Chew 11!

Also in **Gabon, C. African Republic, the Congos, Uganda** and **Kenya**.

4. **Chamaeangis vesicata** (Lindl.) Schltr. l.c. 109 (1918). *APD acc*

Angraecum vesicalum Lindl. (1843).

Listrostachys vesicata (Lindl.) Rchb. f. (1865)-F.T.A. 7: 163.

Flowers green to yellow, fragrant at night.

Guin.: Socourala (fr. Jan.) Chev. 20505! Nzérékoré (June) Jac.-Fél. 956! **S. L.:** Bonabie (Aug.) Dawe 560! Musaia (Aug., Sept.) Deighton 4642! 4904! **Lib.:** Ganta (May, June) Harley 1643! 1813! **iv. C.:** Bouroukrou Chev. 16907b! Katiola Boyco M7! **Ghana:** Assuantsi Fishlock 29! Offin Valley (Oct.-Dec.) Miles 10! Apla, E. Prov. (Oct.) Vigne FH 4046! Agu, Anum Junction (Sept.) Westwood 40! Kumasi (Sept.) Cox 102! **S. Nig.:** Olokemeji F. R., Abeokuta Keay FHI 26733! Iwo, Oyo (Aug.) Thorold TN33a! Idanre Hills, Ondo Dist. Keay & Brenan FHI 22428! Akure F. R., Ondo (Aug.) Jones FHI 19544! Eket Talbot 3758! **F. Po:** Parador to Moka (Jan.) Sanford 4315!

Also in **E. Cameroun, Gabon, Congo, Uganda, Kenya** and **Tanzania**.

46. PLECTRELMINTHUS

Rafin., Fl. Tellur. 4: 42 (1836).

- 1 Stem rather short, rarely up to 15 cm. long; leaves closely imbricate at base, oblong or elliptical-oblong, almost equally bilobed at apex with rounded lobes, 10-30 cm. long, 1.5-3.5 cm. broad; inflorescence 25-60 cm. long, 4-10-flowered; sepals and petals lanceolate-linear, acuminate, the former 3.5-5 cm. long; lip about as long as

the sepals, 1-2.5 cm. broad in the middle; spur 17-25 cm. long, spirally twisted [caudatus](#)

Plectrelminthus caudatus (Lindl.) Summerh. in Kew Bull. 3: 441 (1949). *APD acc*

Angraecum caudatum Lindl. (1836)-Cat. Talb. 147.

Listrostachys caudata (Lindl.) Rchb. f. (1864)-F.T.A. 7: 153; Stapf in Johnston, Lib. 654.

Leptocentrum caudatum (Lindl.) Schltr. (1914)-F.W.T.A., ed. 1, 2: 457.

Flowers with green tepals and white lip.

Guin.: Beyla (June) Jac. -Fél. 975! **S. L.:** Gbap (June) Adames 53! Mongheri to Booma, Lunia (Aug.) Deighton 5125! Musaia (June) Jordan 2155! Mabum (Aug.) Thomas 1523! Bendu (July) Adames 67! **Lib.:** Wanau Forest, Ganta (Apr.) Harley 2181! Grand Bassa Bunting 67! 85! **Iv. C.:** Yapo Forest Oldeman 245! Bondoukou (May) Duffaut in Hb. Aké Assi! Abidjan Boyco K223! **Ghana:** Ejura (Oct.) Vigne FH4863! Vane to Amedzofe (June) Westwood 2! **N. Nig.:** Gwari, Niger Prov. (Aug.) Onochie FHI 18265! Kaciya, Zaria Prov. (June-Oct.) G. V. Summerhayes 80! 116! Keffi to Jos, Plateau Prov. (July) Sanford WS/1116/65! **S. Nig.:** Brass R. Barter 1858! Oban Talbot 898! Sonkwala Kundeve, Ogoja (June) Keay & Savory FHI 25323! **W. Cam.:** Victoria (June) Nditapah FHI 52406!

Also in **Gabon, C. African Republic and Congo.**

47. AERANGIS

Rchb. f. in Flora 48: 190 (1865). *APD acc*

- 1 Spur 13-22 cm. long, spirally twisted; leaves broadly oblanceolate, unequally bilobed at apex, 7-23 cm. long, 1.5-6 cm. broad; inflorescences 15-60 cm. long, up to 15-flowered; sepals and petals 2-3 cm. long; lip about the same length, much wider than the sepals in the middle [1. kotschyana](#)
 Spur less than 8 cm. long, not much twisted, sometimes curled at apex: **2**
- 2 Leaves linear or narrowly strap-shaped, less than 1 cm. broad; sepals less than 12 mm. long: **3**
 Leaves more or less oblanceolate, often much wider in the upper half, usually over 1.5 cm. broad; sepals usually over 12 mm. long, often much longer: **4**
- 3 Spur 2.5-4 cm. long, apex usually incurved; leaves 3-8 cm. long, 4-8 mm. broad, shortly unequally and acutely bilobed at apex, rather thin in texture; sepals 7-12 mm. long, subacute; inflorescence up to 11 cm. long, up to 8-flowered; lip oblong-lanceolate [5. calantha](#)
 Spur 6-7.5 cm. long, not incurved at apex; leaves 10-22 cm. long, 6-9 mm. broad, rounded-bilobed at apex, rather thick and stiff; sepals 7-8 mm. long, rounded at apex; inflorescence 13-40 cm. long, many-flowered; lip ovate or elliptical-ovate [6. laurentii](#)
- 4 Distance between bracts subtending flowers less than 2.5 cm.; spur 3-5.5 cm. long; sinus between apical lobes of leaf acute or obtuse, shorter lobe with a distinct free end; leaves oblanceolate, 6-22 cm. long, 1.2-6 cm. broad; inflorescences 9-40 cm. long, 5-20-flowered; sepals 1.2-2.5 cm. long; lip very similar to the sepals, usually a little broader [3. biloba](#)
 Distance between bracts subtending flowers more than 2.5 cm.; spur 5.5-7 cm. long; leaves obliquely acute or obscurely bilobed at apex, sinus scarcely distinguishable; sepals lanceolate, acuminate; lip almost indistinguishable from the sepals: **5**
- 5 Inflorescence 10-21 cm. long, 2-5-flowered, rhachis almost straight, relatively stout, bracts 7-9 mm. long; sepals 2-3 cm. long; leaves 5-15 cm. long, 1-2.5 cm. broad, no sinus at apex [2. gravenreuthii](#)
 Inflorescence 30-60 cm. long, 5-15-flowered, rhachis zigzag in upper part, very slender, bracts 3-5 mm. long; sepals 2 cm. long or less; leaves 7-18 cm. long, 2-5.5 cm. broad, sinus at apex very shallow; column slender, 5 mm. long [4. arachnopus](#)

1. Aërangis kotschyana (Rchb. f.) Schltr. in Beih. Bot. Centralbl. 36, 2: 118 (1918). *APD acc*

APD: *Synonym of Aerangis verdickii (De Wild.) Schltr.*

Angraecum kotschy anum Rchb. f. (1864)-F.T.A. 7: 137.

Flowers white, sometimes tinged pink, spur pink or salmon coloured, fragrant.

Guin.: Higuelande, Fouta Djallon (June) Adam 14627! Timbi Madina, Pita (July) Adames 295! **S. L.:** Musaia (June) Deighton 5060! **N. Nig.:** Mada Hills Hepburn 82! Jos (June, July) Powis! Lely P3811 Naraguta (June) Lely 272! Rukuba King!

Also in **Sudan, Uganda, Kenya, Tanzania, Congo, Zambia and Mozambique.**

2. *Aërangis gravenreuthii* (Kraenzl.) Schltr. l.c. 117 (1918). *APD acc**Aëranthus gravenreuthii* Kraenzl. (1893).*Mystacidium gravenreuthii* (Kraenzl.) Rolfe in F.T.A. 7: 171 (1897).*Angraecum stella* Schltr. in Engl., Bot. Jahrb. 38: 163 (1906).

Flowers white, spur reddish.

W. Cam.: W. of Buea, Cam. Mt., 6,000-6,300 ft. (May, June) Preuss 891! Deistet! Neu-Tegel (July) Schlechter 15794. Bafut-Ngembu F. R. (May) Keay FHI 37933! **F. Po:** Pico Boca, 4,500-5,000 ft. Sanford 4256! 4257!3. *Aërangis biloba* (Lindl.) Schltr. Die Orchid. 598 (1914). *APD acc**Angraecum bilobum* Lindl. (1840)-F.T.A. 7: 138.

Flowers white, sometimes flushed pink, ovary pink, fragrant at night.

Sen.: Emaye, Oussouye (Sept.) Doumbia 784! **Guin.:** (Aug.) Pobéguin! Kissidougou (June) Martins 319! **S. L.:** Karima (Aug.) Deighton 4403! Musaia (July) Deighton 5108! Hangha (Aug.) Deighton 4336! Rokupr (Aug.) Adames 119! **Lib.:** Zwedru, Tchien Dist. (Aug.) Baldwin 7031! Palilah, Gbanga Dist. (Aug.) Baldwin 9208! Ganta (Aug.) Harley 1648! **Iv. C.:** Dyola Country, Upper Sassandra (May) Ripert in Hb.Chev. 21538! Mt. Goula Chev. 21221! Danané (Aug.) Schnell 1586! **Ghana:** Trawa, E. Prov. (June) Vigne FH 4390! 4391! Kintampo, Ashanti (June) Westwood 1a! Achimota (May) Akpabla! Kpandu (June) Andoh FH 5326! Amedzofe (Apr.-June) Vohringer in Scholes 92! Morton A3421! **Togo Rep.:** Baumann 592! **N. Nig.:** Bornu, Gwari, Niger Prov. (Aug.) Onochie FHI 35947! Ose stream, Kabba, Westwood! Dogon Kurmi, Jemaa Div. (Aug.) Killick 41! **S. Nig.:** Ibadan South F.R. (July) Keay FHI 22432! Ibadan (fr. Sept.) Ujor FHI 42077! Ogbesse F. R., Ondo Prov. (July) Onochie FHI 33360! Mt. Orosun, Idanre, Ondo (Aug.) Jones FHI 20711! Obubra, Ogoja Prov. (Aug.) Adebusi FHI 43951! **W. Cam.:** M'bonge Wright 58/12!4. *Aërangis arachnopus* (Rchb. f.) Schltr. in Beih. Bot. Centralbl. 36, 2: 113 (1918).*Angraecum arachnopus* Rchb. f. (1854)-F.T.A. 7: 140.

Flowers white or pink.

Ghana: cult. specimens!Also in **E. Cameroun**, **Gabon** and **Congo**.

[It is possible that the original specimens were introduced via Ghana and that the species is not a native of that country.- V.S.S.]

5. *Aërangis calantha* (Schltr.) Schltr. l.c. 115 (1918). *APD acc**Angraecum calanthum* Schltr. in Engl., Bot. Jahrb. 38: 20 (1905).

Flowers white, not fragrant, spur pale greenish.

Ghana: Kumasi (Apr.) Cox 123! 123a! Bobiri (Apr.) Westwood 135! Jiyetl, Bunsu (Apr.) Westwood 216!Also in **E. Cameroun**, **Congo**, **Uganda**, **Tanzania** and **Angola**.6. *Aërangis laurentii* (De Wild.) Schltr. l.c. 118 (1918).*APD:* *Synonym of Summerhayesia laurentii* (De Wild.) P.J. Cribb*Angraecum laurentii* De Wild., Not. Pl. Util. Congo 1: 322 (1904).

Flowers whitish yellow or cream coloured.

Lib.: Ganta (Jan., Feb.) Barley 1769! 1850! **Ghana:** Kumasi (Dec.) Vigne FH 4090! Efiduase Cox 16!Also in **Congo**.

48. BAROMBIA

Schltr., Die Orchid. 600 (1914). *APD acc*

- 1 Stem short; leaves oblanceolate, unequally bilobed at apex, 10-25 cm. long, 2-6.5 cm. broad; inflorescence 25-80 cm. long, 3-11-flowered; sepals and petals very narrow, 4-5.5 cm. long; spur very slender, swollen at end, 17-

22 cm. long [gracillima](#)

Barombia gracillima (*Kraenzl.*) *Schltr.* in *Beih. Bot. Centralbl.* 36, 2: 124 (1918).

APD: *Synonym of Aerangis gracillima* (*Kraenzl.*) *Arends & J. Stewart*

Angraecum gracillimum *Kraenzl.* (1893)-*F.T.A.* 7: 140.

Flowers white or pale green, ends of tepals reddish, spur pale brown.

W. Cam.: Barombi (Sept.) Preuss 459!

Also in **Gabon**.

49. RANGAËRIS

Summerh. in *Kew Bull.* 1936: 227.

- 1 Lip 3-lobed, 5-9 mm. long, middle lobe lanceolate or linear, obtusely acuminate, lateral lobes much shorter, almost orbicular, crenulate or dentate; stem very long and slender, leaves placed at intervals of 2-5 cm; leaves narrowly oblong-lanceolate, acute, 4-8 cm. long, 1-2 cm. broad; inflorescence few-flowered, 4-12 cm. long; sepals and petals 6.5-8.5 mm. long; spur 3.5-4.5 cm. long [4. trilobata](#)
Lip entire, sometimes slightly crenulate along the lower margins:.....2
- 2 Spur 15-19 cm. long; stem elongated, about 0.5 cm. diam.; leaves narrowly oblong, obscurely unequally bilobed at apex, 6-12 cm. long, 1-1.5 cm. broad; inflorescences 8-15 cm. long, 3-4-flowered, bracts 10-15 mm. long; sepals and petals lanceolate, acuminate, 2-3.5 cm. long; lip like sepals; column semi-terete, about 6 mm. long; viscidium rectangular, 3 mm. long, stipites much broadened in the upper part [3. longicaudata](#)
Spur less than 10 cm. long:3
- 3 Bracts broadly ovate or almost orbicular, obtuse, sheathing at base, 2.5-7 mm. long; lip lanceolate with a thickened callose apex; viscidium single, rectangular, elliptical, or ovate, longer than broad; rostellum 3-lobed, middle lobe much shorter than laterals; leaves in a bunch at the base, 6-17 cm. long; inflorescences as long as or a little shorter than the leaves; sepals 6-9 mm. long:.....4
Bracts lanceolate, acute, not much sheathing, 2-5 mm. long; lip without thickened apex, about 4-6 mm. long, 2-4 mm. broad; viscidia 2, orbicular, scarcely longer than broad; middle lobe of rostellum longer than laterals; spur about equalling the lip, straight; leaves ligulate or slightly wider in the upper part, 6-16 cm. long, 1-2 cm. broad; sepals 4-6.5 mm. long [5. brachyceras](#)
- 4 Spur almost straight, 5-9 cm. long; leaves thin, V-shaped in section, very shortly bilobed or retuse at apex, the lobes rounded, 1-1.9 cm. broad; ovary glabrous or slightly scurfy [1. muscicola](#)
Spur incurved at apex, 7-14 mm. long; leaves fleshy. Iris-like, lying in a vertical plane, acute and entire at apex, 5-10 mm. broad; ovary densely hairy [2. rhipsalisocia](#)

1. **Rangaëris muscicola** (*Rchb. f.*) *Summerh.* in *F.W.T.A.*, ed. 1, 2: 450 (1936). *APD acc*

Aéranthus muscicola *Rchb. f.* (1865).

Listrostachys muscicola (*Rchb. f.*) *Rolfe* in *F.T.A.* 7: 158 (1897).

Angraecum batesii (*Rolfe*) *Rendle*, *Cat. Talb.* 146 (1913).

Flowers white with orange or flesh-coloured spur, fragrant.

Guin.: Dalaba Caille in *Hb. Chev.* 18128b! Pita (fr. Apr.) Chillou 1225! **S. L.:** Mapaki to Mobonto, N. Prov. (Aug.) Deighton 1214! Kabala (Aug.) Deighton 4898! Bintumane Peak, Loma Mts. (Aug., Jan.) Jaeger 1181! 4003! **Lib.:** Nimba (Sept.) Adames 491! 538! **Ghana:** Offin Valley, Ashanti (Oct.-Dec.) Miles 9! Efiduase (Sept.) Cox 30! Juaben (May) Cox 126! Awaso Blayney 13! **S. Nig.:** Omo saw mills, Ijebu to Benin (Aug.) Sanford WS/1743/65! Sonkwala, Ogoja Prov. (Sept.) Keay FHI 25380! Oban Talbot 897! **W. Cam.:** Kumba (July) Schlechter 15770!

Also in **E. Cameroun, Congo, Uganda, Kenya, Tanzania, Angola, Zambia, Rhodesia, Mozambique, Natal** and **Cape Province**.

2. **Rangaëris rhipsalisocia** (*Rchb. f.*) *Summerh.* in *F.W.T.A.*, ed. 1, 2: 450 (1936).

Angraecum rhipsalisocium *Rchb. f.* (1865).

Listrostachys rhipsalisocia (*Rchb. f.*) *Rolfe* in *F.T.A.* 7: 158 (1897).

L. colarum *A. Chev.*, *Bot.* 622, name only.

Flowers white or cream coloured, with greenish spur, fragrant at night.

Sen.: Gateau! Soutou, Casamance (Mar.) Berhaut 7184! **Guin.:** Sahadougou (Mar.) Chev. 20883! Dalaba (Aug.) Adames 325! Nimba Mts. (Apr.) Schnell 1210! **S. L.:** Makump (Feb.) Deighton 2878! Kpema to Male, Nongowa (Jan.) Deighton 4568! Mambolo (Feb.) Adames 217! Kambaia, Sulima (Feb.) Small 6033! Kabala (Feb., Mar.) Deighton 4588! **Lib.:** Ganta (Feb., Nov.) Harley 1849! 1949! **Iv. C.:** Issia to Daloa (Nov.) de Wilde 841! W. of Niapidou (fr. Feb.) Leeuwenberg 2780! **Ghana:** Mampong (Dec.) Adams 4527! Kumasi (Dec.) Westwood 55! Agu Junction, Anum (Nov.) Westwood 75! Efiduase Cox 12! **S. Nig.:** Umu Alwa (Jan.) Carpenter 177! Ibadan to Abeokuta (Mar.) Schlechter 13031! N. of Idl Iya, Ibadan (Feb.) Keay FHI 21165! Oke Owa, Oyo Prov. (Mar.) Keay FHI 21184! Mt. Orosun, Idanre, Ondo (Feb.) Brenan 8969! **W. Cam.:** Kumba (fr. Mar.) Thorold CM12! Lus, Nkambe Div. (Feb.) Hopper 1876!

Also in **E. Cameroun**, **Congo** and **Angola**.

3. **Rangaëris longicaudata** (Rolfe) Summerh. in F.W.T.A., ed. 1, 2: 449 (1936).

Mystacidium longicaudatum Rolfe in F.T.A. 7: 170 (1897).

S. Nig.: Lagos Millen 188! Sonkwala Dist. (Nov.) FHI Staff FHI 42078! Cross River North F.R. (Nov.) Cooper 79!

4. **Rangaëris trilobata** Summerh. in Kew Bull. 1936: 229. *APD acc*

Sepals salmon pink, petals and lip white.

S. Nig.: Eket (May) Talbot 3299! Onochie & Latilo FHI 32937!

Also in **Gabon**.

5. **Rangaëris brachyceras** (Summerh.) Summerh. in Kew Bull. 1936: 228. *APD acc*

APD: *Synonym of Cribbia brachyceras* (Summerh.) Senghas

Aérangis brachyceras Summerh. in Kew Bull. 1934: 213.

Rangaëris biglandulosa Summerh. in Kew Bull. 1936: 228; and in F.W.T.A., ed. 1, 2: 450.

Flowers pale yellowish or white, often with a greenish tinge, fragrant; in montane forest.

Guin.: Diaguissa-Dalaba Plateau, 3,300-4,300 ft. (Oct.) Chev. 18782! Kouba Nangal, Kourou (Sept.) Adames 349! Nimba Mts. (Aug.) Schnell 3726! **S. L.:** Bintumane Peak, Loma Mts., 6,000 ft. (Aug.) Jaeger 1178! 4274! **S. Nig.:** Obudu Plateau, 3,000 ft. Cooper 42!

Also in **S. Tomé**, **Congo**, **Uganda**, **Kenya** and **Zambia**.

50. CYRTORCHIS

Schltr., Die Orchid. 595 (1914).

- 1 Viscidium linear, gradually tapering from apex to base, equal in texture throughout its length; sepals 1-2.5 cm. long; spur 2.5-4.5 cm. long:2
- Viscidium composed of a broad rather stiff hardened upper portion with recurved edges and a linear, hyaline and very thin lower portion:3
- 2 Leaves with nearly parallel sides, rigid and stiff in texture, cross veins not visible, almost equally bilobed at the apex with semi-orbicular lobes, 8-20 cm. long, 1.3-3 (usually less than 2.5) cm. broad; inflorescence up to 16 cm. long, flowers closely placed[L. ringens](#)
- Leaves oblong-elliptical or oblanceolate, tapering distinctly at both ends, not very rigid or stiff, the cross veins usually visible, especially in dried specimens, unequally bilobed at apex with more or less connivent lobes, 5-20 cm. long, 1.7-5.5 cm. broad; inflorescence up to 30 cm. long, middle flowers at intervals of 1-2 cm.[2. monteiroae](#)
- 3 Upper hardened part of viscidium over 3 mm. long, longer than the hyaline part; spur 9-15 cm. long, very slender; sepals 3-5 cm. long; leaves oblong-oblanceolate or oblong, unequally bilobed at apex with connivent rounded lobes, 8-25 cm. long, 1.7-3.5 cm. broad; inflorescences up to 24 cm. long, bracts broad and sheathing, 1-2.5 cm. long[3. chailluana](#)
- Upper hardened part of viscidium less than 2.5 mm. long, usually distinctly shorter than the hyaline part; spur usually less than 6 cm. long but sometimes up to 10 cm. and then distinctly wider in the basal than in the apical half:4
- 4 Leaves long and narrow, with almost parallel sides, often very fleshy and apparently terete, almost equally bilobed at the apex, 8-22 cm. long, 2.5-15 mm. broad; anther only shortly extended in front, which is often

much toothed; hardened upper part of viscidium short and broad, not tapering towards the hyaline part; sepals 1-2 cm. long; spur recurved or more or less S-shaped, 1.5-4 cm. long; bracts 5-10 mm. long[6. aschersonii](#)

Leaves relatively broad, 1.3-4 cm. broad, unequally bilobed at the apex; anther in front extended into a long tapering entire or almost entire appendage; hardened upper part of viscidium tapering towards the hyaline part; inflorescences 5-17 cm. long; bracts often over 1 cm. long:[5](#)

- 5** Spur with a thickened hooked or almost rolled-up apex, 3.5-5 cm. long; leaves ligulate, 9-24 cm. long, 1.5-4 cm. broad; sepals 2-4 cm. long[5. hamata](#)

Spur almost straight, or more or less curved, but apex not hooked or rolled-up; leaves 8-24 cm. long, 1.5-4 cm. broad:[6](#)

- 6** Spur 6-10.5 cm. long; sepals 2.5-5 cm. long; stipites of viscidium broadly oblanceolate [4a. arcuata subsp. whytei](#)

Spur less than 6 cm. long:[7](#)

- 7** Stipites of the pollinia narrowly oblanceolate; hyaline part of viscidium twice as long as the hardened part; anther toothed in front; sepals 1.2-2 cm. long; spur 3.5-4.5 cm. long, not much curved ..[4b. arcuata subsp. leonensis](#)

Stipites of the pollinia broadly oblanceolate; hyaline part of viscidium about half as long again as the hardened part; anther entire in front; sepals 1.5-3.5 cm. long; spur 3-5.5 cm. long, almost straight or somewhat S-shaped[4c. arcuata subsp. variabilis](#)

1. *Cyrtorchis ringens* (Rchb. f.) Summerh. in Kew Bull. 12: 87 (1958).

APD: Synonym of Homocolleticon ringens (Rchb. f.) Szlach. & Olszewski

Listrostachys ringens Rchb. f. in Gard. Chron., ser. 2, 10: 266 (1878).

L. bistorta (Rolfe) Rolfe in F.T.A. 7: 156 (1897).

L. hookeri Rolfe in F.T.A. 7: 154 (1897).

L. ignoti Kraenzl. in Engl., Bot. Jahrb. 51: 395 (1914).

Cyrtorchis bistorta (Rolfe) Schltr. (1918)-F.W.T.A., ed. 1, 2: 460.

Flowers white, weakly fragrant.

Sen.: Oussouye, Casamance (Mar.) Berhaut 7256! **S. L.:** cult. plant! **Lib.:** Kitoma (Oct.) Harley 1834! **Iv. C.:** Tai Forest (Oct.) Aké Assi 6032! Mt. Tonkoui (Oct.) Aké Assi 6025! W. of Niapidou (ft. Jan.) Leeuwenberg 2497! **Ghana:** No locality (cult. Achimota, Oct.) Westwood 157! Nkawkaw Westwood 207! **S. Nig.:** Lagos Moloney! Calabar (Oct.) Daramola FHI 56434! **W. Cam.:** Cam. Mt., 3,000-6,000 ft. (May-Nov.) Mann 2114! Maitland 735! Gregory 199! M'bonge Wright 58/28! Bafut-Ngemba F.R., Bamenda (May) Daramola FHI 41182!

Also in **E. Cameroun**, **S. Tomé**, **Congo**, **Burundi**, **Uganda**, **Tanzania** and **Rhodesia**.

2. *Cyrtorchis monteiroae* (Rchb. f.) Schltr. Die Orchid. 596 (1914).

APD: Synonym of Homocolleticon monteriroae (Rchb. f.) Szlach. & Olszewski

Listrostachys monteiroae Rchb. f. (1877)-F.T.A. 7: 156 (as monteirae).

Angraecum aschersonii of Cat. Talb. 147, not of Kraenzl.

Flowers white or cream with greenish or orange-tinged spur, fragrant.

S. L.: Gegbwema, Tunkia (Dec.) Deighton 5717! Fairo, Soro (Dec.) Deighton 5977! **Lib.:** Totokwelli, Medina (Oct.) Linder 1295! Begwai (Oct.) Bunting 23! Boporo, W. Prov. (Nov.) Baldwin 10388! Gbanga, Central Prov. (Dec.) Baldwin 10543! Ganta (Dec.) Harley 1845! **Ghana:** Ankobra Valley (Nov., Dec.) Miles 18! Ejura (Oct.) Vigne FH 4872! Juaben, Ashanti (June) Cox 128! **S. Nig.:** Idanre F.R. (Sept.) Keay FHI 56544! Sapoba Kennedy 1911! Calabar Williams! Oban Talbot 936! **W. Cam.:** Barombi Preuss 418! Buea (Aug., Sept.) Dundas FHI 15302! Keay FHI 25379! Gregory! 181!

Also in **E. Cameroun**, **Congo**, **Principe**, **Gabon**, **Uganda** and **Angola**.

3. *Cyrtorchis chailluana* (Hook. f.) Schltr. Die Orchid. 596 (1914). *APD acc*

Angraecum chailluanum Hook. f. (1866)-Cat. Talb. 147.

Listrostachys chailluana (Hook. f.) Rchb. f. (1885)-F.T.A. 7: 153.

Flowers white or cream.

S. Nig.: Nun R. (Sept.) Mann 521! Igbesa Millen 193! Sapoba Kennedy 1913! Okomu F.R., Benin (Oct.) Keay FHI 25438! Calabar (Sept.) Keay FHI 13348! Oban Tdibot 135! **W. Cam.:** Victoria (Sept.) Ngongi FHI 15082! Buea Preuss 372!

Also in **E. Cameroun**, **Gabon**, **the Congos** and **Uganda**.

4. *Cyrtorchis arcuata* (Lindl.) Schltr. Die Orchid. 596 (1914).4a. *Cyrtorchis arcuata* subsp. *whytei* (Rolfe) Summerh. in Kew Bull. 14: 147 (1960). *APD acc*

Listrostachys whytei Rolfe in F.T.A. 7: 155 (1897).

Flowers white, fragrant at night.

S. L.: Musaia (Oct., Nov.) Deighton 4955! Kambaia, Sulima (Oct.) Small 492! Jagbwema, Faiama (Sept.) Deighton 6139! Bonthe (Oct.) Adames 89! source of Niger to Masadou (Oct.) Jaeger 171! **Lib.:** Cape Palmas (Nov.) Harley 2244! Fisherman's L., Grand Cape Mt. (fr. Dec.) Baldwin 10903! **iv. C.:** Brafouédi, NW. of Abidjan (ft. Dec.) Leeuwenberg 2311! **Ghana:** Aframso, E. Prov. (Oct.) Vigne FH 4035! Dutukpene, Krachi (Oct.) Morton A3733! Plateau F.R., Wiawia (Oct.) St. Cl. -Thompson 1559! Kpedze to Kpeve (Sept.) Westwood 49! 49a!

Also in **Tanzania** and **Malawi**.

4b. *Cyrtorchis arcuata* subsp. *leonensis* Summerh. in Kew Bull. 14: 149 (1960). *APD acc*

Flowers white, fragrant.

S. L.: Mateboi, Sanda Tenraran (June) Adames 229! Batkanu (May) Deighton 4312! Njala (June) Deighton 4313! Musaia (May) Deighton 5543! Masingbe, Kunika Sanda (May) Deighton 5059!

4c. *Cyrtorchis arcuata* subsp. *variabilis* Summerh. in Kew Bull. 14: 148 (1960). *APD acc*

Listrostachys sedenii Rechb. f. (1878)-F.T.A. 7: 154.

Cyrtorchis sedenii (Rechb. f.) Schltr. (1918)-F.W.T.A., ed. 1, 2: 461, in greater part.

Flowers white or cream with greenish or yellowish spur, fragrant.

Guin.: Pita, Fouta Djallon (Sept.) Adames 352! **Lib.:** Ganta (Nov.) Harley 1842! **iv. C.:** Disandougou to Niangouépleu (May) Chev. 21527! **Ghana:** Gura (July) Vigne FH 1257! Kumasi to Tamale (Apr.) Westwood 96! **Dah.:** Atacora Mts. (June) Chev. 24215! **N. Nig.:** Tukuruwa R., Zaria (June) Keay FHI 25886! Ribako F.R., Zaria (May) Keay FHI 22899! Vom, Plateau Prov. Dent Young! Munchi, Abinsi (June) Dalz. 838! **S. Nig.:** Okwoga to Udah (July) Kitson!

Eastwards to **Kenya** and southwards in E. Africa to Tanzania and Zambia.

5. *Cyrtorchis hamata* (Rolfe) Schltr. Die Orchid. 596 (1914). *APD acc*

Listrostachys hamata Rolfe in Bot. Mag. 132: t. 8074 (1906).

Flowers white with a green spur.

Ghana: Aburi (May, June) Johnson 227! Irvine 3034! Kumasi (July) Andoh FH 5049! Awaso Blayney 23! Mampong, Ashanti (June) Westwood 105! Kpeve (Jan.) Westwood 80! **N. Nig.:** Kabba (Aug.) Westwood 270! **S. Nig.:** Ibadan South F.R. (Aug.) Keay FHI 25373! Olokemeje F.R. (Aug.) J. B. Gillett 15338! Idanre Hills, Ondo (Sept.) Keay FHI 22439! Akure F.R., Ondo (July) Onochie FHI 23420! Owo F.R., Ondo (July) Onochie FHI 33245!

6. *Cyrtorchis aschersonii* (Kraenzl.) Schltr. in Beih. Bot. Centralbl. 36, 2: 129 (1918). *APD acc*

Angraecum aschersonii Kraenzl. (1889).

Listrostachys aschersonii (Kraenzl.) Dur. & Schinz (1895)-F.T.A. 7: 156.

Flowers white, fragrant.

S. L.: Yagoi (July, Aug.) Deighton 5107! **Ghana:** Goaso, Ashanti (May) Westwood 119! Awaso Blayney 9! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan & Keay FHI 22407! Sapoba Kennedy 234! Shasha F.R., Ijebu (May) Ross 287! **W. Cam.:** Bambui, 5,000 ft. (June) Brunt 494!

Also in **E. Cameroun** and **Congo**.

Cyrtorchis brownii (Rolfe) Schltr. in Beih. Bot. Centralbl. 36: 129 (1918). *APD acc*

Listrostachys brownii Rolfe in Kew. Bull. 1906: 378.

Angraecum latibracteatum De Wild. (1916).

Cyrtorchis latibracteatum (De Wild.) Schltr. (1918).

Flowers white.

iv. C.: Hiré (Nov.) Aké Assi 9225! Taï (Oct.) Aké Assi 6031!

Also in [Uganda](#), [Tanzania](#) and [Congo](#).

Additional Species

51. SOLENANGIS

Schltr., in *Beih. Bot. Centralbl.* 36, 2: 133 (1918).

- 1 Sepals and petals 5-7 mm. long; lip entire, spur 2-2.5 cm. long; inflorescences 2-9 cm. long, bracts 1-2.5 mm. long; leaves elliptical-lanceolate, 3-9 cm. long, 0.8-2.5 cm. broad [1. scandens](#)
- Sepals and petals 1.5-2 mm. long; lip 3-lobed, all lobes very short, laterals larger than middle lobe, spur 5-7 mm. long; inflorescences 5-15 mm. long, bracts less than 1 mm. long; leaves broadly lanceolate or ovate-elliptical, 1.5-4 (rarely to 5.5) cm. long, 0.6-1.5 cm. broad [2. clavata](#)

1. *Solenangis scandens* (*Schltr.*) *Schltr.* in *Beih. Bot. Centralbl.* 36, 2: 134 (1918). *APD acc*

Angraecum scandens *Schltr.* (1900)-Cat. Talb. 146.

Flowers white, greenish white, greenish yellow or pinkish; [common epiphyte on cacao and other crops](#).

S. L.: Yonibana (Oct.) Thomas 4112! **Lib.:** Farmington R. Bridge (Sept.) Voorhoeve 501! Boporo, W. Prov. (Nov.) Baldwin 10248! Harrisburg (Sept.) Barker 1421! **iv. C.:** Banco Forest, Abidjan de Wilde 729! 730! **Ghana:** Offin Valley, Ashanti (Oct.-Dec.) Miles 14! Tiasi (Oct.) Vigne FH 1389! Amentia, S. Ashanti (Apr.) Vigne FH 2906! Bunsu (Nov.) Westwood 57! Juaso, Ashanti (Apr.) Cansdale FH 4387! Tafo, E. Prov. (Sept.) Andoh FH 4529! **S. Nig.:** Sapoba, Benin (Aug.) Onochie FHI 23423! Igbehue, Benin (Sept.) Thorold TN32! Idanre F.R., Ondo (fr. Aug.) Okafor & Daramola FHI 35289! Ikayi, Ondo (Sept.) Thorold TN35! Oban Talbot 893!

Also in [E. Cameroun](#), [Gabon](#), [S. Tomé](#) and [the Congos](#).

2. *Solenangis clavata* (*Rolfe*) *Schltr.* l.c. 134 (1918). *APD acc*

Angraecum clavatum *Rolfe* in F.T.A. 7: 145 (1897).

Flowers entirely white or tepals green and lip white; [epiphytic or on rocks](#).

S. L.: Gbinti, N. Prov. (July) Deighton. 2507! Kambia (fr. Jan.) Sc. Elliot 4223! Petifu Creek (Aug.) Pelly 143! **Lib.:** Gbi National Forest, nr. Gran Toun (Oct.) Voorhoeve 551! Begwai (Oct.) Bunting 14! Jaurazon, Sinoe (fr. Mar.) Baldwin 11480! Ganta (Aug.) Harley 1826! **iv. C.:** Bouroukrou Chev. 16525! Tiassalé to Divo Chev.! Brafoüédi, Adiopodoumé (fr. Dec.) de Wit 473! Banco Forest, Abidjan (Oct.) de Wilde 733! 3193! E. of Beyo (fr. Jan.) Leeuwenberg 2540! **Ghana:** Oda (Oct.) Fishlock 56! Brenase, Akim (fr. Apr.) Irvine 560! S. Fomang Su F.R. (Oct.) Andoh FH 4248! Amentia, Ashanti (Aug.) Vigne FH 3999! Bunsu (Nov.) Westwood 58! **S. Nig.:** Lagos Moloney! Abeokuta (May) Killick 226! Jamieson R., Sapoba (June) Onochie FHI 23322! 31237! Usonigbe F.R., Benin (fr. Nov.) Ejiofor FHI 24655! Benin (June, July) Gregory 552! **W. Cam.:** Kumba to Tombel (May) Olorunfemi FHI 30602!

Also in [E. Cameroun](#) and [the Congos](#).

52. DINKLAGEËLLA

Mansf. in *Fedde, Rep.* 36: 63 (1934).

- 1 Spur about 2.5 mm. long, much swollen from a narrow base; lip 6.5-7.5 mm. long, trilobed in the upper third only, lobes narrowly ovate with narrowed obtuse apices; leaves lanceolate-ligulate, 1.3-2.7 cm. long, 5-9 mm. broad; inflorescences 1.5-2.5 cm. long, 2-3-flowered; pollinia a little larger than the stipes; sepals about 5 mm. long, narrowly oblong [1. minor](#)
- Spur 2.5-3 cm. long, gradually narrowed from a wide mouth and only slightly inflated near the apex; lip 16-17 mm. long, trilobed in the upper two-thirds, lobes broadly oblong, rounded at the apex; leaves narrowly elliptical, 1.7-3.5 cm. long, 8-15 mm. broad; inflorescences 5-7 cm. long, about 3-6-flowered; pollinia much smaller than the stipes; sepals 7-8.5 mm. long, elliptical [2. liberica](#)

1. *Dinklageëlla minor* *Summerh.* in *Kew Bull.* 14: 156 (1960). *APD acc*

Flowers white.

Lib.: Ganta (Aug.) Harley 1828! 2158! **Ghana:** Aburi (Oct.) Cox 86!

2. Dinklageëlla liberica *Mansf.* l.c. 64 (1934) *APD acc*

Flowers white tinged with orange, fragrant.

Lib.: Sinoe R. (Nov.) Dinklage 2321! **iv. C.:** Banco Forest (Oct.) de Wilde 732! Brafouédi Rocks (Oct.) Aké Assi 4435! **S. Nig.:** Sapoba Kennedy 1900! Calabar (Oct.) Lloyd 9! **W. Cam.:** Buea (Oct.) Chew 25!

53. EURYCHONE

Schltr. in Beih. Bot. Centralbl. 36, 2: 134 (1918).

- 1 Stem up to 7 cm. long; leaves broadly oblanceolate, unequally and subacutely bilobed at the apex, 7-17 cm. long, 1.5-5 cm. broad; inflorescences up to 8 cm. long, up to 6-flowered; sepals and petals 2-2.5 cm. long; lip about equalling the sepals, 2-2.5 cm. broad; spur 2-2.5 cm. long [rothschildiana](#)

Eurychone rothschildiana (*O'Brien*) *Schltr.* l.c. 135 (1918). *APD acc*

Angraecum rothschildianum *O'Brien* (1903).

Tepals white or greenish; lip white with green centre and chocolate blotch at base.

Guin.: Bossou, Nzérékoré (July) Schnell 1428! **S. L.:** Mandu, S. Prov. (July) Deighton 2221! **iv. C.:** Guidéko to Zozoro (June) Chev. 19053! **Ghana:** Tano R. Valley (July) Miles! Monkey Hill, Bekwai Cox 112! Kintampo, Ashanti (June) Westwood 115! **N. Nig.:** Amban to Kamwai, Plateau Prov. King 196! **S. Nig.:** Afi River F.R., Ogoja Prov. (June) Jones & Onochie FHI 18948! Ibadan South F.R. (June) Keay FHI 25335! Sapele Wright 155! Mamu F.R. Cooper 65! Ilaro F.R. (June) Onochie FHI 3441! **F. Po:** Parador, 2,500 ft. Sanford 4233!

Also in **Congo** and **Uganda**.

54. ANCISTRORHYNCHUS

Finet in Mém. Soc. Bot. Fr. 2: 44 (1907). *APD acc*

Cephalangraecum *Schltr.* (1918)-F.W.T.A. ed. 1, 2: 461.

- 1 Leaves 3 cm. long or less, narrowly oblong, 3-7.5 mm. broad, shortly bilobed with rounded lobes; inflorescences very short, 1-3-flowered; bracts small, much shorter than the flowers; tepals oblong, 2-3 mm. long; lip broadly ovate, 2-3 mm. long; spur 2-2.5 mm. long, slightly swollen above the base; stem elongated, up to 15 cm. long [8. schumannii](#)
- Leaves much longer than 3 cm.; inflorescences more than 3-flowered, often many-flowered; bracts small or exceeding the flowers in length: **2**
- 2 Stipes of pollinia single but shortly forked at the apex; leaves usually very unequally bilobed at apex, the shorter lobes sometimes almost or completely suppressed; inflorescence up to 4 cm. long, only moderately dense, bracts short, much shorter than the flowers; lip distinctly 3-lobed, the middle lobe much crisped; spur more or less S-shaped, swollen at apex: **3**
- Stipites of pollinia 2, distinct; leaves with rounded or subacute apical lobes which are sometimes toothed; inflorescences in the form of dense heads, often with large chaffy bracts nearly as long as the flowers; lip entire or only indistinctly 3-lobed; spur straight or slightly curved: **4**
- 3 Apical lobes of leaf very acute and unequal in length, the longer one up to 7 cm., the shorter one sometimes quite lacking so that the apex appears to be entire; leaves stiff and leathery, up to 1.8 m. long and 3-6 cm. broad; sepals 3-5.5 cm. long; lip 5-7.5 mm. long [1. clandestinus](#)
- Apical lobes of leaf subacute or obtuse, the longer one up to 4 cm., both sometimes shortly lobulate; leaves less stiff, relatively broader, up to 37 cm. long, 0.7-3 cm. broad; sepals 3-4.5 mm. long; lip 4-5.5 mm. long [2. recurvus](#)
- 4 Apex of leaf serrate or with a few sharp teeth on each side just below: **5**
- Apex of leaves bilobed but margins quite entire: **6**
- 5 Leaves 1.5-3 cm. broad 17-44 cm. long, often tapering in the upper part, with a few sharp teeth on each side below the apex, lobes themselves with a small sharp point; sepals 3.5-6.5 mm. long; lip a little longer than broad, 4.5-5.7 mm. long, 3.5-5 mm. broad; spur 7-11 mm. long [3. capitatus](#)
- Leaves 7-10 mm. broad, 5-11 cm. long, with parallel sides, with rounded irregularly serrate lobes at the apex, margins otherwise entire; sepals 3-3.5 mm. long; lip distinctly broader than long, 2.5 mm. long, 4-4.5 mm. broad; spur 4-4.5 mm. long [6. serratus](#)

- 6 Spur over 5 mm. long, usually distinctly longer than the lip; sepals 4·5-7 mm. long:.....7
 Spur 4 mm. long or less, about as long as, or shorter than, the lip; sepals 1·5-5 mm. long:8
- 7 Leaves 7-35 cm. long, 8-19 mm. broad; lip as broad as long, or broader, indistinctly 3-lobed with rounded lobes, 4-7 mm. long, 4-9 mm. broad; spur 6-10 mm. long4. *cephalotes*
- 8 Sepals 1·5-2·5 mm. long; leaves 3-13 mm. broad, 5-13 cm. long, rather unequally bilobed at the apex, the lobes sometimes divergent; lip 3-lobed at base, about 1·75 mm. long; spur 1·5-3·5 mm. long, equalling or slightly longer than the lip; bracts shorter than the pedicel and ovary7. *straussii*
- Sepals 3·5-5 mm. long; leaves 7-24 mm. broad, 5-21 cm. long, slightly unequally bilobed at apex, the lobes straight or connivent; lip entire, 3·5-4·5 mm. long and broad; spur 2·5-4 mm. long, usually shorter than the lip; bracts large scarious, longer than the pedicel and ovary5. *metteniae*

1. **Ancistrorhynchus clandestinus** (Lindl.) Schltr. in Beih. Bot. Centralbl. 36, 2: 138 (1918); F.W.T.A., ed. 1, 2: 462 (excl. syn. *A. recurvus* Finet and Cummins 87). *APD acc*

Angraecum clandestinum Lindl. (1837).

Listrostachyt clandestina (Lindl.) Rolfe in F.T.A. 7: 161 (1897).

Angraecum brunneo-maculatum Rendle, Cat. Talb. 105, t. 14, figs. 6-9 (1913).

Ancistrorhynchus brunneo-maculatus (Rendle) Schltr. l.c. 138 (1918).

Ancistrorhynchus stenophylus (Schltr.) Schltr. l.c. 139 (1918).

Flowers white, lip with green markings in throat.

S. L.: Kuntaia (June) Thomas 430! Kamalu (May) Thomas 491! Bubuya (May) Adames 174! Karina (Mar.) Deighton 5752! Njala (June) Deighton 4314! **Lib.:** Ganta (Mar.) Harley 1796! **iv. C.:** Lecoufle K551! Tai Forest (fr. Oct.) Aké Assi 6038! **Ghana:** R. Fia, Techiman, Ashanti (ft. Oct.) Westwood 201! Akpafu (Apr.) Scholes 2074! Doyi bridge, Hohoe (July) Westwood 19! **N. Nig.:** Jemaa King! Zonkwa, Zaria Prov. G. V. Summerhayes! **S. Nig.:** Upper Ogun Estate, Oyo Prov. (May) Sanford FHI 56582! Aponmu, Ondo Prov. (July) Onochie FHI 33371! Onitsha Barter 444! Eket Talbot 3744! Ekong to Ndingane, Oban (May) Talbot 943! **W. Cam.:** Buea (Jan.) Schlechter 12843!

Also in **E. Cameroun**, **Gabon** and **Congo**.

2. **Ancistrorhynchus recurvus** Finet in Mém. Soc. Bot. Fr. 2: 46, t. 9, figs. 15-17 (1907). *APD acc*

Ancistrorhynchus clandestinus Summerh. in F.W.T.A., ed. 1, 2: 462, partly, not of (Lindl.) Schltr.

Flowers white.

Guin.: Timbo to Conakry Pobéguin 788. **Ghana:** Nkawkaw (fr. Oct.) Westwood 208! Assin-Yan-Kumasi Cummins 87! **S. Nig.:** Ajagbodudu Wright 158! **W. Cam.:** M'bonge Wright 58/50!

Also in **Gabon** and **Uganda**.

3. **Ancistrorhynchus capitatus** (Lindl.) Summerh. in Bot. Mus. Leafl. Harv. Univ. 11: 205 (1944). *APD acc*

Angraecum capitatum Lindl. (1862).

Listrostachys capitata (Lindl.) Rchb. f. (1865)-F.T.A. 7: 166.

Cephalangraecum capitatum (Lindl.) Schltr. (1918)-F.W.T.A., ed. 1, 2: 461.

Flowers white or pale rose coloured, yellow patches on inside of lip.

S. L.: Koyeima (Oct.) Deighton 3360! **Lib.:** Firestone Plantation No. 3 Linder 64! Nimba (Sept.) Adames 558! **S. Nig.:** Brass R. Barter 1857! Okomu F.R., Benin Dist. (May) Olorunfemi FHI 25315! **F. Po:** Pico S. Isabel, 3,000 ft. (fr. Dec.) Sanford 4066!

Also in **Congo** and **Uganda**.

4. **Ancistrorhynchus cephalotes** (Rchb. f.) Summerh. l.c. 206 (1944). *APD acc*

Listrostachys cephalotes Rchb. f. (1872)-F.T.A. 7: 166.

L. glomerata (Ridl.) Rolfe in F.T.A. 7: 166 (1897).

Cephalangraecum glomeratum (Ridl.) Schltr. (1918)-F.W.T.A., ed. 1, 2: 461.

Flowers white, with green or yellow blotches on the lip, fragrant.

Guin.: Farana (fr. Jan.) Chev. 20469! **S. L.:** Messima, Kpukumo Krim (June) Deighton 5106! Bumpe, Rokupr (July) Adames 215! Musaia (June) Deighton 4316! **Lib.:** Mt. Barclay (June) Bunting 7! Ganta (May, Nov.) Harley 1811! 1948! **iv. C.:** Mt. Mafa Aké Assi 9658! **Ghana:** Achimota (May) Akpabla! Aburi (May) Westwood 6! Awaso Blayney 21!

Breniasi, E. Krachi (fr. Dec.) Westwood 159! Amedzofe (June) Morton A3416! **N. Nig.:** Zonkwa to Kaciya, Zaria Prov. (Apr.) G. V. Summerhayes 85! **S. Nig.:** Ilesha F.R., Ondo (fl. cult. Ibadan, Apr.) Sanford WS/1680/65! Okomu F.R., Benin (May) Keay & Brenan FHI 25315! Nun R. Barter 20106!

5. *Ancistrorhynchus metteniae* (Kraenzl.) Summerh. l.c. 209 (1944). *APD acc*

Listrostachys metteniae Kraenzl. (1893).

L. braunii Dur. & Schinz-F.T.A. 7: 166.

Cephalangraecum braunii (Dur. & Schinz) Summerh. in F.W.T.A., ed. 1, 2: 462 (1936).

Flowers white with yellow or green blotches on the lip.

S. L.: Roruks (July) Deighton 4330! 4833! **N. Nig.:** Jemaa, Zaria Prov. Cole 10! **S. Nig.:** Lagos Moloney! **W. Cam.:** Cam. Mt., 5,000 ft. Braun 19! M'bonge Wright 58/29! Bambuluwe to Bamuko, Bamenda (July) Daramola FHI 41585!

Also in **S. Tomé**, **Congo**, **Uganda** and **Tanzania**.

6. *Ancistrorhynchus serratus* Summerh. in Kew Bull. 20: 195, fig. 12 (1966). *APD acc*

Listrostachys braunii Rolfe in F.T.A. 7: 167 (1897), as to Mann 2123.

Flowers white.

S. Nig.: Obudu Plateau, Ogola Prov., 5,000 ft. (May) Head 95! **W. Cam.:** Cameroon Mt. 5,000 ft. (fr. Nov.) Mann 2123! **F. Po:** Ruiché to Caldera San Carlos, 4,000 ft. Sanford 4363!

7. *Ancistrorhynchus straussii* (Schltr.) Schltr. in Beih. Bot. Centralbl. 36, 2: 139 (1918). *APD acc*

Angraecum straussii Schltr. (1906)-Cat. Talb. 146.

Cephalangraecum straussii (Schltr.) Summerh. in F.W.T.A., ed. 1, 2: 462 (1936).

Flowers white with green spots on the lip.

iv. C.: Oroumbo Boka (May) Aké Assi 8874! **S. Nig.:** Akampa Rubber Estate, Dunkwe Div. (Mar.) Latilo FHI 45447! Calabar Wright 103! Oban Talbot 940! **W. Cam.:** Moliwe (Aug.) Schlechter 15771! M'bonge Wright 58/48! Bamenda (June) Cooper 13/1!

Also in **Congo** and **Uganda**.

8. *Ancistrorhynchus schumannii* (Kraenzl.) Summeth. in Kew Bull. 2: 281 (1948). *APD acc*

Angraecum schumannii Kraenzl. (1889)-Cat. Talb. 146.

Mystacidium schumannii (Kraenzl.) Rolfe in F.T.A. 7: 173 (1897).

Phormangis schumannii (Kraenzl.) Schltr. in Beih. Bot. Centralbl. 36, 2: 104 (1918).

Tridactyle schumannii (Kraenzl.) Summerh. in F.W.T.A., ed. 1, 2: 462 (1897).

Flowers white.

S. Nig.: Oban Talbot 895! **W. Cam.:** (?) near Victoria Braun 20! M'bonge Wright 58/15!

Also in **E. Cameroun** and **Congo**.

55. ANGRAECOPSIS

Kraenzl. in Engl., Bot. Jahrb. 28: 171 (1900). *APD acc*

- 1 Spur longer than the lip, 6-38 mm. long, very slightly or not at all swollen in the apical part:2
 Spur about the same length as the lip, or shorter, 2-5 mm. long; petals narrowly or triangular-ovate, longer than broad:3
- 2 Petals broader than long (measured from apex to base of central vein) broadly triangular, 1.7-2.2 mm. long, 2.3-3 mm. broad; spur 12-38 mm. long; leaves elliptical-oblong, elliptical-ligulate or ligulate, 2-11 cm. long, 4-13 mm. broad, apical lobes unequal, rounded or obtuse; inflorescences 3-9 cm. long [1. ischnopus](#)
 Petals longer than broad, triangular, 1.5-2 mm. long, 1.3-1.8 mm. broad; spur 6-9 mm. long; leaves narrowly ligulate, curved, up to 18 cm. long, 4-12 mm. broad, acute or very unequally lobed with the shorter lobe tooth-like; inflorescences up to 17 cm. long [2. parviflora](#)
- 3 Leaves linear or narrowly ligulate, somewhat curved, 2.9-5 cm. long, 4-15 mm. broad; side lobes of lip slightly longer than the middle lobe; spur shorter than the lip, distinctly swollen at the apex, 2-3 mm. long; lateral

sepals scarcely widened in the apical half, 3·5-4 mm. long; petals 2-2·7 mm. long, about 1·5 mm. broad; inflorescences 4-7 cm. long [3. tridens](#)

Leaves elliptical-oblong or oblanceolate, scarcely curved, 4-10 cm. long, 1-2·5 cm. broad; side lobes of lip distinctly shorter than the middle lobe; spur about equalling the lip, not much if at all swollen at the apex, 2·7-5·2 mm. long; lateral sepals distinctly widened in the apical half, 3-4·7 mm. long; petals 2-2·3 mm. long, 1·5-2 mm. broad; inflorescences 3·5-18 cm. long [4. elliptica](#)

1. **Angraecopsis ischnopus** (*Schltr.*) *Schltr.* Die Orchid. 601 (1914). *APD acc*

Angraecum ischnopus *Schltr.* in Notizbl. Bot. Gart. Berl. 4: 170 (1905).

S. L.: Bintumane Peak, Loma Mts. (fr. Oct.) Jaeger 289! **Guin.:** Nimba Mts. (Sept., Oct.) Schnell 3729! 3851! **N. Nig.:** Mambila Plateau, 5,500 ft. Wimbush in Hb. King 132! **W. Cam.:** Buea (May) Deistel!

2. **Angraecopsis parviflora** (*Thou.*) *Schltr.* Die Orchid. 601 (1914). *APD acc*

Angraecum parviflorum *Thou.*, Orch. Iles Austr. Afr. t. 60 (1822).

Mystacidium pedunculatum *Rolfe* in F.T.A. 7: 175 (1897).

Flowers white or greenish white.

W. Cam.: Buea Gregory 870a!

Also in **Tanzania**, **Malawi**, **Rhodesia**, **Mozambique**, **Madagascar**, **Mauritius** and **Réunion**.

3. **Angraecopsis tridens** (*Lindl.*) *Schltr.* in Beih. Bot. Centralbl. 36, 2: 141 (1918). *APD acc*

Angraecum tridens *Lindl.* (1862).

Mystacidium tridens (*Lindl.*) *Rolfe* in F.T.A. 7: 174 (1897).

Angraecum occidentale (*Kraenzl.*) *Rolfe* in F.T.A. 7: 142 (1897).

Flowers very pale green or yellow-green.

W. Cam.: Buea, Cam. Mt., 4,100 ft. (Sept.) Preuss 965! Gregory! **F. Po:** 4,000 ft. (Sept.) Mann 646! Moka, 4,600 ft. (Sept.) Melville 418!

4. **Angraecopsis elliptica** *Summerh.* in Bot. Mus. Leaf. Harv. Univ. 14: 250 (1951). *APD acc*

Flowers pale green sometimes with orange tinge on lip.

N. Nig.: Kuchamfa, Zaria Prov. (Sept.) King 57! Sha, Plateau Prov., 4,300 ft. King 57a! **W. Cam.:** Wum L., Bamenda (Aug.) Savory 338! Buea, Cam. Mt. Gregory 194! 556!

(?) Also in Congo.

56. EGGELINGIA

Summerh. in Bot. Mus. Leaf. Harv. Univ. 14: 235 (1951).

- 1 Epiphyte; stems elongated, slender; leaves distichous, ligulate or oblong-ligulate, 2-5 cm. long, 5-9 mm. broad, unequally 2-lobed at apex; inflorescence very short, 2-6-flowered; flowers white or yellowish-white; sepals 3-5 mm. long; lip broadly lanceolate, 3-3·5 mm. long; spur 2·5-4 mm. long, much swollen [clavata](#)

Eggelingia clavata *Summerh.* l.c. 238 (1951). *APD acc*

Iv. C.: Lakato to Sassandra (Nov.) Aké Assi 9229! **Ghana:** Ofinso, Ashanti (Aug.) Cox 99! Westwood 126! Jegeti, Accra to Kumasi (Aug.) Westwood 166!

Also in **Gabon** and **Congo**.

57. TRIDACTYLE

Schltr., Die Orchid. 601 (1914).

- 1 Leaves needle-like, almost terete, with a groove along the upper surface, up to 12 cm. long, but only 1-2 mm. diam.; inflorescences very short, up to 7 mm. long, few-flowered; sepals 1·5-2·5 mm. long; lip trilobed above

- the middle, the side lobes tooth-like, triangular, much shorter than the middle-lobe; spur slender, 6-8 mm. long [5. tridentata](#)
- Leaves not needle-like, more or less flattened though sometimes fleshy, more than 4 mm. broad: **2**
- 2** Spur distinctly shorter than the lip; lip trilobed: **3**
- Spur much longer than the lip, often more than twice as long: **4**
- 3** Inflorescences less than 5 mm. long, few-flowered; spur 4-5-6 mm. long, club-shaped; leaves linear-lanceolate or narrowly ligulate, 4-7-5 cm. long, 4-9 mm. broad, unequally bilobed at apex; lip 6-7 mm. long, side lobes spreading; sepals 3-4-5 mm. long [6. lagosensis](#)
- Inflorescences 2-6 cm. long, many-flowered; spur less than 1 mm. long, not at all swollen above the base; leaves ligulate, 6-11 cm. long, 7-10 mm. broad, only slightly unequally bilobed at apex; lip 3 mm. long, side-lobes projecting forward; sepala 2-5-3-5 mm. long [9. brevicecarata](#)
- 4** Spur 3 cm. long or longer: **5**
- Spur less than 2-5 cm. long: **6**
- 5** Side lobes of lip reduced to teeth; lip 6-5 cm. long with long narrow acute middle lobe; spur 3 cm. long, slightly thickened towards apex; leaves linear-oblong, broadly and obtusely bilobed at apex, 5-6-5 cm. long, 7-9 mm. broad; sepals 7-7-5 mm. long; inflorescence unknown, but probably short [3. muriculata](#)
- Side lobes of lip much longer than middle lobe, divided into short or long fimbriae at apex; lip 7-14 mm. long (from apex of ovary), middle lobe triangular-lanceolate, 2-5 mm. long, side lobes 7-9-5 mm. long; spur 3-5-8-5 cm. long, not at all thickened; leaves ligulate, 8-20 cm. long, 7-30 mm. broad; sepals 6-9 mm. long; inflorescences 3-5-11 cm. long, up to 12-flowered [12. gentilii](#)
- 6** Side lobes of lip much diverging, as long as or longer than the middle lobe; inflorescence up to 8 cm. long, many-flowered; leaves ligulate or lanceolate-ligulate, unequally bilobed at apex, 5-20 cm. long: **7**
- Side lobes of lip reduced to teeth, much shorter than the middle lobe, or absent: **9**
- 7** Side lobes of lip divided in upper part into numerous hair-like portions; leaves narrowly ligulate, not much narrowed in upper part, 4-10 mm. broad, only rarely broader; spur slender, 11-23 mm. long; sepals 3-5-5-5 mm. long [11. bicaudata](#)
- Side lobes of lip entire, or rarely very shortly divided at the apex; leaves ligulate or lanceolate-ligulate, distinctly but gradually narrowed in the upper part, 1-2 cm. broad: **8**
- 8** Spur very slender, scarcely thickened in the apical part, 7-11 mm. long; sepals 3-5-5 mm. long; lip 3-5-6 mm. long, 5-5-8 mm. broad across the side lobes [10. tridactylites](#)
- Spur distinctly swollen in the apical two-thirds, 6-8-5 mm. long; sepals 2-5-4-5 mm. long; lip 2-5-4-5 mm. long, 3-5-5-6 mm. broad across the side lobes [8. armeniaca](#)
- 9** Inflorescences up to 4 cm. long; leaves linear-ligulate, unequally bilobed at apex, up to 18 cm. long and 13 mm. broad; flowers not lepidote; sepals 2-4 mm. long; lip equalling sepals, ovate with a short tooth on each side below the middle; spur 5-8 mm. long [7. fusifera](#)
- Inflorescences very short, less than 5 mm. long, 1-3-flowered; ovary and sepals with numerous black scurfy hairs or scales (lepidote); basal auricles of lip prominent: **10**
- 10** Leaves very fleshy, more or less deltoid or V-shaped in section, the upper surface concave with a narrow groove along the centre, the lower surface convex, sometimes with a rounded keel, lanceolate-ligulate, distinctly tapering towards the apex, 3-8 cm. long, 6-10 mm. broad, unequally bilobed; sepals 3-5-5 mm. long; lip lamina entire or side lobes extremely small; spur slender, 10-15 mm. long [2. crassifolia](#)
- Leaves flat or sometimes convex as a result of the recurving of the margins, sometimes rather fleshy, ligulate, oblong or elliptical-oblong, usually not much tapering in the upper part: **11**
- 11** Leaves rather fleshy, broadly ligulate, oblong or elliptical-oblong, broadly and obtusely bilobed at the apex, 2-8 cm. long, 7-20 mm. broad; sepals 3-5-5-5 mm. long; lip lamina usually entire but basal auricles well developed and acute; spur 6-15 mm. long [1. anthomaniaca](#)
- Leaves scarcely fleshy, ligulate or narrowly oblong, unequally bilobed at the apex, 3-12 cm. long, 7-17 mm. broad; sepals 4-6 mm. long; lip lamina entire, basal auricles triangular, acute; spur 10-15 mm. long [4. oblongifolia](#)

1. *Tridactyle anthomaniaca* (Rchb. f.) Summerh. in Kew Bull. 2: 284 (1948). APD acc

Listrostachys anthomaniaca Rchb. f. (1877).

Angraecum lepidotum Rchb. f. ex Rolfe in F.T.A. 7: 146 (1867).

Tridactyle lepidota (Rchb. f. ex Rolfe) Schltr. (1918)-F.W.T.A., ed. 1, 2: 463.

Flowers green, yellow-green, pale yellow or white.

S. L.: Njala (Oct., Nov.) Deighton 2566! 4373! Yagoi, Jong R. (Nov.) Adames 102! Massa, Peri (Nov.) Deighton 5974! Roruks (Nov.) Deighton 4374! **Lib.:** Sakimpa (Dec.) Harley 1843! **Iv. C.:** Moossou (Nov.) de Wilde 979! Aké Assi 5450!

S. Nig.: Jameson R., Sapoba (Nov.) Ross 228! Warri Gregory 507! Onitsha (May) Onochie FHI 35807! Oban Talbot! Ibeso, Eket (May) Onochie FHI 32090! **W. Cam.:** Cam. Mt. King 123! Bakundu F.R., Kumba (June) Adebuseyi FHI 44047!

Eastwards to **Kenya**, Tanzania, Zambia and Mozambique.

2. **Tridactyle crassifolia** *Summerh.* l.c. 286 (1948). *APD acc*

Flowers green, greenish yellow or ochre-brown.

Ghana: Efiduase Cox 33! Awaso (Feb.) Blayney 2! Juaso, Ashanti (Jan.) Westwood 110!

Also in **Gabon** and **the Congos**.

3. **Tridactyle muriculata** (*Rendle*) *Schltr.* in Beih. Bot. Centralbl. 36, 2: 146 (1918). *APD acc*

Angraecum muriculatum *Rendle*, Cat. Talb. 105, t. 14, figs. 3-5 (1913).

S. Nig.: Oban Talbot 904!

4. **Tridactyle oblongifolia** *Summerh.* in Kew Bull. 2: 286 (1948).

APD: *Synonym of Tridactyle anthomaniaca* (*Rchb. f.*) *Summerh. subsp. anthomaniaca*

Flowers green or whitish green, turning yellow or yellowish orange.

S. L.: Roruks? (cult. Njala, Nov.) Deighton 4393! **Iv. C.:** Sassandra R., near Gribo rapids (Nov.) de Wilde 3293! **S. Nig.:** Akure F.R., Ondo Prov. (Oct., Nov.) F.H.I. Staff FHI 42061!

Also in **C. African Republic**, **Congo** and **Uganda**.

5. **Tridactyle tridentata** (*Harv.*) *Schltr.* in Engl., Bot. Jahrb. 63: 603 (1915), in obs. *APD acc*

Angraecum tridentatum *Harv.*, Thes. Cap. 2: 6 (1863).

Flowers whitish, pale ochre-yellow or salmon-pink.

Guin.: Dalaba (Aug.) Adames 332! Nimba Mts. (Oct.) Schnell 3800! Kissidougou (Oct.) Jaeger 2153! Guéckédou (July) Jac.-Fél. 1038! **S. L.:** Roruks (Aug.) Deighton 4331! **Iv. C.:** Moroero (Feb.) Oldeman 988! **Ghana:** Kwapon (Dec.) Oldeman 740! Miabo, Wurupong, Kpandu (fr. May) Morton A3938!

Also in **the Congos**, **Uganda**, **Kenya**, **Tanzania** and **Natal**.

6. **Tridactyle lagosensis** (*Rolfe*) *Schltr.* in Beih. Bot. Centralbl. 36,2: 145 (1918). *APD acc*

Angraecum lagosense *Rolfe* in F.T.A. 7: 145 (1897).

S. Nig.: Barter! Lagos Moloney! Eket Talbot 3298!

7. **Tridactyle fusifera** *Mansf.* in Fedde, Repert. 36: 63 (1934). *APD acc*

Flowers apricot yellow.

S. L.: Bowden! **Lib.:** Sinoe R. (Dec.) Dinklage. Nimba (Mar.) Adam 21110! 21166!

Also in **E. Cameroun**.

8. **Tridactyle armeniaca** (*Lindl.*) *Schltr.* l.c. 143 (1918). *APD acc*

Angraecum armeniacum *Lindl.* (1839)-F.T.A. 7: 147.

A. whitfieldii *Rendle* (1895)-F.T.A. 7: 148.

Flowers orange.

Guin.: Socourala Chev. 20512! Nimba Mts. (Mar.) Schnell 697! Mt. N'zo (Mar.) Fleury in Hb. Chev. 21033! **S. L.:** Whitfield! Boma, Pukumu Krim (Jan.) Jackson 17! **Lib.:** Bili (Mar.) Harley 1792! **Ghana:** Kibi Ravine (Dec.) Morton! (Nov., cult. Legon) Morton!

9. **Tridactyle brevicarata** *Summerh.* in Kew Bull. 2: 295 (1948). *APD acc*

Flowers white, fragrant.

Ghana: Kumasi (Aug.) Cox 98!

Also in **Gabon**.

10. *Tridactyle tridactylites* (Rolfe) Schltr. in Beih. Bot. Centralbl. 36, 2: 148 (1918). *APD acc*

Angraecum tridactylites Rolfe (1888)-F.T.A. 7: 147.

Aëranthus deistelianus Kraenzl. in Engl., Bot. Jahrb. 33: 75 (1902).

Mystacidium ledermannianum Kraenzl. l.c. 51: 393 (1914).

Flowers yellow, orange or brownish orange, sometimes tinged with green, fragrant.

Guin.: Nimba Mts. (Feb., fr. Apr.) Schnell 462! 1093! **S. L.:** Loma Mts. Jaeger 1190! Alikalia (Feb.) Bunting 30! **Iv. C.:** Mt. Dou (Jan.) Portéres 552! **N. Nig.:** Gurara Falls, Izom (July) Onochie FHI 36380! Zonkwa to Kaciya, Zaria Prov. (Apr.) G. V. Summerhayes 86! Assob Falls, Jos (Apr.) Keay & Jones FHI 37618! Amban, Plateau Prov. King! **S. Nig.:** Lagos Rowlands! Mt. Orosun, Idanre, Ondo Prov. (Jan.) Brenan 8644! Akure F.R., Ondo Prov. (Mar.) Jones FHI 1093! **W. Cam.:** Buea Deistel 593! Schlechter 12840! R. Katsina bridge, Wum (Feb.) Hepper & Charter 1928! **F. Po:** Pobledo alto de Balachá (Jan.) Guinea 1447!

Also on **S. Tomé, Príncipe**, and widely spread on the mainland as far as Mozambique.

11. *Tridactyle bicaudata* (Lindl.) Schltr. Die Orchid. 602 (1914). *APD acc*

Angraecum bicaudatum Lindl. in Hook., Comp. Bot. Mag. 2: 205(1837).

A. fimbriatum Rendle (1916)-F.T.A. 7: 148.

Flowers white, pink or yellow, often with a green tinge.

S. L.: Sefadu (July, Aug.) Deighton 4834! **Lib.:** Nimba (Oct.) Adames 673! **Iv. C.:** Soubré, Sassandra R. (Nov.) de Wilde 3323! **Ghana:** Kumawu (Oct.) Cox 60! Cansdale 135! Atweibo Mt. (Sept.) Cox 103! Mampong, Ashanti (Oct.) Cansdale 130! Amedzofe (Aug.) Westwood 29! **N. Nig.:** Mongu F.R., Plateau Prov. King 15!

Widely spread in tropical Africa, also in **Natal** and **Cape Province**.

12. *Tridactyle gentilii* (De Wild.) Schltr. in Beih. Bot. Centralbl. 36, 2: 145 (1918). *APD acc*

Angraecum gentilii De Wild. (1903).

Flowers white, cream, pale yellow or orange-buff, faintly fragrant.

Ghana: Techiman, Ashanti (May) Westwood 101! **N. Nig.:** Amban, Plateau Prov. (June) King 192! Wamba to Jos, Plateau Prov. (July) Sanford 1118/65!

Also in **E. Cameroun, Congo** and **Zambia**.

58. NEPHRANGIS

Summerh. in Kew Bull. 2: 301 (1948).

- 1** Stems elongated, slender, usually more or less hanging, up to 35 cm. long, often branched; leaves needle-like, terete, usually curved, 1.5-9 cm. long, 1-2 mm. diam.; inflorescences very short, up to 1 cm. long, 1-3-flowered; sepals broad, obtuse, 1.5-2.7 mm. long; petals narrowly lanceolate; lip total length 4-5 cm., bilobed lamina 3.5-5 mm. broad; spur gradually narrowed to apex, 6-9 mm. long *filiformis*

***Nephrangis filiformis* (Kraenzl.) Summerh.** in Kew Bull. 2: 302 (1948). *APD acc*

Listrostachys filiformis Kraenzl. (1896)-F.T.A. 7: 169.

Sepals yellowish, brownish or orange, lip white.

Lib.: Ganta (June) Harley 1644! 1815!

Also in **Congo, Uganda** and **Zambia**.

\$/eflora

JUNCACEAE

Perennial or annual herbs. Leaves mostly in a basal tuft, grass-like, linear or filiform, sheathing at the base or reduced to a sheath, sheaths open or closed. Flowers hermaphrodite or unisexual, usually very small. Perianth-segments 6, in 2 whorls, or rarely only 3, usually glumaceous. Stamens 6 or 3, free; anthers 2-celled, basifixed, opening lengthwise; pollen in tetrads. Ovary superior, 1-celled or 3-celled; styles and stigmas 1 or 3. Ovules ascending or parietal, 3 or more. Fruit a dry capsule. Seeds sometimes tailed, with a small straight embryo in the middle of endosperm.

World-wide distribution, [mostly in temperate and cold or montane regions, often in damp places.](#)

- 1 Leaves flat, hairy on the margin with a closed basal sheath; ovary 1-celled, with 3 sub-basal ovules. ... [1. *Luzula*](#)
 Leaves subterete, glabrous, with an open basal sheath; ovary subcompletely 3-celled, with several ovules in each cell [2. *Juncus*](#)

1. LUZULA

DC., Fl. Fr., ed. 3, 3: 158 (1805); F.T.A. 8: 95 (1901). Nom. cons.

- 1 Roots fibrous; leaves in a basal rosette, linear-lanceolate to elongate-linear, acute, up to 20 cm. long and 5 mm. broad, about 7-nerved, ciliate when young, at length glabrous; inflorescence capitate or clusters of flowers pendunculate; leafy bracts subtending the inflorescence densely villous inside towards the base; floral bracts acutely acuminate, long-ciliate, as long as the perianth-segments, the latter very dark brown, acuminate; capsule ovoid-trigonous, mucronate, 2 mm. long [campestris var. mannii](#)

***Luzula campestris* (Linn.) DC.** Fl. Fr., ed. 3, 3: 161 (1805). *APD acc*

Widely distributed, principally in the N. Temperate Zone, with one variety in our area.

***Luzula campestris* var. *mannii* Buchenau** in Engl., Bot. Jahrb. 12: 159 (1890), and in Engl., Pflanzenr. 4, 36: 87 (190B); F.T.A. 8: 96; Hedberg in Symb. Bot. Ups. 25, 1: 63 (1957); Carter in Kew Bull. 19: 515 (1965).

APD: *Synonym of Luzula abyssinica Parl.*

APD: *Synonym of Luzula mannii (Buchenau) Kirschner & Cheek subsp. mannii*

APD: *Synonym of Luzula mannii subsp. gracilis (S. Carter) Kirschner & Cheek*

Small grass-like perennial; [in montane grassland.](#)

W. Cam.: Cam. Mt., 10,000–13,300 ft. (Dec., Jan.) Mann 2108! Johnston 48! Maitland 1248! Hinds C17! Morton GC 6904! **F. Po:** Clarence Peak, 7,000 ft. to summit (Apr.) Mann 658! 1162! Guinea 2868!

Also in [Congo \(Kivu\)](#) and [Uganda \(Mt. Elgon\)](#).

2. JUNCUS

Linn., Sp. Pl. 325 (1753); F.T.A. 8: 92 (1901).

- 1 Leaves about 3 cm. long in a basal rosette, linear-filiform, acute; flowers 4–8 in a pedunculate cluster; subtending bract subulate-linear, about 2 cm. long; floral bracts ovate, subulate-acuminate; perianth-segments acuminate, membranous, with recurved tips; stamens 3; capsule ovoid-trigonous, brown, much shorter than the perianth; seeds ellipsoid, not tailed [1. *capitatus*](#)
 Leaves about 30–40 cm. long, few, basal, terete, acute; stems terete, wiry, terminated by a cyme of small flowers subtended by a subulate terete leaf about 10 cm. long which expands into a membranous wing at the base about 3 cm. long; bracts lanceolate, chaffy, about 5 mm. long; perianth-segments lanceolate, acute, pale green; stamens 6; capsule as long as or longer than the perianth; seeds shortly tailed at one end [2. *rigidus*](#)

1. **Juncus capitatus** Weig. Obs. 28 (1772); F.T.A. 8: 95; Buchenau in Engl., Pflanzenr. 4, 36: 256 (1906).
APD acc

A small annual rush about 9 cm. high; **at high altitudes**.

W. Cam.: Cam. Mt., 7,000 ft. (fr. Dec.) Mann 2094!

Also in **Ethiopia**, **N. Africa**, **Atlantic islands** and **S. Europe**.

2. **Juncus rigidus** Desf. Fl. Atlant. 1: 312 (1798); Snogerup in Fl. Iranica 75: 4 (1971). *APD acc*

Juncus arabicus (Asch. & Buch.) Adamson (1935).

Juncus maritimus of F.T.A. 8: 93; F.W.T.A., ed. 1, 2: 484; Berhaut, Fl. Sén. ed. 2, 372.

A tufted perennial herb with inflorescences about 60 cm. high and very acute leaf apices; **in salt marshes and salt water pools by oases**.

Sen.: Cayor Leprieur! Tibeghun Chipp 94! Gandhiolle Heudelot 511! St. louis Berhaut 1351! Baibani Trochain 2352!

Salty places in the **Sahara**, **tropical and southern Africa** and **the Middle East**.

CYPERACEAE

Annuals or caespitose (tufted), rhizomatous, occasionally tuberiferous perennials (Microdracoides is pseudo-arborescent); underground stems bearing scales which grade into the culm leaves; culms generally leafy only at, or towards the base and generally unbranched below the inflorescence, solid, triquetrous, round, flattened or 5-angled; leaves with a distinct cylindrical sheath, closed (except in Coleochloa), generally without a ligule, prolonged at the apex on the side opposite the blade (antiligule) in species of Scleria and Afrotrilepis, and a generally linear blade (reduced to an apiculus in Eleocharis and elsewhere), not articulated with the sheath as in grasses, though deciduous in Coleochloa. Flowers small, simple, often consisting only of stamens or pistil or both within a subtending glume, sometimes with accompanying hypogynous bristles, hairs or squamellae, arranged in bisexual or unisexual (Microdracoides, Carex, some Sclerieae) spikelets. Spikelets sometimes solitary (always so in Eleocharis), more often aggregated into capitula, spikes or glomerules which in turn may be solitary or variously arranged, often in 1–3 times compound, unequally rayed umbels, subtended by 1-several, more or less leaf-like, bracts. Stamens 1-numerous, often 3, anthers basifixed with two pollen sacs often with sterile tips and crest, opening lengthwise by a slit, often protandrous. Ovary superior with one erect anatropous ovule, and generally 2–3 branched style. Fruit indehiscent, nut-like (achene) generally lenticular or trigonous. Seed erect with a small embryo and abundant mealy or fleshy endosperm.

A large family distributed throughout the world, mostly dominant in damp or marshy places, especially in temperate or cold regions.

KEY TO THE GENERA

- 1 Plants either male or female, with a trunk-like base and short lanceolate leaves set in a close spiral[23](#).
Microdracoides
- Plants bisexual:[2](#)
- 2 Flowers bisexual, enclosed by glumes, and arranged in two rows on the rachilla of the more or less distinctly flattened spikelet; usually all glumes above the prophyll fertile:[3](#)
- Flowers unisexual or bisexual in a rounded spikelet (sometimes flattened at the base but then with the lowest two glumes empty):[8](#)
- 3 Spikelets falling entire from the rachis at maturity, leaving the subtending bract and prophyll surrounding the rachilla scar, often very numerous, sessile and crowded on short rachides, generally composed of a small number of glumes :[4](#)
- Spikelets at maturity breaking into several pieces or remaining attached to the rachis whilst the lower mature glumes and achenes are shed, exposing the more or less deeply pitted rachillas, generally composed of a large number of glumes:[6](#)
- 4 Stigmas 3; achene more or less distinctly trigonous:[5](#)
- Stigmas 2; achene laterally (that is, in the plane of the rachilla) flattened; spikelets often composed of 2–3

- glumes folded within one another and maturing only 1–2 achenes [6. Kyllinga](#)
- 5 Spikelets numerous, clustered in a lobed Kyllinga-like head, each with a single achene partly sheathed in a thickened section of the rhachilla; plant with long creeping rhizomes [3. Remirea](#)
- Spikelets generally with 2 to several achenes, if one then this not sheathed in the thickened rhachilla, (sometimes glumes numerous and then distinguishable from Cyperus only at maturity) [2. Mariscus](#)
- 6 Rhachilla of spikelet breaking into segments on maturity, these composed of rhachilla, glume and achene [4. Torulinum](#)
- Rhachilla of spikelet remaining entire at maturity, often bare below due to loss of glumes and achenes: [7](#)
- 7 Stigmas 3, occasionally 2 or 1, achene usually trigonous [1. Cyperus](#)
- Stigmas 2, achene laterally flattened [5. Pycneus](#)
- 8 Flowers (at least some) bisexual with stamens and ovary within the same subtending glume: [9](#)
- Flowers unisexual, without ovary and stamens enclosed within the same glume: [18](#)
- 9 Spikelets of numerous flowers spirally arranged at least at the top of the spikelet, generally producing many achenes, only the lowermost 0–2 sterile: [10](#)
- Spikelets of few fertile flowers accompanied by 1–several empty glumes: [17](#)
- 10 Ovary and stamens enclosed in modified scale(s) (squame) within the glume: [11](#)
- Ovary and stamens not enclosed in modified scales: [12](#)
- 11 Ovary and stamens enclosed or enwrapped by a squamella more conspicuous than the subtending glume [13. Ascolepis](#)
- Ovary and stamens enclosed in two membranous squame) within the more conspicuous glume [14. Lipocarpha](#)
- 12 Achene with a terminal appendage (beak) formed by the thickened and persistent style base: [13](#)
- Achene without a distinct appendage at maturity: [15](#)
- 13 Plants without well developed leaf-blades, sheaths ending in a small point; flowering stems generally numerous and ending in a solitary spikelet, sometimes sterile; bristles often present round the ovary: [14](#)
- Plants with at least some leaves present; sheaths often with long hairs at the mouth and frequently long hairs also present at the base of the bracts [10. Bulbostylis](#)
- 14 Achene more or less truncate bearing a distinct style-base [8. Eleocharis](#)
- Style-base very small; submerged aquatic with numerous sterile stems in successive whorls [9. Websteria](#)
- 15 Base of the style not enlarged; bristles, at the base of achene, present or absent: [16](#)
- Base of the style enlarged but generally falling with the rest of the style; bristles absent [11. Fimbristylis](#)
- 16 Glumes hairy; laminate bristles often present [12. Fuirena](#)
- Glumes generally glabrous; bristles absent or simple [7. Scirpus](#)
- 17 Plants large with a branched inflorescence of many partial umbels and saw-like edges of the leaves; styles 3; achene narrower above but not with a distinct beak; rare [16. Cladium](#)
- Plants variable but without saw-like edges to the leaves and with a distinct beak on the achene; styles 2 [15. Rhynchospora](#)
- 18 Ovary completely enclosed in a flask-shaped utricle [24. Carex](#)
- Ovary not completely enclosed in a utricle: [19](#)
- 19 Ovary with a boat-shaped glume, generally ciliate on the keel, on either side, containing one stamen each; achene ovate or obovate, inflated or wrinkled in the upper part: [20](#)
- Ovary not accompanied by two boat-shaped laterally placed glumes: [21](#)
- 20 Inflorescence umbellate [18. Hypolytrum](#)
- Inflorescence capitate [17. Mapania](#)
- 21 Achene accompanied by numerous long bristles: [22](#)
- Achene not accompanied by numerous long bristles: [23](#)
- 22 Leaf-sheaths open on one side (as in grasses) with a ring of ligular hairs; blade deciduous [21. Coleochloa](#)
- Leaf-sheaths closed and prolonged at the mouth on the side opposite the blade [22. Afrotrilepis](#)
- 23 Achene with two 3-lobed glumes close beneath it [20. Diplacrum](#)
- Achene with a simple glume, sometimes with a 3-lobed disk or ciliate at its base [19. Scleria](#)

Linn., Sp. Pl. 44 (1753); F.T.A. 8: 310–377 (1901); Kükenthal in Engl., Pflanzenr., Cyperaceae—Scirpoideae—Cypereae 41–315 (1935–36).

Juncellus (*Griseb.*) *C.B.Cl.* in Hook. f., Fl. Brit. Ind. 6: 594 (1893); F.T.A. 8: 306 (1901); F.W.T.A., ed. 1, 489 (1936); Kükenthal in Engler l.c. 315–326.

- 1 Stems up to 2 m. high, leafless, pithy, rounded with transverse septa showing in the dry state as rings; bracts broadly lanceolate up to 1 cm. long; spikelets 10–25 × 1–1.25 mm., pale brownish, in short rounded spikes [7. articulatus](#)
Stems without transverse septa, even when dry: **2**
- 2 Rays of the inflorescence very numerous (50 or more), slender, equal, or almost so, often sterile; spikelets pale to golden brown in short cylindrical spikes [1. papyrus](#)
Rays of the inflorescence not very numerous and subequal: **3**
- 3 Spikelets arranged along the rhachis in more or less elongated spikes (to p. 282): **4**
Spikelets digitately or very shortly spicately arranged in a central sessile head, with or without additional unbranched, rayed spikes, or spikelets few, paired or solitary: **33**
- 4 Spikes cylindrical or oblong at least twice as long as wide; spikelets in flower not exceeding 1.5 cm. long: **5**
Spikes obovoid, hemispherical or fan-shaped: **16**
- 5 Spikelets very numerous and crowded together so as to obscure the rhachis: **6**
Spikelets not so numerous and crowded as to obscure the rhachis, often erecto-patent to erect: **10**
- 6 Spikelets and bracts erect or suberect at maturity: **7**
Spikelets spreading: **8**
- 7 Stem-bases swollen into a woody pseudobulb; glumes up to 1.5 mm. long [26a. tonkinensis var. baikiei](#)
Stem bases hardly thickened; sheaths yellow; glume 2 mm. long; rare [25. eleusinoides](#)
- 8 Glumes about 1 mm. long with a distinct green keel and recurved mucro; rays sometimes very short or absent; bracts 5–7 mm. wide [5. imbricatus](#)
Glumes with a short straight mucro; rays well-developed: **9**
- 9 Glumes with a broad rounded keel, margins inrolled at maturity to reveal the dorso-ventrally flattened, pale achene; stigmas and stamens generally 2 [6. alopecuroides](#)
Glumes with a narrow keel; spikelets golden, 3–5 mm. long, 10–14 flowered; stigmas 3; achene trigonous [4. dives](#)
- 10 Glumes black with a green keel [24. atroviridis](#)
Glumes straw-coloured, silvery, yellow or golden-brown: **11**
- 11 Annual; glumes broadly elliptical, obtuse with a membranous margin, golden-sided, nearly equalled by the elliptical flattened achene [28. iria](#)
Perennial; glumes longer than the achene: **12**
- 12 Spikelets narrow, less than 1 mm. wide, erecto-patent: **13**
Spikelets more than 1 mm. wide; glumes mucronate: **15**
- 13 Spikelets golden or brownish with a pale central stripe, almost terete; glumes acute and minutely apiculate 2. digitatus subsp. auricomus **14**
..... [@](#)
Spikelets uniformly golden-brown, flattened with a zigzag rhachilla; plant large, with inflorescence rays to 35 cm. long [23. koyaliensis](#)
- 14 Plants up to 1 m. high with leaves and bracts to 1.5 cm. wide; inflorescence umbellate; rays smooth [2a. digitatus subsp. auricomus var. auricomus](#)
Plants up to 3 m. high with leaves and bracts to 3 cm. wide; inflorescence bisumbellate; rays scabrid [2b. digitatus subsp. auricomus var. bruntii](#)
- 15 Glumes numerous, less than 2 mm. long with a clear green keel; rhachilla straight [3. exaltatus](#)
Glumes few, more than 2 mm. long, golden; rhachilla zigzag [19. permacer](#)
- 16 Base of the stem swollen and enclosed with the lower leaf-bases in hard, brown scales, often with bulbils in the leaf-axils surrounded by fibrous-edged scales; leaves numerous, clustered, nearly equalling stems; spikelets brown [15. bulbosus](#)
Base of the stem not enclosed in brown scales, swollen or not: **17**
- 17 Rhachis of the spike hairy and more or less flexuose; glumes with a conspicuous white membranous margin: **18**

- Rhachis of the spike not hairy: 20
- 18 Spikelets 3–5 mm. wide; rhachis of spike almost straight, often short; glumes about 3.5 mm. long [30. *incompressus*](#)
- Spikelets up to 3 mm. wide; plant with slender rhizomes, sometimes bearing tubers; stems sharply angled; rhachis of spike elongate, flexuose; bracts long acuminate: 19
- 19 Glumes straight at maturity; plant with slender rhizomes bearing tubers; leaves and bracts up to 8 mm. wide, gradually narrowed into a slender tip [9. *procerus*](#)
- Glumes arching away from the rhachilla at maturity; stems and sheaths tinged purple; leaves and bracts up to 18 mm. wide, suddenly narrowed into a slender tip [8. *latifolius*](#)
- 20 Plant bearing slender rhizomes ending in tubers: 21
- Plant rhizomatous or not but not bearing scaly tubers: 25
- 21 Rhizomes rather soft, with pale scales; tubers globular to ovoid, smooth or sometimes hairy when old; stems thickened in the lower part by numerous leaf-sheaths but not swollen; spikelets in short spikes, generally golden or yellowish, 1–2 cm. long, with an irregular outline at maturity; glumes obtuse. sides with raised nerves, only the margins nerveless and membranous [14. *esculentus*](#)
- Rhizomes somewhat woody with dark scales, soon becoming fibrous; tubers covered with dark fibres and persisting as hard swollen bases to the stems; spikelets often in fascicles; glumes with a wide nerveless side: 22
- 22 Spikelets red-brown to dark red-purple, glumes 2.5–4 mm. long: 23
- Spikelets pale brown or silvery; glumes 1.5–2 mm. long, numerous, closely and regularly imbricate: 24
- 23 Glumes elliptical, about 3 mm. long, keel somewhat incurved towards the subacute tip; spikelets about 2 mm. wide, acute [12. *rotundus*](#)
- Glumes lanceolate, about 4 mm. long, gradually narrowed to an acute, membranous, slightly recurved tip; spikelets 1–1.5 mm. wide with long, slender, sometimes flexuose tips [13. *tuberosus*](#)
- 24 Glumes 2 mm. long, obtuse, not spreading; spikes lax to dense spikeletted [11. *maculatus*](#)
- Glumes 1–1.5 mm. long, slightly spreading at the tip, obtuse and apiculate; spikes dense spikeletted [26a. *tonkinensis* var. *baikiei*](#)
- 25 Glumes, at least some, with a dark red-brown spot on the side near the base; plant caespitose; stem often yellow-green, at least when dry; rhachilla narrow, black, zig-zag [16. *sphacelatus*](#)
- Glumes without red-brown spots; stems not yellow-green below: 26
- 26 Spikelets narrow, less than 1.5 mm. wide: 27
- Spikelets 1.5 mm. wide or more: 29
- 27 Glumes less than 2 mm. long with obtuse tips; rhachilla internodes over 1 mm. long [22. *distans*](#)
- Glumes 2 mm. long or more; rhachilla internodes less than half the length of the glume: 28
- 28 Tips of the glumes mucronulate, sides with clear raised red nerves and broad pale membranous margins [27. *congensis*](#)
- Tips of the glumes obtuse to acute, nerves slender, obscure, margin narrowly membranous [10. *fenzelianus*](#)
- 29 Spikes with distant spikelets, the lower spreading or reflexed at maturity; plant with slender, about 2 mm. wide, curved rhizome; glumes pale with a pink or reddish tinge, the apex emarginate and shortly mucronate [17. *dilatatus*](#)
- Spikes with distant or clustered spikelets; erect or spreading at maturity; glumes yellow, golden or brown with green mid-rib: 30
- 30 Glumes very large (5 × 4 mm.), deltoid with spreading tips; plants up to 150 cm. high; stems smooth, sharply triangular [21. *baoulensis*](#)
- Glumes smaller (3–4 mm. long), ovate-lanceolate [18. *tenuiculmis*](#)
- @
- 31 Glumes clearly two coloured, streaked with dark brown on a golden background [18c. *tenuiculmis* var. *guineensis*](#)
- Glumes brown or golden, concolorous: 32
- 32 Glumes shortly mucronate [18a. *tenuiculmis* var. *tenuiculmis*](#)
- Glumes with a distinct mucro; stem below the inflorescence often scabrid [18b. *tenuiculmis* var. *schweinfurthianus*](#)
- 33 Plant with elliptical, dark green, white-or purple-veined leaves and bracts; rays stem-like, triangular or flattened, flexuose, longer than the stems, sometimes recurved and proliferating, bearing 1–4 oblong, flattened spikelets about 10 × 5 mm. [38. *fertilis*](#)
- Plant not having elliptical leaves and bracts and long stem-like rays: 34
- 34 Rayed spikes present: 35

- Rayed spikes normally absent, though 1 or 2 may occasionally be developed; spikelets normally sessile in a solitary head: 60
- 35 Spikelets large, at least 10 × 2.5 mm.: 36
- Spikelets small, less than 1 cm. long and 2.5 mm. wide, and numerous: 45
- 36 Achene flattened, lenticular or with one long and two short sides; spikelets broadly elliptical in section; glumes rounded on back with a broad green keel, falling to reveal a deep, narrow rhachilla: 37
- Achene trigonous, with equal sides: 41
- 37 Spikelets linear, obtuse; glumes pale, often spotted with dark colour and crossed by two raised lines on the sides; stigmas generally 2 [31. pustulatus](#)
- Spikelets lanceolate, acute; glumes golden or brown; stigmas 3: 38
- 38 Sides of glume almost nerveless, apex acute [32. podocarpus](#)
- Sides of glume finely nerved except for a membranous margin: 39
- 39 Glumes 4–5 mm. long, subobtusate and mucronulate [54. aucheri](#)
- Glumes 2.5–3.5 mm. long: 40
- 40 Spikelets strongly compressed; glumes purple-brown, acuminate [53. jeminicus](#)
- Spikelets subterete; glumes pale [52. conglomeratus](#)
- 41 Spikelet subquadrangular in section, greenish; bracts numerous, leafy, spreading; glumes apiculate [20. zollingeri](#)
- Spikelet flattened, narrowly elliptical to elliptical in section: 42
- 42 Glumes aristate, with a three-nerved keel and pale or chestnut-brown sides [49. cuspidatus](#)
- Glumes obtuse or apiculate: 43
- 43 Glumes with a sharp green keel prolonged into an apiculus: 44
- Glumes with a rounded keel and reflex membranous apex [30. incompressus](#)
- 44 Glumes lanceolate, not overlapping, persistent and spreading at achene fall, green or golden; achene narrowly elliptical, little shorter than the body of the glume [42. reduncus](#)
- Glumes ovate, overlapping, deciduous, pale or chestnut-brown; achene obovate or broadly elliptical, about half as long as the glume [29. compressus](#)
- 45 Large cultivated or escaped, leafless plants with a whorl of numerous subequal bracts, sometimes sterile or with spherical clusters of golden-brown spikelets [33. alternifolius](#)
- Plants not leafless and with many subequal bracts: 46
- 46 Glumes black or dark purple on the sides, elliptical with a short green recurved apiculus; inflorescence diffuse with lax secondary rays; achene slightly shorter than the glume [40. dichroostachyus](#)
- Glumes green or pale to dark brown: 47
- 47 Achene equalling the glume in length and exposed by the spreading of the glume at maturity: 48
- Achene shorter than the glumes and not exposed at maturity: 50
- 48 Inflorescence pseudolateral with an erect bract continuing the line of the stem; rays short, up to 5 cm. long; spikes spherical; glumes rounded on the back [43. submicrolepis](#)
- Inflorescence with several spreading or reflexed leafy bracts: 49
- 49 Glumes 0.5 mm. long, obovate, obtuse with a winged keel; spikelets ovate, flattened [41. difformis](#)
- Glumes 1.5 mm. long, broadly ovate, acute and shortly apiculate, keel not winged; spikelets linear, few-flowered, sometimes proliferating [37a. diffusus subsp. buchholzii](#)
- 50 Plant annual: 51
- Plant perennial: 55
- 51 Glumes reflex with a long recurved point from the three-nerved keel and pale or chestnut-brown sides [49. cuspidatus](#)
- Glumes apiculate, shortly pointed: 52
- 52 Spikelets narrowly linear, uniformly pale to deep golden-brown; glumes 1.0–1.25 mm. long [50. amabilis](#)
- Spikelets lanceolate or linear-elliptic, greenish white sometimes tinged with gold; glumes 1.5 mm. or more long: 53
- 53 Spikelets generally exceeding 2 mm. wide; glume with a sharp erect tip and nerved sides; achene broadly elliptical, sharply trigonous, almost smooth, more than half the length of the glume [29. compressus](#)
- Spikelets not exceeding 2 mm. wide; glumes with nerveless sides; achene globose, stipitate, punctulate, up to half as long as the glume: 54
- 54 Spikelets generally 2 or 3 together; glumes at maturity spreading, with a recurved mucro [45. tenuispica](#)

- Spikelets mostly solitary; glumes at maturity erect and deciduous [44. remotispicatus](#)
- 55** Bracts 6–10, up to 2.5 cm. wide; inflorescence diffuse with secondary and tertiary rays spreading or reflexed in fruit; spikes brown, hemispherical, 3.5–6 mm. across; glumes recurved, apiculate with clearly nerved sides, the lower ones spinulose-ciliate on the keel [36. renschii](#)
- Bracts 1–5: **56**
- 56** Plant with an elongated rhizome, 3-winged stems and bladeless or shortly bladed leaves; bracts 1–2, short, trigonous, the lower erect or nearly so; spikelets greenish, golden or pale brown; anthers 0.65–0.9 mm. long [47. denudatus](#)
- Plant caespitose or with a short rhizome, sometimes with well-developed leaves: **57**
- 57** Side of glume with several nerves; plants 90–150 cm. high with leafy stems; Spikelets red-brown; glumes lanceolate, tapering to a recurved apiculus [35. mannii](#)
- Side of glume with a single nerve; generally smaller plants: **58**
- 58** Leaves all basal, spreading, with hard red-brown sheaths and inrolled margins; inflorescence compact with rays up to only a few cm. long, bearing crowded spikelets; glumes shining, red-brown to nearly black [48. tenax](#)
- Leaves lax or wanting; rays well developed, bearing few-spikeletted spikes: **59**
- 59** Glumes 2.5–3.0 mm. long, lanceolate and apiculate [34. pseudoleptocladus](#)
- Glumes 1.5–2.0 mm. long, acute and cuspidate [46. haspan](#)
- 60** Style simple, without stigmatic branches; slender plants, stems generally not exceeding 25 cm. with a tiny, pseudo-bulbous base; achene turbinate: **61**
- Style with two or three branches: **63**
- 61** Spikelets broadly elliptical 4–6 mm. long in a compact head, brownish at maturity; achene about 0.5 mm. long [64. meeboldii](#)
- Spikelets narrowly elliptical or lanceolate 8–18 mm. long in a terminal or pseudo-lateral cluster, pale even at maturity; achene about 1 mm. long: **62**
- 62** Spikelets narrowly elliptical, radiating; sides of the glumes without nerves; achene with rounded angles [63. clavinux](#)
- Spikelets lanceolate, erect or curved upwards; glumes nerved on the sides; achene with acute angles [65. lateriticus](#)
- 63** Leaves reduced to bladeless sheaths; spikelets few, large, about 15 × 5 mm., ovate with numerous overlapping, acuminate glumes [62. nudicaulis](#)
- Leaves, at least some, with blades: **64**
- 64** Inflorescence of few, white, turgid, subacute spikelets in a pseudolateral cluster, subtended by an erect, stem-like bract [67. laevigatus](#)
- Inflorescence not pseudolateral: **65**
- 65** Plant perennial with knotted, fibre-covered rhizome, purple sheaths and a head of large, whitish spikelets [39. mapanioides](#)
- Plant annual or perennial without knotted, fibre-covered rhizomes: **66**
- 66** Spikelets small, up to 5 × 1.5 mm., congested in a Kyllinga-like head; plant slender: **67**
- Spikelets 2 mm. or more wide, few and digitate, or if numerous and congested then plants robust: **68**
- 67** Inflorescence surrounded by conspicuous, leafy bracts with widened whitish bases; glumes subdistichously arranged, overlapping, with a green apiculus; achene flattened [66a. michelianus subsp. pygmaeus](#)
- Inflorescence bracts scarcely widened at the base; glumes distichous, not overlapping, obtuse, pale; achene trigonous [55. pulchellus](#)
- 68** Stems about 1 mm. wide, not or scarcely thickened at the base; plant annual; glumes green or golden with a green, spreading acumen [29. compressus](#)
- Stems either more than 1 mm. wide or markedly thickened and pseudo-bulbous at the base, often surrounded by the remains of old leaf-sheaths: **69**
- 69** Stems robust, leafy but not pseudobulbous at the base; leaves flat, coriaceous: **70**
- Stems pseudobulbous at the base, thickened by the remains of old leaf-sheaths: **71**
- 70** Inflorescence hemispherical, up to 2 cm. across; lowermost leaves represented by acute scales, gradually lengthening into blades up the stem; bracts short, spreading, rigid [56. angolensis](#)
- Inflorescence globose or subglobose, 3–5 cm. across; lower leaf-blades not gradually reduced; bracts long, reflexed [51. maritimus](#)
- 71** Glumes lanceolate, 6–8 mm. long, white; robust creeping plants up to 90 cm. high; leaves about 4 mm. wide; bracts spreading; spikelets much flattened, somewhat confluent [61. ledermannii](#)

Glumes ovate or broadly ovate with a boat-shaped tip, white, yellow or pink; spikelets little flattened, discrete:

- 72
- 72 Robust plants with few, large, yellowish spikelets up to 4.5×1 cm.; leaves up to 6 mm. wide [57. *karlschumannii*](#)
Plants of moderate size with several whitish or pinkish spikelets up to 30×8 mm.: 73
- 73 Rhizome composed of a series of contiguous, short, swollen stem-bases clad in membranous sheaths; leaves flat, up to 4 mm. wide; spikelets at maturity oblong, $15-30 \times 6-8$ mm., flattened; glumes boat-shaped, spreading, shining white with green keel [58. *margaritaceus*](#)
Stem-bases elongated, flask-shaped, clad in hard remains of leaf-sheaths; leaves capillary, up to 1 mm. wide; spikelets at maturity broadly ovate, $6-12$ cm. \times $5-7$ mm.: 71
- 74 Bracts 3-5, several times longer than the spikelets [60. *tisserantii*](#)
Bracts 0-3, shorter to slightly longer than the spikelets [59. *nduru*](#)

1. **Cyperus papyrus** *Linn.* Sp. Pl. 47 (1753); F.T.A. 8: 374; Kük. in Engl., Pflanzenr. Cyper. 45 (1935); Berhaut, Fl. Sén. ed. 2, 379 (1967). *APD acc*

APD: *Synonym of Cyperus koyaliensis Cherm.*

Cyperus papyrus subsp. **antiquorum** (*Willd.*) *Chiov.* in Mém. R. Instit. Bot. Modena 1: 73, t. 2 (1931); Kük. l.c. 47.

Stems spongy, up to 5 m. high with characteristic mop-like inflorescences of very numerous primary, often sterile rays; **forming rafts in open water and fringing lakes.**

Sen.: Dakar Berhaut 1399! **Dah.:** Porto-Novo (Jan.) Chev. 22714! **N. Nig.:** Maiduguri (Mar.) Tuley 1116! Baga Seyoram, L. Chad (Oct.) Golding 23! **S. Nig.:** Lagos Barter 2153! Ejirin (Apr.) Ejiofor & Horne FHI 29400! Epe (Feb.) Onochie FHI 20690!

Also reported by Kükenthal from Guin. and Iv. C. and from Lib. by Dinklage; throughout tropical and S. Africa and Madagascar and cultivated elsewhere.

2. **Cyperus digitatus** *Roxb.* Hort. Beng. 81 (1814), and FL Ind. 1: 209 (1820); F.T.A. 8: 372; Kük. l.c. 55. *APD acc*

The typical subspecies occurs in Eastern Asia, and central and S. America.

Cyperus digitatus subsp. **auricomus** (*Spreng.*) *Kük.* in Bot. Notis. 1834: 65 (1934). *APD acc*

- 2a. **Cyperus digitatus** subsp. **auricomus** var. **auricomus**. *APD acc*

Cyperus auricomus *Sieb. ex Spreng.*, Syst. 1: 230 (1824); F.T.A. 8: 373; F.W.T.A., ed. 1, 2: 483; Cherm. in Arch. Bot. Caen 7, Mém. 4: 16 (1936); Berhaut, Fl. Sén. ed. 2, 382 (1967).

Characterized by the lax-spikeletted, cylindrical, digitately-arranged spikes of spreading spikelets with a central golden stripe; **shallow water and swamps.**

Maur.: N'Diogo (Oct.) Adam 19214! **Sen.:** Walo country (Dec.) Roger! Bignona (Sept.) Adam 18109! Gouloumbou (July) Adam 14871! Tambacounda (May) Trochain 3553! Galam Heudelot 322! **Gam.:** Saunders 14! (July) Ruxton 70! Wallikunda (Aug., Sept.) Macluskie 3! 24! **Mali:** Bamako (May) Duong! San (June) Chev. 1057! Macina (July) Roberty 2560! Diafarabé to Roundé (May) Lean 27! Gao (Jan.) de Wailly 4953! **Guin.:** Kapatchez, Katako R. (Nov.) Jac.-Fél. 7290! **U. Volta:** Banzon Duverger In Hb. Raynal 6183! **Ghana:** Nangodi to Bawku (May) Morton GC 7483! Port Tamale (Mar.) Morton 8759! Yeji (Apr.) Hall VBS 1227! **Niger:** Kouroumé, Yatakala to Tillabery (July) Rogeon 502! Tillabery to Niamey (July) Rogeon 521! **N. Nig.:** Nupe Barter 1565! Anara F.B., Zaria (May) Keay FHI 19197! Giwa Fadama, Zaria (May) Kershaw 900310! Sokoto Prov. Dalz. 548! Maska, Katsina Prov. (June) Keay FHI 25902! Sherifuri, Bauchi Dist. (May) Thornewill 164!

Throughout tropical Africa and in **Egypt** and **S. Africa**.

The typical subspecies occurs in eastern Asia, and central and S. America.

- 2b. **Cyperus digitatus** subsp. **auricomus** var. **bruntii** *Hooper* in Kew Bull. 26: 577 (1972). *APD acc*

Similar to the preceding variety in spikelet structure but larger in all its parts with stems up to 3 m. high, leaves and bracts up to 3 cm. wide and a bisumbellate inflorescence.

N. Nig.: Ibaji Ojoko F.K., Kabba (May) Latilo FHI 47653! **W. Cam.:** Babungo, Ndop Plain, 3,800 ft. (June) Brunt 1146!

3. *Cyperus exaltatus* Retz. Obs. 5: 11 (1789); F.T.A. 8: 370; Kük. l.c. 64. *APD acc*

Cyperus dives of F.W.T.A., ed. 1: 483.

Robust plant up to 1·6 m. high, with obtuse, cylindrical, lax-spikeletted, golden, rayed spikes; *near open water*.

Sen.: Ourosagui to Matam (Dec.) Naegelé 13183! **iv. C.:** Téhini (Aug.) de Wilde 781! Ferkessédougou (May) Aké Assi 4798! Marabadiassa to Gottoro (July) Chev. 22026! **U. Volta:** Koupéla to Ouagadougou (July-Aug.) Chev. 24582! Namenda, White Volta R. (June) Scholz 311! **Ghana:** Nwereme (May) Irvine 2497! Tumu (May) Morton GC 7505! Zuarungu (Dec.) Williams 859! Kakumdu (Sept.) Hall 2625! Accra to Ada (Jan.) Morton GC 8248! **N. Nig.:** Abinsi (June) Dalz. 819! Maska, Katsina Prov. (June) Keay FHI 25901! Bauchi to Dindima (Dec.) Haines 85! Katagum Dalz. 239! Gurum. Vogel Peak area (Nov.). Hepper 1258! **S. Nig.:** Lagos W. MacGregor 119! Ogun Crossing, Lagos (Apr.) Haines 52! Ilesha (Apr.) Haines 54!

Pantropical.

4. *Cyperus dives* Del. Descr. Egypte Hist. Sat. 2: 5, t. 4 fig. 3 (1813); Kük. l.c. 68; Cherm. in Arch. Bot. Caen 7, Mém. 4: 17 (1936); Berhaut, Fl. Sén. ed. 2, 382 (1967). *APD acc*

Cyperus exaltatus var. *dives* (Del.) C.B. Cl. in J. Linn. Soc. 21: 187 (1884); F.T.A. 8: 370.

Distinguished from *C. exaltatus* Retz. by the shorter, congested spikelets and from *C. alopecuroides* by the keeled glumes and three-sided achene; *marshes*.

Sen.: Mboro (Apr.) Leprieur! Sangalkam (July) Pitot! Kayar (Dec.) Pitot! Tivaouane (Apr.) Trochain 3110! Sangako, nr. Toubacouta (Oct.) Monad 8566!

Throughout tropical Africa, in *Madagascar* and in *Egypt* and *the near East*.

5. *Cyperus imbricatus* Retz. Observ. 5: 12 (1789); Kük. l.c. 69; Nelves & Baldwin in Amer. J. Bot. 39: 379 (1962); Berhaut, Fl. Sén. ed. 2, 383 (1967). *APD acc*

Cyperus radiatus Vahl, Enum. Pl. 2: 369 (1806); F.T.A. 8: 369; Cherm. in Arch. Bot. Caen 7, Mém. 4: 16 (1936).

Cyperus imbricatus var. *capitatus* (Boeck.) Kük. l.c. 70; Berhaut l.c. 383.

Plant to 120 cm. high and generally less robust than *C. exaltatus* Retz. with dense-spikeletted, cylindrical spikes in digitate clusters; *edge of open water*.

Sen.: Senegal R. Gay! Sangalkam (July) Berhaut 1123! Coular Trochain 3404! Galam Heudelot 211! Niokolo-Koba Adam 14297! **Mali:** Koulikoro (June) Roberty 3694! Niger R., 10 miles E. of Macina (May) Lean 19! Mopti (June) Lean 35! Timbuktu (Sept.) Chudeau! Gao to Bossobougou (July) de Wailly 5092! **Guin.:** Dabola (Sept.) Pitot! Kouroussa (July) Pobéguin 415! Macenta (Apr.) Pitot! **S. L.:** Mano (May) Deighton 2898! Gbap (Apr.) Deighton 4298! Gbundapi (Mar.) A. S. Macdonald 2! Daru (Apr.) Deighton 3164! Pandobu (Apr.) Deighton 3926! **Lib.:** Webo, Cavally R. (Apr.) Dinklage 2649! **iv. C.:** Soubré (Apr.) Leeuwenberg 3222! **U. Volta:** Red Volta R., nr. Po (June) Scholz 309! **Ghana:** Bjury, Black Volta R. (July) Chipp 503! Yeji (Apr.) Hall VBS 1253! Kete Krachi to Oti R. (May) Morton GC 7295! Onyinan Lake, nr. Winneba (June) Hall 3069! Kukrukui lagoon, Kete Krachi (Apr.) Hall VBS 1300! **Niger:** Tillabery to Niamey (July) Rogeon 527! **N. Nig.:** Shagunu (July) Cook 307! Birnin Gwari (Apr.) Meikle 1378! Nupe Barter 1127! Lokoja (Apr.) Haines 55! Abinsi (July) Dalz. 816! **S. Nig.:** Ogun R. Crossing, Lagos (May) Haines 46! Ikoyi Plains (Apr.) Dalz. 1296! Ibadan (Apr., May) Meikle 1417! Guile 133! Shasha F.R. (Apr.) Gledhill 1003! **W. Cam.:** Ikom to Mamfe (Apr.) Morton GC 7139!

Pantropical.

The rays of the inflorescence may be very short or absent, producing the var. *capitatus*.

6. *Cyperus alopecuroides* Rottb. Descr. Pl. Rar. Programm. 20 (1772), and Descr. et Icon. 38, t. 8 fig. 2 (1773); Kük. l.c. 71; Cherm. in Arch. Bot. Caen 7, Mém. 4: 17 (1936). *APD acc*

Juncellus alopecuroides (Rottb.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 595 (1893); F.T.A. 8: 307; F.W.T.A., ed. 1, 2: 489; Berhaut, Fl. Sén. ed. 2, 382 (1967).

Somewhat less robust than *C. dives* Del. and with the edges of the flattened achenes exposed in the ripe spikelet; *in or near open water*.

Maur.: Nioudjéria, Tagant (Apr., Nov.) Monod 109! Chudeau! **Sen.:** M'Boro, St. Yago Is. Brunner 64! M'Bane, L. Guiers (Oct.) Adam 19239! Tanma L. (Jan.) Pitot! Dakar (Jan.-Apr.) Chev. 15792! Sangalkam (June) Adam 1532! Diourbel (Mar.) Chev. 44114! **Mali:** Laougna (Jan.) Davey 164! Karseni (Apr.) Davey 265! Faguibine L. (July) Leclerq! Diré (Mar.) Chev.

43888 bis! Gao (Mar.) de Wailly 5344! **U. Volta:** Ouagadougou (July) Scholz 318! **Ghana:** Winneba (June) Hall 3066! Weija (July) Hall 3231! Accra (July) Irvine 2787! Dawa (Dec.) Adams 3616! Accra to Ada (June) Morton GC 9267! **Niger:** Niamey to Kolo (Jan.) Chev. 48160! **N. Nig.:** Gotomo, Birnin Kebbi to Argungu, Sokoto Prov. (July) Latilo FHI 62633! Sokoto (July) Dalz. 466! Kalkala (May) Golding 81! SW. of L. Chad (Dec.) Gaillard!!

Also reported from Dah. by Chermezon; throughout tropical and S. Africa, **Madagascar**, **India** and **Malaysia**.

7. **Cyperus articulatus** Linn. Sp. Pl. 44 (1753); F.T.A. 8: 356; Kük. l.c. 77; Cherm. in Arch. Bot. Caen 7, Mém. 4: 16 (1936); Nelves & Baldwin in Amer. J. Bot. 39: 379 (1952); Berhaut, Fl. Sén. ed. 2, 379 (1967). *APD acc*

The only species of *Cyperus* to have a round leafless pithy stem which on drying appears articulated; rays slender bearing clusters of cigar-shaped spikelets; **in or near open water**.

Maur.: Mondjema (Nov.) Chudeau! Moudjéria (Apr.) Monod 107! **Sen.:** Dakar (Mar.) Adam 17678! St. Louis (July) Adam 1565! M'bidjem (Oct.) Trochain 622! Richard Tol (May) Döllinger 58! Bignona, Casamance (Sept.) Adam 18106! **Gam.:** (Aug.) Ruxton 90! Kuntama (July) Fox 156! **Mali:** Forécariah (Nov.) Schnell 2077! Goundam (Nov.) Roberty 3203! Chev. 2284 bis! **Guin.:** Kouyeya, Coyah (June) Chiliou 1536! Timbo (July) Pobéguin 739! Kindia Jac.-Fél. 136! Semou Jac.-Fél. 7405! **S. L.:** Kitchom (Jan.) Deighton 929! Makump (Dec.) Glanville 405! Bagroo R. Mann 894! Kania, Njala (Oct.) Deighton 1417! Mano Salija (Nov.) Deighton 325! **Lib.:** Fisherman's L., Grand Cape Mount Dist. (Jan., Dec.) Harley 1367! Baldwin 10884! Bodje, Montserrado Dist. (Dec.) Adam 16300! Nyaake, Webo Dist. (June) Baldwin 6144! **Iv. C.:** Cavally (Aug.) Chev. 19848! Baoulé (June) Chev. 22187! Flambo Lagoon (Feb.) Aké Assi 7327! **U. Volta:** Foullasso Duverger in Hb. Raynal 6161! **Ghana:** Cape Coast (June) Hall 8128! Koforidua (Nov.) Morton 6067! Sakumo Lagoon, Tema (Sept.) Ankrah GC 20552! Weija, Accra (Oct.) Irvine 4804! Keta (June) Thorold C.B. 98! **Togo Rep.:** Lomé Warnecke 114! Mahoux 2042! **N. Nig.:** Acharane, Anka Dist. (June) Daramola FHI 38033! Lokoja Barter! Abinsi Dalz. 826! Kaudara, Kano Dist. (Sept.) Lely 597! L. Chad (Dec.) Elliott 157! **S. Nig.:** Ogun River F.R., Lagos (Mar.) Hepper 2260! Ibadan to Lagos (Mar.) Killick 214! Ogun Crossing, Lagos (May) Haines 38! Badagry (Aug.) Onochie FHI 33463! Ikorodu, Lagos Lagoon (Dec.) Onochie FHI 32024! **W. Cam.:** Diestel 44! **F. Po.:** (June) Barter!

Tropical and subtropical Africa and America, extending to India.

8. **Cyperus latifolius** Poir. in Lam., Encycl. 7: 268 (1806); F.T.A. 8: 351; Kük. l.c. 87, t. 11. *APD acc*

Robust plants to about 120 cm. high with broad leaves and bracts, characterized by branched spikes of numerous spikelets with glumes arcuate at maturity; swamps.

W. Cam.: Ndop Plain (Apr.–June) Brunt 312! 1133! 1144! 1157! Mbengwi to Mankon (Apr.) Brunt 1112!

Throughout tropical and S. Africa and in **Madagascar**.

9. **Cyperus procerus** Rottb. Descr. et Icon. 29 (1773). *C. pilosus* of F.T.A. 8: 351. *APD acc*

Cyperus procerus var. **stenanthus** Kük. in Engl. Pflanzenr. Cyper. 92 (1935).

Stoloniferous sedge to about 120 cm. high with elongated rhizomes, winged triangular stems, long acuminate bracts, and a small umbel of flattened spikelets with membranous-edged, brown glumes; **marshy grassland, rice farms and near open water**.

Mali: Niger 'delta' Duong 1944! Diafarabé (Aug.) Lean 98! **U. Volta:** Banfora (Sept.) Adam 15379! (July) Aké Assi 10730! Mossi (July) Chev. 24585! Ougarou to Nassougou (June) Scholz 312! **Ghana:** Bawku (Aug.) Hall 2066! Bawku to Nakpanduri (Aug.) Hall CC 589! Tamale to Bolga (Aug.) Hall CC 424! Winneba plains (July) Hall 3206! Ada to Accra (June) Morton GC 9273! **Togo Rep.:** Coblékové (May) Mahoux 535! 2031! **N. Nig.:** Shagunu, Ilorin Prov. (July) Cook 443! Giwa Fadama, Zaria Dist. (Aug.) Kershaw 900413! Katsina to Jibya (Aug.) J. Hall 436! Kaura Namoda (July) Latilo FHI 62595!

Also in **E. Cameroun**, **north-east Africa**, **India**, **Malesia** and **Australia**.

10. **Cyperus fenzelianus** Steud. Syn. Pl. Glum. 2: 33 (1855); F.T.A. 8: 368; J. & A. Raynal in Adansonia sér. 2, 7: 317 (1967).

APD: **Synonym of *Cyperus longus* var. *pallidus* Boeckeler**

Cyperus langus var. **pallidus** Boeck. in Linnaea 36: 280 (1870); Kük. l.c. 100.

Perennial to 1 m. with slender rhizomes, leafy stems, long, gradually acuminate, leafy bracts and slender, rather few-spikeletted rays; **marshes and edge of open water**.

Sen.: Heudelot 523! Richard Toll (June) Adam 1419! M'bidgem (Nov.) J. & A. Raynal 6557! L. Guiers (June) Roger Thillé to Boubakar (Dec.) Naegelé 13130! **Mali:** Bagoundié, nr. Gao (Mar.) de Wailly 5346! 5347! **N. Nig.:** Ngala Gwynn 116! Kalkala, nr. L. Chad (May) Golding 79!

Northern parts of tropical Africa extending to India.

[The typical European form of *C. longus* Linn. seems not to extend to W. Africa, though the boundary between it and *C. fenzelianus* Steud. requires further study.]

11. **Cyperus maculatus** Boeck. in Peters, Reise Mossamb. Bot. 2: 539 (1864); F.T.A. 8: 363, partly; Kük. l.c. 103; Berhaut, Fl. Sén. ed. 2, 385 (1967). *APD acc*

APD: Synonym of Cyperus tonkinensis var. baikiei (C.B. Clarke) S.S. Hooper

Cyperus heudelotii C.B. Cl. in F.T.A. 8: 364 (1901).

Cyperus maculatus var. contractus Cherm. in Bull. Soc. Bot. Fr. 85: 368 (1938).

Rhizomatous perennial with slender, leafy stems from hard, round tubers; leaves glaucous, slender; spikelets neat, pale, sometimes dark-spotted; **sand banks and sandy ground near rivers.**

Maur.: L. Rkiz (Oct., Nov.) Adam 21825! Sadio 300! **Sen.:** M'boro, Cayor (May) Leprieur! Taouee, L. Guiers (June) Adam 1403! Podor (June) Adam 1424! Tambacounda (Apr., June) Berhaut 1506! Adam 14299! **Mali:** Sotuba (Feb.) J. & A. Raynal 5462! Macina (May) Lean 20! Diafarabé (May) Lean 29! Timbuktu (Aug.) Lean 70! Gao to Bossobougou (July) de Wailly 5094! **Guin.:** Dabola (Apr.) Pitot! Dabola to Faranah (Apr.) Adam 4533! Faranah (Apr.) Pitot! **S. L.:** Makump (May) Deighton 1710! 1719! 1720! Njala (Feb.) Deighton 1573! **Iv. C.:** Abiati, lower Comoé R. (Mar.) Chev. 17533! **U. Volta:** Namenda, Tenkodogo (June) Scholz 316! **Ghana:** Saboba, Dagomba Dist. (Mar.) Hepper & Morton A 3125! Damongo to Tamale (Mar.) Morton GC 8766! Yeji (Apr.) Hall VBS 1238! Chindiri, Daka R. (Apr.) Hall VBS 1273! Kete Krachi (May) Morton GC 7181! **Dah.:** Savé to Agouagon (May) Chev. 23592! **Niger:** Tillabery Rogeon 515! **N. Nig.:** Sokoto (July) Dalz. 474! Shagunu (July) Cook 308! Nupe Barter 1571! Lokoja (Apr.) Haines 49! Abinsi (Mar.) Dalz. 811! Bama, Dikwa Div. (Dec.) McClintock 98! **S. Nig.:** Etemi, Omo R. (Mar.) Jones & Onochie FHI 16691! Olokemeji (Mar.) Meikle & Keay 1243!

In **E. Cameroun**, throughout tropical Africa and in **Madagascar**.

12. **Cyperus rotundus** Linn. Sp. Pl. 45 (1753); F.T.A. 8: 364; Kük. l.c. 107, t. 13 (including subsp. *retzii* (Nees) Kük.); Cherm. in Arch. Bot. Caen 7, Mém. 4: 15 (1936); Berhaut, Fl. Sén. ed. 2, 387 (1967). *APD acc*

Common weed with slender, elongated rhizomes, rounded, fibre-covered tubers at the stem bases and large spikelets, characteristically dark red-brown, in short spikes; **cultivated and other damp places.**

Maur.: Naegelé! Akjoujt (Oct.) Adam 19465! Tamchakett (Aug.) Monod 2020! Oued Initi, W. of Oualata (Sept.) Rossetti 61/240B! **Sen.:** Heudelot 545! Lagbar, nr. Linguère (Sept.) Adam 12373! Dakar (June) Adam 1374! Darou, L. Tanma (June) J. & A. Raynal 5992! Oussouyé (Oct.) Adam 18314! **Mali:** Kayes (Feb.) Duong! Bamako (June) Waterlot 1192! Souinkoura (May) Roberty 2131! Dioura (Jan.) Davey 249! Gao to Berra (Aug.) de Wailly 5106! **Guin.:** Conakry (May) Pitot! **S. L.:** T. Vogel 76! Freetown (Oct.) Deighton 1773! Mt. Aureol, Freetown (June) Gledhill 603! Njala (June) Deighton 3012! Bonthe (Nov.) Deighton 2260! **U. Volta:** Farakoba, Bobo-Dioulasso Dist. (June) Scholz 322a! Ouagadougou to Lai (Aug.) Chev. 24691! Ouahigouya (July) Scholz 319! **Ghana:** Tamale to Damongo (Mar.) Morton GC 8765! Yapei (Mar.) Adams 3927! Nsawam to Achimota (Nov.) Boughey! Achimota (Nov.) Irvine 1521! Ada (June) Morton GC 9242! **Niger:** Niamey (July) Rogeon 529! Toukounous (Sept.) Koechlin 6455! Bartha 29! Djidja (Sept.) Koechlin 6535! Dan Issa to Maradi (Aug.) Hall 435! **N. Nig.:** Edozhigi, nr. Bida (June) Vaillant 2797! Zaria (June) Kershaw 900350! Sokoto Dalz. 467! Katagum Dalz. 244! Maiduguri (June) Clayton 1084! **S. Nig.:** Lagos (July) Haines 58! Ibadan (Mar.) Lowe 2183!

Pantropical and subtropical.

13. **Cyperus tuberosus** Rottb. Descr. Pl. Nov. Programm. 18 (1772), and Descr. et Icon. 28, t.7 fig. 1 (1773); F.T.A. 8: 368.

APD: Synonym of Cyperus rotundus var. tuberosus

Cyperus rotundus subsp. tuberosus (Rottb.) Kük. in Engl., Pflanzenr. Cyper. 113 (1935).

Similar to *C. rotundus* Linn. but with somewhat laxer spikes of more numerous acute spikelets of longer, lanceolate, acute glumes; **damp grassy and waste places.**

Mali: Benenigeni, San (June) Lean 46! Djenné to Soufara (July) Chev. 1148! **Guin.:** Youkounkoun Adam 14830! **Ghana:** Tumu-Lawra boundary (May) Morton 7592! Akuse (July) Hall 3170! Nungua (Apr.) Rose Innes GC 30107! Oda to Tefli Ferry (Jan.) Morton GC 8262! **N. Nig.:** Nupe Barter 853! Dumbi, Kaduna Rd., Zaria Prov. (Apr.) Kershaw 900292! Kuffena, Zaria Prov. (June) Kershaw 900363! Lemme (May) Lely 149! **S. Nig.:** Lagos (July) Kershaw 900649! Ibadan (Apr.) Lawe 959! Oyo to Iseyin (Apr.) Keay FHI 37843! Gbongan, nr. Ife (Apr.) Haines 208! Port Harcourt (Sept.) Stubbings 42!

Throughout Old World tropics.

14. **Cyperus esculentus** Linn. Sp. Pl. 45 (1753); F.T.A. 8: 355; Kük. l.c. 116; Cherm. in Arch. Bot. Caen 7, Mém. 4: 13 (1936); Berhaut, Fl. Sén. ed. 2, 385 (1967). *APD acc*

Generally distinguished from the other slenderly rhizomatous, tuber-bearing species by its golden, rather blunt spikelets, 1–2 cm. long and nerved sides to the glumes; **weed in cultivated and waste places.**

Maur.: Akjoujt (Oct.) Adams 19554! **Sen.:** Dagana Heudelot 518! Almadies (Aug.) Broadbent 23! Hann (Aug.) Berhaut 903! Mt. Roland, nr. Thiès (Aug.) Broadbent 52! Diaroumé, Casamance (Sept.) Adam 18176! **Gam.:** (July) Ruxton 14! Yundum Agric. Sta., nr. Bathurst (Aug.) Ashrif 38! Genieri (July) Fox 123! Wallikunda (Aug.) Macluskie 2! **Mali:** Kita Mts. (July) Jaeger 38! Bamako (June) Waterlot 1203! Sansanding (June) Chev. 950! Macina (July) Roberty 2542! Gao to Goura (Aug.) de Wailly 5122! **Guin.:** Conakry (May) Paroisse 223! Kindia Jac.-Fél 105! Kouroussa (July) Pobéguin 404! Mamou (Aug.) Adam 7944! **S. L.:** T. Vogel 31! Musaia (July) Miszewski 41! Konta to Kukuna (June) Gledhill 608! Torma (Mar.) Bakshi 78! Freetown (June) Gledhill 602! **Iv. C.:** Bouaké (July) Chev. 22133! **U. Volta:** Banfora (July) Maire! **Ghana:** Takoradi (May) Morton 2106! Cape Coast (May) Hall 1774! Ada (June) Morton GC 9241! Kwahu Tafo to Mankrong (Apr.) Morton A670! Yendi dam (Apr.) Morton 9073! **Togo Rep.:** Woumea (June) Mahoux 2090! Blitta (June) Mahoux 2094! **Dah.:** Djougou (June) Chev. 23939! **Niger:** 20 mls. from Elikl (Aug.) Barry 59! **N. Nig.:** Jebba (Apr.–May) Kamphorst 190! Anara F.R., Zaria (May) Keay FHI 22876! Bindawa, Katsina Prov. (Aug.) Grove 17! Bununun Kasa, Bauchi Prov. (June) G. V. Summerhayes 2! Maiduguri, Bornu (June) Clayton 1095! **S. Nig.:** Oke Iho to Iseyin, Oyo Prov. (Apr.) Keay & Polunin FHI 37840! Ibadan to Abeokuta (Mar.) Schlechter 13017! **W. Cam.:** Bambui, Bamenda (May) Pedder 18! Ndop to Bamenda (Dec.) Boughey GC 11383!

Pantropical and in **Madagascar** and the Mediterranean region.

15. **Cyperus bulbosus** Vahl Enum. Pl. 2: 342 (1806); F.T.A. 8: 352; Kük. l.c. 125; Cherm. l.c. 12; Berhaut, Fl. Sén. ed. 2, 337 (1967). *APD acc*

Cyperus polyphylla Vahl, Enum. Pl. 2: 317 (1806).

Characterized by the scales surrounding the swollen base of the stem, numerous, slender, basal leaves nearly equalling the stems, and the dark red-brown spikelets generally in a single spike; **dune slacks and damp sandy places.**

Maur.: Tiguent to Nouakchott (Oct.) Adam 19396! **Sen.:** Makana, St. Louis (Sept.) Fotius 165! Almadies, nr. Dakar (Aug.) Broadbent 18! Mbao, Cape Verde (Aug.) Pitot! Hann (Aug.) Berhaut 2682! Malika (Aug.) Broadbent 44! Kaolak Berhaut 1028! **Guin.:** teste Cherm. **Ghana:** Korle Lagoon, Accra (July) Hall 3185! Labadi (Mar.) Morton GC 6657! New Ningo (May) Morton A 1680! Tema (June) Hall 2596! Keta (Aug.) Akpabla! **Niger:** Agadez Chopard & Villiers! Irabellaben, Baguezane Mts. Chopard & Villiers! **N. Nig.:** Kauwa, Bornu Dist. (Oct.) Golding 14b!

North tropical Africa, through **Arabia** to N. Australia.

16. **Cyperus sphacelatus** Rottb. Descr. Pl. Nov. Programm. 21 (1772), and Descr. et Icon. 26 (1773); F.T.A. 8: 346; Kük. l.c. 129; Cherm. l.c. 14; Berhaut, Fl. Sén. 2, 387 (1967). *APD acc*

Cyperus locuples C.B. Cl. in F.T.A. 8: 362 (1901).

Generally characterized by the dark red-purple spot at the lower edge of the glume and the golden-green colour of the lower sheaths but both may be absent; **weed of disturbed ground and in damp grassy places.**

Maur.: L. Rkiz (Sept.) Sadio 302! **Sen.:** Naegelé! Kolda, Casamance Raynal 7805! **Mali:** Sindou (May) Chev. 873! Macina (Nov., Dec.) Duong 1310! **Guin.:** Faranah (Apr.) Pitot! Kissidougou to Gueckédou (Apr.) Pitot! Macenta (Apr.) Pitot! Sérédou to Nzérékoré (Apr.) Pitot! **S. L.:** Rokupr (Mar.) Jordan 16! Bonthe (Nov.) Deighton 2261! Njala (July) Pyne 174! Gboyama (Apr.) Deighton 1600! Tombo (Jan.) Deighton 997! **Lib.:** Bushrod I. (Apr.) Barker 1303! Monrovia (May) Baldwin 5806! Grand Bassa Ansell! Ganta, Sanokwele Dist. (May) Harley 947! Nimba Mts. (Mar.) Adam 21076! **Iv. C.:** Issia, Daloa to Abidjan (Dec.) Boughey 13592! Sasaandra R., 14 km. from Sassandra (Apr.) Leeuwenberg 4008! Dabou

(Dec.) Giovannetti 450! Adiopodoumé (Nov.) Leeuwenberg 2099! Abidjan (Dec.) Pitot! **U. Volta:** Banfora Adam 15389! **Ghana:** Burufo Spring, Lawra (Apr.) Adams 4047! Damongo (Mar.) Morton GC 8711! Kumasi (Nov.) Bannerman-Bruce C. D. A 4422! Atwabo Fishlock 14 of 1931! Kpeshi lagoon, Labadi (May) Adams 2731! **Togo Rep.:** Sokodé Mahoux 2064! Lomé Warnecke 129! **Dah.:** Grand Popo (May) Roberty 1570! Sémé (Sept.) Adjahoun 479! **N. Nig.:** Sokoto Dalz. 463! Lokoja Richardson 1! (Apr.) Haines 47! Wushishi (June) Clayton 1104! **S. Nig.:** Lagos (Jan.–Mar.) Haines 92! Hepper 2264! Ibadan (Oct.) Hamblen 73! Okomu F.R., Benin (Feb.) Brenan 9156! Ajagbododu (July) Wright 48! **W. Cam.:** Mamfe (Dec.) Migeod 273! Mankon (Apr.) Brunt 1120! Bota, nr. Victoria (Aug.) Chumil 124! **F. Po:** T. Vogel 13! (June) Barter!

Throughout tropical Africa, and in **India**, **Malesia** and **tropical America**.

17. *Cyperus dilatatus* Schum. & Thonn. Beskr. Guin. Pl. 38 (1827); F.T.A. 8: 375. *APD acc*

***Cyperus gracilinux* C.B. Cl.** in J. Linn. Soc. 21: 162 (1884); F.T.A. 8: 362; F.W.T.A., ed. 1, 2: 485; Kük. l.c. 131; Cherm. in Arch. Bot. Caen 7, Mém. 4: 14 (1936); Berhaut, Fl. Sén. ed. 2, 385 (1967).

***Cyperus gracilinux* var. *platyphylla* C.B. Cl.** in Mém. Soc. Bot. Fr. 2, 8: 27 (1907).

Plant with many curved slender rhizomes, and generally neat, acute, flat spikelets with red-tinged lanceolate glumes; **damp grassland and as a weed in cultivation**.

Gam.: Yundum Frith 130! **Sen.:** Sébikotane (Sept.) Pitot! Sédhiou Chev. 2448. Kaolack to Guinguiné (Aug.) Trochain 144! Richard-Toll Berhaut 1576. **Mali:** Baguineda (Aug.) Roberty 2665! Bamako Adam 14978! 14999! 15000! 15001! **Guin.:** Youkounkoun (Oct.) Pitot! Labé (June) Adam 14491! Kouroussa (July) Pobéguin 423! Kindia Jac.-Fél. 106! N'zérékoré to Beyla (May) Pitot! **S. L.:** Hastings (Aug.) Melville & Hooker 196! Konta (Aug.) Deighton 1242! Pendembu (July) Thomas 811! Koinadugu (Aug.) Haswell 237! Sefadu (June) Fisher 20! **Lib.:** Duport (Nov.) Linder 1447! Nimba Mts. (May) Leeuwenberg & Voorhoeve 4606b! **Iv. C.:** Téhini (Aug.) de Wilde 777! Mankono (Oct.) Aké Assi 7098! Adiopodoumé (July) Boughey 14498! **U. Volta:** Ouagadougou Adam 15458! (Apr.) Nongonierma 55! **Ghana:** Yendi (Dec.) Adams & Akpabla 4092! Tamale (Mar.) Morton GC 8811! Ejura (Dec.) Morton GC 9728! Cape Coast (Apr.) Hall 1335! Accra (July) Dalz. 173! **Togo Rep.:** Bafilo (May) Roberty 1455! **N. Nig.:** Shagunu (July) Cook 310! Jebba to Mokwa (Aug.) J. Hall 296! Kaduna to Keffi (June) Kershaw 900625! Bauchi (Aug.) Lely P458! Yola (June) Dalz. 260! **S. Nig.:** Lagos (Oct.) Haines 44! Ifaki, Ondo Prov. (June) Clayton 1118! Mamu River F.R., Onitsha Prov. (May) Lowe 1008! Sapoba (Nov.) Meikle 586! Obudu Plateau Tuley 971!

Throughout tropical Africa.

18. *Cyperus tenuiculmis* Boeck. in Linnaea 36: 286 (1870); Kern in Reinwardtia 3: 28–31 (1954). *APD acc*

Cyperus zollingeri of F.T.A. 8: 360, partly; F.W.T.A., ed. 1, 2: 483; Kük. l.c. 133; Cherm. l.c. 14; not of Steud

18a. *Cyperus tenuiculmis* var. *tenuiculmis* *APD acc*

Slender perennial with a short swollen stem-base and a large inflorescence with slender erect bracts and rays bearing a sparse spike of angular, yellowish spikelets with a zigzag rhachilla; **grassland, swamps and sandy waste places**.

Sen.: Sangalkam (June) Berhaut 1574! Djembering (Sept.) Broadbent 133! Bignona (Sept.) Adam 18065! Ziguinchor (Sept.) Broadbent 80! Kabrousse (Oct.) Adam 18372! **Mali:** Kita Mts. (Aug.) Jaeger 27! **Guin.:** Conakry (Oct.) Adam 12619! Friguigbé (May, July) Boismaré 269! Chillou 2675! Hollandé Tossékéré (Oct.) Adam 12724! Macenta (Apr.) Pitot! **S. L.:** Lumley to York (Aug.) Harvey 77! Bumban (Aug.) Deighton 1291! Mabum (Aug.) Thomas 1542! Njala (July) Deighton 745! Gbap (June) Adames 55! **Lib.:** Monrovia (May, Sept.) Baldwin 5820! Wrigley & Melville 710! Sinkor (June) Barker 1372! Nimba Mts. (July) Leeuwenberg & Voorhoeve 4606a! Sangwin (Mar.) Baldwin 11330! **Ghana:** Atwabo Fishlock 16 of 1931! Ayikuma to Doyum (May) Hall & Bowling GC 38513! Eikwe (Aug.) Hall 3374! **W. Cam.:** Bum, Bamenda, 5,000 ft. (May) Maitland 13a! Bali (Apr.) Brunt 1103!

Throughout the Old World tropics.

18b. *Cyperus tenuiculmis* var. *schweinfurthianus* (Boeck.) Hooper in Kew Bull. 26: 578 (1972). *APD acc*

***Cyperus zollingeri* Steud. var. *schweinfurthianus* (Boeck.) Kük.** in Engl., Pflanzenr. Cyper. 134 (1935).

***Cyperus schweinfurthianus* Boeck.** in Flora 62: 553 (1879); F.T.A. 8: 361; F.W.T.A., ed. 1, 2: 483; Cherm. in Arch. Bot. Caen 7, Mém. 4: 14 (1936).

Differing from the typical var. in having the stem scabrid beneath the inflorescence and dense spikes of golden, angular spikelets; **grassland, savanna and waste places**.

Sen.: Kolda, Casamance (Oct.) Adam 18548! **Mali:** Kita Duong 407! (July) Jaeger 16! 23! Bamako to Ouagadougou Adam 15087! Ségou (Aug.) Roberty 3753! **Guin.:** Sambaïlo (Sept., Oct.) Pitot! Friguiagbé (Sept.) Chillou 630! Kissidougou to Guékédou (Apr.) Pitot! Nzérékoré (Apr.) Pitot! **S. L.:** Musaia (July) Morton & Jarr SL 2118a! Koinadugu (Aug.) Haswell 239! **Iv. C.:** Foro-foro Forest, 25 km. N. of Bouaké (Sept.) Oldeman 405! Bouaké (May) de Wilde 35! Cosrou (May) Leeuwenberg 4249! Dabou (Nov.) Leeuwenberg 1952! Adiopodoumé (Dec.) Koechlin 2328! **U. Volta:** 18 km. N. of Banfora (June) Leeuwenberg 4353! **Ghana:** Ejura (Aug.) Andoh 5039! Essiama (Oct.) Hall 2664! Abura, Cape Coast (Apr.) Hall 2291! Krobo Mt., Accra Plains (May) Hall 2317! Amedzofe (May) Morton GC 7220! **Togo Rep.:** Kling 71. Sokodé Schilling 15c. Kersting 104. **Dah.:** Savalu Chev. 23682. **N. Nig.:** Ahmadu Bello University, Zaria (Aug.) Kershaw 900412! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 367! Minna (Jan.) Keay FHI 37322! Badeggi, Niger Prov. (June) Onochie FHI 18682! Ibaji Ojoko N.A.F.R., Kabba Prov. (June) Latilo FHI 47752! **S. Nig.:** Shaki (May) Lagos Govt. 61! Ilora turn, 2 miles S. of Oyo (July) Keay & Stanfield FHI 46318! Lagos Millen 107! Ifaki, Ondo Prov. (June) Clayton 1130! 10 miles E. Benin Rd., Owo Prov. (Apr.) Haines 56! **W. Cam.:** Ndop (May) Brunt 492!

Throughout tropical Africa.

18c. *Cyperus tenuiculmis* var. *guineensis* (Nelmes) Hooper in Kew Bull. 26: 583 (1972). *APD acc*

Cyperus guineensis Nelmes in Kew Bull. 6: 165 (1951); Nelmes & Baldwin in Amer. J. Bot. 39: 381, f. 64–69 (1952).

Similar to var. *schweinfurthianus* but characterized by the spreading inflorescence and dark brown coloration of the Bides of the glumes; **montane grassland**.

Guin.: Chutes de la Sala (Oct.) Pitot! Dalaba Monod! **S. L.:** Kamabai (Aug.) Deighton 1232! Perankonko, Loma Mts. (Sept.) Jaeger 1766! **Lib.:** Vonjama (Oct.) Baldwin 9901! Nimba Mts., 4,000–4,500 ft. (Sept.–Jan.) Adam 20076! 20539! Adames 507! 716! **Iv. C.:** Petit Tonkoui (Sept.) Schnell! **Ghana:** Tonogo (Nov.) Morton A 3476! Amedzofe (Nov.) Morton 9393! **S. Nig.:** Orosun Peak, Idanre Hills (Oct.) Keay FHI 22677! Obudu Plateau, 5,000 ft. (Aug.) Kershaw 900680! **W. Cam.:** Bamenda Dept. of Agric. 6!

Also in **E. Cameroun**.

19. *Cyperus permacer* C.B. Cl. in Mém. Bull. Soc. Bot. Fr. 2, 8: 27 (1907). *APD acc*

Cyperus zollingeri var. *permacer* (C.B. Cl.) Kük. in Engl., Pflanzenr. Cyper. 134 (1935).

Slenderly rhizomatous perennial similar in habit to *C. tenuiculmis* but with cylindrical or oblong spikes of short spikelets with distinctly apiculate glumes; **grassland, river banks and other damp places**.

Guin.: Kandiarra K. (Oct.) Pitot! La Sala (Oct.) Pitot! Timbi to Pita (Oct.) Adam 12554! Téliélé to Pita (Oct.) Pitot! Nimba Mts. (Sept.) Schnell 3592! **S. L.:** Port Loko (Oct.) Jordan 808! Batkanu (Sept.) Glanville 352! Koinadugu Dist. (Aug.) Haswell 233! Loma Mts. (Nov.) Morton SL 2694! Tingi Mts. (Dec.) Morton & Gledhill SL 3043! **Ghana:** Banda (Aug.) Hall 2034! **S. Nig.:** Olokemeji F.R. to Eruwa Rd. turning (Aug.) Keay FHI 37171!

20. *Cyperus zollingeri* Steud. Synops. Cyper. 17 (1855), not of C.B. Cl.; Kern in Reinwardtia 3: 28 (1954). *C. rubroviridis* Cherm. in Bull. Soc. Bot. Fr. 66: 350 (1920); Kük. l.c. 135. *APD acc*

APD: *Synonym of Cyperus tenuiculmis Boeckeler var. tenuiculmis*

Cyperus sphacelatus var. *tenuior* C.B. Cl. in F.T.A. 8: 347 (1901); F.W.T.A., ed. 1, 2: 485.

Cyperus zollingeri var. *parva* C.B. Cl. in F.T.A. 8: 361 (1901).

Rare, caespitose annual about 20 cm. high with flaccid leaves and bracts and few, subquadrangular greenish spikelets; **grassland**.

Sen.: Huard! Ngalene Heudelot 485! **Ghana:** Kwahu Tafo (June) Hossain & Enti GC 35498! **Togo Rep.:** Mahoux 2064.

Throughout tropical Africa, **Madagascar**, **Malaysia** and **N. Australia**.

21. *Cyperus baoulensis* Kük. in Engl., Pflanzenr. Cyper. 467 (1936). *APD acc*

Pyereus baoulensis A. Chev., Bot. 1: 695 (1920), name only.

Mariscus baoulensis Hutch., F.W.T.A., ed. 1, 2: 486, English descr. only.

Plant up to 1.2 m. tall with few, long rays, characterized by the very large, triangular, light brown glumes, spreading at maturity; **marshy grassland**.

Iv. C.: Tiegouakro to Kodiokoffi Chev. 22336! **Ghana:** Pong Tamale (Aug., Sept.) Hall CC 414! Yamoah SLUS 336! Tamale (Oct.) Baldwin 13560! 10 mls. N. of Ejura (Aug.) Hall CC 306! Oyibo (July) Hall & Jenik 3689! Ayikuma to Doyum (May) Hall & Bowling GC 38512!

22. *Cyperus distans* Linn. f. Suppl. 103 (1781); F.T.A. 8: 349; Kük. l.c. 137; Berhaut, Fl. Sén. ed. 2, 383 (1967). *APD acc*

Characterized by the slender, brown spikelets of small, distant glumes in a spreading compound umbel; in cultivated and waste ground and, generally damp, grassland.

Sen.: Dakar (June) Adam 1500! L. Tanma (June) Adam 17705! Sangalkam (July) Pitot! Thiés (Nov.) Berhaut 3989! Richard Toll (Oct.) Berhaut 2646! **Mali:** Kitaba, Kita Mts. (Oct.) Jaeger 76! **Guin.:** Conakry (Oct.) Maclaud 40! Kindia Jac.-Fél. 155! Fouta Djallon Jac.-Fél. 502! Faranah (Apr.) Pitot! Nzérékoré (May) Pitot! **S. L.:** Newton (June) Deighton 3008! Mayombo, nr. Roruks (July) Deighton 4677! Makene (Aug.) Deighton 1265! Mabonto (Aug.) Deighton 1395! Bumbuna (Oct.) Thomas 3339! **Lib.:** Zokatown, Tappita Dist. (Nov.) Adam 16139! Ganta, Sanokwele Dist. (Sept.) Harley 1011! Nimba Mts. (July) Leeuwenberg & Voorhoere 4606! **Iv. C.:** Bouaké (May) de Wilde 65! Banco forest (Nov.) Bégué 88! Abidjan (Dec.) Pitot! Adiopodoumé (July, Dec.) Boughey 14502! Leeuwenberg 2126! **Ghana:** Medea to Kotoku (Apr.) Morton GC 7151! Hohoe (Apr.) Morton GC 9186! Nungua (May) Rose Innes GC 30115! Accra (July) Irvine 705! Prampram (Nov.) Morton GC 6153! **Dah.:** Cabolé (June) Annet 75! **N. Nig.:** Ilesha (Apr.) Haines 50! Abinsi (Nov.) Dalz. 820! **S. Nig.:** Umudike (July) Ariwaodo ARS 1278! Ibadan (Apr.) Meikle 1473! Shasha F.R. (Apr.) Gledhill 1001! Ikotekpene (June) Guile! Calabar Maitland 11! **W. Cam.:** Bota (Aug.) Chuml 126! Batibo (Apr.) Brunt 1058! Buea (Nov.) Migeod 59! Ndop, Bamenda (Dec.) Boughey GC 11381! Bamenda, 5,000 ft. (Jan.) Migeod 308! **F. Po.:** Moka, 4,000 ft. (Dec.) Boughey 108!

Pantropical.

23. *Cyperus koyaliensis* Cherm. Arch. Bot. Caen 7, Mém. 3: 7 (1936); J. Raynal in Adansonia sér. 2, 6: 390 (1966); *APD acc*

Cyperus immanis Nelmes in Kew Bull. 6: 164 (1951); Nelmes & Baldwin in Amer. J. Bot. 39: 379, t. 58–63 (1952).

Tall “papyrus”-like sedge with slender drooping rays, those of the second or third order bearing clusters of slender spikelets; marshes.

S. L.: Masadou to Loma Mts. (Aug.) Jaeger 897! **Guin.:** Sambadougou to Boria (Jan.) Chev. 20553! Béro massif (June) Adams 5422! **Lib.:** Vonjama (Oct.) Baldwin 12044! **Iv. C.:** Disandougou to Nianouépleu (May) Chev. 21520! **N. Nig.:** Jos to Vom (Dec.) Harris 96! Jos Batten-Poole 390! (Aug.) J. Hall 604! Gurum, nr. Vogel Peak (Nov.) Hepper 1259!

Also in **E. Cameroun** and **C. African Republic**.

[A specimen (de Wit 971) from the Ivory Coast is close to the S. American *C. prolixus* Kunth having spikelets 2.5 mm. broad and mucronate glumes 3 mm. long. It may be introduced.]

24. *Cyperus atroviridis* C.B. Cl. in F.T.A. 8: 359 (1901); Kük. l.c. 141. *APD acc*

Cyperus aterrimus Steud. var. *atroviridis* (C.B. Cl.) Kük. l.c. 142.

Cyperus aterrimus of F.T.A. 8: 358; Kük. l.c. 141; not of Steud.

Tufted sedge to 1.3 m. high characterized by the secondary rays of the inflorescence (when present) spreading or deflexed and the elongated, subcylindric spikes of black and green slender spikelets; damp places.

W. Cam.: Mann’s Spring, Cam, Mt. (Dec.) Boughey GC 10634! Bamenda, 8,000 ft. (Feb.) Migeod 492! Oku, 6,000 ft. (June) Brunt 634! Bafut-Ngemba F.R., 6,200 ft. (July) Brunt 835! **F. Po.:** 8,500 ft. (Apr.) Mann 1466!

Throughout tropical Africa.

25. *Cyperus eleusinoides* Kunth Enum. Pl. 2: 39(1837); Kük. l.c. 144; F.T.A. 8: 350. *APD acc*

Stout, medium-sized plant with sulphur-yellow sheaths and congested spikes with mucronate, recurved glumes; damp places.

Niger: Myriah (Aug.) P. de Fabrègues 173!

Also in north-east Africa and east Africa, Madagascar, southern Asia and Australia.

26. *Cyperus tonkinensis* C.B. Cl. in Kew Bull. add. ser. 8: 9 (1908). *APD acc*

The typical variety comes from S.E. Asia.

- 26a. *Cyperus tonkinensis* var. *baikiei* (C.B. Cl.) Hooper in Kew Bull. 26: 577 (1972). *APD acc*

- Cyperus baiki* **C.B. Cl. ex Kük.** in Fedde, Rep. 21: 325 (1925); F.W.T.A., ed. 1, 2: 483; Kük. in Engl., Pflanzenr. Cyper. 148, t.17 (1935); Nelves & Baldwin in Amer. J. Bot. 39: 381 (1952).
Cyperus maculatus of F.T.A. 8: 363, partly.
Cyperus kottensis **Cherm.** in Arch. Bot. Caen 4, Mém. 7: 23 (1931).

Caespitose plant with a knotted mass of pseudobulbous, swollen stem-bases and a narrow inflorescence with clusters of erect, silvery, linear spikelets of numerous tiny glumes; **sand-banks in rivers.**

Sen.: Niokolo-Koba, Tambacounda (June, Dec.) J. & A. Raynal 6935! Adam 14300! Geneto (May) Naegelé! Vorouli, Gambia R. (Apr.) Nongonierma! **Mali:** San, Bani R. (Feb.) Roberty 3373! Ségou (Feb.) Roberty 3385! 3646! Mgomi, Mopti (June) Lean 34! **Guin.:** Dabola (Apr.) Pitot! Bissikrima (June) Pobéguin 1060! **S. L.:** Baiima (May) Deighton 5771! Bumban to Port Lokko (Apr.) Sc. Elliot 5676! Samaia (May) Thomas 214! Makump (May) Deighton 1711! **Lib.:** Baila, Sanokwele Dist. (May) Harley 1416! **Ghana:** Yeji, R. Volta (June) Deighton 713! Zabzugu to Yendi (Apr.) Morton GC 9070! **Dah.:** Savé to Agouagon (May) Chev. 23595! **N. Nig.:** Gurara Falls, Niger R. (Dec.) Haines 81! **S. Nig.:** Niger R. bank Baikie!

Also in **Chad**, **C. African Rep.** and **Congo**.

27. *Cyperus congensis* **C.B. Cl.** in Dur. & Schinz, Études Fl. Congo 1: 285 (1896); Kük. l.c. 115; J. & A. Raynal in Adansonia sér. 2, 7: 316 (1967). **APD acc**

- Cyperus eleusinoides* var. *dinklagueanus* **Kük.** l.c. 145.
Cyperus distans var. *mucronatus* **Berhaut**, Fl. Sén. ed. 1, 231 (1954), and ed. 2, 383 (1967), French descr. only.

Resembling *C. distans* L.f. but with longer, more crowded and spreading glumes in a generally more congested inflorescence, variable; river banks and similar damp places.

Sen.: Kayar J. & A. Raynal 6043! 6060! 6451! Kanouméri, Kédougou (July) Fotius K250! **S. L.:** Magbema, nr. Kambia (July) Jordan 463! Makump (May) Deighton 1716! Sumbuya to Serabu (Apr.) Deighton 1672! Kambia (June) Gledhill 618! **Lib.:** (May) Harley 1808! Cavally R., Webo Dist. (Apr.) Dinklage 2652!

Also in **Gabon** and the **Congo**.

28. *Cyperus iria* **Linn.** Sp. Pl. 45 (1753); F.T.A. 8: 346; Kük. l.c.: 150; Cherm. in Arch. Bot. Caen 7, Mém. 4: 12 (1936); Berhaut, Fl. Sén. ed. 2: 376, 385 (1967). **APD acc**

Annual up to 76 cm. high, with obtuse, golden, very compressed spikelets in oblong, erect spikes; **edge of open water.**

Sen.: Djoudj, Senegal R. delta (Oct.) Adam 21743! Richard Toll (Sept., Oct.) Leprieur 1825! Berhaut 1416! Djolof (Aug.) Naegelé 11748! Bakel Heudelot 312! 329! **Gam.:** (July) Ruxton 23! **Mali:** Niger “delta” Duong! Dioura (Sept.) Davey 102! Faguibine to Bouna Chev. 2430! Gao to Goura (Sept.) de Wailly 4818! **U. Volta:** Ouagadougou to Lai (Aug.) Chev. 24693! 24703! **Ghana:** Natinga, Nakpanduri to Bawku (Aug.) Hall CC 534! **N. Nig.:** Damaturu, W. Bornu (Aug.) De Leeuw 1069!

Old world tropics and subtropics extending into U.S.A.

29. *Cyperus compressus* **Linn.** Sp. Pl. 46 (1753), emend. Dandy in Exell, Cat. S. Tomé 357 (1944); F.T.A. 8: 347; Kük. l.c. 156; Berhaut, Fl. Sén. ed. 2, 376, 380 (1967). **APD acc**

Annual from 4–60 cm. high, with 1–6 digitate clusters of obtuse, compressed spikelets up to 3 cm. long with apiculate, green-keeled glumes; **weed of waste places, often on sandy soil.**

Sen.: Labgal (Oct.) Naegelé 12875! Sebikotane, Cap Verde (Oct.) Pitot! Oussouye to Ziguinchor (Sept.) Broadbent 114! Velingara (Oct.) Adam 18574! Tambacounda (Nov.) Berhaut 2681! **Guin.:** Conakry (Aug.) Martine 37! 48! 63! Chillou 3356! **S. L.:** Newton (Nov.) Deighton 1438! Mambolo (Sept.) Jordan 86! Mahera (Nov.) Deighton 5676! Njala (Sept.) Deighton 2082! Bonthe (Nov.) Deighton 2262! **Lib.:** Buchanan, Grand Bassa Dist. (Nov.) Adam 16034/1! Sinoe (Nov.) Dinklage 2338! Gbau, Sanokwele Dist. (Sept.) Baldwin 9451! Zwedru, Tchien Dist. (Aug.) Baldwin 7044! **Iv. C.:** Bingerville (Dec.) Chev. 16087! **Ghana:** Krisan, Axim (Sept.) Cudjoe! Abura (Mar.) Hall 2230! Cape Coast (May-June) Hall 1474! Morton A3668! Keta (Sept.) Hall 3417! **Togo Rep.:** Lomé (May) Mahoux 2022! Agblowé (Sept.) Mahoux 125! **N. Nig.:** Bacita (Nov.) Hepper 3909! **S. Nig.:** Jeddah, Lagos (Dec.) Haines 83! Ijora, Lagos (July) Haines 39! Ajagbodudu, Benin (July) Wright 46! Warri (July) Kershaw 900678!

Pantropical.

30. *Cyperus incompressus* **C.B. Cl.** in F.T.A. 8: 348 (1901); Kük. l.c. 160. **APD acc**

- Cyperus trachycladus* var. *multiflorus* of Berhaut, Fl. Sén. ed. 2, 384 (1967).

Cyperus procerus var. *vanderystii* Kük. l.c. 92.

Annual or perennial sedge 40–100 cm. high with wide, soft, triangular stems, long rays and spicately arranged large, obtuse, golden or pink tinged spikelets with obtuse membranous-edged glumes; rice fields, river-banks and near water.

Sen.: Karang (Nov.) Berhaut 1791! Sédhiou, Casamance (Oct.) Adam 18437! **Guin.:** Koba (Nov.) Jac.-Fél. 7216! **S. L.:** Kambia (Dec.) Sc. Elliot 4373! Gbap, Nongoba (Oct.) Jordan 619!

Also in the **western Congo** and **northern Madagascar**.

31. *Cyperus pustulatus* Vahl Enum. Pl. 2: 341 (1806); Kük. l.c. 161 (incl. var. *djalandis* (Chev.) Kük.).
APD acc

Juncellus pustulatus (Vahl) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 546 (1895); F.T.A. 8: 307; F.W.T.A., ed. 1, 2: 489; Berhaut, Fl. Sén. ed. 2, 377, 381 (1967).

Tufted annual 30–100 cm. high with few, rather unequal rays bearing clusters of oblong, often dark-spotted, spikelets of broadly ovate, obtuse glumes; **marshes and near open water**.

Sen.: Fayil Berhaut 3932! Kolda (Oct.) Adam 18547! Ouassadou (Sept.) Berhaut 2677! Gouloumbo to Tambacounda (Oct.) Pitot! Niokolo-Koba (Oct.) Adam 15644! **Gam.:** (July) Ruxton 21a! Wailikunda (Oct.) Macluskie 32! **Mali:** Scäetta 3329! Koulikoro (Apr.) Chev. 2474! Macina (Nov.) Duong! **Guin.:** Sambailo (Oct.) Pitot! Seriba Adam 14803! Fouta Djallon Chev. 18613! Kouroussa (Aug.) Pobéguin 399! Lola to Nzo Chev. 20978! **S. L.:** Kambia (Aug.) Harvey 24b! Sendugu (June) N. W. Thomas 604! Njala (Aug.) Deighton 1836! Tisana (Nov.) Deighton 2321! Lunsar (Aug.) Adames 123! **Iv. C.:** Ferkessédougou (Nov.) Leeuwenberg 2038! Mankono Aké Assi 4808! Toumodi (Oct.) Pobéguin 81! Singrobo (Dec.) Adjanohoun & Aké Assi 4766! Baoulé Kodiokoffi Chev. 22333! **U. Volta:** Bedia to Barbotrom Hb. ALF! Banfora (Sept.) Jaeger 5245! Ouagadougou (Oct.) Nongonierma 201! **Ghana:** Burufo Spring, nr. Lawra (Apr.) Adams 4041! Gambaga (May) Morton GC 7464! Banda (Aug.) Hall 1961! Iture, nr. Elmina (Aug.) Hall 2528! Kpeshi lagoon (May) Adams 4288! **Togo Rep.:** Koumea (June) Mahoux 2089! Bassari to Sokodé (Aug.) Mahoux! **N. Nig.:** Gawu Hills, Gwari (Aug.) Onochie FHI 35932! Shagunu (July) Cook 325! Kufena Hill, Zaria (Sept.) Clayton 1322! Jos (July) Lawlor & Hall 16! Nupe Barter 1563! Benue R., Yola (Sept.) Kennedy FHI 7287! Damaturu, W. Bornu (Aug.) De Leeuw 1070! **S. Nig.:** (Jan.) Dodd 390! Shaki, nr. Lagos Macgregor 164! Ado Rock, Ado-Awaiye, Ibadan Dist. (May) Onochie FHI 31215!

Throughout tropical Africa.

[Very slender, perhaps depauperate specimens corresponding to the var. *debilis* Kük. occur on the margins of lateritic hard pans in Sierra Leone (Jordan 884 etc.) and have 1–3 spikelets only.]

32. *Cyperus podocarpus* Boeck. in Flora 62: 551 (1879); F.T.A. 8: 333; C.B. Cl., Illustr. Cyper. t.10 (1909); Kük. l.c. 162; Berhaut, Fl. Sén. ed. 2, 377, 381 (1967). *APD acc*

Slender annual, variable in size, with few, narrow leaves, an erect bract and 1–3 digitate clusters of acute, terete spikelets with broad-keeled glumes on a wide rhachilla, curved at maturity; **marshes and beside pools on rock outcrops**.

Sen.: Sangalkam Berhaut 2669! Ouassadou Berhaut 1566! Kanéméré (Sept.) Fotius K492! Tambacounda Berhaut 3183! Tambacounda to Gouloumbo (Oct.) Pitot! **Mali:** Kita (July) Jaeger 14! Bamako Waterlot 1291! Bougouni Scaëtta in Hb. Roberty 3130! Ségou (Sept.) Roberty 2707! Boré (July) Demange 31/1957! **Guin.:** Seriba Adam 14802! Téliimélé (Oct.) Pitot! Medina to Nyvelande Adam 14624! Kouroussa (Aug.) Pobéguin 400! Kankan to Bougouni Scaëtta 3165! **S. L.:** Kambia (Aug.) Harvey 24c! **Iv. C.:** Ouango-Fitini (July) Aké Assi 4828! Bouna Reserve, Kakpin (June) Aké Assi 10301! **U. Volta:** Sikasso to Bobo-Dioulasso Adam 15104! Ouagadougou to Ouahigouya (Aug.) Chev. 24720! **Ghana:** Burufo (Sept.) Hall CC 727! Lawra (Sept.) Hall CC 703! **N. Nig.:** (Aug.) Lely P464! 80 mls. N. of Gusau, Sokoto Prov. (July) de Leeuw 912! Bindawa, Katsina Prov. (Aug.) Grove 42! Kan Gimi, Zaria Prov. (May) Keay FHI 22897! Anara F.R., Zaria Prov. (July) Clayton 1227! 1258!

Also in **central** and **northeast tropical Africa**.

[Very variable in size, having a depauperate form with one to a few spikelets similar to the var. *debilis* of the previous species from which it can be distinguished by the much more acute, often curved, spikelets.]

33. *Cyperus alternifolius* Linn. Mant. 2: 28 (1771).

APD: *Synonym of Cyperus involucratus Rottb.*

Cyperus flabelliformis Rottb., Descr. et Icon. 42, t.12 f.2 (1773); F.T.A. 8: 336.

Robust, leafless, triangular stems to 2 m. high with numerous, leafy bracts and subequal rays bearing clusters of elliptical, acute, shining brown spikelets; **cultivated**.

Sen.: Dakar (Apr.) Adam 1113! 1114! **S. L.:** Njala (Nov.) Deighton 3785! **Ghana:** Achimota (Mar.) Akpabla 2007! Aburi (Apr.) Irvine 2041! **W. Cam.:** Mouth of Limba R. (Mar.) Brunt 1041!

Introduced; native in Madagascar, east tropical and S. Africa and introduced in other parts of the tropics.

34. **Cyperus pseudoleptocladus** *Kük.* in Fedde, Rep. 29: 196 (1931). *APD acc*

Cyperus deckenii of F.T.A. 8: 342 partly, not of Boeck.

Similar to *C. haspan* L. but with somewhat longer, darker spikelets with longer apiculate glumes; near water.

W. Cam.: Musake, Buea, 6,000 ft. (Nov.) Migeod 127! L. Bambuluwe to Bamuko (July) Daramola FHI 41582! Pinyin, 5,500 ft. (Apr.) Brunt 1097!

Also in **east tropical Africa**.

35. **Cyperus mannii** *C.B. Cl.* in F.T.A. 8: 341 (1901). *APD acc*

Cyperus baronii *ar. mannii* (*C.B. Cl.*) *Kük.* in Engl., Pflanzenr. Cyper. 202 (1936).

Leafy perennial to 150 cm. high with an irregular, thrice-branched umbel bearing small clusters of brown spikelets, with paler, less clearly apiculate glumes and fewer bracts than the preceding species; **montane forest**.

S. L.: Bintumane Peak, Loma Mts. (Oct.–Jan.) T. S. Jones 97! 131! Jaeger 306! 495! Da-Oulen Peak, Loma Mts. (Aug.) Jaeger 1346! **Lib.:** Nimba Mts. (Dec.) Adam 20077! **N. Nig.:** Bellel, Mambila Plateau (Jan.) Hepper 1693! **W. Cam.:** Cam. Mt., 7,000 ft. (Jan.) Mann 1358! Mann's Spring, 6,650 ft. (Feb., Mar.) Adams GC 11740! E. W. Jones 9524! Buea, 5,000 ft. (Jan.) Maitland 347! Bambui (Dec.) Boughey GC 10778! 4,000 to 7,000 ft. Mann 320! 1479! **F. Po:** Biao, 6,400 ft. (Sept.) Wrigley & Melville 474! El Pico, 6,000 ft. (Dec.) Boughey 125! Moka (Dec.) Boughey 64!

[Perhaps to be equated with one of the east African species of this section of the genus.]

36. **Cyperus renschii** *Boeck.* in Flora 65: 11 (1882); F.T.A. 8: 345; *Kük.* l.c. 206. *APD acc*

Robust perennial with a much-branched, lax inflorescence with broad bracts and very numerous small, round clusters of few-flowered dark spikelets with recurved tips to the glumes; **secondary or gallery forest, by streams**.

Guin.: Sébori, Fouta Djallon (Oct.) Adam 12674! **S. L.:** Yetaya (Sept.) Thomas 2444! **Lib.:** Kitoma, Sanokwele Dist. (Mar.) Adam 16810! **iv. C.:** Sassandra to Beyo (Jan.) Leeuwenberg 2551! Issia, Daloa to Abidjan (Dec.) Boughey GC 13612b! **Ghana:** Burton! Wenchu to Techiman, Ashanti (Mar.) Morton GC 8556! Kwahu (Apr.) Johnson 689! **S. Nig.:** Obudu Plateau, 5,000 ft. (Apr.) Haines 201! Sonkwala, Obudu Div. (Dec.) Savory & Keay FHI 25185! **W. Cam.:** Cam. Mt., 2–3,000 ft. (Dec.) Mann 2103! Wum (Jan.) Brunt 925! Kumbo, 5,500 ft. (Feb.) Hepper 1977! Ashong, Batibo, 5,100 ft. (Apr.) Brunt 1090! Ndop (Dec.) Adams GC 11058!

Throughout tropical Africa.

37. **Cyperus diffusus** *Vahl* Enum. Pl. 2: 321 (1806).

APD: *Synonym of Cyperus laxus Lam. subsp. laxus*

The typical subspecies occurs in India and south-east Asia.

37a. **Cyperus diffusus subsp. buchholzii** (*Boeck.*) *Kük.* in Engl., Pflanzenr. Cyper. 210 (1936).

APD: *Synonym of Cyperus laxus subsp. buchholzii (Boeckeler) Lye*

Cyperus buchholzii *Boeck.*, Beitr. Kenntn. Cyper. 1: 3 (1883).

Cyperus diffusus of F.T.A. 8: 343; F.W.T.A., ed. 1, 2: 483.

Leafy, caespitose perennial 25–50 cm. high with purple leaf-sheaths, 4–8 leafy bracts and a 2–3 times umbellate inflorescence with small clusters of few-flowered spikelets with spreading glumes; **path sides and other openings in forest**.

Guin.: Kindia Jac.-Fél. 144! Benty (June) Chillou 2652! Macenta (Apr.) Pitot! Ziam (Apr.) Adam 4790! Nimba (Dec.) Adam 7374! **S. L.:** Koinadugu Dist. (Aug.) Haswell 203! Rokupr (Sept.) Jordan 313! Makump (July) Thomas 994! Njala (July) Deighton 748! Male B. Ferry, Segbwema to Kenema (July) Deighton 3751! **Lib.:** Harley 1407! Tappita (Aug.) Baldwin 9081! Baila, Sanokwele Dist. (May) Harley 1407! Webó on Cavally R. (Apr.) Dinklage 2650! Nimba, 1,100 m. (May) Adam 25680! **Iv. C.:** Mankono (July) Chev. 22003! Sinfra (Dec.) Aké Assi 7215! Issia (Aug.) Boughey 14679! Sassandra (Apr.) Leeuwenberg 4011! Lamé (Nov.) Leeuwenberg 1903! Adiopodoumé (Mar.) Bernardi 8569! **Ghana:** Ejura Scarp (Mar.) Adams 2444! Cape Coast (June) Hall 1476! Mpraeso Scarp, Kwahu (Dec.) Adams 5176! Aburi (June, July) Johnson 195! Morton! Volta River F.R. (Nov.) Morton 6065! **Togo Rep.:** Misahöhe Baumann 222. **S. Nig.:** Ijaiye F.R., Oyo Dist. (May) Onochie FHI 19170! Lagos Millen 182! Omo F.R., Ijebu Dist. (Apr.) Onochie FHI 15537! Okelifi, Ondo Dist. (Nov.) Onochie FHI 34227! Owo (Apr.) Haines 41! Calabar to Atimbo (Feb.) Onyeachusim & Latilo FHI 48173! **W. Cam.:** Kingsley! Mamfe to Victoria (Apr.) Morton GC 7122! Bimbria Rubber Plantation, Victoria (Aug.) Chuml 159! Mbalange F.R., Kumba (Jan.) Binuyo & Daramola FHI 35472! **F. Po:** T. Vogel!

Also in **E. Cameroun**, central and east tropical Africa.

[Not uncommonly proliferous, the achenes being replaced by green shoots giving the inflorescence a witches'-broom appearance.]

38. *Cyperus fertilis* Boeck. in Engl., Bot. Jahrb. 5: 90 (1884); F.T.A. 8: 341; C.B. Cl., Illustr. Cyper. t.12 (1909); Kük. l.c. 227. *APD acc*

Distinctive small sedge with short stems, generally less than 15 cm., usually much exceeded by the flaccid rays subtended by broad, leaf-like bracts; **river-banks, track-sides and other damp places in forest.**

Lib.: Truo, Sinoe Dist. (Mar.) Baldwin 11439! Mt. Tokadeh Peak, Nimba Mts. (June) Adam 21439! Yratoke, Webó Dist. (July) Baldwin 6237! **Iv. C.:** Oubi to Kéeta, Cavally R. (July) Chev. 19315! Davo to Soubré, Sassandra R. (May) Chev. 17986! N'zida (Dec.) Manganot, Miège & Aké Assi 1741! Davo R., E. of Beyo (Jan.-Feb.) Leeuwenberg 2607! 2847! Sékré, 15 km. E. of Béréby (Nov.) Oldeman 540! **Ghana:** Tanoso (Feb.) Bowling GC 36645! **S. Nig.:** Epe (Aug.) J. B. Gillett 15263! Ajebandele to Akilla, Ijebu Ode Dist. (Apr.) Tamajong FHI 16838! Orisunbare, Omo F.R. (Apr.) Jones & Onochie FHI 17245! Sapoba F.R. (Oct.) Ujor FHI 23924! Umondealichi F.R., Itu Dist. (May) Onochie FHI 33229! **W. Cam.:** Likomba (Dec.) Mildbraed 10772! Banga, S. Bakundu F.R. (Mar.) Brenan 9285! Maikoko to Mbalange, S. Bakundu (Jan.) Binuyo & Daramola FHI 35063! S. Bakundu F.R. (Apr.) Daramola FHI 29825!

Also in **E. Cameroun**, central and western Africa to **Angola**.

39. *Cyperus mapanioides* C.B. Cl. in F.T.A. 8: 340 (1901); Kük. in Engl., Pflanzenr. Cyper. 230, incl. var major (Boeck.) Kük. (1936). *APD acc*

***Cyperus dichromenaeformis* var. major Boeck.—F.W.T.A., ed. 1, 2: 482.**

Leafy plant up to 70 cm., having broad bracts surrounding a head of sessile, pale spikelets with ovate, acute, ciliate glumes; **forest and cultivated land.**

Guin.: Gangan (May) Roberty 17788! Kindia Jac.-Fél. 143! Tonta Desmeules & Jac.-Fél. 41! Dalaba (Oct.) Chev. 18826! Labé (June) Adam 14598! **S. L.:** Sinkunia (July) Morton & Jarr SL 2141! Gberia Fotombu (Oct.) Small 413! **Iv. C.:** Gro, Bouaké Dist. (Aug.) Aké Assi 6832! Flansobly Forest (July) Aké Assi 9065! **Togo Rep.:** (July) Mahoux 2063! **N. Nig.:** Acharane, Kabba Prov. (June) Daramola FHI 38035! Dogon Kurmi F.R., Plateau Prov. (July) Okafor & Binuyo FHI 47520! **S. Nig.:** Abakaliki (June) Nwauzo in Hb. Tuley 793! Umudike (July) Nwauzo in Hb. Tuley 789! Ewohimi to Idumuje, Benin Prov. (Aug.) Onochie FHI 33271! **W. Cam.:** Bamenda, 5,000 ft. (May) Maitland 12a!

Throughout tropical Africa.

40. *Cyperus dichroöstachyus* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 481 (1851); F.T.A. 8: 331; Kük. l.c. 233. *APD acc*

Leafy plant with a thin rhizome and very small blackish and green spikelets; **wet ground.**

W. Cam.: Madele, Wum Dist. (June) Daramola FHI 41098! Cheddar Gorge, Bamenda (Mar.) Morton K188! Bamenda, 5,000 ft. (May) Brunt 1138! Bambuluwe, nr. Santa (July) Bumpus July 46/Bam/28!

Throughout tropical Africa, Madagascar and Asia.

41. *Cyperus difformis* Linn. Cent. Pl. 2: 6 (1756), and in Amoen. Acad. 4: 302 (1760); F.T.A. 8: 330; Kük. l.c. 237, t.27, incl. var. subdecompositus Kük. (1936); Cherm. in Arch. Bot. Caen 7, Mém. 4: 8 (1936); Berhaut, Fl. Sén. ed. 2, 380 (1967). *APD acc*

Annual up to 90 cm. high with soft, triangular stems, leafy bracts, and spherical clusters of very small, neat, pale spikelets; [rice fields, roadside ditches and other damp places](#).

Sen.: Séléty, Casamance (Sept.) Adam 18215! Messira (Nov.) Berhaut 2674! Messira to Kaolack (Aug.) Trochain 4007! Dakar (May) Baldwin 5715! Richard-Toll (Oct.) Berhaut 2673! **Gam.:** (Aug.) Ruxton 26! 125! Wallikunda Macluskie 32a! **Mali:** Kati (Jan.) Chev. 181! Bamako (Mar.) Waterlot 1099! Koutiala (Feb.) Roberty 3411! Sikasso (Feb.) Roberty 3448! Gao (Sept.) de Wailly 4809! **Guin.:** Friguiagbé (June) Chillou 532! Mamou (May) Pitot! Faranah (Apr.) Pitot! Kouroussa (Jan.) Pobéguin 625! Koba Jac.-Fél. 7242! **S. L.:** Mahera (Oct.) Glanville 417! Rokupr (Sept.) Jordan 90! Falaba (Mar.) Sc. Elliot 5158! Pujehun to Gardohun (Apr.) Deighton 1642! Gola (Feb.) Bakshi 32! **Lib.:** Monrovia (July) Kunkel 65! Salala (Aug.) Voorhoeve 398! Gbanga (Sept.) Linder 707! Tappita (Aug.) Baldwin 9096! Ganta (May) Harley 951! **Iv. C.:** Bouaké (May) de Wilde 91! Baoulé (Sept.) Pobéguin 102! Sinfra (Dec.) Aké Assi 7217! Songon Agban to Dabou (Feb.) Leeuwenberg 2641! **U. Volta:** Ouagadougou (Oct.) Nongonierma 210! **Ghana:** Burufo Spring, Lawra (Apr.) Adams GC 4051! Damongo (Dec.) Morton GC 25050! Ejura (Dec.) Morton GC 9577! Kumasi (Mar.) Hall 2506! Kpong (Mar.) Asiedu-Gyadu GC 20553! **Togo Rep.:** (May-June) Mahoux 2019! 2086! **Dah.:** Savalou (June) Annet 10! Massé to Kétou (Feb.) Chev. 23011! **Niger:** Zinder (Feb.) Chev. 43640! Toukounous (Sept.) Koechlin 6515! **N. Nig.:** Sokoto (Aug.) Dalz. 460! Argungu, Sokoto Prov. (July) Latilo FHI 62755! Kuffena, Zaria Prov. (Jan.) Kershaw 90020! Shendam, Plateau Prov. (Nov.) Clayton 1462! Dikwa, Bornu Prov. (Oct.) Johnston N53! **S. Nig.:** Ilesha (Apr.) Haines 42! Olokemeji (Nov.) Onochie FHI 8121! Oyo to Iseyin (Oct.) Onochie FHI 34921! Ibadan (Feb.) Brenan 8951! Lagos Dawodu 37!

Pantropical and subtropical.

42. *Cyperus reduncus* *Hochst. ex Boeck.* in Linnaea 35: 580 (1868); F.T.A. 8: 329; C.B. Cl., Ill. Cyper. t.9 (1909); Kük. l.c.: 240; Meneses in Garcia de Orta 4: 560 (1956). *APD acc*

Weak annual up to 30 cm. high with soft, flat leaves and bracts and broad yellow-green spikelets with conspicuously spreading glumes ending in recurved green tips; [marshy savanna, rice fields and other wet places](#).

Sen.: Heudelot 172! Kolda (Oct.) Adam 18545! Ouassadou (Nov.) Berhaut 1517! Niokolo-Koba (Nov.) Adam 16992! Moulessi, Tambacounda to Kédougou (Dec.) J. & A. Raynal 6744! **Mali:** Nafadié (Dec.) Chev. 2427! Goundaka (Dec.) Monod! Fafa, Gao (Aug.) de Wailly 5370! **Port. G.:** Bafata (Dec.) Esp. Santo 2854. **Guin.:** Koulikoro (Oct.) Chev. 2456! Kouroussa Pobéguin 620 (partly)! Beyla to Sinko Adam 7234! **Iv. C.:** Maramana, Boundiali (Nov.) Aké Assi 8273! **Ghana:** Kamba, Lawra (Nov.) Harris! Tumu (Dec.) Adams & Akpabla 4369! Pong-Tamale (Nov.) Akpabla 383! Ejura (Dec.) Morton GC 9575! Kumasi (Oct.) Baldwin 13461! **Togo Rep.:** Sokodé Kersting 259. **N. Nig.:** Jebba (Dec.) Haines 65! Kabba (Oct.) Parsons 31! Gwari Hill, Minna (Dec.) Meikle 707! SamarU (Sept.) Kershaw 900426! Bauchi Plateau (Oct.) Lely P787! Gurum, Vogel Peak (Nov.) Hepper 1243! **S. Nig.:** Abakaliki (Nov.) Tuley 4! Ogurude, Cross R. (Jan.) Holland 257!

Also in [central Africa](#), [north-east Africa](#) and [east Africa](#).

43. *Cyperus submicrolepis* *Kük.* in Engl., Pflanzenr. Cyper. 241 (1936). *APD acc*

Cyperus microlepis *Boeck.* in Flora 62: 551 (1879); F.T.A. 8: 330; F.W.T.A., ed. 1, 2: 483; Berhaut, Fl. Sén. ed. 2, 380 (1967); not of Baker.

Tufted annual with purple roots close to *C. difformis* Linn. but with narrower glumes and more flattened achene; [edge of pools chiefly on laterite](#).

Sen.: Naegelé! Tambacounda (Sept.) Berhaut 3286! Tambacounda to Gouloumbo (Oct.) Pitot! Ouassadou Berhaut 1567! 3036! **Mali:** Kita (Sept.) Jaeger 52! Bamako Adam 14951! Koulikoro Chev. 2469! Bamako to Ségou (Sept.) Jaeger 5111! **Guin.:** Thianguel-Bori (Oct.) Pitot! Ditinn (Oct.) Pitot! **Iv. C.:** Bouna Reserve, Kakpin (June) Aké Assi 10229! **U. Volta:** Sikasso to Ouagadougou Adam 15442! **Ghana:** Burufo (Sept.) Hall CC 744! Lawra (Sept.) Hall CC 717! Kampaha (June) Adams 710! Nakpanduri to Bawku (Aug.) Hall CC 536! Damongo scarp (Sept.) Hall CC 846! **N. Nig.:** Jebba Barter! Shagunu (July) C. D. K. Cook 322! 323! Idon, Kaduna to Keffi (Aug.) Kershaw 900710! Anara F.R., Zaria (July) Keay FHI 25965!

Throughout tropical Africa.

44. *Cyperus remotispicatus* *Hooper* in Kew Bull. 26: 577 (1972). *APD acc*

Resembling *C. tenuispica* but distinguished by the solitary greenish spikelets which remain narrow at maturity; [damp places, generally on disturbed ground](#).

Sen.: Velingara (Oct.) Adam 18582! **Iv. C.:** Aboakouamékro (Nov.) Aké Assi 10351! **Ghana:** nr. Zolo-Kpuita (Nov.) Morton GC 9392! Achimota (July, Aug.) Adams 4890! 4903! Damongo (Dec.) Morton GC 25059! **N. Nig.:** Kainji (Nov.) Hepper 3900! **S. Nig.:** Ezillo (Oct.) Ariwaodo in Hb. Tuley 958!

45. *Cyperus tenuispica* Steud. Syn. Pl. Glum. 2: 11 (1855); Kük. l.c. 245; Cherm. in Arch. Bot. Caen 7, Mém. 4: 8 (1936); Berhaut, Fl. Sén. ed. 2, 381 (1967). *APD acc*

Cyperus flavidus of F.T.A. 8: 333, not of Retz. (1789).

Weak annual 10–60 cm. high with flaccid leaves, a diffuse inflorescence with rays often as long as the weak angular stems, and neat elliptical spikelets often 2 or 8 together; *rice fields, marshy savanna and other damp places.*

Maur.: L. Rkiz (Sept.) Sadio 298! **Sen.:** Fatick Maynard! Richard-Toll (Feb.) Döllinger 14! Mbidjem (Nov.) J. & A. Raynal 6563! Niokolo-Koba Adam 15726! Kolda, Casamance (Oct.) Adam 18549! Bakel Heudelot 325! **Mali:** Kita Mts. (Oct.) Jaeger 89! Kara (Dec.) Davey 187! Fafa, Gao (Mar.) de Wailly 5372! **Port. G.:** Buruntuma (Dec.) Pereira 216! **Guin.:** Sambailo (Oct.) Pitot! Kiffaya to Seriba (Oct.) Pitot! Koba (Nov.) Jac.-Fél. 7241! Thiangeul bori (Oct.) Pitot! Mamou to Senegal frontier Adam 7937! **S. L.:** Lumley Beach, Freetown (Sept.) Harvey 136! Rokupr (Sept.) Jordan 316! Ribí R. (Feb.) Morton & Gledhill SL 1719! Njala (Nov.) Morton & Jarr SL 3923! Sandra Tenraron, nr. Mateboi (Nov.) Jordan 969! **Lib.:** nr. Monrovia (Aug.) Naumann 25. **iv. C.:** N'Douci to Toumodi (Aug.) de Wit 7345! Aboakouamékro (Nov.) Aké Assi 10350! Adiopodoumé (July) Boughey GC 14507! **Ghana:** Tumu (Dec.) Adams & Akpabla 4371! Sakogu, Gambaga Scarp (Dec.) Adams 4245! Tamale (Aug.) Irvine 4583! Tafo (July) Irvine 4973! Accra to Aburi (Oct.) Johnson 1003! **Togo Rep.:** Lilikopé Mahoux 110! Atakpamé to Lomé Mahoux 2005! **N. Nig.:** Rofia, nr. Yelwa C. D. K. Cook! Badeggi, nr. Bida (Jan.) Vaillant 2778! Kaduna to Keffi, Zaria Prov. (Aug.) Kershaw 900703! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 619! Damaturu, W. Bornu (Sept.) De Leeuw 1212!

Old world tropics.

[The typical form of this species from India, Australia and elsewhere in the Far East has spikelets less than 1 mm. wide. Many of the West African collections have larger spikelets (1.5 mm. wide) [and may represent a distinct taxon but the position requires further investigation,]

46. *Cyperus haspan* Linn. Sp. Pl. 45 (1753); C.B. Cl. in J. Linn. Soc. 21: 119 (1884); F.T.A. 8: 332; Kük. in Engl., Pflanzenr. Cyper. 247, incl. var. flaccidissimus Kük. (1936); Cherm. in Arch. Bot. Caen 7, Mém. 4: 8 (1936); Berhaut, Fl. Sén. ed. 2, 379, 381 (1967). *APD acc*

Tufted perennial with weak angular stems, purple sheaths, two unequal bracts, and a spreading inflorescence with near linear spikelets in groups of 1–3; *open, moist places.*

Sen.: Dakar (Jan.) Adam 409! M'bidjem to Cayar (Apr.) Trochain 3174! Mont Roland, Thiès (Mar.) de Wailly 4505! Niokolo-Koba Adam 15914! Diouloulou, Casamance (Sept.) Adam 18206! **Gam.:** (Aug.) Ruxton 99! 121! **Mali:** Koulouba Duong! Bamako (July) Waterlot 1213! Sotuba (Nov.) J. Raynal 5185! Bamako to Ségou (Apr.) Rogeon 35! Macina (July) Pitot! **Guin.:** Kindia Jac.-Fél. 103! Labé (Apr.) Pitot! Mali (Dec.) Schnell 2357! Macenta (Apr.) Pitot! Nzérékoré (Apr.) Pitot! **S. L.:** Lunsar (Aug.) Adames 126! Rokupr (Mar.) Jordan 12! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 75! Njala (Sept.) Deighton 2098! Mano Salija (Nov.) Deighton 324! **Lib.:** Marshall, Montserrado Dist. (Feb.) Baldwin 11050! Tawata, Boporo Disk. (Nov.) Baldwin 10314! Gbanga Linder 698! Vonjama (Oct.) Baldwin 9931! Yéképa, Nimba Mts. (Jan.) Adam 20694! **iv. C.:** Bouaflé to Sinfra (Dec.) Aké Assi 7227! Tiégouakro to Kodiokofii (Aug.) Chev. 22335! Baoulé (Sept.) Pobéguin 85! Songon Agban to Dabou (Feb.) Leeuwenberg 2643! Anguedédou Forest, nr. Abidjan (Dec.) Leeuwenberg 2289! **U. Volta:** Toussiana waterfall. Boho-Dioulasso (June) Scholz 308! **Ghana:** Burufo (Dec.) Adams & Akpabla 4392! Damongo (Mar.) Morton GC 8701! Bimbila, Dagomba Dist. (Mar.) Hepper & Morton A3098! Ejura (Dec.) Morton GC 9717! Nungua (Nov.) Adams 5380! **Togo Rep.:** Baumann 191! Lama Kara Mahoux 2072! **Dah.:** Porto Novo (Sept.) Adjanohoun 270! **N. Nig.:** Sokoto (Aug.) Dalz. 459! Katsina to Daura (Apr.) Meikle 1358! Minna (Dec.) Meikle 718! Jos Plateau Batten-Poole 399! Mayo Selbe, Gashaka Dist. (Jan.) Hepper 1640! **S. Nig.:** Lagos W. MacGregor 26! Ifaki, Ondo Prov. (June) Clayton 1123! Ajagbodudu, Benin Dist. (Aug.) Wright 54! Nun R. (Aug.) T. Vogel 13! Obudu, 5,000 ft. (Apr.) Hianes 100! **W. Cam.:** Madele, Wum Dist. (June) Daramola FHI 41099! Jakiri, Bamenda, 6,500 ft. (Feb.) Hepper 2717! Bamenda, 5,000 ft. Maitland! Mankon to Mbengwi (Apr.) Brunt 1104!

Pantropical and subtropical.

47. *Cyperus denudatus* Linn. f. Suppl. 102 (1781); F.T.A. 8: 338; Kük. l.c. 254. *APD acc*

APD: Synonym of Cyperus kipsensis Cherm.

Plant with purple, creeping rhizome, reduced leaves, and bract shorter than the slender inflorescence rays; *marshy grassland.*

Sen.: L. Tanma (June) Adam 17691! Sangalkam (June) Berhaut 2658! **Mali:** Bamako (Sept., Dec.) Adam 11287! 15337! San (June) Chev. 1050! Lean 44! Dogo (May) Davey 110! **S. L.:** Luti (Aug.) Jordan 86! L. Yomboro, nr. Konta (Apr.) Hepper 2662! Kambia (June) Gledhill 616! **Ghana:** Velere R., Wa to Lawra (Sept.) Hall CC 620! E. of Wa (Apr.) Morton

A3319! Sing to Boli (June) Adams GC 740! Nasia, Tamale to Bolgatanga (Apr.) Adams 4150! Doyum, Accra Plains (July) Hall 3722! **Niger:** Maouri, S. Dallol (Jan.–Feb.) Virgo 73! **N. Nig.:** Nupe Barter! Giwa Fadama, Funtua, Zaria Prov. (Aug.) Kershaw 900407! Badeggi, nr. Bida (June) Onochie FHI 18688! Gwari, Gawu to Abuja (Aug.) Onochie FHI 35711! Shendam (Nov.) Clayton 1459! **S. Nig.:** Abbeokuta Irving!

Central and **east** tropical **Africa**, **Madagascar** and **S. Africa**.

48. **Cyperus tenax** *Boeck.* in Linnaea 35: 504 (1868); F.T.A. 8: 334; Kük. l.c. 259. incl. var. *monroviensis* (Boeck.) Kük. (1936); Melmes & Baldwin in Amer. J. Bot. 39: 383 (1952). **APD acc**

Densely tufted plant with hard, persistent leaf-sheaths and a compact inflorescence of short rays bearing spherical spikes of dark, obtuse spikelets; **sandy places**.

S. L.: Lumley (May) Deighton 2681! Tisana, Bonthe I. (Nov.) Deighton 2296! Gbap (June, Oct.) Adames 56! Jordan 587! Messina (May) Jordan 2110! **Lib.:** Monrovia (Nov.) Linder 1433! Robertsfield, Grand Bassa Dist. (Mar.) Harley 2118! Sasstown, Sinoe Dist. (Mar.) Baldwin 11611! Harper, Maryland Dist. (June) Baldwin 5978! **Dah.:** Cotonou (Mar.) Morton GC 6670! Sémé, E. of Cotonou (Feb.) Raynal 13510! **S. Nig.:** Lagos I. Dalz. 1114!

Throughout tropical Africa, excluding the north-east, and extending into S. Africa.

[Sierra Leone and Liberian gatherings are characterized by rather short glumes and spikelets and correspond to the var. *monroviensis*.]

49. **Cyperus cuspidatus** *Kunth* in Humb., Bonpl. & Kunth, Nov. Gen. et Spec. 1: 204 (1816); Kük. l.c. 261, incl. f. *angustifolius* (Nees) Kük. (1936); Berhaut, Fl. Sén. ed. 2, 380 (1967). **APD acc**

Cyperus uncinatus *C.B. Cl.* (1895)—F.T.A. 8: 328; F.W.T.A., ed. 1, 2: 482; not of Poir (1806). ? **C. recurvus** *Vahl*, Enum. Pl. 2: 310 (1806).

Slender annual 4–15 cm. high with large spikelets in rounded clusters, having glumes red-brown at maturity and with a distinct recurved tip; **in sandy soil, on rocks, in turf, generally damp places**.

Sen.: Mbaou (Nov.) Pitot! Ouasouye (Sept.) Broadbent 110! 111a! Elinkine (Oct.) Adam 18260! Velingara (Oct.) Adam 18562/2! **Mali:** Kita Massif (July) Jaeger 22! **Port. G.:** Bissau, Antula (Oct.) Esp. Santo 2558. **Guin.:** Youkounkoun (Oct.) Pitot! Boké (Nov.) Jac.-Fél. 7303! Conakry (Oct.) Maclaud 20! Kindia Jac.-Fél. 134! Frigulagbé (Aug.) Chillou 686! **S. L.:** Newton (Nov.) Deighton 1441! Rokupr (July) Jordan 56! Makump (Aug.) Deighton 1388! Mayosso (Aug.) Thomas 1426! Koinadugu (Aug.) Haswell 258! **Lib.:** Robertsport, Grand Cape Mt. Dist. (Dec.) Baldwin 10917! Gbau, Sanokwele Dist. (Sept.) Baldwin 9450! Zwedru, Tchien Dist. (Aug.) Baldwin 7089! **Iv. C.:** Danané to Kouanhoulé (Apr.) Chev. 21184! Issia rock (May, Dec.) Leeuwenberg 4133! Boughey GC 13591! **U. Volta:** Ouagadougou (Oct.) Nongonierma 203! **Ghana:** Tumu (May) Morton GC 7533! Kampala, nr. Wa (June) Adams 867! Damongo Scarp (Sept.) Hall CC 868! Awiebo (Aug.) Hall 3393! Kpeshi Lagoon, Labadi (May) Adams 2730! **Togo Rep.:** Sokodé (July) Mahoux 2053! **N. Nig.:** (Aug.) Lely P459! Gawu hills, Gwari (Aug.) Onochie FHI 35918! Anara FR., Zaria (May) Keay FHI 22881! Izom to Abuja (Aug.) Onochie FHI 35738! Nupe Barter 1569! **S. Nig.:** Idanre to Aweba, Akure Dist. (Jan.) Brenan & Keay 8687! Ado Rock, Ibadan (May) Onochie FHI 31209! Lagos W. MacGregor 19! Obiaruku (July) Kershaw 900655! Calabar (Sept.) Keay FHI 22579!

Pantropical.

50. **Cyperus amabilis** *Vahl* Enum. 2: 318 (1806); F.T.A. 8: 327; Kük. l.c. 265; Cherm. in Arch. Bot. Caen 7, Mém. 4: 11 (1936); Berhaut, Fl. Sén. ed. 2, 381 (1967). **APD acc**

Annual generally 15–20 cm. high with purple-streaked sheaths and semicircular clusters of golden brown spikelets about 1 cm. long; **open savanna, cultivated or waste ground, often on sandy soil**.

Sen.: Mbambey Chev. 33813! Camberéné (Sept.) Berhaut 2668! Gorom (Sept.) Berhaut 3520! Sangalkam (Sept.) Trochain 435! Ziguinchor (Sept.) Broadbent 69! **Gam.:** (Aug.) Ruxton 154! Yundum Agric. Stn. Ashrif 37! **Mali:** Kita (Oct.) Jaeger 66! Koulikoro Vuillet 208! Ségou (Sept.) Chev. 2481! Bamako (Sept.) Adam 14346! Boré (Aug.) Demange 27/1957! **Guin.:** Friguiagbé (Aug.) Chillou 2763! Kourouasa (July) Pobéguin 409! Sambailo (Oct.) Pitot! Youkounkoun (Oct.) Pitot! **S. L.:** Musaia (Sept.) Small 237! **Iv. C.:** Dihabo to Bouaké (July) Chev. 22065! Baoulé (Oct.) Pobéguin! Tehini, Bouna Reserve (Aug.) de Wilde 771! Mankono (June) Chev. 21949! **U. Volta:** Banfora to Ferkessédougou (June) Leeuwenberg 4426! Ouagadougou (Oct.) Nongonierma 200! **Ghana:** Damongo (July) Andoh FH 5192! Ejura (Dec.) Darko 755! Tamale (Oct.) Baldwin 13544! Ada to Accra (May) Adams 2732! Achimota (July) Adams 4893! **Togo Rep.:** Lama Wara Nturi (June) Mahoux 2070! Lomé (July) Mahoux 128. 2037! **Dah.:** Savalou (June) Hb. E. Annet 109! Bassa-Zoumé (May) Hb. Annet 88! **Niger:** Dosso (Oct.) Monod 7156! Niamey Terraz (ex Hb. Cherm.) 1930! (Aug.) Vaillant 35! Filingué, Toukounous Bartha 88! Wadi Dallol L. P. White 29! **N. Nig.:** Nupe Baikie! Patti Lokoja (Sept.) T. Vogel 193! Sokoto (Sept., Nov.) Moiser 134! Dalz. 462! Katsina (Oct.) Clayton 1334! Allaguerno, Bornu Prov. (Sept.) De Leeuw 1220a!

Gurum, nr. Vogel Peak (Nov.) Hepper 1233! **S. Nig.**: Lagos W. MacGregor 31! Eruwa to Lanlate, Ibadan (Oct.) Savory & Keay FHI 25292! Olokemeji (Nov.) Guile!

Pantropical and subtropical.

51. **Cyperus maritimus** Poir. in Lam., Encycl. 7: 240 (1806); F.T.A. 8: 326; Kük. l.c. 269, incl. vars. *crassipes* (Vahl) C.B. Cl., *gracilescens* Kük. and *subtilis* Kük. (1936); Berhaut, Fl. Sén. ed. 2, 375 (1967).

APD: *Synonym of Cyperus angolensis Boeckeler*

APD: *Synonym of Cyperus crassipes Vahl*

Strand plant with a thick, oblique rhizome, glaucous leathery leaves, and a generally large capitate inflorescence of large, acute, only slightly compressed, pale brownish spikelets; **sandy places**.

Sen.: Djembering (Sept.) Broadbent 176! Dakar Monaud! M'bidjem (Oct.) Thierry 86! Malika (Aug.) Broadbent 28! Wallo country (Jan.) Roger 69! **Port. G.**: S. Domingos (Dec.) Esp. Santo 785. **Gam.**: Bathurst (Nov.) J. C. Gardiner Gambia 1! **S. L.**: Lumley (Aug.) Melville & Hooker 246! Jordan 777! Toke (Jan.) Morton SL 618! Yele, Turtle Is. (Nov.) Deighton 2308! Yunguru (Jan.) A. W. Thomas 7297! **Lib.**: Robertsport (Dec.) Baldwin 10912! (Cape Mount (Nov.) Dinklage 2246! Monrovia (June-Dec.) Baldwin 5940! 10503! Kunkel 76! **Iv. C.**: Grand Bassam to Azuretti (Oct.) de Wilde 1010! Grand Bassam Giovannetti 985! (Mar., Dec.) Leeuwenberg 3133! de Wilde 974! SE. frontier beach (July) Chipp 281! **Ghana**: Cape Coast (July) Hall 3203! Winneba (June) Boughey GC 1311! Teshie (Nov.) Morton GC 6251! Mokwe Lagoon, Tema (June) Rose Innes GC 30357! Ada (June) Thorold CB 96! **Togo Rep.**: Lomé Warnecke 138! (May, Aug.) Mahoux s.n.! 7! **Dah.**: Cotonou (Apr., Nov.) Chev. 2366! 23473! Poisson 126! **S. Nig.**: Badagry (Aug.) Onochie FHI 33490! Lagos I. Dalz. 1108! Lagos (June-Dec.) Onochie FHI 23307! Stubbings 13! Dalz. 1295!

Tropical Africa, Madagascar and S. Africa.

[Most West African specimens correspond to the var. *crassipes* (Vahl) C.B. Cl., having a large capitate inflorescence.]

52. **Cyperus conglomeratus** Rottb. Descr. Pl. Nov. Programm. 16 (1772), and Descr. et Icon. 21, t. 15 f. 7 (1773); F.T.A. 8: 324, partly; F.W.T.A., ed. 1, 2: 482, partly; Kük. l.c. 272, t. 30. **APD acc**

Cyperus adansonii C.B. Cl. (1895)—F.T.A. 8: 335.

Tufted plant with woolly roots, pale, papery leaf sheaths, stiff leaves and bracts and spherical clusters of generally pale spikelets; **sandy places**.

Maur.: Rosso (Oct.) Adam 19375! Oujat, E. of Aratane (Aug.) Rossetti 61/229! **Sen.**: Adanson! L. Tanma (Jan.) Pitot! Dakar Adam 14889! **Mali**: Timbuktu (July) Chev. 1235! Kabarah to Day (Aug.) Chev. 1346! Hombori (Feb.) Aké Assi 11476!

Extending through north-east Africa, and the Near East to India.

53. **Cyperus jeminicus** Rottb. Descr. Pl. Nov. Programm. 24 (1772). **APD acc**

Cyperus conglomeratus var. **multiculmis** (Boeck.) Kük. in Engl., Pflanzenr. Cyper. 274, incl. f. excisus (Boeck.) Kük. (1936).

Cyperus cruentus var. **excisus** C.B. Cl. in F.T.A. 8: 325 (1901); Cherm. in Arch. Bot. Caen 7, Mém. 4: 9 (1936).

Cyperus effusus of F.W.T.A., ed. 1, 2: 482; Berhaut, Fl. Sén. ed. 2, 376 (1967).

Tufted plant with narrow wiry roots, glaucous leaves, varying in width, and digitate clusters of spikelets about 3 cm. across; glumes lanceolate, acute with a recurved mucro becoming purple-brown; **sandy places**.

Maur.: Mederdra to Tiguent (Oct.) Adam 19350! Rkiz (Oct.) Adam 19323! **Sen.**: Heudelot 517! St. Louis to Thiés (Aug.) J. & A. Raynal 6271! Leybar, St. Louis (Oct.) Adam 19209! Malika (Aug.) Broadbent 33! **Niger**: Toukounous, Filingué Bartha 59!

Also in **north-east Africa** and **Arabia**.

54. **Cyperus aucheri** Jaub. & Spach Ill. Pl. Orient 2: 1, t. 101 (1844).

APD: *Synonym of Cyperus conglomeratus Rottb.*

Cyperus conglomeratus var. **aucheri** (Jaub. & Spach) C.B. Cl. in Dur. et Schinz, Consp. Fl. Afr. 5: 554 (1895); F.W.T.A., ed. 1, 2: 482.

Similar to *C. conglomeratus* Rottb. in habit but with a broader spikelet and winged achene; **sandy places**.

Niger: Agadem E. Vogel!

[The relationship between this specimen and typical examples of the species from the Persian Gulf requires further study.]

55. *Cyperus pulchellus* R. Br. Prodr. Fl. Nov. Holland 213 (1810); Kern in Reinwardtia 3: 39–46, fig. 5 (1954). *APD acc*

Cyperus leucocephalus of F.T.A. 8: 323; F.W.T.A., ed. 1, 2: 481; Cherm. in Arch. Bot. Caen 7, Mém. 4: 9 (1936); Azancot de Meneses in Garcia de Orta 4: 559 (1956); not of Retz. (1789).

Slender herb up to 40 cm. high from a fibrously thickened base, with a white, rounded head of numerous, small spikelets; **damp places**.

Sen.: Somone (Aug.) Leprieur! Kaolack (Sept.) Berhaut 2684! Tambacounda (Sept.) Berhaut 3270! Guermalale (Sept.) Trochain 4494! Ouassadou (Sept.) Berhaut 1814! **Gam.:** (Aug.) Ruxton 147! Beguirmi Vaillante 298! **Mali:** Klela (May) Demange 2250! **Port.G.:** Bafata (Sept.) Esp. Santo 2749! **Guin.:** Kiffaya to Seriba (Oct.) Pitot! Thiangeul Bori (Oct.) Pitot! **U. Volta:** Mossi, nr. Koupéla (July) Chev. 24587! **N. Nig.:** Damaturu, Bornu Prov. (Aug.) De Leeuw 1073! Katagum Dist. Dalz. 240! Yola (Aug.) Dalz. 267!

Throughout the Old World tropics.

[Very close, except in the distichous arrangement of the glumes, to *Scirpus microcephalus* (Steud.) Dandy.]

56. *Cyperus angolensis* Boeck. in Flora 63: 435 (1880); F.T.A. 8: 321; Kük. l.c. 281. *APD acc*

Perennial from a stout creeping rhizome with firm, rough, grey-green leaves up to 1 cm. wide, erect stems to 1 m. high and a hemispherical white head up to 2 cm. across of coarse Mariscus-like spikelets subtended by spreading bracts; anthers large, yellow; **montane savanna, conspicuous after burning**.

S. L.: Loma Mts. (Feb.–Aug.) Jaeger 6818! 9548! Gledhill 357! Morton SL 3641! **Ghana:** Banda, Ashanti (Mar.) Morton GC 8634! **N. Nig.:** Vom, Jos Plateau Dent Young 259! Bida, Bornu Dist. (June) Vaillant 876! Kakara, Mambila Plateau (Jan.) Hepper 1777! Mai Idoanu to Ngoroje, Mambila Plateau (Feb.) Latilo & Daramola FHI 34466! Vogel Peak, 5,500 ft. (Mar.) J. Hall 1084!

Also in **E. Cameroun** and throughout tropical Africa.

57. *Cyperus karlschumannii* C.B. Cl. in Kew. Bull., Add. Ser. 8: 5 (1908). *APD acc*

Cyperus margaritaceus var. *karlschumannii* (C.B. Cl.) Kük. in Engl., Pflanzenr. Cyper. 285 (1936).

Stiffly erect perennial to 120 cm. high with purple sheaths, glaucous leaves and 1–5 broad, yellow spikelets with hard, boat-shaped spreading glumes; **savanna**.

Mali: Bamako to Ouagadougou Adam 15234! 15237! **iv. C.:** Nansian to Kong (Nov.) Aké Assi 9732! Bouna (Sept.) Aké Assi 6513! **U. Volta:** Banfora to Bobo-Dioulasso (June) Leeuwenberg 4414! **Ghana:** Damongo Scarp F.R. (Nov.) Rose Innes GC 30840! Banda (Apr., Aug., Nov.) Morton A3280! Hall 1975! Harris! Jaketi to Anyaboni (Oct.) Morton! **Togo Rep.:** Sokodé-Basari Kersting 659! **N. Nig.:** Idon, Kaduna to Keffi (July) Kershaw 900626! Jos Plateau Batten-Pools 395! Naraguta F.R. (July, Aug.) Keay FHI 20174! 4,000 ft. Lawlor & Hall FHI 46689!

[The material cited from N. Nig. may represent a distinct variety differing most clearly in the leaves being flat and, up to 6 mm. wide.]

58. *Cyperus margaritaceus* Vahl Enum. Pl. 2: 307 (1806); F.T.A. 8: 321; Kük, l.c. 284, incl. var. *pseudoniveus* (Boeck.) C.B. Cl.; Berhaut, Fl. Sén. ed. 2, 376 (1967). *APD acc*

Tufted plant with contiguous stem bases thickened by numerous leaf-sheaths, and with a capitate inflorescence of large spikelets, whitish with a green edge formed by the flattened glume tips; **sandy ground**.

Sen.: Cambéréne (Sept.) Pitot! Dakar (Sept.) Adam 1887! Djembering (Sept.) Broadbent 134! Abémé, Casamance (Sept.) Adam 18185! Elinkine, Casamance (Oct.) Adam 18271! **Gam.:** Skues! **Port. G.:** Varela, S. Domingos (Aug.) Esp. Santo 3090! **Guin.:** Sambailo (Oct.) Pitot! **U. Volta:** Takalédougou (July) Aké Assi 4822! **Ghana:** Gambaga (Apr.) Akpabla! Ejura (Apr.) Akpabla 36! Elmina (Mar.) Hall 1311! Accra to Ada (May) Adams 357! Nungua, nr. Accra (May) Boughey

GC 10416! **Togo Rep.:** Lomé Warnecke 127! **Dah.:** Poisson! **N. Nig.:** Sokoto (June) Dalz. 556! Zungero (Sept.) Dalz. 275! Shagunu (Aug.) Cook 499! Nupe Barter 620! Quorra = Niger R. (Sept.) T. Vogel 19! **S. Nig.:** Lagos I. Dalz. 1117! Orle F.R., Kukuru (Aug.) Onochie FHI 33294! Milliken Hill, Enugu (Sept.) Tuley 882! Iva Valley F.R., Enugu (July) Daramola FHI 55163! Enugu to Agbani (May) Onochie & Awa (May) FHI 35821!

Throughout tropical Africa and extending into S. Africa.

59. *Cyperus nduru* Cherm. in Arch. Bot. Caen 4, Mém. 7; 18 (1931).

*APD: Synonym of *Cyperus margaritaceus* var. *nduru* (Cherm.) Kük.*

Cyperus margaritaceus var. *nduru* (Cherm.) Kük. in Bot. Notis. 1934: 67 (1934).

Tufted perennial with clustered stems 30–70 cm. high, thickened below by bladeless, purple, hard sheaths producing a bulb-like appearance, few very short leaves and bracts and a white head of 1–6 broad spikelets 7–10 mm. long; **montane grassland subject to burning.**

Guin.: Nionssomoridou to Beyla (Mar.) Chev. 20862! S. L.: Loma Mts. (Dec.–Feb.) Jaeger 4181! Morton SL 436! Gledhill 353! Ghana: Shiare (Dec.) Jenik & Hall CC 1142! Maliato, Togo Plateau (Dec.) Mortar A3836! N. Nig.: Kakara, Mambila Plateau (Jan.) Hepper 1784! W. Cam.: Ndop (Mar.) Brunt 29! Ndop to Kumbo (Dec.) Boughey GC 11158b!

Also in **central Africa** and **east tropical Africa**.

60. *Cyperus tisserantii* Cherm. in Arch. Bot. Caen 4, Mém. 7: 18 (1931).

*APD: Synonym of *Cyperus niveus* var. *tisserantii* (Cherm.) Lye*

Cyperus margaritaceus var. *tisserantii* (Cherm.) Kük. in Engl., Pflanzenr. Cyper. 285 (1936).

Cyperus compactus Lam. var. *tenerior* C.B. Cl. in F.T.A. 8: 321, partly.

Similar to *C. margaritaceus* Vahl but with a longer, pseudobulbous base, narrower leaves and bracts and glumes without a distinct flattened tip; **savanna.**

Sen.: Tambacounda Adam 14338! Kanoumeri, Kédougou (June) Fotius K137! **Iv. C.:** Kongasso to Séguéla (Mar.) Aké Assi 9903! Tiégouakro to Kodiokoffi (Aug.) Chev. 223431 Assakra (Dec.) Aké Assi 4767! Lamto (Dec.) Aké Assi 9805! Dabou (Nov.) Leeuwenberg 1958! **Ghana:** Trumiso, Boku to Wenchi (Mar.) Morton GC 8588! Damongo to Sawla (Apr.) Adams 3980! **Togo Rep.:** (June) Kling 55! **N. Nig.:** Niger R. Baikie! Aguji, nr. Ilorin Thornton! Kachia to Kaduna (Feb.) Meikle 1201! Zaria (May) Kershaw 900366! Vogel Peak, 3,000 ft. (Mar.) J. Hall 1080!

Also in **E. Cameroun**.

61. *Cyperus ledermannii* (Kük.) Hooper in Kew Bull. 26: 578 (1972).

*APD: Synonym of *Cyperus niveus* var. *ledermannii* (Kük.) Lye*

Cyperus obtusiflorus var. *ledermannii* Kük. in Engl., Pflanzenr. Cyper. 287 (1936).

Cyperus compactus of F.T.A. 8: 319, partly.

Cyperus obtusiflorus of F.W.T.A., ed. 1, 2: 481.

Perennial 30–90 cm. high with clustered stem-bases thickened by leaf-sheaths and a head of numerous large, flattened, pinkish-white, congested spikelets of numerous long, narrow, folded glumes; **savanna or open woodland.**

Dah.: Atacora Mt. Chev. 24140! **N. Nig.:** Kaduna to Jos (May) Clayton 1034! Anara F.R., Zaria Prov. (May) Keay FHI 22958! Samaru, Zaria Prov. (July) C. B. Taylor 18! Jog Plateau (May) Lely 291! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 383!

Also in **E. Cameroun** and **? east tropical Africa**.

62. *Cyperus nudicaulis* Poir. in Lam., Encycl. 7: 240 (1806); F.T.A. 8: 316; C.B. Cl., Ill. Cyper. t. 7 (1909); Kük. l.c. 291; Cherm. in Arch. Bot. Caen 7, Mém. 4: 7 (1936).

*APD: Synonym of *Cyperus pectinatus* Vahl*

*APD: Synonym of *Anosporum pectinatus* (Vahl) Lye*

Tufted perennial with slender, leafless stems and a capitate inflorescence of few, broad, lanceolate spikelets of numerous, closely imbricated, yellow-green to brown glumes, sometimes proliferating; floating in mats, on mud or in swamps.

Sen.: Ndenout (Mar.) Dollinger 41! M'boro (Apr.) Leprieur 29! **Mali:** Dendela (Mar.) Chev. 628! Sabalibougou (Mar.) J. Raynal 5613! Niger delta Duong! Saroféré (July) Lean 58! **Guin.:** Kapatchez Jac.-Fél. 7292! **S. L.:** Rhombe (Mar., July) Adames 147! Jackson in Hb. Jordan 479! Yomboro, Konta (Apr.) Hepper 2657! **Lib.:** Cape Palmas (Apr.) Dinklage 2679! **Iv. C.:** Bouna Wild-life Reserve, Ouangofétini (Feb.) de Wilde 3462! Agnéby (Mar.) Aké Assi 4784! Dabou Giovannetti 438! **Ghana:** Akotokyir, Cape Coast (Feb.) Hall 2187! Amisano (Dec.) Hall 1244! Yeji (Apr.) Hall VBS 1294! **N. Nig.:** Nupe Barter 1568! Matyoro (Oct.) Thornewill 136! Kuffena, Zaria Dist. (Jan.) Kershaw 900019! Yanhara Game Reserve, Bauchi Dist. (Dec.) Haines 79! **S. Nig.:** Ajagbododu, Benin (Aug.) Wright 52! 52a! Sapoba (Feb.) Onchie FHI 31945! Jamieson R. (Jan., Sept.) Brenan 8941! Onochie FHI 34273! Agege, Owo R. (Nov.) Haines 229! **W. Cam.:** Baba, Ndop Plain (Mar.) Brunt 125!

Also in **central Africa** and **east tropical Africa** and in **Madagascar**.

63. **Cyperus clavinus** C.B. Cl. in F.T.A. 8: 319 (1901); Kük. l.c. 304; J. Raynal in Adansonia, sér. 2, 6: 306 (1966). *APD acc*

Cyperus monostigma C.B. Cl. in Mém. Soc. Bot. Fr. 2, 8: 26 (1907); Kük. l.c. 281.

Cyperus meeboldii var. *gigas* Berhaut in Bull. Soc. Bot. Fr. 100: 174 (1963).

Similar to *C. meeboldii* Kük. but with fewer, larger, pale spikelets in the head; seasonally damp sandy ground.

N. Nig.: Bornu T. Vogel 64! 65!

Also in **Chad**, and **south east Africa**.

64. **Cyperus meeboldii** Kük. in Fedde, Rep. 18: 345 (1922); Cherm. in Arch. Bot. Caen 7, Mém. 4: 11 (1936); Berhaut, Fl. Sén. ed. 2, 375 (1967); J. Raynal in Adansonia, sér. 2, 6: 304 (1966). *APD acc*

Slender leafy plants with slightly swollen stem-bases and heads about 1 cm. across, of broadly elliptical spikelets, brown when ripe; achene turbinate; clayey soils at edge of temporary water.

Sen.: St. Louis (Sept.) Trochain 4712b! Ndiakher, nr. St. Louis (Aug.) J. & A. Raynal 6296! Ouassadou (Nov.) Berhaut 1584! Rhaddar, nr. Linguère (Nov.) Adam 12353! **Niger:** Toukounous Bartha 89a!

Also in **Chad**, **Kenya**, **Tanzania** and **peninsular India**.

65. **Cyperus lateriticus** J. Raynal in Adansonia, sér. 2, 6: 308 (1966). *APD acc*

Plant of similar size and habit to *C. meeboldii* but with the inflorescence a pseudolateral cluster of pale lanceolate spikes, similar to those of *Juncellus laevigatus*; edge of temporary water.

Sen.: Maël, nr. Tambacounda (Sept.) Berhaut 1722!

Perhaps overlooked elsewhere.

66. **Cyperus michelianus** (Linn.) Link Hort. Bot. Berol. 1: 303 (1827). *APD acc*

- 66a. **Cyperus michelianus** subsp. *pygmaeus* (Rottb.) Aschers & Graebn. Synops. Mitteleur. Fl. 2, 2: 273 (1904); Kük. l.c. 312. *APD acc*

Cyperus pygmaeus Rottb., Descr. et Icon. 20, t. 14, fig. 5 (1773); Cherm. in Arch. Bot. Caen 7, Mém. 4: 11 (1936).

Juncellus pygmaeus (Rottb.) C.B. Cl. in Hook., Fl. Brit. Ind. 6: 596 (1893); F.T.A. 8: 308; F.W.T.A., ed. 1, 2: 489.

Scirpus occultus C.B. Cl. in Mém. Soc. Bot. Fr. 2, 8: 28 (1907).

Tufted annual 2–25 cm. high with conspicuous leafy bracts and a dense Kyllinga-like head of small whitish-green spikelets; muddy margins of watercourses.

Sen.: R. Senegal at Boki Diavé Trochain 2880! Tamboukané (Dec.) Chev. 2443! Ourosogui to Matam (Dec., Feb.) Naegelé 12127! Matam (Nov.) Berhaut 1414! Galam Heudelot 387! **Mali:** Gao (June) de Wailly 5071! Langana (Jan.) Chev. 265! Néguebougou, nr. Bamako (Jan.) J. & A. Raynal 5445c! Sotuba (Jan.) J. & A. Raynal 5460! San (Feb.) Roberty 3380! **Ghana:** Nungua (Apr.) Hall GC 37174! Avalor lagoon, Battor (Nov.) Hall 2735!

Old World tropics and subtropics to Mediterranean region and temperate Asia.

67. *Cyperus laevigatus* Linn. Mant. Pl. 2: 179 (1771); Kük. in Engl., Pflanzenr. Cyper. 321 (1936). *APD acc*

Juncellus laevigatus (Linn.) C.B. Cl. in Hook. f, Fl. Br. Ind. 6: 596 (1893); F.T.A. 8: 308; F.W.T.A., ed. 1, 2: 489; Berhaut, Fl. Sén. ed. 1, 228 and ed. 2, 379.

A creeping, rush-like sedge, varying much in size but constantly with an erect bract and a capitate, pseudo-lateral Inflorescence of sessile, white spikelets; **damp sandy places, particularly on the margins of brackish pools.**

Maur.: Taoujafête, Tagant (Aug.) Monod 1658! **Sen.:** L. Rhetba (Nov.) Pitot! L. Youi (Nov.) Pitot! Malika (Aug.) Broadbent 48! Malika to Yombel (Nov.) Pitot! St. Louis Brunner 18! **Mali:** Timbuktu (Sept.) Chev. 1236! **Niger:** Zinder (Dec.) Vaillant 2595! Niamey (Oct.) Hagerup 554! Bilma Le Coeur 1! 71! **N. Nig.:** L. Chad, Bornu (Dec.) Elliott 158!

Throughout tropical and subtropical regions.

Insufficiently known, doubtful and excluded species

***Cyperus bulamensis* Steud.** Syn. Pl. Glum. 2: 19 (1855); F.T.A. 8: 375; Kük. l.c. 136.

Portuguese Guinea, Bulama Islands

Collector?

***Cyperus callistus* Ridl.**

Reported from Dahomey (Newton 10) by Kükenthal is perhaps *C. esculentus* Linn.

***Cyperus cancellatus* Ridl.**

Is an Angolan species of the *C. haspan* Linn. alliance not recorded from West Africa, other than by a Maitland specimen reputedly from W. Cameroon, with few obtuse oblong-elliptic spikelets $4-7 \times 1.5-2.0$ mm., borne 1-4 together on a slender plant.

***Cyperus corymbosus* Rottb.**

Reported from Togo (Kersting 440) by Kükenthal, is perhaps *C. fenzelianus* Steud.

***Cyperus foliaceus* C.B. Cl.**

Warnecke 388 is given by Clarke as from Togo, but as from Kenya by Kükenthal.

***Cyperus glaber* Linn.**

Kükenthal cites a specimen of Afzelius from Sierra Leone, but this southern European and western Asiatic species does not seem to have been collected subsequently.

***Cyperus hamulosus* M. Bieb.**

See *Mariscus hamulosus*

***Cyperus* sp.**

Sierra Leone, Sefadu (Dec.) Deighton 3574! Belongs to the *C. tenuiculmis* group of species with a narrow sinuous rhachilla and subquadrangular spikelets up to 4 cm. long.

2. MARISCUS

Vahl, Enum. Pl. 2: 372 (1806), nom. cons.

Mariscus Gaertn. (1788)—F.T.A. 8: 377 (1901); F.W.T.A., ed. 1, 2: 485.

Cyperus subgen. *Mariscus* (Gaertn.) C.B. Cl. (1884)—Kükenthal in Engl., Pflanzenr. Cyperaceae—Scirpoideae—Cypereae 402 (1936).

- 1** Annual or slender caespitose perennial; glumes aristate or clearly apiculate:**2**
 Perennial; glumes acute or acuminate;**4**

- 2 Annuals with a spicy smell; glumes aristate:3
Slender perennial; spikelets terete or angular with few, obtuse, clearly apiculate glumes3. [soyauxii](#)
- 3 Spikelets flattened with many glumes, aristas long, recurved1. [squammosus](#)
Spikelets subspiral with few glumes2. [hamulosus](#)
- 4 Robust caespitose plant; stem bases thickened with numerous leaf-sheaths; leaves glaucous, stiff, septate-nodulose (when dry) with denticulate cutting edges; primary rays thick, bearing ovoid or shortly cylindrical spikes in a pyramidal cluster; spikelets terete, reddish, about 5×2 mm.4. [ligularis](#)
Plant slender or robust; leaves smooth to slightly scabrid on the margins:5
- 5 Plant rhizomatous; rhizome horizontal, about 8 mm. across, covered with purple to black scales; stems leafless, winged, up to 120 cm. high; inflorescence bisumbellate, rather strict; glumes spreading at maturity5. [socialis](#)
Plant caespitose or shortly rhizomatous with stems leafy below:6
- 6 Stems clavately thickened with papery white, later brown, fibrous sheaths; inflorescence capitate; head oblong or hemispherical; spikelets about 5 mm. long6. [dubius](#)
Stem-bases not clavately thickened; sheaths herbaceous or coriaceous, green or purple:7
- 7 Leaf-bearing portion of the stem elongated, woody, sometimes branched; leaves firm, septate-nodulose beneath (dry); inflorescence rays bearing a single cylindrical greenish-white spike, up to 6×2 cm. ... 7. [tomaiohyllus](#)
Leaves basal; stem above ground not woody and branched; inflorescence not simply umbellate with very large cylindrical spikes:8
- 8 Inflorescence up to 35 cm. across, either forming a compound umbel with secondary rays, or primary rays bearing clustered or distinctly branched spikes:9
Inflorescence capitate or simply umbellate with rays bearing simple or occasionally shortly branched spikes; spikelets not exceeding 1.5 cm. long:11
- 9 Inflorescence spreading; spikelets 2–3 cm. long when mature, remote and patent; glumes rounded on the back with a broad keel; rhachilla becoming thickened and breaking into segments with one achene ([see Torulinum odoratum](#))
Inflorescence and spikelets smaller; glumes more or less distinctly keeled; rhachilla not breaking into pieces: 10
- 10 Spikelets pale to red-brown8. [longibracteatus](#)
Spikelets dark red-brown to black9. [keniensis](#)
- 11 Spikelets 10–15 mm. long, linear with slender acute tips which become curved or sinuous as the spikelet matures:12
Spikelets not exceeding 5 mm. long, more or less terete, one or sometimes 2–3-flowered13. [alternifolius](#)
- 12 Glumes 2.4–2.8 mm. long; achene 1.4–1.85 mm. long:13
Glumes 3.4–4.5 mm. long; achene 1.9–2.6 mm. long:14
- 13 Spikes cylindrical or oblong, spikelets remote10a. [flabelliformis](#) var. [flabelliformis](#)
Spikes ovoid, about 1.5 cm. across10b. [flabelliformis](#) var. [aximensis](#)
- 14 Leaves and bracts up to 4.5–5.5 mm. broad, leaf-sheaths papery; rays up to 11 cm. long; spikes cylindrical; spikelets pale with green keel; glume tips spreading in fruit (W. Cam.)11. [foliosus](#)
Leaves and bracts 2.5–3.5 mm. broad; rays up to 2.5 cm. long; spikes hemispherical; spikelets crowded, reddish or golden with green keel; glume tips appressed even in fruit12. [luridus](#)

1. **Mariscus squarrosus** (Linn.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 623 (1893), as to name only.

APD: *Synonym of Cyperus squarrosus L.*

APD: *Synonym of Mariscus maderaspatanus (Willd.) Napper*

Cyepus squarrosus Linn., Cent. Pl. 2, 6 (1756); Kern in Blumea 10: 642 (1960).

Mariscus aristatus (Rottb.) Cherm. in Bull. Soc. Bot. Fr. 85: 366 (1938).

Cyperus aristatus Rottb., Descr. et Icon. 23, t. 6 fig. 1 (1773); F.T.A. 8: 348; F.W.T.A., ed. 1, 2: 483; Kük. in Kngl., Pflanzenr. Cyper. 502 (1936).

C. aristatus var. **semiglobosus** Kük. l.c. 504; Cherm. in Arch. Bot. Caen 7, Mém. 4: 12 (1936).

Annual weed with golden or reddish hemispherical or ovoid spikes and soft leaves; widespread in open ground.

Maur.: Traya (Jan.) Naegelé! **Sen.:** Leprieur! Heudelot 328! Hann (Aug.) Berhaut 2655! Diouloulou (Sept.) Adam 18219! Wallo (Dec., Jan.) Roger 68! **Gam.:** Kuntaur (Aug.) Ruxton 163! Kaiaaf, Genieri (July) Fox 169! Yundum Ashrif 36! **Mali:** Fodéougou, Kita (Oct.) Jaeger 59! 65! Sotuha (Oct.) Raynal 5033! Bore (Aug.) Demange 29/1957! **Guin.:** Conakry (Aug.)

Martine 51! Tamba to Sambaïlo (Sept.) Pitot! **iv. C.:** Garango Prost! Téhini, Bouna Reserve (Aug.) de Wilde 770! **U. Volta:** Koupéla to Ouagadougou (July, Aug.) Chev. 24583! Ouagadougou (Oct.) Nongonierma 205! **Ghana:** Tumu (May) Morton GC 7546! Yendi (Dec.) Adams 4091! Nsawkaw (Aug.) Hall 1955! Labadi (Mar.) Morton GC 6658! Achimota (May) Morton A879! **Niger:** Filingué, Toukounous Bartha 89b! **N. Nig.:** Sokoto Dalz. 452! Samaru, Zaria (Aug.) Clayton 1326! Nupe Barter 1570! Yola (Sept.) Dalz. 268! Gurum, Vogel Peat area (Nov.) Hepper 1232! **S. Nig.:** Ado Rock (Oct.) Savory & Keay FHI 25441! Lagos W. MacGregor! Igboora (Oct.) Haines 216!

Widespread in tropical regions, extending in the New World to Canada and Chile.

2. *Mariscus hamulosus* (*M. Bieb.*) Hooper in Kew Bull. 26: 578 (1972).

APD: *Synonym of Cyperus hamulosus M. Bieb.*

Cyperus hamulosus *M. Bieb.*, Fl. Taur.-cauc. 1: 35 (1808); J. Raynal in Adansonia sér. 2, 6: 581–588 (1967).

Scirpus hamulosus (*M. Bieb.*) *Stev.* in Mém. Soc. Nat. Moscou 5: 356 (1817).

S. lugardii *C.B. Cl.* in F.T.A. 8: 458 (1902).

Slender annual 3–15 cm. high with few, purple sheathed leaves and up to 8 sessile or stalked, ovate, starry spikes; distinguished from the previous (pecies by the shorter-pointed, sub-spiral glumes and disk at the base of the achene; **sandy soil subject to occasional flooding.**

Sen.: Kayar, Cape Verde (Oct.) J. & A. Raynal 6430! 6935! **Mali:** Gao to Berra (Mar.) de Wailly 5012! Dogo (Apr.) Demange 2071! **N. Nig.:** Maiduguri, Bornu (Dec.) McClintock 117!

In subdesert zones in Africa, Europe and western Asia.

3. *Mariscus soyauxii* (*Boeck.*) *C.B. Cl.* in Dur. et Schinz, Consp. Fl. Afr. 5: 593 (1895); F.T.A. 8: 393.

APD acc

Cyperus soyauxii *Boeck.* in Engl., Bot. Jahrb. 5: 501 (1884); Kük. l.c. 496 (1936).

Small leafy weed often with a single echinate head of turgid spikelets; **disturbed ground.**

Sen.: Sangalkam (June, Oct., Nov.) Berhaut 1622! 2620! 5453! **iv. C.:** Dabou Giovannetti 456! 469! Adiopodoumé (June) Aké Assi 6065! **Ghana:** Kwahu (Apr.) Johnson 663! Mankrong (Apr.) Morton A604! Aburi (Nov.) Johnson 1038! Achimota (Oct.) Morton 6011! Adaiso (Nov.) Morton 6146! **Togo Rep.:** Aledjo, Atacora Mts. Villiers! **S. Nig.:** Ikoyi Plains (June) Dalz. 1431! Yaba (May) Haines 32! Otta (May) Haines 210! Ibadan West! Ijaiye F.R. Oyo (May) Daggash FHI 21997!

From **Senegal** to **Gabon**.

[A form of this species appearing very different from the typical has been found in Ghana at the foot of the Atewa Hills (Hall 3461). The inflorescence is anthelate with the rays about 1 cm. long and the spikelets numerous and distinct.]

4. *Mariscus ligularis* (*Linn.*) *Urb.* Symb. Antill. 2: 165 (1900); Nelmes & Baldwin in Amer. Journ. Bot. 39: 385, t. 70–79 (1952). *APD acc*

Cyperus ligularis *Linn.*, Pl. Jamaic. Pugill. 5 (1759), and Syst. Nat. ed. 10, 2: 867 (1759); Kük. l.c. 474.

Mariscus rufus *Kunth* Nov. Gen. et Spec. 1: 216, t. 67 (1816); F.T.A. 8: 396.

A coarse leafy plant with congested reddish heads of small terete spikelets; spikelets often hypertrophy after egg deposition by a gall-fly, attaining 10–12 mm. in length; **swamps and marshes, generally near sea.**

Sen.: Farmar 57! Heudelot 442! Dakar (May) Baldwin 5722! Mbao (Aug.) Broadbent 11! Toubacouta (Oct.) Monod 8480! **Gam.:** Kuntaur (July) Ruxton 2! **Guin.:** Golea, Conakry (Aug.–Sept.) de Wit 51! Martine 113! Koba (Nov.) Jac.-Fél. 7219! Manéa, Falikouré (June) Chillou 2609! 2625! **S. L.:** Mambolo (Jan.) Deighton 1006! Lumley (June) Tindall 5! Aberdeen (Aug.) Melville & Hooker 126! Christineville (Aug.) Deighton 2045! Mahera, Kafu Bulom (Oct.) Glanville 416! **Lib.:** Bushrod I. (Feb.) Baldwin 11075! Dinklage 2877! Robertsport (Dec.) Baldwin 10890! Monrovia (May–Sept.) Barker 1305! Baldwin 9211! Cess R. (Mar.) Baldwin 11259! **iv. C.:** Sassandra (June) de Wilde 187! Dabou Giovannetti 44! Abouahou Forest, Abidjan to Grand Bassam (Jan.) Leeumnnberg 2380! Banco (Dec.) Béqué 152! Grand Bassam Giovannetti 306! **Ghana:** Atwabo Fishlock 28 of 1931! Sakumo Lagoon, Tema (Sept.) Rose Innes GC 31274! Mile 13, Ada road Adams 3320! Keta (Mar., June) Thorold 99! Morton GC 6532! **Togo Rep.:** Lomé Warnecke 136! Duffour 6478! **Dah.:** Newton! **S. Nig.:** Lagos Millen 219! Ikoyi Plains (Mar.) Dalz. 1305! Yaba (Apr.) Haines 31! Ogun River F.R. (Mar.) Hepper 2254! Brass (Dec.) Daramola FHI 46933! **W. Cam.:** Victoria (July) Maitland 31! **F. Po.:** (June) Barter!

Senegal to the Congo, **Mascarenes**, **tropical America** and **Andes**.

5. *Mariscus socialis* (C.B. Cl.) Hooper in Kew Bull. 26: 578 (1972). *APD acc*

Cyperus socialis C.B. Cl. in F.T.A. 8: 351 (1901); Kük. l.c. 87 & 633.

Mariscus trinervis C.B. Cl. in F.T.A. 8: 399 (1902).

Mariscus pseudo-pilosus C.B. Cl. in F.T.A. 8: 402 (1902); Nelves & Baldwin in Amer. J. Bot. 39: 385 (1952).

Stems up to 2 m. high, bracts conspicuous, inflorescence rays only about 10 cm. long; *swamps*.

Guin.: N'Zérékoré, Nimba (Sept.) Adam 6313! **Lib.:** Jabroke, Webo Dist. (July) Baldwin 6686! Monroviatown, Tchien Dist. (Aug.) Baldwin 8016! Gbanga (Sept.) Linder 484! Sanokwele Dist. (Dec.) Adam 16515! Ganta (Mar.) Harley 994! Nimba Mts. (Sept.) Adames 532! **Iv. C.:** Sampleu to Ganhoué (Apr.) Chev. 21150! Danané to Nzo (Aug.) Manganot & Aké Assi 4833!

Extends to *Angola* and *Uganda*.

6. *Mariscus dubius* (Rottb.) C. E. C. Fischer in Gamble, Fl. Madras 1644 (1931). *APD acc*

APD: *Synonym of Mariscus dubius* (Rottb.) Kük. ex C. E. C. Fisch.

Cyperus dubius Rottb., Descr. et Icon. 20, t. 4, fig. 5 (1773); Kük. l.c. 563.

C. kyllingioides Vahl, Enum. Pl. 2: 312 (1806).

C. coloratus Vahl, Enum. Pl. 2: 312 (1806).

Mariscus coloratus (Vahl) Nees in Linnaea 9: 286 (1835); F.T.A. 8: 381; F.W.T.A., ed. 1, 2: 485.

Herb to 30 cm. high with bulb-like stem-bases and oblong or hemispherical golden or greenish heads; *widespread as a weed, and in natural habitats on rocks*.

Guin.: Nzérékoré (Oct.) Baldwin 9693! **Lib.:** Soplina, Vonjama Dist. (Nov.) Baldwin 10033! **Iv. C.:** Séguéla (Aug.) Boughey GC 18451! Bouaké (May) de Wilde 130! Bécédi, 45 km. NNE of Dabou (Aug.) de Wilde 684! **Ghana:** Atwabo Fishlock 27 of 1931! Achimota (Oct.) Morton 6009! Irvine 5014! Oblogo (May) Adams 273! Ajena (May) Morton! Keta (Mar.) Morton GC 6521! **Dah.:** towards 10°N de Gironcourt 199! **N. Nig.:** Jebba Barter! Gwari, Sokoto Prov. (Aug.) Onochie FHI 35933! Jos Plateau (July) Lawlor & Hall FHI 46502! Panshanu Pass (Aug.) Lawlor & Hall 268! 558! **S. Nig.:** Lagos (Jan., July) Haines 40! Dalz. 1429! Mt. Orosun. Idanre (Jan.) Brenan 8650! Owo F.R. (July) Onochie FHI 33249! Akure (June) Swarbrick 2697!

Tropical Africa and *Asia*.

[Specimens from Mann's Spring on the Cameroon Mountain (Brenan 9380!, Morton GC 7067!) with the leaf-sheaths forming an unusually large bulbous base about 3 cm. across and having very small spikelets may represent a form resulting from burning.]

7. *Mariscus tomaiophyllus* (K. Schum.) C.B. Cl. in F.T.A. 8: 392 (1902).

APD: *Synonym of Cyperus tomaiophyllus* K. Schum.

Cyperus tomaiophyllus K. Schum. in Engl., Pfl. Ost-Afr. C: 122 (1895), incl. var. *crassistolon* Kük. l.c. 429, and var. *laxiflorus* Kük. l.c. 430 (1936).

Robust leafy sedge with decumbent woody branches; *montane grassland and forest*.

S. Nig.: Obudu Plateau, 5,000 ft. (Apr.) Haines 203! Tuley 968! **W. Cam.:** Cam. Mt., 5,000 ft., Maitland! Bafut-Ngemba F.R., (Feb.) Hepper 2721! Bamenda Nkwe to Santa (May) Daramola FHI 41193! Ashong, nr. Batibo, 5,100 ft. (Apr.) Brunt 1089! Oku, 6,000 ft. (June) Brunt 611! **F. Po:** Moka to Biao, 5,000 ft. (Sept.) Melville 472!

Throughout tropical Africa.

[The West African material has a distinctive appearance due to the possession of a long, thick, often branched leafy aerial portion of the stem generally absent in East African material; further study is needed to prove whether it forms a distinct taxon.]

8. *Mariscus longibracteatus* Cherm. in Bull. Mus. Hist. Nat. Paris 25: 407 (1919). *APD acc*

Cyperus longibracteatus (Cherm.) Kük. in Fedde, Rep. 26: 250 (1929); Kük. in Engl., Pflanzenr. Cyper. 413 (1936).

Cyperus distans of F.T.A. 8: 349 partly, not of Linn. f.

Tufted plant up to 120 cm. high with a spreading inflorescence similar to that of *Cyperus distans* Linn. f. which is laxer with flexuose spikelets shedding their glumes; and to *Torulinium odoratum* (Linn.) Hooper which is a more robust plant with mucronate tipped glumes and the rhachilla breaking into segments when ripe; *swampy ground*.

Sen.: Sédhiou, Casamance (May) Nongonierma 525! **Mali:** Kléla, plain of Lotio (June) Demange 2875! **Guin.:** Heudelot 788! Koba (Nov.) Jac.-Fél. 7368! Dabola (Apr.) Pitot! Farana to Banian (Apr.) Pitot! Kissidougou to Guekédou (Apr.) Pitot! **S. L.:** Thomas 9937! Mahera (Oct.) Glaville 414! Kambia (Dec.) Deighton 819! Musaia (Sept.) Small 244! Yetaya (Sept.) Thomas 2440! Gboyama to Bendu Deighton 1603! **Lib.:** Firestone Plantations, Dukwai R. (Oct.–Nov.) Cooper 27! Kakatown Whyte! Sanokwele (Jan., Sept.) Harley 1747! Baldwin 9547! Gretown, Tchien Dist. (July) Baldwin 6784! **Iv. C.:** Man (Aug.) Boughey GC 18410! Guity (Dec.) Boughey GC 13557! Sinfra (Dec.) Aké Assi 7231! **Ghana:** Burton! Simpa. nr. Tarkwa (Feb.) Kinloch 3243! Kumasi (Nov.) Bannerman-Bruce in Hb. Adams 4437! Biakpa to Vane (Nov.) Morton A 1660! Tono, Navrongo (Aug.) Irvine 5178! **S. Nig.:** Ibadan (Sept.) Okafor FHI 57170! Obiakuru, Warri (July) Kershaw 900659! Umuahia (Feb.) Vaillant 2758! Adani (Nov.–Mar.) Tuley 16! 70! Obudu, 5,000 ft. (Aug.) Kershaw 900685! **W. Cam.:** Victoria (Jan.) Maitland 320! Mamfe to Ikom (Apr.) Morton GC 7134! **F. Po:** Mann 121! T. Vogel 218!

Throughout tropical Africa.

9. *Mariscus keniensis* (Kük.) Hooper in Kew Bull. 26: 579 (1972).

APD: *Synonym of Mariscus rubrotinctus Cherm.*

APD: *Synonym of Cyperus keniensis Kük.*

Cyperus keniensis Kük. in Notizbl. Bot. Gart. Mus. Berlin 9: 306 (1925), as keniaeensis.

Similar to *M. longibracteatus* but with more compact spikes of very dark spikelets; **damp grassland or marshes.**

N. Nig.: Jos Plateau (Aug.) Lely P492! Upper tributary of Delimi River, nr. Naraguta (July) Lawlor & Hall 26! FHI 46645! Naraguta (June) Lely 329! Maisamari (Aug.) De Leeuw 1736! **S. Nig.:** Obudu Plateau, 5,500 ft. Tuley 969! **W. Cam.:** Cheddar Gorge, Bamenda Dist. (Mar.) Morton K189! Bambui Farm, Bamenda (May) Pedder 22! Santa to L. Bambulue, Bamenda (Mar.) Morton K30! Ashong, 5,600 ft. (Apr.) Brunt 1088! Bamesi, Ndop Plain (Apr.) Brunt 311!

Throughout tropical Africa.

10. *Mariscus flabelliformis* Kunth in H.B.K., Nov. Gen. et Sp. Pl. 1: 215 (1816); F.T.A. 8: 397. *APD acc*

Cyperus flabelliformis Spreng., Linn. Syst. Veg. 1: 228 (1825), not of Rottb. (1773).

C. tenuis Swartz, Prodr. Veg. Ind. Occ. 20 (1788); Kük. in Engl., Pflanzenr. Cyper. 416 (1936), incl. var. *grandiceps* Kük., not *Mariscus tenuis* C.B. Cl. (1900).

10a. *Mariscus flabelliformis* var. *flabelliformis* *APD acc*

A densely caespitose plant with purple sheaths and spike" of distant, spreading, very acute and flexuose tipped spikelets; open ground, sometimes as a weed of cultivation.

Sen.: Ouassadou (Sept.) Berhaut 1102! **Mali:** Doniena (Oct.) Demange 3124! **S. L.:** Mano Bonjema (May) Jordan 2116! Pujehun (Apr.) Deighton 1653! Kenema (Apr.) Jordan 2029! Daru (Apr.) Deighton 3163! **Lib.:** Paynesville (Sept.) van Dillewijn 95! Ganta (May, Nov.) Harley 946! 1722! Gretown (July) Baldwin 6772! **Iv. C.:** Guity (Dec.) Boaghey GC 13523! Adiopodoumé (Nov.) Leeuwenberg 2098! Abidjan (Dec.) Pitot! **Ghana:** Assuantsi (July) Irvine 5115! Takoradi to Achimota (Jan.) Morton GC 6368! Anyinam (June) Deighton 3402! Kpong (June) Irvine 4925! Amedzofe (June) Boughey GC 13044! **Togo Rep.:** Palimé (June) Mahoux 2096! **S. Nig.:** Lagos MacGregor 97! Olokemeji (Oct.) Hepper & Keay 936! Ibadan (Apr.) Keay FHI 37657! Sapoba (Nov.) Meikle 597! Cross R. Johnston! **W. Cam.:** Mamfe (Dec.) Migeod 273! Mamfe to Ikom (Apr.) Morton GC 7134! **F. Po:** Nioko (Dec.) Monod 10335! Santa Isabel Swarbrick 2917!

Also in **Chad** and **tropical America.**

10b. *Mariscus flabelliformis* var. *aximensis* (C.B. Cl.) Hooper in Kew Bull. 26: 579 (1972). *APD acc*

Mariscus aximensis C.B. Cl. in F.T.A. 8: 398 (1902).

Cyperus tenuis var. *aximensis* (C.B. Cl.) Kük. in Engl., Pflanzenr. Cyper. 418 (1936).

Differs from the typical variety only in details of the spikelet; **damp places.**

Ghana: Axim (May) Gürich 37!

11. *Mariscus foliosus* C.B. Cl. in F.T.A. 8: 399 (1902). *APD acc*

Cyperus chermesonianus Robyns & Tournay, Fl. Sperm. Parc Nat. Albert 3: 246 (1955).

Tufted sedge characterized by long glumes and broad leaves; [clearings in upland forest and disturbed ground](#).

W. Cam.: Buea, 3,000 ft. (Nov.) Migeod 103! Musake Camp, Cam. Mt., 5,000 ft. (Jan.) Maitland 1288! Cam. Mt., 5,900 ft. (Dec.) Adams GC 11774! Bafut-Ngamba F.R., 7,000 ft. (Feb.) Hepper 2196!

Throughout tropical Africa.

[Perhaps to be equated, as by Kükenthal, with *C. luteus* Boeck.; also similar to the Brazilian *M. palustris* Schrad.]

12. *Mariscus luridus* C.B. Cl. in F.T.A. 8: 399 (1902). *APD acc*

Cyperus tenuis var. *luridus* (C.B. Cl.) Kük. l.c. 418 (1936).

Similar in habit to *M. flabelliformis* but spikes hemispherical to spherical, golden to reddish; [river banks](#).

Sen.: Ouassadou (Nov.) Berhaut 2656! **Guin.:** Kouroussa (July) Pobéguin 412! **S. L.:** Njala (July) Deighton 747! **Lib.:** Webbo to Cavally (Apr.) Dinklage 2651! **Iv. C.:** Sassandra (Apr.) Leeuwenberg 4009! Gansé (June) Aké Assi 10223! **Ghana:** Otsu ferry, Oti R. (Apr.) Morton GC 9158! Mankrong (Apr.) Morton A573! Kpong to Akuse (May) Morton A3679! Dawhenya, nr. Prampram (Apr.) Hall 2256! Mankessim (May) Hall 2970! **Dah.:** Save to Agouagon (May) Chev. 23601!

Also in **E. Cameroun**, **Chad**, **C. African Republic** and the **Congo**.

[Differs in only minor characters from *M. palustris* Schrad. and *M. lancastriensis* Porter from Brazil.]

13. *Mariscus alternifolius* Vahl Enum. Pl. 2: 376 (1806), not *Cyperus alternifolius* Linn.

APD: *Synonym of Mariscus cylindristachyus* Steud.

Kyllinga umbellata Rottb., Descr. et Ic. Pl. Nov. 15 t. 4, f. 2 (1773), nom. illeg.

Mariscus umbellatus Vahl l.c.: 376 (1806), nom. illeg.; F.T.A. 8: 390; F.W.T.A., ed. 1, 2: 486.

Mariscus nossibeensis Steud., Syn. Pl. Glum. 2: 63 (1855); F.T.A. 8: 391.

Cyperus subumbellatus Kük. in Engl., Pflanzenr. Cyper. 523 (1936), nom. illeg., incl. var. *subglobosus* Kük. and var. *thomensis* (C.B. Cl.) Kük.

Tufted plants with a short woody rhizome more or less composed of swollen stem bases; leaf sheaths purple; inflorescence variable, rays more or less well developed and bearing spikes of more or less crowded small greenish or reddish one or two-flowered spikelets; [common in damp grassy places](#).

Sen.: Mbao, Cape Verde (Aug.) Pitot! Sangalkam (June) J. & A. Raynal 5949! Kanoumeri, Kédougou (July) Fotius K153! M'bidjem (July) Thierry 12! Ziguinchor (Sept.) Broadbent 81! **Gam.:** Ruxtom 47! Genieri (July) Fox 139! **Mali:** Kita Massif (July-Oct.) Jaeger 5! 25! 29! 37! 86! 121! 5759! 5760! Sikasso (July) Duong! Soufarasso (May) Chev. 811! Bamako (July-Aug.) Waterlot 1540! Roberty 2668! **Guin.:** Conakry (July) de Wit 7324! Kouroussa (July) Pobéguin 417! Friguigbé (Aug.) Chillou 2702! 2705! Farana to Kisaidougou (Apr.) Pitot! Farana (Mar.) Sc. Elliot 5361a! b! Nzérékoré to Beyla (May) Pitot! **S. L.:** Freetown (Aug.) T. Vogel! Melville & Hooker 102! Mateboi (July) Small 143! Sendugu (June) Thomas 598! Musaia (Apr.) Deighton 5461! Loma Mts., foothills—5,600 ft. (July) Jaeger 6783! Bakshi 243! **Lib.:** Monrovia (May-July) Dinklage 2182! Baldwin 5806! 5807! Kunkel 93! Gbanga (Jan.) Daniel 93! Buchanan (Nov.) Adam 16050! 16051! Nimba (June, July) Adam 21581! Leeuwenberg & Voorhoeve 4605! Sinoe Basin Whyte! **Iv. C.:** Adiopodoumé (Oct.) Leeuwenberg 1713! Mbaso (July) Oldeman 211! Téhini, 40 km. E. of Ouangofétini (Aug.) de Wilde 831! R. Nzi, N'Douci Reg. (Aug.) De Wit 7332! Divo, SE. of Gagnoa (Aug.) Boughey 14654! **Ghana:** Achimota (June) Irvine 5012! Akroful Cummins 29! Damongo (July) Andoh FH 5189! Folifoli, Afram Plains (Aug.) Hall 194! Wenchi to Techiman (Mar.) Morton GC 8542! **Togo Rep.:** Misahöhe (Mar.) Baumann 184! Atacora Mts. (June) Villiers! Bafilo Mt. (May) Roberty 1441! Palimé (Mar.) Stage 7! **Dah.:** Porto Novo (June) Roberty 1722! Grand Popo (May) Roberty 1553! **N. Nig.:** Nupe Barter 1583! Zungeru (Aug.) Dalz. 256! Sanga River F.R., Jemaa Div. (May) E. W. Jones 56! Jos Plateau (Sept.) Lawlor & Hall 662! Abinsi (May) Dalz. 812! **S. Nig.:** Lagos Dalz. 1115! Ogun River F.R. (Mar.) Hepper 2265! Ibadan (Apr.) Meikle 1475! Benin (Jan.) Brenan 8749! Obudu Plateau, 5,400 ft. (Apr.) Haines 99! Ikom (Jan.) Rosevear 2/31! **W. Cam.:** Likomba (Dec.) Mildbr. 10787! Buea Leimbach 150! Preuss 753! Bamenda (Jan.) Migeod 368! Bamessi, Ndop Plain (Mar.) Brunt 267! Oku, 6,350 ft. (June) Brunt 565! **F. Po:** Barter 1584! Balachá (Jan.) Guinea 1529! S. Isabel Swarbrick 2902!

Pantropical.

[Very variable in the size of the spikes, length of rays and crowding of the spikelets; a common form with subglobose or shortly obovoid spikes was described as var. *subglobosus* Kük. but is not clearly separable from specimens with laxer more cylindrical spikes (var. *thomensis* (C.B. Cl.) Kük.) which in turn run into the large form with more or less branched spikes described as *M. nossibeensis* Steud.]

Imperfectly known species

Mariscus sp. A *APD acc*

A robust plant 120 cm. high with flattened golden-brown spikelets, 10–16 × 1.25 mm., in cylindrical spikes on rays up to 12 cm. long; resembling *Mariscus congestus* Vahl but with a more expanded inflorescence and also to be compared, when better known, with *Mariscus strigosus* (Linn.) C.B. Cl. from N., central, and east S. America.

S. L.: Koinadugu, Northern Prov. (Aug.) Haswell 245!

Mariscus sp. B *APD acc*

Plant resembling *Mariscus alternifolius* Vahl but differing in the slender rhizomes covered with dark, eventually fibrous, scales, and the broadly elliptical, equal-sided achene.

Gam.: ?Kuntaur (July) Ruxton 45!

Mariscus sp. C *APD acc*

A slender species about 25 cm. high, with a short, swollen rhizome and distinctive whitish, Kyllinga-like head of 1-flowered spikelets; **in upland grassland.**

N. Nig.: nr. radio masts, Shere Mts., 5,000–5,500 ft. (July) J. Hall 1940!

3. REMIREA

Aubl., Hist. Pl. Guian. Fr. 1: 44 (1775); F.T.A. 8: 485 (1902).

- 1 Rhizome slender, branched, long-creeping; shoots short, with a cluster of lanceolate, stiff, spreading, harsh leaves, and a terminal, nearly sessile head of one to several sessile spikes surrounded by leaf-like bracts; spikelets with 3 or 4 sterile and one fertile glume; achene when ripe surrounded by a corky sheath formed from the apex of the rhachilla [maritima](#)

Remirea maritima *Aubl.* Hist. Pl. Guian. Fr. 1: 45, t. 16 (1775); F.T.A. 8: 486. *APD acc*

Cyperus pedunculatus (*R. Br.*) Kern in Acta Bot. 7: 798 (1958).

Strand plant with shoots arising singly or in small clusters from a long rhizome; **sandy places.**

S. L.: Mahera (Oct.) Jordan 371! Lungi shore (Apr.) Hepper 2671! Aberdeen to Lumley (Aug.) Melville & Hooker 153! No. 2 River Beach, Colony (July) Small 158! Yele, Turtle Is. (Nov.) Deighton 2309! **Lib.:** Robertsport (Dec.) Baldwin 10913! Monrovia (May, Nov.) Baldwin 5803! Linder 1436! Cestos River (May) Dinklage 1950! Greenville (Apr.) de Wilde 3796! **Iv. C.:** Abouabou Forest, Abidjan to Grand Bassam (Jan.) Leeuwenberg 2377! Grand Bassam to Azuretti (Oct.) de Wilde 1017! Grand Bassam (Sept., Oct.) de Wilde 545! Giovannetti 283! Oldeman 423! **Ghana:** Axim (Mar.) Morton A416! Cape Coast (July) Hall 3204! Teshi (Nov.) Irvine 801! Ada (June) Thorold CB 107! Old Ningo, E. Lagoon (Jan.) Morton 6352! **Dah.:** Le Testu 231! Cotonou (Mar., Apr.) Keay FHI 37577! Chev. 23474! Grand Popo (May) Roberty 1561! **S. Nig.:** Badagri (Apr.) Haines 25! Tarqua Is. (May) Ward 5! Victoria Beach, Lagos (Feb.) Richards 5083! Lighthouse Beach, Lagos (Sept.) Stubbings 8! Nun River (Sept.) Mann 534!

Coastal zones throughout the tropics.

4. TORULINIUM

APD: *Synonym of Cyperus L.*

Desv. in Ham., Prodr. Pl. Ind. Occ. 15 (1825); F.T.A. 8: 402 (1902).

Cyperus subgen. Torulinium (*Desv.*) *Kükenthal* in Engl., Pflanzenr. Cyperaceae—Scirpoideae—Cypereae 614 (1936).

- 1 Robust perennial to 2.5 m. tall, inflorescence a compound umbel up to 30 cm. across; bracts numerous about 2 cm. broad, scabrid beneath; spikelets terete up to 2.5 cm. long, patent; rhachilla disarticulating above each

glume at maturity; stigmas 3 [odoratum](#)

Torulinium odoratum (Linn.) Hooper in Kew Bull. 26: 579 (1972).

APD: *Synonym of Cyperus odoratus L.*

Cyperus odoratus Linn., Sp. Pl. 46 (1753).

Torulinium confertum Ham., Prodr. Pl. Ind. Occ. 15 (1825); F.T.A. 8: 403; F.W.T.A., ed. 1, 2: 486.

Cyperus ferax L. C. Rich. in Act. Soc. Hist. Nat. Paris 1: 106 (1792); Kük. l.c. 615.

Like the larger species of *Mariscus* in habit but distinguished when immature by the broad rounded green keel to the glumes, and when mature by the thickened rhachilla breaking into segments; [near surface water](#).

Sen.: Tivaouane (Nov.) Pitot! Thiès (May) Pitot! Kayar (Mar.) Pitot! Sangalkam (June) J. & A. Raynal 5961! Hann (Sept.) Pitot! **iv. C.:** Agnéby (Feb.) Aké Assi 6963! **Ghana:** Tano Kiver, 75 km. W. of Kumasi (Dec.) Oldeman 824! Bibiani (Dec.) Adams 2032! Brimsu, Cape Coast (Mar., Sept.) Hall 328! 2618! Akotokyir, Cape Coast (June) Hall 3115! Adaiso to Kade (Jan.) Morton 8346! Nsawam to Suhum (Nov.) Morton GC 7996! **Dah.:** Athiémé (Feb.) J. & A. Raynal 13522! **S. Nig.:** Ibadan (Oct) Onochie FHI 34335! Lagos Dawodu 213! (June, Nov.) Haines 35! Millen 11!

Pantropical; particularly New World.

5. PYCREUS

P. Beauv., Fl. Oware 2: 48, (1816); F.T.A. 8: 288 (1901).

Cyperus subgen. Pycreus (*P. Beauv.*) C.B.Cl.—Kükenthal in Engl., Pflanzenr. Cyperaceae—Scirpoideae—Cypereae 326 (1936).

- 1 Aquatic or semi-aquatic plants growing in, or at the edge of, open water: **2**
Land plants, not normally submerged or floating: **6**
- 2 Weak creeping or floating plants with slender steins and leaves and few spikelets: **3**
Stout semi-aquatic plants more or less decumbent at the base but with robust stems up to 4 mm. across, thickened by yellowish leaf sheaths below; inflorescence an umbel of spreading subequal rays bearing short spikes of red-brown spikelets; glumes obtuse and boat-shaped at the apex: **5**
- 3 Inflorescence with rays: **4**
Inflorescence of 1–2 sessile spikelets [3. felicitis](#)
- 4 Spikelets borne singly on the rays of the inflorescence, pale [1. waillyi](#)
Spikelets 2–5 on each ray, brown or tinged brown [2. demangei](#)
- 5 Leaves lanceolate, borne at intervals up the stem, stiff, spreading, about 10 cm. long; sheaths with a membranous, convex, often wrinkled and red-dotted area at the mouth of the sheath opposite the blade insertion; bracts 3/4–1 1/2 times as long as the rays; spikelets lanceolate 6–10 × 2–2.5 mm. [23. mundtii](#)
Leaves linear, flat, long acuminate, up to 60 cm. long; sheath concave at the mouth, splitting early; longest bract 2–3 times as long as the rays; spikelets elliptical to oblong, about 15 × 4 mm. [4. nitidus](#)
- 6 Spikelets white or greenish-white even at maturity, borne in a capitate cluster: **7**
Spikelets yellow, brown, red or black, at least at maturity; inflorescence various: **9**
- 7 Leaves capillary, not more than 1 mm. broad; culms thickened below by brown fibrillose remains of leaf-sheaths; spikelets few, 3–4 mm. broad, subacute [7. scaëttae](#)
Leaves flat, 1–5 mm. broad; spikelets numerous (more than 15), about 2.5 mm. broad, acute: **8**
- 8 Robust plant, stem about 2.5 mm. broad; spikelets up to 30 mm. long, in a short, branched, bracteate spike; glumes lanceolate; achene broadly elliptical [9. cataractarum](#)
Stem 1.5–2 mm. broad; spikelets up to 15 mm. long, sessile or nearly so; glumes ovate; achene obovate [8. smithianus](#)
- 9 Glumes with a distinct white membranous margin and broad rounded green keel; plant robust, with a spreading anthelate inflorescence; spikes compound; spikelets distant; glumes brown, spreading to reveal the black achene [17. macrostachyos](#)
Glumes with no white membranous margin or if a narrow one then slender annuals: **10**
- 10 Spikelets ovate, 2–4 mm. long, 8–12 flowered, in small compound spikes; stems clustered, shortly woody at the base; leaves flat; glumes black with conspicuous green keels [6. elegantulus](#)
Spikelets elliptical, lanceolate or linear, more than 4 mm. long: **11**

- 11 Glumes with an acute green keel excurrent in a mucro : 12
 Glumes acute, obtuse or obtuse and apiculate: 14
- 12 Spikelets up to 5 per stem, solitary in the axils of bracts arranged in a simple spike, broadly elliptical, about 10 × 4 mm. [26. *divulsus* subsp. *africanus*](#)
 Spikelets numerous in an anthelate inflorescence: 13
- 13 Weak annual 5–40 cm. high; spikelets linear 4–16 × 1 mm.; glumes lax, spreading to reveal the wide, pale rhachilla [22. *pumilus*](#)
 Perennial, culms arising from a short broad rhizome covered with black fibres; spikelets lanceolate, about 10–15 × 3 mm., compressed, brown, channelled; achene obovate or suborbicular, white muriculate, obtuse or apiculate [21. *acuticarinatus*](#)
- 14 Inflorescence a digitate or very shortly spicate cluster of spikelets, sometimes either reduced to 1 or 2 spikelets or enlarged by the addition of a lateral rayed spike: 15
 Inflorescence with several unequally rayed spikes; rays sometimes very short: 22
- 15 Caespitose perennial; culms arising from a slender yellow rhizome; spikelets linear-lanceolate, 10–16 × 2.5–3 mm., yellow; glumes obtuse with a narrow golden sinuate margin; achene chestnut, punctulate, apiculate [10. *lanceolatus*](#)
 Annual with fibrous roots: 16
- 16 Spikelets linear up to 1.5 mm. broad; leaves capillary: 17
 Spikelets 1.5 mm. broad or more: 18
- 17 Glumes black with a narrow white membranous margin; spikelets less than 1 mm. broad; achene muriculate [15. *melas*](#)
 Glumes golden to dark brown; spikelets 1–1.5 mm. broad; achene punctulate [16. *capillifolius*](#)
- 18 Spikelets dark reddish black with a narrow membranous margin, lanceolate, about 10 × 2.5 mm.; glumes with a narrow insertion exposing the wide straight rhachilla; leaves narrow, inrolled; longest bract erect; achene obovate or suborbicular, black, punctulate [25. *atrorubidus*](#)
 Spikelets straw-coloured to brown: 19
- 19 Spikelets usually up to 5 per stem, broadly elliptical to oblong-lanceolate, 3.5–5 mm. broad: 20
 Spikelets usually more than 5, narrowly elliptical to linear, 1.5–2.5 mm. broad: 21
- 20 Spikelets 1–2 per stem, strongly compressed; glumes golden, tinged and tipped dark red (rare) [24. *pauper*](#)
 Spikelets generally more than 2 per stem, somewhat compressed, obtuse; glumes pale, becoming golden at maturity [12b. *pseudodiaphanus* var. *occidentalis*](#)
- 21 Spikelets numerous, linear, about 1.5 mm. broad [27. *fallaciosus*](#)
 Spikelets narrowly elliptical, 2–2.5 mm. broad [28. *flavescens*](#)
- 22 Spikelets very dark red-brown to black; perennials; stems 40–100 cm. high; glumes lanceolate, imbricate: 23
 Spikelets pale to dark brown: 24
- 23 Leaves up to 4.5 mm. broad, flat; spikelets 12–20 mm. long with about 30 glumes; achene black, narrowly elliptical; stamens 2, anthers about 0.5 mm. long [13. *nuerensis*](#)
 Leaves about 2 mm. broad, inrolled; spikelets 10–14 mm. long with about 20 glumes; achene brown; stamens 3, anthers about 1 mm. long [14. *testui*](#)
- 24 Rhizomatous perennial; culms erect, 50–100 cm., sharply triangular; leaf-sheaths tinged red-purple; bracts sharply keeled, spinulose-serrulate on the margin; rays stiff, up to 10 cm.; spikelets golden, elliptical, 10–15 × 4 mm., channelled [5. *unioloides*](#)
 Annuals, or perennials without the above combination of characters: 25
- 25 Inflorescence lax, spreading, forming 1/3–1/2 height of the plant, with capillary rays up to 12 cm. long; spikelets lanceolate, golden to brown, compressed; glumes obovate, obtuse and minutely apiculate, spreading to reveal the discoid black achene; rhachilla markedly zig-zag [18. *pelophilus*](#)
 Inflorescence not forming more than 1/4 height of plant; rhachilla not markedly zig-zag: 26
- 26 Achene narrowly elliptical to oblanceolate, distinctly papillate with papillae in longitudinal rows; spikelets acute, pale becoming more or less tinged reddish-brown; glumes elliptical, regularly imbricate giving the spikelet a neat “plaited” appearance : 27
 Achene broadly elliptical, obovoid or spherical: 29
- 27 Spikelets more or less erect in dense fascicles; rays generally up to 3 cm. long, sometimes almost wanting; stamens generally 2, anthers about 0.4 mm. long [19a. *polystachyos* var. *polystachyos*](#)
 Spikelets spreading in lax branched spikes, rays often exceeding 3 cm.; glumes often tinged chestnut-brown; stamens generally 3: 28

- 28 Spikelets about 1.0 cm. long by 1.5 mm. broad; glumes 1.5 mm. long; anthers about 0.8 mm. long [19b. polystachyos var. laxiflorus](#)
Spikelets up to 2.5 cm. long by 2 mm. broad; glumes 2 mm. long; anthers 1.0–1.2 mm. long [20. ferrugineus](#)
- 29 Achene obovoid, slightly compressed, beakless, punctulate; robust erect plant to 70 cm. high; spikelets golden, tinged brown, 10–18 × 3–4 mm., channelled; stamens 3 [11. mertonii](#)
Achene not punctulate: **30**
- 30 Achene compressed with a surface pattern of vertically much elongated cells in irregular transverse bands separated by raised ridges: **31**
Achene subspherical with a surface pattern of hexagonal cells, not much elongated vertically with a greyish white horizontal muriculation 12. pseudodiaphanus **32**
- 31 Inflorescence with well developed rays and lax-spikeletted spikes; spike-lets acute; glumes broadly elliptical, generally tinged red-brown, very obtuse, 2.5–3 mm. long [29. intermedius](#)
Inflorescence with generally short rays, often reduced to a single spike; spikes more or less dense-spikeletted; glumes broadly ovate, generally golden, 2–2.5 mm. long [28. flavescens](#)
- 32 Spikelets 2–3 mm. broad; glumes 1.6–2.1 mm. long; achene 0.7–0.95 × 0.6–0.9 mm. [12a. pseudodiaphanus var. pseudodiaphanus](#)
Spikelets 3.5–5.0 mm. broad; glumes 2.4–2.7 mm. long; achene 0.9–1.25 × 0.9–1.05 mm. [12b. pseudodiaphanus var. occidentalis](#)

1. **Pycreus waillyi** *Cherm.* in *Bull. Soc. Bot. Fr.* 85: 366 (1938). *APD acc*

Submerged or floating with an inflorescence of spikelets borne singly; [in shallow water](#).

Mali: Dogo (Mar.) Davey 6! Gao to Bena (Feb.) de Wailly 5340!

Also in [Zambia](#).

2. **Pycreus demangei** *J. Raynal* in *Kew Bull.* 23: 314 (1969). *APD acc*

Similar to *P. waillyi* *Cherm.* in its floating habit but having very slender (filiform) stems and leaves and clustered spikelets; [flood plains](#).

Mali: Dogo (Feb.) Demange 1589! 3114! (Jan., Mar.) Davey 168! 575! Sarédina, Debo (Sept) Demange in J. & A. Raynal 11297!

Also in [Chad](#).

3. **Pycreus felcis** *J. Raynal* in *Kew Bull.* 26: 568 (1972)

APD: Synonym of Cyperus felcis (J. Raynal) Lye

Slender herb with straggling branched stems, setaceous leaves and 1–2 sessile pseudolateral spikelets, 5–12 × 3 mm.; near surface water.

Guin.: Fouta Djallon Jac.-Fél. 7413 b!

4. **Pycreus nitidus** (*Lam.*) *J. Raynal* in *Kew Bull.* 23: 314 (1969). *APD acc*

Cyperus nitens *Lam.*, *Ill. Gen.* 1: 145 (1791).

Pycreus lanceus (*Thunb.*) *Turrill* in *Kew Bull.* 1925: 67 (1926).

Cyperus lanceus *Thunb.*, *Prodr. Pl. Cap.* 18 (1794); *Kük. l.c.* 333.

Pycreus umbrosus *Nees* in *Linnaea* 10: 130 (1836); *F.T.A.* 8: 303.

Robust plant, with culms up to about 60 cm. and a yellow to dark red-brown inflorescence; [in or near permanent water](#).

Sen.: Hann (Apr.) Chev. 25711! Niakoulrab (May) Berhaut 661! 5181! Malika to Yombeul (Nov.) Pitot! Berr Tialane (May) J. & A. Raynal 58921 Lompoul (Mar.) J. & A. Raynal 13653! **Dah.:** Cadjehoun, Cotonou (Feb.) J. & A. Raynal 13528! **Niger:** Guidimouni (July) P. de Fabrègues 524! 1892! **N. Nig.:** Matyoro (Feb) Thornewill 158! Baga Seyoram, L. Chad (Mar.) Gwynn 112! **W. Cam.:** Babeni, Ndop Plain (Apr.) Brunt 372!

Africa south of the Sahara and [Madagascar](#); also in [Palestine](#).

5. **Pycreus unioloides** (*R. Br.*) *Urb. Symb. Antill.* 2: 164 (1900). *APD acc*

Cyperus unioloides R. Br., Prodr. Fl. Nov. Holl.: 216 (1810); Kük. l.c. 338.

Pycneus angulatus (Nees) Nees in Linnaea 9: 283 (1835); C.B. Cl., Illustr. Cyper. t. 4 (1909); F.T.A. 8: 305; F.W.T.A., ed. 1, 2: 490.

Erect plant, woody at the base with an inflorescence of large golden spikelets; [swamps or moist places in savanna](#).

Gam.: (Aug.) Ruxton 82! **Mali:** Klela, Sikasso (Aug.) Demange 2906! **Iv. C.:** Kodiokoffi, Baoulé Pobéguin 109! Chev. 22323! **U. Volta:** Banfora (June) Leeuwenberg 4358! **Ghana:** Sampa, N.W. Ashanti (Apr.) Morton A3268! **S. Nig.:** Shaki Dist. (Aug.) Latilo & Taylor FHI 43398!

Pantropical.

6. *Pycneus elegantulus* (Steud.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 538 (1895).

APD: *Synonym of Pycneus niger subsp. elegantulus* (Steud.) Lye

Cyperus elegantulus Steud. in Flora 25: 583 (1842); Kük. l.c. 342.

Plant with a compact anthelate inflorescence of small black strongly compressed spikelets with green keels, subtended by long bracts; [in swamps](#).

N. Nig.: Mambila Plateau (Mar.) J. Hall 1642! **W. Cam.:** Bamenda, 5,000 ft. (May) Brunt 1137! Bafut-Ngemba F.R., Bamenda (May) Daramola FHI 41183! **F. Po:** 8,500 ft. (Apr.) Mann 1470!

Throughout tropical and S. Africa.

[Closely approaching, especially in the Fernando Po specimen, the central and S. American species *P. niger* (Ruiz ife Pavon) Cufodontis.]

7. *Pycneus scaëttae* Cherm. in Bull. Jard. Bot. Brux. 13: 278 (1935).

APD: *Synonym of Pycneus fibrillosus* (Kük.) Cherm.

Cyperus fibrillosus var. *scaëttae* (Cherm.) Kük. l.c. 348 (1936).

Small tufted perennial with a white head of spikelets; [montane grassland liable to burning](#).

W. Cam.: Bafut-Ngemba F.R., Bamenda, 5,500–7,000 ft. (Mar.) Hepper 2241! Coombe 213! Lake Bambulue, Bamenda (Apr.) Morton K. 268!

Also in **E. Cameroun** and **Congo**.

8. *Pycneus smithianus* (Ridley) C.B. Cl. in Dur. et Schinz, Consp. Fl. Afr. 5: 542 (1895); F.T.A. 8: 301.

APD acc

Cyperus smithianus Ridley in J. Bot. 22: 15 (1884); Kük. l.c. 349.

Similar to *P. scaëttae* but larger, with grasslike leaves and a white head of numerous spikelets; [river banks and other damp open habitats](#).

Guin.: Friguiagbé (June) Chillou 531! Macenta (Apr.) Pitot! Dabola (Apr.) Pitot! Madlra Tossekré, (Oct.) Adam 12514! **S. L.:** Falaba (Apr.) Deighton 1645! **U. Volta:** Banfora (July) Aké Assi 10737! **N. Nig.:** Ropp, Plateau Prov. (Apr.) J. Hall 1114! Mai Samare, Mambila Plateau (Mar.) J. Hall 1629! **S. Nig.:** Obudu Plateau, 5,000–5,500 ft. Tuley 972! (Apr., Aug.) Haines 232! Kershaw 900684! **F. Po:** Moka (Sept., Dec.) Melville 680! Boughey 111!

Throughout tropical Africa.

9. *Pycneus cataractarum* C.B. Cl. in Engl., Bot. Jahrb. 38: 132 (1906). *APD acc*

More robust than the preceding species with a less contracted inflorescence of larger spikelets; [river banks](#).

S. Nig.: R. Nwop, Boje enclave (May) Jones & Onochie FHI 18609! **W. Cam.:** Mamfe to Ikom (Apr.) Morton GC 7140! Falls of R. Lobo, Kribi (July) J. Hall 1866!

Also from **E. Cameroun** to **Congo**.

10. *Pycneus lanceolatus* (Poir.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 538 (1895), partly. *APD acc*

Cyperus lanceolatus Poir. in Lam., Encycl. 7: 245 (1806); Kük. l.c. 349.

Pycreus propinquus Nees in Mart., Fl. Bras. 2, 1: 7 (1842); F.T.A. 8: 300, partly; Chev. Bot. 696.

Loosely tufted perennial, stems generally with a single cluster of golden spikelets; **riverbanks, marshes and other damp habitats.**

Sen.: (Nov.) Fotius K. 713! Niokolo-Koba (June) Adam 14256! Badi (Sept.) Berhaut 3054! **Gam.:** Albreda (June) Leprieur! **Mali:** Balasoko, Bamako to Koulouba (Dec.) Monod! Koulouba Duong 1503! Sébéla (Jan.) Roberty 3305! Ségou (May) Roberty 3652! **Guin.:** Friguiajbé (May) Schnell 5626 bis! Hollandé Tosseké (Oct.) Adam 12725! Daralabe, Fouta Djallon (Jan.) Langdale- Brown 2573! Kouroussa (Jan.) Pobéguin 626! Koba (Dec.) Jac.-Fél. 7367! **S. L.:** Waterloo (Aug.) Melville & Hooker 298! Mahera (Nov.) Deighton 5666! Robump, nr. Rokupr (Mar.) Jordan 14! Kombile (Oct.) Small 452! Bwedu (Apr.) Deighton 3156! **Lib.:** Kailahun, Kolahun Dist. (Nov.) Baldwin 10128! Vonjama (Oct.) Baldwin 9930! Gbanga (Sept.) Linder 494! Ganta, Sanokwele Dist. (May) Harley 1703! Nimba Mts, (Dec.) Adam 20204! **Iv. C.:** Sanlo to Kakpin (Nov.) Aké Assi 9276! Bouaké (May) de Wilde 90! Brobo (Sept.) de Wilde 939! **U. Volta:** Darsalami, nr. Robo (Dec.) Bille 3351! Bekui (Dec.) Bille 3381! **Ghana:** Burufo, nr. Lawra (Sept.) Hall CC 730! Banda (Aug.) Hall 1982! Assin Bereku West-Skinn 68! Tiasi, Afram Plains (Aug.) Hall CC 166! Kukrukui Lagoon, Kete Krachi (Apr.) Hall VBS 005! **Togo Rep.:** Dzolokpuita (Nov.) Morton GC 9355! Sansanné-Mango (Oct.) Bille TG 362! **Dah.:** Agouagon (Apr.) Chev. 23495! **N. Nig.:** Minna (Dec.) Meikle 717! Kufena, Zaria Prov. (Jan.) Kershaw 900015! Wushishi, Niger Prov. (June) Clayton 1105! Richa, Jos Plateau (Sept.) Lawlor & Hall 663! **S. Nig.:** Ilesha (Apr.) Haines 36! Oyo to Iseyin (Oct.) Onochie FHI 34920! Ibadan Hamble 116! Iva stream, Udi Dist. (Sept.) Onochie FHI 34087! Obudu (Aug.) Kershaw 900683! **W. Cam.:** Madele, Wum Dist. (June) Daramola FHI 41100! Jakiri, Bamenda, 6,500 ft. (Feb.) Hepper 2068!

Throughout tropical Africa and Madagascar and in **central** and **S. America.**

11. *Pycreus mertonii* Hooper in Kew Bull. 23: 313 (1969). *APD acc*

Similar to *P. unioloides* (R. Br.) Urb. but annual, altogether smaller, and without spinulose-scabrid leaf and bract-tips; **wet savanna.**

Sen.: Niokolo-Koba (Nov.) Adam 17143! Siminti (Jan.) Adam s.n.! Kanéméré (Nov.) Fotius K. 689! **Ghana:** Pong Tamale (Dec.) Morton GC 9832! Damongo (Dec.) Morton GC 25060! **N. Nig.:** Gampu (Dec.) Peter & Tuley 28! Igbete-Kishi (Mar.) Gledhill 731!

Also in **E. Cameroun, Chad** and **Uganda.**

12. *Pycreus pseudodiaphanus* Hooper in Kew Bull. 23: 313 (1969).

APD: *Synonym of Cyperus pseudodiaphanus* (S.S. Hooper) Lye

Similar in habit to *P. mertonii* but generally smaller and with a less compressed, greyish-white often iridescent achene; **damp places.**

12a. *Pycreus pseudodiaphanus* var. *pseudodiaphanus* *APD acc*

Sen.: Niokolo-Koba (Nov.) Adam 17079/15! Velingara (Nov.) Boudet 4607! 4616! 4621! **Mali:** Sotuba (Sept.) Adam 15329! 15330! 15345! (Oct.) Raynal 5014! Sikasso (Oct.) Demange 2713! Kouoro Demange 3528! **U. Volta:** Comoé R. (Sept.) Adam 15262! 15269! Banfora Jaeger 6556! 6557! **Ghana:** Ejura scarp (Dec.) Morton GC 9621! Sawla Hall CC 806! Damongo to Yapei (Sept.) Hall CC 881! Tamale (Oct.) Baldwin 13564! Nakpandurl to Bawku (Aug.) Hall CC 537, partly! **N. Nig.:** Idon, Kaduna to Keffi, Zaria Prov. (Aug.) Kershaw 900702! 900707! E. of Bida (Dec.) Haines 95! Shagunu, Ilorin (Oct.) J. Hall 1451!

12b. *Pycreus pseudodiaphanus* var. *occidentalis* Hooper l.c. 313 (1969). *APD acc*

Spikelets wider and achene larger than in the typical variety.

Sen.: Oussouye (Oct.) Adam 18311! 18337! Djembering (Oct.) Adam 18343! Abémé (Sept.) Adam 18183! Kabrousse (Oct.) Adam 18304! Niokolo-Koba Adam 17079/15. **Guin.:** Kandiarra Plateau (Oct.) Pitot! Kaiserville to Youkounkoun (Oct.) Pitot! **Ghana:** Kpandai (July) Hall GC 39508!

13. *Pycreus nuerensis* (Boeck.) Hooper in Kew Bull. 26: 579 (1972). *APD acc*

Cyperus nuerensis Boeck. in Flora 62: 555 (1879).

Cyperus globosus var. *nuerensis* (Boeck.) Kük. l.c. 356, partly (1936).

Pycreus polystachyos var. *sanguineus* Kük. l.c. 371 (1936).

Pycreus globosus var. *nilagiricus* of F.T.A. 8: 299, partly.

Distinguished from the other dark brown or black spikeletted species by the broader flat leaves and long linear spikelets; **swampy ground up to 5,800 ft.**

Guin.: Milo (Apr.) Adam 7959! Loffa (Feb.) Adam 3760! **S. L.:** Koinadugu Dist. (Aug.) Haswell 248a! 252! Loma Mts. Jaeger 2001! 7027! **Iv. C.:** Mankono (June) Chev. 21928! **N. Nig.:** Jos Plateau (Aug.) Lawlor & Hall FHI 46642! Banyo R. (Apr.) J. Hall 1772!

Also in **Central Africa** and the **Sudan**, probably also extending through east Africa to Rhodesia.

14. *Pycreus testui* Cherm. in Arch. Bot. Caen 4, Mém. 7: 13 (1931). *APD acc*

Cyperus laxesplicatus var. *testui* (Cherm.) Kük. l.c. 332 (1936).

Pycreus globosus var. *nilagiricus* of F.W.T.A., ed. 1, 2: 490.

Erect sedge with inrolled leaves and narrowly elliptical blackish spikelets; **wet savanna.**

Sen.: Badi to Fourou (Apr.) Nongonierma 441! **Mali:** Sikasso (May, July) Demange 2249! 2888! **Guin.:** Dabola to Farana (Apr.) Pitot! Farana Sc. Elliot 5334! (Apr.) Pitot! Timbi (June) Adam 14642! Madina Tossékéré (Mar.) Adam 11612! **Iv. C.:** Tehini, Bouna Dist. (May) Aké Assi 4802! Nassian (June) Aké Asii 10218! **Ghana:** Banda, Wenchi Dist. (Dec.) Morton GC 24204! Nwereme, N.W. Ashanti (May) Irvine 2474! Sampa, N.W. Ashanti (Apr.) Morton A3266! Ejura (Aug.) Hall CC 308! **S. Nig.:** Old Oyo F.R., Igboho (Feb.) Keay FHI 23446! **W. Cam.:** Baba, Ndop Plain (Mar.) Brunt 123! 124!

Throughout tropical Africa.

15. *Pycreus melas* (Ridl.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 538 (1895). *APD acc*

Cyperus melas Ridl. in Trans. Linn. Soc. ser. 2, Bot. 2: 127 (1884); F.T.A. 8: 302; Kük. l.c. 357.

Elegant, slender, tufted annual, similar to *P. capillifolius* but the spikelets darker and narrower; **wet flushes on rocky hillsides.**

Ghana: Kintampo (Sept.) Hall CC 924! **N. Nig.:** Kainji (Nov.) Hepper 3878! Kaduna to Keffi, Zaria Prov. (Aug.) Kershaw 900701! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 620!

Widespread in tropical Africa.

16. *Pycreus capillifolius* (A. Rich.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 535 (1895); F.T.A. 8: 300. *APD acc*

Cyperus capillifolius A. Rich., Tent. Fl. Abyss. 2: 475 (1851); Kük. l.c. 357, t. 42.

C. afzelii Boeck. in Linnaea 35: 475 (1868).

Small tufted plants with pseudolateral sessile spikes of radiating spikelets; **rice nurseries, marshy grassland, stream edges and other wet habitats.**

Sen.: Afzelius 45! Sédhio, Casamance (Oct.) Adam 18448! Niokolo-Koba (Dec.) J. & A. Raynal 6800! Fafakonou to Medina Yoro Foula (Sept.) Boudet 3851! Ouassadou (Sept.) Berhaut 1435! **Mali:** Kita Mts. (Sept.) Jaeger 62! 64! 73! Bamako(Nov.) Duong! Koulikoro (Oct.) Chev. 2478! **Guin.:** Youkounkoun (Oct.) Pitot! Sébori (Oct.) Adam 12677! Seriba (Oct.) Adam 12691! Kinkou to Pita (Oct.) Pitot! Friguiagbé Chillou 598! **S. L.:** Wellington (Sept.) Harvey 116! Kambia (July) Jordan 467! Bumban (Sept.) Thomas 20161 Koinadugu Dist. (Aug.) Haswell 267! Bintimani Mt., 5,600 ft. (July) BaJeshi 2941 Lit.: Kailahun (Nov.) Baldwin 10143! 12048! Nimba Mts. (Dec.) Adam 16473! **U. Volta:** Banfora (Sept.) Jaeger 6558! Adam 15395! **Ghana:** Burufo, nr. Lawra (Sept.) Hall CC 736! Kwahu Tafo (Aug.. Dec.) Harris! Hall CC 83! Berekum to Sampa (Dec.) Adams 5279! **N. Nig.:** (Aug.) Lely P466! P470! Kabba (Oct.) Parsons 33! Kufena, Zaria (Aug.) Kershaw 900691! Kaduna to Keffi, Zaria (Aug.) Kershaw 900709! Panshanu, Bauchi Dist. (Aug.) Lawlor & Hall 560!

Throughout tropical Africa and Madagascar; also in **Brazil**.

17. *Pycreus macrostachyos* (Lam.) J. Raynal in Kew Bull. 23: 314 (1969). *APD acc*

Cyperus macrostachyos Lam., Ill. Gen. 1: 147 (1791).

Pycreus tremulus (Poir.) C.B. Cl. in Dur & Schinz, Consp. Fl. Afr. 5: 542 (1895); F.T.A. 8: 306; Chev. Bot. 969.

Cyperus tremulus Poir. in Lam., Encycl. 7: 264 (1806); Kük. l.c. 361.

Pycreus albomarginatus Nees in Mart., Fl. Bras. 2, 1: 9 (1842).

Rather robust annual with few, flaccid leaves but a conspicuous spreading inflorescence; **in or near open water and other damp places.**

Sen.: Roger 30! 39! Heudelot 537! Dagana (Aug.) Naegelé 11750! Oussouye to Ziguinchor (Sept.) Broadbent 113! Velingara (Oct.) Adam 18577! **Gam.:** (Aug., Sept.) Macluskie 15! Ruxton 87! 118! Bansang Duke 10! **Mali:** Kita Mts.

(Aug.) Jaeger 18! Soninkoro, Ségou (Sept.) Roberty N2686! Dioura (Sept.) Davey 70! San (June, Sept.) Chev. 1090! 2484! Keribane (Oct.) Davey 85 = C.I.P.A.S. 486! **Guin.:** Friguiagbé (Sept.) Chillou 2121! Ditinn (Oct.) Pitot! Kandiarra Plateau (Oct.) Pitot! Thianguel-Bori (Oct.) Pitot! Sambailo (Oct.) Pitot! **S. L.:** Kambia (July) Jordan 464! **U. Volta:** Djibasso (Nov.) Bille 3290! Ouagadougou (Aug.) Nongonierma 80! **Ghana:** Burufu, Lawra (May) Morton 7668! Amanma, Cape Coast (June) Hall 3143! Yeji (Apr., Aug.) Hall VBS 1269! CC 388! Pwalugu (Sept.) Hall CC 582! Bawku (Aug.) Hall 2070! **Niger:** Toukounous (Sept.) Koechlin 6618! nr. Niamey (Sept.) Cremers 964! Niamey to Filingué (Sept.) Cremers 949! Say Koechlin 6393! **N. Nig.:** Shagunu, N. Ilorin Prov. (July-Aug.) C. D. K. Cook 426! Kufena, Zaria Prov. (Aug.) Kershaw 900690! Naraguta F.R., Jos Plateau (July) Lawlor & Hall FHI 46538! Panshanu Pass, Bauchi Dist. (Aug.) Lawlor & Hall 218! Katagum Dalz. 241! Gajibo, Bornu Prov. (Nov.) H. B. Johnston N55!

Pantropical.

18. *Pycreus pelophilus* (Ridl.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 540 (1895); F.T.A. 8: 298. *APD acc*

Cyperus pelophilus Ridl. in Trans. Linn. Soc. ser. 2, Bot. 2: 129 (1884).

Annual with flaccid stems, few leaves and a large spreading inflorescence of rather few golden, lanceolate spikelets; **moist sandy place? near water.**

Guin.: Brun 718! Friguiagbé (June, July) Chillou 2681! 3048!

Scattered throughout tropical Africa and Madagascar.

19. *Pycreus polystachyos* (Rottb.) P. Beauv. Fl. Oware 2: 48, t. 86 (1816); F.T.A. 8: 296. *APD acc*

Cyperus polysyachyos Rottb., Descr. Pl. Rar. Programm. 21 (1772); Kük. l.c. 367.

Pycreus odoratus Urb., Symb. Antill. 2: 164 (1900); F.W.T.A., ed. 1, 2: 490, not *Cyperus odoratus* Linn. (1753).

19a. *Pycreus polystachyos* var. *polystachyos* APD acc

Tufted, with a rosette of basal leaves shorter than the culms and with a capitate or radiate inflorescence of numerous clustered, erecto-patent spikelets having a characteristically neat “plaited” appearance; dunes, rice-swamps and other damp places in the coastal region.

Sen.: Dakar (Aug., Sept.) Adam 1795! 1920! Hann (Sept.) Trochain 467! M’boro (Aug.) Trochain 4241! Cambérène (Oct.) Berhaut 1050! **Lib.:** Robertsport, Grand Cape Mount Dist. (Dec.) Baldwin 10901! Monrovia (June) Baldwin 5860! Sasstown, Sinoe Dist. (Mar.) Baldwin 11607! Cape Palmas Ansell! Harper, Maryland Dist. (June) Baldwin 5977! **Iv. C.:** Grand Bassam to Azuretti (Aug.) des Abbayes 383! Canal d’Assini (July) Oldeman 155! Cavally to Bliéron (Aug.) Chev. 19913! Baoulé (Sept.) Pobéguin! **Ghana:** Atwabo Fishlock 15 of 1931! Weija (Oct.) Irvine 4801! Keta (June) Thorold CB 100! Nungua (Apr.) Rose Innes GC 30108! Prampram (Nov.) Morton 5077! **Togo Rep.:** Lomé Warnecke 123! (Sept.) Mahoux 130! **Dah.:** Ouidah (Aug.) Adjanoahoun 236! **Niger:** Watameze (Nov.) P. de Fabrègues 1304! Dallol Bobove, Niamey (Sept.) Cremers 965! **N. Nig.:** Sokoto (July) Dalz. 471! Marachi (Aug.) J. Hall 398! **S. Nig.:** Badagry (Aug.) Onochie FHI 34256! Ogun River F.R., Lagos (Mar.) Hepper 2247! Ibadan (Apr.) Meikle 1415! Ajagbodudu, Benin (Aug.) Wright 55! Nun R. (Aug.) T. Vogel 11!

Tropical and subtropical zones of both hemispheres.

19b. *Pycreus polystachyos* var. *laxifloras* (Benth.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 592 (1893); *Cherm. in Arch. Bot. Caen* 7, Mém. 4: 6 (1936). *APD acc*

Cyperus polystachyos var. *laxiflorus* Benth., Fl. Austral. 7: 261 (1878).

Spikelets remote and spreading, generally red-brown; **rice-swamps on edge of tidal area and marshy places.**

Sen.: Roger 39! St. Louis Heudelot 498! Sangalkam (Sept.) Berhaut 1573! Fatick (Sept.) Adam 18026! Oussouye (Sept.) Broadbent 119! **Gam.:** (July, Aug.) Ruxton 13! 123! **Guin.:** Koba (Nov.) Jac.-Fél. 7282! Ile de Kabak (Dec.) Jac.-Fél. 7384! Samou (Dec.) Jac.-Fél. 7409! **S. L.:** Lunsar (Aug.) Adames 124! Kichom (July) Deighton 3759! Rokupr (Aug.) Deighton 3023! Kalangba (Apr.) Glanville 216! Njama (June) Deighton 5958!

Old World tropics.

20. *Pycreus ferrugineus* (Poir.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 593 (1893).

APD: *Synonym of Pycreus intactus* (Vahl) J. Raynal

Cyperus ferrugineus Poir. in Lam., Encycl. 7: 261 (1806).

Similar to 19b but more robust; in similar habitats but less widespread.

Sen.: Baïla Bignona (Sept.) Adam 18115! Kabrousse (Oct.) Adam 18295, partly!

[This Madagascan and 8. African species appears to have been introduced into West Africa. The relationship of West African plants to *Pycreus polystachyos* requires investigation.]

21. *Pycreus acuticarinatus* (Kük.) Cherm. in Bull. Soc. Bot. Fr. 81: 262 (1934). *APD acc*

Cyperus acuticarinatus Kük. in Fedde, Rep. 12: 93 (1913).

C. macranthus var. *mucronatus* f. *acuticarinatus* Kük. in Engl., Pflanzenr. Cyper. 389 (1936).

C. crustaceus Raymond in Garcia de Orta 11: 374 (1963).

Pycreus angulatus of F.W.T.A., ed. 1, 2: 490.

Caespitose from a woody base, spikelets golden-brown and characterized by the acute and mucronate glumes; wet grassland in savanna region.

Sen.: Selikekémé (Sept., Oct.) Boudet 3670! 3970! Diulayel (Sept.) Boudet 3670! **Mali:** Sotuba (Dec.) Duong! Adam 11414! 15332! **Port. G.:** Boruntuma (Dec.) Pereira 2285! **Guin.:** Youkounkoun (Oct.) Pitot! **Iv. C.:** Tiegouakro to Kodiokoffi, Baoulé (Aug.) Chev. 22333 bis! Pacoubou (Aug.) Scaëtta 3037! Foro-foro Forest, 25 km. N. of Bouaké (Sept.) Oldeman 404! Toumodi (Oct.) Pobéguin 72! **Ghana:** Wa to Lawra (Sept.) Hall CC 610! Banda (Aug.) Hall 1984! Ejura (Aug., Dec.) Andoh 5057! Ayafie to Atafie (Dec.) Adams 4678! Tiasi, Afram Plains (Aug.) Hall CC 165! **Togo:** Mahoux 2060! **S. Nig.:** Ezillo, Ogoja Dist. (Oct.) Ariwaodo in Hb. Tuley 925!

Also in **E. Cameroun**.

22. *Pycreus pumilus* (Linn.) Nees in Linnaea 9: 283 (1834); Berhaut, Fl. Sén. ed. 2, 384 (1967). *APD acc*

Cyperus pumilus Linn., Cent. Pl. 2: 6 (1756).

C. pumilus var. *patens* (Vahl) Kük. l.c. 378.

Weak annual 5–40 cm. high with linear yellow-brown spikelets; wet places, often on cultivated or otherwise disturbed sandy soil.

Sen.: Heudelot 331! Velingara (Oct.) Adam 18590! Kabrousse (Oct.) Adam 18303! Elinkine (Oct.) Adam 18270! Kolda (Oct.) Adam 18542! **Mali:** Kita (Oct.) Jaeger 81! Bamako (Sept.) Adam 14960! Gorintta, Dogo (Apr.) Davey 556! Gao (Mar., Apr.) de Wailly 4687! 5373! **Guin.:** Sambailo (Oct.) Pitot! Dielila (Oct.) Pobéguin 1880! **S. L.:** Kutr (Jan.) Jordan 4! Rokupr (Aug.) Jordan 491! Taunya (Sept.) Jordan 891 Bunbuna (Aug.) Deighton 1402! Yakala (Sept.) Thomas 2376! **Iv. C.:** Bouaké (May) de Wilde 73! Mankoro (Sept.) Nozeran! Aboakouamékro (Nov.) Aké Assi 10340! **U. Volta:** Banfora (Sept.) Adam 15406! **Ghana:** Tumu (May) Morton GC 7536! Navrongo (Oct.) Rose Innes GC 31090! Tamale (Oct.) Baldwin 13577! Mankrong (Aug.) Hall CC 218! Labadi, Accra (Aug.) Hall 3281! **Togo Rep.:** Palimé (Sept.) Mahoux (111) 2006! Dapongo (Oct., Nov.) Bille TG 8! **Dah.:** Ouécé (Nov.) Annet 52! **Niger:** Niamey (Sept.) Cremers 955! **N. Nig.:** Kufena hill, Zaria (Sept., Oct.) Clayton 1325! Kershaw 900416! 900427! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 389! Gurum, nr. Vogel Peak (Nov.) Hepper 1283! **S. Nig.:** Olokemeji F.R. to Eruwa (Aug.) Keay FHI 37170! Lagos W. MacGregor 9! (Sept.) Stubbings 19! Badagry (Aug.) Onochie FHI 33494! Igboora (Oct.) Haines 218!

Old World Tropics, extending to the Himalayas and central America.

[The African and Madagascan taxon has been distinguished as *Cyperus patens* Vahl. Kükenthal regards it as a variety, distinguished by having muticous or shortly mucronate glumes, spreading at maturity; but plants with these characteristics occur throughout the range of the species. African specimens have generally longer and broader glumes than Indian but the ranges overlap.]

23. *Pycreus mundtii* Nees in Linnaea 10: 131 (1836); F.T.A. 8: 294. *APD acc*

Cyperus mundtii (Nees) Kunth, Enum. Pl. 2: 17 (1837); Kük. in Engl., Pflanzenr. Cyper. 380 (1936).

A semi-aquatic plant with a generally submerged creeping rhizome, stiff leaves and pale to dark brown clusters of spikelets; stream and lake margins in or near open water.

Maur.: Moudjeria (Nov.) Chudeau! **Sen.:** M'bidjem (Nov.) Pitot! Kayar (Mar.) Pitot! Sangalkam (May) J. & A. Raynal 5860! Dagoudane to Pikine (Apr.) J. & A. Raynal 5715 ter! Berr Tialane (May) J. & A. Raynal 5893! **Guin.:** Koba Jac.-Fél. 7206! **Ghana:** Samreboi, W. Region (Feb.) Hall 2485! Accra to Winneba (Apr.) Hall 1874! Amisano, nr. Elmina (Mar.) Hall 1309! Kumasi (Mar.) Adam 19068! **Dah.:** Sémé Forest (Mar.) Aké Assi 11153! **N. Nig.:** Sokoto (July) Dalz. 465! Vom, Plateau Prov. (Apr., Dec.) Morton K326! Haines 71! Mallamfatori, Chad Dist. Jackson FHI 59168! Gwoza, Dikwa Dist. (Dec.) McClintock 69! Vogel Peak, Sardauna Prov. (Dec.) Hepper 1528!

Mediterranean region, and throughout Africa, and in **Madagascar**.

24. *Pycreus pauper* (A. Rich.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 540 (1895). *APD acc*

Cyperus pauper Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 478 (1851); Kük. l.c. 394.

Slender tufted annual with few large elliptical spikelets; **boggy ground**.

N. Nig.: Kufena, Zaria Prov. (Aug.) Kershaw 900698!

Also in **E. Cameroun**, **Central African Republic**, **Ethiopia** and **SE tropical Africa**.

25. *Pycreus atrorubidus* Nelmes in Kew Bull. 6: 320 (1952). *APD acc*

Cyperus atrorubidus (Nelmes) Raymond in Nat. Canad. 91: 127 (1964).

More or less caespitose plants with dark red-black spikelets in a sessile pseudo-lateral cluster; **damp places on mountains to 5,000 ft.**

Guin.: Tossékéré, Labé (Oct.) Adam 12732! Nzérékoré (Oct.) Jac.-Fél. 1923! **S. L.:** Bintumane Peak (Oct.–Nov.) Jaeger 400! 7886! **Lib.:** Nimba Mts. (Aug.) Schnell 6241! **iv. C.:** Nimba Mt., 4,500 ft. (Aug.) Boughey GC 18164!

Also in **SE Africa**.

26. *Pycreus divulsus* subsp. *africanus* Hooper in Kew Bull. 26: 579 (1972).

APD: *Synonym of Pycreus africanus* (S.S. Hooper) Reynders

Unique in its few large spikelets each sessile in the axil of a bract and arranged in a spike; **open grassland**.

S. L.: Freetown (Nov.) Deighton 1868! **N. Nig.:** Farin Rua, Plateau Prov. (Aug.) J. Hall 652!

Also in **E. Cameroun**, **Ethiopia** and **Zambia**.

Subsp. *divulsus* comes from Madagascar.

27. *Pycreus fallaciosus* Cherm. in Arch. Bot. Caen 7, Mém. 4: 7 (1936).

APD: *Synonym of Pycreus flavescens* subsp. *fallaciosus* (Cherm.) Lye

Cyperus fallaciosus (Cherm.) Raymond in Nat. Canad. 91: 129 (1964).

Differing from *P. flavescens* in the narrower spikelet and narrower brown achene; **damp places**.

Sen.: Massadala Trochain 3538! 3545! **Mali:** Djenné (July) Chev. 1141! **Guin.:** Dabola (Apr.) Unknown Collector! **Ghana:** Oti R., Zabzugu (Apr.) Morton GC 9057! Yeji (Apr.) Hall VBS 1279! Chindiri (Apr.) Hall VBS 1292! Kete Krachi (Apr., July) Hall VBS 1284! Ansah-Emmim VBS 46! **Niger:** Mirria (July) P. de Fabrègues 2706! Guidiguir P. de Fabrègues 1731! **N. Nig.:** Nupe Barter 1567!

Also in **Central African Republic**.

[Very close to *P. flavescens* (from which it may not be specifically distinct) but reminiscent of *P. polystachyos* in the size and crowding of the spikelets.]

28. *Pycreus flavescens* (Linn.) Reichenb. Fl. Germ. Excurs. 72 (1830); F.T.A. 8: 290. *APD acc*

Cyperus flavescens Linn., Sp. Pl. 46 (1753); Kük. l.c. 298.

Similar to *P. lanceolatus* but generally not exceeding 30 cm. high, without a rhizome and often with shorter spikelets; **wet places**.

Sen.: Kolda (Feb.) Adam & Kerharo 19754! **Mali:** Niafounké (July) Demange 2201! Kolongotomo (Apr.) Demange 2233! Bamako (Mar.) Demange 2228! **Guin.:** Sériba (Oct.) Adam 12695! Madina Tossékéré (Oct.) Adam 12513! 12523! Kouroussa (July) Pobéguin 420! **S. L.:** York (Sept.) Melville & Hooker 407! Rokupr (Sept.) Jordan 118! **Ghana:** Tumu dam (Mar.) Morton GC 8855! Natinga, Nakpanduri to Bawku (Aug.) Hall CC 537! **Togo Rep.:** Lama-Kara Mahoux 2058! **Niger:** Guidiguir (June) P. de Fabrègues 1731! Zinder (Feb.) Chev. 43642! **N. Nig.:** Bida (Dec.) Haines 95! Kufena, Zaria Prov. (Sept.) Kershaw 900417! Jos (Dec.) Haines 80! Bauchi to Dindima (Dec.) Haines 78! Katsina to Daura (Feb.) Meikle 1217! **W. Cam.:** Bamessi, Ndop Plain (Apr.) Brunt 310!

Pantropical and in temperate regions extending to central Europe, Himalayas, Canada and southern Brazil.

29. *Pycreus intermedius* C.B. Cl. in F.T.A. 8: 290 (1901); J. & A. Raynal in Adansonia sér. 2, 7: 320 (1967). *APD acc*

Cyperus intermedius Steud. in Flora 25: 581 (1842), and Syn. Pl. Glum. 2: 5 (1855); not of Guss. (1832).

C. subintermedius Kük. l.c. 390 (1936).

Similar to *P. flavescens*, but a generally taller plant with a more expanded inflorescence of acute spikelets; **damp places**.

Sen.: Badène, Casamance (Jan.) J. & A. Raynal 7958! Mare Diamowel, Niokolo-Koba (Dec.) J. & A. Raynal 6889!

Scattered throughout tropical Africa and in **Madagascar**.

6. KYLLINGA

Rottb., Descr. Ic. Nov. Pl. 12 (1773); F.T.A. 8: 268; nom. cons.

Cyperus subgen. *Kyllinga* (Rottb.) Valck.-Sur.—Kükenthal in Engl., Pflanzenr. Cyperaceae—Scirpoideae—Cypereae 566 (1936).

- 1 Inflorescence of several subequal rays; spikelets few, remote; plant annual [1. debilis](#)
 Inflorescence capitate, with one or more short spikes bearing crowded spikelets: **2**
- 2 Annual with wing of glume having lobes about 1 mm. long; achene suborbicular [2. squamulata](#)
 Perennial, or annual not having a lobed wing to the glume: **3**
- 3 Plant with tuberous stem bases and thread-like slender rhizomes; spikelet with at least 4 opaque, white flowering glumes [3. bulbosa](#)
 Plant not having many slender rhizomes; spikelet with 2 or 3 flowering glumes: **4**
- 4 Central (or only) spike of inflorescence cylindrical, white, greenish-white or pink: **5**
 Central (or only) spike of inflorescence spherical, ovoid or ellipsoidal, rarely cylindrical and then golden: **7**
- 5 Plant with a slender stem, slightly swollen at the base; centre spike about 4 × 3 mm., pinkish with 1–2 small lateral spikes; glumes scarcely exceeding achene [18. tisserantii](#)
 Plant with more or less well developed rhizome; glumes exceeding achene: **6**
- 6 Plant with a thick, often vertical stem covered with fibrous remains of leaf-bases; keel of glume generally smooth, thickened [17. appendiculata](#)
 Plant with a thin, horizontal rhizome; keel of glume often ciliate, green [4. odorata](#)
- 7 Plant caespitose without a conspicuous rhizome; flowering stems crowded: **8**
 Plant rhizomatous: **13**
- 8 All heads of a single spherical spike: **9**
 At least some heads of more than one spike; **10**
- 9 Spike 10–12 mm. wide, reddish when dry; keel of glume with a wide, finely ciliate wing; leaves 2–4 mm. broad [5. nigritana](#)
 Spike 8–10 mm. wide, white even when dry; keel with an inconspicuous wing; leaves often decaying into black fibres [6. echinata](#)
- 10 Spikes more or less confluent into a reddish hemispherical head, 7–10 mm. across, partially enveloped by the broad bases of the bracts; leaves glaucous, lower leaf-sheaths and roots purple; achene obovate; in saline swamps [7. robusta](#)
 Spikes discrete, not reddish: **11**
- 11 Leaf-sheaths usually entire, pale crimson, not fibrous; glumes equal, with white, weakly nerved sides, a conspicuous green ciliate keel and recurved apiculus [8. pumila](#)
 Leaf-sheaths usually becoming fibrous; stem bases often thickened; upper of two flowering glumes smaller than lower, distinctly stipitate, tips of glumes not recurved: **12**
- 12 Keel of glume conspicuously winged and ciliate; achene broadly elliptical. little exceeded by the glumes [9. welwitschii](#)
 Keel of glume smooth or sparingly ciliate; achene elliptical or ovate generally much exceeded by the glumes [10. tenuifolia](#)
- 13 Inflorescence of a single spherical spike, 8–12 mm. across, subtended by 3 short, often very short, bracts;

- spikelets elliptical, somewhat blunt; stems spongy 2–3 mm. wide, tinged purple below; generally lower, and often all, leaves bladeless; rhizome aromatic, scales cinnamon-coloured [11. peruviana](#)
- Inflorescence of one or more cylindrical, hemispherical or ovoid spikes; spikelets acute, often with spreading tips to the glumes; stems leafy: **14**
- 14** Spike solitary, golden with green keels; spikelets large (about 4–5 mm.) with acuminate, spreading tips: **15**
- Spikes one or more, white, greenish-white or yellow-green: **16**
- 15** Rhizome elongate, generally flexuose and slender when dry, loosely invested with elliptical, apiculate, scarious, pink-tinged scales; leaves and bracts about 5 mm. broad, flaccid, acuminate, bracts erecto-patent or patent; (F. Po, W. Cam.) [12. elatior](#)
- Rhizome thick with ovate, acute scales; bracts deflexed at maturity; spike large (about 10–12 × 6–8 mm.); (N. Nig.) [13. melanosperma](#)
- 16** Rhizome thin, wiry, generally elongated between the flowering stems, closely invested with dark scales: **17**
- Rhizome thicker, generally bearing a row of contiguous flowering stems: **18**
- 17** Head small, 4–5 mm. across, subtended by three stiff bracts; glumes white with green keels [14. brevifolia](#)
- Head 5–10 mm. across, subtended by 4 long, flaccid bracts; glumes membranous below, opaque and spongy above, red dotted [15. nemoralis](#)
- 18** Rhizome horizontal covered with more or less persistent, ovate, acute, dark margined scales **16. erecta** **19**
- [@](#)
- Rhizome short, often vertical: **21**
- 19** Bracts generally 3, short to fairly long; spike rarely more than one, ovoid, greenish-white or yellow; glumes smooth or very sparsely ciliate on the keel [16a. erecta var. erecta](#)
- Bracts 4–7: **20**
- 20** Bracts 4–5; spike solitary, spherical, white; glumes smooth or somewhat ciliate [16b. erecta var. africana](#)
- Bracts 4–7, long; spikes several, confluent, greenish white or yellow-green; glumes ciliate on the keel [16c. erecta var. polyphylla](#)
- 21** Rhizome covered with reddish scales or their fibrous remains; keel of glume generally smooth, thickened, opaque [17. appendiculata](#)
- Rhizome not covered with scales; keel of glume smooth or ciliate, not thickened [4. odorata](#)

1. *Kyllinga debilis* C.B. Cl. in Mém. Soc. Bot. Fr. 2, 8: 26 (1907); Berhaut. Fl. Sén. ed. 2, 376. *APD acc*

Cyperus leptorhachis Mattf. & Kük. in Engl., Pflanzenr. Cyper. 595, fig. 63 A–D (1936).

A weak caespitose annual 5 to 30 cm. tall, with a Mariscus-like inflorescence but broadly obovate one-fruited spikelets; **in dry, rocky places.**

Sen.: Camberené (Nov.) Pitot! Tambacounda Berhaut 620! 3181. Tambacounda to Sambailo (Sept.) Pitot! **Mali:** Gulo Kourou (Aug.) Jaeger 8! Kita (Sept.) Jaeger 93! Bamako (Sept.) Adam 15034! Koulikoro (Oct.) Chev. 2455! **Guin.:** Scaëtta 33621 **iv. C.:** Téhini, Bouna Reserve (Aug.) de Wilde 689! **U. Volta:** Sindou (Sept.) Adam 15199! Gaoua (Oct.) Rose Innes GC 31661a! **Togo Rep.:** Mango Mahoux 2131! **N. Nig.:** Anara F.R., Zaria (July) Clayton 1257! Dumbi, Zaria (Sept.) Kershaw 900424!

Also in **Central African Republic.**

2. *Kyllinga squamulata* Thonn. ex Vahl Enum. Pl. 2: 381 (1806); F.T.A. 8: 270 (excl. syn. K. dipsacoides Schumach.); Nelves & Baldwin, Amer. J. Bot. 39: 389 (1952); Berhaut, Fl. Sén. ed. 2, 365. *APD acc*

Cyperus metzii (Steud.) Mattf. & Kük. l.c. 612, fig. 64 J–K (1936).

A weak, leafy annual bearing pyramidal, spinulose heads of few, large spikelets above the broad bract bases; **a widespread weed of sandy soil.**

Maur.: Traya (Jan.) Naegelé! **Sen.:** Sebikotane (Oct.) Pitot! M'bao (Oct.) Giovanetti! Oussouye to Ziguinchor (Sept.) Broadbent 112! Velingara (Oct.) Adam 18585! Djembering (Sept.) Broadbent 135! **Gam.:** Saunders 125! Hayes 568! Kuntaur (Aug.) Ruxton 155! Yundum Agric. Stn. Ashrif 39! **Mali:** Kita (Sept.) Jaeger 88! Fodébougou (Oct.) Jaeger 67! Baroneli (Aug.) Roberty 2649! San (Sept.) Chev. 2485! Boré (Aug.) Demange 30/1957! **Port. G.:** Bissao (Aug.) Dinklage 3093! **Guin.:** Inguiagbé (Aug.) Chillou 2703! Téliélé (Oct.) Pitot! Youkounkoun (Oct.) Pitot! Kouroussa (Aug.) Pobéguin 397! **S. L.:** Rokupr (July) Jordan 480! Mambolo (Sept.) Jordan 85! Rogbasa, Bikolo-Makene (Aug.) Deighton 1270! Njala (July) Deighton 749! **Lib.:** Dinklage 2743. **iv. C.:** Mankono (Oct.) Aké Assi 7097! **Ghana:** Cape Coast (June) Hall 1499! 3116! Nsawkaw, Wenchi (Aug.) Hall 1954! Abetifi to Pepease (Apr.) Morton A758! Gambaga (Apr.) Akpabla 76! Yendi

(Dec.) Adams 4090! Achimota Akpabla 2003! **Togo Rep.:** Sokode (June) Mahoux 2089! Kersting 232. Mangu Mellin 103. Kumea Mahoux 2082! **N. Nig.:** Sokoto (Aug.) Dalz. 451! Nupe Baikié! Damaturu, Bornu Prov. (Aug.) De Leeuw 1083! **S. Nig.:** Lagos W. MacGregor 12! Ibadan (Aug.) Keay FHI 37143! Auchi (Apr.) Haines 204!

Throughout tropical Africa, also in **India** and **America**.

3. **Kyllinga bulbosa** *P. Beauv.* Fl. Oware 1: 11, t. 8 fig. 1 (1805). *APD acc*

Kyllinga macrocephala *A. Rich.*, Tent. Fl. Abyss. 2: 491 (1851); F.T.A. 8: 286; C.B. Cl., Ill. Cyper. t. 2, fig. 7–9 (1909).

Kyllinga albiceps (*Ridley*) *C.B. Cl. ex Rendle*, Cat. Welw. 2, 1: 106 (1899); F.T.A. 8: 286; F.W.T.A., ed. 1, 2: 487.

Cyperus richardii *Steud.*, Syn. Pl. Glum. 2: 8 (1855) and var. *angustior* Kük. in Engl., Pflanzenr. Cyper. 570 (1936).

A generally small, slenderly rhizomatous and tubiferous perennial with white heads appearing yellow during flowering because of the numerous anthers; **in grass on tracks and other disturbed habitats**.

Mali: San (June) Chev. 1035! **Guin.:** Madina Tossékéré (Oct.) Adam 12525! **S. L.:** Mapotolon (Sept.) Jordan 918! Freetown (Oct.) Deighton 2148! Lumley (Aug.) Melville & Hooker 258! Mano (June) Deighton 6075! Yakala (Sept.) Thomas 2382! **U. Volta:** Banfora Duong 1317! **Ghana:** Tamale (Mar.) Morton GC 8817! **N. Nig.:** Sokoto Dalz. 453! Acharane, Ankpa Dist. (June) Daramola FHI 38036! **S. Nig.:** Lagos Is. (July) Haines 8! Sapoba Kennedy 2642! Foriku, Ondo Dist. (July) Onochie FHI 33421! Obiaruku, Warri (July) Kershaw 900658! Calabar (May) Holland 50! Obokum, nr. Ikom Swarbrick 2998! **W. Cam.:** Bambui, 5,000 ft. (July) Bumpus Bam/22! Ndop Plain, 3,800 ft. (May) Brunt 434! Mamfe (Apr.) Morton K 322!

Throughout tropical Africa.

4. **Kyllinga odorata** *Vahl* Enum. Pl. 2: 382 (1806); C.B. Cl., Ill. Cyper. t. 2, fig. 3–5 (1909); Nelmes & Baldwin in Am. J. Bot. 39: 387 (1952); Berhaut, Fl. Sén. ed. 2, 366. *APD acc*

Kyllinga cylindrica *Nees* in Wight, Contrib. Bot. India 91 (1834); F.T.A. 8: 282; Berhaut, Fl. Sén. ed. 2, 366.

Cyperus sesquiflorus (*Torr.*) *Matf. & Kük.* l.c. 591 (1936), incl. var. *cylindricus* (Nees) Kük. and f. *spinulosus* Kük.

Tufted or with a short, slender rhizome, leafy; spikes white, generally several with the central spike cylindrical and large; spikelets ovate, glumes clearly nerved; **general in damp habitats**.

Guin.: Friguiagbé (July) Chillou 590! Kinkou to Pita (Oct.) Pitot! Guekédou (Apr.) Pitot! Sérédou to N'zérékoré (Apr.) Pitot! Macenta (Apr.) Pitot! **S. L.:** Lumley (Aug.) Melville & Hooker 259! Rokupr, Magbema (Nov.) Jordan 700! Musaia (Sept.) Small 273! Mayombo, nr. Roruks (July) Deighton 4678! Tombo (Jan.) Deighton 994! Madina (Aug.) Jordan 908! **Lib.:** Monrovia (June–Sept.) Dinklage 2228! 2859! Buchanan (Dec.) Adam 16522! Bassa Cove Ansell! **iv. C.:** Boughey GC 14595! Man (Aug.) Boughey X 418! Issia (Dec.) Boughey GC 13595! Téhini, Bouna Reserve (Aug.) de Wilde 826! **Ghana:** Wenchi Ferry (May) Morton GC 7234! Ejura (Aug.) Hall CC 353! Kwahu Tafo to Mankrong (Apr.) Morton A669! Kete Krachi (Apr.) Morton GC 9135! Amedzofe Hill (May) Morton GC 7222! **N. Nig.:** Panshanu Pass, Bauchi Prov. (Aug.) Lawlor & Hall 292! **S. Nig.:** Igboora, Oyo Prov. (Oct.) Haines 224! Ajasse, SE. Ilorin Clayton 1110! Oka, Owo Dist. (Apr.) Haines 4a! Obudu Plateau, Ogoja Prov., 5,500 ft. (Aug.) Stone 42! **W. Cam.:** Cam. Mt., 8,000–10,000 ft. H. H. Johnston! Bambui Farm, Bamenda (May) Pedder 20! **F. Po:** Santa Isabel Swarbrick 2901!

Throughout tropical Africa and America, also in **Madagascar**.

5. **Kyllinga nigritana** *C.B. Cl.* in F.T.A. 8: 272 (1902).

APD: *Synonym of Cyperus nigritanus (C.B. Clarke) Lye*

Kyllinga ascolepidioides *Cherm.* in Arch. Bot. Caen 4, Mém. 7: 4 (1931).

? **K. alata** *Nees* in Linnaea 10: 139 (1835), as *allata*; F.W.T.A., ed. 1, 2: 487; Aké Assi, Contrib. 2: 71.

Cyperus cristatus var. **nigritanus** (*C.B. Cl.*) *Kük.* l.c. 610 (1936) (as to W. African specimens only).

A tufted perennial, with aromatic roots, leaves up to 26 cm. long and a spherical head of large, winged spikelets; **in savanna**.

iv. C.: Foro-foro Forest, 25 km. N. of Bouaké (Sept.) Oldeman 416! **Ghana:** Bole (May) Morton GC 7693! Banda (Apr., Aug.) Morton A3292! Hall 1993! Kintampo (Aug.) Hall 2056! **N. Nig.:** Damaturu, Bornu Prov. (Aug.) De Leeuw 1072! Nupe Barter 1588!

Also in the Central African Republic; and this or closely related species of the *K. alba* Nees complex throughout tropical Africa.

6. **Kyllinga echinata** *Hooper* in Kew Bull. 26: 580 (1972). *APD acc*

Tufted plant with capillary stems to 40 cm. high, leaf-sheaths readily splitting into black fibres, capillary leaves and bracts and rounded heads of long-tipped white spikelets; **damp sandy ground**.

Ghana: Adamso, NW. Ashanti (Nov.) Harris! Kaleo Hill, nr. Wa (Apr.) Adams 4006! Damongo (Mar.–July) Morton GC 8664! Adams 953! Damongo to L. Kpirri (Mar.) Adams 3961!

7. *Kyllinga robusta* Boeck. in Linnaea 35: 409 (1863).

APD: *Synonym of Cyperus afrorobustus* Lye

Kyllinga caespitosa var. *major* Nees in Mart., Fl. Brasil. 2, 1: 12 (1842).

Cyperus densicaespitosus var. *major* (Nees) Kük. l.c. 599 (1936).

A strongly caespitose perennial with a reddish, irregularly hemispherical head partially enveloped by the broad bract-bases; **confined to brackish swamps**.

Sen.: Kayar (Mar.) Pitot! **Gam.:** Pakali Nding Raynal 7978! **Guin.:** Ouassou (Nov.) Jac.-Fél. 7252! **S. L.:** Rokupr (Mar.) Jordan 414! Tumbu, Little Scarcies R. (Apr.) Glanville 207! Kitchom (Jan.) Deighton 948! Talil salt area (Jan.) Deighton 3549! **Lib.:** Stockton creek, Monrovia (May) Dinklage 2725! Buchanan (Dec.) Adam 16034! **iv. C.:** Sassandra (July) Aké Assi 10690! **Ghana:** Ankobra River, Axim (Mar.) Morton GC 8472! **S. Nig.:** Ikorodu, Lagos Lagoon (Dec.) Onochie FHI 32022! Ikoyi, Lagos (Jan., July) Jones FHI 19426! Dalz. 1430! Abonnema (Nov.) Anderson 414! **F. Po.:** (Oct.) T. Vogel 11!

Also in **E. Cameroun**, the **Congo** and in **Brazil**.

[The type (Sellow Brazil) has leaves longer than the flowering stems and coriaceous and thus differs slightly from the W. African material here cited in which the herbaceous leaves are shorter than or equal to the flowering stems.)

8. *Kyllinga pumila* Michx. Fl. Bor.-Amer. 1: 28 (1803); F.T.A. 8: 281; Nelmes & Baldwin in Amer. J. Bot. 39: 387 (1952); Berhaut, Fl. Sén. ed. 2, 368. *APD acc*

Cyperus densicaespitosus Mattf. & Kük. l.c. 597, incl. var. *rigidulus* (Steud.) Kük. (1936); Raymond in Garcia de Orta 11: 374 (1963).

Caespitose with numerous, small, green and white, 3–4 spiked, pyramidal heads; **on margins of streams, rivers and swamps and similar moist places**.

Sen.: L. Tanma (Jan.) Pitot! Sangalkam (Jan.) Pitot! **Port. G.:** Bafata (Jan.) Raimundo & Guerra 896. **Mali:** Fodebougou (July) Jaeger 28! Kita (Oct.) Jaeger 78! 90! 5756! Sotuha (Nov.–Dec.) J. & A. Raynal 5124! 5242! **Guin.:** Friguiajbé (Apr.) Chillou 1248! Mamou (May) Pitot! Koba (Nov.) Jac.-Fél. 7243! 7261! Faranah (Apr.) Pitot! Kissidougou to Guékédou (Apr.) Pitot! **S. L.:** Rokupr (Oct.) Jordan 579! Makump (May) Deighton 1712! Newton (Nov.) Deighton 1465! Njala (Sept.) Deighton 2097! Bumban (Aug.) Deighton 1293! **Lib.:** (Feb.) Harley 1802! Monrovia (July, Aug.) Naumann 16! Kunkel 89! Nimba (Dec.) Adam 20074! Gretown, Tchien Dist. (July) Baldwin 6773! **iv. C.:** Bouaké (May) de Wilde 71! Adiopodoumé (July) Boughey GC 14513! Yapo Forest, Abidjan (July) Boughey GC 14591! Anguedédou Forest, Abidjan (Nov.) Leeuwenberg 1879! **Ghana:** Assin-Prasu West-Skinn 67! Kumasi (Nov.) Adams 4427! Burufo, Lawra (May) Morton 7643! Gambaga (May) Morton 7443! Kade (June) Irvine 4853! Aframso, nr. Mampong (Apr.) Hall 3030! **S. Nig.:** Lemme (May) Lely 155! Lokoja Richardson! Jemaa (Feb.) McClintock 192! Mayo Selbe, Gashaka Dist. (Jan.) Hepper 1638! **S. Nig.:** Ibadan (Jan., Feb.) Meikle 996! Sapoba Kennedy 2712! Brenan 8977! Ogbomosho (Dec.) Haines 64! Ifaki (June) Clayton 1126! Owo to Benin (Apr.) Haines 2! Nsukka (Jan.) Okigbo 145! **W. Cam.:** Ndop, 3,500 ft. (Nov., Dec.) S. Gillett 11! Boughey GC 11384! GC 11389! Mamfe (Apr.) Morton GC 7136! **F. Po.:** T. Vogel 219! Moka, 4,000 ft. (Dec.) Boughey 36!

Throughout tropical Africa and temperate and tropical America.

9. *Kyllinga welwitschii* Ridley in Trans. Linn. Soc. Bot. ser. 2, 2: 147 (1884).

APD: *Synonym of Kyllinga tenuifolia* var. *ciliata* (Boeckeler) Beentje

Kyllinga triceps var. *ciliata* Boeck. in Peters, Reise Mossamb. Bot. 535 (1864); Kük. l.c. 579 (1936); F.T.A. 8: 281.

Kyllinga blepharinota Hochst. ex Boeck., nom. illeg.; Berhaut, Fl. Sén. ed. 2, 365.

Kyllinga controversa Steud. var. *subexalata* C.B. Cl. in F.T.A. 8: 271 (1902).

Kyllinga controversa of F.W.T.A., ed. 1, 2: 487; Aké Assi, Contrib. 2: 71.

Cyperus controversus var. *subexalatus* (C.B. Cl.) Kük. l.c. 612 (1936).

Similar to *K. tenuifolia* in habit but distinguished by the clearly ciliate keel to the glume and the broader achene; **sandy ground in savanna, etc.**

Maur.: Rosso (Oct.) Adam 19299! Tanfott, Tagant (Aug.) Monod 1916! **Sen.:** Heudelot 399! Naegdé! Dahra-Djolof (Sept.) Fotius 166! Davey 011! Bouta (Feb.) Davey 36! **iv. C.:** Séguela, fide Aké Assi l.c. **Niger:** Filingué, Toukounous Bartha 91!

Nord Gouré (Aug.) P. de Fabrègues 683! **N. Nig.**: Sokoto (Aug.) Dalz. 455! Bindawa F.R., Katsina (July) Grove 3! Damaturu, Bornu Prov. (Aug.) De Leeuw 1101!

Also in **E. Cameroun**, **Chad** and throughout tropical Africa.

10. **Kyllinga tenuifolia** Steud. Syn. Pl. Glum. 2: 69 (1855). *APD acc*

Kyllinga triceps Rottb., Descr. et Ic. 14, t. 4, fig. 6 (1773), nom. illeg.; F.T.A. 8: 280; F.W.T.A., ed. 1, 2: 487; Berhaut, Fl. Sén. ed. 2, 368.

Cyperus triceps (Rottb.) Endl., Cat. Hort. Vindob. 1: 94 (1842); Kük. l.c. 578 (1936).

Caespitose; stems thickened at base with old leaf-sheaths; leaves gradually acuminate; inflorescence rounded-pyramidal, bracts spreading; **damp places in savanna, etc.**

Sen.: Sebikotane (Sept.) Pitot! Djembering (Sept.) Broadbent 136! Niokolo-Koba (July) Adam 14356! **Mali**: Kita (July-Oct.) Duong 431! Jaeger 2950! Bamako (Sept.) Waterlot 1393! Jaeger 5082! Segou (Aug.) Roberty! **Guin.**: Friguiagbé (Aug.) Chillou! Mamou (May) Pitot! Sérédou (Apr.) Pitot! **iv. C.**: Issia Rock (May-Aug.) Leeuwenberg 4136! Boughey 14702! **Ghana**: Tono, nr. Navrongo (Aug.) Irvine 4661! Salaga (Apr.) Morton A3808! Ejura, Ashanti (Dec.) Morton GC 9709! Tiasi, Afram Plains (Aug.) Hall CC 164! Agomeda (July) Adams 4872! **Togo Rep.**: Agudewe, Sokode (Aug.) Schilling 27a! **Dah.**: Agouagon (May) Chev. 23529! **N. Nig.**: Nupe Barter 1588! Samaru, Zaria Prov. (July) C. B. Taylor 21! Naraguta F.R., Jos Plateau (July) Lawlor & Hall FHI 46590! Damaturu, Bornu Prov. (Aug.) De Leeuw 1115! Yola (July) Dalz. 265! Ablinsi (May) Dalz. 824! **S. Nig.**: Olokemeji (Oct.) Hepper & Keay 935!

Throughout the Old World tropics.

[The following specimens, distinguished by the small inflorescence and smooth keel to the glume, may represent a distinct taxon: —Mali: Kita Mt. (July) Jaeger 21! 44! Ghana: Wenchi to Techiman (Mar.) Morton GC 855! Gambaga Hall 781!]

11. **Kyllinga peruviana** Lam. *Encycl. 3: 366* (1789); F.T.A. 8: 278; Nelves & Baldwin in Amer. J. Bot. 39: 389, t. 80–87 (1952); Berhaut, Fl. Sén. ed. 2, 364. *APD acc*

Cyperus peruvianus (Lam.) F. N. Williams in Bull. Herb. Boiss. 2, sér. 7: 90 (1907); Kük. l.c. 586.

Rhizomatous with a distinctive spherical, white inflorescence, very short bracts and often leafless stems; dunes, tidal swamps, foreshores.

Sen.: Heudelot 150! Sieber 5! Roger! Kayar (Mar.) Pitot! Diouloulou (Sept.) Adam 18177! Djembering (Sept.) Broadbent 170! **Gam.**: Skues! **Guin.**: Iles Tristao Jac.-Fél. 7316! **S. L.**: Aberdeen (Aug.) Melville & Hooker 136! Lumley (May) Marmo 206! Samarank, Rokel R. (Mar.) Glanville 209! Yele, Turtle Is. (Nov.) Deighton 2377! **Lib.**: Robertsport (Dec.) Baldwin 10904! Bushrod Is. (Feb.) Baldwin 11073! Grand Bassa Ansell! Cape Palmas (Dec.) Dinklage 2360! Filoke, Webo Dist. (July) Baldwin 6667! **Ghana**: Half Assinie (July) Chipp 268! Atwabo Fishlock 22 (of 1931)! Axim (Dec.) Johnson 1002! Shama (May) Hall 2977! Keta (Mar.) Morton GC 6522! **S. Nig.**: Badagry (Aug.) Onochie FHI 33486! Onikan, Lagos (June) Onochie FHI 23309! Lagos Is. Dalz. 1113! Central Prov. Rosevear M.21! Nun R. (Aug.) Mann 455! Brass Barter 63! **W. Cam.**: Bibundi R. (May) Domke 711!

Throughout coastal regions of W. Africa to the Congo and in **central S. America** and **tropical S. America**.

12. **Kyllinga elatior** Kunth Enum. Pl. 2: 135 (1837); F.T.A. 8: 275. *APD acc*

Cyperus aromaticus var. **elatior** (Kunth) Kük. l.c. 582 (1936).

Rhizome creeping; head cylindrical, bracts very long; **in grassland and on forest paths.**

W. Cam.: Cam. Mt. (Jan.) Dunlap 60! Buea, 3,000–4,000 ft. (Nov.–Mar.) Migeod 67! Maitland 329! 2 Morton GC 6746! Bamessi, Ndop Plain (Apr.) Brunt 320! **F. Po.**: Moka, 4,000 ft. (Dec.) Boughey 114!

Also in **E. Cameroun** and throughout tropical and S. Africa.

13. **Kyllinga melanosperma** Nees in Wight, Contrib. Bot. Ind. 91 (1834); F.T.A. 8: 277. *APD acc*

Cyperus melanospermus (Nees) Valck.-Sur., Het Gesl. Cyp. in Mal. Archip. 50 (1898).

Rhizome thick, creeping; spike large cylindrical, golden; **damp places.**

N. Nig.: Kuna, Pankshin Dist. (June) Okafor FHI 59252! Jos Plateau (Apr.) Lely P227!

From Nigeria throughout tropical and S. Africa, also in **Madagascar** and the **Old World tropics**.

[This species is recorded from the flora area by Kükenthal and the above cited specimens agree with Indian specimens in inflorescence characters; however, both are incomplete and might represent large specimens of the closely allied *K. elatior*.]

14. **Kyllinga brevifolia** *Rottb.* Descr. et Icon. 13, t. 4, fig. 3 (1773); F.T.A. 8: 273; C.B. Cl., Ill. Cyper. t. 1, fig. 1–4 (1909). *APD acc*

Kyllinga colorata of F.W.T.A., ed. 1, 2: 487.

Cyperus brevifolius (*Rottb.*) *Hassk.*, Catal. Bogor. 24 (1844); Kük. l.c. 600 (1936).

Similar to *K. erecta* in the inflorescence but having an elongated slender rhizome; **in damp places**.

Lib.: Bushrod I., Monserrado Dist. (Nov.) Winne 557! Monrovia (June) Dinklage 2233! White Plains (May) Dinklage 2705! **S. Nig.:** T. Vogel 37! **W. Cam.:** Ekona (Aug.) Chumil CDG 374!

Tropical and subtropical regions of the Old and New Worlds.

15. **Kyllinga nemoralis** (*Forst.*) *Dandy ex Hutch.* in F.W.T.A., ed. 1, 2: 487 (1936). *APD acc*

Thyrocephalon nemorale *J.R. & G. Forst.*, Char. Gen. Pl. 130 (1776).

Kyllinga monocephala *Rottb.*, Descr. et Icon. 13, t. 4, fig. 4 (1773), partly, excl. syn., nom. illeg.; F.T.A. 8: 272; C.B. Cl., Illustr. Cyper. t. 2, fig. 1–2 (1909).

Cyperus kyllingia *Endl.*, Cat. Hort. Acad. Vindob. 1: 94 (1842); Kük. l.c. 606, tab. 64 C–D.

Rhizome slender, creeping, bearing stems at intervals, bracts and leaves long, flaccid, nut black; **a weed of secondary forest and disturbed habitats**.

Guin.: Macenta to Kérouané (Nov.) Adam 6970! **Lib.:** Linder! Monrovia (May–June) Dinklage 2181! 2713! Cape Palmas Schönlein! **Iv. C.:** Niégré Forest (Sept.) Nozeran! Sassandra (May) Chev. 17919! (Mar.) Bernardi 8542! **Ghana:** Deposo, Takoradi (June) Hall 1497! Kumasi (Nov.) Adams 4426! Mampong (Aug.) Irvine 5157! Suhum, Okroase to Amanase (June) Adams 387! Afram Mankrong (Apr.) Morton A772! Aburi (Oct.) Morton GC 7871b! **Togo Rep.:** Sokode Schilling 14a! **S. Nig.:** Ajagbodudu, Benin Div. (Aug.) Wright 51! Sapele, Sapoba Div. Kennedy 1422! **W. Cam.:** Victoria (Dec.) Maitland 712! Likomba Plantation (Dec.) Mildbr. 10790! Buea (Jan.–Mar.) Maitland 330! Morton GC 7052!

Pantropical.

16. **Kyllinga erecta** *Schumach.* Beskr. Guin. Pl. 42 (1828); F.T.A. 8: 274, partly; Berhaut, Fl. Sén. ed. 2, 366. *APD acc*

- 16a. **Kyllinga erecta** *var. erecta* *APD acc*

Cyperus erectus (*Schumach.*) *Mattf. & Kük.* l.c. 588 (1936), incl. var. *pleiocarpus* Kük.

APD: *Synonym of Kyllinga erecta Schumach. var. erecta*

Kyllinga pungens of F.W.T.A., ed. 1, 2: 487, not of Link.

Rhizome producing a row of contiguous stems; head ovoid greenish-yellow, bracts variable in length, generally three; **in damp grassy places**.

Sen.: Noflaye (July) Adam 12251! Sangalkam Berhaut (Aug.) 365! (May) 5147! (Nov.) 5664! L. Tamna Adam 17710! **Mali:** Bamako (Aug.) Waterlot 1274! **Iv. C.:** Baoulé, Toumodi Pobéguin 77! Pacoubou Tiassalé Scaëtta 3047! Abidjan (Oct.) de Wilde 1105! **U. Volta:** Fö to Koudougou (June) Chev. 954! **Ghana:** Bole (Aug.) Irvine 5183! Winneba (June) Hall 3134! Accra to Mankessim (Aug.) Hall 2527! Achimota (July) Morton A1014! Kete Krachi (Dec.) Morton GC 6297! **Togo Rep.:** Paratau, Sokodé (May) Büttner 626! Mahoux 2143! Lomé Warnecke 139! **Dah.:** Agouagon (May) Chev. 23497! Dassa Zoumé (May) Annet 86! Ahozon (Feb.) J. & A. Raynal 13524! Cotonou (June) Poisson B2–12! (Apr.) Chev. 4457! (July) 4473! **N. Nig.:** Samara, Zaria (July) C.B. Taylor 15! Obiaruku (July) Kershaw 900660! Lokoja Richardson 6! **S. Nig.:** Badagry (Aug.) Onochie FHI 33459! Lagos Dalz. 1111! Ilora (July) Gillett 15187! Aba (Mar.) Coombe 162!

Throughout tropical and S. Africa and in the **Mascarene Islands**.

- 16b. **Kyllinga erecta** *var. africana* (*Kük.*) *Hooper* in Kew Bull. 26: 580 (1972). *APD acc*

Cyperus obtusatus *var. africanus* *Kük.* l.c. 586 (1936).

Kyllinga pungens of F.T.A. 8: 277, not of Link.

Robust rhizomatous perennial, differing from the typical var. in having a white hemispherical head and more than three bracts; **damp grassland among thickets**.

Mali: Kleba Demange 2135! Kimparana Demange 2202! **Iv. C.:** Bouroukourou (Dec.) Chev. 16576! **Ghana:** Nkuntrodu, Cape Coast (June) Hall 3058! Accra (Apr.) Ménager! Accra to Mankessim (May–Aug.) Hall 2524! 3065! **Togo Rep.:** Lomé

(Sept.) Mahoux 106! **Dah.:** Athiême J. & A. Raynal 13520! Cotonou (Mar.) Morton GC 6677! **N. Nig.:** Nupe Barter 1586 partly! **S. Nig.:** Lagos (Jan.–Oct.) Haines 5! 7! 84!

Also in the **Congo**, **E. Cameroun**, the **Central African Republic** and probably elsewhere in tropical Africa.

16c. *Kyllinga erecta* Schumach. var. *polyphylla* (Kunth) Hooper l.c. 580 (1972).

*APD: Synonym of *Kyllinga polyphylla* Willd. ex Kunth*

Kyllinga polyphylla Willd. ex Kunth, Enum. Pl. 2: 134 (1837); F.T.A. 8: 276.

Kyllinga aromatica (Ridley) Mattf. & Kük. l.c. 581 (1936).

? *K. senegalensis* C.B. Cl. in F.T.A. 8: 276 (1902); F.W.T.A., ed. 1, 2: 487.

Cyperus aromaticus (Ridl.) Mattf. & Kük. l.c. (1936).

Similar to var. *erecta* but the head composed of several, more or less confluent, spikes with more than three bracts and distinctly ciliate keels to the glumes; **damp grassland**.

Ghana: Kumasi (Aug.) Hall 2521! Skumo Lagoon, Accra (Nov.) Morton GC 6134! Keta Morton 6137! **N. Nig.:** Badeggi (Jan.) Vaillant 2776! **S. Nig.:** Olokomeji F.R. (Aug.) Keay FHI 37163! Ijora, Lagos (July) Haines 3! Okumu F.R., Benin (Dec.) Brenan 8624! Obiaruku, Warri (July) Kershaw 900654! Burutu (Sept.) Parsons 3!

Throughout tropical and S. Africa, also in **Madagascar** and the **Mascarenes**.

17. *Kyllinga appendiculata* K. Schum. in Engl., Bot. Jahrb. 24: 338 t. 4, fig. A–G (1898), fig. poor.

*APD: Synonym of *Cyperus afrosylvestris* Lye*

Kyllinga cylindrica var. *appendiculata* (K. Schum.) C.B. Cl. in F.T.A. 8: 283 (1902).

Kyllinga cylindrica var. *major* C.B. Cl. in F.T.A. 8: 283 (1902).

Cyperus sesquiflorus var. *major* (C.B. Cl.) Kük. l.c. 594 (1936).

Rhizome short, scaly; leaves long, often equalling stems; head pyramidal with an elongated central spike; **alpine grassland**.

W. Cam.: Cam. Mt., 7,000 ft. (Nov.) Mann 2104! Mann's Springs, 7,500 ft. (Apr.) Morton GC 7092! Buea Preuss 923! Mba Kokeka, Bamenda, 7,000 ft. (Mar.) Richards 5325! Bamenda to Santa (July) Daramola FHI 41564! **F. Po:** 7,500 ft. (Apr.) Mann 1474! Clarence Peak, 8,500 ft. (Dec.) Mann 659!

Also in **E. Cameroun** and **Ethiopia**.

18. *Kyllinga tisserantii* Cherm. in Arch. Bot. Caen 4, Mém. 7: 6 (1931).

*APD: Synonym of *Cyperus breviglumis* Lye*

Similar to small specimens of *K. odorata* but with reddish spikelete less than 2 mm. long, and glumes scarcely exceeding the spherical nut; **damp places**.

S. L.: Koinadugu Dist. (Aug.) Haswell 231! **iv. C.:** Mont Doura, Koualé (May) Chev. 21728! **N. Nig.:** Naraguta (June) Lely 324! **W. Cam.:** fide Kük. l.c.

Also in the **Central African Republic**.

7. SCIRPUS

Linn., Sp. Pl. 1: 47 (1753); F.T.A. 8: 446 (1902).

- 1** Perennial with an elongated rhizome and tuberous stem-bases; stems stoutly triangular, bearing several spirally arranged, broadly laminate leaves; bracts two or more, leafy, all spreading or one erect; inflorescence of one to several large, golden or rufous spikelets; glumes scarious, bifid at the membranous apex with a recurved arista; achene large with retrorsely scabrid bristles: **2**

Annual or perennial without the above combination of characters: **3**

- 2** Inflorescence of 1–6 broadly ovate, golden spikelets, 15–20 × 10 mm. style bifid; achene lenticular **1.**
grandispicus

Inflorescence of numerous, elliptic to cylindric rufous spikelets 15–30 × 5 mm.; style trifid; achene trigonous **2.**
maritimus

-
- 3 Flowering stems bearing one or two spikelets; if two then spikelets not exceeding 4 mm. long:4
 Flowering stems either with more than 2 spikelets or with 2 spikelets more than 4 mm. long:8
- 4 Spikelet solitary, 5–8 × 4 mm., obtuse, rufous or brownish black, terete; glumes scarious, persistent; stems and leaves filiform[3a. angolensis var. brizaeformis](#)
 Spikelets not exceeding 4 × 2 mm.:5
- 5 Spikelets always solitary, terminal, acute, without a conspicuous bract; water plant with elongated, flaccid, leafy stems[5. fluitans](#)
 Spikelets 1 or 2, apparently lateral with an erect and stem-like bract; glumes dark brown with a green or pale tip:6
- 6 Style trifid; achene longitudinally ridged [6. setaceus](#)
 Style bifid; achene papillate:7
- 7 Transparent scale(s) present within the broadly obovate, obtuse and mucronulate glume; sterile tip to anther connective large[7. isolepis](#)
 Transparent scale absent; glume elliptic or oblanceolate, acute and apiculate; sterile tip to connective small[8. micranthus](#)
- 8 Spikelets sessile in a single apparently lateral (pseudolateral) cluster subtended by a stem-like, generally erect bract:9
 Spikelets not in a single, pseudolateral cluster:15
- 9 Flowers with simple retrorsely-scabrid bristles; rhizomatous perennial; bract sharply trigonous, sometimes deflexed at fruiting [10. mucronatus](#)
 Flowers without bristles; bracts not sharply trigonous:10
- 10 Stems and bracts septate with transverse septa and more or less pronounced constrictions visible externally: .11
 Stems and bracts not septate; stigmas 2:13
- 11 Stems about 5 mm. broad, spongy above, narrower below, with well-marked constrictions at the septa; spikelets 8–10 mm. long; glumes acute, about 5 mm. long, rusty brown with a broad green keel; achene smooth, black[11. articulatus](#)
 Stems not exceeding 3 mm. broad; glumes less than 5 mm. long, five-ranked; achene undulately ridged, black or brown:12
- 12 Stems about 2.5 mm. wide; glumes about as long as wide, very concave and obtuse, producing a terete, turgid spikelet; achene 1.0–1.7 mm. long[12. jacobii](#)
 Stems not exceeding 1.5 mm. wide; glumes longer than wide, chaffy, clearly five-ranked, persistent and spreading after maturity producing a cylindrical spikelet; achene 0.85–1.15 mm. long[13. roylei](#)
- 13 Small annual with filiform stems and leaves; spikelets few, dark red-brown with paler tips, 1.5–3 × 1 mm., obtuse[8. micranthus](#)
 Stems, and leaves when present, not filiform; spikelets greenish, yellowish or straw-coloured with dark tips, more than 3 × 1 mm., acute or acuminate; basal flowers usually present:14
- 14 Bracts very long, exceeding stems; sheaths bladeless; spikelets greenish or yellowish, generally 2, often curved, 10–15 × 2–3 mm.[14. oxyjulos](#)
 Bracts not exceeding stems; sheaths with a short or long blade; spikelets greenish with dark tips, 5–10 × 2 mm., acute [15. uninodis](#)
- 15 Inflorescence terminal; bracts several, spreading or reflexed:16
 Inflorescence pseudolateral, with an erect bract continuing the line of the stem; spikelets in one sessile and one to many stalked clusters or spikes, or sometimes solitary:19
- 16 Annual; spikelets several, crowded in a single greenish head; glumes with a long recurved arista[9. kernii](#)
 Perennial; glumes without a long recurved arista:17
- 17 Leaves distichous; shoots flattened; sheaths tough, often red; spikelets distinct, generally not exceeding 10 in number, very dark brown or black, in a contracted panicle or capitate cluster[4. bulbostylidoides](#)
 Leaves not distichous; spikelets crowded, numerous, white or green and brown:18
- 18 Inflorescence a single white head up to 8 mm. across; plant slender; bracts spreading or reflexed[22. microcephalus](#)
 Inflorescence a lobed green or brown head often with additional shortly stalked heads forming a flatfish corymb; bracts several, spreading; glumes white ciliate on the margin and with a strong green apiculus [23. cubensis](#)
- 19 Flowers with laminate, pectinate bristles surrounding the achene:20
 Flowers with simple bristles or bristles absent:21
- 20 Inflorescence lax; spikelets on long pedicels; glumes with a broad pale membranous only slightly ciliate margin,

- stems up to 10 mm. broad, obtusely trigonous above, often tinged yellow below; achene about 2×1.5 mm. [18. *litoralis*](#)
- Inflorescence rather dense; spikelets on short curved pedicels; glumes with a very narrow membranous, distinctly ciliate margin; stems up to 15 mm. broad, terete except immediately beneath the inflorescence, spongy; achene about 2.5×1.5 mm. [19. *pterolepis*](#)
- 21** Rush-like plants with a creeping rhizome and spongy, terete stems up to 2 m. high, bearing bladeless sheaths and a corymbose inflorescence : **22**
- Tufted plants less than 1 m. high with or without bladed sheaths; spikelets either solitary or in one sessile and one to few stalked clusters or spikes: **23**
- 22** Bract with a sheathing base and blunt tip, shorter than the, generally several, rays; glumes generally pale below with dark reddish tips; anther 1.5 mm. long; achene surface smooth [20. *brachyceras*](#)
- Bract stem-like, generally exceeding the contracted inflorescence; anther 0.5 mm. long; achene surface transversely ridged [21. *sp. A*](#)
- 23** Spikelets solitary, one sessile and 3–4 stalked [3a. *angolensis* var. *brizaeformis*](#)
- Spikelets clustered: **24**
- 24** Achene with three equal sides and angles; leaves without blades; margin of glume smooth; anther 0.5 mm. long with a small, smooth connective-tip [16. *aureiglumis*](#)
- Achene with one or both sides flattened and only two acute angles; uppermost sheath sometimes producing a long blade; margin of glume minutely ciliate; anther connective-tip bristly: **25**
- 25** Stigmas 2; anther 0.8–1.5 mm. long; achene lenticular, $1.25-1.6 \times 1-1.2$ mm., transversely undulate but not ridged [15. *uninodis*](#)
- Stigmas 3; anther 0.25–0.6 mm. long; achene with one flat and one convex side, $0.95-1.2 \times 0.7-1.1$ mm., rugulose and ridged at least in the upper half [17. *lateriflorus*](#)

1. *Scirpus grandispicus* (Steud.) Berhaut in Bull. Soc. Bot. Fr. 100: 176 (1953), and Fl. Sén. ed. 2, 381, 369 (1967).

APD: Synonym of Bolboschoenus grandispicus (Steud.) Lewej. & Lobin

Isolepis grandispica Steud., Syn. Pl. Cyp. 318 (1855).

Resembling *S. maritimus* in its leafy stems and membranous, bifid, aristate glumes but with few broadly ovate spikelets, and lenticular achenes; depressions behind dunes near coast.

Sen.: Hann (June) Adam 12262! 17664! J. & A. Raynal 5965! Lac Retba (Apr.) Adam 17627! Nagelé 8107! Mboro (May) Adam 17660!

2. *Scirpus maritimus* Linn. Sp. Pl. 1: 51 (1753); F.T.A. 8: 455; Berhaut, Fl. Sén. ed. 2, 371 (1967).

APD: Synonym of Bolboschoenus maritimus (L.) Palla subsp. maritimus

Creeping perennial with leafy stems up to 1 m. high, bearing a bracteate corymb of large brown spikelets; **saline and semi-saline marshes.**

Maur.: Nagelé! Monod 7068! **Sen.:** Yankoba (June) J. & A. Raynal 5925! Richard-Toll Couey 6513! Walo (May) Roger! Lac Tanma (July) Berhaut 1101! M'bidjem Pitot! **Mali:** Mare de Buonankodjie (Feb.) Davey 56/CIPAS 444! Toubel (May) Davey 71! Tiouki to Selingourou (Feb.) Davey 22! Diré (Aug.) Lean 62! Gao (Apr.) de Wailly 5382!

Throughout tropical and temperate regions.

3. *Scirpus angolensis* C.B. Cl. in F.T.A. 8: 448 (1902).

APD: Synonym of Nenum angolense (C.B. Clarke) Larridon & Goetgh.

Tropical Africa.

3a. *Scirpus angolensis* var. *brizaeformis* (Hutch.) Hooper in Kew Bull. 26: 580 (1972).

APD: Synonym of Nenum spadiceum (Lam.) Desv. ex Ham.

Scirpus briziformis Hutch. in F.W.T.A., ed. 1, 2: 466 (1936); Berhaut, Fl. Sén. ed. 2, 364 (1967).
Eriocaulon spadiceum Lam., Ill. 1: 214 (1792).

Scirpus spadiceus (Lam.) Boeck. in Linnaea 36: 493 (1870); F.T.A. 8: 448; not of Linn.

Scirpus ustulatus Podl. in Mitt. Bot. 4: 117 (1961).

Slender tufted annual with stems 5–35 cm. high and reddish-black, papery-glumed spikelets; on damp rocks, in lateritic pans and in damp, grassy places.

Sen.: Niokolo-Koba (Dec.) J. & A. Raynal 6796! Tambacounda to Gouloumbo (Oct.) Pitot! Oussouye, Casamance (Nov.) Berhaut 6496! Kédougou (Nov.) Adam 20015! Kanéméré (Sept.) Fotius K 493! **Mali:** Kita Mts., 600 m. (Sept.) Jaeger 92! 5766! Niani d’Koulou Mts., Kita country (Oct.) Jaeger 2976! Bamako to Koulouba (Dec.) Monod! Sikasso to Bobo-Dioulasso (Sept.) Jaeger 5159! **Port. G.:** Madina de Boé, Gabú (Dec.) Esp. Santo 2849! **Guin.:** Friguigbé (Aug.) Chillou 613! Conakry (Oct.) Adam 12622! Thianguel-Bori (Oct.) Pitot! Mali (Dec.) Schnell 2405! Macenta (Oct.) Baldwin 9788! **S. L.:** Fourah Bay College, Freetown (Oct.) Morton SL8! Roboli, nr. Rokupr (Nov.) Jordan 168! Falaba (Sept.) Small 308! Tombo (Jan.) Deighton 999! Sankan Biriwa, 6,080 ft. (Jan.) Cole 140! **Lib.:** Genne-Loffa, Kolahun Dist. (Nov.) Baldwin 10086! Kailahun, Kolahun Dist. (Nov.) Baldwin 10149! Nimba Mts., 1,800 ft. (Oct., Dec.) Adam 702! 20145! **Iv. C.:** Man Porterés! Séguélo, Odienné Region (Oct.) Aké Assi 6610! 9694! Yérébodi to Sanlo (Nov.) Aké Assi 9272! **U. Volta:** Banfora (Sept.) Jaeger 6584! Sikasso to Bobo-Dioulasso (Sept.) Adam 15103! **Ghana:** Kwahu Tafo (Aug.) Hall CC 130! Sampa (Dec.) Morton A1065! **N. Nig.:** Kogigiri, Jos Plateau, 4,100 ft. (Oct.) Hepper 1067! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 618! Agbaja, Kabba (Nov.) J. Hall 808! **S. Nig.:** Mt. Orosun, Idanre, Akure Dist. (Oct., Jan.) Keay FHI 22598! Brenan et al. 8642! Iseyin rocks (Oct.) Jackson & Etukudo 1251069! **W.Cam.:** Mamfe (Mar.) Guile 122!

Also in **E. Cameroun**, **Central African Republic**, **Uganda**, **Congo** and **Zambia**.

4. *Scirpus bulbostylidoides* Hooper in Kew Bull. 26: 581 (1972).

APD: Synonym of Nenum bulbostyloides (S.S. Hooper) J. Raynal

A tufted or shortly rhizomatous perennial with flattened orange-red shoots, sharp needle-like leaves bearing long hairs at the top of the sheath and a small number of large spikelets similar to those of *S. angolensis* var. *brizaeformis* with black or red-black papery glumes; marshy montane grassland.

Guin.: Nzo, Nimba Mts. (July) Schnell 1494! Nzérékoré (Oct.) Jac.-Fél. 1922! Nimba Mts. (Feb.) Schnell 482! 933! Bereguizi, Macenta (Aug.) Adam 6126! **S. L.:** Loma Mt. Jaeger 395! 1043! T. S. Jones 106! Kponkpon to Waia, 2,000 ft. (July) Marmo 208! Tingi Mts., 4,000 ft. (Dec.) Morton & Gledhill SL 2953! **Iv. C.:** Nimba Mts., 4,500 ft. (Aug.) Boughey GC 18165! Mt. Tonkoui (Oct.) Aké Assi 5760! (Aug.) Boughey X279!

5. *Scirpus fluitans* Linn. Sp. Pl. 1: 48 (1753); F.T.A. 8: 449.

APD: Synonym of Isolepis fluitans (L.) R. Br. var. fluitans

Aquatic or semi-aquatic with weak floating or trailing many-noded stems; in or near water.

Mali: Gao to Berra (Mar.) de Wailly 5012b! **N. Nig.:** Nguroje, Mambila Plateau (Mar.) J. Hall 1630! **W. Cam.:** Bamenda, c. 5,000 ft. (Mar.) Coombe 228! Bali, 4,100 ft. (Apr.) Brunt 1056!

Also in the **Congo** and sporadically in east and S. Africa.

[Until the West African plant has been collected in fruit it is impossible to say the extent to which it differs from European and Asian *S. fluitans*, but it certainly does so in some respects, as the glumes and anthers appear to be shorter.]

6. *Scirpus setaceus* Linn. Mant. 2: 321 (1771); F.T.A. 8: 450.

APD: Synonym of Isolepis setacea (L.) R. Br.

Isolepis setaceus (Linn.) R. Br., Prod. 222 (1810).

Annual with filiform leaves and stems up to 10 cm. and a single dark, ovate, acute spikelet; damp grassland.

W. Cam.: Cam. Mt., Mann’s Spring, c. 9,500 ft. (Dec.) Morton K865! c. 8,000 ft. (Apr.) Morton GC 7065! Above Buea, 9,100 ft. (Apr.) Morton GC 6866!

Mountains of east Africa to S. Africa; also **Europe** and **Australia**.

7. *Scirpus isolepis* (Nees) Boeck. in Linnaea 36: 498 (1870); F.T.A. 8: 459; Berhaut, Fl. Sén. ed. 2, 360 (1967).

APD: Synonym of Lipocarpa hemisphaerica (Roth) Goetgh.

Hemicarpha isolepis Nees in Edinb. New Phil. Journ. 17: 263 (1834).

Annual with filiform leaves and stems to 15 cm., with one or two dark, elongate-ovate, obtuse, Lipocarpa-like spikelets; **damp grassland**.

Sen.: Leprieur 9. Perrottet. **Ghana:** Yapei Bridge, Tamale (Nov.) Hall & Enti GC 35730! **S. Nig.:** Agbaja (Feb.) J. Hall 829!

In **India** and **SE. Asia** and scattered throughout tropical and S. Africa

8. **Scirpus micranthus** Vahl. Enum. 2: 254 (1806); F.T.A. 8: 459; Berhaut, Fl. Sén. ed. 2, 361 (1967).

APD: Synonym of Lipocarpa micrantha (Vahl) G. C. Tucker

Resembling S. isolepis but having a small cluster of pseudolateral spikelets and oblanceolate, not broadly obovate, glumes.

Sen.: Mbao Berhaut 1186. Kayar (Oct.) J. & A. Raynal 6432!

Also in **Angola** and throughout America

9. **Scirpus kernii** Raymond in Nat. Canad. 86: 230 (1959); J. Raynal in Adansonia sér. 2, 8: 95 (1968).

APD: Synonym of Lipocarpa kernii (Raymond) Goetgh.

Scirpus squarrosus of F.T.A. 8: 458, partly; F.W.T.A., ed. 1, 2: 466; Berhaut, Fl. Sén. ed. 2, 368 (1967).

Stems 2–25 cm. long; somewhat stouter than Ascolepis dipsacoides which it resembles in the head of spikelets with squarrose glumes; **damp ground or marshes**.

Sen.: (Oct.) Fotius K569! Fatick (Dec.) J. & A. Raynal 6708! bis! Kaolak (Nov.) Berhaut 2622! Niokolo-Koba (Oct.) Adam 15561! 17018! Berhaut 4692! Vélingara (Oct.) Adam 18563! **Mali:** Kita Mts. (Nov.) Jaeger 3514! Sotuba (Oct.) Raynal 5028! **U. Volta:** Ouagadougou (Oct.) Nongonierma 202! **Ghana:** Tumu, Northern Prov. (Mar., May) Morton GC 7547! GC 8859! Tamale to Lumbaga (Dec.) Morton GC 6265! Yapei Bridge (Nov.) Hall & Enti GC 35841! 5 miles E. of Yendi (Sept.) Goodall GC 15846! **Togo Rep.:** Dapango (Oct.–Nov.) Bille TG 10! **Niger:** Niamey (Sept.) Cremers 952! **N. Nig.:** Shagunu, Ilorin (Oct.) J. Hall 1462! **S. Nig.:** Igboora, Oyo Dist. (Oct.) Haines 219! Agbaja (Nov.) J. Hall 832!

Also in **E. Cameroun** and eastwards to **Ethiopia**, about L. **Tanganyika** and in **India (Mysore)**.

10. **Scirpus mucronatus** Linn. Sp. Pl. 1: 50 (1753); F.T.A. 8: 454.

APD: Synonym of Schoenoplectus mucronatus (L.) Palla

Leafless rhizomatous perennial to 1.5 m. characterized by the sharply triangular stems and short stiff triangular bracts; **in swamps or open water**.

Guin.: Daralabé, Fouta Djallon (Jan.) Langdale-Brown 2575! (Apr.) Chev. 12341! Labé (Apr.) Pitot! Pita (Dec.) Pobéguin 2191! Mamou (May) Pitot! **N. Nig.:** Mandaga, Mambila Plateau, 6,000 ft. (Jan.) Latilo & Daramola FHI 29000! J. Hall 1692! **W. Cam.:** Bamenda (Mar.) Morton K159!

Also in **E. Cameroun**, central, east and south Africa and widespread in the temperate and tropical regions of the Old World.

11. **Scirpus articulatus** Linn. Sp. Pl. 1: 47 (1753); F.T.A. 8: 453.

APD: Synonym of Schoenoplectiella articulata (L.) Lye

APD: Synonym of Schoenoplectiella senegalensis (Hochst. ex Steud.) Lye

A rush-like plant with spongy rounded septate stems and a pseudolateral cluster of large acute spikelets; **in or near standing water**.

Ghana: Accra (Apr.) Hall 3458! Accra to Ada (Dec.) Morton 6324! Dawa, nr. Ada (Dec.) Adams 3618! **Niger:** Zinder (Oct.) Hagerup 588! **N. Nig.:** Katagum Dalz. 242! Fadama, Dikwa Dist. (Nov.) Davey FHI 27105! Bama, Dikwa Dist. (Dec.) McClintock 115!

Also in **E. Cameroun**, **Chad**, from the **Sudan** to the Cape, in Madagascar and intermittently throughout the Old World tropics.

There is a Leprieur specimen marked as from the Senegal River, but the species has not been recently recorded from Senegal.

[The typical Indian plant has an obtuse and minutely apiculate glume whilst the glume is acute and apiculate or acuminate in specimens from Africa.]

12. *Scirpus jacobii* C. E. C. Fischer in Kew Bull. 1931: 103.

APD: Synonym of Schoenoplectiella senegalensis (Hochst. ex Steud.) Lye

Scirpus praelongatus of authors, not of Poir. (1804); F.W.T.A., ed. 1, 2: 466; Berhaut, Fl. Sén. ed. 2, 361 (1967).

***Isolepis senegalensis* Hochst. ex Steud.**, Syn. Pl. Cyp. 96 (1855), not *Scirpus senegalensis* Lam. (1791).

Similar to the preceding species in the septate stems and pseudolateral inflorescence but much more slender with smaller, catkin-like, often very obtuse spikelets; edge of standing water, marshes, temporary pools on laterite.

Maur.: Aleg (Sept.) Baron 57! **Aleg!** **Sen.:** Heudelot 319! L. Tanma (Nov.) Pitot! Richard Tol (Feb.) Dollinger 13! Ourosogui to Matam (Dec.) Naegelé 13162! Tambacounda Adam 14325 bis! **Mali:** Kita (Aug.) Jaeger 45! Bamako to Ségou (Sept.) Jaeger 5119! Macina (Nov., Dec.) Duong! Gao (Sept.) de Wailly 4817! South Koubita (Feb.) Davey 61 (C.I.P.A.S. 449)! **Guin.:** Sambailo to Youkounkoun (Oct.) Pitot! Kandiara plateau (Oct.) Pitot! **Iv. C.:** Ouango-fitini (July) Aké Assi 4827! Bassawa (Nov.) Aké Assi 9734! **U. Volta:** Ouagadougou (Oct.) Adam 12744! **Ghana:** Nasia, Bolgatanga to Tamale (Apr.) Adams 4151! Pong Tamale (Aug.) Hall CC 406! Bole (Sept.) Irvine 4753! Folifoli, Afram Plains (Aug.) Hall CC 173! Achimota, nr. Accra (Nov.) Irvine 1523! **N. Nig.:** Kufena, Zaria Prov. (Sept.) Kershaw 900421! Anara F.R., Igabi Dist. (July) Keay FHI 25964! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 622! 15 miles S. of Damaturu, Bornu Prov. (Aug.) De Leeuw 1137a! Logomani, N. Bornu (Nov.) Johnston N88!

Throughout tropical and S. Africa and in **India**.

13. *Scirpus roylei* (Nees) Parker in Duthie, Fl. Upper Gangetic Plain 3: 361 (1929).

APD: Synonym of Schoenoplectus roylei (Nees) Ovcz. & Czukav.

***Isolepis roylei* Nees** in Wight, Contrib. Bot. Ind. 107 (1834).

***Scirpus quinquefarius* Buch.-Ham. ex Boeck.** in Linnaea 36: 701 (1870); F.T.A. 8: 454; Berhaut, Fl. Sén. ed. 2, 1361 (1967).

Similar to the preceding species but with narrower stems generally longer than the bracts and brown papery spreading glumes; **in shallow water or swampy grassland.**

Sen.: Naegelé! San, M'boro (Jan.) Leprieur! Oussouye, Casamance (Oct.) Adam 18286! Kaolak (Nov.) Berhaut 1578! Ross (Feb.) Berhaut 2630! **Mali:** S. Koubita (Feb.) C.I.P.A.S. 450/062! **Ghana:** Busunu, Damongo to Yapei (Sept.) Hall CC 898! **N. Nig.:** 8 miles N. of Damaturu, Bornu Prov. (Nov.) De Leeuw 1337!

Also in **Mauritania**, **Chad** and **Congo**, intermittently through east Africa and **Angola** to S.W. Africa and in **India**.

[The African collections are characterized by smaller glumes and spikelets than the Indian.]

14. *Scirpus oxyjulos* Hooper in Kew Bull. 26: 581 (1972).

APD: Synonym of Schoenoplectus oxyjulos (S.S. Hooper) J. Raynal

Tufted rush-like plant 15–35 cm. high with spikelets tapering to an acute point and long prominent erect bracts; **rock pools or wet flushes on inselbergs.**

Guin.: Thianguel-Bori (Oct.) Pitot! Telimélé (Oct.) Pitot! **S. L.:** Kambia to Kukuna (Dec.) Morton & Gledhill SL 27! **N. Nig.:** Anara F.R. (Oct.) Keay FHI 20127! Kufena Hill, Zaria, 2,300 ft. (Sept.) Clayton 1323! Kershaw 420! Dumbi inselberg, Zaria (Sept.) Kershaw 422!

Also in **E. Cameroun**, **C. African Rep.** and **Sudan**.

15. *Scirpus uninodis* (Del.) Boiss. Fl. Or. 5: 380 (1884).

APD: Synonym of Schoenoplectiella lateriflora (J.F. Gmel.) Lye subsp. lateriflora

APD: Synonym of Schoenoplectus erectus (Poir.) Palla ex J. Raynal subsp. erectus

Isolepis uninodis Del., Fl. Égypte 8, t. 6 fig. 1 (1813).

Scirpus supinus var. *uninodis* C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 656 (1894); F.T.A. 8: 453.

Tufted annual, generally less than 30 cm. high with a generally sessile cluster of few pseudolateral spikelets with dark red-tipped glumes; [edge of lakes and swamps](#).

Sen.: Naegelé s.n.! 4994! Dakar Adam 17655! **Mali:** Gao to Berra (Mar.) de Wailly 5006! **N. Nig.:** L. Chad, Bornu Prov. (Mar.) Jackson 2574!

Also in [Egypt](#) and [Sudan](#).

16. *Scirpus aureiglumis* Hooper in Kew Bull. 26: 581 (1972).

APD: Synonym of Schoenoplectiella juncea (Willd.) Lye

Schoenus junceus Willd., Phyt. 1: 2, t. 1, 4 (1794), not *Scirpus junceus* Forst. f. (1786).

Scirpus supinus of F.T.A. 8: 452, partly.

Tufted annual up to 60 cm. with soft rounded stems and bracts, leaves reduced to sheaths and spikelets often golden at maturity; [margin of ponds and swamps](#).

Sen.: Walo Leprieur! Kolda to Salikenié Trochain 1330! **Guin.:** Koba Jac.-Fél. 7248! **Iv. C.:** Néro-Mer, nr. Béréby (Nov.) Oldeman 520! Adiopodoumé (July) Boughey 14505! **Ghana:** Cape Coast (Oct.) Hall 2533! Accra (Mar.) Irvine 2803! Accra to Ada, Mile 30 (May) Boughey 14224! Prampram (Nov.) Morton GC 6154! Asubuare, nr. Akuse (Aug.) Hall 3306! **Togo Rep.:** Lomé (June, Sept.) Mahoux 544! 2020! 2032! **N. Nig.:** Bama, Dikwa Div. (Dec.) McClintock 87a! **S. Nig.:** Galarige (Oct.) Golding 30!

Also in [tropical east Africa](#).

17. *Scirpus lateriflorus* Gmel. Syst. Veg. 1: 127 (1791); Kern in Blumea suppl. 4: 164 (1958).

APD: Synonym of Schoenoplectiella lateriflora (J.F. Gmel.) Lye subsp. lateriflora

Scirpus erectus of Berhaut, Fl. Sén. ed. 2, 361 (1967).

Similar to the preceding species, but generally somewhat larger and distinguished by the stigma number and achene shape; [in similar habitats](#).

Sen.: Mbao (Jan.) Berhaut 1327! **Mali:** Sotuba (Feb.) J. & A. Raynal 5489! Dogo (Mar., May) C.I.P.A.S. 573! Davey 111! **Ghana:** Busnuu, Damongo to Yapei (Sept.) Hall CC 880! Yapei Bridge (Nov.) Hall & Enti GC 35910! **Dah.:** Cotonou (Mar.) Morton GC 6676! **S. Nig.:** Ikoyi Plains, Lagos (Nov.) Dalz. 1307!

Also in [tropical east Africa](#), [Madagascar](#) and [India](#).

18. *Scirpus litoralis* Schrad. Fl. Germ. 1: 142, t. 5 f. 7 (1806); F.T.A. 8: 456; Berhaut, Fl. Sén. ed. 2, 369 (1967).

APD: Synonym of Schoenoplectus litoralis (Schrad.) Palla

Perennial with rush-like stems to 1.5 m. high and a loose pseudolateral inflorescence of reddish brown spikelets about 1 cm. long; [in or near open saline water](#).

Sen.: Heudelot 533! Sor, nr. St. Louis (Aug.) J. & A. Raynal 6284! Fatick Maynard! Diouloulou, Casamance (Sept.) Adam 18217! Bignona, Casamance (Sept.) Adam 18118! **Guin.:** Koba to Rokiti Jac.-Fél. 7230! Samou Jac.-Fél. 7396! Monchon Jac.-Fél. 7359! **S. L.:** Mapotolon (Sept.) Jordan 923! **Ghana:** Weija (June) Hall 3102! Keta (Sept.) Hall 3414! Labadi-Teshi lagoon (Apr.) Irvine 2762! Sakumu Lagoon (July) Irvine 2782!

Temperate and tropical regions of the Old World.

19. *Scirpus pterolepis* (Nees) Kunth Enum. 2: 166 (1837); Berhaut, Fl. Sén. ed. 2, 369 (1967).

APD: Synonym of Schoenoplectus subulatus (Vahl) Lye

Malacochaete pterolepis Nees in Linnaea 9: 292 (1835).

Pterolepis scirpoides Schrad. in Goett., Gel. Anz. St. 208: 2071 (1821), and Anal. Fl. Cap. 1 Cyper. 50 (1832), not *Scirpus scirpoides*

(Michx.) Koyama (1968).

Scirpus lacustris of F.W.T.A., ed. 1, 467, and Adam, Not. Syst. 16: 317 (1960).

Stems tufted from a woody rhizome, up to 120 cm. high, terete, spongy; spikelets brown, elliptical, paired or solitary; [near open water](#).

Sen.: Mbao (July) J. & A. Raynal 6067! Malika (Jan.) Naegelé 31! Malika to Yombeul (Nov.) Pitot! L. Youi (Nov.) Pitot! Sebikotane (July) Pitot!

Also in [Chad](#), [Gabon](#), [Congo](#) and [east Africa](#) and [S. Africa](#).

20. **Scirpus brachyceras** *Hochst. ex A. Rich.* Tent. Fl. Abyss. 2: 496 (1851); Berhaut, Fl. Sén. ed. 2, 369 (1967).

APD: Synonym of Schoenoplectus corymbosus (Roth ex Roem. & Schult.) J. Raynal

APD: Synonym of Bulbostylis boeckeleriana (Schweinf.) Beetle var. boeckeleriana

Scirpus corymbosus *Heyne ex Roth* (1821); F.T.A. 8: 455; not of Linn. (1760), nor of Forsk. (1776).

Tufted, rush-like plant, to 2 m. high with a spreading pseudolateral inflorescence of rounded clusters of straw-coloured or red-brown, acute spikelets; [in or near standing water](#).

Mali: Macina (Nov.) Monod! Tenenkan (Apr.) Roberty 3792! Tiouki to Selingourou (Feb.) Davey 24! Dogo (May) Davey 125! Gao to Bagoundié (Feb.) de Wailly 4965! **N. Nig.:** Vom, Plateau Prov. (Dec., Feb.) Haines 73! McClintock 223! Jos, Plateau Prov. (Nov.) Keay FHI 21441! Kurra Gashish, Pankshin Dist. (June) Okafor FHI 59264! Ngel Nyaki, Mambila Dist, 5,400 ft. (Jan.) Hepper 1717! **W. Cam.:** Lakom, Bamenda, 6,000 ft. (June) Maitland 1546! Jakiri, Bamenda, 5,800 ft. (Feb.) Hepper 1960! **F. Po:** L. Biao (Sept.) Wrigley & Melville 483!

[Tropical Africa](#) and [S. Africa](#) and [Madagascar](#).

21. **Scirpus** sp. **A** *APD acc*

Similar to *S. brachyceras* but with a contracted inflorescence of dark spikelets exceeded by the erect stem-like bract and a transversely ridged achene; [in or near water](#).

S. Nig.: Jos (Aug.) Lely P485!

[Probably belonging to a species of the *S. confusus* N.E. Br., *S. rogersii* C.B. Cl. alliance from East Africa, but too incomplete a specimen to allow certain identification.]

22. **Scirpus microcephalus** (*Steud.*) *Dandy* in F. W. Andrews, Fl. Sudan 3: 366 (1956).

APD: Synonym of Kyllingiella microcephala (Steud.) R.W. Haines & Lye

Kyllinga microcephala *Steud.* in Flora 25: 597 (1842).

Scirpus kyllingoides (*A. Rich.*) *Boeck.* in Linnaea 36: 733 (1870); F.T.A. 8: 457; Berhaut, Fl. Sén. ed. 2, 365 (1967).

A slender, tufted or shortly rhizomatous plant with swollen stem-bases covered by brownish fibres; the spherical white head is very similar to that of *Cyperus pulchellus* R. Br.; [open woodland or savanna](#).

Sen.: Dakar (Aug.) Adam 1656! Ndjarno, Dahra to Linguéré (Aug.) J. & A. Raynal 7221! Kounghoul (Aug.) Trochain 179! Niokolo-Koba (July) Adam 14118! Kanouméri, Kedougou (July) Fotius K216! K218! **Mali:** Klela (May) Demange 3361! Koura (July) Roberty 2405! nr. Koupéla, Mossi (July) Chev. 24587! **Guin.:** Iles Tristao, Paroisse 24! Youkounkoun (Oct.) Pitot! Friguiagbé Chillou 381! Ténémadou, Macenta Adam 4223! Tougué (June) Adam 14745! **Ghana:** Saboba, nr. Yendi (June) Harris! **Niger:** (Sept.) P. de Fabrègues 2128! **N. Nig.:** Gusau, Sokoto Dist. (Sept.) De Leeuw 1574! Bindawa Village F.R., Katsina Dist. (July) Grove 3a! Sange River F.R., Zaria Prov. (May) E. W. Jones 105! Anara F.R., Zaria Prov. (May) Keay FHI 25774! Jos Plateau (Aug.) Lely P462!

Throughout tropical Africa and in [India](#).

23. **Scirpus cubensis** *Poeppig & Kunth* in Kunth, Enum. 2: 172 (1837); F.T.A. 8: 451; Berhaut, Fl. Sén. ed. 2, 366, 371 (1967).

APD: Synonym of Oxycaryum cubense (Poepp. & Kunth) Lye

Leafy plants up to 50 cm- high with slender rhizomes, trigonous stems and very long spreading bracts; in permanent marsh or in or near permanent water, sometimes floating.

Sen.: Lac de Guiers (Oct.) Adam 19246! Ile du Diable, Casamance (Oct.) Adam 18438! Kolda, Casamance (Oct.) Adam 18455! Sédhiou, Casamance (July) Berhaut 6129! Diaroumé, Casamance (Oct.) Adam 1839! **Mali:** Niger delta Duong! L. Korienza (Apr.) Duong 2132! Macina (Mar.) Roberty 3617! Saraféré (July) Lean 56! Gao (Apr.) de Wailly 5014! 5022! **U. Volta:** L. Tengréla, Banfora (July) Aké Assi 4821! **Ghana:** Akotokyir, nr. Cape Coast (May) Hall 2294! Mankessim (Feb.) Hall 2202! Densu R., Accra to Winneba (Apr.) Morton A4157! Weiija, nr. Accra (Apr.) Hall 1883! Nungua, nr. Accra (Apr.) Morton A4172! **Dah.:** L. Aziri to Zagnanado (Feb.) Chev. 23055! **Niger:** Niamey (May) P. de Fabrègues 1561! Diffa (May) P. de Fabrègues 2494! **N. Nig.:** Nupe Barter 1068! Yankari Game Reserve, Bauchi Province (Dec.) Haines 72! 20 miles S. of Maiduguri (Mar.) Tuley 1113! **S. Nig.:** Sangwabe, Ilorin Province (Mar.) J. Hall 1025!

Throughout tropical Africa and America.

Doubtful species.

Scirpus verruculosus (Nees) Steud. in Flora 12: 145 (1829); F.W.T.A., ed. 1, 2: 466; Berhaut, Fl. Sén. ed. 1, 215, 217 (1954), and ed. 2: 361 (1967). *APD acc*

The two records for the occurrence of this S. African species in the Flora area are doubtful; Leprieur's specimen in the Paris herbarium does not, as normally, bear an original label and Berhaut's specimen is not present in Paris.

8. ELEOCHARIS

R. Br., Prod. Fl. Nov. Holl. 224 (1810); F.T.A. 8: 404 (1902).

Heleocharis of many authors.

- 1 Plants aquatic or semiaquatic with weak, often floating capillary stems, often many sterile; spikelets small, more or less flattened with few glumes:2
Plants normally terrestrial with most stems erect and fertile; spikelets terete, not acuminate, producing many achenes:5
- 2 Plants aquatic, submerged but for the flowering stems; sterile stems borne in clusters; spikelets acuminate, composed of up to 8 lanceolate glumes; achene with an acuminate style-base as tall as or taller than broad: ..3
Plants semi-aquatic; spikelets 1.5–2 × 0.75–1 mm., elliptical, acute; glumes obtuse; achene with a clear quadrate surface pattern and depressed style-base broader than tall [3. brainii](#)
- 3 Spikelets composed of 2–3 glumes producing 1 achene 1. naumanniana.....4
.....@
Spikelets composed of 6–8 glumes producing 2–4 achenes; stems not septate [2. subtilissima](#)
- 4 Spikelets 4–5 mm. long; floating stems clearly septate [1a. naumanniana var. naumanniana](#)
Spikelets 1.5–3 mm. long; floating stems not, or only obscurely, septate [1b. naumanniana var. caillei](#)
- 5 Spikelets ovate, oblong or spherical, up to 1 1/2 times as long as broad; plants small to medium-sized:6
Spikelets cylindrical, twice or more as long as broad; generally at least 2 cm. long; plants large: 12
- 6 Achene trigonous; stigmas 3:7
Achene lenticular; stigmas 2: 10
- 7 Stems capillary; spikelets small, few-flowered:8
Stems flattened, ridged, 1–1.5 mm. thick, 10–25 cm. high, arising in tufts from a more or less distinct rhizome; spikelets ovate, about 5 mm. long; glumes obtuse with a wide membranous edge and distinct keel; achene with three clear angular ridges [6. complanata](#)
- 8 Achene about 0.75 × 0.5 mm. with a clear surface pattern and depressed style-base; stems often submerged ...[3. brainii](#)
Achene with a faint or no surface patterning:9
- 9 Achene 1 mm. long; glumes reddish [4. trilophus](#)
Achene 0.65–0.7 mm. long; glumes pale [5. setifolia](#)
- 10 Achene dark red or black: 11
Achene greenish yellow; spikelets narrowly ovoid or elliptical, greenish; achene about 1 mm. long with white bristles [9. deightonii](#)
- 11 Stems about 1 mm. thick; basal sheaths conspicuous, purple below, white above; spikelets broadly ovoid, about 5

mm. long, subglobular when young; achene about 1 mm. long, bristles pink, longer than the achene or absent [7. geniculata](#)

Stems less than 0.5 mm. thick; spikelets ovoid or elliptic about 2 mm. long; achene about 0.5 mm. long; bristles white, shorter than the achene or absent [8. atropurpurea](#)

- 12** Stems terete, spongy, septate, up to 1 cm. thick; sheaths greyish or purple, shining, papery; spikelet not exceeding stem in width; glumes with a single prominent nerve; surface of the achene almost smooth [10. dulcis](#)

Stems angular, or if terete not exceeding 5 mm. thick, not spongy and septate: **13**

- 13** Margin of the glume with a distinct dark band; glume 2×1.25 mm.; achene turbinate with quadrate surface pitting [11. decoriglumis](#)

Margin of the glume membranous, sometimes dotted or streaked with red; achene longitudinally striate, the surface pitting horizontally elongated and arranged in vertical rows: **14**

- 14** Achene markedly constricted above with a neck narrower than the style-base; style-base acute, taller than broad; glumes generally oblong and clearly nerved; stems sharply trigonous with concave faces [12. acutangula](#)

Achene slightly constricted above with a wide neck surrounding the style-base: **15**

- 15** Glumes close-packed, orbicular to obovate, obscurely nerved; striations on the achene fine; generally in brackish coastal swamps [13. mutata](#)

Glumes oblong, clearly several-nerved; achene clearly striate; stems slender, generally terete or obscurely angled: **16**

- 16** Achene 2.3–2.8 mm. long (including style-base) with bristles as long as itself; outer layer of surface cells transparent; style-base as tall or taller than broad [14. variegata](#)

Achene 1.7–2.1 mm. long with bristles much shorter; style-base broader than tall [15. nupeñsis](#)

- 1. *Eleocharis naumanniana* Boeck.** in Engl., Bot. Jahrb. 5: 92 (1884); F.T.A. 8: 411; Svenson in Rhodora 34: 253, t. 461, fig. 6 (1932). *APD acc*

- 1a. *Eleocharis naumanniana* var. *naumanniana*** —Nelmes and Baldwin in Amer. J. Bot. 39: 373 (1952). *APD acc*

Eleocharis testui of Berhaut, Fl. Sén. ed. 2, 11, 360, 363.

Generally aquatic, forming mats of numerous slender clustered stems, sometimes terrestrial and sterile; [in or near open water](#).

Sen.: Diantème (Oct.) Kerharo & Adam s.n. (H.F.M.P. (Dakar) 1561)! Nioro du Rip (Nov.) Berhaut 1802! Oussouye, Casamance (Mar.) Berhaut 7229! Tambana, Casamance (Feb.) Chev. 2448! **Guin.:** Friguiagbé (Aug.) Chillou 1649! Mankouta (Nov.) Jac.-Fél. 7364! Koba. Jac.-Fél. 7371! **S. L.:** Peninsula (Sept.) Melville & Hooker 471! Newton (Nov.) Deighton 5627! Kasanko, Maforki (Oct.) Jordan 814! Rokupr (Mar., Apr.) Jordan 21! 205! **Lib.:** Bushrod I., Montserrado Dist. (Aug.) Baldwin 13021! Monrovia Naumann 20! (Jan.) Dinklage 2403! 20 miles East of Monrovia (Aug.) Baldwin 13049a! **Iv. C.:** Abouabou, Grand Bassam (Mar.) J. & A. Raynal 13649! Kodioboué, nr. Bianoua (Apr.) Guillaumet 1886! **Ghana:** Beyin, Axim Dist. (July) Hall GC 35536! **S. Nig.:** Sapoba (Sept.) Onochie FHI 34304! Nekede, nr. Owerri (Feb.) Killick 309!

Also in **C. African Republic**, **Gabon** and **Congo**.

- 1b. *Eleocharis naumanniana* var. *caillei* (Hutch. ex Nelm.) Hooper** in Kew Bull. 26: 582 (1972). *APD acc*

Eleocharis caillei Hutch., ex Nelm in Kew Bull. 6: 165 (1951); F.W.T.A., ed. 1, 2: 468; Nelm and Baldwin in Amer. J. Bot. 39: 375, tt. 14–25 (1952).

Differing from the typical variety in the more slender stems and smaller spikelets.

Mali: Macina (Nov.) Monod! **Guin.:** Kouria (Nov.) Caille in Hb. Chev. 14957! Friguiagbé (July, Nov.) Chillou 593! 894! Manéa (Dec.) Chillou 2322! **S. L.:** Kambia (Nov.) Morton & Gledhill SL 92! **Lib.:** Monrovia (Nov.) Dinklage 2748! 10 miles to 20 miles East of Monrovia (Aug.) Baldwin 13009! 13049b!

- 2. *Eleocharis subtilissima* Nelm** in Kew Bull. 6: 422 (1952); Nelm and Baldwin in Amer. J. Bot. 39: 375, tt. 26–39 (1952).

APD: *Synonym of Eleocharis retroflexa subsp. subtilissima (Nelm) Lye*

Differing from the foregoing aquatic species in producing more than one achene per spikelet and having a three-lobed style-base; **in or at the margin of open water.**

Mali: Macina (Nov.) Duong! **Guin.:** Siguiri (Nov.) Jac.-Fél. 1355! Friguiagbé (Nov.) Chillou 835! 893! **S. L.:** Mafufui, nr. Mateboi (Nov.) Jordan 838! 839! **Lib.:** Monrovia (Nov.) Dinklage 3272!

Also in the **Congo.**

[Very close to the Indian *E. retroflexa* (Poir.) Urb. (*E. chaetaria* Roem. & Schult.) from which it differs only in the slender habit, frequent presence of sterile stems, the narrower more acute glumes and somewhat smaller achene and style-base.]

3. **Eleocharis brainii** *Svenson* in *Rhodora* 39: 251, t. 461, fig. 4 (1937); J. & A. Raynal in *Adansonia sér.* 2, 7: 318 (1967). *APD acc*

Semi-aquatic annual with numerous slender stems and very small elliptical spikelets; flooded **savanna.**

Sen.: Badi to Siminti (Dec.) J. & A. Raynal 6997b! **Guin.:** Kiffaya to Sériba (Oct.) Pitot! **Ghana:** Busunu, Damongo to Yapei (Sept.) Hall CC 891! Yendi to Zalazugu (Dec.) Morton A1463! **N. Nig.:** Basita, nr. Jebba, Ilorin Prov. (Feb.) Clayton 1508 (FHI 42003)!

Also in E. **Cameroon**, **C. African Rep.** and **east Africa** and **south-east Africa.**

4. **Eleocharis trilophus** *C. B. Cl.* in *Fl. Trop. Afr.* 8: 409 (1902); *Svenson* in *Rhodora* 34: 253, t. 462, fig. 10 (1932). *APD acc*

Small tufted annual up to 10 cm. high with red-purple sheaths and elliptical red-purple glumed spikelets about 2.5 × 1 mm.; ground subject to flooding.

Sen.: Roger 113a! Podor to Guédé (Dec.) Martine 35! Thillé to Boubacar (Dec.) Naegelé 13124! Ndoum (Dec.) Naegelé 13105!

Also in **E. Cameroun** and **Congo.**

[Perhaps conspecific with the American *E. minima* Kunth from which it differs only in the somewhat larger glumes and achene.]

5. **Eleocharis setifolia** (*A. Rich.*) *J. Raynal* in *Adansonia sér.* 2, 7: 318 (1967). *APD acc*

Isolepis setifolia *A. Rich.*, Tent. Fl. Abyss. 2: 498 (1851).

Eleocharis schweinfurthiana *Boeck.* in *Flora* 62: 562 (1879); F.W.T.A., ed. 1, 2: 468.

Eleocharis microcarpa of *C.B. Cl.* in F.T.A. 8: 410

Slender, tufted plant with neat, elliptical spikelets 2–3 mm. long of pale to golden membranous glumes; **damp places on rocks and in grassland.**

Sen.: (Sept.) Fotius 399! Tambacounda (Sept.) Berhaut 1538! Tambacounda to Sambailo (Sept.) Pitot! Sambailo (Oct.) Pitot! **Mali:** Ouolo Kourou Mountain (Aug.) Jaeger 7! Bamako to Ségou (Sept.) Jaeger 5110! Bamako (Sept.) Adam 14961! **Guin.:** Youkounkoun (Oct.) Pitot! Kiffaya to Seriba (Oct.) Pitot! Touqué (June) Adam 14745! foot of Mt. Nimba (Aug.) Schnell 3428b! Nimba (Sept.) Adam 6266! **S. L.:** Kambia (Sept.) Jordan 311! **Iv. C.:** Séguéla (Oct.) Aké Assi 6670! **U. Volta:** Ouahigouya to Koro (Aug.) Chev. 24806! **Ghana:** Burufu Plateau, nr. Lawra (July) Adams 921! Nasia, Bolgatanga to Tamale (Apr.) Adams 4156! Nakpanduri (Aug.) Hall CC 502! Busunu, Damongo to Yapei (Sept.) Hall CC 887! Ejura (Aug.) Hall CC 331! **N. Nig.:** Panshanu Pass, Bauchi Prov. (Aug.) Lawlor & Hall 442! Anara F.R., Zaria Prov. (July) Clayton 1228!

Also in **Chad**, **Central African Republic** and throughout tropical Africa

[Differs little from the American *E. microcarpa* Torrey.]

6. **Eleocharis complanata** *Boeck.* in *Flora* 62: 562 (1879); F.T.A. 8: 409. *APD acc*

Eleocharis anceps *Ridley* in Trans. Linn. Soc. Lond., Ser. 2, Bot. 2: 148 (1884); F.T.A. 8: 410; *Svenson* in *Rhodora* 34: 253, t. 462, fig. 11 (1932).

Medium sized, densely tufted annual with ovoid, pale or purplish spikelets about 5 mm. long; **rice fields, pools and other marshy places.**

Sen.: Badi (Sept.) Berhaut 1687! Niokolo-Koba (Nov.) Adam 16971! Dialacoto (Dec.) J. & A. Raynal 6773! Banharé (Dec.) J. & A. Raynal 6947! Velingara (Oct.) Adam 18588! **Mali:** Kita (Sept.) Jaeger 2659! Balassoko, Bamako (Nov., Dec.) Duong! Monod! Koulikoro (Oct.) Chev. 2454! **S. L.:** Kamalu (Jan.) Deighton 4578! **Iv. C.:** Toumodi (Aug.) Chev.

22378! Singrobo (Dec.) Aké Assi 7245! Tiégouakro to Kodiokoffi (Aug.) Chev. 22351! Santo to Kakpin (Nov.) Aké Assi 9293! **Ghana:** Busunu, Damongo to Yapei (Sept.) Hall) CC 886! Banda, Wenchu Dist. (Dec.) Morton GC 25099! Yeji (Apr.) Hall VBS 275! Kete Krachi (Dec.) Adams 4574! Anum to Asikuma (Sept.) Rose Innes GC 30389! **Togo Rep.:** Sansanné, Mango region (Oct. Nov.) Bille TG 263! **Dah.:** Cotonou (Mar.) Morton GC 6675! Ouécé (Nov.) Annet 43! Agouagon (May) Chev. 23496! **Niger:** Bandé P. de Fabrègues 2253! Magaria P. de Fabrègues 2662! **N. Nig.:** Maska Dam, Funtua (Jan.) Kershaw 900028! Idon, Kaduna to Keffi (Aug.) Kershaw 900699! Bauchi (Dec.) Haines 59! Jebba (Feb.) Meikle 1188! Nupe Barter 1574! **S. Nig.:** Ifaki, Ondo Prov. (June) Clayton 1125! Olokemeji to Eruwa, Egba Dist. (Nov.) Daramola FHI 43847! Lagos (Oct.) Dalz. 1297!

Also in **E. Cameroun** and throughout tropical Africa.

7. **Eleocharis geniculata** (Linn.) Roem. & Schult. Syst. Veg. 2: 150 (1817), emend.; Svenson in Rhodora 34: 259, t. 463, fig. 1 (1932) and 41: 50 (1939); Berhaut, Fl. Sén. ed. 2, 364 (1967). **APD acc**

Scirpus geniculatus Linn., Sp. Pl. 1: 48 (1753), partly.

Eleocharis capitata R. Br., Prodr. 225 (1810); F.T.A. 8: 407.

Eleocharis caribaea (Rottb.) S. F. Blake in Rhodora 20: 24 (1918); F.W.T.A. ed 1,2: 468; Berhaut, Fl. Sén. ed. 1, 217 (1954).

Medium sized, closely tufted plant up to 40 cm. high with brownish, broadly ovate spikelets; **brackish marshes, edges of mangrove swamps.**

Sen.: St. Louis (Oct.) Adam 19204! L. Youi (Nov.) Pitot! Tivaouane (Nov.) Pitot! Malika (Jan.) Naegelé 29! Casamance (Sept.) Adam 18122! **Gam.:** St. Mary's I. (Dec.) Heudelot 549! **Guin.:** Is. Tristao (Nov.) Jac.-Fél. 7311! Coyah to Conakry (June) Chillou 1547! Kabak (Dec.) Jac.-Fél. 7331! 7376! Manéa (May) Chillou 2086! **S. L.:** Koyof, Samu Chiefdom Jordan 387! Kayinti, Loko Masama Chiefdom (Mar.) Glanville 214! Mabange Railway Bridge, Ribí R. (Feb.) Morton & Gledhill SL 1724! Bagroo R. (Apr.) Mann 89! Mano Salija (Dec.) Deighton 281! **Lib.:** Cape Mount (Mar.) Dinklage 2489! Monrovia (May, Dec.) Baldwin 5832! Kunkel 235! Fishtown, Grand Bassa (Aug.) Dinklage 1705! Cape Palmas (July) T. Vogel 7! **Ghana:** Sakumo Lagoon, Weija (Jan.) Morton GC 8287! Keta (Sept.) Hall 3418! **S. Nig.:** Lagos W. MacGregor 337! (Jan., July) Baldwin 14014! Haines 22! Nembe, Niger Delta (Mar.) Anderson 1359! Abonnema (Nov.) Anderson 1415! **F. Po:** Moka Guinea 2426!

Also in **N. Mauritania** (**Adrar**); pantropical, extending to S. Africa and southern S. America.

8. **Eleocharis atropurpurea** (Retz.) Presl Rel. Haenk. 1: 196 (1828); F.T.A. 8: 407; Svenson in Rhodora 31: 227, t. 49 (1929); Berhaut, Fl. Sén. ed. 2, 364 (1967). **APD acc**

Scirpus atropurpureus Retz., Obs. 5: 14 (1789).

Eleocharis atropurpurea var. **minor** Kunth, Enum. Pl. 2: 151 (1837).

Isolepis dichroa Steud., Syn. Pl. Glum. 2: 91 (1855).

Slender tufted annual with clusters of capillary stems up to 15 cm. high; spikelets ovate, obtuse, with green-keeled glumes and black or red achenes; **damp grassy places.**

Maur.: Letfotar (Oct.) Chudeau! **Sen.:** (Jan.) Roger 113! Podor to Guedé (Dec.) Martine 35! Bargny (Oct.) Berhaut 5525 bis! Richard-Toll (Feb.) Berhaut 1185! Casamance (Oct.) Adam 18349! **Mali:** Dogo (May) Davey 114! Buonankodjie, nr. Koubita (Nov.) Davey 549! Bourem to Bamba (Mar.) Chev. 43796! Bamba to Timbuctoo (May) Chev.! Gao to Goura (Apr.) de Wailly 4684! **Guin.:** Kiffava to Sériba (Oct.) Pitot! **Ghana:** Tamale to Bolgatanga (Aug.) Hall CC 436! **Niger:** (Oct.) P. de Fabrègues 2568! **N. Nig.:** Yola, Adamawa Prov. (Nov.) Hepper 1204!

Also in **E. Cameroun**; pantropical.

9. **Eleocharis deightonii** Hooper in Kew Bull. 26: 582 (1972). **APD acc**

Tufted annual 6–25 cm. high with flattened stems and pale ovoid spikelets 3–4 mm. long; **rice swamps.**

Guin.: Kabak (Dec.) Jac.-Fél. 7379! Koba (Nov.) Jac.-Fél. 7250! **S. L.:** Rokupr (Aug., Sept.) Deighton 4361! Jordan 117!

10. **Eleocharis dulcis** (Burm. f.) Henschel Vita Rumph. 186 (1833); Merrill, Interpret. Herb. Amb. 104 (1917); Svenson in Rhodora 31: 158 t. 16 (1929). **APD acc**

Andropogon dulce Burm. f., Fl. Ind. 219 (1768).

Eleocharis plantaginea of F.T.A. 8: 405; F.W.T.A., ed. 1, 2: 467.

The Chinese Water Chestnut, a large plant with soft, septate stems; **in or near surface water.**

Sen.: Casamance (Oct.) Adam 18417! Niokolo-Koba (Feb., Mar.) Adam 15938! 17443! 17964! Niombato (Nov.) Berhaut 1804! **Gam.:** (Aug.) Ruxton 76! 86! **Mali:** Macina (Nov., Dec.) Duong B18! 1231! Tenenkou (Sept.) Lean 104! Bourem I. (July, Aug.) Chev. 1234! Gao (Jan.) Chev. 43089! Ouatagouna, Ansongo (Sept.) Hagerup 432! **Guin.:** Youkounkoun (Oct.)

Pitot! Koba (Nov.) Jac.-Fél. 7235! **S. L.:** Rosino, Great Scarcies (Mar., July) Jordan 40! Deighton 4120! Freetown to Magburaka (Dec.) Morton & Gledhill SL 275! Njala (July) Deighton 1165! Erimakuna, Falaba (Mar.) Sc. Elliot 4453a! **Lib.:** Bushrod I. (Apr.) Barker 1302! **U. Volta:** Banfora L. (July) Duong! Le Gall! (Sept.) Adam 15386! Tengréla L., Banfora (July) Aké Assi 4761! 4861! **Ghana:** Akotokyir, Cape Coast (Feb.) Hall 2188! Cape Coast (June) Hall 3129! Atiavi to Keta (Feb.) Hall CC 1220! **S. Nig.:** Sapoba, Benin Dist. (Feb.) Onochie FHI 31940!

Old World tropics, **China** and **Japan**.

11. *Eleocharis decoriglumis* **Berhaut** in Bull. Soc. Bot. France 100: 174 (1953), and Fl. Sén. ed. 2: 363 (1967). *APD acc*

Eleocharis fistulosa var. *micrantha* **Cherm.** in Arch. Bot. Caen 7, Mém. 4: 25 (1936), partly.

Similar in size and habit to *E. acutangula* but with a regular dark margin to the obtuse glume; **marshes**.

Sen.: Perrottet 839! Niakhéné (Nov.) Trochain 948! Linguéré Roberty 10068! Oualo dist. (Mar.) Leprieur! **Mali:** Fori (Oct.) Wintrebert in Demange 487! **Niger:** Kissambana to Hamdara (Oct.) P. de Fabrègues 2231!

Also in **E. Cameroun** and **Chad**.

12. *Eleocharis acutangula* (**Roxb.**) **Schult.** in Roem. et Schult., Mant. 2: 91 (1824). *APD acc*

Scirpus acutangulus **Roxb.**, Fl. Ind. (ed. Wall.) 1: 216 (1820).

Eleocharis fistulosa of F.T.A. 8: 406 partly, and F.W.T.A., ed. 1, 2: 468.

Scirpus fistulosus **Poir.** (1804), not of Forsk. (1786).

Tufted stoloniferous perennial with greenish cylindrical spikes; **beside ponds and streams and in swamps**.

Maur.: L. Rkiz (Sept.) Sadio 292! Néma (Oct.) Davey 488! **Sen.:** Heudelot 320! Roberty 10149! Bignona (Feb.) Chev. 2432! Kaolak (.Nov.) Berhaut 1824! Diohine (Nov.) Berhaut 3979! **Gam.:** (Aug.) Ruxton 89! **Mali:** Duong! Kita (Oct.) Jaeger 55! 5752! Gorinnta, nr. Dogo (Apr.) Davey 555! **Guin.:** La Kolenté (Nov.) Chillou 950! Manéa (Dec.) Chillou 2320! Koya (Mar.) Chillou 2548! Koba (Nov.) Jac.-Fél. 7239! Faranah (Apr.) Pitot! **S. L.:** Erimakuna (Mar.) Sc. Elliot 4453b! Rokupr (Mar.) Jordan 20! Pendembu (July) N. W. Thomas 839! Ronietta (Nov.) N. W. Thomas 5605! Njala (July) Deighton 5944! **Lib.:** Ganta, Sanokwelle Dist. (Dec.) Harley 781! Nimba (Mar., Oct.) Adam 21082! Adames 704! **Iv. C.:** Mossou (Aug.) Schnell 6549! Séguéla to Mankono (Nov.) J. J. F. E. de Wilde 945! Grand Bassam (Sept.) de Wit 7398/1218! Abidjan (Oct.) W. J. J. O. de Wilde 1109! Béréby (Nov.) Oldeman 537! **Ghana:** Gambaga to Walewale (Dec.) Adams 4201! Nasia, Bolgatanga to Tamale (Apr.) Adams 4149! Yeji (Aug.) Hall CC 370! Dawa, Accra Plains (July) Hall 3246! Amisano marsh, Cape Coast (Sept.) Hall 2380! **Niger:** Doutchi to Dosso (Aug.) P. de Fabrègues 2483! Magaria (July) P. de Fabrègues 2489! Dallol Boboye, Niamey (Sept.) Cremers 970! **N. Nig.:** Bida to Abuja (Dec.) Haines 60! Badeggi, nr. Bida (Jan.) Vaillant 2775! Vom, Plateau Prov. (Feb.) McClintock 227! Giwa Fadama, Zaria Prov. (Jan.) Kershaw 900027! **S. Nig.:** Uke to Nobi, Onitsha Dist. (May) Onochie FHI 35794!

Pantropical.

13. *Eleocharis mutata* (**Linn.**) **Roem. & Schult.** Syst. 2: 155 (1817); Svenson in Rhodora 31: 133, t. 188, fig. 8 (1929); F.W.T.A., ed. 1, 2: 467. *APD acc*

Scirpus mutatus **Linn.**, Pugill. Jamaic. Pl., Amoen. Acad. 5: 391 (1759), and Sp. Pl. ed. 2, 1: 71 (1762); *Eleocharis fistulosa* of F.T.A. 8: 406, partly.

Similar to *E. acutangula* but the glumes broader and more rounded; **generally in brackish coastal swamps**.

Sen.: St. Louis (Oct.) Adam 19205! L. Youi, Cape Vert (Apr.) Pitot! Fatick Maymard! Kaolak (Oct.) Berhaut 3794! Oussouye (Sept.) Broadbent 116! **Guin.:** Coyah (Nov.) Chillou 2246! Koba (Nov.) Jac.-Fél. 7285! **S. L.:** Rokupr (July) Jordan 42! Benkia, Port Loko Creek (Mar.) Glanville 211! Aberdeen (July) Small 121! Maswari (Nov.) Deighton 5636! Bagroo R. (Apr.) Mann 893! **Lib.:** Monrovia (Sept., Oct.) Wrigley & Melville 713! Adam 16532! Sinkor, Monrovia (Nov.) Kunkel 550! Duport (Nov.) Linder 1444! Buchanan (Nov.) Adam 16040! **Ghana:** Elmina (May) Morton A895! Duakor, nr. Cape Coast (Oct.) Hall 2384! Weijsa (June) Hall 8099! Ada (Dec.) Harris! **S. Nig.:** Lagos I. Barter 2234! Lagos W. MacGregor 327! Abonnema, Rivers Prov. (Nov.) Anderson 1411!

Also in **West Indies**, **Central South America** and **northern South America**.

14. *Eleocharis variegata* (**Poir.**) **Presl** in Oken, Isis 21: 269 (1828); Kunth, Enum. Pl. 2: 153 (1837); Svenson in Rhodora 31: 156 (1929), and 41: 8, t. 537 fig. 4 (1939); J. & A. Raynal in Adansonia Sér. 2, 7: 319 (1967). *APD acc*

Scirpus variegatus Poir., Encycl. 6: 6: 749 (1804).

Generally more slender than the preceding two species having glumes like *E. acutangula* and a wide mouthed achene like *E. mutata*; [in similar habitats](#).

Sen.: Toubakouta (Jan.) J. Raynal 7928. **Guin.:** Friguiagbé (Sept.) Chillou 697! Téliélé (Feb.) Roberty 10769! **S. L.:** Kuputu (Sept.) Jordan 342! Rhombe swamp (Mar.) Adames 149! Serabu to Mowoto (Apr.) Deighton 1687! nr. Buedu, Kissi Tingu (Sept.) Jordan 532! **Lib.:** Devilbush, nr. Paynesville, Montserrado Dist. (Aug.) Leeuwenberg & Voorhoeve 4901! Ganta, Sanokwele Dist. (Sept.) Baldwin 12042! **Iv. C.:** fide Raynal l.c. **Ghana:** Kukrukui Creek, N. of Kete Krachi (July) Adom-Boako & Ansah-Emmim VBS 109! **Dah.:** fide Raynal l.c. **S. Nig.:** Nigerian Inst. for Oil Palm Research, 17 m. N. W. of Benin (May) Killick 230! J. Hall 925!

Intermittently throughout the tropics.

15. *Eleocharis nupeënsis* Hutch. in F.W.T.A., ed. 1, 2: 457 (1936); Svenson in *Rhodora* 41: 6 (1939) partly; Berhaut, Fl. Sén. ed. 2: 363 (1967); J. & A. Raynal in *Adansonia* sér. 2, 7: 318 (1967). *APD acc*

Eleocharis mitrata var. *africana* C.B. Cl. in F.T.A. 8: 406 (1902).

Similar to slender specimens of *E. acutangula* from which it may be distinguished on the terete stem and on achene characters; [similar habitats](#).

Sen.: Niokolo-Koba (Dec.) J. & A. Raynal 6883; 6998. **S. L.:** Kambia (Sept.) Jordan 306! Mange, Bure (Nov.) Jordan 819! Kasanko, Maforiki (Oct.) Jordan 818! **Iv. C.:** Singrobo (Dec.) Aké Assi 4739! **Ghana:** Nyankpala, nr. Tamale (Dec.) Adams 4192! Atebubu (Nov.) Hall & Duodu GC 42127! **N. Nig.:** Nupe Barter 1040!

Also in **Chad**.

[A taxon of doubtful status whose relationship to the West Indian *E. mitrata* (Griseb.) C.B. Cl. and to *E. variegata* and *E. acutangula* needs further study.]

9. WEBSTERIA

S. H. Wright in Bull. Torr. Bot. Club 14: 135 (1887).

- 1 Submerged aquatic with long slender weak stems producing tufts of increasingly short and slender, finally capillary, radiating stems of the first second and sometimes third order, surrounded at the base by membranous purple sheaths; spikelets emergent, linear, acute, about 1 cm. long, of two large purple and green glumes surrounding a single achene; anthers 3, large, about 4 mm. long; achene obovate with a distinct beak bearing the slightly enlarged style-base[confervoides](#)

Websteria confervoides (Poir.) Hooper in Kew Bull. 26: 582 (1972). *APD acc*

Scirpus confervoides Poir., Encyc. Méth. 755 (1804).

Rhynchospora ruppioides Benth. in Hook. f., Icon. Pl. 14, t. 1344 (1881).

A green, floating, alga-like plant, most closely resembling *Eleocharis naumanniana* in the single-flowered, soft, flattened spikelet; [in running water](#).

Iv. C.: Moossou (Dec.) Hallé & Guillaumet! Abouabou (Mar.) J. & A. Raynal 13650! **S. Nig.:** Sapoba (Sept.) Onochie in FHI 34310!

The genus, which is probably monotypic, also occurs in the **Congo**, **Tanzania**, **Zambia**, **Madagascar**, **Ceylon** and intermittently in the New World tropics.

10. BULBOSTYLIS

Kunth, nom. cons; C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 651 (1893); F.T.A. 8: 427 (1902).

- 1 Spikelets sessile, inflorescence capitate:2
Spikelets pedicellate, solitary or few to numerous in a spreading inflorescence:9
2 Spikelets large, 10–15 mm. long, up to 10 in the head; plants with a clearly woody base:3

- Spikelets small, less than 10 mm. and generally less than 5 mm. long, generally numerous in a spherical or hemispherical head; plants tufted, rarely somewhat woody:4
- 3 Spikelets flattened, the glumes distichous or nearly so; leaves reduced to bladeless or shortly bladed, pilose, green sheaths bearded at the mouth; stems sharply angular or ridged; glumes brown to dark red, long acuminate, apiculate; achene obovate [1. pilosa](#)
- Spikelets terete; sheaths glabrous or puberulent, bright red; glumes black or blackish, obtuse or apiculate; achene elliptical [2. erratica](#)
- 4 Inflorescence greenish- or golden-brown; leaves and bracts capillary; leaf-sheaths pale, membranous; glumes hairy, boat-shaped with a clear green keel prolonged into a recurved apiculus [3. barbata](#)
- Inflorescences black or red-brown; basal sheaths reddish:5
- 5 Inflorescence spherical, reddish brown when mature; long crimped brown or white hairs at mouth of sheath and on bracts; spikelets distinctly flattened, ovate, few-flowered; glumes hairy, more or less distichous:6
- Inflorescence hemispherical, black or dark brown; densely tufted plants with filiform leaves; spikelets terete, angular or slightly flattened, more or less cylindrical:7
- 6 Slender annual up to 20 cm. high; leaves capillary; inflorescence about 5 mm. across, occasionally up to 8 mm.; glumes lanceolate, acuminate, ciliate on the margin; achene about 0.4 × 0.3 mm. [4. fimbriatylodes](#)
- Perennial up to 50 cm. high; inflorescence about 10 mm. across; glumes ovate, acute, slightly ciliate on the margin; achene 0.85–1.0 × 0.6–0.7 mm. [5. laniceps](#)
- 7 Stems beneath inflorescence hispid or tomentose with robust upwardly directed hairs; spikelets angular, distinct; glumes broadly ovate, boat-shaped with a short recurved apiculus; achene broadly elliptic, yellow to brown with a pale broad, generally obtuse, style-base 0.2–0.3 mm, across and slightly rugulose sides [6. scabridicaulis](#)
- Stems beneath inflorescence smooth or somewhat scabrid; spikelets crowded; achene obovoid, trigonous with a small conical style-base and papillate sides:8
- 8 Stems robust, about 1.5 mm. thick; sheaths brown, conspicuously hairy at mouth; glumes lanceolate, at least the lower with a straight or nearly straight keel [7. metralis](#)
- Stems usually not exceeding 1.0 mm. thick; sheaths not conspicuous; glumes ovate with a distinct curved apiculate keel [8. filamentosa](#)
- 9 Spikelets large, about 8 × 3 mm., solitary, brown; glumes obtuse, hairy, ciliate on the margin [9. bodardii](#)
- Spikelets smaller than above, more than one (rarely reduced to one): 10
- 10 Plant with a rhizome composed of swollen stem-bases and covered with brown acute scales; sheaths red; leaf-blades reduced; spikelets 1–5, black [10. oritrephes](#)
- Plant tufted, without a rhizome: 11
- 11 Spikelets less than ten-flowered, in a simple umbel; bracts leafy, one at least up to twice as long as the peduncles; stems and numerous leaves generally hairy; sheaths red, often disintegrating into a mass of red-brown fibres; achene 1.25–1.5 mm. long; style-base small, easily detached [11. lanifera](#)
- Spikelets numerous in a spreading panicle, or if few, then without the above combination of characters: 12
- 12 Perennial, plant tufted; bracts with conspicuous dark bases and short green tips; spikelets 5–6 × 2 mm., reddish-black; glumes acute with a single slender nerve and pale margins; achene surface transversely ridged [12. guineensis](#)
- Annual or apparently so; bracts without conspicuous dark bases: 13
- 13 Inflorescence contracted with most of the spikelets on short pedicels; glumes with a well-marked keel excurrent in a sharp acumen [16b. densa var. cameroonensis](#)
- Inflorescence diffuse with most of the spikelets on spreading pedicels longer than themselves; glumes obtuse or mucronate, with the keel not or hardly excurrent: 14
- 14 Upper spikelets broadly ovate with several lanceolate, aristate, white-fringed persistent bracteoles at the base; glume often with a dark spot towards the tip [13. coleotricha](#)
- Upper spikelets elliptical to ovate with a single, usually inconspicuous empty bracteole at the base : 15
- 15 Stem tomentose; sheaths pinkish; bracts red-brown, shortly hairy; achene obovate to obcordate, transversely undulate, sharply trigonous [14. congolensis](#)
- Stems glabrous or sparsely and shortly hairy: 16
- 16 Bracts fringed with long white hairs (sometimes only sparsely so in small specimens); glumes glabrous, 3-nerved with a membranous margin; achene with quadrate surface cells raised in the centre to give a papillate appearance, the papillae being arranged more or less in vortical rows [15. abortiva](#)
- Bracts not fringed; generally small plants less than 20 cm. high; glumes hairy; achene with vertically elongated surface cells, papillate in the centre and raised to produce a transversely undulate appearance of the achene surface: 17
- 17 Spikelets ovate to broadly elliptic; glumes broadly ovate, clearly keeled [16a. densa var. densa](#)

Spikelets narrowly elliptic to cylindric; glumes lanceolate, appressed, weakly keeled [17. pusilla](#)

1. **Bulbostylis pilosa** (Willd.) Cherm. in Bull. Soc. Bot. Fr. 81: 266 (1934), and 82: 341 (1935); Bodard in Ann. Fac. Sci. Dakar 9: 61 (1963). *APD acc*

Schoenus pilosus Willd., Phyt. 1: 3 (1794).

Fimbristylis africana C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 601 (1895).

Bulbostylis aphyllanthoides (Ridley) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 611 (1895); F.T.A. 8: 436; F.W.T.A., ed. 1, 2: 477.

Fimbristylis aphyllanthoides Ridley in Trans. Linn. Soc., ser. 2, 2: 151 (1883).

Tufted perennial with a woody rhizome and a head of up to 10 large flattened spikelets; [savanna woodland or grassland](#).

Sen.: Kanouméri, nr. Kédougou (July) Fotius K233! **Mali:** Sikasso, bridge on the Farako (May) Demange 22391 **iv. C.:** N'Douci, N'zi R. (Aug.) de Wit 7338/982! Dabou (Nov.) Roberty 12505! Giovannetti 441! Kodiokoffi to Kondroko, N. Baoulé (Aug.) Chev. 22361! Aquien Scaetta 30121 **Ghana:** Beyin, nr. Axim (July) Hall GC 35538! Achimota (Feb.) Morton GC 25375! Legon (Oct.) Adams 3408! Tema (June) Boughey 13009! Aburi, Accra plains (Aug.) Deighton 3410! **Togo Rep.:** Bafilo (May) Roberty 1457! Agomé Schlechter 12967! Klouto (June) Villiers! 35 km. S. of Palimé (Mar.) Stage 8! Lomé Warnecke 124! 125! Stage 15! **Dah.:** Ouidah (Sept.) Adjanohoun 329a! Ahozon, 11 km. E. of Ouidah (Feb.) Raynal 13525! Porto Novo Adjanohoun 348! Abomey (Feb.) Chev. 23205b! **N. Nig.:** Jebba (Apr.–May) Kamphorst 185! 200! Nupe Barter 491! Ibaji Ojoko N.A. F.R., Igala Dist. (June) Latilo FHI 47670! **S. Nig.:** Oyo to Iseyin (July) J. B. Gillett 15202! Lagos (July) Haines 19! Ubiaja Clan F.R., Ishan Dist. (Apr.) Charter FHI 39423! Onitsha (Mar.) Killick 83! Enugu (Mar.) Morton GC 6681! Jesse, Warri Prov. (Sept.) Butler-Cole 14!

Tropical Africa.

2. **Bulbostylis erratica** (Hook. f.) C.B. Cl. in F.T.A. 8: 434 (1902).

APD: Synonym of Abildgaardia erratica (Hook. f.) Lye subsp. *erratica*

Schoenus erraticus Hook. f. in J. Linn. Soc. 6: 22 (1861).

Tufted plant with lurid red colouring at the base and large black spikelets in a single head; [montane grassland](#).

S. L.: Plateau S. of Camp 2, Loma Mts. (June) Morton SL 3563! **N. Nig.:** Gangirwal, Mambila Plateau, 7,500–8,000 ft. (Nov.) Tuley 1999! **W. Cam.:** Bafut-Ngemba F.R., Bamenda Dist. (Feb., May) Hepper 2127! Daramola FHI 41176! Cam. Mt., 8,000 to 11,000 ft. (Jan., Apr.) Mann 1344! Maitland 1268! Morton GC 6874! **F. Po:** Clarence Peak, 8,500–9,000 ft. (Apr., Dec.) Mann 635! 1472!

3. **Bulbostylis barbata** (Rottb.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 651 (1893); F.W.T.A., ed. 1, 2: 477, excluding syn. *Scirpus barbatus* Rottb., lc. et Descr. 52 t. 17 f. 4 (1773). *APD acc*

Tufted annual 5–20 cm. high with acute radiating spikelets in a hemispherical head; [weed, particularly on sandy soil](#).

Sen.: Sieber! Heudelot 441! Dakar (Apr.) Adam 1097! Hann (Sept.) Pitot! Mbao (Oct.) Pitot! Nord Saveigne (Sept.) Audru 2641! **Gam.:** Saunders 38! Genieri (July) Fox 124! **Mali:** Ségou (Aug.) Roberty 3776! Macina (Nov., Dec.) Duong 1311! Bore (Aug.) Demange 26/1957! 28/1957! Gao (Aug.) de Wailly 5161! **Lib.:** Harper, Maryland Dist. (June) Baldwin 6001! **iv. C.:** Bouaké (June) Leeuwenberg 4276! Bouaké to Diabo (July) Chev. 20065 bis! Pakoubo (Aug.) Roberty 3068(52)! Adiopodoumé (Dec.) Leewenberg 24! 2128! Grand Bassam (Dec.) Giovannetti 290! **U. Volta:** Banfora to Ferkessedougou (June) Leewenberg 4430! **Ghana:** Dedora Tankara F.R., Navrongo Dist. (June) Andoh FH 5916! Bamboi Ferry (May) Morton GC 7705! Ayikuma to Shai Hills (Dec.) Morton GC 8071! Cape Coast (May) Hall 2592! Accra T. Vogel! **Togo Rep.:** Baumann 538! Lomé Warnecke 122! **Dah.:** Agouagon (Apr., May) Chev. 23492! Cotonou (Mar.) Morton GC 6669! Savalou (July) Annet 109b! **Niger:** Yatacala to Kokoro (July) Rogeon 510! Toukounous Bartha 98! 99! Niamey (Oct.) Hagerup 498! Dosso (Dec.) Monod 7159! **N. Nig.:** Sokoto Prov. Dalz. 458! Shagunu (July) Cook 384! Jebba (Apr.) Meikle 1389! Lokoja (Apr.) Haines 17! Dawo, Vogel Peak (Nov.) Hepper 1407! **S. Nig.:** Oke Iho to Iseyin (Apr.) Keay & Polunin FHI 37841! Arakanga F.R., Abeokuta (May) Keay & Onochie FHI 37009! Lagos Dalz. 1109! Eruwa to Lanlate, Ibadan Dist. (Oct.) Keay & Savory FHI 25290! Nsugbe, nr. Onitsha (Aug.) Maggs 138!

Widespread in the Old World tropics.

4. **Bulbostylis fimbristylodes** C.B. Cl. in Mém. Soc. Bot. Fr. 2, 8: 28 (1907); Bodard l.c. 61. *APD acc*

Bulbostylis cyrtathera Cherm. in Arch. Bot. Caen 4, Mém. 7: 35 (1931).

Similar to the following species but smaller in all its parts; **damp places**.

Mali: Klela (Oct.) Demange 8128! 3129! Kita (Sept.) Jaeger 2776! Koulikoro (Oct.) Chev. 2457! 2462! **Guin.:** Madina Kossekré (Oct.) Adam 12550! **U. Volta:** Sindoukoroni (Sept.) Adam 15188/3!

Also in **Chad**, **C. African Republic** and **Zambia**; probably undercollected.

5. *Bulbostylis laniceps* C.B. Cl. ex Dur. & Schinz Mém. Acad. Roy. Belg. 53: 306 (1896); Bodard l.c. 78. *APD acc*

Densely tufted plant with fine leaves and spherical inflorescences which are white-woolly when young; **grassland**.

Guin.: Friguiagbé (Apr., May) Chillou 211! 2586! Mamou (May) Pitot! Labé Adam 14552! Beyla (Mar.) Chev. 20878! **S. L.:** Gbap (June) Adames 54! Malal (Apr.) Bakshi 144! Kambia (Apr.) Hepper 2636! Mapema (Feb.) Glanville 159! Loma Mts. (Aug.) Jaeger 6981! **Lib.:** Sinkor (June) Barker 1368! Painesville (Feb.) Harley 1859! Grand Bassa T. Vogel 92a! Sangwin (Mar.) Baldwin 11323! Pandamai (Mar.) Bequaert 117! **Iv. C.:** Nimba (Aug.) Boughey GC 18144! **Ghana:** Divinim, Berekum to Sampa, Ashanti (Dec.) Adams 5292! Kintampo to Techiman (Apr.) Hossain & Enti GC 36787! Sege to Batter, Accra Plains (Apr.) Morton A3208! Wuropong, Togo Plateau (May) Morton A3933! Amedzofe, 2,600 ft. (May) Morton GC 7208! **Togo Rep.:** Sowodi (Aug.) Mahoux 2139! **N. Nig.:** Vogel Peak, Sardauna, Prov. J. Hall 1079! **W. Cam.:** Bamenda Richards!

Also from E. Cameroun and Gabon to the Congo, **Angola** and **Zambia**.

6. *Bulbostylis scabriceaulis* Cherm. in Bull. Soc. Bot. Fr. 68: 419 (1922). *APD acc*

***Bulbostylis cardiocarpa* var. *holubii* C.B. Cl. in F.T.A. 8: 434 (1902).**

***Bulbostylis filamentosa* of C.B. Cl. in F.T.A. 8: 433, and of F.W.T.A., ed. 1, 2: 477, partly.**

***Fimbristylis collina* Ridl. in Trans. Linn. Soc. ser. 2, 2: 154 (1884), not *B. collina* (Kunth) C.B. Cl.**

***Bulbostylis filamentosa* var. *scabriceaulis* (Cherm.) Bodard in Ann. Fac. Sci. Dakar 9: 68 (1963).**

Close to *B. filamentosa* and *B. metralis* but distinguished by the larger more distinct spikelets and stem below the inflorescence scabrid hairy; **moist places**.

Sen.: Dakar Adam 16938! Tambacounda (Sept.) Berhaut 3133! **Mali:** Kita (July) Jaeger 16! 24! 33! Fodéougou to Kroukoto, Kita Dist. (July) Jaeger 26! Bamako Adam 15142! (Aug.) Roberty 2605! **Guin.:** Kouroussa (July) Pobéguin 424! Faranah to Banian (Apr.) Pitot! Kissidougou to Kowdou (June) Martine 328! Kissidougou to Guéckédou (Apr.) Pitot! **S. L.:** Mando (Sept.) Jordan 97! Koinadugu (Aug.) Haswell 205! Falaba (July) Morton & Jarr SL2167! Kenema (Apr.) Deighton 3134! Loma Mts. (Sept.) Jaeger 1919! **Lib.:** Yékèpa Grassfield, Nimba Mts. (June) Adam 21559! **Iv. C.:** Tafiré (June) Leeuwenberg 4439! Téhini (Aug.) Oldeman 319! Toumodi (Aug.) Boughey GC 18549! **U. Volta:** Barmoussa (June) Scholz 315! **Ghana:** Tumu (May) Morton GC 7527! Wa (June) Adams 812! Banda (Apr.) Morton A3284! Ejura Scarp (Mar.) Adams 2452! **Togo Rep.:** Sokodé Basari Baumann 3834! **N. Nig.:** Kan Gimi, Anara F.R. (May) Keay FHI 22872! Shagunu, Ilorin Prov. (July) Cook 301! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 84! Kaduna to Keffi (June) Kershaw 900813! Kudaru (May) Clayton 1032! Samaru, Zaria Prov. (July) Clayton 1244! **S. Nig.:** Shaki, Oyo Prov. (May) Wanstall A9! Owo (Apr.) Haines 29!

Also in **central**, **east** and **south-east Africa** and **Madagascar**.

7. *Bulbostylis metralis* Cherm. in Arch. Bot. Caen 4, Mém. 7: 34 (1931).

APD: **Synonym of *Bulbostylis filamentosa* (Vahl) C.B. Clarke**

***Bulbostylis cardiocarpa* of F.W.T.A., ed. 1, 2: 477, partly.**

***Bulbostylis filamentosa* of F.W.T.A., ed. 1, 2: 477, partly.**

Distinguished, from *B. filamentosa* by the dark, clearly white-fringed leaf-sheaths and the lanceolate glumes; **montane grassland or savanna**.

Mali: Fodéougou to Kroukoto (Aug.) Jaeger 5751! **Guin.:** Manea (June) Chillou 2617! Friguiagbé (July) Chillou 1636! Sala Falls (Oct.) Pitot! Nzérékoré to Beyla (May) Pitot! Nimba Mt. (Apr.) Pitot! **S. L.:** Mabonto to Bumbuna (Aug.) Deighton 1400! Binkolo, nr. Makeni (Sept.) Harvey 121! Kundukonko, Loma Mts. (Aug.) Jaeger 1089! Rowala (July) Thomas 1112! Wonkifu (July) Jordan 45! **Iv. C.:** Nimba Mts., 2,500–5,000 ft. (Aug.) Boughey GC 18083! Bandama Forest, Cosrou (May) Leeuwenberg 4250b! Kodiokoffi to Kondrokro (Aug.) Chev. 22364! Moossou (May) Aké Assi 4300! **Ghana:** Gemi Hill, Amedzofe (June) Morton A3427! (May) Morton GC 7212! Wuropong (May) Morton A3935! Shiare to Chilinga, Kete Krachi (May) Morton A3983! Beyin (July) Hall GC 35534! **N. Nig.:** Ilorin to Awtun (June) Clayton 1157! **S. Nig.:** Iva Valley F.R., Enugu Dist. (July) Daramola, FHI 55156! Emene, Enugu (July) Tuley 803! Enugu (Mar.) Morton GC 6682!

Also in **central** and **east tropical Africa**.

8. *Bulbostylis filamentosa* (Vahl) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 613 (1895). *APD acc*

Scirpus filamentosus Vahl, Enum. 2: 262 (1806).

Similar to *B. scabricaulis* but distinguished by the smaller achene and smooth or slightly scabrid stems; **moist places**.

Iv. C.: Grand Bassam T. Vogel 92b! Bouna, Ouangofétini de Wilde 786! **Ghana:** Kete Krachi (Apr.) Morton GC 9151! Kwahu Tafo to Mankrong (Apr.) Morton A691! Krobo Mt. (Oct.) Morton GC 7744! Accra (July) Dalz. 174! Kpong (Apr.) Gyadu GC 20560! **N. Nig.:** Samaru (Aug.) Keay FHI 28007! Naraguta F.R., Jos (July) Lawlor & Hall 146! Biu, Bornu Prov. (Sept.) Kennedy FHI 8002! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 565! 387!

9. *Bulbostylis bodardii* Hooper in Kew Bull. 26: 582 (1972). *APD acc*

Bulbostylis zambesica var. *occidentalis* Bodard in Bull. Soc. Bot. Fr. 108: 309 (1961); J. & A. Raynal in Adansonia sér. 2, 7: 316 (1967).

Distinguished by the single large red-brown spikelet with obtuse white-fringed glumes; **wet places, sometimes on laterite**.

Sen.: Niokolo-Koba Adam 14196! 17894! 18956! Bodard 3148! J. & A. Raynal 6918. **Guin.:** Dalaba-Diaguissa Plateau (Feb.) des Abbayes 825! Mamou (May) Pitot!

10. *Bulbostylis oritrephes* (Ridley) C.B. Cl. in Trans. Linn. Soc. ser. 2, 4: 54 (1894). *APD acc*

APD: *Synonym of Bulbostylis clarkeana* Hutch. ex M. Bodard

Fimbristylis oritrephes Ridley in Trans. Linn. Soc., ser. 2, 2: 155 (1884).

Bulbostylis trichobasis of F.W.T.A., ed. 1, 2: 477.

Bulbostylis clarkeana Hutch. ex Bodard in Bull. Soc. Bot. Fr. 108: 308 (1961); F.W.T.A., ed. 1, 2: 477.

Characterised by the seriate rhizome composed of swollen stem bases covered by reddish scales and the few dark spikelets with, when flowering, very conspicuous anthers; **upland grassland, often on bare rock**.

Guin.: Sita (Apr.) Pitot! Labé Adam 14643! Thianguel-Bori (Apr.) Pitot 25! 41! Erimakuna (Mar.) Sc. Elliot 5244! Boula (Apr.) Adam 12062, partly! **S. L.:** Loma Mts. (Feb., Mar.) Morton & Gledhill SL 1097! Jaeger 4188! 4288! Bintumane Peak, Loma Mts. (June, Aug.) Jaeger 986! Morton SL 3578! **N. Nig.:** Kakara, Adamawa Prov. (Jan.) Hepper 1783! nr. Njawai (Nov.) Tuley 1899! Chappal Waddi, Gotel Mts. (Apr.) J. Hall 1824! **S. Nig.:** Obudu (Apr.) Haines 230! **W. Cam.:** Bambalang, Ndop Plain (Mar.) Brunt 1033! Bamenda (Jan.) Daramola FHI 40601! Migeod 318! Bafut-Ngamba F.R., Bamenda (Mar.) Coombe 216! Brunt 1035! Mayo Binka, N.E. Nkambe (Feb.) Hepper 1885!

Throughout tropical and South Africa but distribution uncertain because of confusion with the allied *B. trichobasis* (Baker) C.B. Cl.

[A gathering from Bamenda (Richards 5310) seems to suggest the possibility of hybridisation between this species and *B. erratica*.]

11. *Bulbostylis lanifera* (Boeck.) Kük. in Peter in Fedde, Rep. 40, 1: 418 (1938).

APD: *Synonym of Bulbostylis coleotricha* var. *lanifera* (Boeckeler) C.B. Clarke

Scirpus laniferus Boeck. in Linnaea 36: 768 (1870).

Bulbostylis coleotricha (A. Rich.) C.B. Cl. var. *lanifera* (Boeck.) C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 613 (1895), partly; F.T.A. 8: 442.

Bulbostylis togoensis Cherm. in Bull. Soc. Bot. Fr. 81: 267 (1934).

Tufted plant with narrow leaves often nearly as long as the stems and a small inflorescence of a few dark spikelets; **savanna woodland**.

Sen.: Ouassadou (Dec.) Berhaut 1876! Sangalkam (Dec.) Berhaut 2617! **Iv. c.:** Baoulé, Toumodi (Oct.) Pobéguin 78! Toumodi (Nov.) Boudet 1419! Séguéla (Apr.) Leeuwenberg 3270! **U. Volta:** Barmoussa (June) Scholz 303a! **Ghana:** Zian to Wahabu, Wa Dist. (July) Adams 875! Banda (Aug.) Halt 1989! Gambaga (May) Morton GC 7370! 7387! Accra Plains (Aug.) Gyadu SLUS 139! **Togo Rep.:** Baumann! Pagouda (July) Mahoux 2116! Kandé Mahoux 2128! **N. Nig.:** Shagunu,

Ilorin Prov. (July) Cook 303! Nupe Barter 1030! Jebba (Apr., May) Kamphorst 138! 139! Lokoja (Apr.) Haines 18! **S. Nig.:** Lagos to Abeokuta (Sept.) Killick 252!

Also in the **Congo** and **Chad**.

12. **Bulbostylis guineensis** *Cherm. ex Bodard* in Bull. Soc. Bot. Fr. 108: 308 (1961), and in Ann. Fac. Sci. Dakar 9: 62 (1963). *APD acc*

More robust than the other dark-spikeletted species with a somewhat woody base and neat elliptical spikelets.

Guin.: Mt. Nimba Schnell 3686a! (Sept.) Scaëtta 8258b!

13. **Bulbostylis coleotricha** (*A. Rich.*) *C.B. Cl.* in Dur. & Schinz, Consp. Fl. Afr. 5: 613 (1895); Bodard l.c. 74. *APD acc*

Fimbristylis coleotricha *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 506 (1851).

Bulbostylis miegei *Bodard* in Bull. Soc. Bot. Fr. 108: 307 (1961).

Annual up to 40 cm. high, often less, with filiform leaves and few, relatively large, rounded, dark-tipped spikelets; **damp flushes on granite or ironstone rocks, sandy open grassland and as roadside weed.**

Sen.: Casamance (Oct.) Adam 18607! Niokolo-Koba (Dec.) J. & A. Raynal 6942! Boulou Kounda (Dec.) J. & A. Raynal 6757! Kanouméri (Aug.) Fotius K221! Sebikotane (Sept.) Pitot! **Mali:** Bafoulabé (Sept.) Duong! Kita (July, Oct.) Jaeger 15! 79! Bamako (Sept.) Jaeger 5067! Lafaya, Koulikoro (May-June) Duong 12! Ségou (Aug.) Roberty 2642! **Guin.:** La Kolenté (Aug.) Chillou 1671! Sambailo (Oct.) Pitot! Kouroussa (July) Pobéguin 418! 408! Sita, Sériba (Oct.) Adam 12690! **S. L.:** Brookfields, Freetown (Aug.) Jordan 71! Port Loko (May) Jordan 872! Kambia (Aug.) Jordan 298! Batkanu (July) Small 148! Kamabai nr. Makeni (Sept.) Harvey 91! **Iv. c.:** Nimba (Aug.) Boughey GC 18143! Mankono (July) Aké Assi 4755! **Ghana:** Bole (Apr.) Morton A3293! Damongo F.R. (Nov.) Rose Innes GC 30839! Burufu Plateau, nr. Lawra (July) Adams 925! Gambaga (Aug.) Hall 2071! Kete Krachi (May) Morton GC 7173! **Togo Rep.:** Sokodé Schilling 43! Duffour 7023! **Niger:** Kirtachi Seybou (Nov.) Hepper 3847! **N. Nig.:** Nupe Barter 531! Sokoto (Aug.) Dalz. 457! Birnin Gwari Dist., Zaria Prov. (Aug.) Keay FHI 25996! Panshanu Pass, Bauchi Prov. (Aug.) Lawlor & Hall 552a! Yola (July) Dalz. 259! **S. Nig.:** Iseyin (Aug.) J. B. Gillett 15407! Igboora (June) Haines 234! Igbete to Kishi (Mar.) Gledhill 724!

Also in **E. Cameroun**, **central** and **east tropical Africa**.

14. **Bulbostylis congolensis** *De Wild.* Pl. Bequaert. 4: 194 (1927); Bodard l.c. 65.

APD: *Synonym of Bulbostylis pusilla subsp. congolensis (De Wild.) R.W. Haines*

Bulbostylis holotricha *Peter* in Fedde Rep. Beih. 40, 1 Anhang 127 (1936); Nelves & Baldwin in Amer. J. Bot. 39: 368 (1952).

Bulbostylis polytricha *Cherm.* in Arch. Bot. Caen 4, Mém. 7: 39 (1931).

Tufted annual with papery leaf-sheaths and distinctly pedicellate spikelets; **granite out-crops, lateritic flats and wet flushes.**

Mali: Kita Mts. (Oct.) Jaeger 57! Bamako (Sept.) Waterlot 1349! Koulikoro (Oct.) Chev. 2476! **Guin.:** Télémélé to Pita (Oct.) Pitot! Hollandé-Tossekré (Oct.) Adam 12727! Macenta (Oct.) Baldwin 9786! Nzérékoré (Apr., Oct.) Pitot! Baldwin 9694! **S. L.:** Waterloo (Aug.) Melville & Hooker 333! Binkolo (Aug.) Thomas 1771! Sefadu (Sept.) Adames 269! Bendugu to Kulafaga (Sept.) Deighton 5153! Loma Mts. (Aug.) Jaeger 7223! **Lib.:** Palilah, Gbanga Dist. (Aug.) Baldwin 9154! 12040! Nimba Mts. (June, Aug.) Adam 21582! Adames 460! 20 miles E. of Zwedru, Tchien Dist. (Aug.) Baldwin 7057! **Iv. C.:** Scaëtta 3258! 3297! Man (June) Portères 21 bis! Orodougou, Sifé to Séguéla (June) Chev. 21829! **Ghana:** Berekum to Sampa (Dec.) Adams 5295! **N. Nig.:** Kuffena, Zaria Dist. (Aug.) Kershaw 900694! Jos (Aug.) Keay FHI 20200! Naraguta F.R., Jos Plateau (July) Lawlor & Hall 45560! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 334! 397! **S. Nig.:** Ado Rock, Oyo Dist. (Oct.) Savory & Keay FHI 25298! Iseyin Rock (Aug.) Onyeachusim FHI 59186! Fashola Rock, Oyo Dist. (Nov.) Gledhill 680! Oyo to Iseyin (July) Gillett 15199! Igboora (Oct.) Haines 221!

Throughout tropical Africa.

15. **Bulbostylis abortiva** (*Steud.*) *C.B. Cl.* in Dur. & Schinz, Consp. Fl. Afr. 5: 610 (1895); Bodard l.c. 74. *APD acc*

Fimbristylis abortiva *Steud.*, Syn. Pl. Glum. 2: 111 (1855).

Scirpus schwienfurthianus *Boeck.* in Linnaea 36: 758 (1870).

Readily distinguished from *B. congolensis* and large forms of *B. densa* which it resembles in size, by the ciliate-edged bracts and glabrous glumes; [grassland, and cultivated and waste places](#).

Sen.: Souriel (Sept.) Diallo 247! Fajakouon to Medina Yoro Foula Boudet 3828! Dulayel (Sept.) Boudet 3540! Ouassadou (Nov.) Berhaut 899! Tambacounda (Sept.) Berhaut 3184! **Mali:** Kita (Sept., Oct.) Jaeger 3! or 52! 5747! Bamako (Sept.) Jaeger 5058! Adam 14972! 15032! **S. L.:** Lengekoro (July) Glanville 219! Koinadugu (Aug.) Haswell 229! Loma Mts. (Sept.) Jaeger 1911! Kondembaia (Aug.) Jordan 492! **U. Volta:** Pama to Diabiga (Aug.) Scholz 149! Banfora (Sept.) Adam 15159! Sindoukoroni (Sept.) Adam 15188! **Ghana:** Burufo, S. of Lawra (Sept.) Irvine 4722! Tongo Hill, nr. Bolgatanga (Aug.) Hall CC 570! Tamale (Aug.) Irvine 4535! Banda (Aug.) Hall 1990! **Togo Rep.:** Büttner 123! Sokodé (July) Duffour 7022! **N. Nig.:** Badeggi, nr. Bida (Sept.) Vaillant 2739! Kaduna to Keffi (June) Kershaw 900611! Anara F.R., Zaria Prov. (July) Keay FHI 25950! Jos (Aug.) Keay FHI 20186! Panshanu Pass (Aug.) Lawlor & Hall 203! **S. Nig.:** Lagos to Abeokuta (Sept.) Killick 251! Umudike (Aug.) Nwanzo in Hb. Tuley 773! Mamu Biver F.R., Onitsha Prov. (Sept.) Onochie FHI 34078! Igboora (June) Haines 233!

Throughout tropical Africa and Madagascar.

16. *Bulbostylis densa* (Wall.) Hand.-Mazz. in Karsten & Schenk, Vegetationsb. 20, 7: 16 (1930). *APD acc*

Scirpus densus Wall. in Roxb., Fl. Ind. ed. 1, 1: 231 (1820).

Bulbostylis capillaris var. *trifida* (Nees) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 652 (1893).

Bulbostylis trifida (Nees) Nelmes in Kew Bull. 5: 209 (1950).

Isolepis trifida Nees in Wight, Contrib. Bot. Ind. 108 (1834).

16a. *Bulbostylis densa* var. *densa* *APD acc*

Very variable in size and inflorescence but always with clearly pedicellate spikelets.

Sen.: Tambacounda (Sept.) Berhaut 3285! **Mali:** Kita Mts., summit (Sept.) Jaeger 46! 61! **Guin.:** Friguiagbé (Apr., May, Aug.) Chillou 215! 517! 610 bis! Labé Adam 14562! Labé to Gaoual Adam 14811! **S. L.:** Hastings (Aug.) Melville & Hooker 194! Rokupr (July) Jordan 458! Falaba (July) Morton & Jarr SL 2094! Bintumane Peak, Loma Mts. (Oct.) Jaeger 195! Mokunde, nr. Njala (June) Pyne 173! **S. Nig.:** Obudu Plateau Rd., 4,500 ft. (Nov.) Tuley 1020! North of Owo F.R., Ondo Prov. (July) Onochie FHI 33248! **W. Cam.:** Cam. Mt., 6,000–10,000 ft. (Dec.) Mann 2093! Mann's Spring, Cam. Mt. (Mar.) Richards 9399a! Onyanga, Cam. Mt., 8,100 ft. (Jan.) Steele 76! Bagango to Bafut-Ngamba, Bamenda Dist. (July) Daramola FHI 43206! Bum, Bamenda Dist. (June) Maitland 1759! **F. Po:** Milne! 8,500 ft. (Jan.) Mann 1471! Clarence Peak (Dec.) Mann 660! nr. Biao (Sept.) Melville 466!

Throughout the tropical region of the Old World.

16b. *Bulbostylis densa* var. *cameroonensis* (C.B. Cl.) Hooper in Kew Bull. 26: 583 (1972). *APD acc*

***Bulbostylis puberula* var. *cameroonensis* C.B. Cl. in Dur. et Schinz, Consp. Fl. Afr. 5: 615 (1895), name only.**

APD: *Synonym of *Bulbostylis densa* var. *cameroonensis* (C.B. Clarke) S.S. Hooper*

Differing from the rest of the species in Africa in having spikelets on short pedicels producing a compact inflorescence and glumes with a distinctly excurrent nerve; [grassland](#).

Cam.: Cam. Mt., 6,000–1,000 ft. (Dec.) Mann 1360b! 2093b!

[A variable species, the lowland form of which has a number of small spikelets with glumes about 1.5 mm. long, whilst specimens from the Nimba Mts. and Cameroun Mt. have a few larger spikelets with dark glumes 2 mm. long.]

17. *Bulbostylis pusilla* (A. Rich.) C.B. Cl. in Dur. et Schinz, Consp. Fl. Afr. 5: 615 (1895); F.T.A. 8: 440; Bodard l.c. 72. *APD acc*

Fimbristylis pusilla Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 506 (1851).

Scirpus hochstetteri Boeck. in Linnaea 36: 739 (1870).

Bulbostylis capillaris of F.W.T.A., ed. 1, 2: 477, partly.

Slender annual with capillary leaves and few, narrow, brown spikelets; [moist grassy places often on rock outcrops](#).

Mali: Kita (July–Sept.) Duong 430! Jaeger 4! 17! **Guin.:** Friguiagbé (July) Chillou 1635! Labé Adam 14640! **S. L.:** Pendembu (July) Thomas 775b! **U. Volta:** Sindoukorony Adam 15191! Banfora to Toussiana (Sept.) Jaeger 6561!

Ouagadougou to Ouahigouya (Aug.) Chev. 24722 ter! **Ghana**: Nakpanduri (Aug.) Hall CC 519! **N. Nig.**: Nupe Barter 1579! Kufena, Zaria Prov. (Sept.) Clayton 1324! Naraguta F.R., Jos (July) Lawlor & Hall 143! Panahanu, Bauchi Prov. (Aug.) Lawlor & Hall 241! 551!

Also in **Chad**, **C. African Rep.** and **Ethiopia**.

11. FIMBRISTYLIS

Vahl, Enum. 2: 285 (1806); F.T.A. 8: 411 (1902).

Abildgaardia *Vahl*, Enum. 2: 296 (1806).

- 1 Achene oblong-cylindric, smooth; small slender annual up to 10 cm. high; inflorescence of 1–3 ovoid spikelets on long peduncles and a central sessile one; spikelets 2–4 mm. long, 2 mm. wide; glumes with long awns, crowded [1. dipsacea](#)
- Achene orbicular to obpyriform, trigonous or biconvex, the surface variously ornamented or smooth: **2**
- 2 Stigmas 2; style flat, usually ciliate; achene biconvex; glumes always spirally arranged: **3**
- Stigmas 3; style trigonous, bearded or glabrous; achene trigonous, glumes spirally arranged or distichous: **15**
- 3 Style-base with a fringe of long hairs pendant over the upper part of the achene; slender annual up to 15 cm. high with numerous green to buff narrowly oblong spikelets up to 6 mm. long, 1.5–2 mm. wide; glumes scarious with a conspicuous recurved awn [2. squarrosa](#)
- Style-base not fringed: **4**
- 4 Achene striate with 5–9 ribs, obpyriform; style compressed, bearded above: **5**
- Achene tuberculate, smooth or faintly striolate with numerous faint lines (about 15) usually almost circular in outline, rarely obovate; style compressed and usually bearded or terete and glabrous: **7**
- 5 Spikelets linear-oblong 1.2–1.6 mm. wide; small annual with generous inflorescence of brown spikelets; glumes boat-shaped and sharply keeled with 1 vein in the keel [3. bisumbellata](#)
- Spikelets ovoid to lanceolate, 1.5–4.5 mm. wide; a very variable perennial or annual with large spreading inflorescence; glumes convex, rounded on the back with about 3 veins visible in the green keel area: **6**
- 6 Spikelets 3–6 mm. long and not above 3 mm. wide; annual or perennial with culms 2.5 mm. or more wide at the base and soft leaves; glumes 2–2.4 mm. long [4a. dichotoma var. dichotoma](#)
- Spikelets very large and somewhat inflated, 6–10 mm. long and 3–4.5 mm. wide; stout rhizomatous perennial with fibrous base and few to many spikelets; glumes greyish to light brown, up to 3.5 mm. long [4b. dichotoma var. laxa](#)
- 7 Glumes glabrous or with a sparse scattering of short hairs: **8**
- Glumes with a very dense and conspicuous grey pubescent patch in the upper third; stout perennial [9. ferruginea](#)
- 8 Spikelets 1.5–2.8 mm. wide, never hairy; rhachilla very narrow, 0.5–0.6 mm. wide; achenes never granular: .. **9**
- Spikelets 2.8–4 mm. wide, glabrous or sparingly hairy; rhachilla 0.8–1 mm. wide; achenes smooth, striolate or granular: **11**
- 9 Spikelets oblong-lanceolate, 1.8–3 mm. wide, 7–12 or more per inflorescence; achene faintly striolate to almost smooth or with a few tubercles, usually dark when ripe [4c. dichotoma var. pluristriata](#)
- Spikelets lanceolate 1.5–2.5 mm. wide, 1–5 or, rarely, up to 10 per inflorescence; slender annuals with rigidly erect solitary or tufted stems and narrow leaves not over 1.5 mm. wide: **10**
- 10 Achenes not striate, smooth with scattered tubercles especially on the thickened margins and near the apex, surface cells thin-walled, elongate [5. alboviridis](#)
- Achenes faintly pluristriate with up to 15 ribs, rarely with tubercles, surface cells thick-walled, square or almost so [6. striolata](#)
- 11 Annual or perennial up to 75 cm. high; glumes broadly ovate, obtuse, mucronate: **12**
- Stout perennials 25–60 cm. high, or more; rhizomes thick with bulbous stem-bases coated with fibrous sheath remains; glumes broadly lanceolate, acute or obtuse, mucronate: **13**
- 12 Glumes with conspicuous dark chestnut brown or black lateral patches, otherwise pale green, veins crowded into the keel; spikelets usually 3–9 per inflorescence [7. pilosa](#)
- Glumes pale greenish cream throughout, veins fairly evenly spaced across the back; spikelets solitary, rarely 2–3 per inflorescence [8. schoenoides](#)
- 13 Glumes acute, dark chestnut with a dark grey-green excurrent keel: **14**
- Glumes obtuse, light yellowish brown or ferruginous, with an obscure keel scarcely excurrent [13. chevalieri](#)

- 14 Pedicels straight or almost so, erect; achenes finely punctate, black at maturity [10. nigritana](#)
 Pedicels long, flexuous, mostly curving outwards and downwards; achenes finely granular, dark brown at maturity [11. barteri](#)
- 15 Glumes spirally arranged: 16
 Glumes distichous: 29
- 16 Inflorescence of 2—many pedicellate spikelets: 17
 Inflorescence of clusters of numerous sessile spikelets [21. obtusifolia](#)
- 17 Cauline leaves with well developed leaf-blades; stems more or less terete or strongly compressed and 2-angled: 18
 Cauline leaves reduced to the sheath only or with a very short blade; basal leaves well developed or absent; stems strongly 4–5 angled at the top: 27
- 18 Achene with transverse wavy ridges or undulations; leaves filiform or very narrow; stem ribbed at the top; plant usually with scattered fine long white hairs: 19
 Achene tuberculate or vertically ribbed; leaves filiform or flat; plant never with scattered fine long white hairs: 23
- 19 Spikelets 3–5 mm. long, numerous; glumes ferruginous with a long mucro, pubescent [24. cioniana](#)
 Spikelets 5–8 mm. long, rarely more than 12 to an inflorescence and usually many fewer; glumes acute or shortly mucronate, pubescent or glabrescent: 20
- 20 Achenes obpyriform, yellowish, undulations not very pronounced or the achene almost smooth: 21
 Achenes elliptic-ovoid, white, with narrow-crested transverse ridges; annual or perennial; glumes 3.8–4.5 mm. long, acute, ferruginous with dark brown close to the green keel, glabrous [26. tisserantii](#)
- 21 Glumes 2–3.5 mm. long, mucronate or acute, dark chestnut with a green keel or rarely ferruginous: 22
 Glumes 3.8–4.5 mm. long, acute, ferruginous, rarely dark chestnut with a green keel, pubescent; rigid perennial [25b. hispidula subsp. brachyphylla](#)
- 22 Achene with 10–12 transverse undulations; slender annual; glumes dark, acute, 2–2.5 mm. long . [25c. hispidula subsp. senegalensis](#)
 Achene with 6–8 transverse undulations; annual or perennial; glumes dark or ferruginous shortly mucronate, 2.5–3.5 mm. long [25a. hispidula subsp. hispidula](#)
- 23 Stem ribbed or terete at the top; spikelets small, more or less oblong to narrowly lanceolate; 24
 Stem compressed, flattened and acutely 2-keeled at the top: 26
- 24 Perennial with swollen creeping rhizomatous bases with a thick coating of old leaf-sheath bases: 25
 Annual, or perennial with a slender rhizome; leaf-blades filiform or up to 1 mm. wide; spikelets ovoid, greenish white or tinged with light chestnut, few; glumes sub-acute with or without a short mucro [15. debilis](#)
- 25 Plants stout; leaves 1–4 mm. wide; inflorescence with numerous spikelets (12 or more); glumes dark, acutely keeled, acute [12. scabrida](#)
 Plants slender; leaves not over 0.5 mm. wide; inflorescence with 2–6 brown spikelets; glumes brown, acutely keeled, obtuse [14. schweinfurthiana](#)
- 26 Slender densely leafy annual with small, linear-lanceolate spikelets up to 1.2 mm. wide; rhachilla narrow, less than 0.6 mm. wide; glumes ferruginous, 1–1.5 mm. long [16. thonningiana](#)
 Densely leafy annual with spikelets 1.5–2.5 mm. wide; rhachilla 0.7–1 mm. wide; glumes 2–2.8 mm. long . [17. complanata](#)
- 27 Spikelets small and very numerous, globose; slender or robust leafy annual [18. littoralis](#)
 Spikelets ovoid to lanceolate; tufted perennials: 28
- 28 Basal leaves few to many, always with a well-developed blade [19. quinquangularis](#)
 Basal leaves absent [20. aphylla](#)
- 29 Inflorescence a solitary pale yellowish green spikelet; achene trigonous, granular-tuberculate [22. ovata](#)
 Inflorescence of 2–5 spikelets; achene smooth or almost so with an exceptionally long stipitate base [23. triflora](#)

1. **Fimbristylis dipsacea** (Rottb.) C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 635 (1893); F.T.A. 8: 413. *APD acc*

Scirpus dipsaceus Rottb., Desc. & Ic. 56, t. 12, f. 1 (1773).

Minute ephemeral herb with small green spikelets not over 4 mm. long; glumes scarious with the green midvein excurrent in a long awn; sandy places and swamps, also on laterite outcrops.

Mali: L. Korienza (Apr.) Duong 2148! 2152! Gao to Bagoundié (June) de Wailly 5061! **S. L.:** Kambia (May) Jordan 866! Rokupr (Apr.) Adames 170a!

Widespread in tropical regions.

2. **Fimbristylis squarrosa** *Vahl* Enum. 2: 289 (1805); F.T.A. 8: 413; Berhaut, Fl. Sén. ed. 2, 370. *APD acc*

Small annual herb with green to buff-coloured oblong spikelets, glumes scarious with a conspicuous green midvein excurrent in a long recurved awn; in sandy river-beds and swamps.

Sen.: Sangalkam (June) Berhaut 5266! Kayar (Apr.) Naegelé 8086! Ourosogui to Matam (Feb.) Naegelé 12117! Dougar (Jan.) Berhaut 5652! Niokolo-Koba (Feb.) Adam 17539! **Mali:** Néguebougou, nr. Bamako (Jan.) J. & A. Raynal 5420! Douna (Feb.) Roberty 3366! Djenné to Sofara (July) Chev. 1149! **S. L.:** Rokupr (Apr.) Adames 170! **N. Nig.:** Nupe Barter 1580! Gurara Falls, Niger Prov. (Mar.) Stanfield! Abinsi (May) Dalz. 822! **W. Cam.:** Bambalang, Ndop Plain (Mar.) Brunt 1030!

Widespread in tropical regions.

3. **Fimbristylis bisumbellata** (*Forsk.*) *Bubani* Dodecanthea 30 (1850); Aké Assi, Contrlb. 2: 262 (1964); Berhaut, Fl. Sén. ed. 2, 371. *APD acc*

Scirpus bisumbellatus *Forsk.*, Fl. Aeg.-Arab. 15 (1775).

Fimbristylis dichotoma *Vahl*, Enum 2: 287 (1805), as to description and citations only; F.T.A. 8: 414.

Annual herb to 30 cm. high with numerous short leaves; inflorescence of many linear-lanceolate to cylindric light brown spikelets; damp grassy places.

Sen.: Niokolo-Koba Berhaut 1607. **Mali:** Ségué (Apr., May) Roberty 2056! 2065! Djenné (June) Chev. 1119! Goundam (Nov.) Roberty 3194! L. Fagulbine (Oct.) Monod 4058! **iv. C.:** Ferkessédougou Aké Assi IA 5623. **Ghana:** Tamale to Damongo (Mar.) Morton GC 8771! Zuarungu (Dec.) Adams & Akpabla 4302! Bawku to Bolgatanga (Apr.) Morton 8959! **N. Nig.:** Moiser! Nupe Barter 1209! Sokoto (July) Dalz. 4611 Malamfaturi, N.E. Bomu (Oct.) De Leeuw 20681

Widespread in tropical regions.

4. **Fimbristylis dichotoma** (*Linn.*) *Vahl* Enum. 2: 287 (1805), as to name only; Berhaut, Fl. Sén. ed. 2, 371, 373. *APD acc*

APD: *Synonym of Fimbristylis bisumbellata (Forsk.) Bubani*

Scirpus dichotomus *Linn.*, Sp. Pl. ed. 2, 74 (1762).

S. diphyllus *Retz.*, Obs. 5: 15 (1788).

Fimbristylis diphylla (*Retz.*) *Vahl*, Enum. 2: 289 (1805); F.T.A. 8: 415.

4a. **Fimbristylis dichotoma** var. **dichotoma** *APD acc*

Tufted perennial or annual up to 1 m. high but very variable in stature with wide scarious-margined basal leaf-sheaths and numerous glabrous or sparingly hairy leaves. Inflorescence of numerous light brown to chestnut narrowly ovate or lanceolate spikelets 3.5–6 mm. long, rarely longer, with shallowly convex green-keeled glumes; damp grassland and savanna, stream banks and swamps.

Sen.: Sangalkam (May) Berhaut 7583! Kolda (Oct.) Adam 18472! Geneto, Gambia R., (May) Naegelé 11756! Badi (Sept.) Berhaut 3056! Kanouméri, Kédougou to Bandiafassi (July) Fotius K273! **Gam.:** Yundum (Dec.) Austin 19! **Mali:** (May) Chev. 784! Bamako (May) Duong 2287! Sotuba (Oct.) Raynal 5011! Djenné (July) Chev. 1140! Gao to Bossobougou (July) de Wailly 5090! **Guin.:** Friguiagbé (Apr., May) Chillou 345! Boismaré 246! Dalaba Monod! Kouroussa (July) Pobéguin 414! Farana (Apr.) Pitot! **S. L.:** Rokupr (Feb.) Deighton 5362! Njala (Oct.) Deighton 1353! Koinadugu (Aug.) Haswell 240! Perankonko Loma Mts. (Sept.) Jaeger 1768! Kenema (Nov.) Deighton 5877! **Lib.:** Kailahun, Kolahun Dist. (Nov.) Baldwin 10129! Monrovia (May) Baldwin 5835! Gbanga (Sept.) Linder 512! Ganta, Sanokwele Dist. (Nov.) Harley 1717! Nyaake (Webo), Webo Dist. (June) Baldwin 6154! **iv. C.:** Tai to Tabou (Aug.) Boughey GC 14951! Divo Forest, Gagnoa (Aug.) Boughey GC 14659! Mankono (Aug.) Boughey GC 18509! Brafouédi (Apr.) Leeuwenberg 3338! Grand Bassam (Sept.) de Wit 7310! **U. Volta:** Sikasso to Bobo-Dioulasso (Sept.) Jaeger 5173! Banfora (June) Leeuwenberg 4362! Farakoba (June) Scholz 306! 307! Ouagadougou (Aug.) Nongonierma 93! **Ghana:** Axim (Mar.) Morton GC 6591! Burufo, nr. Lawra (Apr.) Adams 4058! Bawku (Aug.) Hall 2067! Tamale (Dec.) Adams & Akpabla 4178! Accra Morton 6112! **N. Nig.:** Sokoto (July) Dalz. 473! Katsina to Daura (Apr.) Meikle 1356! Minna, Niger Prov. (Jan.) Keay FHI 37323! Hosa, Jos Plateau (Aug.) Keay FHI 12695! Oturkpo, Benue Prov. (Oct.) Kennedy 8021! nr. Vogel Peak, Sardauna Prov. (Nov.) Hepper 1386!

S. Nig.: Ibadan (Feb.) Brenan 8979! Owo F.R., Ondo Prov. (July) Onochie FHI 33246! Ajagbodudu (Aug.) Wright 56! Aboh Barter 131! Abakaliki (Nov.) Tuley 3! **W. Cam.:** Malende to Muyuka (Mar.) Brenan 9327! Mencham R. (Feb.) Brunt 953! Mbaw Plain (May) Brunt 490! Mamfe (Mar., Dec.) Migeod 261! Onochie et al. FHI 30890! **F. Po:** (Oct.) T. Vogel 12! S. Isabel Swarbrick 2918! Moka (Sept.) Melville 610!

In all tropical areas of the world.

4b. *Fimbristylis dichotoma* var. *laxa* (Vahl) Napper in Kew Bull. 25: 436 (1971).

APD: *Synonym of Fimbristylis dichotoma (L.) Vahl*

Fimbristylis laxa Vahl, Enum. 2: 292 (1805).

Fimbristylis diphylla var. *laxa* (Vahl) E. G. Camus in Lecomte, Fl. Gén. Indochine 7: 104 (1912).

Fimbristylis dichotoma of F.T.A. 8: 414, in small part.

A much stouter perennial than the type variety, with the sheath-bases becoming hard and the stem-bases frequently surrounded by fibres; inflorescence with few to many light brown to greyish spikelets 6–9 mm. long, 3–4.5 mm. wide and usually plumper than the species; **swampy, damp grasslands and plantations.**

Sen.: Kolda (Oct.) Adam 18472! **Guin.:** Friguiagbé (Apr., May) Chillou 136! 447! Farana (Mar.) Sc. Elliot 5355! **S. L.:** Sulima (May) Deighton 5781! Yonibana (Jan.) Glanville 133! Sendugu (June) Thomas 601! Samaia (May) Thomas 235! **S. Nig.:** Igbetti to Ogbomosho (Aug.) Stanfield!

Almost as widely spread as the type variety but much less frequent in occurrence in Africa, though in parts of the east it may be the more abundant.

4c. *Fimbristylis dichotoma* var. *pluristriata* (C.B. Cl.) Napper in Kew Bull. 25: 437 (1971).

APD: *Synonym of Fimbristylis tomentosa Vahl*

Fimbristylis diphylla var. *pluristriata* C.B. Cl. in Hook. f., Fl. Brit. Ind. 6: 637 (1893).

Fimbristylis podocarpa Nees in Wight, Contrib. 98 (1834); Berhaut, Fl. Sén. ed. 2, 371.

Fimbristylis pluristriata (C.B. Cl.) Berhaut in Bull. Soc. Bot. Fr. 101: 376 (1955), illegitimate name.

An annual differing from similar states of the species by the almost orbicular achene with numerous faint striae, otherwise identical; **damp grassy places, stream-banks, etc.**

Gam.: (Aug.) Ruxton 80! **Sen.:** M'Bao (Nov.) Adam 2311! Oussouyé (Oct.) Kerharo & Adam 1564! Casamance (Oct.) Adam 18587! **Mali:** Kita (Sept.) Jaeger 71! 74! Samanko, nr. Bamako (Jan.) J. & A. Raynal 5418! **Guin.:** Koba (Nov.) Jac.-Fél. 7251! **S. L.:** Waterloo (Aug.) Melville & Hooker 297! Rokupr (July) Jordan 51! Konta (Sept.) Jordan 106! Loma Mts. (Aug.) Jaeger 7224! Madina (Aug.) Jordan 911! **Ghana:** Oti R. nr. Kpandai (Aug.) Hall GC 38730! Yendi (Dec.) Adams & Akpabla 4094! Lumbaga to Tamale (Dec.) Morton GC 6266! Dedoro to Tankara (Dec.) Adams & Akpabla 4330! **N. Nig.:** Birnin Gwari (Apr.) Meikle 1383! Naraguta F.R., Jos (July) Lawlor & Hall 107! Damaturu, Bornu Prov. (Sept.) De Leeuw 1211b! **S. Nig.:** Okelifi, Ondo Dist. (Nov.) Onochie FHI 34225!

Widespread with the type variety and frequently not separated from it.

[The taxonomy of this widespread and very variable species poses many problems. The varieties deemed here seem a natural division of the West African material though a few anomalous intermediates have been observed. Much work remains to be done on a wider basis especially in field observation and experimentation before a proper understanding of the variability can be obtained.]

5. *Fimbristylis alboviridis* C. B. Cl. in Fl. Brit Ind. 6: 638 (1893); Napper in Kew Bull. 25: 437 (1971).

APD acc

Fimbristylis diphylla var. *tuberculata* Cherm. in Bot. Arch. Caen 4, Mém. 7: 31 (1931).

Fimbristylis pluristriata var. *tuberculata* (Cherm.) Berhaut in Bull. Soc. Bot. Fr. 101: 376 (1955), invalidly published.

Fimbristylis podocarpa Nees var. *tuberculata* (Cherm.) Berhaut, Fl. Sén. ed 2, 371, name only.

Slender narrow-leaved annual differing from *F. dichotoma* in the more rigid habit, the fewer spikelets, the smaller glumes marked with dark chestnut brown and the very characteristic suborbicular achene having few to several vertical rows of cells lacking the raised ribs, but with a thick tuberculate rim and scattered tubercles on the sides; **swampy places and river banks, also damp grassland and rocky places.**

Sen.: Berhaut 630; 2606. **Guin.:** Friguiaigbé (Aug.) Chillou 610! Manéa (June) Chillou 2631! foot of Nimba Mts. Schnell 3428! Nzérékoré Adam 6265! **S. L.:** Freetown (Sept.) Hepper 923! Martin (Jan.) Deighton 3545! Konta (Sept.) Jordan 108! Port Loko to Mange (May) Jordan 871! Kambia (July) Jordan 469! **Ghana:** Burufo, nr. Lawra (July) Adams 928! Hall CC 761! Pepease to Kwahu (May) Hall 3660! Kwahu Tafo (Apr.) Hall 3017! 3018! **N. Nig.:** Kan Gimi, Anara F.R. (May) Keay FHI 22947! **S. Nig.:** Idanre, Ondo Prov. (Aug.) Jones FHI 20723! Mt. Orosun, Idanre Hills (Oct.) Keay FHI 22594!

Occurs widely to India and Java though rarely recorded in central and north-eastern Africa.

6. *Fimbristylis striolata* Napper in Kew Bull. 25: 438 (1971). *APD acc*

Scarcely differing from *F. albiviridis* except by the achene, though the habit is usually rather stouter than commonly recorded for the other; an extreme, very slender form with solitary spikelets is common in some areas; **seasonally swampy places, rice fields and grassland.**

Sen.: Fatick (Dec.) J. & A. Raynal 6713! Diohine (Oct.) Berhaut 3941! Kaolack (Oct.) Berhaut 3802! Tambacounda (Sept.) Berhaut 3308! Casamance (Sept.) Adam 18121! **Guin.:** La Kolenté, Botocoli Rd. (Nov.) Chillou 1017! **S. L.:** Mateboi (Nov.) Jordan 830! Kabala (Dec.) Deighton 4409!

7. *Fimbristylis pilosa* Vahl Enum. 2: 290 (1805); F.T.A. 8: 416. *APD acc*

APD: *Synonym of Bulbostylis pilosa* (Willd.) Cherm.

Perennial, rarely annual, with narrow leaves 0.5–1.7 mm. wide; inflorescence with few, 3–9 spikelets, glumes with dark chestnut to black patches and green keel; spikelets larger than *F. dichotoma* and the rhachilla broader; **damp or swampy places in grassland and savanna.**

Sen.: (Sept.) Fotius K394! Ziguinchor (Sept., Oct.) Adam 18225! Broadbent 82! **Guin.:** Bandakure, S.W. of Pita (Mar.) Adames 287! Kouroussa (July) Pobéguin 419! **S. L.:** Mayumbo (Aug.) Jordan 916! Tabe (Sept.) Deighton 3041! Koinadugu (Aug.) Haswell 226! Musaia (Sept.) Small 238! Sintunia (July) Morton & Jarr SL 2088! **Iv. C.:** N. of N'Douci, N'Zi R. (Aug.) de Wit 7384! N'Douci to Toumodi (Aug.) de Wit 7336! 7337! Gonokrom to Techikrom (Dec.) Adams 2973! **U. Volta:** Ouagadougou (Aug.) Nongonierma 82! **Ghana:** Wa (Sept.) Hall CC 599! Tamale (Nov.) Williams 441! Ejura (Aug.) Andoh 5055! Kpong (May) Gyadu GC 20561! Accra (July) Irvine 718! **N. Nig.:** Kurni, Kaduna to Keffi (June) Kershaw 900614! Plateau Prov. (Aug.) Lely P451! Vodni, Pankshin Div. Saunders 17! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 554! Gawu to Abuja, Niger Prov. (Aug.) Onochie FHI 35448! **S. Nig.:** Igbete to Kishi, Old Oyo Game Reserve (Nov.) Gledhill 750! Apete, Ibadan (May) Guile! Igboora (Oct.) Haines 220! Owo (Apr.) Haines 202! Ikare, nr. Owo (Apr.) Haines 15!

Also in the **Congo Republic** and **Uganda**.

8. *Fimbristylis schoenoides* (Retz.) Vahl Enum. 2: 286 (1805); Berhaut, Fl. Sén. ed 2, 373. *APD acc*

APD: *Synonym of Bulbostylis atrosanguinea* (Boeckeler) C.B. Clarke

Scirpus schoenoides Retz., Obs. 5: 14 (1788).

Narrow-leaved annual or perennial with solitary, or rarely paired, spikelets; **swampy places in grassland.**

Sen.: Diohine (Oct.) Berhaut 1711! Oussouyé (Oct.) Adam 18297! Kerharo & Adam 1563! Casamance (Oct.) Adam 18151! 18373! Niassia (Nov.) Berhaut 6655! **S. L.:** Martin (Jan.) Deighton 3544! Bakepet, Mambolo (Dec.) Jordan 735! **Ghana:** Burufo, nr. Lawra (Sept.) Hall CC 746!

Widespread in India.

9. *Fimbristylis ferruginea* (Linn.) Vahl Enum. 2: 291 (1805); F.T.A. 8: 417; Berhaut, Fl. Sén. ed. 2, 361, 370, 371, 373. *APD acc*

Scirpus ferrugineus Linn., Sp. Pl. ed. 2, 74 (1762).

Stout tufted erect perennial 45–75 cm. high with narrow leaves and small dense panicles of few to many spikelets and bracts of very variable length; spikelets lanceolate, grey and rust coloured; **brackish swamps and damp grassland.**

Sen.: Hann (Mar.) Berhaut 7022! Thiès (June) Berhaut 2612! Bamboulan, nr. Toubacouta (Oct.) Monod 8589! M'boro to Fatick (July) Trochain 247! Oussouyé (Sept.) Broadbent 115! **Gam.:** (July) Ruxton 5! Genieri to Massembe (July) Fox 121! **Guin.:** Conakry (Sept.) Martine 114! Golea, nr. Conakry (July) de Wit 7295! Koba Jac.-Fél. 7218! **S. L.:** Aberdeen (July)

Small 114! Maswari, nr. Newton (Oct.) Pyne 129! Talil (Jan.) Deighton 3548! Rokai (Mar.) Jordan 386! Rokel (Jan.) Jordan 6! **Lib.:** Grand Bassa (July, Aug.) T. Vogel 55! Dinklage 1706! Cape Palmas (Dec.) Dinklage 2362! **Ghana:** Keta (Mar.–June) Thorold 102! 103! Morton A2188! GC 6529! Ada (June) Morton GC 9253! **Niger:** Niamey (Oct.) Hagerup 555! Tamgak Wadi, Air Mts. (Mar.) Bradley 122! **S. Nig.:** Ijora, Lagos (June) Haines 14! Ikoyi, Lagos (July) Jones FHI 19424! Lagos Dawodu 343! Nun R. (Sept.) Mann 531! T. Vogel 36!

Widespread in all parts of the tropics.

10. **Fimbristylis nigritana** *C.B. Cl.* in F.T.A. 8: 418 (1902). *APD acc*

Stout perennial with leaves 3–4 mm. wide and dark spikelets up to 12 mm. long with finely punctate black achenes and acute glumes similar to those of *F. scabrida*.

N. Nig.: Nupe Barter 623!

11. **Fimbristylis barteri** *Boeck.* in Linnaea 37: 33 (1871). *APD acc*

Differs from *F. scabrida* in the much coarser habit, the widely spreading Inflorescence with ovate-elliptic spikelets on long lax pedicels and the biconvex, smoother larger achene usually with a 2-fid style, though the lowest fertile florets of the spikelet may have 3-fid styles despite a biconvex achene; **grassland and close to dams.**

Ghana: Tumu (May) Morton GC 7541! **N. Nig.:** Nupe Barter 1578! Maska, Katsina Dist. (June) Keay FHI 25899!

12. **Fimbristylis scabrida** *Schumacher. Beskr. Guin.* Pl. 32 (1827); F.T.A. 8: 422; Aké Assi, Contrib. 263 (1964). *APD acc*

Fimbristylis muriculata *Benth.* in Fl. Nigrit. 554 (1849) (*F. muricata* Walp., Ann. 3: 688 (1854), and *F. muriculata* Steud., Syn. Pl. Glum. 2: 113 (1855)—both orthographic errors for *muriculata*.)

Fimbristylis mucronata *Boeck.* in Linnaea 37: 41 (1871).

Fimbristylis pachystachys *Cherm.* in Bull. Soc. Bot. Fr. 68: 418 (1921).

Fimbristylis tenera of *C.B. Cl.* in F.T.A. 8: 420, partly, and of Hutch. in F.W.T.A., ed. 1, 2: 476; not of Schult.

Plant very variable in size with stem-bases forming coarse matted fibrous tufts and panicles of lanceolate-cylindric spikelets with acute glumes; **damp grassland, savanna and rocky outcrops.**

S. L.: Musaia (July) Deighton 4824! Koinadugu (Aug.) Haswell 208! **iv. C.:** Séguéla (Apr.) Leeuwenberg 3253! Tafiré (June) Leeuwenberg 4440! **Ghana:** Sakogu to Nakpanduri (Aug.) Hall CC 462! Kete Krachi (May) Morton GC 7175! Ejura (Apr.) Williams 234! Accra Don! **Togo Rep.:** Bafilo (May) Roberty 1426! Lomé Stage 16! **N. Nig.:** Bonu Kurmi, Niger Prov. (June) E. W. Jones 170! Mando F.R., Birnin Gwari Dist. (June) Keay FHI 25853! Kan Gimi, Anara F.R. (May) Keay FHI 22862! **S. Nig.:** Wasimi Rd (May) “Lagos Govt.” 50! Iseyin (May) Guile A8! Oyo (Apr.) Guile! Ishan Disk. (Apr.) Daramola FHI 31261! Owo to Ikare (Apr.) Haines 9!

Also eastwards to the Congo.

13. **Fimbristylis chevalieri** *Kük.* in Bull. Mus. Hist. Nat. Paris sér. 2, 3: 547 (1931). *APD acc*

Tufted perennial similar in habit to *F. scabrida* but with much paler ovate-elliptic larger spikelets; **in savanna.**

Sen.: Geneto to Kourientun (May) Naegelé! Kanouméri, Kédougou (June) Fotius K123! **Guin.:** Bioumahame to Siguin (May) Chev. 25897! Mamou (May) Pitot!

14. **Fimbristylis schweinfurthiana** *Boeck.* in Flora 37: 565 (1879); F.T.A. 8: 420. *APD acc*

Small slender-stemmed plant with narrow leaves and thick perennial tufts of old culm- and leaf-bases, spikelets only 2–6, brown; rocky outcrops, shallow soils on seasonally swampy ground, seepage areas.

Mali: Kita (July) Jaeger 34! 39! **Guin.:** Kindia (May) Jac.-Fél. 1635! **S. L.:** Waterloo (May) Deighton 2649! Kukuna (Apr.) Hepper 2645! Loma Mts. (June) Morton SL 3565!

Also across to the **Sudan.**

15 **Fimbristylis debilis** *Steud.* Syn. Pl. Glum. 2: 109 (1855); Napper in Kew Bull. 25: 438 (1971). *APD acc*

Fimbristylis tenera of F.T.A. 8: 420, partly; Berhaut, Fl. Sén. ed. 2, 372; not of Schult.

Slender annual up to 30 cm. high or perennial with a creeping rhizome, rarely the culm-bases surrounded with fibrous sheath-remnants; *savanna and scrub but especially in and near pools on laterite outcrops.*

Sen.: Heudelot 324! Ross-Bétio (Aug.) Audru 2159! Berhaut 372! Rufisque Leprieur. Kaolak to Fatick Trochain 4052. **Gam.:** (Aug.) Ruxton 148! **Mali:** Diondiou (June) Chev. 1010. Katibougou (July) Kaden 67/506. **S. L.:** Port Loko (Oct.) Jordan 810! **Ghana:** Kwahu Tafo (Dec.) Harris! Berekum to Sampa (Dec.) Adams 5277! Nsemre F.R., nr. Borku (Dec.) Adams 5225! Tumu (May) Morton 7414! Burufo, nr. Lawra (Sept.) Hall CC 762! **Niger:** Zinder (July) P. de Fabrègues 2705. **N. Nig.:** Bindawa Village F.R., Katsina Prov. (Aug.) Grove 2!

16. *Fimbristylis thonningiana* Boeck. in Linnaea 38: 395 (1874); F.T.A. 8: 426.

APD: *Synonym of Fimbristylis microcarya* F. Muell.

Leafy annual differing from *F. complanata* in the more slender annual habit, the lower growth and the much smaller spikelets; *in damp grassland and wet exposed places.*

S. L.: Rokupr (Apr.) Jordan 203! Mano Bonjema (Apr.) Deighton 3706! **Lib.:** Cape Mount (Mar.) Dinklage 2487! Monrovia (Feb.) Dinklage 2757! Mnanulu, Webo Dist. (June) Baldwin 6051! **Iv. C.:** Banco Forest, nr. Abidjan (Dec., Feb.) Aké Assi 4744! Boughey GC 13501! Yapo Forest, nr. Abidjan (July) Boughey GC 14590! **Ghana:** Essiama (May) Morton A2123! Axim (Mar.) Morton GC 8476! Nsuaem, Agona to Tarkwa (Aug.) Hall 3325! Ankasa F.R. (Apr.) Hall & Enti GC 38329! Kpandai (Aug.) Hall GC 88740! **S. Nig.:** Ibadan (Apr., Oct.) Guile A3! A17!

17. *Fimbristylis complanata* (Retz.) Link Hort. Berol. 1: 292 (1833); F.T.A. 8: 422. *APD acc*

Scirpus complanatus Retz., Obs. 5: 14 (1789).

Tufted leafy perennial with broadly linear leaf-blades rounded at the tip and compressed linear stems bearing contracted panicles with elongated golden brown spikelets; *in rocky places, rare.*

Lib.: Monrovia (Nov.) Barker 1466! Gbau, Sanokwele Dist. (Sept.) Baldwin 9437! **N. Nig.:** Vom (Dec.) Haines 82!

Occurring in most tropical regions.

18. *Fimbristylis littoralis* Gaud. in Freyc. Voy. Bot.: 413 (1826); Napper in Kew Bull, 25: 439 (1971). *APD acc*

Fimbristylis miliacea Vahl, Enum. 2: 287 (1805); F.T.A. 8: 421; Aké Assi, Contrib. 262 (1964); Berhaut, Fl. Sén. ed. 2, 373 (1967); not *Scirpus miliaceus* Linn.

Tufted leafy annual with numerous panicles of very small globose spikelets; *in marshy grassland, rice-fields, edge of dams, etc.*

Sen.: Heudelot 212! Casamance (Oct.) Adam 18482! **Iv. C.:** Ayamé (May) Aké Assi 4747! **Ghana:** Takoradi (Mar.) Hall 2571! Cape Coast (Mar.) Hall 1060! Kade (June) Irvine 4845! Kusu lagoon, nr. Akuse (Feb.) Hall CC 1213! Kete Krachi (Dec.) Adams 4561! **N. Nig.:** Jebba (Dec.) Hagerup 741! Edozhigi, nr. Bida (June) Vaillant 2659! Bida to Badeggi (Aug.) Onochie FHI 35420! **S. Nig.:** Adani (Nov.) Tuley 17!

Widespread in eastern tropical regions, rare in Africa and possibly introduced with cultivated rice.

[Blake and Kern in their studies of *F. miliacea* (Linn.) Vahl have shown that this name belongs to a taxon other than the one usually recognised as such. *F. littoralis* is the correct name for the plant previously known as *F. miliacea* (Linn.) Vahl.]

19. *Fimbristylis quinquangularis* (Vahl) Kunth Enum. 2: 229 (1837); Aké Assi, Contrib. 262 (1964), partly; Berhaut, Fl. Sén. ed. 2, 373. *APD acc*

Scirpus quinquangularis Vahl, Enum. 2: 279 (1805).

Tufted annual similar to *F. littoralis* but with lanceolate elliptic small spikelets; *in rice-fields, marshy grassland, etc.*

Sen.: Niokolo-Koba (Nov.) Adam 19926! Moulessi, Tambacounda to Kedougou (Dec.) J. & A. Raynal 6745! **N. Nig.:** Edozhigi, Bida (Apr.–Oct.) Vaillant 2740! 2741! 2792! Biliri, S. of Gombe (Nov.) J. Lowe 1516! **S. Nig.:** Adani (Nov.) Tuley 19!

Widespread in all tropical regions.

20. **Fimbristylis aphylla** Steud. Syn. Pl. Glum. 2: 114 (1855); Napper in Kew Bull. 25: 440 (1971). *APD acc*

Fimbristylis quinquangularis of F.T.A. 8: 421; F.W.T.A., ed. 1, 2: 476; Aké Assi, Contrib. 262 (1964), partly.

Fimbristylis testui Cherm. in Arch. Bot. Caen 4, Mém. 7: 33 (1931)

Stout tufted perennial with the leaf-blades much reduced, scarcely reaching 1 cm. long, and acutely quadrangular almost winged stems up to 75 cm. high, widely spreading panicles often broader than long with light chestnut elliptic-lanceolate spikelets and short bracts; **swamps and very damp ground in savanna and near rivers, etc.**

S. L.: Waterloo (Aug.) Melville & Hooker 274! Mahera (Oct.) Glanville 415! Rokon (July) Jordan 483! Boajibu (Mar.) Deighton 4091! Koinadugu (Aug.) Haswell 260! Sahn (Apr.) Deighton 1686! **Ghana:** Sampa, NW. Ashanti (Apr.) Morton A3264! **S. Nig.:** Ikorodu (Mar.) Gledhill 629!

Eastwards to the Congo.

21. **Fimbristylis obtusifolia** Kunth Enum. 2: 240 (1837); F.T.A. 8: 423; Berhaut, Fl. Sén. ed. 2, 373.

APD: Synonym of Fimbristylis cymosa R. Br.

Tufted rhizomatous perennial with rather rigid leaves and with crowded clusters of dark beige spikelets with very small glumes; **sea-shore, on sand, mud or among rocks.**

Sen.: Roger! Mboro (Apr.) Pitot! Niaga, L. Retba (July) J. & A. Raynal 6079! Hann (July) Naegelé! Diouloulou, Casamance (Sept.) Adam 18149! **S. L.:** Toke, Peninsular (Jan.) Morton SL 610! Freetown (Sept.) Milne-Redhead! Harvey 144! Yele, Turtle Is. (Nov.) Deighton 2307! King Tom (Oct.) Deighton 2157! **Lib.:** Monrovia (June, July) Adam 16571! Dinklage 2824! Grand Bassa (Apr.) T. Vogel 70! Cape Palmas (June, Nov.) Baldwin 5968! Dinklage 2348! **Ghana:** Axim (Mar.) Morton GC 8481! Elmina (Nov.) Boughey GC 10315! Sakumo lagoon, nr. Tema (May) Adams 258! Prampram (Nov.) Boughey GC 14307! Keta (Mar.) Morton GC 6531! **Togo Rep.:** Lomé Warnecke 130! **S. Nig.:** Lagos (Jan., Oct.) Haines 13! Stubbings 80! Killick 85! Nun R. T. Voyel 34! (Sept.) Mann 532!

[This species is part of the world-wide *F. cymosa* R. Br. complex of strand and atoll plants whose interrelationships are not entirely clear. This has made it preferable in the present work to retain the name currently accepted in West Africa, pending a world-wide study of the taxonomy and nomenclature of the group.]

22. **Fimbristylis ovata** (Burm. f.) Kern in Blumea 15: 126 (1967).

APD: Synonym of Abildgaardia ovata (Burm. f.) Kral

Carex ovata Burm. f., Fl. Ind. 194 (1768).

Cyperus monostachyos Linn., Mant. 180 (1771).

Fimbristylis monostachya (Linn.) Hassk., Pl. Jav. Rar. 61 (1848); F.T.A. 8: 424; F.W.T.A., ed. 1, 2: 478.

Slender tufted rhizomatous perennial with crowded culms swollen at the base, filiform or narrowly linear leaves and solitary pale green or yellowish-buff spikelets 1 cm. long; **in grassland and savanna.**

Iv. C.: 40 km. NE. of N'Douci (Aug.) de Wit 7312! **Ghana:** Bole (Aug.) Irvine 5182! Kete Krachi (May) Morton GC 7177! Achimota F.R. (Apr.) Morton GC 9164! Nungua (Apr.) Rose Innes GC 30109! Kpong (May) Rose Innes GC 31231! **N. Nig.:** Rinjim Mukr (May) Lely 221! Samaru, Zaria Prov. (June, July) Keay FHI 25907! C. B. Taylor 23! Zaria (June) Kershaw 900371! Shika, Zaria Prov. (July) Magaji 15!

Widespread in the tropics.

23. **Fimbristylis triflora** (Linn.) K. Schum. in Pflanzenw. Ost-Afrika, C: 124 (1895).

APD: Synonym of Abildgaardia triflora (L.) Abeyw.

Cyperus triflorus Linn., Mant. 180 (1771).

Abildgaardia tristachya Vahl, Enum. 2: 297 (1805).

A. lanceolata Schumach., Beskr. Guin. Pl. 33 (1827).

Fimbristylis tristachya (Vahl) Thwaites, Enum. Pl. Zeyl. 434 (1864); F.T.A. 8: 424; not of R. Br.

Stout rhizomatous perennial up to 60 cm. high with crowded culms and inflorescences of 2–3 large yellowish buff spikelets up to 17 mm. long and 3–4.5 mm. wide; **grasslands**, especially near the coast.

Ghana: Essiama (May) Morton A2130! Nungua (May) Rose Innes GC 31249! Kpong (Mar.) Johnson 1043! Ada (Jan.) de Wit & Morton A2973! Keta (June) Thorold C.B. 106! **Togo Rep.:** Lomé Warnecke 140!

Widespread in the tropics.

24. **Fimbristylis cioniana** *Savi* in Mém. Valdarn. 3: 98 (1842); F.T.A. 8: 420; Berhaut, Fl. Sén. ed. 2, 370.

APD: Synonym of Bulbostylis cioniana (Savi) Lye

Fimbristylis hispidula var. **cioniana** (*Savi*) *Boeck.* in Linnaea 37: 28 (1871).

Small tufted annual usually about 15 cm. high, rarely more; **sandy grassland and river banks.**

Sen.: Naegelé! Vorouli, Gambia II. (Apr.) Nongonierma 470! Niokolo-Koha to Kédougou (Mar.) Adam 18834! **Mali:** Kayes Duong! Ségou (May) Roberty 2067! San (June) Chev. 1087! L. Debo (Nov.) Doung 1355! Gao to Kokoromme (Apr.) de Wailly 5388! **Guin.:** Niger R. (May) Chev. 25873! **S. L.:** Magbema, nr. Kambia (Mar.) Jordan 1058! Laminaiya (Apr.) Thomas 141! Makump (May) Deighton 1703! Njala (Apr.) Deighton 4769! Gbundapi (Mar.) MacDonald 1! **Ghana:** Senchi, Volta R. (Apr.) Irvine 2868! Oti R. (May) Morton 7299! Chindiri, Daka R. (Apr.) Hall VBS 1298! Tamale Reservoir (Mar.) Morton GC 8805! **N. Nig.:** Nupe Barter 127! 1211! Jebba (Dec.) Meikle 854! **S. Nig.:** Owena R., nr. Benin (Apr.) Haines 205! Aboh Barter 132!

Widespread in most tropical and warm temperate regions.

25. **Fimbristylis hispidula** (*Vahl*) *Kunth* Enum. 2: 227 (1837); Boeck. in Linnaea 37: 27 (1871). *APD acc*

Scirpus hispidulus *Vahl*, Enum. 2: 276 (1805).

Isolepis exilis *Kunth* in H.B.K., Nov. Gen. 1: 224 (1815).

Fimbristylis exilis (*Kunth*) *Roem. & Schult.*, Syst. Veg. 2: 98 (1817); F.T.A. 8: 418; F.W.T.A., ed. 1, 2: 476; Berhaut, Fl. Sén. ed. 2, 371, 372.

- 25a. **Fimbristylis hispidula subsp. hispidula** *APD acc*

Densely tufted annual, sometimes persisting, with few spikelets; glumes mucronate, glabrous or rarely puberulous to shortly pubescent, dark chestnut on the sides and with a green keel; achenes yellowish white; **grassland and savanna on sandy soils.**

Sen.: Kasango (Aug.) Trochain 198! Velor (Nov.) Berhaut 4026! Oussouye (Sept.) Broadbent 111! Ziguinchor (Sept.) Broadbent 70! **Gam.:** Saunders 36 (July, Aug.) Ruxton 48! 136! Yundum Ashrif 40 Genieri to Kaiaaf (July) Fox 161! **Mali:** Kita Mts. (July) Jaeger 31! 5753! 144 km. W. of Ségou (Aug.) Roberty 3748! Boré (Aug.) Demange 25/1957! Sotuba (Oct.) J. Raynal 5040! Bamako (Aug.) Roberty 3353! **Guin.:** Friguigbé (May) Chillou 468! 516! Mamou (May) Pitot! Kouroussa (July) Pobéguin 406! 411! Youkounkoun (Oct.) Pitot! **Lib.:** Porobush, Duport (Oct.) van Harten, 175! **Ghana:** Berekum to Sampa (Apr.) Morton A3233! Atonso (Oct.) Baldwin 13488! Tamale (Oct.) Baldwin 13576! Burufo, nr. Lawra (Nov.) Harris! Gambaga (May) Morton GC 7456! **Togo Rep.:** Lomé Warnecke 121! **N. Nig.:** Nupe Barter 1576! Lokoja (Sept.) Parsons 34! Kuffena, Zaria (June) Kershaw 900358! Naraguta F.R., Jos Plateau (July) Lawlor & Hall FHI 46533! Yola (Sept.) Kennedy 7292a! Damaturu, Bornu Prov. (Sept.) De Leeuw 1211a! **S. Nig.:** Oke Iho to Iseyin (Apr.) Keay & Polunin FHI 37839! Oyo (May) Wanstall A6! Ibadan (May) Guile 118! Owo F.R. (July) Onochie FHI 33247! Aboh Barter 356! **W. Cam.:** Cameroon R. (Feb.) Mann 778!

- 25b. **Fimbristylis hispidula subsp. brachyphylla** (*Cherm.*) *Napper* in Kew Bull. 25: 440 (1971).

APD: Synonym of Bulbostylis hispidula subsp. brachyphylla (Cherm.) R.W. Haines

Fimbristylis exilis var. **brachyphylla** *Cherm.* in Arch. Bot. Caen 4, Mém. 7: 32 (1931).

Fimbristylis hensii *C.B. Cl.* in F.T.A. 8: 419.

Tufted perennial, usually much stouter than subsp. *hispidula* with scattered long hairs in the inflorescence, conspicuously paler spikelets having glumes without a mucro and similar achenes though sometimes the surface cells are scarcely raised; **seasonally damp places in savanna, also in grassland, usually in sandy soils, coconut plantations and farmland.**

Sen.: Naegelé! L. Rhetba (Nov.) Pitot! Dagoudane (Oct.) J. & A. Raynal 6495! Diouloulou, Casamance (Sept.) Adam 18184! **Guin.:** Friguigbé (May, July) Chillou 493! 1637! 1638! Boké (Nov.) Jac.-Fél. 7305! Youkounkoun (Oct.) Pitot! **S. L.:** Tisana, Bonthe I., (Nov.) Deighton 2302! Aberdeen (Aug.) Melville & Hooker 139! Roboli, nr. Rokupr (Nov.) Jordan

166! Koinadugu (Aug.) Haswell 224! Mano Salija (Dec.) Deighton 285! **Lib.:** Bushrod I., Monrovia (Feb.) Baldwin 11068! Monrovia (May) Baldwin 5813! Sinkor (June) Barter 1373! Paynesville (Sept.) van Dillewijn 97! Tappita (Aug.) Baldwin 9065! Grand Bassa Ansell! **Iv. C.:** Azaguié Adam 6547! Aguien Scaëtta 3014! Dabou (Nov.) Leeuwenberg 1950! Giovannetti 422! Bouaké (May) de Wilde 57! **Ghana:** Axim (Mar.) Morton GC 6585! Legon Hill (Oct.) Adams 3366! Keta (Mar.) Morton GC 6525! Kpong (June) Irvine 4926! Amedzofe (Oct.) Morton 6037! **Togo Rep.:** Lomé Warnecke 126! **Dah.:** Cotonou Debeaux 331! (Nov.) Poisson! Porto Novo (Sept.) Adjanohoun 261! **N. Nig.:** Ilorin to Jebba (Apr.) Wanstall A5! Lokoja Richardson 5! Badeggi to Lapai (June) E. W. Jones 195! Lapai to Paiko (Aug.) Onochie FHI 35134! Plateau Prov. (Aug.) Lely P453! **S. Nig.:** Lagos (Oct.) Stubbings 79! Abeokuta to Ibadan (Mar.) Schlechter 12347! Oke Iho to Iseyin (Apr.) Keay & Polunin FHI 37834! Udi (Dec.) Onyeagocha FHI 7771! Calabar (Mar.) Brenan 9208! **W. Cam.:** Bali (Apr.) Brunt 1053! Basenako, Bamenda (May) Maitland 14a!

Widespread in tropical and south-west Africa.

25c. *Fimbristylis hispidula* subsp. *senegalensis* (Cherm.) Napper in Kew Bull. 25: 440 (1971).

*APD: Synonym of *Abildgaardia hispidula* subsp. *senegalensis* (Cherm.) J.-P. Lebrun & Stork*

***Isolepis perrotetii* Steud.**, Syn. Pl. Glum. 2: 318 (1855).

***Fimbristylis exilis* var. *senegalensis* Cherm.** in Arch. Bot. Caen 7, Mém. 4: 23 (1936); Berhaut, Fl. Sén. ed. 2, 371.

***Fimbristylis exilis* of F.T.A. 8: 418, partly; F.W.T.A., ed. 1, 2: 476, partly.**

Annual up to 22 cm. high, rarely more, differing from slender forms of subsp. *hispidula* in the more widely spreading inflorescence, the more pubescent glumes without a mucro and the more numerous undulations on the achene; **sandy soils and as a weed.**

Maur.: Mederdra to Tiguent (Oct.) Adam 19354! Dahr de Néma (Dec.) Rossetti 61/181! **Sen.:** Sieber! Heudelot 330! (May) Roger 114! Hann (Sept.) J. & A. Raynal 6314! St. Louis (Oct.) Berhaut 2662! Dakar (Sept.) Adam 1856! Djembering (Sept.) Broadbent 153! Diourbel (Aug.) Trochain 5! **Mali:** Kita Mts. (Oct.) Jaeger 57! Dioura (July) Davey 10! Timbuktu (Aug.) Lean 77! Hagerup 258! Gao to Korogoussou de Wailly 4734! **Guin.:** Soumbalako to Boulivel (Sept.) Chev. 18667! Macenta Adam 6118! **Ghana:** Yeji (Aug.) Hall CC 381! Kete Krachi (May) Morton GC 7174! Keta (July) Hall 3261! Ada (June) Morton GC 9245! **Niger:** Toukounous Bartha 56! 97! **N. Nig.:** Sokoto (Sept., Oct.) Moiser 132! Dalz. 456! Katagum Dalz. 243! Kauwa (Oct.) Golding 17!

26. *Fimbristylis tisserantii* Cherm. in Arch. Bot. Caen 4, Mém. 7: 32 (1931); Napper in Kew Bull. 25: 440 (1971).

*APD: Synonym of *Bulbostylis lyei* Verdc.*

***P. exilis* var. *rufescens* Cherm.** in Bull. Soc. Bot. Fr. 81: 266 (1934).

Tufted glabrous annual with large spikelets similar to those of *F. hispidula* subsp. *brachyphylla* having glabrous or puberulous glumes without a mucro; an ellipsoid not oblanceolate achene white before maturity and sharply ridged; **swampy grassland and savanna.**

Guin.: Friguiagbé (Aug.) Chillou 2112! **Iv. C.:** Foro-foro Forest, 25 km. N. of Bouaké (Sept.) Oldeman 407! **Ghana:** Ejura (Aug.) Halt CC 327! Yeji (Aug.) Hall CC 383! Oti River, nr. Kpandai (Aug.) Hall GC 38768! Tamale to Bolgatanga (Aug.) Hall CC 435! **Togo Rep.:** Sokodé (Aug.) Mahoux 2169!

[West African plants of this species have rather smaller spikelets than those from the Central African and Congo Republics, but it is impossible to decide until further material becomes available and the range of variation can be more accurately assessed whether one or two subspecies are involved.]

12. FUIRENA

***Rottb.*, Descr. et Ic. Pl. 70 (1773); F.T.A. 8: 461 (1902).**

- 1 Rhizomatous perennial; stems and sheaths conspicuously 5-angled; leaves with 5 main nerves, upper exceeding the internodes in length; three of the hypogynous bristles with an obovate, apiculate lamina as long as the achene [1. *umbellata*](#)
- Annual or caespitose perennial; stems and sheaths triangular, terete or inconspicuously 5-angled; leaves with one or several main nerves: [2](#)
- 2 Stems and sheaths triangular; leaves stiff, keeled, one-nerved; tips of the glumes erect: [3](#)

- Stems and sheaths terete or obscurely 5-angled; leaves soft, many-nerved, hairy; tips of the glumes conspicuous, spreading; hypogynous bristles laminate or absent:5
- 3 Spikelets ovoid, 4–5 mm. wide [5. sp. aff. pubescens](#)
- Spikelets narrowly ellipsoid, 2–3 mm. wide 2. stricta4
-@
- 4 Spikelets angular, glumes more or less obviously 5 ranked [2a. stricta var. stricta](#)
- Spikelets terete, generally greenish [2b. stricta var. chlorocarpa](#)
- 5 Ligule brown, smooth or shortly hairy; spikelets about 3 mm. wide; tips of the glumes about 1.5 mm. long; three hypogynous bristles with a quadrate 3-nerved lamina; achene 0.8–1.25 mm. long [3. ciliaris](#)
- Ligule transparent, ciliate; spikelets about 2 mm. wide; cilia of the glume about 1.0 mm. long; 0–3 hypogynous bristles with a small rectangular lamina less than half as long as broad; achene 0.4–0.65 mm. long [4. leptostachya](#)

1. **Fuirena umbellata** *Rottb.* Descr. et Ic. Pl. 70, t. 19, f. 3 (1773); F.T.A. 8: 466; Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

Fuirena glomerata *Lam.*, Ill. 1: 150, t. 39 (1791).

Fuirena seriata *C.B. Cl.* in Mém. Soc. Bot. Fr. 2, 8: 28 (1907).

Fuirena mahouxii *Cherm.* in Bull. Soc. Bot. Fr. 81: 264 (1934).

Generally robust, often with the lowermost internode of the flowering stems becoming swollen; common on river banks and other moist places.

Sen.: L. Youi (Nov.) Pitot! Sangalkam (Jan.) Berhaut 2634! Niokolo-Koba Adam 15955! Santamba, nr. Toubacouta (Oct.) Monod 8528! Kolda, Casamance (May) Rivière! **Gam.:** (Aug.) Ruxton 85! **Mali:** Sekoro (Jan.) Chev. 251! Koulouba, nr. Bamako (Nov.) Jaeger 77! Sotuba (Nov.) J. & A. Raynal 5163! Kabala (July) Roberty 2439! Sikasso (Feb.) Roberty 3439! **Guin.:** Sambailo (Oct.) Pitot! Friguiagbé (May) Boismaré 240! Dalaba (Nov.) des Abbayes 837! Kouroussa (Aug.) Pobéguin 403! Nzérékoré to Beyla (May) Pitot! **S. L.:** Mano Salija (Dec.) Deighton 461! Tisana, Bonthe I. (Nov.) Deighton 2320! Njala (July) Deighton 1164! Kumrabai (Dec.) Thomas 6918! Koinadugu Dist. (Aug.) Haswell 253! Mt. Loma (Sept.) Jaeger 2027! **Lib.:** Robertsport, Grand Cape Mount Dist. (Dec.) Baldwin 10905! Zigida, Vonjama Dist. (Oct.) Baldwin 9996! Palilah, Gbanga Dist. (Aug.) Baldwin 9164! Ganta, Sanokwele Dist. (Oct.) Harley 731! Harper, Maryland Dist. (June) Baldwin 5997! **Iv. C.:** Banco forest Bégue 130! Grand Bassam (Sept.) de Wit 7395! Songon Agban to Dabou (Feb.) Leeuwenberg 2640! Orumbo-Boka Mt., Toumodi (Dec.) Boughey A13! Ferkessédougou (Nov.) Leeuwenberg 2019! **U. Volta:** Comoé falls (Sept.) Adam 15247! Bouassi to Kouéré (July) Scholz 314! **Ghana:** Atwabo Fishlock 33 of 1931! Ejura (Aug.) Hall CC 303! Kete Krachi (Apr.) Morton GC 9110! Yendi to Tamale (Dec.) Adams & Akpabla 4125! Sawla to Wa (Oct.) Rose Innes GC 32396! Gambaga Marton! **Togo Rep.:** Palime Stage 83! Lomé (June) Mahoux 2020! Atakpamé (Aug.) Mahoux 2162! Sokodé Mahoux 2164! Sansanné-Mango (Oct., Nov.) Bille TG 363! **Dah.:** Cabolé (June) Annet 64! Porto Novo (Jan., Sept.) Chev. 22711! Adjanohoun 355! **N. Nig.:** Abinsi (June) Dalz. 817! Lokoja (Apr.) Haines 24! Bida to Badeggi (Aug.) Onochie FHI 35422! Nupe Barter 418! Naraguta, Jos Plateau (Aug.) Lawlor & Hall FHI 46643! Sokoto Moiser! Gurum, Vogel Peak, Sardauna Prov. (Nov.) Hepper 1263! **S. Nig.:** Lagos (Jan.) Haines 91! Oyo to Ilora (July) Keay & Stanfield FHI 46313! Ajagbododu, Benin (Aug.) Wright 53! Sapoba (July) Kershaw 900404! Abonnema, Niger Delta (Nov.) Anderson 1412! Calabar (June) Tuley 69! **W. Cam.:** Cameroon R. (Feb.) Mann 777! Bamenda (Feb.) Daramola FHI 40490! Nkom to Wum, Bamenda (July) Ujor FHI 29299!

Pantropical.

[The type of *Fuirena seriata* C.B. Cl. has the hypogynous scales pale and apparently one-nerved whilst those of *F. umbellata* have 3 nerves and are generally brown.]

2. **Fuirena stricta** *Steud.* Syn. Pl. Glum. 2: 128 (1855); F.T.A. 8: 465; Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

2a. **Fuirena stricta var. stricta** *APD acc*

Tufted, slender plants with a paniculate inflorescence of rather few, five-angled spikelets in small clusters; swamps, ricefields and wet savanna.

Sen.: Bignona (Feb.) Trochain 1470! Niokolo-Koba (Nov., Dec.) Adam 17090! J. & A. Raynal 6886! Badi (Jan.) Berhaut 4388! Dienoudiella (May) Trochain 3540! **Mali:** Madina (Dec.) J. & A. Raynal 5340! Bamako (Mar., Nov.) Chev. 44059! Duong! Bamako to Koulouba (Dec.) Monod! Koulouba Doung! **Guin.:** Friguiagbé (Feb.) Chillou 2454! Dabola to Faranah (Apr.) Pitot! Kouroussa (Jan.) Pobéguin 622! Sambailo (Oct.) Pitot! Koba (Nov.) Jac.-Fél. 7365! **S. L.:** Kambia (Jan.) Deighton 926! Kouta (Aug.) Deighton 1240! Koinadugu (Aug.) Haswell 247! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 77! Kenema (Sept.) Jordan 516! **Lib.:** Siatown (Dec.) Adam 16336a! Ganta (Nov.) Harley 1707! Siaple, Sanokwele Dist. (Sept.) Baldwin 9465! Mt. Nimba (Jan.) Adam 20525! **Iv. C.:** Bouaké (Sept.) de Wilde 966! Lomo (Sept.) Aké Assi 5737!

Nassian to Ferkessédougou (July) Aké Assi 4820! **U. Volta:** Dar Salami (Dec.) Bille 3351b! **Ghana:** Banda, Wenchi Dist. (Dec.) Morton GC 25208! Kintampo (Sept.) Hall CC 916! Damongo Scarp (Dec.) Morton GC 9982! Nalerigu, Gambaga (June) Harris! Kukrukui lagoon, nr. Kete Krachi (Apr.) Hall VBS 1214! **Togo Rep.:** Sokodé (July) Mahoux 2099! **Niger:** Magaria (Dec.) Dumont in Hb. P. de Fabrègues 2661! **N. Nig.:** Jebba (Dec.) Meikle 849! Nupe Barter 1562! Badeggi, nr. Bida (Dec.) Haines 68! Bida (Mar.) Meikle 1321! Kuffena, Zaria Prov. (Jan.) Kershaw 900017! Sara Hills, Jos Plateau (Oct.) Hepper 1121! **S. Nig.:** Iva stream, Udi Dist. (Sept.) Onochie FHI 34088! Uke to Nobi, Onitsha Dist. (May) Onochie FIII 33799!

Throughout tropical Africa and in **Madagascar**.

2b. *Fuirena stricta* var. *chlorocarpa* (Ridley) Kük. in Fries & Fries in Notizbl. Bot. Gart. Berl. 9: 310 (1925). *APD acc*

***Fuirena chlorocarpa* Ridley** in Trans. Linn. Soc. ser. 2, 2: 159 (1884).

Differs from the typical variety only in the somewhat shorter, terete spikelets; **damp ground near water**.

N. Nig.: Vom, Plateau Prov. (Dec.) Haines 70! Kakara, Mambila Dist. (Jan.) Hepper 1772! **W. Cam.:** Cheddar Gorge, Bamenda (Mar.) Morton K187! Bafut-Ngemba F.R., Bamenda (June) Daramola FHI 41557! Jakiri, 5,000–6,500 ft. (Feb., June) Hepper 2062! Brunt 534! Pinyin, 5,500 ft. (Apr.) Brunt 1096!

Tropical Africa and **S. Africa**.

3. *Fuirena ciliaris* (Linn.) Roxb. Fl. Ind. 1: 184 (1820); Berhaut, Fl. Sén. ed. 2, 360 (1967). *APD acc*

***Scirpus ciliaris* Linn.**, Mant 1: 182 (1767); Rottb., Descr. et lc. Pl. 55 t. 17, f. 1 (1773).

Fuirena glomerata of F.T.A. 8: 465; F.W.T.A. ed. 1, 2: 470; Berhaut, Fl. Sén. ed. 1, 216 (1954); not of Lam.

Lax, hairy, caespitose plant; tips of the glumes conspicuous, spreading; **rice fields and other moist depressions**.

Sen.: Sangalkam (Sept.) Berhaut 2632! Dakar (May) Baldwin 5741! Mbidjem (Nov.) J. & A. Raynal 6555! Fatick (Dec.) Maynard! Oussouye (Oct.) Kerharo & Adam 1568! Carabane (Jan.) Chev. 2433! **Guin.:** Mankoutan Jac.-Fél. 7352! Kabuk (Dec.) Jac.-Fél. 7380! Conakry Maclaud! **S. L.:** Bakepet, Mambolo (Dec.) Jordan 734! Mahela, Samu Dist. (Dec.) Sc. Elliot 3982! Tisana, Bonthe I. (Nov.) Deighton 2298! Malpaki, Massaboi (Aug.) Jordan 502! Tombo (Jan.) Deighton 993! **Iv. C.:** Néro-Mer, nr. Béreby (Nov.) Oldeman 497! Grand Bassam (Feb.) Scaëtta! **Ghana:** Accra Brown 365! Nungua (July) Ankrah & Rose Innes GC 30024! Achimota to Nsawam (Nov.) Boughey! Mile 35 on Ada road (May) Adams 2742! Adidome to Ho (May) Morton A2050! **Togo Rep.:** Lomé Warnecke 228! Tsecké (Sept.) Mahoux 542! **Niger:** Matameye (Nov.) P. de Fabrègues 1302! **N. Nig.:** Ward 88! Kano (Sept.) Hagerup 668! Katsina (Nov.) Latilo FHI 43769! **S. Nig.:** Badagry (Aug.) Onochie FHI 33475! Lagos Barter 2224! (Jan.) Haines 90! Ibadan (July) Keay FHI 37769a!

Old World tropics.

4. *Fuirena leptostachya* Oliv. in Trans. Linn. Soc. 29: 168, t. 108B (1875); F.T.A. 8: 466. *APD acc*

***Fuirena moisere* Turill** in Kew Bull. 1925: 71 (1925).

***Fuirena pygmaea* Ridley** in Trans. Linn. Soc. ser. 2, 2: 160 (1884).

Hairy annual similar to the preceding species, but with smaller spikelets and a very small lamina to the inner hypogynous bristles which may be partially or entirely wanting; **rice fields and other damp places, uncommon**.

Mali: Madina (Dec.) J. & A. Raynal 5310 bid! 5344! Bamako (Nov.) Watertot 1446! Dinderesso forest (Nov.) Neu 123! **U. Volta:** Ouagadougou (Nov.) Auhréville 2630! **N. Nig.:** Fodama, Sokoto Dist. (Dec.) Moiser 157! Shendam, Plateau Prov. (Nov.) Clayton 1466! Bauchi to Dindima (Dec.) Haines 88! Isanlu Mopo, Kabba Prov. (Nov.) Latilo FHI 61327!

Scattered throughout tropical Africa.

[Differs from the Indian *F. trilobites* C.B. Cl. only in the smaller achene.]

5. *Fuirena* sp. aff. *pubescens* (Poir.) Kunth Enum. Pl. 2: 182 (1837); F.T.A. 8: 463. *APD acc*

***Carex pubescens* Poir.**, Voy. Barb. 2: 254 (1789).

Plants grey-green with grey hairy glumes in few ovoid spikelets; **moist ground**.

N. Nig.: Kano, Korel (Apr.) Onwudinjoh FHI 22362!

[Very similar in habit and spikelet to *F. pubescens* which occurs in the Mediterranean region, throughout Africa and in India, but distinguished by the presence of hypogynous bristles, which are sometimes narrowly laminate.]

13. ASCOLEPIS

Nees ex Steud., Syn. Pl. Cyp. 105 (1855), nom. cons.; F.T.A. 8: 473 (1902). *APD acc*

- 1 Annual with an inflorescence of several spikelets forming a lobed Kyllinga-like head; stems slender, up to 25 cm. high: **2**
Annual with a globular, hemispherical or discoid inflorescence of a single spikelet, or perennial: **3**
- 2 Hypogynous scale enclosing the achene, with its upper margin inflated, white or red, and with a short postical tip [1. pusilla](#)
Hypogynous scale flat, not enclosing the achene, with an acumen as long as the rest of the scale; an antical seta is persistent on the rhachilla after glume fall [2. dipsacoides](#)
- 3 Inflorescence of about 4 spikelets in a pyramidal head; plant shortly rhizomatous; sheaths reddish, not fibrous [5. brasiliensis](#)
Inflorescence of a single spikelet: **4**
- 4 Inflorescence 25–40 mm. diam.; hypogynous scale about 15 mm. long [6. elata](#)
Inflorescence not exceeding 12 mm. diam.: **5**
- 5 Hypogynous scale with a subcylindric tip and narrow base; stems slender, about 0.5 mm. diam., often thickened at the base with pale fibrous sheaths [3. protea](#)
Hypogynous scale with a flattened tip and winged base; stems about 1 mm. diam., clustered; sheaths becoming black and fibrous [4. capensis](#)

1. **Ascolepis pusilla** *Ridley* in Trans. Linn. Soc., ser. 2, 2: 164 (1884); F.T.A. 8: 476; Berhaut, Fl. Sén. ed. 2, 369 (1967); J. Raynal in Adansonia sér. 2, 8: 98 (1968). *APD acc*

Slender plant with a greenish inflorescence and smooth outline to the spikelets; [rice fields and other marshy ground](#).

Sen.: Kanéméré: (Nov.) Fotius K688! Niokolo-Koba (Nov.) Adam 16970! 17079–20! **Mali:** Sotuba (Dec.) J. & A. Raynal 5236. Farako (Nov.) Demange 3276! **Guin.:** Kandiara R. (Oct.) Pitot! Téliimélé (Oct.) Pitot! Thianguel-Bori (Oct.) Pitot! Ditinn (Oct.) Pitot! **Ghana:** Yapei Bridge (Nov.) Hall & Enti GC 35737! Ejura (Dec.) Morton GC 9700! Kwahu Tafo (Dec.) T. M. Harris! **N. Nig.:** Kabba (Oct.) Parsons 32! Nupe Barter 761a! Gurum, Sardauna Prov. (Nov.) Hepper 1240! **S. Nig.:** Igbete to Kishi, Oyo Prov. Gledhill 734c, partly!

Also in **E. Cameroun**, **Chad**, **C. African Rep.**, and from Tanzania to Rhodesia and ? introduced in Madagascar (teste Raynal).

2. **Ascolepis dipsacoides** (*Schum.*) *J. Raynal* in Adansonia sér. 2, 8: 99 (1868). *APD acc*

Kyllinga dipsacoides *Schumach.*, Beskr. Guin. Pl. 61 (1827).

Ascolepis setigera *Hutch.*, F.W.T.A., ed. 1, 2: 474 (1936), name only.

Resembling *A. pusilla* but spikelets with spreading tips to the scales; also resembling *Scirpus kernii*; [damp hollows, often in cultivated land](#).

Sen.: Niokolo-Koba (Oct.) Adam 15944a. **Iv. C.:** Bouaké to Bamoro (Dec.) Pitot. Aboakouamékro (Nov.) Aké Assi 10353! **Ghana:** Damongo Scarp (Sept.) Hall CC 867! Lumbaga to Tamale (Dec.) Morton GC 6265! Tamale (Dec.) Morton GC 6219! Kintampo (Sept.) Hall CC 925! Nungua, Accra (July) Hall 3249! **Dah.:** Ouécé (Nov.) Annet 53. **N. Nig.:** Jebba (Dec.) Hagerup 710! Nupe Barter 761b! Kaduna to Keffi, Zaria Prov. (Aug.) Kershaw 900700! Yola (Nov.) Hepper 1212! **S. Nig.:** Igbete to Kishi, Oyo Prov. Gledhill 734c, partly!

Also from **E. Cameroun**.

Our plant is subsp. *dipsacoides*, the other subspecies occurs in Thailand and Vietnam.

3. **Ascolepis protea** *Welw.* in Trans. Linn. Soc. 27: 75 (1869); F.T.A. 8: 474. *APD acc*

Ascolepis eriocaloides of Berhaut, Fl. Sén. ed. 2, 365 (1967).

Plant with white, often curved, scales in a radiate head about 6–8 mm. across; [on granite outcrops, in short grass](#).

Sen.: Tambacounda to Sambailo (Sept.) Pitot! Badi (Sept.) Berhaut 3070! Kanéméré (July) Fotius K217! Damaradji (Sept.) Audru 1245! **Mali:** Kita Mts. (Oct.) Jaeger 2882! Bamako Adam 15157! 15252! Garnier! Sikasao (Oct.) Demange 2721!

Guin.: Sambailo (Sept.) Pitot! Youkounkoun (Oct.) Pitot! Friguiagbé (July) Chillou 585! Macenta to Kankan Roberty 3124 (204)! Nzérékoré, Nimba Mt. Adam 7891! **S. L.:** Warantamba, Gberia Fotombu (Oct.) Small 367! Koinadugu Dist. Haswell 272a! Lengekoro (July) Glanville 220! Summit of Bintumane Peak (June, Aug.) Morton & Gledhill SL 3575! Jaeger 1047! **iv. C.:** Séguéla (Aug.) Boughey GC 18485b! Mankono (June) Chev. 21884! Mt. Bourou, nr. Koualé (May) Fleury in Hb. Chev. 21729! **U. Volta:** Banfora (Sept.) Jaeger 5194! Barmoussa (Sept.) Scholz 323! **Ghana:** Burufo, nr. Lawra (Sept.) Hall CC 745! Yagha, Lawra to Wa (Sept.) Hall CC 630! Tono, nr. Navrongo (Aug.) Irvine 4660! **Togo Rep.:** Atakpamé (Aug.) Mahoux 2172! **N. Nig.:** Shagunu, nr. Bussa (July) C. D. K. Cook 409! Sokoto Prov. Dalz. 573! Anara F.R., Zaria Prov. (July) Keay FHI 25970! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 557! Abuja to Izom, Niger Prov. (Aug.) Onochie FHI 35739! **W. Cam.:** Bamenda, 6,000 ft. (June) Maitland 1726!

Occurring, with its varieties, throughout tropical Africa.

[A gathering from Bamenda (Ujor FHI 30226), a stouter plant with heads up to 15 mm. diam., may represent a distinct variety of this variable species.]

4. *Ascolepis capensis* (Kunth) Ridley in Trans. Linn. Soc. ser. 2, 2: 164 (1884); F.T.A. 8: 477. *APD acc*

Platylepis capensis Kunth, Enum. 2: 269 (1837).

Inflorescence similar in size to *A. protea*, but with a more solid appearance due to the broader scales; wet ground, generally amongst grasses.

Mali: Duong 1732! Sabalibougou, Mt. Irémandio (Mar.) J. & A. Raynal 5618! Sotuba (Dec.) Adam 11440! **Guin.:** Timbi (June) Adam 14644! **iv. C.:** Bégue 129! Sourougbou (Apr.) Aké Assi 8741! confluence of R. Sassandra and R. Bafing, nr. Daton (May) Chev. 21760b! Haut Sassandra and Haut Cavally Portères 707! **U. Volta:** 18 km. N. of Banfora (May) Leeuwenberg 4352! **Ghana:** Sampa (Dec.) Morton A2626! Banda, Wenchi Dist. (Dec.) Morton 25203! Ejura (Aug.) Hall CC 319! Kintampo (Dec.) Morton A1201! Bimbila (Mar.) Hepper & Morton A3094! **N. Nig.:** Kabba (Oct.) Parsons 24! Nupe Barter! Abinsi (Sept.) Dalz. 814! Vom, Jos Plateau (Feb.) McClintock 209! Kakara, Mambila Plateau (Jan.) Hepper 1773! **S. Nig.:** Old Oyo F.R., 8 miles E. of Igboho, Oyo Dist. (Feb.) Keay FHI 23445! Obudu (Apr.) Haines 98!

Throughout tropical and S. Africa.

5. *Ascolepis brasiliensis* (Kunth) Benth. ex C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 651 (1895); F.T.A. 8: 478; Berhaut, Fl. Sén. ed. 2, 368 (1967). *APD acc*

Platylepis brasiliensis Kunth, Enum. Pl. 2: 269 (1837).

Similar in habit to, but somewhat stouter than, *A. capensis* and in West Africa distinguished by a lobed inflorescence; in marshland.

Sen.: Niokolo-Koba (Feb.) Adam 17567! Badi (Jan., Dec.) Berhaut 1856! 4735! **Guin.:** Konkouré (Mar.) Pitot! 291! Mamou (May) Pitot! Dabola to Faranah (Apr.) Pitot! Hérémakono (Mar.) Sc. Elliot 5243! **iv. C.:** Baoulé (Sept.) Pobéguin 110! **N. Nig.:** Mayo Ndaga (Apr.) J. Hall 1761! Kontagora to Auna (Jan.) Meikle 1041! Nupe Barter 1587! **W. Cam.:** Bamenda to Ndop, 4,500 ft. (Dec.) Adams GC 11342!

In Madagascar and S. America.

6. *Ascolepis elata* Welw. in Trans. Linn. Soc. 27: 79 (1869); F.T.A. 8: 476.

APD: *Synonym of Ascolepis speciosa Welw.*

Plant with white radiate heads about 35 mm. across; in swampy grassland.

N. Nig.: Abinsi Dalz. 813! Naraguta F.R., Jos Plateau (Aug.) Keay FHI 20064! Panyam, 4,500 ft. (July) Lely 411! Ibi, Muri Prov. (July) Hepburn 30! Kilba country, Yola Prov. (Aug.) Dalz. 238!

Extending over much of tropical Africa from Sudan to Rhodesia.

14. LIPOCARPHA

R. Br. in Tuckey, Narr. Exp. Congo 459 (1819), nom. cons.; F.T.A. 8: 468 (1902).

- 1 Spikelets pale even when mature; glumes whitish, sometimes dark towards the base:2
- Spikelets dark or becoming so at maturity; glumes red, brown or black, sometimes with pale tips:3
- 2 Spikelets confluent, 3–6 in the echinate head; glume gradually narrowed into a long blunt-tipped, spreading

- arista; plant with creeping rhizome [1. albiceps](#)
- Spikelets discrete, 5–16 in the head; glume with a short blunt, triangular tip; plant densely caespitose [2. chinensis](#)
- 3 Perennial, shortly rhizomatous: 4
- Annual, sometimes robust; spikelets less than 4 mm. broad: 5
- 4 Spikelets 2.5–3.0 mm. broad, black; glume with a short straight arista [3a. atra var. atra](#)
- Spikelets 3.5–5 mm. broad, brown; glume with a pale spreading or recurved arista [3b. atra var. barteri](#)
- 5 Glumes clearly aristate, with a pale arista 1/2–1 times as long as the uniformly dark body of the glume; rhachilla of the spikelet 0.5–0.75 mm. broad; achene elliptical somewhat compressed [5. nana](#)
- Glumes with a pale apiculus or short acumen not more than 1/3 as long as the generally bicolored glume; spikelets terete: 6
- 6 Achene broadly obovate, trigonous; spikelets obtuse with a tendency to become cylindrical; glumes very concave; rhachilla 0.75–1 mm. broad with the persistent glume bases surrounding the scars conspicuous 4. priuriana 7
- @
- Achene elliptical, somewhat flattened; spikelets ovoid; rhachilla 0.5–0.75 mm. wide with the persistent glume bases small so that the scars form a regular spiral pattern [6. sphacelata](#)
- 7 Glume truncate, with a small triangular mucro [4a. priuriana var. priuriana](#)
- Glume with a broad pale arista [4b. priuriana var. crassispis](#)

1. **Lipocarpa albiceps** *Ridl.* in Trans. Linn. Soc. ser. 2, 2: 163 (1884); F.T.A. 8: 471. *APD acc*

Sometimes, at least, having a distinct storage rhizome; [damp places in grassland or open woodland](#).

Sen.: Niokolo-Koba (July) Adam 14206! 14260! 14266! **Mali:** Bamako (July) Waterlot 1188! Sotuba (Sept.) Adam 15346! Sikasso (July) Demange 2860! Katibougou (July) Kaden 67/252! **Iv. C.:** Bouna Reserve, Téhini (Aug.) de Wilde 707! Boka to Lenguera (June) Boudet 2825! **U. Volta:** Ouagadougou Lefebvre 18! **Ghana:** Wa to Lawra (Sept.) Hall CC 612! Tumu (May) Morton GC 7528! Lumbaga (Dec.) Morton GC 6246! Pong Tamale (Aug.) Hall CC 412! Kintampo (Aug.) Hall 2055b! **Togo Rep.:** Bafilo (May) Roberty 1429! Atakpame (Aug.) Mahoux 2165! Sokodé (May) Mahoux 2015! **N. Nig.:** Jebba (Apr.–May) Kamphorst 232! Shagunu, N. Ilorin Prov. (July) Cook 416! Gwari, Niger Prov. (Aug.) Onochie FHI 35444! Anara F.R., Zaria Prov. (May) Keay FHI 22861! Samara, Zaria Prov. (July) Taylor 14!

Also in the [Congo](#) and from [Uganda](#) to Rhodesia.

2. **Lipocarpa chinensis** (*Osbeck*) *Kern* in Blumea, Suppl. 4: 167 (1958). *APD acc*

APD: *Synonym of Lipocarpa chinensis (Osbeck) J. Kern*

Scirpus chinensis *Osbeck*, *Dagb. Ostind. Resa* 220 (1757).

Lipocarpa argentea (*Vahl*) *R. Br.* in Tuckey, *Narr. Exp. Congo* 459 (1819); F.T.A. 8: 469.

Lipocarpa senegalensis (*Lam.*) *Th. & Hél. Dur.*, *Syllog. Fl. Congol.* 619 (1909); F.W.T.A., ed. 1, 2: 471; Berhaut, *Fl. Sén.* ed. 2, 369 (1967).

Tufted, with stout flowering stems; the commonest species; [beside streams and in other damp places](#).

Sen.: Naegelé! Niokolo-Koba (Nov., Dec.) Adam 17093! J. & A. Raynal 6887! Casamance (Aug.) Berhaut 6334! Badi (Jan.) Berhaut 4404! **Mali:** Boulouli Duong 569! Tabacco (Jan.) Chev. 141! Bamako (Mar.) Chev. 44089! Sotuba (Dec.) J. & A. Raynal 5250! Kobala (July) Roberty 2452! **Guin.:** Youkounkoun (Oct.) Pitot! Friguigbé to Bingaya (May) Boismaré 244! Fouta Djallon (Jan.) Langdale-Brown 2572! Dabola to Faranah (Apr.) Pitot! Macenta to Kankan Roberty 3125/206! **S. L.:** Newton (Nov.) Deighton 1473! Koinadugu Dist. (Aug.) Haswell 246! Kuntu, nr. Rokupr (Jan.) Deighton 909! Bintumane Peak (Aug.) Jaeger 1034! Kenema (Nov.) Deighton 420! **Lib.:** Kailahun, Kolahun Dist. (Nov.) Baldwin 10127! Tawata, Boporo Dist. (Nov.) Baldwin 10315! Grand Bassa (Nov.) Dinklaga 2297! Blazié (Nov.) Adam 16110! Harper, Maryland Dist. (June) Baldwin 5989! **Iv. C.:** Mankono (June) Fleury in Hb. Chev. 21892! Baoulé (Sept.) Pobéguin 87! Yapo (Oct.) Roberty 15355! Téké Forest, 25 km. N. of Abidjan (Oct.) Leeuwenberg 1857! **U. Volta:** Bekoui (Dec.) Bille 3378! Bobo-Dioulasso (Nov.) Bille 3326! **Ghana:** Burufo, nr. Lawra (Apr., Sept.) Adams 4039! Hall CC 758! Sakogu, nr. Gambaga (Aug.) Hall CC 443! Gambaga (May) Morton GC 7442! Kukrukui Lagoon, nr. Kete Krachi (Apr.) Hall VBS 1216! **Togo Rep.:** Lama-Kara (June) Mahoux 2051! **Niger:** Sassoumbouroum P. de Fabrègues! Matameye (Nov.) P. de Fabrègues 1305! **N. Nig.:** Sokoto (July) Dalz. 454! Minna (Dec.) Meikle 719! Sara Hills, Jos Plateau (Oct.) Hepper 1120! Kurra Gorge, Pankshin Dist. (June) Okafor FHI 50227! Gurum, Vogel Peak, Sardauna Prov. (Nov.) Hepper 1254! **S. Nig.:** Shaki (May) Lagos Govt. 2! Ilesha (Apr.) Haines 20! Uke to Nobi, Onitsha Dist. (May) Onochie FHI 35803! **W. Cam.:** Madele, Wum Dist. (June) Daramola FHI 41095! Jakiri, 5,000–6,500ft., Bamenda (Feb., June) Hepper 2064! Brunt 535! Daramola FHI 40492!

Throughout tropical and S. Africa and from India to China and Australia.

3. **Lipocarpus atra** *Ridl.* in Trans. Linn. Soc. ser. 2, 2: 162 (1884). *APD acc*

APD: Synonym of Lipocarpus abietina Goetgh.

3a. **Lipocarpus atra** var. **atra** *APD acc*

Characterized by the rhizome, the yellowish stems much exceeding the leaves, and the dark, echinate spikelets which are smaller than those in the variety following.

Sen.: Badi (Sept.) Berhaut 3066! **U. Volta:** Lac de Tengréla (July) Aké Assi 10751!

Also in **E. Cameroun**, **Central African Rep.**, the **Congo** and **SE. tropical Africa**.

3b. **Lipocarpus atra** var. **barteri** (*C.B. Cl.*) *J. Raynal* in Adansonia sér. 2, 7: 85 (1967).

APD: Synonym of Lipocarpus barteri *C.B. Clarke*

Lipocarpus barteri *C.B. Cl.* in F.T.A. 8: 472 (1902).

Kyllinga baoulensis *A. Chev.*, Bot. 698 (1920), name only.

Spikelets larger than those of other W. African species with conspicuous pale glume tips; **wet patches in savanna**.

Iv. C.: Sémien to Kanébly (June) Aké Assi 9077! Bouaké (Jan.) de Wit 7372/549! Dimbokro Scaëtta 3078 (89)! **Ghana:** Burufo, nr. Lawra (May) Morton GC 7641! Sampa, N. W. Ashanti (Apr.) Morton A3267! Banda (Aug.) Hall 1995! Ejura (Dec.) Morton GC 9715! Tiasi, Afram Plains (Aug.) Hall CC 163! **Togo Rep.:** Lama-Kara (June) Mahoux 2052! **N. Nig.:** Nupe Barter 1585! Lokoja to Okom (Apr.) Haines 21! **S. Nig.:** Igbetta, (Nov.) Stanfield! **W. Cam.:** Bafia (Apr.) Eldin 68!

Also in **E. Cameroun**.

4. **Lipocarpus prieuriana** *Steud.* Syn. Pl. Glum. 2: 130 (1855); F.T.A. 8: 471; Berhaut, Fl. Sén. ed. 2, 369 (1967). *APD acc*

4a. **Lipocarpus prieuriana** var. **prieuriana** *APD acc*

Characterized by the terete, ovate, obtuse spikelets; damp places in savanna.

Sen.: St. Louis (Oct.) Berhaut 813! Fatick (Oct.) J. & A. Raynal 7741! Niokolo-Koba (Nov.) Adam 17079. 21! Gambia R., E. Senegal (Sept.) Fotius K436! Velingara, Casamance (Oct.) Adam 18597! **Mali:** Kita (Sept.) Jaeger 2533! Balasoko, Bamako to Koulouba (Dec.) Monod! Koulikoro (Nov.) Chev?. 2459! **Guin.:** Youkounkoun (Oct.) Pitot! Gaoual to Kiffaya (Oct.) Pitot! Kiffaya to Seriba (Oct.) Adam 12705! **U. Volta:** Banfora (Nov.) Jaeger 6543! 6565! **Ghana:** Burufo (Dec.) Adams & Akpabla 4388! Lumbaga, nr. Tamale (Dec.) Morton GC 6243! Tamale (Oct., Dec.) Baldwin 13563! Adams & Akpabla 4156! Yapei Bridge. Tamale Port (Nov.) Hall & Enti GC 35738! **Togo Rep.:** Dapongo (Oct., Nov.) Bille TG 75! **N. Nig.:** Kano (Nov.) Hagerup 667! Agbaja (Nov.) J. Hall 838!

Also in **Ethiopia** and **SE. tropical Africa**.

4b. **Lipocarpus prieuriana** var. **crassispis** *J. Raynal* in Adansonia sér. 2, 7: 86, fig. 2 (1967).

Differing from the typical and commoner variety only in the development of the glume tip into a broad green arista; brackish areas.

APD: Synonym of Lipocarpus crassispis (*J. Raynal*) Goetgh.

Sen.: Fatick (Dec.) J. & A. Raynal 6711! Kaolack Adam 8241!

5. **Lipocarpus nana** (*A. Rich.*) *Cherm.* in Bull. Soc. Bot. Fr. 71: 142 (1924). *APD acc*

APD: Synonym of Lipocarpus nana (*A. Rich.*) *Cherm.*

Fuirena nana *A. Rich.*, Tent. Fl. Abyss. 2: 497 (1851).

Lipocarpus pulcherrima *Ridl.* in Trans. Linn. Soc. ser. 2, 2: 162 (1884); F.T.A. 8: 473.

Spikelets dark with green aristate tips; **rare or perhaps overlooked amongst other ephemeral species in damp situations**.

Guin.: Sébéri, nr. Kanéa (Oct.) Adam 12676! Ditinn (Oct.) Pitot! **N. Nig.:** Jos Plateau (Aug.) Lely P471! **W. Cam.:** Nkambe, Bamenda (Sept.) Ujor FHI 30229!

Also in the **Congo** and from **Ethiopia** to the Transvaal.

6. *Lipocarpus sphacelata* (Vahl) Kunth Enum. Pl. 2: 267 (1837).

*APD: Synonym of *Lipocarpus filiformis* (Vahl) Kunth*

Hypaelyptum sphacelatum Vahl, Enum. 2: 283 (1806).

Lipocarpus triceps (Lam.) Nees (1834)—F.T.A. 8: 470; F.W.T.A., ed. 1, 2: 471; Berhaut, Fl. Sén. ed. 2' 369 (1967).

Kyllinga triceps Lam. (1791), not of Rottb. (1773).

Distinguished from *L. prieuriana* by the smaller, less obtuse spikelets and conspicuous, if short, glume tips; roadsides and other sandy brackish places.

Sen.: Niokolo-Koba (Oct.) Adam 15840! Oussouye (Nov.) Berhaut 6516! Kabrousse (Oct.) Adam 18308! Kolda (Oct.) Adam 18551! Velingara (Oct.) Adam 18567! **Mali:** Kita (Aug.) Jaeger 16! Bamako Adam 15041! Balossoko, Bamako to Koulouba (Nov., Dec.) Duong! Monod! Koulouba (Apr.) Rogeon 3! **Guin.:** Youkounkoun (Oct.) Pitot! Bombi Bouron (Oct.) Pitot! Boké (Nov.) Jac.-Fél. 7308! Conakry (Sept.) Martine 112 in Hb. Chillou 2814! Friguiagbé Chillou 598b! **S. L.:** Bonthe (Nov.) Deighton 2267! Mattru to Gbangbama (Nov.) Deighton 2338! Newton (Nov.) Deighton 1472! Roboli, nr. Rokupr (Nov.) Jordan 167! Koinadugu Dist. (Aug.) Haswell 262! Kimadugu, Loma Mts. (Aug.) Jaeger 7264! **Lib.:** Cape Palmas Ansell! **Iv. C.:** Mankono (Oct.) Aké Assi 6645! Bouaké (Jan.) de Wit 7272/549! Bouaké to Damoro (Dec.) Pitot! Assakra (Aug.) de Wit 7388/1082! Adiopodoumé (July) Boughey GC 14503! **U. Volta:** Banfora (Sept.) Adam 15395b! Ouagadougou (Oct.) Nongonierma 209! **Ghana:** Tumu Dam (Mar.) Morton GC 8856! Banda (Aug.) Hall 1981! Ejura Scarp (Dec.) Morton GC 9574! Kwahu Tafo (Dec.) Harris! Achimota (July) Adams 4894! **Togo Rep.:** Agbelonde (Apr., Sept.) Mahoux 119! 2024! Lamakara (June) Mahoux 2051b! **Dah.:** Ouéré (Nov.) Annet 49! **N. Nig.:** Nupe Barter 786! Jebba (Dec.) Haines 67! Minna (Dec.) Meikle 724! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 563! Jimeta, Adamawa Prov. (Nov.) Hepper 1213! **S. Nig.:** Badagry (Aug.) Onochie FHI 33495! Lagos W. Macgregor 24! Olokemeji F.R. to Eruwa (Aug.) Keay FHI 37165! Okelifi, Ondo Dist. (Nov.) Onochie FHI 34221! Igboora, Ondo Dist. (Oct.) Haines 215!

Also in the **Congo**, **Madagascar**, **India** and **Thailand**.

15. RHYNCHOSPORA

Vahl, Enum. 2: 229 (1806) nom. et orth. cons.; F.T.A. 8: 478 (1902); Kükenthal in Engl., Bot. Jahrb. 74: 375 (1949), 75: 90 (1950), 75: 273 (1951).

- 1 Spikelets sessile and crowded together into one or more hemispherical or spherical heads:2
Spikelets distinct and more or less clearly pedicellate:4
- 2 Inflorescence a single, terminal, hemispherical head, surrounded by stiff, erect or spreading bracts; caespitose annual or perennial 1. rubra.....3
.....@
Inflorescence of one to a dozen (generally 3–4) spherical or subspherical greenish-brown heads; rhizomatous perennial 2. *holoschoenoides*
- 3 Bristles shorter than, or equal to, the achene; beak short 1a. *rubra* subsp. *africana*
Bristles longer than the very hispidulous achene; beak long 1b. *rubra* subsp. *senegalensis*
- 4 Inflorescence a single, simple, terminal corymb of 3–10 large white or whitish spikelets; perennial with a narrow, creeping, scaly rhizome; stigmas 2 5. *candida*
Inflorescence not as above :5
- 5 Robust, leafy perennial with a branched inflorescence and leafy bracts; spikelets 8–10 mm. long; style undivided:6
Annual or slender perennial; spikelets up to 8 mm. long:7
- 6 Spikelets in large clusters on stout, spreading pedicels; sheaths tough, leaves distinctly keeled, often more than 1 cm. wide 3. *corymbosa*
Spikelets 1 to a few together in small clusters on long, slender, erect pedicels; sheaths soft, rounded on the back; leaves less than 1 cm. wide 4. *triflora*
- 7 Spikelets solitary, pedicellate, 5–8 mm. long; inflorescence confined to upper part of stem; achene about as long as broad, rugulose, style-base tissue extending down the sides of the achene:8
Spikelets 2–5 mm. long, in small clusters:9

- 8 Pedicels stout, erect or spreading; spikelets ovate, acuminate; rhachilla straight; leaves up to 4 mm. wide, flat [6. *eximia*](#)
Pedicels slender, capillary; spikelets elliptical; rhachilla strongly flexuose; leaves up to 1.5 mm. wide, canaliculate [7a. *gracillima* subsp. *subquadrata*](#)
- 9 Spikelets dark brown; partial inflorescence rather narrow; style-base triangular, not decurrent on the achene ... [8. *rugosa*](#)
Spikelets pale straw-coloured or yellow-brown; inflorescence generally occupying more than half of stem: .. **10**
- 10 Spikelets straw-coloured, very small, 2–2.5 mm. long with only one achene; style-base lunate, upper edge of achene with two distinct humps [11a. *tenerrima* subsp. *microcarpa*](#)
Spikelets 2.5–5 mm. long; style-base not lunate: **11**
- 11 Style-base small, inconspicuous; achene surface not rugulose, generally with two lateral basal brown patches and a central dark stripe; spikelets 2.5–3.5 mm. long [9. *brevirostris*](#)
Style-base apiculate, decurrent on the rugulose achene, without basal patches; spikelets 4–5 mm. long [10. *perrieri*](#)

1. **Rhynchospora rubra** (Lour.) Makino in Bot. Mag. Tokyo 17: 180 (1903). *APD acc*

R. rubra subsp. rubra does not occur in West Africa.

1a. **Rhynchospora rubra subsp. africana** J. Raynal in J. & A. Raynal in Adansonia, sér. 2, 7: 323 (1967). *APD acc*

Rhynchospora wallichiana of F.T.A. 8: 478, and of F.W.T.A., ed. 1, 2: 470.

Rhynchospora minor of Nelmes in Kew Bull. 11: 533 (1957); Berhaut, Fl. Sén. ed. 2, 368 (1967); not of (Nees) Schnee (1944).

Rhynchospora parva of Aké Assi, Contrib. 258 (1963).

Tufted plant about 15–50 cm. high, with linear grassy leaves and a small yellowish inflorescence; moist savanna or grassland, often on sand.

Sen.: Lyndiane (Sept.) Adam 12487. Toubakouta, Casamance (Jan.) J. Raynal 7933. **S. L.:** Waterloo (Aug.) Melville & Hooker 296! Manoh (Apr.) Dinklage 2516! Mano Salija (Nov.) Deighton 341! **Lib.:** Robertsport, Grand Cape Mount Dist. (Dec.) Baldwin 10919! Monrovia (Aug.) Baldwin 9175! Paynesville (Sept.) Leeuwenberg & Voorhoeve 4904! Buchanan (Dec.) Adam 16426! Grand Bassa (July) T. Vogel 105! **iv. C.:** Moosaou (Mar.) J. & A. Raynal 13579! Aké Assi 5622! Grand Bassam (Sept.) de Wit 7377! 7387! **Ghana:** Eikwe (Mar.) Rose Innes GC 30883! Essiama (May, Oct.) Morton A2155! 8534! Hall 2665! **Dah.:** Sémé, nr. Cotonou (Feb.) J. & A. Raynal 13545!

Also occurring in **Rio Muni** and **Gabon** and in coastal regions of SE. Africa.

1b. **Rhynchospora rubra subsp. senegalensis** J. Raynal in J. & A. Raynal in Adansonia sér. 2, 7: 323, pl. 4 (1967). *APD acc*

Resembling subsp. africana but perhaps shorter; brackish dune slacks.

Sen.: Fatick (Dec.) J. & A. Raynal 6712! (Oct.) J. & A. Raynal 7742. Lyndiane (Oct.) Adam 11020.

Also in **Madagascar**, widely in tropical Asia, Polynesia and northern Australia.

2. **Rhynchospora holoschoenoides** (L. C. Rich.) Herter in Revis. Sudamer. Bot. 9: 157 (1953); Berhaut, Fl. Sén. ed. 2, 365 (1967). *APD acc*

Schoenus holoschoenoides L. C. Rich. in Act. Soc. Hist. Nat. Paris 1: 106 (1792).

Rhynchospora cyperoides (Swartz) Mart. in Denkschr. Acad. Wiss. Muench. 6: 149 (1816–17); F.T.A. 8: 479; F.W.T.A., ed. 1, 2: 470; Berhaut, Fl. Sén. ed. 1, 218 (1954).

Rhynchospora mauritii Steud., Syn. Pl. Glum. 2: 149 (1855); Robinson in Kirkia 1: 34 (1961); Aké Assi, Contrib. 257 (1964).

A generally stout, erect plant often about 1 m. high, but sometimes much dwarfed, with an inflorescence somewhat resembling Scirpus holoschoenus Linn.; in marshes, swamps and damp grassland, generally near surface water which may be brackish.

Sen.: Malika to Yombeul (Nov.) Pitot! Déni Biram Ndao, L. Retba (July) J. & A. Raynal 6086! 6670. Niakoulourab (Dec.) Chev. 2451! Niassia, Casamance (Nov.) Berhaut 6653! **Guin.:** fide Aké Assi l.c. **S. L.:** York (Nov.) Morton & Gledhill SL 1453a! Samarank, Rokel R. (Mar.) Glanville 210; Rhombe, Loko, Massama (July) D. R. E. Jackson in Jordan 478! Rosino, Samu (Oct.) Jordan 795! Mano Salija (Dec.) Deighton 283! **Lib.:** Duport, Montserrado Dist. (Nov.) Linder 1471! Monrovia (Dec.) Baldwin 10499! Johnsonville, Montserrado Dist. (Feb.) Dinklage 2966! Upper Mesurado Swamp. Monrovia (Sept.) Kunkel 57! Sasstown, Sinoe Dist. (Mar.) Baldwin 11608! **iv. C.:** Audouin, nr. Abidjan (Mar.) J. & A. Raynal 13935! Grand

Bassam (Sept.) de Wit 7401! Grand Bassam to Abidjan (July) de Wilde 619! Assinie (Aug.) Nozeran! **Ghana:** Beyin (Feb.) Hall 2919! Atwabo Fishlock 35 of 1931! Essiama (Feb.-Oct.) Morton A1627! A2149! Hall 2663! **Niger:** Bangaza, nr. Dungass (Dec.) Dumont in P. de Fabrègues 2660!

Throughout tropical and S. Africa, in **Madagascar** and **tropical America**.

3. **Rhynchospora corymbosa** (Linn.) Britt. in Trans. New York Acad. Sci. 11: 84 (1892); F.T.A. 8: 480; F.W.T.A., ed. 1, 2: 468, partly; Kük. in Engl., Bot. Jahrb. 74: 410 (1949); Berhant, Fl. Sén. ed. 2, 359; Robinson in Kirkia 1: 35 (1961). *APD acc*

Scirpus corymbosus Linn., Amoen. Acad. 4: 303 (1760).

Rhynchospora aurea Vahl, Enum. 2: 229 (1806).

Rhynchospora corymbosa var. **asperula** (Nees) Kük. l.c. 416 (1949) and var. **grandispiculosa** Kük., l.c. 417 (1949).

A robust erect sedge with rasp-edged leaves and a large inflorescence of brown spikelets in flattish heads; **swamps, sometimes in or near water in high forest**.

Sen.: Kayor Leprieur! Linguière Roberty! Koulountou (Apr.) Adam 17981! Casamance (Apr.) Fidèle! Badi to Fourou (Apr.) Nongonierma 443! **Mali:** Kabala, E. Bamako (July) Roberty 2447! Farakoba Valley, Bamako (Jan.) Duong 2081! Dendela (Mar.) Chev. 627! Koutiala (Feb.) Roberty 3403! **Gam.:** Albreda (June) Heudelot 90! Cahout Heudelot 343! **Guin.:** Conakry Maclaud! Mamou (Mar.) Dalz. 8431! Kouroussa (Aug.) Pobéguin 402! Macenta (Jan.) Schnell 131! Nzérékoré (Oct.) Baldwin 9710! **S. L.:** Regent (Dec.) Sc. Elliot 3861! Ronietta (Nov.) Thomas 5600! Rokupr (Sept.) Jordan 114! Koinadugu (Aug.) Haswell 244! N. Gola Forest (Feb.) Bakshi 43! **Lib.:** Kailahun, Kolahun Dist. (Nov.) Baldwin 10123! Zigida, Vonjama Dist. (Oct.) Baldwin 10001! Timbo, Grand Bassa Dist. (Mar.) Baldwin 11218! Yah R., Sanokwele Dist. (Sept.) Adames 547! Mnanulu, Webo Dist. (June) Baldwin 6032! **iv. C.:** Dinderesso (Nov.) Néa 138! Man (Aug.) Boughey GC 18411! Bliéron, Cavally R. mouth (Aug.) Chev. 19913! Alépé (Feb.-Mar.) Chev. 17483! Port Bouet (Oct.) Nongonierma! **U. Volta:** Bekoni (Dec.) Bille 3359! **Ghana:** Pamu-Berekum F.R. (Sept.) Vigne 2488! Bimbila (Mar.) Hepper & Morton A3105! Koforidua (Nov.) Morton 6088! Kumasi (Feb.) Darko 515! Nungwa (May) Irvine 4841! **Togo Rep.:** Agoué Ménager! Sokodé (Aug.) Mahoux 2137! **Dah.:** Porto Novo (Jan.) Chev. 22715! **N. Nig.:** Thornewill! Jos Plateau (Dec.) Monod 9701! Vom (Feb.) McClintock 225! Kurra, Pankshin Dist. (June) Otafor FHI 59250! Nguroje, Mambila Dist. (Jan.) Hepper 1741! **S. Nig.:** Lagos (June) Dalz. 1306! Ibadan (Nov.) Newberry & Etim 174! Ondo (Feb.) Jones & Onochie FHI 16993! Iva Valley F.R., Enugu (July) Daramola FHI 55152! Calabar (June) Tuley 68! **W. Cam.:** Cameroon R. (Jan.) Mann 776! Mbiami, 6,000 ft. (June) Brunt 753! Nsop, Mbaw Plain (May) Brunt 488! Bamenda (Feb.) Daramola FHI 40494! Jakiri, Bamenda, 6,500 ft. (Feb.) Hepper 2075! Pantropical.

4. **Rhynchospora triflora** Vahl Enum. Pl. 2: 232 (1806); Kük. in Engl., Bot. Jahrb. 74: 426 (1949); Robinson in Kirkia 1: 35 (1961); Aké Assi, Contrib. 258, t. 27 (1964); Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

Rhynchospora corymbosa of F.W.T.A., ed. 1: 468, partly.

More slender than the previous species, with the spikelets fewer and very acute; **marshy grassland**.

Sen.: Niokolo-Koba (Dec.) J. & A. Raynal 6885! Casamance (Aug.-Nov.) Adam 18507! Berhaut 6331! 6457! **Mali:** Bamako (Nov.) Duong 2116! Sotuba Adam 15333! (Dec.) Doung! Kléla (Oct.) Demange 2722! **Guin.:** Sambaïlo (Oct.) Pitot! Fouta Djallon Desmeules 12! **S. L.:** Maforki, nr. Mankara (Oct.) Jordan 813! Mange, Bure Makonte (Oct., Dec.) Jordan 586! 732! Materboi, Karene Dist. (July) Glanville 217! Medina (July) Deighton 4339! **iv. C.:** Side (Oct.) Aké Assi 6057! Grand Lahou (Jan.) Aké Assi 4775! Tiégouakro to Kodio Koffi (Aug.) Chev. 22339! Baoulé Dist. Pobéguin 108! **Ghana:** Wa to Lawra (Sept.) Hall CC 611! Bungari, Banda Dist. (Dec.) Morton 25077! Ejura (Aug.) Hall CC 302! Ayafie to Atafie (Dec.) Adams 4674! Bimbila (Dec.) Morton GC 6274! **N. Nig.:** Nupe Barter 1564! **S. Nig.:** Uromi to Auchi, Benin (July) Lowe 1758!

Also in the **C. African Rep., E. Cameroun, Chad** and intermittently throughout the tropics.

5. **Rhynchospora candida** (Nees) Boeck. in Linnaea 37: 605 (1873); F.T.A. 8: 481; Kük. in Engl., Bot. Jahrb. 75: 175 (1950); Berhaut, Fl. Sén. ed. 2, 356 (1967); Robinson in Kirkia 1: 34 (1961). *APD acc*

Psilocarya candida Nees in Mart., Fl. Bras. 2, 1: 117 (1842).

Slender plant, about 60 cm. high, with distinctive large white spikelets; **in grassland liable to flooding**.

Sen.: Badi, Gambia R. Basin (Jan.) Berhaut 1479! **Mali:** Doung! Klela (May) Demange 2234! **Port. G.:** Contubo el Canhamine (Sept.) Esp. Santo 2758! Ingnore to Barro (Aug.) Esp. Santo 3085! **Guin.:** Friguiagbé (Dec.) Chillou 1096! Kindia (Oct.) Pobéguin 1366! Labé to Guesséwolé Adam 14645! Kouroussa (Apr.) Pobéguin 698! Kissidougou (July) Martine 3312! **S. L.:** Bakelimre (June) Adames 232! Kichom (July) Adames 213! Mateboi (June) Adames 267! Dimbaia

(Sept.) Adames 249! Kenema (June) Jordan 2125! **Lib.:** Robertsport, Grand Cape Mount Dist. (Dec.) Baldwin 10962! **Iv. C.:** Sémien to Kanéby (July) Aké Assi 9072! **U. Volta:** Bouassi to Kouéré, nr. Banfora (July) Scholz 313! **Dah.:** Porto Novo (Sept.) Adjanooun 351! **N. Nig.:** Maska Dam, Zaria Prov. (May) Kershaw 900319! Samaru Dam (July) Oche MRK 21! **S. Nig.:** Lagos Barter 20178!

Scattered throughout tropical Africa, the Mascarene Islands and tropical S. America.

6. **Rhynchospora eximia** (Nees) Boeck. in Linnaea 37: 601 (1873); Kük. in Engl., Bot. Jahrl. 75: 181 (1950); Berhaut. Fl. Sén. ed. 2, 359 (1967). *APD acc*

Spermodon eximius Nees in Seem., Voy. Herald Bot. 222 (1857).

Rhynchospora schroederi K. Schum. ex C.B. Cl. in Engl., Bot. Jahrb. 38: 135 (1906); F.W.T.A., ed. 1, 2: 470.

Rhynchospora testui var. **pleiantha** Cherm. in Bull. Soc. Bot. Fr. 81: 267 (1934); Berhaut, Fl. Sén. ed. 1, 215 (1954).

Leafy annual with brown spikelets on long but rather robust pedicels; marshes and wet flushes.

Sen.: Badi (Dec.) Berhaut 1810! Niokolo-Koba (Oct., Nov.) Adam 15716! 15838! 17094! Kanéméré (Sept.) Fotius K443! **Mali:** (Apr.) Doung! Kita Mts. (Oct.) Jaeger 54! 80! Sotuba (Oct.) J. Raynal 5008 ter! 5029! **Guin.:** Téliélé to Pita (Oct.) Pitot! Ditinn (Oct.) Pitot! Macenta to Kérouané Adam 7035! Koundara (Dec.) Berhaut 4180! Kourouasa (Dec.) Pobéguin 541b! **S. L.:** Kambia (Dec.) Deighton 818! Rokupr (Nov.) Jordan 175! Mabonto to Bunbuna (Aug.) Deighton 1401! Jokibu (Nov.) Deighton 3777! Kenema (Nov.) Deighton 5875! **Iv. C.:** Bégué 91! Séguélo (Oct.) Aké Assi 6612! Dabakala to Toupé (Nov.) Aké Assi 9245! **Ghana:** Burufo (Dec.) Adams & Akpabla 4392! Tamale (Dec.) Adams & Akpabla 4167! Yapei Bridge (Nov.) Hall & Enti GC 35735! **Togo Rep.:** Sokodé to Bassari Schroeder 1471 Bassari (Aug.) Mahoux 2179! **N. Nig.:** Kabba (Oct.) Parsons 27! Kufena Hill, Zaria Dist. (Sept.) Clayton 1304! Kaduna to Keffi, Zaria Prov. (Aug.) Kershaw 900708! Panshanu Pass, Bauchi Prov. (Aug.) J. Hall 505!

Also in **E. Cameroun**, **C. African Rep.**, **Malawi** and **tropical America**.

7. **Rhynchospora gracillima** Thw. Enum. Pl. Zeyl. 435 (1864). *APD acc*

R. gracillima subsp. *gracillima* occurs in Asia.

7a. **Rhynchospora gracillima** Thw. subsp. **subquadrata** (Cherm.) J. Raynal in Adansonia sér. 2, 7: 321 (1967); Berhaut, Fl. Sén. ed. 2, 360 (1967). *APD acc*

Rhynchospora subquadrata Cherm. in Bull. Soc. Bot. Fr. 69: 720 (1922); Kük. in Engl., Bot. Jahrb. 75: 274 (1950); Robinson in Kirkia 1: 40 (1961).

Rhynchospora testui Cherm. in Arch. Bot. Caen 4, Mém. 7: 42 (1931).

Slender erect plants to 80 cm. high, characterized by the slender spreading branches of the inflorescence; edges of streams, lakes and other marshy areas.

Sen.: Niokolo-Koba (Dec.) J. & A. Raynal 6916! (Nov.) Adam 17091! Badi (Dec.–Jan.) Berhaut 1171! 4740! **Mali:** Sotuba (Dec.) Adam 1438! **Guin.:** Madina Tossekéré (Oct.) Adam 12541! **Lib.:** (Sept.) Harley! Upper Mesurado Swamp, nr. Monrovia (Sept.) Künkel 58! Buchanan, Grand Bassa Dist. (Nov.) Adam 16016! **Iv. C.:** Moossou (Nov.) Bodard! (Jan.) Aké Assi 6888! Grand Bassam (Sept.) de Wit 7334! Baoulé Nord, Manikro to Tiégouakro (Aug.) Chev. 22316! **U. Volta:** Ouagadougou (Oct.) Charreau in Hb. Adam 12742! **Ghana:** Burufo, nr. Lawra (Sept.) Hall CC 757! Sakogu (Aug.) Hall CC 457! Kintampo (Sept.) Hall CC 913! Ejura (Dec.) Morton GC 9487! Esslama (May) Morton 2151! **Togo Rep.:** Lama-Kara to Sokodé (July) Mahoux 2114! Bafilo Sokodé (Aug) Mahoux 2155! **N. Nig.:** Jos (Aug., Dec.) Haines 97! J. Hall 602! Lely P481!

Also in **E. Cameroun**, the **Congo**, **Uganda**, **Tanzania**, **Zambia**, **Rhodesia** and **Madagascar**.

8. **Rhynchospora rugosa** (Vahl) Gale in Rhodora 46: 275 (1944).

APD: *Synonym of Rhynchospora brownii Roem. & Schult.*

APD: *Synonym of Rhynchospora brownii Roem. & Schult.*

Schoenus rugosus Vahl, Ecl. Amer. 2: 5 (1798).

Rhynchospora glauca Vahl, Enum. 2: 233 (1806); F.T.A. 8: 482.

Rhynchospora brownii Roem. & Schult., Syst. Veg. 2: 86 (1817); Robinson in Kirkia 1: 36 (1961).

Rhynchospora africana Cherm. in Arch. Bot. Caen 4, Mém. 7: 44 (1931).

Rhynchospora glauca var. **juncea** (Kunth) Cherm. of Aké Assi, Contrib. 257 (1964).

Erect plant, up to 80 cm. high, with elliptical, brown spikelets about 4 mm. long; marshes or near streams.

Guin.: Labé Adam 14563! **Iv. C.:** Moossou (Jan.) Aké Assi 6881! Grand Bassam (Sept.) de Wit 7376! **N. Nig.:** Kakara, Mambila Dist. 4,800 ft. (Jan.) Hepper 1792! **S. Nig.:** Obudu, 5,000 ft. (Apr.) Haines 231! **W. Cam.:** Nkambe, 5,000 ft. (Feb.) Brunt 992! Mbiambi, 6,000 ft. (June) Brunt. 752!

Pantropical.

[The pattern of variation within this aggregate species must be further studied before the West African taxa can be properly delineated. From the material cited above Adam 14563 stands out as having a dark achene with bristles as long as both achene and style-base together and shows other features of *R. africana* Cherm. The highland specimens from Nigeria and the W. Cameroon have 5–6 bristles shorter than the achene and may belong to the Australian taxon *R. brownii* Roem. & Schult.]

9. **Rhynchospora brevirostris** Griseb. Cat. Pl. Cuba 246 (1866); Kük. in Engl., Bot. Jahrb. 75: 286 (1950); Robinson in Kirkia 1: 39 (1961); Berhaut, Fl. Sén. ed. 2, 360 (1967). *APD acc*

Rhynchospora barteri C.B. Cl. in F.T.A. 8: 482 (1902); F.W.T.A., ed. 1, 2: 470; Aké Assi, Contrib. 2: 257 (1964).

Slender annual, with stems about 15 cm. high having small clusters of spikelets along their length; **rice-fields and other damp places, not common.**

Sen.: Niokolo-Koba Adam 15946! (Dec.) J. & A. Raynal 6884! Kanéméré (Nov.) Fotius K692! Casamance (Oct.) Adam 18530! (Dec.) Berhaut 6701! **Mali:** (Dec.) Schnell 2354 bis! Sotuba (Nov.) J. Raynal 5133! **Guin.:** Scaëtta 3086! 3087b! **S. L.:** Mapotolon (Nov.) T. S. Jones 59! Kitchom (Jan.) Deighton 945! **N. Nig.:** Nupe Barter 1010! Gurum, Adamawa Prov. (Nov.) Hepper 1247!

Also in **E. Cameroun**, **C. African Rep.**, **Middle Congo**, **SE. Africa** and **tropical America**.

10. **Rhynchospora perrieri** Cherm. in Bull. Soc. Bot. Fr. 69: 721 (1922); Kük. in Bngl., Bot. Jahrb. 75: 279 (1950); Robinson in Kirkia 1: 40 (1961); Berhaut, Fl. Sén. ed. 2, 360 (1967); J. & A. Raynal in Adansonia, sér. 2: 322 (1967). *APD acc*

Rhynchospora deightonii Hutch. in F.W.T.A., ed. 1, 2: 488 (1936), name only.

Similar to the preceding species but generally taller, up to 50 cm. and of more frequent occurrence; **edge of swamps.**

Sen.: Kolda, Casamance (Jan.) J. Raynal 7836! (Feb.) Berhaut 6881! Toubakouta J. Raynal 7932. **Guin.:** Friguiagbé (Nov.) Chillou 863! Hollandé Tossékéré (Oct.) Adam 12725b! **S. L.:** Newton (Nov.) Deighton 1449! Rokupr (Nov.) Jordan 675! Mandu (Feb.) Morton SL 845! Malema (Nov.) Deighton 326! Kenema (Nov.) Deighton 5876! **Lib.:** Monrovia (Feb.) Dinklage 2758! Buchanan (Nov.) Adam 16010! Bushrod I. (Nov.) Winne 545! Ganta (Nov.) Harley 1709! Nimha Mts. (Jan.) Adam 20696! **Iv. C.:** Moossou (Oct.) Aké Assi 4407! **U. Volta:** Ouagadougou (Oct.) Adam 12742! **Togo Rep.:** Bafilo Sokodé (Aug.) Mahoux 2159! **S. Nig.:** Uke to Nobi, Onitsha Dist. (May) Onochie FHI 35797!

Also in **E. Cameroun**, **C. African Rep.**, **Kenya**, **Pemba**, **Zambia**, **Rhodesia** and **Madagascar**.

11. **Rhynchospora tenerrima** Nees ex Spreng. Cur. Post. Syst. Veg. 26 (1827); F.W.T.A., ed. 1, 2: 470. *APD acc*

In **Central** and **tropical R. America**.

- 11a. **Rhynchospora tenerrima subsp. microcarpa** J. Raynal in J. & A. Raynal in Adansonia, sér. 2, 7: 325, fig. 5, 2 (1967). *APD acc*

Slender tufted plant up to 20 cm. high, with filiform stems and leaves; **rice-fields, marshy grassland and sometimes wet rock-faces.**

Sen.: Kolda (Jan.) J. Raynal 7830. **Guin.:** Is. Tristao (Nov.) Jac.-Fél 7325! Friguiagbé Chillou 598b! Telimélé (Oct.) Pitot! Telimélé to Pita (Oct.) Pitot! Conakry (Oct.) Adam 12600! Dalaba (Oct.) Scaëtta 3087! 3090! **S. L.:** Waterloo (Aug.) Melville & Hooker 295! 302! Sugar loaf Mt. (Nov.) Deighton 5620! Materboi (Oct.) Glanville 24! **Lib.:** Grand Bassa (Nov.) Dinklage 2304! Buchanan (Nov.) Adam 16057!

Excluded and doubtful species

- Rhynchospora senegalensis** Steud.—F.W.T.A., ed. 1, 2: 470

Fuirena stricta Steud.

Rhynchospora micrantha Vahl Enum. 2: 231 (1806); F.T.A. 8: 481; F.W.T.A., ed. 1, 2: 470. "In montosis Guineae 1786 Isert".

This Central American species has not otherwise been recorded from West Africa.

16. CLADIUM

P. Br., Hist. Jam. 114 (1756); F.T.A. 8: 484 (1902).

- 1 Erect robust sedge to 1·60 m. high with creeping rhizomes, rounded leafy stems and saw-edged leaves and bracts; inflorescence an interrupted compressed panicle with numerous slender rays bearing clusters of small red-brown ovoid spikelets; achene broadly ovate, 2·5 mm. long, rugulose above ..[mariscus subsp. jamaicense](#)

Cladium mariscus subsp. jamaicense (Crantz) Kük. in Peter in Fedde, Rep. Beih. 40, 1: 523 (1938), and in Fedde, Rep. 51: 189 (1942).

APD: Synonym of Cladium jamaicense Crantz

Cladium jamaicense Crantz, Instit. 1: 362 (1766); A. Raynal in Ann. Fac. Sci. Univ. Dakar 9: 167 (1963).

Cladium mariscus of Adam in Not. Syst. 16: 317 (1960); Berhaut, Fl. Sén. ed. 2, 360 (1967).

Characterized by the very sharp serrated edges of the tough leaves and bracts; [marshy woodland and dune slacks of the Cape Verde Peninsula](#).

Sen.: Dakar Adam 17635! 17679! 17699! M'bidjem (June) J. & A. Raynal 5982! Mbeubeussé (May) Naegelé!

Also in [Cape Verde Islands](#), [Congo](#), [Socotra](#), [Kenya](#), [Uganda](#) and to S. Africa, and the Old and New World tropics; subsp. mariscus occurs in temperate regions.

17. MAPANIA

Aubl., Pl. Guin. Franc. 1: 47 t. 17 (1775); F.T.A. 8: 489 (1902).

- 1 Inflorescence on an axillary peduncle which bears reduced leaves only, and subtended by short scarious bracts: **2**
 Inflorescence on a terminal peduncle bearing normal leaves below, and subtended by leafy bracts:**4**
- 2 Leaf-blade oblong, 40–85 mm. broad, suddenly narrowed into a pseudopetiole below, obtuse and cuspidate above; sheath inflated, red-purple within[1. baldwinii](#)
 Leaf-blade linear, 10–45 mm. broad, gradually narrowed below, acute to acuminate; sheath not inflated:**3**
- 3 Stigmas 2; leaf-tip asymmetrical, acute; inflorescence straw-coloured, spikes more or less confluent ... [2. linderi](#)
 Stigmas 3; leaf-tip symmetrical, acuminate; inflorescence brown, spikes discrete, acute, in heads up to 2 cm. across[3. mangelotiana](#)
- 4 Triangular pseudopetiole present above sheath[4. amplivaginata](#)
 Leaf-blade narrowed above sheath but not forming a triangular pseudopetiole:**5**
- 5 Achene with a surface reticulum of raised lines:**6**
 Achene with a tuberculate surface:**7**
- 6 Spikes more or less confluent into a hemispherical inflorescence; peduncles enlarged beneath head; leaves tinged red beneath; glumes 7–10 mm. long; achene with simple longitudinal ribs[5. coriandrum](#)
 Spikes discrete in a spherical inflorescence; peduncle not enlarged; glumes 4–5 mm. long; achene with branched longitudinal ribs[6. minor](#)
- 7 Leaves and bracts suddenly narrowed into a triangular tip[7. ivorensis](#)
 Leaves and bracts gradually acuminate:**8**
- 8 Glumes brown; style-base not persistent[8. macrantha](#)
 Glumes white; style-base yellowish, conical and persistent[9. rhynchocarpa](#)

1. Mapania baldwinii Nelm. in Kew Bull. 6: 420 (1951); Nelm. & Baldwin in Amer. J. Bot. 39: 369 (1952). *APD acc*

Mapania comoensis of F.W.T.A., ed. 1, 2: 471 (1936), English descr. only.

Readily distinguished from other species by a combination of pale axillary inflorescences, oblong leaves and inflated sheaths; **in forest**.

Lib.: Yéképa, Nimba Reserve (Feb.) Adam 20906! Kitoma, Sanokwele Dist. (Mar.) Adam 16702! Bilimu Mt., Sanokwele Dist. (Dec.) Harley 1994! Monroviatown, Tchien Dist. (Aug.) Baldwin 7097! Duoh, Sinoe Dist. (Mar.) Baldwin 11341! **iv. C.:** Troya, Taï to Tabou (Mar.) de Wilde 3552! Taï (Jan.) Lorougnon 1265! 10 km.W. of Tapéguhé, Sassandra R. (June) Leeuwenberg 4520! Guitry to Divo (Dec.) Boughey GC 13564! Yapo forest, Agboville (Oct.) Mangelot “No. 5”! Malamalasso, Bas Comoé (Mar.) Chev. 17498! **Ghana:** Ankasa F.R. (July) Hall & Enti GC 35522! Afao Hills F.R. (Dec.) Adams 1959! Headwaters of Ochie R., Juaso West-Skinn 8! Kakum F.R. (Jan.) Hall 1698! Atewa Range F.R. (Jan.) Enti & Hall GC 36356!

2. *Mapania linderi* *Hutch. ex Nelmes* in Kew Bull. 6: 421 (1951); Nelmes & Baldwin in Amer. J. Bot. 39: 371 (1952). *APD acc*

Similar to *M. baldwinii* in having several slender axillary peduncles but differing from that species in the linear leaves; **in riverine or montane forest**.

Guin.: Ya R., Nimba Mts. (Apr.) Schnell 5077! 5111! 5113! 5212! 5218! Lower Goué R. valley (Apr.) Schnell 5020! **S. L.:** Kambui Hills (Mar.) Small 506! Gola Forest (Apr.) Small 631! **Lib.:** Wohmen, Vongama Dist. (Oct.) Baldwin 10072! Ganta, Sanokwele Dist. (July) Harley 1233! Gbanga (Sept.) Linder 586! Yoma, Montserrado Dist. (Aug.) Leeuwenberg 4838! Dieble, Webo Dist. (July) Baldwin 6396! **iv. C.:** Frontier Guin./Iv. C., Man Dist. (Sept.) Mangelot “No. 6”! Taï (Feb.) Lorougnon 1261! Taï to Tabou (Mar.) de Wilde 3528! Yapo Forest, Agneby Dist. (July, Dec.) de Wilde 140! Troya (Feb.) Lorougnon 1262!

3. *Mapania mangelotiana* *G. Lorougnon* in Bull. Jard. Bot. Brox. 34: 297, fig. 7 (1964). *APD acc*

Mapania dolichostachya of F.W.T.A., ed. 1, 2: 471 (1936).

Mapania africana Boeck. subsp. *occidentalis* J. Raynal in Adansonia, sér. 2, 5: 277 (1965).

Characterized by small lateral inflorescences and leaves up to 25 mm. wide; **in forest**.

Lib.: Pah Mountain, Webo Dist. (June) Baldwin 6076! **iv. C.:** Tabou (Feb.) Lorougnon 1267! Cavally basin, Grabo Dist. (July) Chev. 19697!

4. *Mapania amplivaginata* *K. Schum.* in Notizbl. Bot. Gart. Berl. 3: 105 (1901). *APD acc*

Mapania oblonga C.B. Cl. in F.T.A. 8: 491 (1902); F.W.T.A., ed. 1, 2: 471.

Langevina monosperma Jac.-Fél. (1847)—F.W.T.A., ed. 2, 3: 55.

Distinguished from the other species with a terminal inflorescence by the oblong pseudopetiolate leaves; **in forest**.

S. Nig.: Kwa Falls, Calabar (Mar.) Brenan 9250! Oban (Mar.) Coombe 170! Afi F.R. (May) Jones & Onochie FHI 18641! **W. Cam.:** Rio del Rey Johnston! Banga, S. Bakundu F.R. (Mar.) Brenan & Onochie 9421! Kembong F.R., Mamfe Dist. (Mar.) Onochie et al FHI 31182!

Also in **E. Cameroun**, **Rio Muni** and **Gabon**.

5. *Mapania coriandrum* *Nelmes* in Kew Bull. 6: 419 (1951). *APD acc*

Mapania deistellii of F.W.T.A., ed. 1, 2: 471, partly.

Plant to 1 m. or more with strictly ranked leaves and large bracts ensheathing the lower part of the inflorescence; **in high forest**.

Guin.: Ya R., Nimba Mts. (Apr.) Schnell 5082! **S. L.:** York Pass, Picket Hill (Nov.) Gledhill 512! **Lib.:** Nimba Reserve (Aug., Dec.) Adam 468! 20119! Kitoma, Sanokwele Dist. (Mar.) Adam 16719! 16856! Medina to Bumbuna (Oct.) Linder 1306! **iv. C.:** Tabou (Mar.) Lorougnon 1258! Source Banco R. (Jan., Mar.) Lorougnon 1256! 1260! Adiopodoumé (Dec.) Aké Assi 7164! Malamalasso, Assinie Dist. (May) Mangelot “No. 2”! **Ghana:** Esekawkaw F.R., Asuom (May) Enti GC 35393! Asin Cocoa Station, Foso West-Skinn 50!

6. *Mapania minor* (*Nelmes*) *J. Raynal* in Adansonia, sér. 2, 5: 278 (1965). *M. macrantha* (Boeck.) Pfeiff. var. *minor* Nelmes in Kew Bull. 6: 420 (1951). *APD acc*

Plant to 1 m. or more with an inflorescence about 3 cm. across of many ovate spikes and a long, generally reflexed bract; [in forest](#).

Lib.: Nyakake, Webo Dist. (June) Baldwin 6074! **iv. C.:** Tai (Feb.) Lorougnon 1242! Grabo (Jan.) Lorougnon 1243! Tabou (Jan.) Lorougnon 1245! Sassandra to Gagnoa Mangenot "No. 1"!

7. *Mapania ivorensis* (*J. Raynal*) *J. Raynal* in *Adansonia*, sér. 2, 8: 415 (1968). *APD acc*

Mapania macrantha subsp. *ivorensis* *J. Raynal* in *Adansonia*, sér. 2, 5: 278 (1965).

Mapania deistellii of F.W.T.A., ed. 1, 2: 471 (1936), partly.

Characterized by the spherical head in which the spikes are hardly distinguishable and the broad linear leaves; [in forest](#).

Lib.: Bomi Hills, Montserrado Dist. (May) Harley 2035! **iv. C.:** Tai (Jan.) Lorougnon 1253! Guitry to Divo (Dec.) Boughey GC 13562! Yapo (Mar., Dec.) Lorougnon 1247! J. & A. Raynal 13619! Malamalasso (May) Mangenot "No. 3"!

8. *Mapania macrantha* (*Boeck.*) *Pfeiffer* in *Bot. Archiv.* 12: 450 (1925). *APD acc*

Hypolytrum macranthum *Boeck.* in *Engl., Bot. Jahrb.* 5: 507 (1884).

Mapania superba *C.B. Cl.* in *F.T.A.* 8: 491 partly, illegitimate name.

Robust plant with bracts about 3 cm. broad and a large brown inflorescence; [in rain forest](#).

S. Nig.: Oban (Mar.) Richards 5148! Oban F.R., Calabar (Feb.) Okafor & Daramola FHI 36327!

Also in [E. Cameroun](#) and [Gabon](#).

9. *Mapania rhynchocarpa* *Lourougnon & J. Raynal* in *Adansonia*, sér. 2, 8: 419 (1988). *APD acc*

Similar in habit to *M. ivorensis* but with a larger inflorescence; [in forest](#).

S. L.: Mt. Loma (Sept.) Jaeger 7461. **iv. C.:** Soubré (Apr.) Lorougnon 1108 & 1112.

18. HYPOLYTRUM

L. C. Rich. in *Pers. Syn.* 1: 70 (1805); *F.T.A.* 8: 486 (1902); *Nelmes* in *Kew Bull.* 10: 63–82 (1955).

- 1 Flowering stems axillary, bearing scales or reduced leaves at the base and bracts which scarcely exceed the inflorescence at the top; achene topped by a distinct inflated style-base:2
Flowering stems terminal with well-developed cauline leaves; bracts leaf-like, often exceeding the inflorescence; achene with the style-base either small or hardly distinguishable from the rest of the achene:5
- 2 Spikelets narrowly elliptic or cylindric (7-)10–15(-20) mm. long; glume uniformly brown; achene elliptic, narrowed above and below, with an enlarged style-base somewhat smaller than the longitudinally wrinkled base of the achene; leaves 8–15(-20) mm. broad1. [heteromorphum](#)
Spikelets elliptic to ovate or obovate, 4–9 mm. long:3
- 3 Glume pale and red-dotted in the upper half, darker below; achene oblong or obovate style-base pale, enlarged, conical, decurrent on the angles of the deep green irregularly reticulate-costate base of the achene; leaves (13.5-)18–25(-28) mm. broad; flowering stem often dull purple2. [poecilolepis](#)
Glume rufous except for a pale margin or tip; achene obtuse with the pale enlarged style-base exceeding the dark wrinkled basal part of the achene and exerted beyond the glume at maturity:4
- 4 Inflorescence contracted, not exceeding 3 cm. across; spikelets about 3 mm. wide, pale with the broad white margins of the glumes3. [senegalense](#)
Inflorescence corymbose, exceeding 5 cm. across; glumes without a wide white margin4. [africanum](#)
- 5 Achene pale, purple-spotted, smooth or slightly ridged; style-base large but at maturity not differentiated from the rest of the elliptical achene; plant rhizomatous, large, common5. [purpurascens](#)
Achene brown at maturity, deeply longitudinally costate, stylo-base small not inflated;6
- 6 Basal leaves reduced to brown-edged sheaths, cauline leaves borne towards the top of the slender stems, elliptical, somewhat glaucous; bracts leaf-like, exceeding the slender, few-spikeletted paniculate inflorescence; achene nearly spherical, dark reddish-brown, deeply longitudinally ridged and slenderly transversely lineolate with the simple style-base as a terminal apiculus6. [costatum](#)
Basal and cauline leaves similar, linear-lanceolate; inflorescence corymbose with many dark spikelets; stamens 3; achene deeply longitudinally costate7. [cacuminum](#)

1. *Hypolytrum heteromorphum* *Nelmes* in Kew Bull. 9: 522 (1955).

APD: Synonym of Mapania heteromorpha (Nelmes) Lye

Hypolytrum africanum of F.T.A. 8: 488; F.W.T.A., ed. 1, 2: 472; Nelmes & Baldwin in Amer. J. Bot. 39: 371 (1952), partly.

Differs from all the following species in the flowering spikes being several times longer than broad; **on wet rocks and other damp places in forest.**

Guin.: Erimakuna, Sulimania (Mar.) Sc. Elliot 5396! Ziama (Feb., Apr.) Adam 3715! 4805! **S. L.:** Kamalu (May) Thomas 345! Bure, nr. Mange (Jan.) Jordan 850! Makonde (Apr.) Sc. Elliot 5686! Ndilajula, nr. Njala (Feb.) Deighton 1078! Messima Crim (Jan.) Morton & Gledhill SL 1698! **Lib.:** Nabenah, Cape Mount Dist. (Apr.) Dinklage 2584! Ganta, Sanokwele Disk. (Dec., Jan.) Harley 796! Baldwin 14050! Webo (Apr.) Dinklage 2653! Cavally R. (Mar.) Bernardi 3415! **iv. C.:** Tai (Jan.) Lorougnon 1272! Troya, Tai to Tabou (Mar.) Leeuwenberg 3553! Nigbi II, nr. Soubré (Nov.) de Wilde 3275! 56 km. N. of Sassandra, E. of Beyo (Jan.) Leeuwenberg 2546! Agbo (Jan.) Chev. 16611! **Ghana:** Kakumdu (Jan.) Hall 2856! Agboko to Dedesa, Afram Plains (May) Kitson 1125! **S. Nig.:** Onitsha Barter 1575! Oban Rock, Oban (Mar.) Coombe 189! Kwa Falls, Calabar (Mar.) Brenan et al. 9251!

Also in **E. Cameroun, Gabon, Congo, Central African Rep., Uganda** and **Tanzania.**

2. *Hypolytrum poecilolepis* *Nelmes* in Kew Bull. 10: 77 (1955).

APD: Synonym of Mapania poecilolepis (Nelmes) Lye

Stoutly rhizomatous plant distinguished from *H. africanum* by the wide leaves and mottled appearance of the flowering spikes; **damp places in high forest.**

S. L.: Lane-Poole 143! Kenema (Jan.) Thomas 7566! Gorahun (Nov.) Deighton 450! Kambui F.R., Nongowa (Mar.) Jordan 2016! **Lib.:** Nimba, Yéképa (Feb.) Adam 20791! Gola Forest, Ba (Dec.) Baldwin 10720! Javajai, Boporo Dist. (Nov.) Baldwin 10277! Sinoe Basin Whyte! Kitoma, Sanokwele Dist. (Mar.) Adam 16660! Blazie (Nov.) Adam 16135! **iv. C.:** 61 km. N. of Sassandra, W. of Niapidou (Jan.) Leeuwenberg 2564! Tienkula (Mar.) Bernardi 8366! Adiopodoumé (Dec.) Aké Assi 7167! Banco Forest, Abidjan (Jan., Mar.) de Wit 9060/9060! J. & A. Raynal 3551! **Ghana:** Tano Nimri F.R. (Jan.) Ampah FH 5946b! Ancobra R. (Dec.) Johnson 1006! Simpa (Feb.) Vigne 2916! Benso, Tarkwa Dist. (Dec.) Andoh FH 5432! Kakum F.R. (Nov.) Hall 2751!

3. *Hypolytrum senegalense* *A. Rich.* in Pers. Syn. 1: 70 (1805); F.T.A. 8: 488; Nelmes l.c. 79.

APD: Synonym of Mapania senegalense (A. Rich.) Lye

Spikes pale and congested in a head, perhaps indistinguishable from the following at the specific level; **stream sides on mountains.**

Guin.: Rio Nunez Heudelot 727! Friguiagbé (Apr.) Chillou 153! Téliélé (Apr.) Pitot! Kinkon (Apr.) Pitot! Sita (Apr.) Pitot! **S. L.:** Loma Mts. (Oct.) Jaeger 7853! Bintumane Peak (Nov.) Adam 22188!

4. *Hypolytrum africanum* *Nees ex Steud.* Syn. Pl. Glum. 2: 132 (1855); Nelmes l.c. 78.

APD: Synonym of Mapania longiscaposa (C.B. Clarke) Lye

Hypolytrum longiscapum *C.B. Cl.* in F.T.A. 8: 489; F.W.T.A., ed. 1, 2: 472.

Distinguishable from *H. senegalense* only by the corymbose or paniculate inflorescence and less widely white-margined glumes; **by streams in forest.**

Guin.: Friguiagbé (Feb.) Chillou 2489! Kindia Jac.-Fél! Mamou (Mar.) Dalz. 8430! Konkoué Falls (Mar.) Pitot! Mali (Nov.) Chev. **S. L.:** Regent (Dec.) Sc. Elliot 4014! Mt. Horton (Jan.) T. S. Jones 300! Makalo (Nov.) Marmo 79! Kitoma (Mar.) Adam 16757! Sankan Biriwa, 4,500 ft. (Jan.) Cole 161! **Lib.:** Nimba (Dec., Jan.) Adam 20300! 20571! 20783! Wohmen, Vonjama Dist. (Oct.) Baldwin 10057! Lamco Camp, Nimba Mts. (Nov.) Adames 763!

5. *Hypolytrum purpurascens* *Cherm.* in Bull. Soc. Bot. Fr. 80: 508 (1933); Nelmes l.c. 69.

APD: Synonym of Mapania purpurascens (Cherm.) Lye

Hypolytrum nemorum of F.T.A. 8: 487, not *Schoenus nemorum* Vahl.

Hypolytrum heterophyllum of F.W.T.A. ed. 1, 2: 472.

Robust plant with spreading rhizomes and spherical or hemispherical fruiting heads; [stream sides and other damp places in forest](#).

S. L.: Konta, Kambia Dist. (Apr.) Hepper 2652! Hastings (Sept.) Melville & Hooker 445! Kantobe (Feb.) Bakshi 3! Njala (Nov.) Deighton 2561! Gbap (Mar.) Adames 17! **Lib.:** Marshall, Montserrado Dist. (Feb.) Baldwin 11047! Kakatown, Salala Dist. Whyte! Loffa R., nr. Kondessu, Boporo Dist. (Dec.) Baldwin 10658! Gbanga (Sept.) Linder 797! Kitoma, Sanokwele Dist. (Mar.) Adam 16767! **iv. C.:** Tabou (July) Lorougnon 1273HL! Mt. Orumbo-Boka, nr. Toumodi (Dec.) Boughey 14426! Adiopodoumé (Oct., Nov., Jan.) Lorougnon 1274HL! Aké Assi 7296! de Wilde 1008! **Ghana:** Beyin, Cape Coast (Feb.) Hall 2916! Princes Town, Axim (Mar.) Morton A309! Essiama (Dec.) Morton A2500! Ancobra R., Axim (Mar.) Morton GC 6592! 6593! **S. Nig.:** Lagos (Feb.) Millen 193! Ikoyi Plains (Jan.) Dalz. 1304! Sapoba (Feb.) Onochie FHI 31939! Okomu F.R., Benin (Feb.) Brenan 9183! Calabar (Mar.) Brenan et al. 9216! **W. Cam.:** Rio del Rey Johnston! Lake Ejagham, Mamfe (Mar.) Onochie FHI 30899! **F. Po.:** (Nov., Dec.) T. Vogel 206! Mann 120!

Also in **E. Cameroun**, and through the Congo basin to **Angola**.

6. *Hypolytrum costatum* *Nelmes* in Kew Bull. 10: 74 (1955).

APD: Synonym of Mapania costata Lye

Plant with a horizontal rhizome and several slender leafy stems; apparently a rare montane species.

Lib.: Pah Mt., Webo Dist. (June) Baldwin 6072!

7. *Hypolytrum cacuminum* *Nelmes* in Kew Bull. 10: 74 (1955).

APD: Synonym of Mapania cacumina (Nelmes) Lye

Characterized by the enlarged woody stem-bases and dense dark-spikeletted panicle; [montane grassland](#).

Guin.: Nimba Mt. (Feb., Dec.) Schnell 217! 411! Adam 7393! Nzérékoré (Oct.) Jac.-Fél. 1942! **S. L.:** Loma Mts. (Aug.–Nov.) Jaeger 769! 1339! 1440! Sankan Biriwa, 4,500 ft., Tingi Mts. (Jan.) Cole 122! Neremefondi, Tingi Mts. (Dec.) Morton & Gledhill SL 2987! **Lib.:** (Jan.) Adam 20636! Mt. Wolagwisi nr. Pandamai (Mar.) Bequaert 94! **iv. C.:** Nimba Mts., 2,500–5,000 ft. (Aug.) Boughey GC 18055!

19. SCLERIA

Berg., Vet. Acad. Handl. Stockh. 24: 142, t.4 & 5 (1765); F.T.A. 8: 493 (1902); *Nelmes* in Kew Bull. 10: 415 (1955), and 11: 73 (1956); E. A. Robinson in Kew Bull. 18: 487 (1966).

Hypoporum *Nees* in Linnaea 9: 303 (1834).

- 1 Hypogynium enlarging at maturity into a ciliate-margined corky cupule wider than the achene; stout broad-leaved perennials with a terminal panicle:2
Hypogynium small to very small, lobed or reduced to an undifferentiated stipe-like base to the achene, margin entire:4
- 2 Achene smooth:3
Achene verrucose except for the smooth, shining apex, subglobose to globose, about 3 mm. diam., cream3.
[verrucosa](#)
- 3 Achene compressed, with a circular groove round the top close to the style-base, 4.5–6 mm. diam., bluish grey at maturity, shining1. [depressa](#)
Achene globose to subovoid, slightly compressed, 2.5–3.25 mm. diam., ivory to honey-grey at maturity, shining2. [vogelii](#)
- 4 Fertile spikelets unisexual; hypogynium usually well developed; inflorescence of terminal and axillary panicles with leafy bracts, not composed of a series of interrupted spikes (see also Nos. 20–22):5
Fertile spikelets bisexual; hypogynium little developed, usually represented by a stipitate base to the achene: 20
- 5 Plant perennial with a well developed and often creeping rhizome:6
Plants annual or at least short-lived:13
- 6 Female glume 7–11 mm. long usually black except for the midrib; achene ovoid to ellipsoid, 4–6 mm. long, smooth or slightly verrucose; hypogynium much reduced4. [melanomphala](#)

- Female glumes 2.5–8 mm. long; achene up to 4 mm. long:7
- 7 Male spikelets more or less curved, conspicuously spreading, 7–9 mm. long; achene glabrous, distinctly longitudinally ribbed except for the tuberculate apex; panicles contracted, spike-like [5. spiciformis](#)
- Male spikelet straight, 4–9 mm. long; achene lacking the above combination of characters; panicles lax:8
- 8 Stems up to 10 m. long, scandent; leaves scabrid; panicles erect, branches patently spreading; achenes ovoid to cylindric-ovoid, 3–3.5 mm. diam., purple, very rarely white, smooth, hairy [6. boivinii](#)
- Stems up to 2 m. long, erect or decumbent but never scandent; leaves not scabrid;9
- 9 Peduncles of the lateral panicles very short with scarcely exerted, erect panicles; male spikelet 3–4.75 mm. long; achenes 1.8–3 mm. diam., smooth, glabrous or pubescent beneath: 10
- Peduncles of the lateral panicles long, with well exerted, often pendent panicles; male spikelet 5–9 mm. long; achenes 2–2.5 mm. diam., smooth to lacunose, with tufts of fine hairs: 12
- 10 Tip of the female glume longer than the achene, recurved; achene globose to ovoid-globose, 1.8–2.4 mm. diam., smooth, shining, finely hairy beneath or all over, often purplish at the apex [7. pterota](#)
- Tip of the female glume long or short, but always straight; achene ovoid to globose or ellipsoid, up to 3 mm. diam., grey, honey-coloured or purplish at maturity: 11
- 11 Male spikelet 3–4 mm. long; fertile glume shorter than the achene; achene 2.2–2.5 mm. diam., ivory to grey at maturity [8. naumanniana](#)
- Male spikelets 4–4.75 mm. long; fertile glume with a long tip exceeding the achene; achene 2.5–3 mm. diam., the apex dark purple to blue-black at maturity [9. iostephana](#)
- 12 Lateral panicles 2–5 at each node, rarely solitary; male spikelet 5–6 mm. long; achene narrowly ovoid to subglobose, smooth or lightly striate-lacunose [10. lagoënsis](#)
- Lateral panicles solitary; male spikelet 7–9 mm. long; achene subglobose, faintly or distinctly lacunose [11. achenii](#)
- 13 Pedicel of the male spikelet equal to or longer than the spikelet; achene globose to ellipsoid, 2 mm. diam. with oblong lacunae having reddish viscid-pubescent patches on the walls [12. mikawana](#)
- Pedicel of the male spikelet much shorter than the spikelet: 14
- 14 Lateral panicles erect; peduncles rigid, usually short: 15
- Lateral panicles pendulous; peduncles long and floxuous: 17
- 15 Achene globose, 2.7–3.5 mm. diam. with deep square lacunae, hairy or glabrous [13. sphaerocarpa](#)
- Achene ovoid or ellipsoid-cylindric, glabrous: 16
- 16 Achene cylindric to ellipsoid-cylindric, 1.5–2 mm. diam. obscurely or distinctly striate-lacunose, the lacunae vertically elongated [14. tessellata](#)
- Achene ovoid to almost globose, 2–2.5 mm. diam., smooth at the apex alveolate-lacunose below, rarely so faintly as to appear almost smooth [15. foliosa](#)
- 17 Achenes smooth, glabrous: 18
- 18 Lateral panicles solitary; achene globose, compressed, 3.2–3.8 mm. diam. [16. schimperana](#)
- Lateral panicles 2 or more at least at some of the nodes; achenes oblong-cylindric, subtrigonal, 1.7–1.8 mm. diam., grey with darker longitudinal banding, shining [17. gracillima](#)
- Achenes lacunose: 19
- 19 Achene globose, 2.75–3 mm. diam., deeply lacunose, glabrous or with reddish viscid-pubescent patches on the walls; male spikelet 3–5 mm. long [18. globonux](#)
- Achene obovoid-globose to oblong-ellipsoid, 1.5–2.2 mm. diam., deeply and squarely lacunose, usually hairy on the walls; male spikelet 2.5–3.5 mm. long [19. parvula](#)
- 20 Inflorescence of terminal and lateral panicles, the latter often with foliaceous bracts; fertile spikelets androgynous or unisexual: 21
- Inflorescence of a terminal interrupted spike or panicle without foliaceous bracts; spikelets usually crowded into sessile or subsessile glomerules: 23
- 21 Leaves not more than 5 mm. broad; spikelets 4–5 mm. long; achene ovoid to ellipsoid, 2.5–3 mm. long, smooth, glabrous [20. lithosperma](#)
- Leaves 10–22 mm. broad; panicles large with simple branches; achene smooth: 22
- 22 Fertile spikelets 5–6 mm. long; achene ellipsoid or ovoid-ellipsoid, 2–2.5 mm. diam. [21. lacustris](#)
- Fertile spikelets 11 mm. long; achene subglobose, slightly compressed, 3.5–4 mm. diam. [22. chevalieri](#)
- 23 Inflorescence branched; branches few with few glomerules, or numerous and compound: 24
- Inflorescence a simple spike, very occasionally with 1 or 2 short branches bearing a single glomerule arising from the lowest glomerules: 28

- 24 Achenes subglobose, up to 1.4 mm. long, tuberculate-trabeculate; panicle loose and copiously branched: **25**
 Achenes 1.5–2 mm. long, smooth to lacunose-tessellate or striate or tuberculate, glabrous: **26**
- 25 Plants perennial with a slender rhizome; spikelets 3–5 mm. long, obtuse [23. pooides](#)
 Plants annual; spikelets 3–4 mm. long, acuminate, black [24. robinsoniana](#)
- 26 Plants annual; panicle loose and copiously branched; spikelets acute, narrowly lanceolate; achenes oblong-ellipsoid, 1.8 mm. long with a thin pericarp [25. guineensis](#)
 Plants perennial; panicle scanty; spikelets usually subobtuse, oblong-lanceolate; achene subglobose, shining: **27**
- 27 Leaf-sheath more or less truncate at the mouth; achene ovoid-globose, lacunose, faintly tessellate [26. striatinux](#)
 Leaf-sheath with a long tongue opposite the blade; achene ovoid-globose to compressed-globose, smooth or tuberculate [27. rehmannii](#)
- 28 Glomerules erect to spreading; glume glabrous to hairy but without setose bristles: **29**
 Glomerules reflexed; glumes normally densely or sparsely coated with conspicuous, often black setose bristles: **33**
- 29 Plants rhizomatous, perennial: **30**
 Plants annual: **32**
- 30 Stems bulbous-based; achene obovoid to subglobose, 1.2–1.6 mm. long, usually smooth and shining but occasionally tuberculate [28. bulbifera](#)
 Stems not bulbous-based: **31**
- 31 Achene globose, subtrigonal, 1.2 mm. diam., obscurely trabeculate with a dark line down each face [29. monticola](#)
 Achene broadly ovoid to subglobose, 1.1–1.5 mm. long, strongly trabeculate [30. dieterlinii](#)
- 32 Glumes and bracteoles with few to many setose hairs, chiefly on the midrib and margins; achene oblong-ovoid to oblong-globose, 1.2–1.6 mm. long, trabeculate [31. hirtella](#)
 Glumes and bracteoles glabrous; achene globose, compressed, sub-trigonal, 1.4–1.6 mm. long, trabeculate [32. pergracilis](#)
- 33 Plants perennial; achene subglobose to oblong-ovoid. 1.1–1.5 mm. diam., smooth or almost so: **34**
 Plants annual; achene obovoid, compressed, 1.1–1.6 mm. diam., trabeculate or rarely tuberculate: **35**
- 34 Rhizome stout and woody, at least 2 mm. thick, unbranched and giving rise to a uniseriate row of stems; basal leaf-sheaths distant, tight with a short or very short blade; achene subglobose, smooth or lightly tuberculate [33. nutans](#)
 Rhizome slender, 1–2 mm. thick, usually several per plant and the stems not conspicuously seriate; leaves tufted from the base of the plant with loose longitudinally slit sheaths and long blades; achene oblong-ovoid to oblong-globose, trabeculate [34. aterrima](#)
- 35 Glomerules subsessile usually solitary; glumes with an awn 1.5–3 mm. long [35. melanotricha](#)
 Glomerules shortly pedunculate, paired, the second one on a peduncle up to 3 mm. long; glumes mucronate or with a very short awn, not over 1 mm. long [36. grata](#)

1. *Scleria depressa* (C.B. Cl.) Nelmes in Amer. J. Bot. 39: 392 (1952). and in Kew Bull. 11: 77 (1956);
 Berhaut, Fl. Sén. ed. 2, 358 (1967). *APD acc*

Scleria racemosa var. *depressa* C.B. Cl. in F.T.A. 8: 508 (1902).

Scleria racemosa of F.W.T.A., ed. 1, 2: 493.

Scleria racemosa subsp. *depressa* (C.B. Cl.) J. Raynal in Adansonia sér. 2, 4: 153 (1964).

A stout perennial 1–2 m. high; *swamps in savanna and forest.*

Maur.: L. Rkiz (Sept.) Sadio 297! **Sen.:** Heudelot 368! Sangalkam (July) de Wit 7299! Kayar (Dec.) Pitot! Niokolo-Koba (Dec.) J. & A. Raynal 6848! Sedhiou, Casamance (Feb.) Chev. 2449! **Gam.:** Ingram! **Mali:** Gaïbala Ravine, Kita Mts. (Mar.) Jaefer 5014! Foot of Kita Mts. (Oct.) Jaeger 2! Katé (Nov.) Duong 183 (or 2107)! Bougouni (Jan.) Doung! Koutiala (Feb.) Roberty 3412! **Guin.:** Farmar 243! Kindia to Telimélé Roberty 10742! Fouta Djallon (Mar.) Langdale-Brown 2628! **S. L.:** Freetown (Dec.) Morton SL 218! Yonibana (Nov.) Thomas 5029! Gorahun (Nov.) Deighton 353! Kenema (Jan.) Thomas 7523! Kurobonla, Loma Mts. (Jan.) Morton SL 429! **Lib.:** Mecca, Boporo Dist. (Nov.) Baldwin 10407! Gondolahun, Kolahun Dist. (Nov.) Baldwin 10105! Zigida, Vonjama Dist. (Oct.) Baldwin 9990! Ganta, Sanokwele Dist. (Oct.) Harley 1033! Nimba Mts. (Feb.) Adam 21007! **Iv. C.:** Bégué 13! Ferkessédougou Kerharo & Bouquet 182! **Ghana:** Tumu to Sorabela (Mar.) Morton GC 8877! Banda (Dec.) Morton GC 25110! Ancobra (Mar.) Morton! Sese to Dixcove (Mar.) Morton A469! Pokoase (Apr.) Irvine 1685! **N. Nig.:** Nupe Barter 921! Zaria F.R. (Jan.) Kershaw 900024! Kontagora (Nov.) Dalz. 237! Naraguta, Jos Plateau (Oct.) Hepper 1167! Gangumi, Adamawa Prov. (Dec.) Latilo & Daramola FHI 28800! **S. Nig.:** Lagos (Mar.) Millen 96! Olokemeji (Nov.) Onochie FHI 8130! Ogbomosho (Dec.) Haines 75! Ekowe, Nun R. (Oct.) Anderson 1408! **W. Cam.:** Bamali, Ndop Plain (Mar.) Brunt 158!

2. *Scleria vogelii* C. B. Cl. in F.T.A. 8: 508 (1902); Nelves in Kew Bull. 11: 78 (1956). *APD acc*

Stout perennial to 2·5 m. high; **swampy places in forest and savanna.**

Lib.: Grand Bassa T. Vogel 59! (Aug.) Dinklage 2001! **iv. C.:** L. Irobo (Aug.) Monod! Audouin Forest (Aug.) de Wit 7309! Dabou to Abidjan (July) de Wilde 154! Grand Bassam (Sept.) de Wit 7394! Ebrié Lagoon (July) de Wilde 609! **Ghana:** Boughey GC 14258! Awiebo (Aug.) Hall 3395! **S. Nig.:** Lagos (Feb., June) Millen 154! Dalz. 1301! Abeokuta Irving! Oyeregbene, Lower Nun R. (July) Anderson 1348! **W. Cam.:** Buea (Mar.) Maitland 553!

Also in **E. Cameroun** and **Gabon**.

3. *Scleria verrucosa* Willd. Sp. Pl. 4: 313 (1805); F.T.A. 8: 509; Nelves in Kew Bull. 11: 79 (1956). *APD acc*

Stout perennial up to 2·5 m. high with a narrow panicle; **on riverbanks and in marshes.**

Sen.: Saré Doma, nr. Kolda (Jan.) Raynal 7816! **S. L.:** Thomas 8692! Moria to Fintonia (Jan.) Morton & Gledhill SL 488! Samu (Dec.) Sc. Elliot 4218! Njala (Nov.) Deighton 1777! Senihun to Njala (Sept.) Deighton 3049! **Lib.:** Wohmen, Vonjama Dist. (Oct.) Baldwin 12045! Javajai, Boporo Dist. (Nov.) Baldwin 10268! Jabrocca, Grand Cape Mount Dist. (Dec.) Baldwin 10848! Peahtah, Salala Dist. (Oct.) Linder 1080! Dieble, Webo Dist. (July) Baldwin 6278! **Ghana:** Ankafu (Nov.) Hall 1666! Aburi (Oct.) Johnson 232! 474! Abetifi, Kwahu (Jan.) Irvine 1829! Akroso (Aug.) Howes 953! **N. Nig.:** Jos Plateau (Oct.) Lely P799! **S. Nig.:** Lagos W. MacGregor 101! (Jan.) Haines 89! Ibadan (Nov.) Newberry & Etim 153! Ebute Metta (Jan.) Millen 94! Okomu F.R., Benin (Feb.) Onochie 9077! **W. Cam.:** Victoria (Jan.) Maitland 901! Nkom to Wum, Bamenda (July) Ujor FHI 29280!

Eastwards to the Congo Republic and the western parts of **Uganda** and Tanzania.

4. *Scleria melanomphala* Kunth Enum. Pl. 2: 345 (1837); F.T.A. 8: 506; Nelves in Kew Bull. 11: 88 (1956); Aké Assi, Contrib. 2: 274 (1964); E. A. Robinson in Kew Bull. 18: 546 (1966). *APD acc*

Stout perennial up to 2 m. high with broad leaves and dense panicles, the lateral ones pendulous; **swamps and very wet places in grassland and forest.**

Guin.: Fétoré Plain, Fouta Djallon (Sept.) Adames 372! 373! **S. L.:** Franziga, Tambakka (Feb.) Sc. Elliot 5046! Kabala (Sept.) Thomas 2258! Mabonto (Aug.) Deighton 1398! Jaima to Baima (July, Aug.) Dawe 536! Pujehun (Apr.) Deighton 1656! **Lib.:** Gondolahun, Kolahun Dist. (Nov.) Baldwin 10104! Gbanga (Sept.) Linder 513! Bushrod Is., Montserrado Dist. (Feb.) Baldwin 11067! Yéképa, Nimba Mts. (Jan.) Adam 20518! Jabroke, Webo Dist. (July) Baldwin 6508! **iv. C.:** Toulépleu (Oct.) Aké Assi 4841! Gan (Nov.) Aké Assi 8293! **Ghana:** Axim (Dec.–Feb.) Johnson 1001! Akpabla 823! Morton GC 8441! **N. Nig.:** (Aug.) Lely P486! Bomo Fadama, Zaria Prov. (Aug.) Thatcher S. 482! Vom, Bauchi Plateau (Feb.) Saunders 26! Sha, Plateau Prov. (Sept.) Lawlor & Hall 729! Bellel, Mambila Dist. (Jan.) Hepper 1697! **S. Nig.:** Ilesha Rd., Shaki Dist. (Aug.) Latilo & Taylor FHI 43399! **W. Cam.:** Mencham R. (Feb.) Brunt 954! Babeni, Ndop Plain (Apr.) Brunt 373! Madele, Wum Dist. (June) Daramola FHI 41097!

Throughout tropical and S. Africa, Madagascar and S. America.

5. *Scleria spiciformis* Benth. in Fl. Nigrit. 556 (1849); F.T.A. 8: 506; Nelves in Kew Bull. 11: 100 (1956); Aké Assi, Contrib. 2: 276 (1964). *APD acc*

Tufted perennial 30–75 cm. high with dense, spikelike panicles, the lateral ones solitary and erect. **Seepage areas on rocky outcrops and seasonally swampy grassland.**

Guin.: Conakry (Oct.) Adam 12611! Friguiagbé (Sept.) Chillou 706! Macenta (Oct.) Baldwin 9813! Nimba Mt. (Nov.) de Wilde 885! **S. L.:** York (Nov.) Morton SL 1452! Sugarloaf Mt. (Dec.) Sc. Elliot 3952! Bonthe Is. (Nov.) Deighton 2292! Gbengbe Hills, Bumban (Nov.) Morton SL 2910! Bintumane, Loma Mts. (Nov.) Jaeger 784! **Lib.:** Soplina, Vonjama Dist. (Nov.) Baldwin 10056! Tawata, Boporo Dist. (Nov.) Baldwin 10350! Duport (Nov.) Linder 1456! Grand Bassa (July) T. Vogel 107! Bele Mt., Nimba Mts. (Oct.) Adames 706! **iv. C.:** Tonkouli Mt. (Sept.) Aké Assi 3330!

Also in **Congo Republic**.

6. *Scleria boivinii* Steud. Syn. Pl. Glum. 2: 173 (1855); Napper in Kew Bull. 25: 441 (1971).

APD: *Synonym of Scleria secans* (L.) Urb.

Scleria barteri Boeck. in Linnaea 38: 504 (1874); F.T.A. 8: 507; F.W.T.A., ed. 1, 2: 493; Nelves in Kew Bull. 11: 92 (1956).

Scandent perennial with leaves up to 6 mm. wide; **climbing in scrub, bush and forest.**

Sen.: Naegelé! **Guin.:** Kakoulima (Feb.) Schnell 2495! Nion, Nimba Mts. (Mar.) Schnell 683! **S. L.:** (Sept.) Deighton 2112! Kambia (Jan.) Sc. Elliot 4388! Mabanda (Aug.) Thomas 1589! Rowalla (July) Thomas 1195! Central Prov. (July-Aug.) Dawe 545! **Lib.:** Du R. (Aug.) Linder 269! Grand Bassa (Aug. Dinklage 2010! Suacoco, Gbanga Dist. (Oct.) Daniel 26! Ganta, Sanokwele Dist. (Sept.) Harley 98! Mnanulu, Webo Dist. (June) Baldwin 6053! **Iv. C.:** Tai (Aug.) Schnell 1589! Guiglo Kerharo & Bouquet 575! Ayamé to Bianoua (Nov.) Aké Assi 9759! Cosrou (Aug.) Monod! Abidjan (Dec.) Pitot! **Ghana:** Anaji (Oct.) Howes 988! Assin Yan Kumasi Cummins 238! Tarkwa (Dec.) Johnson 1000! Kumasi (Aug.) Vigne 2407! Alavanyo. Hohoe Dist. (Sept.) St. Cl-Thompson 1472! **N. Nig.:** Sanga F.R., Jemaa Dist. (Dec.) Olorunfemi FHI 55663! **S. Nig.:** Ilaro (Jan.) Millen 97! Lagos (Dec.) Hagerup 804! Onitsha Barter 1786! Oban Talbot 855! Onicha Olona (Oct.) Thomas 1854! **W. Cam.:** Barombi F.R., Kumba (Feb.) Dundas FHI 13985! **F. Po:** T. Vogel 87! (Dec.) Mann 113!

Tropical Africa to **Uganda** and **Angola**, also **Pemba Island** and **Madagascar**.

7. *Scleria pterota* Presl in Isis 21: 268 (1826); Nelmes in Kew Bull. 11: 91 (1956); Aké Assi, Contrib. 2: 276 (1964); Berhaut, Fl. Sén. ed. 2, 358 (1967).

APD: *Synonym of Scleria melaleuca Rchb. ex Schltr. & Cham.*

Scleria naumanniana of F.W.T.A., ed. 1, 2: 493, partly.

Perennial up to 120 cm. high with leaves 5–11 mm. wide and loose panicles; in damp shady places and river banks.

Sen.: Koulountou (Apr.) Adam 17989! Niokolo-Koba (Dec.) J. & A. Raynal 6847! Sédhio, Casamance (Nov.) Berhaut 6384! **Mali:** Kita (Oct.) Jaeger 3391! **S. L.:** Thomas! Rokupr (Nov.) Jordan 677! Njala (May, Sept.) Deighton 1185! 2150! Mange (Dec.) Morton & Gledhill SL 97! **Lib.:** Gbanga (Sept.) Linder 516! Nyaake, Webo Dist. (June) Baldwin 6119! Sarbo, Webo Dist. (July) Baldwin 6385! **Iv. C.:** Dakpadou Forest (Jan.) Aké Assi 7308! **Ghana:** Elmina (June) Hall 1473! Princes Town (Feb.) Morton GC 8461! Domenasi Bridge, Ankobra R. (Aug.) Hall 3338! Afram Mankrong F.R. (Dec.) Adams 4968! Aframso, nr. Mampong Hall 3031! **N. Nig.:** Bonu Kurmi, Niger Prov. (June) E. W. Jones 266! **S. Nig.:** Akpaka F.R., Onitsha Dist. (Nov.) Okeke FHI 38444!

Throughout tropical Africa, Madagascar and south tropical America.

8. *Scleria naumanniana* Boeck. in Engl., Bot. Jahrb. 5: 94 (1883); Nelmes in Kew Bull. 11: 96 (1956); Berhaut, Fl. Sén. ed. 2, 358 (1967). *APD acc*

Scleria ovuligera Boeck. in Linnaea 38: 497 (1874); F.T.A. 8: 507; not of Steud.

Perennial 60–120 cm. high with leaves 5–10 mm. wide and loose, lanceolate to pyramidal inflorescences; in damp places in forest or bush, marshes, among sand dunes and near mangrove swamps.

Sen.: Diantème (Oct.) Adam & Kerharo 1547! Sangalkam (Oct.) J. & A. Raynal 6405! Oussouye (Apr., Sept.) Broadbent 123! Berhaut 5813! **Mali:** Niger Delta Duong! **Guin.:** Kanéa (Oct.) Adam 12631! Macenta (Oct.) Baldwin 9827! Kindia Region (Oct.) Kent 46! **S. L.:** Deighton 2028! Bathurst (Jan.) Dalz. 8251! Binkolo (Aug.) Thomas 1685! Njala (Sept.) Deighton 1994! Loma Mts. (Sept.) Jaeger 7451! **Lib.:** Jabrocca, Grand Cape Mt. Dist. (Dec.) Baldwin 10873! Grand Bassa (July) T. Vogel 60! Sanokwele (Sept.) Baldwin 9549! Dieblo, Webo Dist. (July) Baldwin 6306! Cavally, Maryland Dist. (June) Baldwin 6014! **Iv. C.:** Danané (Oct.) Aké Assi 9208! Issia Rock (Aug.) Aké Assi 4832! Cosrou (Aug.) Monod! Banco Forest (Nov.) Bégué 97! Adiopodoumé (Oct.) Leeuwenberg 1783! **Ghana:** Atwabo Fishlock 6 of 1931! Essiama (Oct.) Hall 2671! Axim (Mar.) Morton A372! Anaje, nr. Sekondi (Oct.) Howes 989! Maliato, Togo Plateau (Nov.) Morton A3531! **Dah.:** Sémé, nr. Cotonou (Feb.) J. & A. Raynal 13511! **S. Nig.:** Lagos (Dec.) Dalz. 1302! Epe (Aug.) Gillett 15272! Ajagbodudu, Benin Dist. (Aug.) Wright 57a! Mamu River F.R., Awku Dist. (Aug.) Olorunfemi FHI 34184! Oban Talbot 854!

Also from the Congo to **Angola**.

9. *Scleria iostephana* Nelmes in Kew Bull. 11: 94 (1956); Aké Assi, Contrib. 2: 274 (1964), *APD acc*

Stout erect perennial up to 2 m. high with spreading panicles and large buff-coloured glumes streaked with red; stream-sides and damp places in rain-forest.

Iv. C.: Touba Aké Assi 4786! Mont Tonkoui Aké Assi 5583! **Ghana:** Shiare, Togo Hills (Dec.) Jenik & Hall CC 1134! **N. Nig.:** Kachia to Kaduna (Dec.) Meikle 778!

Also in the **Congo**, **Uganda** and southwards to Zambia.

10. *Scleria lagoënsis* Boeck. in Vidensk. Medd. Dansk Naturrh. Foren. 1869: 151 (1869); E. A. Robinson

in Kew Bull. 18: 538 (1966). *APD acc*

Scleriacanaliculato-triquetra Boeck. in Flora 62: 573 (1879); F.T.A. 8: 505; F.W.T.A., ed. 1, 2: 493; Nelmes in Kew Bull. 11: 84 (1956); Aké Assi, Contrib. 2: 273 (1964); Berhaut, Fl. Sén. ed. 2, 358 (1967).

Tufted perennial 60–150 cm. high with swollen stem-bases, and 5–12 mm. wide leaves; lateral panicles pendulous on slender exserted peduncles; *in damp grasslands, usually seasonally waterlogged*.

Sen.: Casamance (Oct.) Adam 18486! Ziguinchor (Sept.) Broadbent 83! **Guin.:** Kourouasa (July, Aug.) Pobéguin 401! 421! Nimba Mts. (Sept.) Schnell 3593! **S. L.:** (Oct.) Deighton 2150! Kasanko (Oct.) Jordan 642! Makump (Aug.) Deighton 1357! Tabe (Sept.) Deighton 3040! Falaba (Oct.) Small 449! **Iv. C.:** Dabakala to Comoë R. (Nov.) Aké Assi 9241! Toumodi (Aug.) de Wit 7343! Dimbokro (Aug.) Roberty 3081! Dabou (Aug.) Aké Assi 4386! Loupou (July) de Wilde 372! **Ghana:** Elmina (May) Morton A904! Ejura Scarp (Aug.) Hall CC 338! Banda Hills (Nov.) Harris! Mankesim to Accra (May) Morton A3363! Amedzofe (Nov.) Morton! **N. Nig.:** Katsina Allah (June) Dalz. 815! Fadama, Zaria Prov. (Aug.) Kershaw 900715! Richa, Jos Plateau (Sept.) Lawlor & Hall 664a! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 359! Vogel Peak (Nov.) Hepper 1417! **S. Nig.:** Igboora (Oct.) Haines 227! Abeokuta Irving! Ifon F.R., Owo Dist. (Oct.) Adebusi FHI 43569! Mamu River F.R., Awka Dist. (Sept.) Onochie FHI 34076!

Throughout tropical Africa and south tropical America.

11. *Scleria achtenii* De Wild. in Rev. Zool. Afr., Suppl. Bot. 14, 2: 16 (1926); E. A. Robinson in Kew Bull. 18: 534 (1966); Berhaut, Fl. Sén. ed. 2, 358 (1967). *APD acc*

Scleria nyasensis of Nelmes in Kew Bull. 11: 86 (1966), partly; Aké Assi, Contrib. 2: 275 (1964); not of C.B. Cl.

Perennial up to 2 m. high with swollen stem-bases and 2–6 mm. wide leaves; lateral panicles pendulous on long slender peduncles; *by stream-sides and in marshy grasslands*.

Sen.: Sangalkam (June) Berhaut 1738! Oussouye (July) Berhaut 6214! **Guin.:** Friguiagbé (May) Chillou 367! Madina Tossekré (Oct.) Adam 12540! Koba (Nov.) Jac.-Fél. 7267! **S. L.:** Rokon, Samu (July) Jordan 482! Waterloo (Aug.) Melville & Hooker 307! Gbinti (Jan.) Deighton 982! Masingbi (Feb.) Deighton 4076! Mano Salija (Nov.) Deighton 345! **Lib.:** Monrovia (July) Künkel 78! Mesurado Swamp, nr. Monrovia (Sept.) Künkel 63! Duport (Nov.) Linder 1459! Buchanan (Dec.) Adam 16424! Bele Mt. (Oct.) Adames 705! **Iv. C.:** Moossou Aké Assi 4783! Bodard 44! Toupa Aké Assi 4771! Grand Lahou Aké Assi 4773! **Ghana:** Mpeasem, Cape Coast (July) Hall 3235! Sakogu (Aug.) Hall CC 451! Kpandu (Jan.) Hall GC 40068! **Dah.:** Porto Novo (Mar.) Adjanohoun 352! **N. Nig.:** Bida to Abuja (Dec.) Haines 77! **S. Nig.:** Topo, nr. Badagri (Feb.) Haines 209! Lagos (Dec.) Hagerup 782!

Throughout tropical **Africa** and south to **Natal**.

12. *Scleria mikawana* Makino in Bot. Mag. Tokvo 27: 57 (1913); Nelmes in Kew Bull. 11: 107 (1956); E. A. Robinson in Kew Bull. 18: 525 (1966); Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

Scleria glandiformis of F.T.A. 8: 504; F.W.T.A., ed. 1, 2: 493, partly.

Tall slender annual up to 120 cm. high with leaves 3–7 mm. wide; lateral panicles solitary, erect, scarcely exserted; *swampy places*.

Sen.: Heudelot 662! Niokolo-Koba (Dec.) J. & A. Raynal 6894! **S. L.:** Robumbe, Magbema (Oct.) Jordan 803! Rokupr, Magbema (Nov.) Jordan 694! Rokon, Samu (Oct.) Jordan 572! Nganyahun, Senihun to Njala (Sept.) Deighton 3048! Njala (Dec.) Katta 6! **Iv. C.:** Abouabou (Mar.) Aké Assi 10010!

Across tropical Africa and widespread in Asia.

13. *Scleria sphaerocarpa* (E. A. Robinson) Napper in Kew Bull. 25: 441 (1971). *APD acc*

Scleria tessellata var. *sphaerocarpa* E. A. Robinson in Kew Bull. 18: 526 (1966).

Scleria glandiformis of F.W.T.A., ed. 1, 2: 493, partly.

Scleria globonux of Nelmes in Kew Bull. 11: 105 (1956), partly.

Densely tufted annual up to 1 m. high with leaves 2–7 mm. wide; lateral panicles solitary, erect, scarcely exserted; *in swampy grassland*.

Sen.: Ziguinchor (Dec.) Berhaut 6676! Gambia R., E. Senegal (Sept.) Fotius K438! **S. L.:** Mateboi, Sanda Tenraran (Nov.) Jordan 841! **Lib.:** Gbanga (Sept.) Linder 515! **Iv. C.:** Kodiokoffi (Aug.) Chev. 22368! Dabakala to Toupé (Nov.) Aké Assi 9244! Bouaké (Sept.) de Wilde 951! **Ghana:** Ankafu, nr. Cape Coast (Sept.) Hall 2357! Achimota (Aug.) Adams 4901! Dabala (July) Hall 3241! Lumbaga (Dec.) Morton GC 6244! Tamale (Dec.) Adams & Akpabla 4143! **N. Nig.:** Gurum, Adamawa Dist. (Mov.) Hepper 1246! Gotei Mts. Tuley 1728! **S. Nig.:** Igboora (Oct.) Haines 226!

Also from the [Sudan](#) southwards to Zambia and [Angola](#).

14. *Scleria tessellata* Willd. Sp. Pl. 4: 315 (1805); Nelmes in Kew Bull. 11: 108 (1956); E. A. Robinson in Kew Bull. 18: 526 (1966); Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

Scleria glandiformis Boeck. in Linnaea 38: 458 (1874); F.T.A. 8: 503; F.W.T.A., ed. 1, 2: 493, partly.

Densely tufted annual up to 1 m. high, with leaves 2–7 mm. wide; lateral panicles solitary, erect, scarcely exerted; [seasonally swampy grasslands](#).

Sen.: Gassane, Mbacké to Thiel (Oct.) J. & A. Raynal 7695! Fatick (Dec.) Maynard! J. & A. Raynal 6714! Niokolo-Koba (Oct.) Adam 15713! Velingara, Casamance (Oct.) Adam 18598! **Mali:** Kita Mts. (Sept.) Jaeger 1! Bamako Adam 15355! Sotuba (Oct.) Raynal 5017! Koulikoro (Oct.) Chev. 2468! Bokywere (Oct.) Davey 366! **Guin.:** Kiffaya to Seriba (Oct.) Pitot! Thianguel-Bori (Oct.) Pitot! Sambailo (Oct.) Adam 12716! **Iv. C.:** Bégué 91! Tiefinzo, Odienné Region (Oct.) Aké Assi 8264! Séguélo (Oct.) Aké Assi 9705! **Ghana:** Lawra to Wa (Oct.) Ankrah GC 20449! Bolgatanga to Bawku (Oct.) Adei SLUS/C98! Zowse, nr. Bawku (Nov.) Hall & Enti GC 35989! **N. Nig.:** Nupe Barter 1042! Minna (Dec.) Meikle 723! Zaria (Dec.) C. B. Taylor 10! Kufena Hill, Zaria (Sept.) Clayton 1314! Biu (Nov.) De Leeuw 1327c!

Throughout tropical Africa, Madagascar and also in [India](#).

15. *Scleria foliosa* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 509 (1851); F.T.A. 8: 503; Nelmes in Kew Bull. 11: 102 (1956); E. A. Robinson in Kew Bull. 18: 525 (1966); Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

Scleria glandiformis of F.W.T.A., ed. 1, 2: 493, partly.

Tufted annual 60–100 cm. high, rarely more, with leaves 2–8 mm. wide; lateral panicles solitary, erect, scarcely exerted; [in grassy, seasonally wet places](#).

Sen.: Ndiar (Oct.) J. & A. Raynal 7664! Niassia, Casamance (Nov.) Berhaut 6656! **Iv. C.:** Dinderesso (Nov.) Néa 145! **Ghana:** Bole (Nov.) Harris! **N. Nig.:** (Sept.) Lely P775! Kufena Hill, Zaria (Sept.) Clayton 1316! Bauchi (Dec.) Haines 76! Biu, Bornu (Nov.) Magaji & Oche MG79! Maiduguri, Bornu (Oct.) H. B. Johnston N.36a!

Widespread in tropical Africa, also in Madagascar.

[A few plants have been collected with characters reminiscent of both *S. foliosa* and *S. schimperana*. These represent such a wide range of variation in character association that it seems possible that they may be samples from hybrid populations. Further detailed examination in the field is essential.]

16. *Scleria schimperana* Boeck. to Linnaea 38: 466 (1874); F.T.A. 8: 504; Nelmes in Kew Bull. 11: 104 (1956), as *schimperiana*. *APD acc*

Tufted annual up to 76 cm. high with leaves up to 8 mm. wide; lateral panicles erect, on long or short villous-hispidulous peduncles; [in marshy grassland](#).

N. Nig.: Biu (Nov.) De Leeuw 1327a!

Across north-eastern tropical Africa and south to [Uganda](#).

17. *Scleria gracillima* Boeck. in Flora 62: 570 (1879); F.T.A. 8: 505; Nelmes in Kew Bull. 11: 110 (1956); E. A. Robinson in Kew Bull. 18: 534 (1966); Berhaut, Fl. Sén. ed. 2, 358, 360. *APD acc*

Slender annual (or perennial?) up to 75 cm. high with leaves 1–2 mm. wide; panicles small and delicate, almost spike-like, the lateral ones pendulous on slender or filiform peduncles thickening upwards, usually paired; [in seasonally swampy grasslands](#).

Sen.: Niokolo-Koba (Nov., Dec.) Adam 17104! 17150! J. & A. Raynal 6892! **Iv. C.:** Séguéla (Nov.) Aké Assi 9720! **Ghana:** Ejura Scarp, Ashanti (Dec.) Morton GC 9630! 9707! S. of Yendi (Nov.). Hall GC 42171! Kpandai (Nov.) Hall GC 42202! **S. Nig.:** Igbete to Kishi (Mar.) Gledhill 732!

Throughout tropical Africa, also in [Brazil](#).

18. *Scleria globonux* C. B. Cl. in F.T.A. 8: 504 (1902); Nelmes in Kew Bull. 11: 104 (1956); Berhaut, Fl. Sén. ed. 2, 359 (1967). *APD acc*

APD: *Synonym of Scleria sphaerocarpa* (E. A. Rob.) Napper

Scleria glandiformis of F.W.T.A., ed. 1, 2: 493, partly.

Sparingly villous annual up to 1 m. high with leaves 3–9 mm. wide; lateral panicles solitary pendulous on long flexuous villous hispidulous peduncles; **seasonal or permanently swampy areas in grassland.**

Sen.: Niokolo-Koba (Nov.) Adam 15920! 17097! **Port. G.:** Bafata (Nov.) Esp. Santo 2825! **S. L.:** Jokibu (Nov.) Deighton 3776! **Ghana:** Burufo (Dec.) Adams & Akpabla 4386! 4392a! **N. Nig.:** Kontagora (Nov.) Dalz. 238!

Across tropical Africa to the **Sudan** and **Uganda**.

19. *Scleria parvula* **Steud.** Syn. Pl. Glum. 2: 174 (1855); Nelmes in Kew Bull. 11: 105 (1956), partly; E. A. Robinson in Kew Bull. 18: 532 (1966); Napper in Kew Bull. 25: 442 (1971). **APD acc**

Scleria bambariensis **Cherm. var. b** of E. A. Robinson l.c. 527 (1966), partly.

Annual with leaves up to 6 mm. wide, lateral panicles 1–3 together, pendulous, on long slender peduncles; **in seasonally swampy grassland and stream-sides.**

Sen.: Adam 12491! Niokolo-Koba (Dec.) J. & A. Raynal 6802! **S. L.:** Picket Hill (Nov.) T. S. Jones 204! **Iv. C.:** Momi Mt. (Oct.) Aké Assi 9212b! 9214! 9215!

Widespread in tropical Africa.

20. *Scleria lithosperma* (**Linn.**) **Swartz** Prodr. Veg. Ind. Occ. 18 (1788); F.T.A. 8: 502; Nelmes in Kew Bull. 10: 421 (1955); E. A. Robinson l.c. 517 (1966). **APD acc**

Scirpus lithospermus **Linn.**, Sp. Pl. 51 (1753), partly.

Slender rhizomatous perennial 30–100 cm. high with narrow leaves and both terminal and lateral panicles; **usually in dense shade of forest or woodland.**

Iv. C.: Oroumba-Boka (May, Aug.) Bougney GC 18588! Aké Asti 8863! Lamto (Dec.) Aké Assi 9855! Téhini, Bouna Reserve (Aug.) de Wilde 759! **Ghana:** Abontsin, Mankessim to Winneba (Nov.) Adams 4916! Odumase (June) Irvine 1644! Shai Hills (Jan.) Morton 8265! Volta River F.R. (Nov.) Morton GC 6066! Ajena, Volta River (Nov.) Morton GC 8031! **S. Nig.:** Olokemeji F.R., Abeokuta Prov. (Nov.) Jones, Keay A Onochie FHI 14189!

Pantropical.

21. *Scleria lacustris* **Wright ex Sauvelle** in Anal. Acad. Cienc. Habana 8: 152 (1871); Nelmes in Kew Bull. 10: 422 (1955); E. A. Robinson in Kew Bull. 18: 517 (1966); Berhaut, Fl. Sén. ed. 2, 358 (1967). **APD acc**

Stout perennial 60–150 cm. high often rooting from the lower nodes, stems and leaves spinulose on the angles and veins; **in shallow water at edge of swamp etc.**

Sen.: Mbao (Sept.) J. & A. Raynal 6347! Malika Adam 2351! L. Youi (Nov.) Pitot! Sangalkam (Oct.) J. & A. Raynal 7672! Niokolo-Koba (Dec.) J. & A. Raynal 6893! **S. L.:** Kasewe Hills (Nov.) Morton SL 1526! Moyamba (Sent.) Morton & Jarr SL 2276! Rosino, Samu (Oct.) Jordan 797! Nganyahun, Senihun to Njala (Sept.) Deighton 3074! Njala (Feb.) Deighton 2597! **Ghana:** Beyin (July) Hall GC 35542!

Also in the **Congo** and **tropical South America**.

22. *Scleria chevalieri* **J. Raynal** in Adansonia, sér. 2, 4: 150 (1964); Berhaut, Fl. Sén. ed. 2, 358. **APD acc**

Tall stout perennial differing from the above in the broader leaves and in the panicle being larger and stiffer in all its parts, also the fertile spikelets usually unisexual; **swamps.**

Sen.: Dakar to Rufisque (Nov.) Chev. 33902!

23. *Scleria poöides* **Ridley** in Trans. Linn. Soc., sér. 2, 2: 170 (1884); F.T.A. 8: 502 (1902); Nelmes in Kew Bull. 10: 433 (1955), as poaeoides; E. A. Robinson in Kew Bull. 18: 512 (1966). **APD acc**

Scleria mutlispiculata **Boeck.**, Cyper. Nov. 1: 36 (1888); F.T.A. 8: 501; F.W.T.A., ed. 1, 2: 493.

Very slender perennial up to 75 cm. high with leaves not more than 2 mm. wide; panicle loose and copiously branched; **locally dominant in swampy grassland**.

N. Nig.: Nupe Barter 1849! Vodni, Pankshin Saunders 48! Naraguta (Aug.) Lely P446!

Widespread throughout tropical Africa and Madagascar.

24. *Scleria robinsoniana* J. Raynal in Adansonia, sér. 2, 7: 239 (1967). *APD acc*

Slender annual up to 45 cm. high with a loose copiously branched panicle very similar to the above; **seepage areas in rocky places**.

Guin.: Kindia (Oct.) Jac.-Fél. 2130! Dalaba (Sept.) Adames 336! Hollandé Tossékéré (Oct.) Adam 12726! Ditinn (Oct.) Pitot! Mali (Dec.) Schnell 2354 (partly)! **S. L.:** Kanya (Oct.) Thomas 2967!

25. *Scleria guineensis* J. Raynal in Adansonia, sér. 2, 4: 148 (1964). *APD acc*

Slender annual up to 45 cm. high with a loose, copiously branched panicle differing from *S. robinsoniana* in little except the achene; **damp places in grassland**.

Guin.: Friguiagbé to Toumou (Sept.) Boismaré 387 in Hb. Chillou 3905!

26. *Scleria striatinux* De Wild. in Rev. Zool. Afr. 14, Suppl. Bot.: 22, fig. 5 (1926), as *striatonux*; Nelmes in Kew Bull. 10: 429 (1955); Napper in Kew Bull. 25: 442 (1971).

APD: Synonym of Scleria woodii C.B. Clarke

***Scleria lelyi* Hutch. & Dalz., F.W.T.A., ed. 1, 2: 493, name only.**

***Scleria rehmannii* C.B. Cl. var. *ornata* Cherm.** in Bull. Jard. Bot. Brux. 13: 283 (1935).

Rhizomatous perennial 45–60 cm. high with leaves 1–3 mm. wide; panicle 3.5–10 cm. long with 6–9 sessile glomerules on the axis and 2–4 simple branches from basal glomerules; **in seasonally damp or swampy grassland**.

Ghana: Wuropong (May) Morton A3928! Amedzofe (May, June) Morton A3426! GC 7213! **N. Nig.:** Maska, Katsina Prov. (June) Keay FHI 25900! Anara F.R. (May) Keay FHI 22936! Kurni, Kaduna to Keffi (June) Kenshaw 900612! Jos Plateau (May) Lely P292! Naraguta (June) Lely P299! **S. Nig.:** Obudu Plateau, 5,500 ft. Tuley 970! **W. Cam.:** Mbaw Plain (Apr.) Brunt 387! Bali (Apr.) Brunt 1102! Bambulue, Bamenda (May) Daramola FHI 41058! Bali-Ngamba F.R. (May) Ujor FHI 30321! Bum, Bamenda (May) Maitland 1527!

Throughout tropical Africa.

27. *Scleria rehmannii* C.B. Cl. in Fl. Capensis 7: 295 (1898); F.T.A. 8: 501; Nelmes in Kew Bull. 10: 425 (1955); E. A. Robinson in Kew Bull. 18: 507 (1966). *APD acc*

Scleria rehmannii* var. *ornata of Berhaut, Fl. Sén. ed. 2, 358 (1967); not of Cherm.

Slender perennial with a long rhizome bearing well-spaced stems up to 1.5 m. high with leaves 1.5–3.5 mm. wide; panicle 3–17 cm. long with 4–12 sessile glomerules on the axis and 1–7 simple branches from the lower glomerules; **in seasonal and permanent swamps**.

Sen.: Niokolo-Koha Adam 15913! 17088! **Guin.:** Sambailo (Oct.) Pitot! Sambailo stream (Oct.) Pitot!

Widespread in tropical and South Africa.

28. *Scleria bulbifera* A. Rich. Tent. Fl. Abyss. 2: 510 (1851); F.T.A. 8: 500; Nelmes in Kew Bull. 10: 438 (1955); E. A. Robinson l.c. 503 (1966). *APD acc*

***Scleria schweinfurthiana* Boeck.** in Flora 62: 570 (1879); F.T.A. 8: 500; F.W.T.A., ed. 1, 2: 491.

Polymorphic rhizomatous perennial with swollen culm-bases and leaves 1–5 mm. wide, the lower ones reduced almost to bladeless sheaths; spike up to 20 cm. long with 3–17 glomerules; **damp places in woodland and savanna**.

Sen.: Kanouméri, Kédougou to Bandiafassi (July) Fotius K215a! **Mali:** Kita (July) Duong 438! **Iv. C.:** Gouékouma, Upper Sassandra R. (May) Chev. 21668! Niangbo, nr. Tafiré (June) Leeuwenberg 4446! Téhini, Bouna Reserve (Aug.) Oldeman

315! **U. Volta:** Bandakoro to Sourkotomo (July) Scholz 301! **Ghana:** Bangmobangmo F.R., Nandom (Sept.) Hall CC 785! Damongo (Sept.) Hall CC 813! Banda (Apr.) Morton A3285! Yeji (July) Vigne 3354! Shiare to Chilinga, Nkwanta Hills (May) Morton A3991! **N. Nig.:** Patti Reserve, Lokuja (June) Daramola FHI 36933! Kaduna, Zaria Prov. (May) Thatcher S358! Kilba, bush country (July) Dalz. 266! Jos Plateau (May) Lely P293! Naraguta (June) Lely 300! **W. Cam.:** Mbiambi to Mbaw (June) Brunt 734!

Throughout tropical Africa and Madagascar.

29. **Scleria monticola** *Napper* in Kew Bull. 25: 444 (1971). Perennial with slender rhizome and slender stems 30–60 cm. high, leaves 1–2 mm. wide; spike 3–5 cm. long with 3–7 glomerules; grassland in rocky places. *APD acc*

S. L.: Loma Mts., 5,750 ft. (Nov.) Morton SL 2661! Bintumane Peak (Nov.) Jaeger 321! 472!

30. **Scleria dieterlinii** *Turrill* in Kew Bull. 1914: 20; *Napper* in Kew Bull. 25: 443 (1971).

APD: Synonym of Scleria flexuosa Boeckeler

Scleria schweinfurthiana of F.W.T.A., ed. 1, 2: 491, partly.

Scleria flexuosa of E. A. Robinson in Kew Bull. 18: 505 (1966), partly.

Perennial up to 60 cm. high having long slender rhizomes with a terminal fleshy tuber; leaves 1–2 mm. wide; inflorescence a simple spike up to 10 cm. long with 7–10 glomerules; grassland in rocky places.

Guin.: Macenta (Oct.) Baldwin 9761! **S. L.:** Bumban Deighton 1248! Loma Mts. (Sept.) Jaeger 1045! 1763! 7712! T. S. Jones 74! **iv. C.:** Nimbu Mts. Schnell! Tonkoui Mt. (Sept.) Schnell 1732! 1738! Little Tonkoui (Sept.) Schnell!

Western tropical Africa to **Angola**.

31. **Scleria hirtella** *Swartz* Prodr. Veg. Ind. Occ. 19 (1788); E. A. Robinson in Kew Bull. 18: 499 (1966).

APD: Synonym of Scleria interrupta Rich.

APD: Synonym of Scleria distans Poir. var. distans

Scleria melanotricha of F.W.T.A., ed. 1, 2: 491, partly.

Scleria tricholepis *Nelmes* in Kew Bull. 10: 447 (1955).

Scleria melanotricha var. glabrior *C.B. Cl.* in F.T.A. 8: 496 (1902).

Glabrous or villous slender annual up to 60 cm. high with leaves 1–3 mm. wide; inflorescence up to 13 cm. long with 4–15 glomerules, more widely spaced than in *S. pergracilis*; seasonally swampy or damp places.

Sen.: Niokolo-Koba (Dec.) J. & A. Raynal 6803! Gouloumbo to Tambacounda (Oct.) Pitot! Niassia (Nov.) Berhaut 6654!

Guin.: Friguigbé Chillou 598! Timbo (Oct.) Pobéguin 1790a! Dalaba (Sept.) Adames 335! Conakry (Oct.) Adams 12604! Macenta (Oct.) Baldwin 9791! **S. L.:** Morson! Regent (Dec.) Sc. Elliot 4187! Picket Hill (Nov.) T. S. Jones 194!

Brookfields (Oct.) Deighton 2141! Kambia (Nov.) Morton & Gledhill SL 71! **Lib.:** Grand Bassa (Nov.) Dinklage 2300! Monrovia (Aug.) Baldwin 92041 Genne-Loffa, Kolahun Dist. (Nov.) Baldwin 10101! Palilah, Gbanga Dist. (Aug.) Baldwin 9152! Nimba Mts. (Dec.) Adam 16465! **iv. C.:** Momi Mt. (Oct.) Aké Assi 9213! **Ghana:** Nyinahin Hills (Nov.) Morton A2790! **N. Nig.:** Idon, Kaduna to Keffi (Aug.) Kershaw 900712! Kufena Hill, Zaria Dist. (Sept.) Clayton 1315! Farin Rua, Plateau Prov. (Aug.) J. Hall 658! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 621! **W. Cam.:** Mamfe (Mar.) Richards 5246!

Widespread in tropical Africa and tropical America.

32. **Scleria pergracilis** (*Nees*) *Kunth* Enum. Pl. 2: 354 (1837); F.T.A. 8: 495; *Nelmes* in Kew Bull. 10: 445 (1955); E. A. Robinson in Kew Bull. 18: 494 (1966); Berhaut, Fl. Sén. ed. 2, 356 (1967). *APD acc*

Hypoporum pergracile *Nees* in Edinb. New Phil. Journ. 17: 267 (1834).

Slender annual 45 cm. high with leaves 1–2 mm. wide; inflorescence a simple 5–13 cm. long spike of 5–30 glomerules; seasonally wet and swampy places.

Sen.: Niokolo-Koba (Oct., Nov.) Adam 15728! 15839! 17021! Bignona (Nov.) Berhaut 6441! nr. Gambia R., E. Senegal (Sept.) Fotius K437! **Mali:** Kita Mts. (Oct.) Jaeger 53! 5768! Niger Delta (Dec.) Duong! Bamako Adam 15343! 15356!

Guin.: Kaiserville to Youkounkoun (Dec.) Pitot! Youkounkoun (Oct.) Pitot! **Iv. C.:** Bouaké to Katiola (Sept.) de Wilde 995! Sanlo to Kakpin (Nov.) Aké Assi 9284! **Ghana:** Yagha, Wa to Lawra (Sept.) Hall CC 631! Gbinderi, Yendi to Gambaga (Oct.) Rose Innes GC 30490! Damongo (Dec.) Morton GC 9966! Bimbila (Jan.) Akpabla 1840! Ho to Adidome (Sept.) Hall GC 37060! **Togo Rep.:** Sokode to Basari Schroeder 127! **N. Nig.:** Nupe Barter 1006! Kufena Hill, Zaria Dist. (Sept.) Clayton 1306! Funtua to Sokoto (Sept.) De Leeuw 1547! Biu (Oct.) De Leeuw 1303! Gurum, Adamawa Prov. (Nov.) Hepper 1241! **S. Nig.:** Lagos W. Macgregor 243! Igboora (Oct.) Haines 217!

Widespread in tropical Africa, also in Asia and New Guinea.

33. *Scleria nutans* Kunth Enum. Pl. 2: 351 (1837); E. A. Robinson l.c. 502 (1966).

APD: Synonym of Scleria distans Poir. var. distans

Scleria hirtella of F.T.A. 8: 497.

Rhizomatous perennial 30–100 cm. high with solitary distant subseriate narrow stems bearing glabrous or villous leaves 1–3 (–5) mm. wide, the basal ones with much reduced blades; spike up to 18 cm. long with 4–15 glomerules; achene subglobose, 1.4–1.8 mm. long, 1–1.5 mm. diam., smooth or lightly tuberculate; **swamps**.

N. Nig.: Shere Mts., Bauchi Prov. (Aug.) Hall 555! Farin Rua, Plateau Prov. (Aug.) J. Hall 657! **S. Nig.:** Lagos, W. MacGregor 245! **W. Cam.:** Mamfe (Dec.) Migeod 280!

Widespread in tropical and southern Africa, Madagascar and tropical America.

34. *Scleria aterrima* (Ridley) Napper in Kew Bull. 25: 445 (1971). *APD acc*

Scleria hirtella Sw. **var. aterrima** Ridley in Trans. Linn. Soc., Ser. 2, 2: 166 (1884).

Scleria catophylla C.B. Cl. in Dur. & Schinz, Consp. Fl. Afr. 5: 670 (1895); F.T.A. 8: 498; E. A. Robinson l.c. 501 (1966).

Scleria hirtella of Boeck. in Linnaea 38: 439 (1874), partly; F.W.T.A., ed. 1, 2: 491; Berhaut, Fl. Sén. ed. 2, 356 (1967).

Tufted rhizomatous perennial up to 1 m. high, with densely villous leaves crowded at the base of the stem; spike 3–13 cm. long with 4–15 glomerules; **in seasonally swampy places**.

Sen.: Niokolo-Koba (Dec., Feb.) J. & A. Raynal 6919! Adam 17505! Oussouye (Nov.) Berhaut 6492! Bayotte, Casamance (Nov.) Berhaut 6460! **Guin.:** Youkounkoun (Oct.) Pitot! Friguiagbé Boismaré 354! Kinkon to Pita (Oct.) Pitot! Madina Tossekéré (Oct.) Adam 12567! Fetoré plain, Fouta Djallon (Sept.) Adames 354! **S. L.:** Dimbaia (Sept.) Adames 250! Kasokora to Bumban (Aug.) Deighton 1247! Matebol (Oct.) Glanville W. Loma Mt. (Sept.) Jaeger 7606! Mano Salija (Nov.) Deighton 342! **Lib.:** Monrovia (Aug.–Dec.) Baldwin 9179! Kunkel 60! Dinklage 3013! Paynesville (Sept.) Van Dillewijn 83! **Iv. C.:** N'Douci, N'zi R. (Aug.) de Wit 7391! Dimbokro (Aug.) Roberty 3077 (88)! Moossou, Grand Bassam (Aug.) J. J. F. E. de Wilde 221! **Ghana:** Banda (Aug.) Hall 1983! Kintampo (Sept.) Hall CC 904! Ejura (Dec.) Morton GC 9708! Tiasi, Afram Plains (Aug.) Hall CC 154! Essiama (Oct.) Hall 2662! **Togo Rep.:** Sokodé to Basari Schroeder 126! **Dah.:** Porto Novo (Sept.) Adjanohoun 283! **N. Nig.:** Nupe Barter 1561! Abinsi (Oct.) Dalz. 821! **S. Nig.:** Badagry (Aug.) Onochie FHI 33474! Enugu to Agbani Udi Dist. (May) Onochie FHI 35815!

Widespread in tropical Africa and America.

35. *Scleria melanotricha* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 511 (1851); F.T.A. 8: 495; F.W.T.A., ed. 1, 2: 491, partly; E. A. Robinson l.c. 501 (1966); Berhaut, Fl. Sén. ed. 2, 356 (1967). *APD acc*

Slender annual up to 45 cm. high with linear leaves; spike 5–20 cm. long with 5–17 sessile reflexed glomerules; achenes obovoid, compressed, 1.25–1.75 mm. long, 1.1–1.6 mm. diam., lacunose, often with three smooth longitudinal panels; **in seasonally swampy places in shallow soils**.

Sen.: E. Senegal (Sept.) Fotius K393! **Mali:** Kita Mts. (Sept.) Jaeger 76! 2672! 5769! Koulikoro (Oct.) Chev. 2467! **Guin.:** Conakry (Oct.) Adam 12602! Kinkon to Pita (Oct.) Pitot! Thianguel-Bori (Oct.) Pitot! **S. L.:** Konta to Kukuna (Nov.) Morton & Gledhill SL 51! Falaba (Oct.) Small 430! **Ghana:** Nakpanduri (Aug.) Hall CC 520! Bangmobangmo F.R., Nandom (Sept.) Hall CC 789! **N. Nig.:** (Aug.) Lely P489! Sangi F.R., Jemaa Div. (Sept.) Killick 72! Panshanu, Bauchi Prov. (Aug.) Lawlor & Hall 396! Gotel Mts. Tuley 1714!

Widespread in tropical Africa.

36. *Scleria grata* Nelves in Kew Bull. 10: 453 (1955).

APD: Synonym of Scleria melanotricha var. grata (Nelves) Lye

Scleria melanotricha of F.W.T.A., ed. 1, 2: 491, partly.

Slender glabrescent or villous annual up to 22 cm. high with leaves not exceeding 2 mm. wide; spike 3–7 cm. long with 4–7 glomerules of sessile and shortly pedunculate clusters, otherwise very like *S. melanotricha*; **in seasonally swampy places on shallow soils.**

S. L.: Tingi Mts., Sankan Biriwa (Dec.) Morton & Gledhill SL 3109! **iv. C.:** Momi Mt. (Oct.) Aké Assi 9212a! **N. Nig.:** Jos Plateau Batten-Poole 143! Vom, Jos Plateau (Feb.) Saunders 59! **W. Cam.:** Bambili, Bamenda, 6,000 ft. (Nov.) Bauer 122!

Infrequent, but occurs over a wide area of tropical Africa.

20. DIPLACRUM

R. Br., Prodr. 240 (1810); F.T.A. 8: 510 (1902).

- 1 Small herb up to 12 cm. high; leaves 3.5–5 cm. long, 2 mm. broad; inflorescence of subsessile or shortly pedunculate clusters of spikelets in the leaf-axils, 3–4 mm. broad; bracts subulate; spikelets 1–2 mm. long, glabrous; achene subglobose, longitudinally ribbed [1. africanum](#)
- Tall herb up to 100 cm. high; leaves long, 1 cm. broad; inflorescence of shortly pedunculate dense axillary clusters 1 cm. wide; spikelets 2–3 mm. long; achene subglobose, smooth [2. longifolium](#)

1. **Diplacrum africanum** *C.B. Cl.* in Dur. & Schinz, Consp. Fl. Afr. 5: 668 (1895); F.T.A. 8: 510; Berhaut, Fl. Sén. ed. 2, 358 (1967); Napper in Kew Bull. 25: 445 (1971). *APD acc*

Diplacrum pygmaeum Boeck. in Linnaea 38: 434 (1874), partly, not of (*R. Br.*) Nees.

Annual, 2.5–12 cm, high, with green clusters of spikelets; **in moist grassland and swamps, frequently associated with rice fields.**

Sen.: Niokolo-Koba (Nov.) Adam 15962! 16996! Oussouyé, Casamance (Nov.) Berhaut 6639! **Port. G.:** Teixeira Pinto, Cacheu (Dec.) Raimundo & Guerra 548! Bissau, Prabis (Nov.) Raimundo & Guerra 171! **Guin.:** Is. Tristao Jac.-Fél. 7328! Senegambia Heudelot 675! **S. L.:** Morea to Fintonia, Kuru Hills Morton & Gledhill SL 597! Kitchom (Jan.) Deighton 946! Njala (Oct.) Deighton 1350! Magbema (Nov.) Jordan 699! Mano Salija (Nov.) Deighton 323! **Lib.:** Duport (Nov.) Linder 1446! **iv. C.:** Singrobo (Dec.) Aké Assi 7238! **Ghana:** Lumbunga, Tamale Dist. (Dec.) Morton 6252! Banda to Menjl, Wenchi Dist. (Dec.) Morton GC 25240! Ejura Scarp (Dec.) Morton GC 9631! Ankobra (Feb.) Morton A1629! **N. Nig.:** Nupe Barter 1041! Minna (Dec.) Meikle 727! Kainji (Nov.) Hepper 3897! Gurum, Sardauna Prov. (Nov.) Hepper 1239! **S. Nig.:** Olokemeji to Eruwa, Abeokuta Dist. (Nov.) Daramola FHI 43845!

Sporadically throughout tropical Africa.

2. **Diplacrum longifolium** (*Griseb.*) *C.B. Cl.* in Dur. & Schinz, Consp. Fl. Afr. 5: 669 (1895); F.T.A. 8: 511. *APD acc*

Pteroscleria longifolia *Griseb.*, Fl. Brit. W. Ind. 579 (1864).

Scleria longifolia (*Griseb.*) *Roberty* in Bull. I.F.A.N. 17, Sér. A: 37 (1955), not of Boeck.

Scleria amphigaea *Raymond* in Nat. Canad. 91: 132 (1964).

Stout perennial **in swamps and streams.**

S. L.: Freetown (Dec.) Gledhill 524! Kamakwie (Sept.) Jordan 551! Malema (Nov.) Deighton 333! Gegbwema to Faiama (Oct.) Pyne 27! Baoma (Dec.) Deighton 3805! **Lib.:** Gondolahun, Kolahun Dist. (Nov.) Baldwin 10103! Zuie, Boporo Dist. (Nov.) Baldwin 12049! Fishtown, Grand Bassa Dist. (Oct.) Dinklage 1867! Tappita (Aug.) Baldwin 9033! Ganta, Sanokwele Dist. (Oct.) Harley 1017! **iv. C.:** Zétouo forest, Toulépleu Dist. (Oct.) Aké Assi 4842! **Ghana:** Domenasi Bridge to Nkroful (Aug.) Hall 3369! Tarkwa (Feb.) Hall 2484! **S. Nig.:** Lagos Batten-Poole 66! (Nov., Dec.) Dalz. 1294! Hagerup 760!

Also in tropical S. America and the W. Indies.

21. COLEOCHLOA

Gilly in Brittonia 5: 12 (1943); Nelmes in Kew Bull. 8: 374 (1953).

Eriospora of A. Rich., Tent. Fl. Abyss. 2: 508 (1851); F.T.A. 8: 511 (1902); not of Berkeley & Broome.

- 1 Tufted perennial with flat or folded leaves, glabrous except for the shortly strigose upper surface of the midrib; panicle loose, terminal, with spikelets in dense clusters 5–6 mm. long; glumes dark chestnut brown, acuminate *abyssinica* var. *castanea*

***Coleochloa abyssinica* (A. Rich.) Gilly** in Brittonia 5: 14 (1943). *APD acc*

Eriospora abyssinica A. Rich., Tent. Fl. Abyss. 2: 508 (1851); F.T.A. 8: 512.

var. *abyssinica* occurs in Ethiopia and Eritrea.

***Coleochloa abyssinica* var. *castanea* (C.B. Cl.) Pichi-Sermolli** in Webbia 7: 347 (1950); Nelmes in Kew Bull. 8: 377. *APD acc*

Eriospora abyssinica var. *castanea* C.B. Cl. in F.T.A. 8: 513 (1902).

Tufted perennial 60–100 cm. high; in crevices of rock pavements and outcrops.

N. Nig.: Vogel Peak, Sardauna Prov. (May) Daramola FHI 62913! **W. Cam.:** 4 miles S.W. of Bali, 4,000 ft. (Apr.) Brunt 1086!

Also in **Ethiopia**, the **Sudan**, **Uganda** and **Tanzania**.

22. AFROTRILEPIS

(Gilly) *J. Raynal* in Adansonia, sér. 2, 3: 258 (1963). *APD acc*

Trilepis subgen. *Afrotrilepis* Gilly in Brittonia 5: 18 (1943).

Eriospora of F.T.A. 8: 511 (1902) partly, not of Berkeley & Broome.

Catagyna of F.W.T.A., ed. 1, 2: 490 (1936), not of P. Beauv. ex Lestib.

- 1 A stout tufted plant often with an ascending or erect simple or branched rhizome; leaves at least 10 cm. long, glabrous, pilose or canescent on the back; beak of the achene scabrid or ciliate, rarely glabrous 1. *pilosa*
A procumbent cushion plant; leaves not over 3 cm. long; beak of the achene smooth 2. *jaegeri*

1. *Afrotrilepis pilosa* (Boeck.) J. Raynal l.c. 258 (1963). *APD acc*

Trilepis pilosa Boeck. in Linnaea 39: 10 (1876).

Eriospora pilosa (Boeck.) Benth. in Hook. Ic. Pl. 14: 30, t. 1342 (1881); F.T.A. 8: 511.

E. pilosa var. *longipes* C.B. Cl. in F.T.A. 8: 512 (1902).

Catagyna pilosa (Boeck.) Hutch. in F.W.T.A., ed. 1, 2: 490.

Afrotrilepis pilosa var. *trichocarpa* J. Raynal l.c. 258 (1963).

Stout perennial often with an erect or ascending trunk-like rhizome covered with the remains of old leaves, or with roots, and golden-green to brown and chestnut spikelets in clusters on long or short peduncles; on granite outcrops rooting among rocks, or as a mat on the rock-slab surface.

Mali: Doung 1745! Sibi, 50 km. S. of Bamako (May) Duong 1594! **Guin.:** Friguiagbé (May) Chiliou 524! Kindia Pobéguin 1363! Mamou (May) Pitot! Macenta (Oct.) Baldwin 9759! Nzérékoré (Apr.) Pitot! **S. L.:** Binkolo (Aug.) Thomas 1741! Kondembaia to Dalakuru (Apr.) Deighton 5072! Koinadugu Dist. (Aug.) Haswell 230! Bintimani, Loma Mts. (June) Morton SL 3574! Sefadu (Apr.) Deighton 3221! Mandu (July) Deighton 1966! **Lib.:** Yoma, Gola Forest (Apr.) de Wilde 3856! Palilah, Gbanga Dist. (Aug.) Baldwin 9147! Zwedru, Tchien Dist. (Aug.) Baldwin 7056! Mt. Bélé, Nimba (June) Adam 21385! Gio Forest (May) Voorhoeve 278! **Iv. C.:** Nimba Mts., 2,500–5,000 ft. (Aug.) Boughey GC 18086! Séguéla (Apr.) Leeuwenberg 3265! Mankono (July) Aké Assi 4806! Toulépleu Adam 6341! Issia rock (May) Leeuwenberg 4126! **U. Volta:** Sindou, 50 km. W. of Banfora (June) Leeuwenberg 4327! Toussiana Waterfall, Bobo-Dioulasso (June) Scholz 305! **Ghana:** Wa to Tumu (Apr.) Addei SLUS 20! 20 miles N. of Sawla (Apr.) Morton A3308! Kwahu Tafo to Mankrong (Apr.) Morton A686! Amedzofe (June) Boughey 13066! Afram Plains (Mar.) W. H. Johnson 708! **Dah.:** Agouagon (Apr.) Chev. 23528! **N. Nig.:** Nupe Barter 1560! Kufena, Zaria (May) Kershaw 900340! Anara F.R., Zaria (May) Keay FHI 22877! Lapai to Gawu, Niger Prov. (July) Onochie FHI 35392! Wana, Plateau Prov. (June) Hepburn 116! **S. Nig.:** Lagos Dawodu 59! Rowland! Ado Rock, Iseyin (Apr.) Onochie FHI 34689! Mt. Orosun, Ondo (Aug.) Jones 20708! Owo F.R. (July) Onochie FHI 33250! **W. Cam.:** Mamfe (June) Gregory 128! Bum, Bamenda, 4,000 ft. (June) Maitland 1603!

Also in **Gabon**.

[*A. pilosa* is a very polymorphic species, and as used here the name covers a wide range of forms for which there seems no adequate means of characterization except perhaps in the case of var. *trichocarpa* J. Raynal from the Ivory Coast. Rather than describe a number of new varieties of doubtful validity it seems preferable to avoid categorizing the infra-specific variation for the time being.]

2. *Afrotrilepis jaegeri* J. Raynal l.c. 259 (1963). *APD acc*

A low growing perennial herb with branching leafy woody stem and few very dark spikelets.

S. L.: Da Oulen, Loma Mts. (Aug., Oct.) Jaeger 1331! 7822! 7869! Dawuli Peak, Loma Mts. (June) Morton SL 3611!
Sankan Biriwa, 5,000 ft., Tingi Mts. (Apr.) Morton & Gledhill SL 1895!

23. MICRODRACOIDES

Hua in Bull. Mus. Hist. Nat. Paris 12: 421 (1906).

Schoenodendron Engl., Bot. Jahrb. 44, Beibl. 101: 34 (1910).

- 1 Dioecious; forming branched 'trunks' up to 100 cm. high and several cm. across; leaves in a close-set spiral forming a terminal tassel, resembling pine-needles, their bases clothing the stem and producing the 'trunks'; inflorescence elongate, branched, erect [squamosus](#)

Microdracoides squamosus *Hua* in Bull. Mus. Hist. Nat. Paris 12: 422 (1906); Chev. in La Terre et la Vie 3: 131 (1933); Cherm. in Bull. Soc. Bot. Fr. 80: 90 (1933). *APD acc*

Vellozia-like in habit and unlike any other W. African sedge; **on wet granitic outcrops.**

Guin.: Friguiagbé (July) Chillou 3295! Kindia Pobéguin! Mt. Gangan (Nov.) Schnell 2187! Grandes Chutes (Dec.) Chev. 20222! Kinkon (Apr.) Pitot! **S. L.:** Gbengbe Hills, Bumban (Aug., Nov.) Deighton 1309! Morton SL 2917! **S. Nig.:** Boki Hills, 3,000 ft. Catterall 14/1934! **W. Cam.:** Cross R. (Dec.) Schinz! Mamfe (June, Dec.) Gregory 127! Morton K685! Migeod 259! Fongom, Bamenda, 3,000 ft. Maitland!

Also in **E. Cameroun.**

24. CAREX

Linn., Sp. Pl. 972 (1753), and Gen. Pl. ed. 5, 420 (1754); F.T.A. 8: 514 (1902); Kükenthal in Engl., Pflanzenr. Cyperaceae—Caricoideae: 67–767 (1908).

- 1 Inflorescence with 5–10 dense cylindric spikes 4–6 cm. long on long solitary peduncles: **2**
Inflorescence a spreading or very dense panicle with numerous sessile short spikes up to 1.5 mm. long; perennials with pale brown or straw-coloured sheaths to the lower leaves: **3**
- 2 Terminal spike male, usually with some utricles in the upper part; spikes 3–6; perennial with pale brown or straw-coloured sheaths to the lower leaves [1. preussii](#)
Terminal spike male throughout, lateral spikes female or the upper ones with some male flowers at the apex; spikes more numerous; perennial with rich purplish-red sheaths to the lower leaves [2. mannii](#)
- 3 Panicle lax: **4**
Panicle very dense, almost spike-like [6. lycurus](#)
- 4 Glumes broadly acute with a 1–2 mm. long scabrid awn; panicle scanty; utricle sparingly ciliolate above [3. neo-chevalieri](#)
Glumes acuminate or with a short smooth or scabrid awn not exceeding 1 mm. long; panicle much branched; utricle glabrous: **5**
- 5 Utricle 3 mm. long including the stout 0.75 mm. long beak [4. echinochloë](#)
Utricle 4.5–5 mm. long including the slender 1.5–2 mm. long beak 5. chlorosaccus

1. *Carex preussii* K. Schum. in Engl., Bot. Jahrb. 24: 340 (1897).

APD: *Synonym of Carex petitiana A. Rich.*

Carex simensis of F.T.A. 8: 522, partly; F.W.T.A., ed. 1, 2: 495.

Carex preussii var. **camerunensis** *Nelmes* in Kew Bull. 1938: 247.

Carex longipedunculata var. **preussii** (*K. Schum.*) *Kük.* l. c. 652 (1909).

Tufted perennial 30–100 cm. high with scanty inflorescence; spikelets usually rust and green, but sometimes redder; **in upland forest.**

N. Nig.: Gotel Mts., Mambila Plateau Tuley 2033! **W. Cam.:** Cam. Mt. (Dec.) Mann 2099! Ukile, Mann's Spring (Mar.) Brenan & Onochie 9538! Bafut-Ngemba F.R., Bamenda (Feb.) Hepper 2085! Mba Kokeka, Bamenda (Mar.) Coombe 229! L. Oku, Bamenda (Jan.) Keay & Lightbody FHI 28465!

2. **Carex mannii** *E. A. Bruce* in Kew Bull. 1933: 150. *APD acc*

Carex boryana of F.T.A. 8: 523, not of Schkuhr.

Carex boryana var. **simplicissima** *Kük.* l.c. 651 (1909).

Tufted perennial up to 140 cm. high with 6–10 solitary dark reddish brown spike; **in forest**.

W. Cam.: Ukele Camp, Cam. Mt., 6,000 ft. (Feb.) Maitland 1341! **F. Po:** (Dec.) Boughey GC 10794! St. Isabel Peak Guinea 2683! Clarence Peak, 7,500–8,500 ft. (June–Dec.) Mann 661! 1478 !

Also in **eastern Africa**.

3. **Carex neo-chevalieri** *Kük.* in Bull. Mus. Nat. Hist. Paris sér. 2, 3: 467 (1931). *APD acc*

Carex echinochloe of F.W.T.A., ed. 1, 2: 495, partly.

Tufted perennial 60–100 cm. high with scanty panicles of light brown spikes with glabrous or shortly hairy glumes; **upland forests, rarely below 4,000 ft.**

Guin.: La Sala Falls (Oct.) Pitot! **Mali:** (Nov.) Chev. 37803! **S. L.:** Séréleu Massif (Sept.) Jaeger 7665! Bintimani Mts., 4,600 ft. (July) Bakshi 283! **Ghana:** Shiare, Togo Hills (Nov.–Dec.) Morton A4078! Jenik & Hall CC 1128! **N. Nig.:** Richa, Jos Plateau, 4,000 ft. (Sept.) Lawlor & Hall 664b!

Also from E. Cameroun and C. African Republic to Burundi.

4. **Carex echinochloë** *G. Kunze* Suppl. Schkuhr's Riedgr. 47, t. 12 (1841); F.T.A. 8: 518; *Kük.* l.c. 270 (1909); F.W.T.A., ed. 1, 2: 495, partly, excl. synonymy. *APD acc*

Tufted perennial about 1 m. high with simple or compound panicles of short greenish spikes; utricles ciliolate; **forests and shade, 5,500–8,000 ft.**

W. Cam.: Cam. Mt., 7,000 ft. (Jan., Nov.) Mann 1359! 2106! Mann's Spring, Cam. Mt. (June, Dec.) Mildbraed! Boughey GC 12609! Bafut-Ngemba F.R., Bamenda, 7,300 ft. (Feb.) Hepper 2191! L. Bambulue, 5,500 ft. (July) Bumpus 46/Bam/29!

Also on mountains in eastern and north-eastern Africa.

5. **Carex chlorosaccus** *C.B. Cl.* in J. Linn. Soc. 34: 298 (1899); F.T.A. 8: 519. *APD acc*

Carex echinochloë var. **chlorosaccus** (*C.B. Cl.*) *Kük.* l.c. 271 (1909).

Tufted perennial sedge 60–100 cm. high with pale brown or greenish basal leaf-sheaths and much branched panicles with short green spikes; **montane forest 6,000–8,000 ft.**

F. Po: S.W. of L. Biaó (Sept.) Wrigley & Melville 663! Clarence Peak, 6,000–8,000 ft. (Dec.) Boughey 126! Mann 653!

Also in **eastern tropical Africa** and **northern tropical Africa**.

6. **Carex lycurus** *K. Schum.* in Engl., Pflanzenw. Ost-Afrika C: 129 (1895); F.T.A. 8: 517; *Kük.* l.c. 127. *APD acc*

Perennial 30–60 cm. high with a long creeping rhizome, pale brown basal leaf-sheaths and a dense, light yellowish brown inflorescence; **montane forests 7,000–8,000 ft.**

W. Cam.: Bambili Lakes, Mezam Division (May) Bauer 67!

Also **east tropical Africa** and **north-east tropical Africa**.

[The inflorescence of this specimen is very immature but apart from a slightly smaller and more slender habit than is usually met with on the mountains of East Africa there are no significant differences.]

GRAMINEAE

Annual or perennial herbs, rarely shrubs or trees, sometimes with rhizomes or stolons; stems erect, ascending or creeping, usually branched at the base, in perennials with sterile shoots and flowering stems (culms) mixed, in annuals only the latter present; culms cylindrical, rarely flattened, jointed, usually hollow in the internodes, closed at the nodes; branches subtended by a leaf, and with a 2-keeled hyaline leaflet (prophyll) at the base. Leaves solitary at the nodes, sometimes crowded at the base of the stem, alternate and 2-rowed, consisting of sheath, ligule and blade; sheaths encircling the culm, with the margins free and overlapping or \pm connate, frequently swollen at the base, the shoulders sometimes extended upwards into triangular auricles; ligule adaxial, placed at the junction of sheath and blade, membranous or reduced to a fringe of hairs, rarely absent (very rarely with a similar abaxial structure—the external ligule); blades usually long and narrow, rarely broad, flat or sometimes rolled or terete, parallel-nerved, rarely with transverse connections, usually passing gradually into the sheath, sometimes amplexicaul or with falcate auricles, rarely narrowed into a false petiole or articulated with the sheath. Inflorescence made up of spikelets arranged in a panicle, or in spikes or racemes, these either solitary, digitate, or disposed along a central axis; usually terminal, sometimes (especially in Andropogoneae) numerous, each inflorescence being subtended by a bladeless sheath (spatheole) and the whole flowering branch system condensed into a leafy false panicle. Spikelets consisting of bracts distichously arranged along a slender axis (rhachilla); the two lower bracts (glumes) empty; the succeeding 1 to many bracts (lemmas) each enclosing a flower and opposed by a hyaline scale (palea), the whole (lemma, palea and flower) termed a floret; base of spikelet or floret sometimes with a horny prolongation downwards (callus); glumes or lemmas often bearing 1 or more stiff bristles (awns); this basic pattern of spikelet structure consistent throughout the family, though often much modified by reduction, suppression or elaboration of parts. Flowers usually bisexual, sometimes unisexual, small and inconspicuous; perianth represented by 2, rarely 3, minute hyaline or fleshy scales (lodicules); stamens hypogynous, 1–6, rarely more, usually 3, with delicate filaments and 2-theous anthers opening by a longitudinal slit or rarely a terminal pore; ovary 1-locular, with 1 anatropous ovule often adnate to the adaxial side of the carpel; styles usually 2, rarely 1 or 3, generally with plumose stigmas. Fruit mostly a caryopsis with thin pericarp adnate to the seed, rarely with free seed, still more rarely a nut or berry; caryopsis commonly combined with various parts of the spikelet, or less often the inflorescence, to form a false fruit; seed with starchy endosperm, an embryo at the base of the abaxial face, and a point or line (hilum) on the base or adaxial face marking the connection between pericarp and seed.

About 660 genera and 9,000 species, in 50–60 tribes; throughout the world.

KEY TO THE TRIBES

- 1 Spikelets 1- to many-flowered, breaking up at maturity above the more or less persistent glumes, or if falling entire then not 2-flowered with the lower floret male or barren and the upper female or hermaphrodite; spikelets usually laterally compressed or terete.....2
- Spikelets 2-flowered, falling entire at maturity, with the upper floret (of fertile spikelets) female or hermaphrodite and the lower male or barren and in the latter case often much reduced; spikelets usually dorsally compressed: 27
- 2 Spikelets unisexual, dissimilar, the sexes mixed or in different parts of the same inflorescence:3
- Spikelets bisexual, similar:4
- 3 Leaf-blades with the lateral nerves parallel to the midrib; <Image p="female"> lemma indurated, shorter than the glumes [2. OLYREAE](#)
- Leaf-blades with slanting lateral nerves running obliquely from the midrib to the margin; <Image p="female"> lemma papery, much longer than the glumes [3. PHAREAE](#)
- 4 Tall woody bamboos, less often perennial herbs; leaf-blades flat, lanceolate to ovate, many-nerved, often with transverse veins, usually with a petiole-like base and articulated with the sheath; lemmas several, 5- to many-nerved, awnless; lodicules usually 3 [1. BAMBUSEAE](#)
- Perennial or annual herbs with herbaceous culms; leaf-blades usually sessile and not articulated with the sheath, or if with a petiole-like base then not with the other characters given above:5
- 5 Spikelets borne on opposite sides of the rhachis of solitary spikes or racemes, the spikelets placed broadside on to

- the rhachis: **6**
- Spikelets in panicles or 1-sided spikes or racemes; very rarely on opposite sides of the rhachis of solitary spikes, but then edgeways on with the back of the lemmas pressing against the rhachis: **7**
- 6** Spikelets borne upon a pedicel 1.5 mm. long, several-flowered [8. BRACHYPODIEAE](#)
- Spikelets quite sessile, or single-flowered [9. TRITICEAE](#)
- 7** Leaf-blades transversely veined between the main nerves, narrowly lanceolate to ovate; spikelets several-flowered: **8**
- Leaf-blades without transverse veins, linear: **9**
- 8** Spikelets in a 1-sided raceme; lemmas awned [4. STREPTOGYNEAE](#)
- Spikelets in a panicle; lemmas awnless [16. CENTOTHECEAE](#)
- 9** Lemmas deeply cleft into 9 lobes or awns [17. PAPPOPHOREAE](#)
- Lemmas entire or bilobed, rarely 3-awned: **10**
- 10** Spikelets containing 2 or more fertile florets (except *Leptochloa uniflora*): **11**
- Spikelets with 1 fertile floret (very rarely more, *Tetrapogon*, and then with long-ciliate lemmas), with or without 1 or 2 male or barren florets below it, and 1 or more above: **21**
- 11** Rhachilla internodes bearing long silky hairs which envelop the lemmas, the latter glabrous (in only W. African genus); tall grasses with large plume-like panicles [13. ARUNDINEAE](#)
- Rhachilla internodes glabrous or shortly hairy, in the latter case with the hairs not enveloping the lemmas: ... **12**
- 12** Florets 2 per spikelet, one or both of the florets hardened or leathery; spikelets awnless [24. ISACHNEAE](#)
- Florets nearly always 3 or more per spikelet; lemmas membranous or awned: **13**
- 13** Inflorescence made up of racemes either solitary, digitate or scattered along an axis [19. ERAGROSTIDAE](#)
- Inflorescence an open or contracted panicle, or globose cluster: **14**
- 14** Glumes shorter than the lowest floret with the upper florets distinctly exerted; lemmas awnless or with straight awns from the entire, or lobed tip: **15**
- Glumes longer than the lowest floret, usually as long as the spikelet and enclosing the florets, rarely shorter but then the lemmas with geniculate awns; lemmas 5- to many-nerved: **20**
- 15** Lemmas 1–3-nerved: **16**
- Lemmas 5 to many-nerved: **17**
- 16** Spikelets awnless [19. ERAGROSTIDAE](#)
- Spikelets awned [14. DANTHONIEAE](#)
- 17** Lemmas bearing long slender awns, closely coiled and entangled towards the tips (in the only West African genus) [10. MELICEAE](#)
- Lemmas awnless or with stiff straight awns: **18**
- 18** Spikelets densely imbricate in short globose or oblong heads [18. AELUROPODEAE](#)
- Spikelets arranged in open or contracted panicles: **19**
- 19** Ovary glabrous or hairy, the styles arising from its tip; lemmas awnless or awned from the tip (except *Festuca mekiste* which has glabrous leaf-sheaths and scabrid palea keels) [6. POEAE](#)
- Ovary crowned by a fleshy hairy cap, the styles arising from beneath the latter; lemmas awned from just below the tip (leaf-sheath hairy and palea keels ciliate in W. African species) [7. BROMEAE](#)
- 20** Lemmas with a geniculate dorsal awn, rarely awnless (and then with pubescent inflorescence axis, otherwise see *Festuca*); ligule membranous [11. AVENEAE](#)
- Lemmas with a straight or geniculate awn from the sinus of the prominently 2-lobed tip; ligule a ciliate fringe [14. DANTHONIEAE](#)
- 21** Glumes very minute or suppressed (in *Oryza* 2 sterile lemmas at the base of the floret simulate glumes, the true glumes being barely discernable as minute collars at the tip of the pedicel); palea 3-nerved, similar to the lemma in texture; stamens often 6; spikelets laterally compressed [5. ORYZEAE](#)
- Glumes usually well-developed, or at least the upper; palea usually 2-nerved and hyaline; stamens 3 or less; spikelets usually not flattened: **22**
- 22** Spikelets falling entire at maturity, either singly or in clusters, from the persistent axis of slender spike-like panicles or racemes [22. ZOYSIEAE](#)
- Spikelets breaking up at maturity above the persistent glumes (rarely embedded in a segment of the fragile rhachis and falling with it): **23**
- 23** Inflorescence made up of racemes or spikes (solitary or digitate in the West African species) [20. CHLORIDEAE](#)
- Inflorescence a panicle, either open or contracted and spiciform: **24**

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- 24 Florets 2, the lower barren or male, the upper hermaphrodite[23. ARUNDINELLEAE](#)
 Floret 1: 25
- 25 Spikelets awnless[21. SPOROBOLAEAE](#)
 Spikelets awned (in the West African species): 26
- 26 Awn divided into 3 branches (except *Aristida diminuta*); lemma terete and rigid at maturity; ligule ciliate ..[25. ARISTIDEAE](#)
 Awn entire; ligule membranous[12. AGROSTIDEAE](#)
- 27 Spikelets all hermaphrodite, or with male or barren and hermaphrodite spikelets mixed in the same inflorescence: 28
 Spikelets unisexual, the male and female spikelets in separate inflorescences or in different parts of the same inflorescence[27. MAYDEAE](#)
- 28 Spikelets solitary, rarely paired with the spikelets all more or less similar; glumes usually membranous, the lower usually smaller or sometimes suppressed: upper lemma papery to polished and stony, usually awnless[25. PANICEAE](#)
 Spikelets typically paired, with 1 sessile and the other pedicelled, those of each pair usually dissimilar in shape and sex (the pedicelled sometimes much reduced), rarely with the spikelets all alike; glumes as long as the spikelets and enclosing the florets, more or less rigid and firmer than the hyaline or membranous lemmas; upper lemma often with a geniculate awn[26. ANDROPOGONEAE](#)

KEY TO THE GENERA

Tribe 1—BAMBUSEAE

- 1 Tall woody bamboos with culms up to 12 m. high:2
 Herbaceous plants with culms up to about 1 m. high:4
 2 Stamens 3, filaments free; leaf-blades attenuate to a filiform tip about 10 mm. long [1. *Arundinaria*](#)
 Stamens 6, leaf-blades acuminate to a pungent tip about 5 mm. long:3
 3 Filaments free; mouth of leaf-sheath auriculate, glabrous [2. *Bambusa*](#)
 Filaments united; mouth of leaf-sheath without auricles, long-ciliate [3. *Oxytenanthera*](#)
 4 Spikelets linear, with several to many bisexual florets, the rhachilla distinct; filaments of stamens free4.
 [4. *Guadua*](#)
 Spikelets narrowly ovate, with 3–5 male and a terminal female floret, the rhachilla represented by a rounded
 callus at the base of each floret; filaments of stamens united [5. *Puelia*](#)

Tribe 2—OLYREAE

- 1 Only West African genus [6. *Olyra*](#)

Tribe 3—PHAREAE

- 1 Only West African genus [7. *Leptaspis*](#)

Tribe 4—STREPTOGYNEAE

- 1 Only genus [8. *Streptogyna*](#)

Tribe 5—ORYZAE

- 1 Spikelets with 2 reduced sterile lemmas at the base of the fertile floret; fertile lemma coriaceous [9. *Oryza*](#)
 Spikelets without sterile lemmas; fertile lemma papery [10. *Leersia*](#)

Tribe 6—POEAE

Lemmas awned, rounded on the back or only keeled at the tips:

- Perennial; lemmas lanceolate to oblong [11. *Festuca*](#)
 Annual; lemmas linear-lanceolate [12. *Vulpia*](#)
 Lemmas awnless, compressed and keeled [13. *Poa*](#)

Tribe 7—BROMEAE

- 1 Only West African genus [14. *Bromus*](#)

Tribe 8—BRACHYPODIEAE

- 1 Only West African genus [15. *Brachypodium*](#)

Tribe 9—TRITICEAE

- 1 Spikelets solitary at each node of the rhachis, several-flowered [16. *Triticum*](#)
 Spikelets in clusters of three at each node, one-flowered [17. *Hordeum*](#)

Tribe 10—MELICEAE

- 1 Only West African genus [18. *Streblochaete*](#)

Tribe 11—AVENEAE

- 1 Lemmas awnless or mucronate [19. *Koeleria*](#)
 Lemmas long awned:2
 2 Annual; Spikelets 2-flowered; rhachilla glabrous; lemmas 2-toothed at apex [20. *Aira*](#)
 Perennials; Spikelets 2–6-flowered; rhachilla more or less hairy:3
 3 Lemma bifid at the tip, awned from the middle or above the middle of the back [21. *Helictotrichon*](#)
 Lemma 4-toothed at the tip, awned from near the base of the back [22. *Deschampsia*](#)

Tribe 12—AGROSTIDEAE

- 1 Glumes 1–3-nerved; lemma hyaline at maturity, truncate or denticulate truncate with percurrent nerves23.
 [23. *Agrostis*](#)
 Glumes 5-nerved; lemma indurated and rigid at maturity, 2-toothed at apex [24. *Hypseochloa*](#)

Tribe 13—ARUNDINEAE

- 1 Only West African genus [25. *Phragmites*](#)

Tribe 14—DANTHONIEAE

- 1 Spikelets in open or contracted panicles:2

- Spikelets in globose clusters, these sometimes confluent into a cylindrical spike [29. *Elytrophorus*](#)
- 2 Lemmas 5—many-nerved; glumes as long as the spikelet: **3**
- Lemmas 3-nerved and 3-awned; glumes shorter than the spikelet [28. *Triraphis*](#)
- 3 Lobes of the lemma acute, transversely bearded at their base; glumes 5–11-nerved; spikelets 2–6-flowered ... [26. *Asthenatherum*](#)
- Lobes of the lemma produced into a fine bristle, not boarded; glumes 1–3-nerved; spikelets 2-flowered [27. *Pentaschistis*](#)
- Tribe 15—ARISTIDEAE**
- 1 Awns, at least the central one, plumose; column more or less developed, articulated at its base .. [30. *Stipagrostis*](#)
- Awns never plumose [31. *Aristida*](#)
- Tribe 16—CENTOTHECEAE**
- 1 Spikelets mostly 3-flowered; upper lemmas with reflexed bristles [32. *Centotheca*](#)
- Spikelets mostly 10–20-flowered; lemmas glabrous [33. *Megastachya*](#)
- Tribe 17—PAPPOPHOREAE**
- 1 Lemmas divided into 9 awns; fertile floret 1 [34. *Enneapogon*](#)
- Lemmas divided into 4 membranous lobes alternating with 5 awns; fertile florets usually 4 or more [35. *Schmidtia*](#)
- Tribe 18—AELUROPODEAE**
- 1 Only genus [36. *Aeluropus*](#)
- Tribe 19—ERAGROSTIDEAE**
- 1 Spikelets pedicelled in open or contracted panicles [37. *Eragrostis*](#)
- Spikelets sessile or very short-pedicelled in secund 2-rowed spikes: **2**
- 2 Spikes solitary and terminal; ligule ciliate [38. *Tripogon*](#)
- Spikes digitate or scattered along an axis: **3**
- 3 Lemmas conspicuously ciliate on the margins [39. *Trichoneura*](#)
- Lemmas glabrous or apparently so (pubescent at the base beside the keel in *Bewsia*): **4**
- 4 Racemes deciduous at maturity with the spikelets attached [40. *Dinebra*](#)
- Racemes not deciduous: **5**
- 5 Spikes digitate or subdigitate: **6**
- Spikes scattered on a long central axis: **9**
- 6 Spikes terminating in a sharp point [41. *Dactyloctenium*](#)
- Spikes terminating in a spikelet: **7**
- 7 Lemmas drawn out into a short awn-point; racemes whorled on a short common axis [42. *Acrachne*](#)
- Lemmas at most acute: **8**
- 8 Glumes strongly keeled, the spikelets laterally compressed [43. *Eleusine*](#)
- Glumes rounded on the back, the spikelets plump [44. *Coelachyrum*](#)
- 9 Awn of the lemma dorsal; callus bearded [45. *Bewsia*](#)
- Awn of the lemma (if any) apical or from between 2 teeth: **10**
- 10 Ligule reduced to a line of hairs [46. *Pogonarthria*](#)
- Ligule hyaline: **11**
- 11 Lemmas acuminate to a short awn-point; spikelets laterally compressed [42. *Acrachne*](#)
- Lemmas obtuse to acute, sometimes mucronate but then not compressed: **12**
- 12 Spikelets 2–3 mm. long, 1–6-flowered, laterally compressed [47. *Leptochloa*](#)
- Spikelets 5–9 mm. long, 6–10-flowered, more or less terete [48. *Diplachne*](#)
- Tribe 20—CHLORIDEAE**
- 1 Spikelets with 1 (except *Tetrapogon*) fertile and 1 or more imperfect florets: **2**
- Spikelets with 1 fertile floret and no imperfect florets: **6**
- 2 Fertile floret with 2 imperfect florets below and one above it; upper glume with an oblique dorsal awn [49. *Ctenium*](#)
- Fertile floret with imperfect florets only above it; upper glume without a dorsal awn: **3**
- 3 Fertile florets 2–4; lemma villous, broadly ovate; raceme usually solitary [50. *Tetrapogon*](#)

- Fertile floret 1:4
- 4 Spikes usually 2 or more:5
- Spikes solitary; lemma narrow, glabrous or scaberulous53. *Enteropogon*
- 5 Glumes unequal, the lower shorter than the florets51. *Chloris*
- Glumes equal or nearly so, as long as or slightly longer than the florets62. *Chrysochloa*
- 6 Spikelets with flexuous awns about 3 cm. long54. *Schoenefeldia*
- Spikelets awnless or with a short stiff awn up to 0.5 cm. long:7
- 7 Upper and lower glumes much compressed laterally and both keeled:8
- Upper glume with a flat back, the lower boat-shaped or much reduced; spikes solitary:9
- 8 Glumes longer than the floret and enclosing it; spike solitary55. *Brachyachne*
- Glumes shorter than the floret; spikes digitate56. *Cynodon*
- 9 Lower (adaxial) glume present; spikelets arranged on one side of the slender rhachis, not sunken, awnless57. *Microchloa*
- Lower glume absent (except for the terminal spikelet); spikelets sunk in hollows on opposite sides of the rhachis, awned or awnless58. *Oropetium*

Tribe 21—SPOROBOLAEAE

- 1 Inflorescence a panicle, rarely spike-like59. *Sporobolus*
- Inflorescence an ovoid head60. *Crypsis*

Tribe 22—ZOYSIEAE

- 1 Glumes long and finely awned; spikelets solitary61. *Perotis*
- Glumes awnless:2
- 2 Spikelets clustered on short branches, those densely crowded into a narrow cylindrical inflorescence; lower glume very small or suppressed, the upper armed with hooked spines on the back62. *Tragus*
- Spikelets paired or solitary on flattened cuneiform branches 2–5 mm. long, these distant along a central axis; both glumes prominent, smooth on the back or the upper tuberculate, their margins pectinate 63. *Leptothrium*

Tribe 23—ARUNDINELLEAE

- 1 Callus of upper floret pungent, 3–3.5 mm. long; spikelets 26–28 mm. long in groups of three; lower lemma 5–7-nerved64. *Tristachya*
- Callus of upper floret obtuse, truncate, 2-toothed or obliquely 1-toothed:2
- 2 Lemma of upper floret scabrid or scaberulous, the callus very short and broadly rounded; spikelets paired or solitary65. *Arundinella*
- Lemma of upper floret usually hairy, or if glabrous then quite smooth:3
- 3 Spikelets in close clusters of 3, the pedicels distinct and 1–3 mm. long; rarely in groups of 2–3 on longer pedicels, but then the lobes of the upper lemma awned and the callus linear (0.7–1 mm. long) 66. *Loudetiopsis*
- Spikelets paired or solitary:4
- 4 Upper lemma evenly pubescent or pilose, rarely glabrous; callus oblong to linear, 0.5–1 mm. long, truncate, 2-toothed, or obliquely 1-toothed; lower lemma 3-nerved (except *L. togoensis*)67. *Loudetia*
- Upper lemma transversely bearded or with a tuft of hairs near each margin; callus short and obtuse:5
- 5 Lower lemma 5–9-nerved; upper lemma lobes acute68. *Danthoniopsis*
- Lower lemma 3-nerved; upper lemma awned from the lateral lobes, with a tuft of hair near each margin69. *Trichopteryx*

Tribe 24—ISACHNEAE

- 1 Spikelets arranged in panicles70. *Isachne*
- Spikelets arranged in one-sided spikes71. *Heteranthoecia*

Tribe 25—PANICEAE

- 1 Spikelets falling singly, not subtended by bristles, or if so then the bristles persisting on the axis after the spikelets have fallen (to p. 356):2
- Spikelets falling singly or in clusters, surrounded by 1 or more bristles which fall with the spikelets; if without bristles, then falling in clusters:28
- 2 Inflorescence an open or spike-like panicle (rarely the branchlets contracted about the primary branches—*Panicum laxum*):3
- Inflorescence consisting of one-sided spikes or racemes, these either digitate or scattered along a central axis, rarely solitary; the racemes sometimes with short secondary racemelets (especially *Echinochloa crus-gavonis*)

- and *Entolasia olivacea*) or with the spikelets long-pedicelled and distant (*Brachiaria deflexa*): 10
- 3 Spikelets, or some of them, subtended by one to many long bristles [72. *Setaria*](#)
 Spikelets not subtended by bristles: 4
- 4 Spikelets arranged in cylindrical spike-like panicles [73. *Sacciolepis*](#)
 Spikelets arranged in open or contracted panicles: 5
- 5 Lower lemma entire at the tip, awnless; upper lemma crustaceous: 6
 Lower lemma bilobed at the tip; upper lemma leathery or chartaceous: 8
- 6 Spikelets distinctly gibbous and laterally compressed [74. *Cyrtococcum*](#)
 Spikelets not gibbous (sometimes slightly so, but then not laterally compressed): 7
- 7 Upper floret without lateral basal wings or scars [75. *Panicum*](#)
 Upper floret with lateral basal wings or soars [80. *Ichnanthus*](#)
- 8 Spikelets clothed in silky hairs extending beyond the tip of the spikelet (in West African species); upper glume gibbous or straight on the back; lower lemma shortly awned [95. *Rhynchelytrum*](#)
 Spikelets glabrous or at most pubescent; upper glume more or less straight on the back: 9
- 9 Upper glume narrower than the lower lemma, the latter awnless; upper lemma leathery [96. *Tricholaena*](#)
 Upper glume wider than the lower lemma, the latter usually awned; upper lemma thinner, chartaceous [97. *Melinis*](#)
- 10 Racemes very short, bearing 1–5 spikelets, and sunken in hollows in a thickened corky rachis, the latter disarticulating at maturity with the spikelets attached; lower glume abaxial; both lemmas coriaceous [76. *Stenotaphrum*](#)
 Racemes free, usually bearing numerous spikelets: 11
- 11 Upper lemma hard, crustaceous or coriaceous, usually with narrow inrolled margins and exposing much of the palea: 12
 Upper lemma thinly cartilaginous, usually with flat thin margins covering much of the palea: 26
- 12 Glumes and lemmas with laterally compressed thickened apices; lower glume abaxial [77. *Acroceras*](#)
 Glumes and lower lemma obtuse to acuminate or awned, but not thickened and laterally compressed at the tip: 13
- 13 Leaf-blades broadly lanceolate to ovate-elliptic, with distinct transverse veins below; spikelets glabrous, awnless; back of upper lemma glabrous: 14
 Leaf-blades linear to lanceolate, transverse veins absent (or if present then spikelets not as above); upper lemma without basal wings: 16
- 14 Upper glume half as long as the spikelet [78. *Microcalamus*](#)
 Upper glume as long as the spikelet: 15
- 15 Base of upper lemma rounded, without lateral wings [79. *Commelinidium*](#)
 Base of upper lemma extended into a short stipe flanked by hyaline wings [80. *Ichnanthus*](#)
- 16 Spikelets laterally compressed: 17
 Spikelets dorsally compressed: 18
- 17 Spikelets lanceolate, hairy with stiff bristles based in yellowish tubercles [81. *Chloachne*](#)
 Spikelets obliquely ovate, the upper glume gibbous towards the base and usually clothed in hooked hairs when mature [82. *Pseudechinolaena*](#)
- 18 Spikelet with a bead-like swelling at its base, formed from the swollen lowest rhachilla-internode covered by the thin lower glume; upper lemma obtuse, mucronate (if not mucronate see *Brachiaria callopus*) ... [83. *Eriochloa*](#)
 Spikelet passing smoothly into the pedicel without a bead-like swelling: 19
- 19 Lower glume present: 20
 Lower glume absent: 25
- 20 Glumes acuminate or awned, or if not then the spikelets sessile in 4 rows; upper lemma not obtuse and mucronate: 21
 Glumes obtuse to acute, if acuminate then with the upper lemma mucronate; spikelets usually in 1–2 rows, sometimes irregularly arranged with some of the spikelets pedicelled: 22
- 21 Racemes 1–2-rowed; culms creeping or ascending; leaf-blades lanceolate [84. *Oplismenus*](#)
 Racemes 4 or more rowed; culms erect or suberect, sometimes floating; leaf-blades linear [85. *Echinochloa*](#)
- 22 Lower glume abaxial (facing away from the rachis); spikelets solitary, sessile (in West African spp.): 23

- Lower glume adaxial (facing towards the rhachis), or with some of the spikelets pedicelled: **25**
- 23** Upper lemma acute; spikelets glabrous [86. *Paspalidium*](#)
Upper lemma obtuse, mucronate; spikelets hairy [87. *Urochloa*](#)
- 24** Upper lemma glabrous, usually shiny or rugose [88. *Brachiaria*](#)
Upper lemma hairy [89. *Entolasia*](#)
- 25** Back of upper lemma facing axis; spikelets plano-convex, ovate to orbicular [90. *Paspalum*](#)
Back of upper lemma turned away from axis; spikelets lanceolate [91. *Axonopus*](#)
- 26** Spikelets awned: **27**
Spikelets awnless, very rarely with an awnlet up to 1.5 mm. long; lower glume (if present) abaxial, very small
..... [94. *Digitaria*](#)
- 27** Upper glume and lower lemma with fine entangled awns 15 mm. long; upper lemma awnless; lower glume
adaxial [92. *Acritochaete*](#)
Upper glume and lower lemma awnless, or with an awn point up to 1 mm. long; upper lemma awned; lower
glume abaxial; spikelets in untidy groups of 2–3 [93. *Alloteropsis*](#)
- 28** Spikelets in clusters of 3–9, not surrounded or subtended by bristles; lower glume indurated [98. *Antheophora*](#)
Spikelets surrounded or subtended by 1 to many bristles; lower glume not indurated: **29**
- 29** Bristles solitary below each spikelet: **30**
Bristles few to many, forming an involucre around the solitary or clustered spikelets: **31**
- 30** Racemes loose; spikelets 6–12 mm. long; peduncles 2–15 mm. long and falling with the spikelet [99. *Paratheria*](#)
Racemes dense; spikelets about 3 mm. long; peduncles up to 1 mm. long and remaining on the axis after the
spikelet has fallen [100. *Beckeropsis*](#)
- 31** Bristles free to the base, fine to very fine, more or less filiform [101. *Pennisetum*](#)
Bristles connate at base or to beyond the middle, rigid or spinous, at least the longest bristles flattened at the base
..... [102. *Cenchrus*](#)

Tribe 26—ANDROPOGONEAE

- 1** Internodes of rhachis and pedicels slender, filiform or linear, rarely thickened upwards and then with the upper
lemma awned: **2**
Internodes of the rhachis and pedicels stout, 3-angled, rounded, or flattened and thickening upwards; upper
lemma awnless: **30**
- 2** Racemes arranged in panicles with a common axis longer than the lowest raceme, not supported by spathes;
pedicels solid: **3**
Racemes solitary, paired or sub-digitate, and usually supported by spathes (very rarely the lowest racemes
overtopped by the common axis, but then the pedicels with a translucent middle line): **9**
- 3** Spikelets of each pair alike, enveloped or subtended by long hairs from the callus: **4**
Spikelets of each pair different, sometimes the pedicelled modified or suppressed: **6**
- 4** Spikelets all pedicelled; panicle spiciform, the rhachis continuous and tough [103. *Imperata*](#)
Spikelets paired, with 1 sessile and the other pedicelled; rhachis fragile: **5**
- 5** Panicle large and broad, silvery, the racemes long, flexuous and densely overlapping [104. *Saccharum*](#)
Panicle narrow, fulvous, of several short racemes scattered along a central axis [105. *Eriochrysis*](#)
- 6** Spikelets dorsally compressed; lower glume more or less flattened on the back: **7**
Spikelets laterally compressed or terete; lower glume rounded on the back: **8**
- 7** Pedicelled spikelets present [106. *Sorghum*](#)
Pedicelled spikelets suppressed, but pedicels present [107. *Sorghastrum*](#)
- 8** Racemes reduced to 1 sessile and 2 pedicelled spikelets [108. *Chrysopogon*](#)
Racemes composed of many pairs of spikelets [109. *Vetiveria*](#)
- 9** Fertile lemma awned from low down on the back; leaf-blades lanceolate, cordate-amplexicaul at the base .. [110. *Arthraxon*](#)
Fertile lemma awned from the tip, or the sinus of the 2-toothed tip, rarely awnless: **10**
- 10** Awn from the tip of the narrow fertile lemma: **11**
Awn from the sinus of the 2-toothed fertile lemma, rarely entire (*Schizachyrium pulchellum*, *S. scintillans*), or
awnless: **17**
- 11** Racemes digitate, or racemosely arranged on p. common axis; lower glume of sessile spikelet flat on the back,
the margins sharply involute; awn glabrous or puberulous; callus obtuse: **12**

- Racemes solitary or paired: 14
- 12 Sessile spikelets of all the pairs hermaphrodite and awned; internodes and pedicels with a translucent middle line; lower glume of sessile spikelets pitted (in West African species) [111. *Bothriochloa*](#)
- Sessile spikelets of the lowest 1–3 pairs male or barren and awnless; lower glume of sessile spikelets not pitted: 13
- 13 Internodes and pedicels solid; racemes ascending or divergent [112. *Dichanthium*](#)
- Internodes and pedicels with a translucent middle line; racemes nodding [113. *Euclasta*](#)
- 14 Lower glume of sessile spikelet with a deep circular pit on the back, sharply inflexed on the margins; awn glabrous; callus obtuse [114. *Eremopogon*](#)
- Lower glume of sessile spikelet without a pit, rounded on the back; awn pubescent to pilose; callus pungent: 15
- 15 Racemes composed of a single awned sessile spikelet and 2 pedicelled spikelets, enclosed by an involucre of 4 sterile spikelets [115. *Themeda*](#)
- Racemes composed of more than 3 pairs: 16
- 16 Upper spikelet of each pair awned and coriaceous; only the lowermost pair of spikelets homogamous; rhachis of racemes tough, flexuous [116. *Trachypogon*](#)
- Upper spikelet of each pair awnless and herbaceous, the other awned and sessile; lower 1–10 pairs homogamous, the rhachis fragile above them; racemes solitary; callus pungent [117. *Heteropogon*](#)
- 17 Lower glume of sessile spikelets transversely rugose; pedicelled spikelets reduced to the narrow curved pedicel; lower floret male [118. *Thelepogon*](#)
- Lower glume of sessile spikelets smooth, rarely rugose and then the pedicelled spikelet well developed: 18
- 18 Callus of sessile spikelet inserted into the crateriform or cupuliform tip of the internode, at least the rim of the internode lapping over and concealing the tip of the callus; lower glume of the sessile spikelets 2-keeled or with the margins sharply inflexed, and usually depressed between the keels, rarely the keels rounded but then deeply grooved between them: 19
- Callus of sessile spikelet applied obliquely to the apex of the internode with its tip free, usually acute to pungent; lower glume of sessile spikelet convexly rounded on the back without keels (rarely with a median groove); internodes and pedicels linear: 25
- 19 Lower floret of sessile spikelets male, with a palea; internodes of rhachis and pedicels more or less stout; callus of sessile spikelets obtuse: 20
- Lower floret of sessile spikelet barren and reduced to the lemma: 21
- 20 Racemes paired or digitate; upper glume of sessile spikelet awnless; awn of upper lemma glabrous; internodes of rhachis and pedicels 3-angled [119. *Ischaemum*](#)
- Racemes solitary; upper glume of sessile spikelets awned; awn of upper lemma ciliate along the coils; internodes of rhachis and pedicels linear, flat [120. *Sehima*](#)
- 21 Spikelets of each pair alike in shape and sex [121. *Microstegium*](#)
- Spikelets of each pair conspicuously different: 22
- 22 Callus of sessile spikelets obtuse, usually very short; awn glabrous or scaberulous: 23
- Callus of sessile spikelets acute to pungent, 1–5 mm. long; awn puberulous to hirsute; racemes paired [125. *Diheteropogon*](#)
- 23 Racemes solitary; lower glume of sessile spikelet convex on the back, the keels lateral or frontal with several intercarinal nerves; internodes of the rhachis and pedicels clavate to linear, the apex deeply hollowed into a cup with a fimbriate rim [122. *Schizachyrium*](#)
- Racemes paired or digitate, rarely solitary and then with the lower glume of the sessile spikelet concave and nerveless between the keels: 24
- 24 Racemes deflexed at maturity, borne upon subequal flattened raceme-bases, seldom exceeding the spatheole in length; internodes of the rhachis and pedicels linear; leaves aromatic; panicle dense, decompound [123. *Cymbopogon*](#)
- Racemes not deflexed, borne upon unequal, more or less terete, raceme-bases; leaves not aromatic [124. *Andropogon*](#)
- 25 Pedicelled spikelet without an appreciable callus; upper glume of sessile spikelet usually awnless; fertile lemma usually minutely bidentate, its awn pubescent to hirtellous; racemes paired: 26
- Pedicelled spikelet prolonged at the base into a callus 0.5–3 mm. long; upper glume of sessile spikelet nearly always awned; fertile lemma usually bifid for 1/4–1/2 its length, its awn shortly pubescent to glabrescent: . 28
- 26 Lower glume of sessile spikelet rounded on the back, or rarely with 2 shallow striations; upper glume obtuse to acute or mucronate [126. *Hyparrhenia*](#)
- Lower glume of sessile spikelet with a median longitudinal groove: 27

- 27 Raceme-bases produced at the tip into a long scarious appendage; racemes 2-awned per pair; upper glume acute to apiculate [127. *Hyperthelia*](#)
- Raceme-bases without distinct appendages; racemes 9–14-awned per pair; upper glume muticous or shortly awned [128. *Parahyparrhenia*](#)
- 28 Racemes paired (except *E. gossweileri*), with 1–10 homogamous pairs at the base, exserted from the narrow spatheole [129. *Elymandra*](#)
- Racemes solitary, without homogamous pairs: 29
- 29 Spatheoles cymbiform, coloured and enclosing the racemes; racemes dense with numerous spikelets concealing the short internodes; pedicelled spikelets broadly lanceolate, subacute, hairy or merely spinose-ciliate on the margins; callus of sessile spikelets obtuse [130. *Monocymbium*](#)
- Spatheoles linear to narrowly lanceolate, usually greenish, embracing the racemes or not; racemes loose, with few spikelets and long internodes visible between them; pedicelled spikelets linear-lanceolate, acuminate, nearly always glabrous; callus of sessile spikelets usually acute to pungent [131. *Anadelphia*](#)
- 30 Lower glume produced into a long flattened tail; spikelets similar [132. *Vossia*](#)
- Lower glume without a herbaceous tail: 31
- 31 Pedicelled spikelets long-awned from the lower glume (rarely awnless in *U. giganteum*); lower glume of sessile spikelet entire; callus short, rounded, at most pubescent (if top of internode ciliate from bearded callus see *Loxodera*) [133. *Urelytrum*](#)
- Pedicelled spikelets awnless, or sometimes awned but then the lower glume of the sessile spikelets bifid or aristulate at the tip: 32
- 32 Racemes numerous on a short common axis [134. *Jardinea*](#)
- Racemes solitary: 33
- 33 Racemes more or less villous: 34
- Racemes glabrous: 36
- 34 Articulation of the rhachis transverse, the callus very short; lower glume smooth, hirsute; lower floret male with a well-developed palea [135. *Lasiurus*](#)
- Articulation of the rhachis oblique, the callus up to 2 mm. long; spikelets paired: 35
- 35 Lower glume of the sessile spikelet without ridges, bimucronate or biaristate at the tip, hirsute or with a ciliate fringe; lower floret reduced to a barren lemma [136. *Elionurus*](#)
- Lower glume of the sessile spikelet longitudinally ridged, entire at the tip, spinulose on the nerves but otherwise glabrous; top of internode fringed with hairs from the bearded callus; lower floret male with a palea [137. *Loxodera*](#)
- 36 Sessile spikelet globose, the lower glume muricate [138. *Hackelochloa*](#)
- Sessile spikelet not globose: 37
- 37 Spikelets solitary, the pedicelled and its pedicel completely suppressed [139. *Oxyrhachis*](#)
- Spikelets paired, or at least the pedicel present; articulation of the rhachis transverse, or the raceme tough: ... 38
- 38 Pedicels wholly or partially fused to the internodes of the rhachis: 39
- Pedicels quite free from the internodes of the rhachis; racemes fragile: 41
- 39 Raceme tough, its flattened rhachis formed from the fused pedicels and internodes; spikelets almost alike; callus oblique [140. *Hemarthria*](#)
- Raceme fragile; pedicelled and sessile spikelets different: 40
- 40 Spikelets sunken in a cylindrical segment formed from the fused pedicel and internode; callus circular with a knob-like projection from its centre [141. *Rottboellia*](#)
- Spikelets not sunken, the flattened or triquetrous pedicel and internode usually fused only in the lower half, the keeled upper glume of the sessile spikelet thrust between them above; callus elliptic with a low central ridge [142. *Robynsiachloa*](#)
- 41 Racemes borne in spatheate panicles; lower glume of the sessile spikelet winged; spikelets awnless: 42
- Racemes long-exserted, terminal, the culms usually simple but sometimes with a few side branches; internode and pedicel appressed to approximate; pedicelled spikelet usually reduced [145. *Rhytachne*](#)
- 42 Sessile spikelets 6–7 mm. long; internode and pedicel gaping, the lower glume of the sessile spikelet thrust between; panicle scanty [143. *Chasmopodium*](#)
- Sessile spikelets small (3–4 mm. long in our species), imbricate; internode and pedicel approximate; racemes fasciculate [144. *Coelorhachis*](#)

Tribe 27—MAYDEAE

- 1 Male spikelets in large terminal panicles; female spikelets in axillary sheathed “ears” [146. *Zea*](#)

Male spikelets in a short raceme projecting from an ovoid ivory-like sheath containing a solitary female spikelet [147. Coix](#)

1. ARUNDINARIA

Michx., Fl. Bor. Am. 1: 73 (1803). *APD acc*

- 1 Leaf-blades lanceolate, 6–10 cm. long and 0.5–1 cm. broad, narrowed at the base into a very short false petiole, long-attenuate at the apex to a flexuous filiform tip; leaf-sheath glabrous, with small deciduous auricles bearing long setae; culm sheath without auricles, the blade linear-lanceolate, 1.5–7 cm. long; spikelets 2–4 cm. long, in a panicle; glumes 2; florets usually 5–10, distant, the rhachilla visible; lodicules 3; stigmas 2, rarely 3 .. [alpina](#)

Arundinaria alpina *K. Schum.* in Engl., Pflanzenw. Ost-Afr. C: 116 (1895); Camus, Bambus. 48; Hubbard in Hook., Ic. Pl. 6: t. 3594.

APD: Synonym of Sinarundinaria alpina (K. Schum.) C. S. Chao & Renvoize

Culms up to about 6 m. high and 3–5 cm. diam., hollow, with thick walls; flowers infrequently; occurs in gregarious patches.

W. Cam.: Johnstone! Mba Kokeka, Bamenda, 7,500 ft. Richards 5332! Keay FHI 28400! Brunt 795!

Also in the highland regions of eastern Africa.

2. BAMBUSA

Retz. corr. Schreb., Gen. Plant. 236 (1789), nom. cons. *APD acc*

- 1 Leaf-blades oblong-lanceolate, mostly 10–25 cm. long and 1–4 cm. broad, broadly rounded at the base and abruptly narrowed to a short false petiole, acuminate to a pungent tip; shoulders of leaf-sheath usually produced into tiny auricles, glabrous or with a few very short bristles; culm sheath bearing auricles up to 1 cm. long, the blade broadly ovate, 3–5 cm. long; spikelets 1–2 cm. long, in clusters of 1–10 or more along the branches of a spreading panicle; florets 4–12, distichous, laterally compressed; lemmas merging into glumes below, the lowermost of which bear spikelet buds in their axils; style 1, divided at the apex into 2–3 stigmas; lodicules 3 [vulgaris](#)

Bambusa vulgaris *Schrad. ex Wendel.* Collect. Pl. 2: 26, t. 47 (1810); Munro in Trans. Linn. Soc. 26: 106; Camus, Bambus. 122; Chev. Bot. 752, and in Rev. Bot. Appliq. 14: 136. *APD acc*

Culms up to about 13 m. high and 10 cm. diam., hollow; flowers infrequently; [moist soils near streams](#).

S. L.: Njala Deighton 5517! Loma Mts. Jaeger 8951! **Lib.:** Johnston! Monrovia Baldwin 13074! Nyaake, Webó Baldwin 6083! **iv. C.:** Kéeta. Cavally Basin Chev. 19354! **U. Volta:** Bobo-Dioulasso Scholz 96! **Ghana:** Accra T. Vogel! Kumasi Taylor 5804! Aiyinabrem (Mar. 1925) Fishlock 85! **Dah.:** Pobé Adjanohoun 96! **S. Nig.:** Ibadan Van Eynatten 45! Onochie FHI 8215! Although poorly represented by herbarium specimens, this bamboo appears to have become naturalized throughout the forest zone of West Africa. An Asiatic species, introduced into most tropical countries.

3. OXYTENANTHERA

Munro in Trans. Linn. Soc. 26: 126 (1868).

- 1 Leaf-blades oblong-lanceolate, mostly 8–20 cm. long and 1–3 cm. broad, rounded at the base and contracted to a short false petiole, acuminate to a pungent tip; shoulders of leaf-sheath bearing setae 2–5 mm. long, without auricles; culm sheath without auricles, the blade linear and 1–3 cm. long; spikelets 15–40 mm. long, narrowly lanceolate, acuminate, in globose clusters 5–6 cm. diam., which are sometimes aggregated into an interrupted false spike; fertile florets 1–2, the lemmas sharply mucronate, convolute, merging into glumes below, the lowest of these with spikelet buds in their axils; stigmas 3; lodicules absent [abyssinica](#)

Oxytenanthera abyssinica (*A. Rich.*) *Munro* in Trans. Linn. Soc. 26: 127 (1868); Camus, Bambus. 144; Chev. Bot. 752, and in Rev. Bot. Appliq. 14: 136; Berhaut, Fl. Sén. ed. 2, 388.

Bambusa abyssinica A. Rich., Tent. Fl. Abyss. 2: 439 (1851).

Culms up to about 6 m. high and 5 cm. diam.; stems thick-walled, almost solid; **in savanna**.

Sen.: Tambacounda (Jan.) Roberty 16616! **Gam.:** Berief Unknown Coll.! Gambisara Unknown Coll.! Bakadaji (July) Deighton 5581! **Port. G.:** Teixeira Pinto (Dec.) Raimundo & Guerra 512! **Guin.:** Kouroussa Pobéguin 1093! Timbo (Apr.) Ohm. 13274! Farana Chev. 20407! **S. L.:** Falaba Sc. Elliot 5205! Musaia (Apr!) Deighton 5479! Kalia to Kamba (Nov.) Glanville 314! Mt. Babaana Small 440! Bintumane Peak, 3,000 ft. (July) Bakshi 225! **Iv. C.:** Séguélo Aké Assi 6581! **Ghana:** Gambaga (Oct.) Vigne FH 4638! Morton GC 7411! Gambaga to Bawku Rose Innes GC 30494! **Togo Rep.:** Pega Kersting A498! **Dah.:** Atacora Mt. Chev. 23983! **N. Nig.:** Nupe Barter 805! Minna Meikle 734! Panshanu (Aug.) Lawlor & Hall 374! Mongu F.R. (July) Keay & King FHI 37086! Anara F.R. (May) Keay FHI 25792!

Throughout tropical Africa. (See Useful Plants.)

4. GUADUELLA

Franch. in Bull. Soc. Linn. Paris 1: 676 (1887); Clayton in Kew Bull. 16: 247 (1962).

Lemmas imbricate, the keel of the lemma above covered for 1/4-3/4 of its length; leaf-blades gradually acuminate at the tip; lemmas more or less pubescent; paleas usually with 4 intercarinal nerves [4. macrostachys](#)

- 1 Leaves and inflorescence borne upon different culms : **2**
 Leaves and inflorescence borne upon the same culm: **3**

- 2 Culms up to 14 cm. high; leaf-blades 2–4 cm. long, pilose above and below; palea conspicuously exceeding the lemma [1. humilis](#)

Culms 40–90 cm. high, rarely less; leaf-blades 10–20 cm. long, glabrous above and glabrous or pubescent below; lemma and palea subequal [2. densiflora](#)

- 3 Lemmas not or scarcely imbricate, appressed to the rhachilla internode, the latter half as long as the lemma; leaf-blades abruptly narrowed to an acuminate tip; lemmas glabrous except for the pubescent base; paleas usually with 1–2 intercarinal nerves [3. oblonga](#)

1. *Guaduella humilis* W. D. Clayton in Kew Bull. 16: 248 (1962). Creeping plant of forest shade. *APD acc*

S. Nig.: Oban (Mar.) Coombe 173!

2. *Guaduella densiflora* Pilger in Engl., Bot. Jahrb. 30: 123 (1902). *APD acc*

Guaduella ledermannii Pilger in Engl., Bot. Jahrb. 43: 387 (1909); F.W.T.A., ed. 1, 2: 503.

Guaduella foliosa Pilger l.c. 45: 211 (1910).

Rhizomatous perennial of **forest undergrowth**.

S. Nig.: Cross River North F.R. (Dec.) Keay FHI 28156! Oban Talbot 956! 958! **W. Cam.:** S. Bakundu F.R. (Mar.) Brenan 9441! 9441a!

Also in **Gabon** and **Cabinda**.

3. *Guaduella oblonga* Hutch. ex W. D. Clayton in Kew Bull. 16: 247 (1962). *APD acc*

Puelia ciliata of Chev. Bot. 753, and in Rev. Bot. Appliq. 14: 137, not of Franch.

An Aframomum-like rhizomatous perennial 0.30–1 m. high; **in forest shade**.

Gam.: Dyeke (Oct.) Baldwin 9653! **S. L.:** Yonibana (Nov.) Thomas 4813! Bambuna (Oct.) Thomas 3888! Mamaba (Nov.) Thomas 4405! Makump (Oct.) Glanville 68a! Kailahun (Sept.) Jordan 525! **Lib.:** Gbanga (Sept.) Linder 564! Tawata, Boporo (Nov.) Baldwin 12037! Genna Tanyehun, Grand Cape Mt. (Dec.) Baldwin 10727! Wohmen, Vonjama (Oct.) Baldwin 12028! Bushrod I. (Aug.) Baldwin 13094! **Iv. C.:** Grabo to Taté (Aug.) Chev. 19758! Tai (Oct.) Adjanohoun 174a!

4. *Guaduella macrostachys* (K. Schum.) Pilger in Mildbraed, Wiss. Ergebn. Deutsch. Zentr.-Afr.-Exped. 1910–11, 2: 93 (1922). *APD acc*

Microbambus macrostachus K. Schum. in Engl., Bot. Jahrb. 24: 336, t. 4 (1897).

Guaduella zenkeri Pilger in End., Bot. Jahrb. 30: 123 (1902).

Rhizomatous perennial 30–60 cm. high: **in forest shade**.

Ghana: Obepehia forest (Oct.) Ankrah SLUS 305! Subiri F.R., Tarkwa (Sept.) Andoh FH 5564! Ankasa F.R. (June) Hall GC 35523! **S. Nig.:** Oban Talbot 957! **W. Cam.:** Barombi Preuss.

Also in **E. Cameroun**.

5. PUELIA

Franch. in Bull. Soc. Linn. Paris 1: 674 (1887); Clayton in Hook., Ic. Pl. 37: t. 3642 (1967).

- 1 Spikelets pedicelled in a lax panicle 9–15 cm. long; leaf-sheaths glabrous *1. olyrifformis*
 Spikelets subsessile in a dense 1-sided panicle 1.5–3.5 cm. long; leaf-sheaths puberulous *2. ciliata*

1. *Puelia olyrifformis* (*Franch.*) *W. D. Clayton* in Kew Bull. 20: 271 (1966). *APD acc*

Atractocarpa olyrifformis *Franch.* in Bull. Soc. Linn. Paris 1: 675 (1887).

Perennial, about 60 cm. high.

S. L.: York Pass (Feb., Sept.–Dec.) Melville 481b! I Deighton 3319! Morton SL 3365! Morton & Gledhill SL 786! **Lib.:** Vahun (Nov.) Baldwin 10217!

Also in **the Congos** and **Tanzania**.

2. *Puelia ciliata* *Franch.* in Bull. Soc. Linn. Paris 1: 674 (1887). *APD acc*

APD: *Synonym of Guaduella oblonga Hutch. ex Clayton*

Puelia acuminata *Pilger* in Engl., Bot. Jahrb. 30: 125 (1901); F.W.T.A., ed. 1, 2: 503.

Puelia subsessilis *Pilger* l.c. 124 (1901).

W. Cam.: Barombi (Apr.) Preuss 277. Also to E. Cameroun, Gabon and Middle Congo.

6. OLYRA

Linn., Syst. Nat. ed. 10: 1261 (1759).

- 1 Erect or scandent perennial; leaf-sheaths closely nerved, joined to the blade by a short false petiole; blades ovate-elliptic or ovate-oblong, tailed-acuminate, asymmetrically rounded at the base, 10–20 cm. long, 3–6 cm. broad, with about 8 primary nerves on each side of the midrib and fainter ones between, and with fairly distinct transverse nerves; panicle narrow to sub-pyramidal, the branches with female spikelets above and male below; male spikelets on filiform pedicels; glumes rudimentary; lemma lanceolate, 4 mm. long, awned; female spikelets on clavate pedicels, ovoid, long-awned from the lower 7–9-nerved glume; grain tightly enclosed by the hardened shining white lemma *latifolia*

Olyra latifolia *Linn.* Syst. Nat. ed. 10: 1261 (1759); Chev. Bot. 737, and in Rev. Bot. Appliq. 14: 135; Berhaut, Fl. Sén. ed. 2, 410, 412. *APD acc*

Olyra brevifolia *Schumach.* (1827)—Chev. Bot. 737.

Olyra guineensis *Steud.* (1854).

A tall cane-like grass up to 3 m. high; fascicles of lateral shoots bearing very small leaves occasionally occur; **in forests and forest margins**.

Sen.: Forêt de Boudié, Casamance (Nov.) Berhaut 6380! **Guin.:** Bambaya (Jan.) Jaeger 3874! Baffing R. (Nov.) Pobéguin 1771! **S. L.:** Njala (Sept.) Deighton 117! Jigaya (Sept.) Thomas 2539! Mt. Aureol, Freetown (Sept.) Melville & Hooker 447! Gberia Fotombu (Oct.) Small 408! Bintumane Peak, 3,200 ft. (Jan.) T. S. Jones 121! **Lib.:** Robertsport (Dec.) Baldwin 10925! Vonjama (Oct.) Baldwin 9898! Gbanga (Sept.) Ganta (Sept.) Baldwin 12018! Webó (June) Baldwin 6086! **Iv. C.:** Adiopodoumé (Nov.) Leeuwenberg 1929! Soubré (Nov.) de Wilde 3267! Voguié (Jan.) Chev. 17102! Yapó Nord (Mar.) Bernardi 8717! Mbasso (July) de Wilde 549! **Ghana:** Aburi Hills (Nov.) Johnson 287! Adankrono (Aug.) Chipp 558! Ejura (Nov.) Vigne FH 3454! Kumasi Cummins 1965! Kumasi to Sunyani (Sept.) Rose Innes GC 30141! **N. Nig.:** Kabba (Oct.) Parsons 30! Abugi (Dec.) Clayton 623! Jemaa (Apr., Oct., Dec.) E. W. Jones 45! Gambles 63! Olorunfemi FHI 55148! **S. Nig.:** Olokemeji (Nov.) Nchami FHI 14327! Iseyin W. MacGregor 237! Onitsha Barter 1778!

Kukuruku (June) Dundas FHI 21479! Oban Talbot! **W. Cam.:** Buea (Mar.) Maitland 567! Gangumi, Gashaka (Dec.) Latilo & Daramola FHI 28888! Bambui (Aug.) Brunt 1207! **F. Po:** (Dec.) T. Vogel 263! Barter! Mann 117!

Throughout tropical Africa and tropical America. (See Useful Plants.)

7. LEPTASPIIS

R. Br., Prod. 211 (1810).

- 1 Perennial; culms ascending, rooting at the lower nodes; leaf-sheaths closely nerved, joined to the blade by a false petiole about 1 cm. long; blade oblong or oblong-ob lanceolate, abruptly narrowed at tip, asymmetrically subacute at base, 10–25 cm. long, 2.5–3 cm. broad, subpinnately nerved with about 4 pairs of principal lateral nerves, and distinct transverse nerves; panicle terminal, branches 2–3 in a whorl, bearing short side branches with 1 male and 1 female spikelet, the male above; male spikelets 1-flowered, the lemma 4 mm. long, the glumes half as long; stamens 6; female spikelets 1-flowered, 6 mm. long; lemma inflated conchiform, closed except for a small hole near the apex, covered in hooked hairs *cochleata*

Leptaspis cochleata *Thwaites* Enum. Pl. Zeyl. 357 (1864).

APD: *Synonym of Leptaspis zeylanica* Nees ex Steud.

Leptaspis conchifera Hack. (1887)—A. Chev. in Rev. Bot. Appliq. 14: 135.

Up to 1 m. high; the false petiole is twisted bringing the abaxial leaf surface uppermost; **forest undergrowth**.

Guin.: Dioromandou to Koundian (Feb.) Chev. 20738! Mt. Boola (Mar.) Chev. 20912! **S. L.:** Zimi (Apr.) Deighton 3648! Foya (Feb.) Marmo 188! Kasewe Hills F.R. (June) Deighton 5830! Bafodeya (Apr.) Sc. Elliot 1892! Makute (June) Thomas 461! **Lib.:** Gbanga (Sept.) Linder 803! Bobei Mt. (Sept.) Baldwin 9565! Bilimu Mt. (Jan.) Baldwin 1323! Ganta (Feb.) Harley 328! Nikabuyu to Zigida (Mar.) Bequaert 124! **iv. C.:** Agboville (Sept.) Adjanohoun 392a! Mbaaso (Mar.) Chev. 17598! Sassandra (Feb.) Leeuwenberg 2758! Guéyo (Feb.–Mar.) Leeuwenberg 3799! Chev. 17044! **Ghana:** Adamsu (Feb.) Thomas D154! Bompata (Jan.) Vigne FH 2734! Aburi (Aug.) Irvine 98! Fumso (Mar.) Darko 549! Kade (Mar.) Ankrah GC 20191! **S. Nig.:** Abeokuta Barter 3408! Ikorodu (Mar.) Schlechter 12998! Okomu F.R., Benin (Dec.) Brenan 8504! Sapoba Kennedy 2395! Oban Talbot! **W. Cam.:** Cam. Mt., 3,500 ft. (Feb.) Mann 1361! Likombe (Apr.) Maitland 1125! Bamenda, 4,000 ft. Maitland! **F. Po:** T. Vogel! Mann 245! Guinea 995!

Tropical Africa generally, and in **Madagascar**, **Ceylon**, **Malaysia** and the **Solomon Is.**

8. STREPTOGYNA

P. Beauv., Ess. Agrost. 80, t. 16, fig. 8 (1812).

- 1 Leaf-blades narrowly lanceolate, tessellately nerved, 15–40 cm. long and 10–36 mm. broad, acuminate at the tip, narrowed at the base into a short false petiole; spikelets linear, 22–30 mm. long, thinly coriaceous, dark green or brownish, borne upon very short pedicels in a narrow erect raceme 11–30 cm. long; lemmas 5–7, awned, the lower fertile and appressed-pubescent below, the upper sterile; stigmas 2, retrorsely spinulose, 1–2 cm. long, long-exserted and tangled; lodicules 3 *crinita*

Streptogyna crinita *P. Beauv.* Ess. Agrost. 80, t. 16, fig. 8 (1812); C. E. Hubbard in Hook., Ic. Pl. 36: t. 3572 (1956) Chev. Bot. 751; Berhaut, Fl. Sén. ed. 2, 392. *APD acc*

Streptogyna gerontogaea *Hook. f.* in Trimen, Fl. Ceyl. 5: 301 (1900); F.W.T.A. ed. 1, 2: 505; A. Chev. in Rev. Bot. Appliq. 14: 122.

A broad-leaved perennial of **forest shade**, 0.3–1.7 in. high spreading by scaly rhizomes. The rhachilla segment adjacent to the base of each lemma forms a trap for catching hairs and thus effecting dispersal.

Sen.: Forêt de Boudié, Casamance (Nov.) Berhaut 6385! **Port. G.:** Cadique (Jan.) Pereira & Correia 2621! Bedanda, Cantanhex (Jan., May) Pereira & Correia 2798! Pereira 1896! Catio (Jan.) Raimundo & Guerra 811! **S. L.:** Kuntaia (June) Thomas 441! Njala (Jan.) Dalz. 8420! Zimi (Jan.) Fisher 1! Kambia (Jan.) Sc. Elliot 4389! Kenema (Nov.) Deighton 397! **Lib.:** Monrovia (Jan.) Dinklage 3375! Gretown (July) Baldwin 6924! Mnanulu (June) Baldwin 6057! Wohmen (Oct.) Baldwin 12027! Peahtah (Oct.) Linder 1012! **iv. C.:** Bingerville (Dec.) Chev. 16036! Sassandra (Dec.) Leeuwenberg 2261! N'douci (Dec.) Oldeman 701! Abidjan (Dec.) de Wit 7022! Daloa to Abidjan (Dec.) Boughey GC 13609! **Ghana:** Amuni (Dec.) Chipp 53! Atuna (Dec.) Vigne FH 3522! Anyaboni (Dec.) Morton 6095! Krobo hill, Mampong (Oct.) Rose Innes GC

31163! Kade (Mar.) Ankrah GC 20190! **N. Nig.:** Acharane F.R., Kabba Prov. (Nov.) Latilo FHI 34018! Jemaa (Nov., Dec.) Clayton 1425! Olorunfemi FHI 55140! Bonu F.R., Niger Prov. (June) Onochie & E. W. Jones FHI 38472! Kwagiri, Gashaka (Nov.) Latilo & Daramola FHI 28770! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8136! Okelifi, Ondo (Nov.) Onochie FHI 34228! Idanre (Mar.) Coombe 159! Onitsha Barter 1814! Itu (Jan.) Jones FHI 6870! **F. Po:** Mann 108!

Extends south to the Congo, and east to **Uganda** and the **Sudan**; also in **S. India** and **Ceylon**. (See Useful Plants.)

[The name *S. crinita* has been commonly misapplied to the American species *S. americana* C. E. Hubbard.]

9. ORYZA

Linn., Sp. Pl. ed. 1, 333 (1753), and Gen. Pl. ed. 5, 155 (1754); Tateoka in Bot. Mag. Tokyo 76: 165 (1963).

- 1 Ligule of the lower leaves very long, 15–45 mm., acute:2
Ligule of the lower leaves short, rarely over 6 mm. long, rounded or truncate at tip:3
- 2 Annual; spikelets persistent, usually awnless; cultivated rice [1. sativa](#)
Rhizomatous perennial; spikelets deciduous, awned; wild [2. longistaminata](#)
- 3 Spikelets broadly linear, 1–1.5 mm. broad and 6–8 mm. long; sterile lemmas subulate; awns 6–17 cm. long ...[3. brachyantha](#)
Spikelets oblong or oblong-elliptic; sterile lemmas flat, membranous, linear:4
- 4 Spikelets 4.5–6 mm. long, hispid, awned:5
Spikelets over 7 mm. long (shorter in some forms of *O. glaberrima* but then the spikelets glabrous):6
- 5 Panicle contracted with ascending branches; ligule less than 3.5 mm. long; spikelets narrowly elliptic, less than 2 mm. broad, the length about 3 times the breadth[4. eichingeri](#)
Panicle loose with spreading branches; ligule 3–10 mm. long; spikelets elliptic, more than 2 mm. broad, the length about 2.5 times the breadth[5. punctata](#)
- 6 Fertile lemma and palea hispid; spikelets deciduous, awned; awns hispidulous; wild[6. barthii](#)
Fertile lemma and palea glabrous or sometimes hispid; spikelets persistent, usually awnless; awns, when present, smooth or at most scaberrulous; cultivated rice[7. glaberrima](#)

1. **Oryza sativa** *Linn.* Sp. Pl. 333 (1753); Chev. Bot. 739; Berhaut, Fl. Sén. ed. 2, 416; Portères in J. Agric. Trop. 3: 341, 541, 627. **APD acc**

Widely cultivated on river flood-plains in W. Africa, and in a few localities grown as an upland crop. Throughout the tropics, extending into warm-temperate regions. (See Useful Plants.)

Many cultivars; Portères, l.c. discusses infra-specific taxa in detail, with keys and synonymy.

2. **Oryza longistaminata** *A. Chev. & Roehr.* in Compt. Rend. Acad. Sci. 159: 561 (1914); Chev. Bot. 739. **APD acc**

Oryza barthii of F.W.T.A. ed. 1, 2: 537, not of A. Chev; Berhaut, Fl. Sén. ed. 2, 416; Tateoka in Bot. Mag. Tokyo 75: 455; (see Clayton in Kew Bull. 21: 488).

Oryza silvestris *Stapf ex A. Chev.* (1911), name only.

Oryza silvestris var **punctata** f. **longiligulata** *A. Chev.*, Et. Fl. Afr Centr. Fr. 1: 369 (1913), name only.

Oryza dewildemanii *Vanderyst* (1920), in syn.

Swamps, riversides and as a weed in rice fields.

Sen.: (Aug.) Roger! N'tiago (Jan.) Henry! Richard Toll (Jan.) Henry! Dakar (Oct.) Chev. 33841! **Gam.:** Saunders 71! Wallikunda (Sept.) Devel. Corp.! Ka-ur (Jan.) Sampson 48! **Mali:** Teheri, Kansu to Degué (Jan.) Davey 1! Bandiagara (May) Rogeon & Leclercq 253! Mopti (Sept.) Chev. 24924! Gao (Jan.) Chev. 43058! **S. L.:** Gbinti. L. Scarcies (Apr.) Glanville 223! Njala (Oct.) Deighton 1416! Tombo (Jan.) Deighton 1544! Bap to Pazehun (Dec.) Sampson 52! Rokupr. Magbema (July) Jordan 460! **Iv. C.:** Béréby (Nov.) Oldeman 576! Ferkessédougou (Nov.) Leeuwenberg 2027! Vavoua to Séguéla (Oct.) Adjanohoun 294a! **U. Volta:** Leo to Po (Oct.) Rose Innes 31088! Samendeni (Oct.) Kmoch 155! Tondoura (Oct.) Scholz 79! **Ghana:** Salaga to Bimbila (Oct.) Rose Innes GC 30959! Damongo (Mar.) Hepper & Morton A3178! Lawra to Wa (Oct.) Ankrah GC 20448! Navrongo (Oct.) Vigne FH 4639! Bawku (Oct.) Rose Innes GC 30255! **Dah.:** Ouidah (Aug.) Adjanohoun 203! **Niger:** Niamey (Oct.) Hagerup 526! S. Dallol (Jan.) Virgo 71! **N. Nig.:** Badeggi (Sept.) Clayton 312! Abinsi (Nov.) Dalz. 909! Kwarre, Sokoto (Sept.) Palmer 18! Katsina (Oct.) Clayton 1365! Damaturu Kabau (Oct.) Daggash FHI 22016! Gurum, near Vogel Peak (Nov.) Hepper 1256!

Throughout tropical and S. Africa. (See Useful Plants.)

[The name *O. perennis* Moench (1794) has sometimes been used for our species, but the correct application of this name is quite uncertain and it is best discarded.]

3. *Oryza brachyantha* A. Chev. & Roehr. in Compt. Rend. Acad. Sci. 159: 561 (1914); Chev. Bot. 738, and in Rev. Bot. Appliq. 12: 1022 & 14: 133; Berhaut, Fl. Sén. ed. 2, 416; Jacques-Félix in J. Agric. Trop. 6: 586. *APD acc*

Oryza brachyantha var. *guineensis* A. Chev. in Rev. Bot. Appliq. 12: 1022 (1932).

Oryza guineensis A. Chev. l.c., in syn.

Culms 30–45 cm. high; normally behaving as an annual, but Jacques-Felix (l.c.) states that it will perennate if watered during the dry season; **in shallow pools on ironstone.**

Mali: Ségou (Sept.) Chev. 24977! **Guin.:** Dubréka to Conakry (Nov.) Chev. 34616bis! Kiffaya (Oct.) Adam 12701! Baffing R. (Mar.) Pobéguin 1818! **S. L.:** Lungi (Nov.) Glanville 102! Kambia (Sept.) Jordan 305! Matanka to Binkolo (Sept.) Glanville 424! Wonkifu (Sept.) Jordan 347! Kambia (Aug.) Hooper 100!

Also in the **Congo** and **Sudan**.

4. *Oryza eichingeri* A. Peter in Fedde Rep., Beih. 40, 1, Anhang: 74 (1930); Tateoka in Bot. Mag. Tokyo 78: 156, 198; Aké Assi, Contrib. 2: 281. *APD acc*

Oryza latifolia var. *collina* (Trimen) Hook. f. (1896).

Oryza sativa var. *collina* Trimen (1889).

Oryza glauca Robyns (1936), without description.

Culms slender, firm; **damp places in forest undergrowth.**

iv. C.: Ouango-Fitini (July) Aké Assi 5828!

Also in the **Congo**, **Uganda**, **Tanzania** and **Ceylon**.

5. *Oryza punctata* Kotschy ex Steud. Syn. Pl. Glum. 1: 3 (1854); Tateoka in Bot. Mag. Tokyo 78: 156. *APD acc*

Oryza sativa var. *punctata* (Kotschy ex Steud.) Schweinf. in Ber. Deutsch. Bot. Gesell. 44: 165 (1926).

Oryza schweinfurthiana Prod. in Bot. Archiv. 1: 231 (1922).

Culms thick, spongy; **swampy streamsides.**

iv. C.: Mankono to Boundiali (Dec.) Adjanohoun 202a! **Ghana:** Amelorkope, Trans Volta (Nov.) Ankrah GC 20512! Kpandu to Accra (Sept.) Ankrah GC 20216! Hacho, Legon (Nov.) Hall GC 37171! Cape Coast (July) Hall 3225! Folifoli (Aug.) Hall CC 192! **S. Nig.:** Ibadan (Jan.) Clayton 414!

Also in **Sudan**, **E. Africa**, **Congo** and **Angola**, **Madagascar** and **Thailand**.

6. *Oryza barthii* A. Chev. in Bull. Mus. Hist. Nat. Paris 16: 405 (1911), not of F.W.T.A. ed. 1, 2: 537. *APD acc*

APD: *Synonym of Oryza longistaminata* A. Chev. & Roehr.

Oryza breviligulata A. Chev. & Roehr. in Compt. Rend. Acad. Sci. 159: 560 (1914); F.W.T.A. ed. 1, 2: 537; Chev. Bot. 738, and in Rev. Bot. Appliq. 12: 1018 & 14: 133; Berhaut, Fl. Sén. ed. 2, 416; Tateoka in Bot. Mag. Tokyo 75: 457; Aké Assi, Contrib. 2: 281.

Oryza stapfii Roshev. in Bull. Appl. Bot. Leningrad 27, 4: 51 (1931); F.W.T.A., ed. 1, 2: 537.

Oryza mezii Prod. in Bot. Archiv. 1: 223 (1922).

Oryza silvestris var. *barthii* Stapf ex A. Chev. in Bull. Mus. Nat. Hist. Paris 16: 405 (1911), name only.

Oryza perennis subsp. *barthii* (A. Chev.) A. Chev. in Rev. Bot. Appliq. 12: 1028 (1932) and 14: 132.

Growing in water, often as a weed in rice fields.

Maur.: N. of Nioro Rossetti 61/302! **Sen.:** Kaolack to Nioro (Oct.) Chev. 33934! Oussouye, Casamance (Oct.) Adam 18414! **Gam.:** Georgetown (Sept.) Pirie 46/33! Bansang, Macarthy Div. Duke 12! **Mali:** Tanfola (Mar.) Chev. 642! Faguibine to Bomma (Aug.) Chev. 2208! Nafadie (Oct.) Chev. 2206! 2207! Ségou (Sept.) Chev. 24981! **Guin.:** Sébori (Oct.) Adam 12679! Coniré R. (Sept.) Adam 15249! **S. L.:** Kasewe, Yoni (Feb.) Jordan 1052! Njala (Dec.) Deighton 2824! Makump (Nov.) Glanville 428! Bumban (Dec.) Deighton 2938! Kasanko, Maforki (Oct.) Jordan 643! **iv. C.:** Bassawa (Oct., Nov.) Adjanohoun 279a! Aké Assi 9261! **U. Volta:** Ouagadougou to Sikasso (Sept.) Adam 15424! Zabré (Oct.) Scholz 156! Tougan (Sept.) Aké Assi 6428! **Ghana:** Berekum to Sampa (Dec.) Adams 5285! Bolgatanga (Aug., Oct.) Rose Innes GC

30263! Hall CC 564! Zuarungu (Sept.) Thorold CB 200! **Niger:** Toukounous Bartha 47! Niamey to Zinder Hagerup 569! **N. Nig.:** Damatura (Aug.) De Leeuw 1113! Katagum Dist. Dalz. 258! Maiduguri (Oct.) Johnston N 35! Gajibo-Fadama, Dikwa Disk. (Nov.) Davey FHI 27106! **S. Nig.:** Okomu F.R., Benin (Dec.) Brenan & Jones 8593!

Also in **C. African Rep., Sudan, Tanzania** and **Zambia**.

7. **Oryza glaberrima** *Steud.* Syn. Pl. Glum. 1: 3 (1854); Chev. Bot. 738; Berhaut, Fl. Sén. ed. 2, 416; Portères in J. Agric. Trop. 3: 833. *APD acc*

An indigenous **cultivated rice, grown on flood-plains** from Senegal to L. Chad. (See Useful Plants.)

Many cultivars; Portères (l.c.) gives a key to varieties and forms, and discusses synonymy.

10. LEERSIA

Soland. ex Sw., Prod. Veg. Ind. Occ. 21 (1788), nom. cons.; Launert in Senck. Biol. 46: 129 (1965).

- 1 Lemma with an awn about 5 mm. long; spikelets 4–6 mm. long, up to 1 mm. broad [1. *tisserantii*](#)
 Lemma awnless: [2](#)
- 2 Spikelets glabrous or puberulous, 1.7–2 mm. long; stamens 3; culms slender, trailing [2. *triandra*](#)
 Spikelets more or less pubescent on the sides, and prominently ciliate on the keel with curving glassy hairs;
 stamens 6: [3](#)
- 3 Hairs on lemma and palea curved almost to a semicircle; spikelets 2–2.5 mm. long; panicle open, the branches
 spreading; culms erect [3. *drepanothrix*](#)
 Hairs on lemma and palea more or less straight, the keels pectinate-ciliate; spikelets 3.5–4 mm. long; panicle
 narrow, the branches ascending; culms weak, usually long decumbent [4. *hexandra*](#)

1. **Leersia tisserantii** (*A. Chev.*) *Launert* in Senck. Biol. 46: 137 (1965). *APD acc*

Oryza tisserantii *A. Chev.* in Rev. Bot. Appliq. 12: 1024 (1932); Jacques-Félix in J. Agric. Trop. 6: 582.

Slender grass **growing in streams**.

Guin.: Fouta Djallon Jac.-Fél. 7419.

Also in **C. African Rep., Congo, Kenya** and **Zambia**.

2. **Leersia triandra** *C. E. Hubbard* in Kew Bull. 1936: 313. *APD acc*

A straggling grass **of marshy places**.

S. L.: Hangha (Sept.) Deighton 4031! Konta (Aug.) Deighton 1241! **Lib.:** Karmahun, Kolahun Dist. (Nov.) Baldwin 10227! Dubo, Sanokwele Dist. (Sept.) Baldwin 9485!

3. **Leersia drepanothrix** *Stapf* in Journ. de Bot. 19: 107 (1905); A. Chev. in Rev. Bot. Appliq. 14: 134; Berhaut, Fl. Sén. ed. 2, 406. *APD acc*

Up to 1 m, high, erect from a short rhizome; **marshy places**.

Sen.: Casamance: Djembering (Oct.) Adam 18346! Bougnadou (Oct.) Adam 18481! Ouassadou (Dec.) Berhaut 2889. Sangalkam (June) Berhaut 927. **Guin.:** Kindia (Nov.) Jac.-Fél. 216! Baffing R. (Mar.) Pobéguin 1829! Kouroussa Pobéguin 495! **U. Volta:** Tindangu to Porga (Aug.) Scholz 140! **Ghana:** Sunyani to Wenchi (Dec.) Adams 5232! Kintampo to Yapei ferry (Nov.) Rose Innes GC 30846! Tamale (Sept.) Thorold 211! Pong Tamale to Savelugu (Sept.) Oppong 154! Nakpanduri to Yendi (Sept.) Rose Innes GC 32151! **N. Nig.:** Demboa F.R. (Oct.) De Leeuw 1853a!

Also in **Uganda** and the **Sudan**.

4. **Leersia hexandra** *Sw.* Prod. Veg. Ind. Occ. 21 (1788); A. Chev. in Rev. Bot. Appliq. 14: 134; Berhaut, Fl. Sén. ed. 2, 403. *APD acc*

Leersia mauritanica *Salzm. ex Trin.* (1840).

Leersia parviflora *Desv.* (1831).

Leersia abyssinica *Hochst. ex A. Rich.* (1851).

Leersia capensis *C. Muell.* (1856).

Leersia aegyptiaca *Fig. & De Not.* (1853).

Leersia ferox Fig. & De Not. (1853).
Asprella hexandra (Sw.) Roem. & Schult. (1817).
Oryza hexandra (Sw.) Doell. (1871).
Homalocenchrus hexandrus (Sw.) Kuntze (1891).

Culms ascending from a rhizomatous base, forming matted carpets 30–90 cm. high in shallow water; the retrorsely spinulose midrib of the leaf can inflict most painful lacerations.

Gam.: Ruxton 72! 73! 104! **Mali:** Klela (Oct.) Farrow 67! **Guin.:** Timbo (Mar.) Pobéguin 1714! **S. L.:** Yonibana (Jan.) Glanville 154! **iv. C.:** Zuénoula (Oct.) Adjanohoun 332a! Mankono (July) Chev. 21969! **U. Volta:** Samandéni (Sept.) Kmoch 102! **Ghana:** Awuabo to Krisin (Mar.) Rose Innes GC 30879! Pokoase (Sept.) Ankrah GC 20076! Nungna (June) Ankrah GC 20178! Yapei ferry to Kintampo (Nov.) Rose Innes GC 30854! Lawra (Oct.) Ankrah GC 20459! **Togo Rep.:** Palimé Stage 71! **N. Nig.:** Nupe Barter 783! Badeggi (Sept.) Clayton 313! Samaru, Zaria (Aug.) Thatcher S490! Gindiri, Jos Plateau (Oct.) Hepper 1107! Abinsi (Oct.) Dalz 884! L. Chad Golding 84! Gembu, Mambila Plateau (Jan.) Hepper 1840! **S. Nig.:** Lagos (Feb., May, Nov.) Dawodu 21! Dalz. 1312! Haines 356! Badagry (Aug.) Onochie FHI 33466! Obu Dist. Thomas 430! **W. Cam.:** Bafut-Ngemba F.R., Bamenda (June) Daramola FHI 41558! Jakiri to Kumbo (Feb.) Charter FHI 38006! Jakiri (June) Brunt 532! Babungo, Ndop (Feb.) Brunt 963! **F. Po:** Lago Biao (Sept.) Wrigley & Melville 602!

Throughout the tropics.

Lachnochloa pilosa Steud. Syn. Pl. Glum. 1: 5 (1854).

Senegambia.

Although included in Oryzeae by Steudel, the description will fit no West African grass. The type, which cannot now be found, was incomplete and has obviously been misinterpreted.

11. FESTUCA

Linn., Sp. Pl. 73 (1753), and Gen. Pl. ed. 5, 33 (1754); St.-Yves in Candollea 4: 65 (1929).

- 1 Awns up to 3 (rarely 5) mm. long; leaf-blades narrowly linear, convolute; panicle narrow and subspiciform, dense, usually 10–15 cm. long, the branches scabrid; spikelets 6.5–12 mm. long; glumes broad with hyaline margins, 5.5–10 mm. long, about 3/4 the length of the spikelet, the lower often 3-nerved; lemmas 6.5–9.5 mm. long, with a terminal awn-point [1. abyssinica](#)
- Awns 8–15 mm. long: **2**
- 2 Leaf-blades 1–2 mm. wide; lemmas smooth; awn terminal; ovary hairy on top [2b. camusiana subsp. chodatiana](#)
- Leaf-blades 7–17 mm. wide; lemmas scabrid; awn subterminal; ovary glabrous [3. mekiste](#)

1. Festuca abyssinica Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 432 (1851); St.-Yves l.c. 80; Hedberg in Sym. Bot. Uppsal. 15: 37 (1957). *APD acc*

Festuca schimperana A. Rich. l.c. 433 (1851); F.W.T.A. ed. 1, 2: 508.
Festuca rigidula Steud., Syn. Pl. Glum. 1: 314 (1854).
Festuca gelida Chiov. in Ann. Bot., Roma 6: 147 (1907).
Koeleria afromontana Jac.-Fél., Gram. Afr. Trop. 186 (1962), name only.

Densely caespitose perennial, 15–60 cm. high.

W. Cam.: Cam. Mt., 10,000–13,300 ft. (Dec., Jan.) Mann 1349! Mildbr. 10909! Boughey GC 12627! Hinds C13! Maitland 1247! **F. Po:** Clarence Peak, 8,500 ft. (Mar.) Mann 656! 1465! 1477!

On mountain peaks throughout tropical Africa.

2a. Festuca camusiana St.-Yves in Bull. Soc. Bot. Genève, sér. 2, 18: 156 (1926). *APD acc*

2b. Festuca camusiana subsp. chodatiana St. Yves l.c. 158 (1926). *APD acc*

Festuca simensis of F.W.T.A. ed. 1, 2: 508, not of Hochst. ex A. Rich. (1851).

Loosely tufted perennial 60–90 cm. high.

W. Cam.: Cam. Mt., 7,000 ft. (Apr., Dec.) Mann 2069! Boughey 6383 ! 6775! Above Bafut-Ngemba F.R., 7,050 ft. (July) Brunt 775! **F. Po:** 8,500 ft. (Mar.) Mann 1473!

Also on mountain peaks in Kenya, Uganda, Tanzania, southern Sudan and eastern Congo.

Dimensions of spikelets and their parts are slightly smaller in E. Africa.

3. *Festuca mekiste* *W. D. Clayton* in *Kew Bull.* 23: 293 (1969). *APD acc*

Festuca gigantea of F.W.T.A. ed. 1, 2: 508, not of (Linn.) Vill.

Perennial 0.6–2 m. high.

W. Cam.: Cam Mt., 7,000–7,600 ft. (Dec.) Mann 2078! Maitland 1338! 1338a! 8,000 ft. (Feb.) Maitland 1038! Ukele, 8,000 ft. (Feb.) Maitland 1336! **F. Po:** 8,500 ft. (Mar.) Mann 1462! 1468!

Also in **Kenya**. (See Useful Plants.)

12. VULPIA

Gmel., *Fl. Bad.* 1: 8 (1806).

- 1 Leaf-sheaths glabrous; blades linear, 1–2 mm. broad; panicle erect and narrow, more or less secund 2.5–7 cm. long; spikelets 7–14 mm. long without the awns, 5–10-flowered; glumes subulate-lanceolate, the lower 1-nerved and 1/2–3/4 as long as the spikelet, the upper 3-nerved; lemmas 5–9 mm. long, linear-lanceolate, faintly 5-nerved, narrowed into a slender awn up to 13 mm. long [bromoides](#)

Vulpia bromoides (Linn.) S. F. Gray *Nat. Arr. Brit. Pl.* 2: 124 (1821).

APD: Synonym of Vulpia myuros subsp. sciuiroides (Roth) Rouy

Festuca bromoides Linn., *Sp. Pl.* 75 (1753).

A very slender annual, up to about 23 cm. high in our area.

W. Cam.: Cam. Mt., 7,000–10,000 ft. (Dec.) Mann 2091! Boughey GC 12537!

A species from Europe and the Mediterranean, extending to mountain peaks in tropical Africa; introduced elsewhere.

13. POA

Linn., *Sp. Pl.* 67 (1753), and *Gen. Pl.* ed. 5, 31 (1754).

- 1 Panicle contracted, almost linear, the spikelets densely clustered [1. leptoclada](#)
Panicle open, with spreading branches: **2**
- 2 Annual; lemmas obtuse [2. annua](#)
Perennial; lemmas acute [3. schimperana](#)

1. *Poa leptoclada* *Hochst. ex A. Rich.* *Tent. Fl. Abyss.* 2: 422 (1851.); Hedberg in *Sym. Bot. Uppsal.* 15: 39 (1957). *APD acc*

Strangling or tufted perennial 15–60 cm. high.

W. Cam.: Cam. Mt., 6,000–12,000 ft. (Dec.–Feb.) Mann 2071! Dalz. 8351! Maitland 1273! Hinds C83! Morton GC 6901!
F. Po: 7,500 ft. (Apr.) Mann 1480!

Mountain peaks throughout tropical Africa.

2. *Poa annua* *Linn.* *Sp. Pl.* 68 (1753). *APD acc*

Loosely tufted annual up to about 15 cm. high.

W. Cam.: Buea, 3,000 ft. (Apr., Dec.) Brenan & E. W. Jones 9583! Hinds C5! Cam. Mt., 5,600–7,500 ft. (Nov.–Jan.) Maitland 1262! Hinds C57! Migeod 218! **F. Po:** Moka, 4,000 ft. (Dec.) Boughey 58!

A very common weed of temperate regions, extending to highland areas in the tropics.

3. *Poa schimperana* *Hochst. ex A. Rich.* *Tent. Fl. Abyss.* 2: 423 (1851); Hedberg in *Sym. Bot. Upsal.* 15:

41 (1957). *APD acc*

Poa binata of F.W.T.A., ed. 1, 2: 509, not of Nees.

Tufted perennial about 60 cm. high; [mountain peaks](#).

N. Nig.: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2036! **W. Cam.:** Cam. Mt., 9,000 ft. (Nov., Dec.) Migeod 173! Mann 2083! Above Bamenda, 7,500 ft. (July) Brunt 781b!

Mountain peaks in tropical Africa.

14. BROMUS

Linn., *Sp. Pl.* 76 (1753), and *Gen. Pl.* ed. 5: 33 (1754).

- 1 Leaf-blades flat, 5–10 mm. broad, usually with falcate auricles at the base; leaf-sheaths laxly pilose with deflexed hairs, retrorsely scabrid on the nerves; panicle very lax with slender branches; spikelets 1.5–3 cm. long without the awns, laterally compressed; lower glume 3–6 mm. long, 1-nerved, the upper 5–12 mm. long, 3-nerved; lemmas 7–14 mm. long, pubescent on the nerves, glabrous or appressed-pubescent between, with an awn 2–12 mm. long inserted just below the obtuse tip; palea finely ciliate on the keels[leptoclados](#)

Bromus leptoclados *Nees* *Fl. Afr. Austr.* 453 (1841). *APD acc*

Bromus cognatus *Steud.*, *Syn. Pl. Glum.* 1: 321 (1854).

Bromus scabridus *Hook. f.* in *J. Linn. Soc.* 7: 231 (1864); F.W.T.A., ed. 1, 2: 508.

A handsome perennial up to 2 m. high; [on highlands](#).

W. Cam.: Cam. Mt., 9,000 ft. (Nov.–Mar.) Mann 2085! Dalz. 8352! Migeod 175! Maitland 1261! Hinds C47!

[On highlands](#) throughout tropical and S. Africa.

May be confused, with *Festuca mekiste*, in which the lemma and keels of the palea are merely scabrid.

15. BRACHYPODIUM

P. Beauv., *Ess. Agrost.* 100 (1812).

- 1 Leaf-sheaths nearly always scabrid; racemes 6–12 cm. long, usually with 5–8 spikelets borne upon pedicels 1–2 mm. long; spikelets narrowly lanceolate, 1.5–3 cm. long, 6–12-flowered; glumes subequal, 4–10 mm. long; lemmas 7–11 mm. long, 7-nerved, tipped with a straight awn 4–8 mm. long[flexum](#)

Brachypodium flexum *Nees* *Fl. Afr. Austr.* 1: 456 (1841). *APD acc*

Weak-stemmed perennial 30–90 cm. high.

S. L.: Tingi Hills (May) Gledhill 222! **N. Nig.:** Chappal Waddi, Sardauna Prov. (Nov.) Jackson, Magaji & Tuley 2035! **F. Po:** Clarence Peak, 7,000 ft. Mann 321!

Also in [Sudan](#) and [Ethiopia](#) to [South Africa](#) and [Madagascar](#).

[*B. flexum* is very closely related to the European *B. sylvaticum* (Huds.) *P. Beauv.*, which has smooth leaf-sheaths. The Sierra Leone specimen cited above has smooth sheaths, the Nigerian scabrid, and the one from F. Po is very poorly preserved and smothered in glue. The identity of the West African plants must remain uncertain pending further study based on better material.—W.D.C.]

16. TRITICUM

Linn., *Sp. Pl.* 85 (1753), and *Gen. Pl.* ed. 5, 37 (1754).

- 1 Spikelets 10–15 mm. long and 9–18 mm. across the face, 5–9-flowered, imbricate in a dense spike which is square in section or more commonly broadest across the face of the spikelets; glumes oblong, shorter than the spikelet, keeled above, the central nerve prolonged into a tooth or short awn; lemmas glabrous or pubescent, awned or awnless[aestivum](#)

Triticum aestivum *Linn. Sp. Pl. 85 (1753). APD acc*

Triticum vulgare *Vill.*, Hist. Pl. Dauph. 2: 153 (1787); F.W.T.A., ed. 1, 2: 509; De Miré & Gillet in J. Agric. Trop. 3: 740 (1956).
Triticum sativum *Lam.* (1778).

Mali: Bamako (Jan.) Chev. 217! **N. Nig.:** Katsina Rae! Thornton! Kari Foster 21! Kalkala (Aug.) Gwynn! Bornu Thornton!

The common bread wheat of temperate regions.

17. HORDEUM

Linn., Sp. Pl. 84 (1753), and Gen. Pl. ed. 5, 37 (1754).

- 1 Spikelets of each triad alike and fertile, sessile, arranged in six rows along the spike; glumes very narrow, about 1 cm. long, side by side in front of the floret; lemma as long as the glumes, prolonged in a straight, stiff, scabrid bristle 5–10 cm. long [vulgare](#)

Hordeum vulgare *Linn. Sp. Pl. 84 (1753); Chev. Bot. 752. APD acc*

N. Nig.: Bornu Thornton! Mongonu Dept. of Agric.! Mobber Dept. of Agric.!

The common barley of temperate regions.

18. STREBLOCHAETE

Hochst. ex Pilger in Engl., Bot. Jahrb. 37, Beibl. 85: 81 (1906); F.T.A. 10: 101; Tateoka in Bot. Mag. Tokyo 78: 289 (1965).

- 1 Leaf-blades narrowly lanceolate-linear, up to 1 cm. broad; leaf-sheath entire, the margins united; panicle slender, narrow; spikelets narrowly lanceolate, 16–28 mm. long, loosely 2–6-flowered; glumes membranous with hyaline margins, the upper up to 12 mm. long; lemmas up to 15 mm. long, 7-nerved, entire or shortly bilobed with the lobes up to 2 mm. long, awned from the back just below the sinus of the lobes; awn flexuous, up to 4 cm. long [longiarista](#)

Streblochaete longiarista (*A. Rich.*) *Pilger* in Notizbl. Bot. Gart. Berl. 9: 516 (1926); F.T.A. 10: 102. *APD acc*

Trisetum longiaristum *A. Rich.*, Tent. Fl. Abyss. 2: 417 (1851).

A loosely tufted perennial up to 1 m. high; the awns become entangled so that the florets are detached from the inflorescence in bunches; **margins of montane forests**.

W. Cam.: Cam. Mt., 8,000 ft. (Dec.) Mann 2077! Jonjo, 7,600 ft. (Feb.) Maitland 1335! Mann's Spring, 7,000 ft. (Mar.) Brenan 9512! Summit Peak, S.E. Bamenda, 8,200 ft. (Dec.) Boughey GC 11031! Bambui, 7,400 ft. (Dec.) Boughey GC 10865! **F. Po.:** (Dec.) Boughey GC 10817!

Mountain peaks throughout Africa; also in **Réunion**, the **Malayan Islands** and the **Philippines**.

19. KOELERIA

Pers., Syn. Pl. 1: 97 (1805); Domin in Biblio. Bot. 14 (65) (1907); F.T.A. 10: 94 (1937).

- 1 Leaf-blades strongly nerved, convolute; panicles spiciform, dense, 4–9 cm. long, straw-coloured or purplish, the axis pubescent or tomentose; spikelets 3.5–7 mm. long, 1–3-flowered; glumes slightly shorter than the spikelet, the upper 1–3-nerved; lemma 3-nerved [capensis](#)

Koeleria capensis (*Steud.*) *Nees* in Linnaea 7: 321 (1832). *APD acc*

Aira capensis *Steud.* in Flora 12: 469 (1829).

Koeleria cristata var. **convoluta** (*Hochst. ex Steud.*) *C. E. Hubbard* in Kew Bull. 1936: 500; F.T.A. 10: 95.

Koeleria convoluta *Hochst. ex Steud.*, Syn. Pl. Glum. 1: 293 (1854); F.W.T.A., ed. 1, 2: 527; Domin in Biblio. Bot. 14 (65): 109.

Koeleria gracilis *Pers. var. convoluta* (*Hochst. ex Steud.*) *Hedberg* in Symb. Bot. Uppsal. 15: 42.

Tufted perennial, 23–45 cm. high.

W. Cam.: Cam. Mt., 10,000–12,000 ft. (Dec.–Apr.) Mann 1357! Maitland 1259! Boughey GC 12644! Keay FHI 28617! Thresh 6!

E. Cameroun and **Ethiopia to the Cape**.

20. AIRA

Linn., Sp. Pl. 63 (1753), and Gen. Pl. ed. 5: 31 (1754); F.T.A. 10: 87 (1937). *APD acc*

- 1 Panicle delicate, with spreading filiform branches; spikelets 2·7–3·2 mm. long (down to 2·2 mm. long in Europe); glumes acute, membranous, shining, enclosing 2 florets; lemma about 2 mm. long, glabrous, with a geniculate awn 3–4 mm. long arising from about the middle of the back; callus of the florets normally bearded with white hairs, but glabrous in our area [caryophyllea](#)

Aira caryophyllea *Linn.* Sp. Pl. 66 (1753); F.T.A. 10: 87. *APD acc*

Slender annual 5–30 cm. high.

N. Nig.: Chappal Waddi (Apr., Nov.) Jackson, Magaji & Tuley 2024! 2055! Gbile & Daramola FHI 63274! **W. Cam.:** Cam. Mt., 8,000–12,000 ft. (Dec.–Jan.) Mann 1356! Steele 60! Maitland 868! 1274! Mildbr. 10908!

Europe and western Asia, extending to tropical African mountains and to South Africa; introduced into most other temperate regions.

[The glabrous callus is found in *A. cupaniana* Guss., but the size and shape of the glumes suggest that our species is host treated as a form of *A. caryophyllea*.]

Imperfectly known species.

Aira paradoxa *Steud.* Syn. Pl. Glum. 1; 223 (1854).

“Guinea” Lenormand.

The plant cannot be identified from the description.

21. HELICTOTRICHON

Bess. ex Roem. & Schult., Syst. Veg. 2, Addit. 52 (1827); F.T.A. 10: 103 (1937).

- 1 Lower glume 3·5–5 mm. long, up to half the length of the spikelet; spikelets 1·4–1·9 cm. long, arranged in a narrow panicle; florets 3–4, long exserted from the glumes; lemmas with a geniculate awn from the upper third of the back; leaf-blades up to 10 mm. broad [1. mannii](#)

Lower glume 5–12 mm. long, almost as long as the spikelet; spikelets 0·8–1·6 cm. long, arranged in a narrow panicle; florets 2–3; lemmas with a geniculate awn from about the middle of the back; leaf-blades up to about 5 mm. broad [2. elongatum](#)

1. **Helictotrichon mannii** (*Pilger*) *C. E. Hubbard* in Kew Bull. 1936: 334; F.T.A. 10: 110. *APD acc*

Avenastrum mannii *Pilger* in Notizbl. Bot. Gart. Berl. 9: 520 (1926).

Arrhenatherum mannii (*Pilger*) *Potztl* in Engl., Bot. Jahrb. 75: 329 (1951).

Perennial up to 1·2 m. high.

W. Cam.: Cam. Mt., 6,000–8,000 ft. (Dec.–Feb.) Mann 2089! Maitland 855! Hinds C58! Dunlap 43! Breteler 132! **F. Po:** Clarence Peak (Pico de S. Isabel) 8,500 ft. (Mar.) Guinea 2658! Mann 657! 1476!

2. **Helictotrichon elongatum** (*Hochst. ex A. Rich.*) *C. E. Hubbard* in Kew Bull. 1936: 335. *APD acc*

Danthonia elongata *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 419 (1851).

Helictotrichon maitlandii *C. E. Hubbard* in Kew Bull. 1936: 332; F.T.A. 10: 112; F.W.T.A., ed. 1, 2: 528.

Helictotrichon rigidulum (*Pilger*) *C. E. Hubbard* in Kew Bull. 1936: 335; F.T.A. 10: 113; F.W.T.A. ed. 1, 2: 528.

Avenastrum rigidulum *Pilger* in Notizbl. Bot. Gart. Berl. 9: 519 (1926).

A. elongatum (*Hochst. ex A. Rich.*) *Pilger*, l.c. (1926), incl. var. *preussii* *Pilger*.

Arrhenatherum rigidulum (Pilger) Potztl in Engl., Bot. Jahrb. 75: 329 (1951).

Perennial up to 1.5 m. high.

N. Nig.: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2001! **W. Cam.:** Cam. Mt., 7,000–8,000 ft. (Dec.–Feb.) Mann 2068! Maitland 965! 1039! 1222! Bafut-Ngemba F.R., Bamenda (Mar.) Hepper 2243! Lakom, Bamenda (May) Maitland 9a! Kishong, Bamenda (Mar.) Brunt 1022!

Sudan and **Ethiopia** southwards to Rhodesia, and in **Madagascar**.

22. DESCHAMPSIA

P. Beauv., Ess. Agrost. 91 (1812); F.T.A. 10: 89 (1937).

- 1 Leaf-blades flat, up to about 5 mm. broad, scabrid upon the prominent ridges above; awns straight, not projecting beyond the glumes; spikelets 4–5 mm. long [1. caespitosa](#)
 Leaf-blades tightly rolled, up to 1 mm. diam.; awns slightly geniculate, projecting about 2 mm. beyond the glumes; spikelets 4–8 mm. long [2. mildbraedii](#)

1. *Deschampsia caespitosa* (Linn.) *P. Beauv.* Ess. Agrost. 91: 160 (1812), incl. var. *mannii* C. E. Hubbard in Kew Bull 1935: 311; F.T.A. 10: 91. **APD acc**

Aira caespitosa Linn., Sp. Pl. 64 (1753).

A harsh-leaved perennial up to 1 m high.

F. Po: Clarence Peak (Pico de S. Isabel), 9,000–10,000 ft. (Mar.) Mann 322! 1464! Guinea 2793!

Temperate regions of both hemispheres, and on the mountains of East Africa.

2. *Deschampsia mildbraedii* Pilger in Notizbl. Bot. Gart. Berl. 10: 769 (1929); F.T.A. 10: 92. **APD acc**

Caespitose perennial up to 1.2 m. high, with stiff rush-like leaves.

W. Cam.: Cam. Mt., 10,000–12,000 ft. (Dec.–Feb.) Maitland 1246! Hinds C31! Boughey GC 12661! Keay FHI 28616! Dalz. 8350!

23. AGROSTIS

Linn., Sp. Pl. 61 (1753), and Gen. Pl. ed. 5, 30 (1754); F.T.A. 10: 166 (1937). **APD acc**

- 1 Panicle loose, open, with flexuous filiform branches; spikelets 4–4.5 mm. long; lemmas pilose; awn basal, about 5 mm. long; palea about as long as the lemma [1. mannii](#)
 Panicle dense and spike-like; spikelets 3.5–4.5 mm. long; lemma glabrous or pubescent; awn basal, 3.5–5 mm. long; palea two thirds as long as the lemma [2. quinqueseta](#)

1. *Agrostis mannii* (Hook. f.) Stapf in Fl. Capensis 7: 549 (1899); F.T.A. 10: 184. **APD acc**

Deyeuxia mannii Hook. f. in J. Linn. Soc. 7: 228 (1864).

Calamagrostis mannii (Hook. f.) Engl. (1892).

Tufted perennial up to 1 m. high; the spikelets sometimes with a rachilla extension up to 3 mm. long.

W. Cam.: Cam. Mt., 6,700–12,000 ft. (Dec.–Apr.) Mann 2096! Maitland 1033! Hinds C87! Boughey GC 6956! Morton GC 6887! **F. Po:** Clarence Peak (Pico de S. Isabel), 8,500 ft. (Mar.–Dec.) Mann 1469! Boughey GC 10801! Guinea 2791! 2795!

Also in **E. Cameroun** and **Ethiopia**.

Very closely related to *A. kilimandscharica* Mez (1922) from East Africa.

2. *Agrostis quinqueseta* (Steud.) Hochst. in Flora 38: 285 (1855); F.T.A. 10: 182 (1937). **APD acc**

Anomalotis quinqueseta Steud., Syn. Pl. Glum. 1: 198 (1854).

Agrostis mildbraedii Pilger in Wiss. Ergebn. deutsch. Zentr.-Afr. Exped. 1907–1908, 2: 47 (1910); F.T.A. 10: 181.

Agrostis congesta C. E. Hubbard in Kew Bull. 1936: 301; F.T.A. 10: 182; F.W.T.A. ed. 1, 2: 530.

Perennial up to 1 m. high.

W. Cam.: Cam. Mt., 8,000–10,000 ft. (Dec.–Feb.) Mann 2086! Maitland 930! 1034!

Also in **E. Cameroun**, **Congo**, **Ethiopia**, **Uganda** and **Kenya**.

24. HYPSEOCHLOA

C. E. Hubbard in Kew Bull. 1936: 300; F.T.A. 10: 165 (1937).

- 1 Inflorescence a delicate panicle, 5–10 cm. long; spikelets cleistogamous, 3 mm. long; glumes equal, acutely acuminate, as long as the spikelet; lemma indurated, with a geniculate awn 4–6 mm. long from the middle of its back [cameroonensis](#)

Hypseochoa cameroonensis *C. E. Hubbard* l.c. (1936); F.T.A. 10: 165. *APD acc*

A delicate slender annual up to 45 cm. high; closely resembles *Aira caryophyllea*, with which it is often found mixed.

W. Cam.: Cam. Mt., 7,000–12,000 ft. (Dec.) Mildbr. 10881! Maitland 874! 960! 1228a! 1274a! Hinds C19a!

Polypogon monspeliensis (*Linn.*) *Desf.* Fl. Atlant. 1: 67 (1798). *APD acc*

Alopecurus monspeliensis *Linn.*, Sp. Pl. 61. (1753).

Differs from *Agrostis* in the long-awned glumes and dense panicle.

Recorded from the northern edge of our area at Aïr, **Niger Republic** by De Miré & Gillet in J. Agric. Trop. 3: 735 (1956).

A cosmopolitan species of warm-temperate regions.

Additional genus.

25. PHRAGMITES

Adans., Fam. PL 2: 34, 559 (1763); F.T.A. 10: 152 (1937); Clayton in Kew Bull. 21: 113 (1967).

- 1 Leaf-blades usually smooth beneath, with filiform flexuous tips; rhachilla hairs 5–11 mm. long, copious, silky; upper glume 5–9 mm. long, obtuse to tridenticulate [1b. australis subsp. altissimus](#)
 Leaf-blades usually scabrid beneath (at least in the upper half), with stiff attenuate tips; rhachilla hairs 5–7 mm. long, rather sparse; upper glume 4–7 mm. long, acute to subacute [2. karka](#)

1a. **Phragmites australis** (*Cav.*) *Trin. ex Steud.* Nom. Bot. ed. 2, 2: 324 (1841). *APD acc*

Arundo australis *Cav.* in Ann. Hist. Nat. 1: 100 (1799).

A. phragmites *Linn.* (1753).

A. vulgaris *Lam.* (1778), illeg. name.

Phragmites communis *Trin.*, Fund. Agrost. 134 (1820); F.T.A. 10: 153; Chev. Bot. 748; De Miré & Gillet in J. Agric. Trop. 3: 735.

Phragmites vulgaris *Crép.* (1866)—F.W.T.A., ed. 1, 2: 510, partly; Berhaut, Fl. Sén. ed. 2, 419

1b. **Phragmites australis subsp. altissimus** (*Benth.*) *W. D. Clayton* in Taxon 17: 158 (1988). *APD acc*

Arundo altissima *Benth.*, Cat. Pl. Pyr. 62 (1826).

A. maxima *Forsk.*, Fl. Aegypt. Arab. 24 (1792), name of doubtful application.

A. isiaca *Del.* (1813), illeg. name.

Phragmites communis subsp. maximus (*Forsk.*) *W. D. Clayton* in Kew Bull. 21: 116 (1967), doubtful name.

A rhizomatous perennial up to 3.5 m. or more high, with handsome plumose panicles; found near water. Subsp. *australis*, a cosmopolitan grass of temperate regions, is of smaller stature and has an acute to apiculate upper glume.

Sen.: Adanson! Richard! (Nov.) Chev. 33980! Senegal R. Brunner 15! **Gam.:** Karinikunda (Feb.) Frith 169! Massembe (July) Deighton 5601! **Niger:** Niamey (Jan.) Chev. 43197! Zinder (Feb.) Chev. 43664! **N. Nig.:** Chad (Oct.–Dec.) Elliot 159! Golding 36! Davey FHI 27114! Johnston N 17!

Shores of the Mediterranean, extending eastwards to Iran, [Arabia](#) and northern [Kenya](#).

2. *Phragmites karka* (Retz.) Trin. ex Steud. Nom. Bot. ed. 2, 2: 324 (1841). *APD acc*

Arundo karka Retz., Obs. Bot. 4: 21 (1786).

Phragmites laxiflorus Steud. (1854).

Phragmites mauritianus of F.T.A. 10: 155, partly.

Phragmites vulgaris of F.W.T.A., ed. 1, 2: 510, partly.

A rhizomatous perennial up to about 7 m. high, with large plumose panicles; [found near water](#).

Sen.: Roger! **Mali:** Kayes (Nov.) Jaeger 5667! **Port. G.:** Bissau (Feb.) Esp. Santo 1798! **S. L.:** Freetown (Dec.) Hagerup 762! **Ghana:** Kpong (June, Jan.) Ankrah GC 20054! Irvine 1918! Aburi (Nov.) Johnson 1039! Kete Krachi (Dec.) Adams 4568! Sawla to Tamale (Oct.) Rose Innes GC 30672! **Dah.:** Porto Novo (Mar., Nov.) Adams K450! De Kimpe 113! **Niger:** Bengou (Feb.) Virgo 4! **N. Nig.:** Nupe Barter 1031! Vom (Dec.) Haines 120! Fodama (Dec.) Moiser 236! Katagum Dalz. 285! Yola (Dec.) Hepper 1616! **S. Nig.:** Old Oyo (Feb.) Keay FHI 1260! Olokemeji (Nov.) Jones, Keay & Onochie FHI 14233! Mbiakpaba (Mar.) Jackson 514! Daramola FHI 46341!

Also in [E. Cameroun](#), [Uganda](#), [Ethiopia](#) and [Sudan](#), extending eastward? through India and Malesia to N. Australia.

Very closely related to *P. mauritianus* Kunth, which is distinguished by its broader acuminate subequal glumes.

Gynerium sagittatum* (Aubl.) P. Beauv. Ess. Agrost. 138 (1812). *APD acc

Saccharum sagittatum Aubl., Pl. Gui. 1: 50 (1775).

A huge plant up to 8 m. high; leaf-blades up to 7 cm. wide, spinulose on the margins; plants dioecious, the <Image p="fefemale"> panicle plumose, the <Image p="fefemale"> glabrous; spikelets 3·5–5·5 mm. long.

Ghana: Aburi (<Image p="fefemale">) Howes 1200! Yawkoko (<Image p="fefemale">) (Jan.) Morton GC 25335!

A species from [tropical America](#) introduced to Ghana.

Additional genus

26. ASTHENATHERUM

Nevski in Act. Univ. As. Med. sér. 8b, Bot. Fasc. 17: 8 (1934); Conert in Senck. Biol. 43: 239 (1962).

APD: Synonym of Centropodia (R. Br.) Rchb.

- 1** Panicle dense, embraced below by the broad uppermost leaf-sheath; glumes subequal, 7–9 mm. long, prominently 7–9-nerved, enclosing 2 or 3 florets; lemmas about 3 mm. long (entire part), 9-nerved, the lateral lobes 2 mm. long, acuminate, the awn straight or slightly geniculate[forskalii](#)

***Asthenatherum forskalii* (Vahl) Nevski** in Act. Univ. As. Med. sér. 8b, Bot. Fasc. 17: 8 (1934).

APD: Synonym of Centropodia forsskalii (Vahl) Cope

Avena forskalii Vahl, Symb. Bot. 2: 25 (1791).

Danthonia forskalii (Vahl) R. Br. in Denham & Clapperton, Narr. Trav. North & Centr. Afr., Append. 244 (1826); F.T.A. 10: 140; F.W.T.A., ed. 1, 2: 527; Chev. Bot. 744, and in Rev. Bot. Appliq. 14: 44; De Miré & Gillet in J. Agric. Trop. 3: 730.

Loosely tufted perennial with pungent glaucous leaves and coarse stringy roots; [a desert grass](#).

Maur.: Oualata Rossetti 61/161! Oualata to Nèma Jumelle 1!

N. Africa and **the Middle East**, extending southward to [Sudan](#) and N. [Kenya](#); also in [Angola](#).

27. PENTASCHISTIS

Stapf in Fl. Capensis 7: 315 (1898); F.T.A. 10: 123 (1937).

- 1** Leaf-blades tightly involute, stiff and rigid; panicle dense, contracted; spikelets 5·5–6·5 mm. long, strictly 2-

flowered, enclosed by the thin 1-nerved glumes; lemmas 2–2.5 mm. long (entire part), obscurely 7-nerved, glabrous or sparsely pubescent below, the lateral lobes drawn out into fine bristles 2 mm. long, the awn geniculate with a twisted column[pictigluma](#)

Pentaschistis pictigluma (*Steud.*) *Pilger* in Not. Bot. Gart. Berlin 9: 517 (1926); F.T.A. 10: 133; Wickens in Kew Bull. 26: 41 (1971). *APD acc*

Aira pictigluma *Steud.*, Syn Pl. Glum. 1: 221 (1854).

Pentaschistis mannii *Stapf ex C. E. Hubbard* in Kew Bull. 1936: 501; F.T.A. 10: 134; F.W.T.A., ed. 1, 2: 528.

Tufted perennial up to 30 cm. high.

W. Cam.: Cam. Mt., 10,000 ft.-summit (Nov.–Jan.) Mildbr. 10894! Hinds C37! Maitland 1244! Migeod 197! Keay FHI 28625!

Also in **Sudan**, **Ethiopia**, **Uganda** and **Tanzania**.

28. TRIRAPHIS

R. Br., Prod. 185 (1810).

- 1 Panicle very dense, ovoid, 1–3 cm. long; spikelets about 3 mm. long and 3–11-flowered; lemmas 3-nerved, pilose, with a central awn 2–3 mm. long from the sinus of the briefly bilobed tip, and with the side nerves excurrent into shorter lateral awns; palea wingless; grain fusiform, 1–5 mm. long[pumilio](#)

Triraphis pumilio *R. Br.* in Denham & Clapperton, Narr. Trav. North & Centr. Afr., Append. 245 (1826); A Chev. in Rev. Bot. Appliq. 14: 131; De Miré & Gillett in J. Agric. Trop. 3: 701. *APD acc*

Triraphis glomerata *A. Camus* (1931) *Triraphis nana* (Nees) Hack. (1890).

Annual, 2–25 cm. high; **dry soils**.

Maur.: Mantounsi Rossetti 61/393! **Niger:** Tenéré (Sept.) P. de Fabrégues 922. Tazolé Chev. 42979. Air (fide De Miré & Gillett l.c.).

N. Africa from Mauritania to **Arabia**, and in **S. Africa**.

29. ELYTROPHORUS

P. Beauv., Ess. Agrost. 67 (1812); Schweickerdt in Ann. Nat. Mus. 10: 191; Jacques-Félix in J. Agric. Trop 5: 304.

- 1 Leaf-blades finely ridged above and below; ligule membranous, up to 1 mm. long; glumes lanceolate, aristately acuminate; lemma 0.6–1.5 mm. long, terminating in an awn 0.5–1.8 mm. long; keels of palea broadly winged or sometimes wingless; anthers 1–2 per floret[spicatus](#)

Elytrophorus spicatus (*Willd.*) *A. Camus* in Lecomte, Fl. Gen. Indo-Chine 7: 547 (1923); Berhaut, Fl. Sén. ed. 2, 396. *APD acc*

Dactylis spicata *Willd.* in Ges. Naturf. Freunde Berlin. Neue Schrift 3: 416 (1801).

Elytrophorus artirulatus *P. Beauv.* (1812).-Chev. Bot. 748, and in Rev. Bot. Appliq. 14: 134.

Phleum glomeruliflorum *Steud.*, Syn. Pl. Glum. 1: 150 (1854).

Annual, 15–60 cm. high; **swamps and old rice fields**.

Sen.: Richard Toll (Jan.) Roger 30! Tamboukané (Oct.) Chev. 2383! **Mali:** Dogo Demange 21/1957! Sole (Apr.) Davey 604! Mema (Oct.) Davey 497! Ansongo (Sept.) Hagerup 407! Macina (Sept.) Chev. 24892! **Iv. C.:** Ouango-Fitini (Dec.) Aké-Assi 7526! **Ghana:** Bolgatanga to Tamale (Oct.) Ankrah GC 20299! Rose Innes GC 31114! Pong Tamale (Nov.) Addei SLUS/296! Kamba (Jan.) Harris! Yendi (Dec.) Adams & Akpabla 4130! **N. Nig.:** Ward 89! Shendam (Nov.) Clayton 1477! Dikwa (Nov.) Johnston N. 93! Bama (Dec.) McClintock: 86! Yola (Nov.) Hepper 1203!

Throughout the Old World tropics.

30. STIPAGROSTIS

Nees in *Linnaea* 7: 290 (1832); *de Winter* in *Bothalia* 8: 307 (1965).

- 1 Glumes pubescent; lemma strongly papillose; awn 5–6 cm. long, the column hairy below the insertion of the lateral awns [1. *hirtigluma*](#)
- Glumes glabrous; lemma smooth or weakly papillose: **2**
- 2 Awn with a dense tuft of hairs at the insertion of the lateral awns; column 5–6 mm. long, the central awn 20–25 mm.; lemma about 2 mm. long with a callus about 0.5 mm. long; sheaths and internodes glabrous [2. *uniplumis*](#)
- Awn glabrous at the insertion of the lateral awns; lemma 3–4 mm. long, with a callus 1–1.5 mm.: **3**
- 3 Central awn 35–45 mm. long, the column 4–10 mm. long; basal sheaths and internodes densely woolly tomentose [3. *plumosa*](#)
- Central awn 10–15 mm. long, the column 1 mm. long; basal sheaths glabrous, the internodes silky hairy [4. *acutiflora*](#)

1. *Stipagrostis hirtigluma* (*Steud. ex Trin. & Rupr.*) *de Winter* in *Kirkia* 3: 134 (1963). *APD acc*

Aristida hirtigluma *Steud. ex Trin. & Rupr.*, *Sp. Gram. Stip.* 171 (1842); *A. Chev.* in *Rev. Bot. Appliq.* 14: 47.

Tufted annual with convolute leaf-blades, 45 cm. high.

Mali: Région nord Leclercq 42686! **N. Nig.:** Arege, Bornu (Sept.) Goss 5!

Extends eastward through the **Sudan**, **Ethiopia** and **Kenya** to **Arabia**, the Middle East and India; also in **Angola**, Botswana and South Africa.

2. *Stipagrostis uniplumis* (*Licht.*) *de Winter* in *Kirkia* 3: 136 (1963). *APD acc*

Aristida uniplumis *Licht.* in *Roem. & Schult.*, *Syst. Veg.* 2: 401 (1817).

A. papposa *Trin. & Rupr.*, *Sp. Gram. Stip.* 173 (1842), incl. var. *senegalensis* *Trin. & Rupr.*; *F.W.T.A.*, ed. 1, 2: 534; *Chev. Bot.* 741, and in *Rev. Bot. Appliq.* 14: 48; *Berhaut*, *Fl. Sén.* ed. 2, 406; *De Miré & Gillet* in *J. Agric. Trop.* 3: 728.

A. concinna *Sander* in *J. A. Schmidt*, *Beitr. Fl. Cap. Verd. Ins.* 140 (1852).

Stipagrostis papposa (*Trin. & Rupr.*) *de Winter* in *Kirkia* 3: 135 (1963).

Caespitose perennial up to about 60 cm. high.

Sen.: Jardin! **Leprieur!** **Mali:** Région nord Leclercq 42740! **Bamba** (Sept.) **Hagerup** 324! **Gidigada** (Aug.) **Lean** 86! **Kidal** (Sept.) **Rossetti** 59/154!

Throughout much of tropical and S. Africa.

3. *Stipagrostis plumosa* (*Linn.*) *Munro ex T. Anders.* in *J. Linn. Soc.* 5, *Suppl.* 1: 40 (1860). *APD acc*

Aristida plumosa *Linn.*, *Sp. Pl.* ed. 2, 1966 (1763), incl. var. *floccosa* (*Coss. & Dur.*) *Henr.* (1926); *F.W.T.A.*, ed. 1, 2: 534; *Chev. Bot.* 741, and in *Rev. Bot. Appliq.* 14: 48, 109; *De Miré & Gillet* in *J. Agric. Trop.* 3: 728.

Densely caespitose perennial with convolute leaf-blades; 30–45 cm. high.

Maur.: Twisti **Legehatin**, **Aouker Rossetti** 61/352! **Sen.:** Lelièvre! **Niger:** in **Abangarit** (Dec.) **Proudlock** 5! **Tasolé** (Feb.) **Chev.** 44195!

Throughout N. Africa from Mauritania to the **Sudan**, extending through **Arabia** and the Middle East to India.

4. *Stipagrostis acutiflora* (*Trin. & Rupr.*) *de Winter* in *Kirkia* 3: 133 (1963). *APD acc*

Aristida acutiflora *Trin. & Rupr.*, *Sp. Gram. Stip.* 167 (1842); *F.W.T.A.*, ed. 1, 2: 534; *Chev. Bot.* 740, and in *Rev. Bot. Appliq.* 14: 45; *De Miré & Gillet* in *J. Agric. Trop.* 3: 726.

Slender caespitose or stoloniferous perennial, with narrowly convolute curved leaf-blades; up to about 45 cm. high.

Maur.: Oualata **Rossetti** 61/157! **Mali:** Région nord Leclercq 42589! **Oualata** to **Neissa Jumelle** 4!

N. Africa from Mauritania to **Egypt** and the **Sudan**.

Stipagrostis ciliata (*Desf.*) *de Winter* in *Kirkia* 3: 133 (1963). *APD acc*

Aristida ciliata *Dest.* in *Schrad., Neues J. Bot.* 3: 225 (1809).

Awn disarticulating by a break in the body of the lemma itself, the central limb plumose in the upper half and up to 45 mm. long.

Recorded at Aïr by De Miré & Gillet in *J. Agric. Trop.* 3: 727 (1956).

A species from the **Mediterranean** and **Orient**.

Additional species.

Stipagrostis pungens (*Desf.*) *de Winter* in *Kirkia* 3: 135 (1963). *APD acc*

APD: Synonym of Stipagrostis vulnerans (Trin. & Rupr.) De Winter

Aristida pungens *Desf.*, *Fl. Atlant.* 1: 109 (1798).

Differs from other W. African species of *Stipagrostis* in that all three awns are plumose.

Recorded at Aïr by De Miré & Gillet in *J. Agric. Trop.* 3: 728 (1956).

N. Africa.

Additional species.

31. ARISTIDA

Linn., *Sp. Pl.* 82 (1753), and *Gen. Pl.* ed. 5, 35 (1754); *Henrard* in *Mededeel. Rijks Herb. Leiden* 54 (1926), 54A (1927), 54B (1928), 54C (1933) 58 (1929) and 58A (1932). *APD acc*

Sect. 1—ARISTIDA

- 1 Lateral awns absent; delicate annual [1. diminuta](#)
Lateral awns present: **2**
- 2 Plants perennial; densely tufted: **3**
Plants annual: **4**
- 3 Lemma at most beaked; base of plant clothed in the fibrous remains of old leaf-sheaths; upper glume 5–7.6 mm. long; awns 6–8 mm. long [3. recta](#)
Lemma drawn out into a slightly twisted column 1–3 mm. long; base of plant lacking fibres, often shortly rhizomatous; upper glume 6–9 mm. long; awns 8–20 mm. long [4. junciformis](#)
- 4 Spikelets 2–2.5 mm. long (excluding awns) [2. cumingiana](#)
Spikelets 5 mm. long or more: **5**
- 5 Glumes subequal, 9–12 mm. long; panicle rather stiff, the branches ascending; lemma 9–11 mm. long, bearing longitudinal rows of spiny hooked hairs; awn usually 15–25 mm. long [5. rhiniochloa](#)
Glumes unequal, the lower about 2/3 as long as the upper which is 6–10 mm. long; panicle flexuous, the branches secund; lemma 5–15 mm. long, glabrous or scabrid, very rarely tuberculate; awn usually 10–20 mm. long [6. adscensionis](#)

Sect. 2—PSEUDOCHEAETARIA

- 1 Panicle dense and continuous, spike-like, 4–12 cm. long, the branches always very short and the spikelets fascicled; glumes with awns 2–5 mm. long; internodes and leaf-sheaths densely but very shortly pubescent; blades glaucous, flat, up to 6 mm. broad [7. hordeacea](#)
Panicle loose, with slender branches up to 10 cm. long; branches naked in the lower part, and densely clothed with spikelets towards the tip; glumes with awns 1–2 mm. long; internodes and leaf-sheaths glabrous; blades narrow, more or less convolute [8. kunthiana](#)

Sect. 3—ARTHATHERUM

- 1 Lower glume longer than the upper, the former 20–30 mm. long, the latter 3–6 mm. shorter; callus conical; column of awn up to 4.5 cm. long, the limbs 3.5–4.5 cm. long [9. funiculata](#)
Lower glume shorter than the upper, rarely the glumes subequal: **2**
- 2 Callus at base of mature floret bifid: **3**
Callus conical, obliquely acute; panicle dense; lower glume 9–12 mm. long, upper 12–18 mm. with an awn 5–10 mm. long from the sinus of the bifid apex; column of awn 1–3 cm. long [12. sieberana](#)

- 3 Panicle linear, the spikelets almost sessile; glumes long awned, the lower about 20 mm., the upper 25–35 mm. long; column of awn 5–7 cm. long, the limbs 6–8 cm. long [10. kerstingii](#)
- Panicle diffuse, delicate, the spikelets upon slender filiform pedicels; glumes obtuse, at most mucronate, the lower 5–7 mm., the upper 14–20 mm. long; column of awn 1.5–3 cm. long [11. stipoides](#)

Sect. 4—PSEUDARTHATHERUM

- 1 Spikelets congested at the tips of the branches; glumes usually subequal, 4–7 mm. long; lemma 4–5 mm. long, surmounted by a column 2–5 mm. long; leaf-blades narrow, convolute [13. mutabilis](#)

1. *Aristida diminuta* (Mez) C. E. Hubbard in Kew Bull. 4: 480 (1949). *APD acc*

Stipa diminuta Mez in Fedde, Rep. 17: 208 (1921).

Aristida cumingiana var. *reducta* Pilger in Notizbl. Bot. Gart. Berl. 11: 805 (March 1933), var. *uniseta* Stent & Rattray (May 1933), var. *diminuta* (Mez) Jac.-Fél. in J. Agric. Trop. 13: 51 (1966).

Delicate annual 15–30 cm. high.

Mali: Sotuba to Bamako (Dec.) Adam 11427b!

Tanzania to Rhodesia.

2. *Aristida cumingiana* Trin. & Rupr. Sp. Gram. Stip. 14! (1842); Bernard in Med. Rijks Herb. 58: 159; A. Chev. in Rev. Bot. AppHq. 14: 46; Lebrun in Bull. Soc. Bot. Fr. 116: 257 (1969). *APD acc*

Aristida delicatula Hochst. ex A. Rich. (1851).

Annual 15–30 cm. high; [in damp soils](#).

Sen.: Teyel (Nov.) Boudet 4620. Kanéméré (Oct.) Fotius K570. Salikénié (Jan.) Trochain 1326. Kolda (Jan.) J. Raynal 7849. **Mali:** Bamako (Dec.) Adam 11427! **Guin.:** Kouroussa (Dec.) Pobéguin 542! **S. L.:** Benekoro (Nov.) Glanville 322! **N. Nig.:** Borgu Barter 1394! Jos (Oct.) Hepper 1175! Naraguta (Dec.) Kennedy 28! Anara F.R., Zaria (Oct.) Hepper 996!

Throughout tropical Africa, extending eastwards through India to the Phillipines.

3. *Aristida recta* Franch. in Bull. Soc. Hist. Nat. Autun 8: 365 (1896); Henrard l.c. 261; Aké Assi, Contrib. 2: 280. *APD acc*

Aristida atroviolacea Hack. in Bull. Herb. Boiss. sér. 2, 6: 707 (1906).

Aristida elliotii A. Chev. in Rev. Bot. Appliq. 14: 46 (1934); Chev. Bot. 740.

Perennial 20–45 cm. high; [in damp soils](#).

Mali: Balandougou (Feb.) Chev. 324! **Guin.:** Farana Sc. Elliot 5332! **Iv. C.:** Korogo (July) Adjanohoun 401a! Zuenoula to Vavoua (Jan.) Adjanohoun 185a! **Ghana:** Kete Krachi to Attebebu (Oct.) Rose Innes GC 30609! Ejura scarp (Mar.) Hepper & Morton A3203! Yendi to Kete Krachi (Apr.) Morton GC 9138! **N. Nig.:** Abinsi (Mar.) Dalz. 875! Keffi (Mar.) Swire 6! **S. Nig.:** Ago-Are F.R., Oyo (Feb.) Keay FHI 37739! Igbetti (July) J. Hall 1322! **W. Cam.:** Bamenda (Jan.) Daramola FHI 40600!

Southward to the Transvaal.

4. *Aristida junciformis* Trin. & Rupr. Sp. Gram. Stip. 143 (1842). *APD acc*

Tufted perennial 30–60 cm. high; [poor stony soils](#).

N. Nig.: Chappal Waddi (Apr., Nov.) Jackson, Magaji & Tuley 2030! Gbile & Daramola FHI 63287!

Kenya to South Africa.

5. *Aristida rhiniochloa* Hochst. in Flora 38: 200 (1855). *APD acc*

Aristida rigidiseta Pilger (1914).

Annual with flat leaf-blades 2–4 mm. wide; up to 60 cm. high.

Maur.: (Aug.) Rossetti 61/170! **Mali:** Boré (Oct.) Davey 3/1957! **Niger:** Kao-Kiloum (Sept., Dec.) P. de Fabrègues 1337, 2072 (fide Lebrun in Adansonia 7: 395 (1967)).

Also in **Ethiopia**, **Sudan** and **Eritrea**; and from Tanzania south to the Transvaal.

6. *Aristida adscensionis* Linn. Sp. Pl. 82 (1753); Henrard l.c. 322; Chev. Bot. 740, and in Rev. Bot.

Appliq. 14: 45; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 726; incl. subsp. *guineensis* (Trin. & Rupr.) Henr. (1926), var. *festucoides* (Poir.) Henr. (1926), and var. *senegalensis* (Trin. & Rupr.) Dur. & Schinz (1894). *APD acc*

Aristida submucronata Schumacher, Beskr. Guin. Pl. 67 (1827).

Aristida festucoides Poir., Encycl. Meth. Bot., Suppl. 1: 453 (1810).

Aristida guineensis Trin. & Kupr., Sp. Gram. Stip. 137 (1842).

Aristida vulgaris var. *senegalensis* Trin. & Rupr. l.c. 135.

Aristida thonningii Trin. & Rupr. l.c. 137.

Annual, up to about 1 m. high, leaf-blades often becoming involute; common on dry, shallow or over-farmed soils.

Sen.: Leprieur! Roger! Heudelot 539! Longa (Oct.) Berhaut 2807! Malika (Aug.) Broadbent 27! **Mali:** Leclercq 42706! Sompi (Aug.) Chev. 2381! Gao (Sept.) Hagerup 357! Timbuktu Hagerup 158! L. Horo, nr. Gidijada (Aug.) Lean 85! **iv. C.:** Bouaké (May) de Wilde 82! **U. Volta:** Ouassa to Diebougou (Oct.) Rose Innes GC 31512! Ouagadougou (May, July) Scholz 92! 92a! **Ghana:** Christiansborg (Apr.) Johnson 1023! Cape St. Paul (Apr.) Rose Innes GC 31223! Zuarungu (June) Williams 514! Navrongo (June) Vigne FH 4542! Bawku (Oct.) Rose Innes GC 30501! **Dah.:** Cotonou (Nov.) Clayton 396! Kraké (Oct.) Risopoulos 1233! **Niger:** Tigidit, Agades (Aug.) Davies, Baker & Dean 17c! **N. Nig.:** Ilorin (July) Ward 84! Fadan Karshi, Wamba (Oct.) Kennedy FHI 8036! Samaru, Zaria (Sept.) Freeman S129! Dikwa (Nov.) Johnston W81! Arege, Chad (Oct.) Golding 32! **S. Nig.:** Dodd 386! Lagos W. MacGregor 252!

Throughout the tropics. (See Useful Plants.)

Very variable in shape of inflorescence and length of glumes and lemmas; a number of varieties have been proposed (see Henrard l.c.), but they intergrade one with another and their significance is doubtful.

7. *Aristida hordeacea* Kunth Rev. Gram. 2: 517, t. 173 (1831); Henrard l.c. 140, incl. var. *longiaristata* Henr.; Berhaut, Fl. Sén. ed. 2, 393; De Miré & Gillet in J. Agric. Trop. 3: 727. *APD acc*

Aristida steudeliana Trin. & Rupr., Sp. Gram. Stip. 155 (1842); Chev. Bot. 741, and in Rev. Bot. Appliq. 14: 109.

Aristida densispica Steud., Syn. Pl. Glum. 1: 139 (1854).

Annual, 10–45 cm. high.

Sen.: Cap Vert Leprieur! Dakar (Jan.) Hagerup 783! Moao (Oct.) Berhaut 1188! **Mali:** Dioura (Jan., Aug.) Davey 19! 221! Kidal (Sept.) Rossetti 59/146! Tilemsi (Sept.) Popov 113! **U. Volta:** Bousséra (Dec.) Aké Assi 7546! Soudougou (Sept.) Scholz 51a! **Ghana:** Mirigu (Oct.) Vigne FH 4646! Dedoro-Tankara (Dec.) Adams 4350! Navrongo (Nov.) Akpabla 386! Bolgatanga to Navrongo (Oct.) Rose Innes GC 31096! Bawku (Oct.) Ankrah GC 20288! **Togo Rep.:** Kande to Sansanne Mango (Oct.) Rose Innes GC 31412! **Niger:** Agades (Feb., Mar.) Bradley 23b! 24b! **N. Nig.:** Samaru, Zaria (Oct.) Freeman S147! Kano (Oct.) Keay FHI 21137! Yola (Nov.) Hepper 1194! Katsina (Oct.) Clayton 1367! Ngala (Nov.) Johnston W77!

Throughout tropical Africa.

8. *Aristida kunthiana* Trin. & Kupr. Sp. Gram. Stip. 151 (1842); Henrard l.c. 142. *APD acc*

Annual, 45 cm. high, closely resembling *A. mutabilis*.

Sen.: Roger! Richard Tol Lelièvre! **Mali:** Dioura (Sept.) Farrow 81!

9. *Aristida funiculata* Trin. & Rupr. Sp. Gram. Stip. 159 (1842); Henrard l.c. 90; Chev. Bot. 740, and in Rev. Bot. Appliq. 14: 47; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 727. *APD acc*

Aristida funicularis Trin ex Steud. (1841), without description.

Annual, up to 46 cm. high, with pale brown glumes.

Sen.: Leprieur! Saint-Louis (Oct.) Berhaut 1742! **Mali:** Région nord Leclercq 42655! Goundam (Aug.) Chev. 2371! Gidigada (Aug.) Lean 84! Bamba (Sept.) Hagerup 325! Macina (Aug.) Davey 42! **Niger:** Toukounous Bartha 71! **N. Nig.:** Galarige, Chad (Oct.) Golding 31! Arege, Bornu (Oct.) De Leeuw 2074!

Extends eastward through **Sudan**, **Somalia** and **Arabia** to India. (See Useful Plants.)

10. *Aristida kerstingii* Pilger in Engl., Bot. Jahrb. 34: 127 (1904); Henrard l.c. 91; A. Chev. in Rev. Bot. Appliq. 14: 47; Berhaut, Fl. Sén. ed. 2, 393, 407. *APD acc*

Aristida plicapolonica Mez in Fedde Rep. 17: 146 (1921).

Annual or short-lived perennial 30–90 cm. high, with filiform leaf-blades, and large handsome awns.

Sen.: Heudelot 306! Kounghoul (Jan.) Berhaut 2811! Vélingara (Oct.) Adam 18571! Ndioridi (Oct.) Raynal 7724, 7727.
Guin.: Gali (July) Adames 312! Dabola (Sept.) Jaeger 4900! **Iv. C.:** Bouna to Batie (Oct.) Rose Innes GC 31544! Bouna to Bondoukou (Oct.) Rose Innes GC 31548! Bouna (Aug., Sept.) Aké Assi 6517! de Wilde 785! Oldeman 288! **U. Volta:** Leo to Ouassa (Oct.) Rose Innes GC 31494! Doutié (Sept.) Scholz 38b! Kouéndi (July) Scholz 38a! **Ghana:** Kete Krachi to Yendi (Sept.) Rose Innes GC 30446! Bimbila (Oct.) Ankrah GC 20413! Tamale (Oct.) Baldwin 13558! Bole to Bamboi (Oct.) Rose Innes GC 30652! Bawku to Bolgatanga (Oct.) Rose Innes GC 31451! **Togo Rep.:** Sansanné Mango to Dapango (Oct.) Rose Innes GC 31430! Lama Kara to Sokode (Oct.) Rose Innes GC 31399! **Dah.:** Boukombe (Nov.) Risopoulos 1254! **N. Nig.:** Jebba Barter 753a! Yola (Sept.) Kennedy FHI 7285! Jos (Oct.) Hepper 1056! Anara F.R. (Oct.) Keay FHI 5493! Maiduguri (Oct.) Johnston N41!

11. *Aristida stipoides* Lam. Tab. Encycl. 1: 157 (1791); Henrard l.c. 93; Chev. Bot. 741, and in Rev. Bot. Appliq. 14: 110; Berhaut, Fl. Sén. ed. 2, 407. **APD acc**

Aristida stipiformis Poir., Encycl. Suppl. 1: 452 (1810), superfluous name.

Aristida amplissima Trin. & Rupr., Sp. Gram. Stip. 155 (1842), superfluous name.

Aristida lamarckii Steud., Nom. Bot. ed. 1, 69 (1821), superfluous name.

Chaetaria lamarckii Roem. & Schult., Syst. 2: 393 (1817), superfluous name.

Robust annual 90–120 cm. high, with convolute leaf-blades and purplish glumes.

Maur.: Guberni Rossetti 61/335! **Sen.:** Roger! Heudelot 307! Farman 17a! Dakar Huard! **Mali:** Davey! Sansanding to Ségou (Sept.) Chev. 2375! Gao (Sept.) Rossetti 59/142! Tondidarou (Oct.) Farrow 78! **Guin.:** Mamou (Feb.) Roberty 10500! **Niger:** Niamey (Oct.) Vaillant 2586! Toukounous Bartha 44! Wadi Dollol White 20! 39! Matankari (Mar.) Virgo 16! **N. Nig.:** Sokoto (Oct.) Moisie 146! Katsina (Oct.) Clayton 1380! Damaturu (Oct.) Daggash FHI 22002! Katagum Dalz. 292! Kalkala (Oct.) Gwynn 106!

Extends eastward to the **Sudan**, with sporadic occurrences southwards to S.W. Africa.

A closely related perennial species *A. meridionalis* Henr. occurs south of the Equator.

12. *Aristida sieberana* Trin. in Spreng., Neue Entd. 2: 61 (1821); Henrard l.c. 564; Chev. Bot. 741, and in Rev. Bot. Appliq. 14: 109. **APD acc**

Aristida longiflora Schumacher, Beskr. Guin. Pl. 68 (1827); F.W.T.A., ed. 1, 2: 534; Henrard l.c. 114; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 727.

Aristida pallida Steud., Syn. Pl. Glum. 1: 143 (1854); F.W.T.A., ed. 1, 2: 534; Henrard l.c. 412; A. Chev. in Rev. Bot. Appliq. 14: 48; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 728.

Aristida aristidis Coss. (1895); Chev. Bot. 740.

Aristida schebehlensis Henr. in Med. Rijks Herb. Leiden 54B: 537 (1928).

Aristida leiocalycina Trin. & Rupr. (1842).

Loosely tufted perennial, with tough wiry culms and glaucous involute leaf-blades; **on coastal sands, and on dry sandy soils inland.**

Maur.: Aouker Rossetti 61/341! **Sen.:** Adanson! Spire! Dakar (May) Baldwin 5731! Saint Louis (Feb.) Berhaut 2812! **Mali:** Timbuktu (June, July) Chev. 1228! Hagerup 106! Saraféré (July) Lean 59! Diré to Bandiagara (May) Rogeon & Leclercq 227! Kersani (Aug.) Demange 23/1957! **Guin.:** Pobéguin 550! **Iv. C.:** Ferkessédougou (July) Adjanohoun 433a! Bouna (July) Adjanohoun 434a! **U. Volta:** Sindou (June) Leeuwenberg 4316! Banfora (June) Scholz 7! **Ghana:** Cape St. Paul (Apr.) Rose Innes GC 31221! Ada (Jan.) De Wit & Morton A2978! Old Ningo (May) Rose Innes GC 31265! Tamale (June) Andoh FH 5915! Navrongo to Lawra (Oct.) Rose Innes GC 30276! **Togo Rep.:** Lomé Warnecke 168! **Dah.:** Cotonou (Nov.) Clayton 395! Debeaux 164! Chev. 4459! Ajuda (Oct.) Newton 15! **Niger:** Niamey (Jan., Oct.) Chev. 43172! Hagerup 491! Vaillant 2587! Dakoo (Dec.) Vaillant 2589! Toukounous Bartha 10! **N. Nig.:** Kontagora (Dec.) Hubbard S584! Kano (Dec.) Meikle 807! Katsina Imam FHI 27804! Hadejia (Dec.) Clayton 468! Mongonu (Oct.) Golding 29! **S. Nig.:** Lagos Dalz. 1126!

Extends eastward to Somali Rep., and north to Tunisia and Israel.

13. *Aristida mutabilis* Trin. & Rupr. Sp. Gram. Stip. 150 (1842), incl. var. *senegalensis* Trin. & Rupr. l.c. 15! (1842), and var. *nigritiana* (Hack.) Bourreil in Taxon 18: 518 (1969); Henrard l.c. 186; A. Chev. in Rev. Bot. Appliq. 14: 47; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 727. **APD acc**

Aristida nigritiana Hack. in Fedde Rep. 10: 166 (1911); F.W.T.A., ed. 1, 2: 534.

Aristida longeradiata Steud., Syn. Pl. Glum. 1: 140 (1854); F.W.T.A., ed. 1, 2: 534.

Aristida tenuiflora Steud. l.c. 138 (1854).

Aristida hoggariensis Batt & Trab. (1908).

Aristida lauriolii Maire (1934).

Aristida meccana Hochst. ex Trin. & Rupr., Sp. Gram. Stip. 152 (1842); F.W.T.A., ed. 1, 2: 534; A. Chev. in Rev. Bot. Appliq. 14: 47; De Miré & Gillet in J. Agric. Trop. 3: 727.

Annual, 10–60 cm. high; rather variable, and several varieties have been described (see Henrard l.c.).

Maur.: Mahmoud Rossetti 61/281! Nima (Oct.) Hepper 3719! Aouker Rossetti 61/336! **Sen.:** Dagana (Oct.) Hepper 3644! Wallo Leprieur! **Mali:** Région Nord Leclercq 42658! Timbuktu (Aug.) Lean 79! Hagerup 260! Korienza (Nov.) Davey 206! Dioura (Nov.) Davey 147! **Ghana:** Tamale to Bolgatanga (Sept.) Addei SLUS 761! Navrongo (Aug.) Rose Innes GC 31672! GC 31898! **Niger:** Vaillant 2590! D'in Abbangarit (Nov.) Money-Kyrle Sah 41! Agadez (Nov.) Money-Kyrle Fe 7! Zinder (Nov.) Money-Kyrle Fe 16! 80 miles S. of In Guezzam (Oct.) Everett 6! **N. Nig.:** Katagum Dalz. 290! Maiduguri (Oct.) Johnston W42! Kauwa (Oct.) Gwynn 126! Mongonu (Oct.) Golding 15!

Extends eastwards through the **Sudan**, **Kenya** and **Arabia** to India, southwards into Tanzania. (See Useful Plants.)

A. mutabilis may be separated from *A. meccana* by its subequal glumes (greatest difference in glume length 0.2–2.2 mm. in the former, 2.2–4.2 mm. in the latter). African populations clearly show modal values corresponding to one or both of these ranges, but the distinction is not sharp; moreover Indian plants display an intermediate range. These entities seem to be geographical races rather than independent species.

Aristida caerulescens Desf. Fl. Atlant. 1: 109 (1798). *APD acc*

Distinguished from *A. adscensionis* by its perennial habit.

Recorded on the northern limit of our area at Air by Be Miré & Gillet in J. Agric. Trop. 3: 727 (1956).

Mediterranean and **Orient**.

Additional species.

32. CENTOTHECA

Desv. in Nouv. Bull. Soc. Philom. 2: 189 (1810).

- 1 Leaf-blades lanceolate, 1.5–3 cm. broad; spikelets lanceolate, up to 8 mm. long, terete or slightly compressed; lemmas emarginate and mucronate at the tip, the lowest glabrous, the upper with reflexed tubercle-based bristles [lappacea](#)

Centotheca lappacea (Linn.) Desv. in Nouv. Bull. Soc. Philom. 2: 189 (1810); Chev. Bot. 751, and in Rev. Bot. Appliq. 14: 135; Berhaut, Fl. Sén., ed. 2, 408. *APD acc*

Cenchrus lappaceus Linn., Sp. Pl. ed. 2, 1488 (1763).

Uniola lappacea (Linn.) Trin. (1830). *Holcus latifolius* Osb. (1757).

Centotheca latifolia Trin. (1820), illegitimate name.

Annual, 30–90 cm. high; **in forest shade**.

Sen.: Forêt de Boudié, Casamance (Nov.) Berhaut 6388! **Guin.:** Macenta (Oct.) Baldwin 9816! **S. L.:** Barter! Freetown (Oct.) Deighton 2184! Ronietta (Nov.) Thomas 5474! Njala (Jan.) Dalz. 8421! Rokupr (Nov.) Jordan 680! **Lib.:** Kle (Dec.) Baldwin 10569! Soplma (Nov.) Baldwin 10115! Ganta (Dec.) Harley 1729! Mecca (Dec.) Baldwin 10818! Gretown (July) Baldwin 6800! **Iv. C.:** Abidjan (Dec.) Leeuwenberg 2283! Guéyo (Mar.) Leeuwenberg 3809! Yapo (Sept.) Roberty 12035! Adiopodoumé (Oct.) Roberty 15321! Guitry (Dec.) Boughey GC 13521! **Ghana:** Aburi (Apr.) Brown 323! Oda (Aug.) Howes 967! Tafo (Feb.) Thorold 313! Vane (Dec.) Rose Innes GC 31186! Kade (Oct.) Ankrah GC 20322! **N. Nig.:** Jemaa (Oct., Nov.) Clayton 1427! Gambles 61! 65! Donga Plain (Feb.) Brunt 1011! **S. Nig.:** Lagos W. MacGregor 300! Ibadan (Nov.) Oguia FHI 7946! Okomu F.R., Benin (Dec.) Brenan 8395! Sapoba (Nov.) Keay & Onochie FHI 21613! Oban Talbot 842! **W. Cam.:** Victoria (July) Maitland 12! Banga (Nov.) Dundas FHI 13901! **F. Po.:** (Nov., Dec.) T. Vogel 230! 260! Mann 109 (partly)! Monte Balea (Dec.) Guinea 351!

Old World tropics. (See Useful Plants.)

33. MEGASTACHYA

P. Beauv., Ess. Agrost. 74 (1812).

- 1 Leaf-blades lanceolate to ovate, 1·5–3 cm. broad; spikelets narrowly oblong, laterally compressed, on slender pedicels; lemmas truncate and mucronate at tip *mucronata*

Megastachya mucronata (Poir.) P. Beauv. Ess. Agrost. 74, 167 (1812); Aké Assi, Contnb. 2: 277. *APD acc*

Poa mucronata Poir., Encyl. 5: 91 (1804).

Centotheca mucronata (Poir.) O. Ktze., Rev. Gen. Pl. 765 (1891); F.W.T.A., ed. 1, 2: 505.

C. owariensis (P. Beauv.) Hack. ex C.B. Cl. (1896).

Megastachya owariensis P. Beauv., Ess. Agrost. t. 15, fig. 5 (1812).

Eragrostis owariensis (P. Beauv.) Steud. (1854).

E. beninensis Steud. (1840).

E. jardinii Steud. (1854).

E. palisotii Dur. & Schinz, Consp. Pl. Afr. 5: 887 (1894).

Leersia disticha Benth. (1849).

Centotheca urekana Guinea in An. Agric. Terr. Esp. Kolfo Gum. 1947: 142 (1948).

Tufted annual 80–90 cm. high; in forest shade.

S. L.: Mesima (Apr.) Deighton 3696! **iv. C.:** Abidjan (June, Dec.) Adjanohoun 407a! Pitot! (Sept.) de Wilde 887! **Ghana:** Nrima (Jan.) Thorold 296! Atwabo Fishlock 32! **S. Nig.:** Lagos Dalz. 1136! Okomu F.R., Benin (Jan.) Brenan 8868! Aboh Barter 12! Mamu F.R., Onitsha (Nov.) Keay FHI 22293! Opobo (Apr.) Jeffreys 32! **W. Cam.:** Mamfe (Dec.) Morton K612! **F. Po:** Ureka (Nov.) Guinea 2341!

Tropical Africa generally.

34. ENNEAPOGON

Desv. ex P. Beauv., Ess. Agrost. 81 (1812); Renvoize in Kew Bull. 22: 393 (1968).

- 1 Uppermost (3rd) floret 0·5–2 mm. long (incl. awns); anthers 0·3–0·5 mm. long; basal leaf-blades filiform *1. desvauxii*
Uppermost (3rd) floret 4–7 mm. long (incl. awns); anthers 0·5–1·3 mm. long; leaf-blades usually flat, 2–3 mm. broad *2. schimperanus*

1. **Enneapogon desvauxii** P. Beauv. Ess. Agrost. 82, 161, f. 16/11 (1812). *APD acc*

Enneapogon brachystachyus (Jaub. & Spach) Stapf in Fl. Capensis 7: 654 (1900); A. Chev. in Rev. Bot. Appliq. 14: 132; De Miré & Gillet in J. Agric. Trop. 3: 731.

Pappophorum brachystachyum Jaub. & Spach in Ann. Sci. Nat. Bot. sér. 3, 14: 365 (1850).

P. vincentianum Schmidt, Beitr. Fl. Cap. Verd. Ins. 144 (1852).

P. nanum Steud., Syn. Pl. Glum. 1: 200 (1854).

Tufted perennial up to 23 cm. high.

Niger: Air (fide De Miré & Gillet).

From the Cape Verde Is. and Algeria eastwards through **Ethiopia** and **Kenya** to **Arabia**; southwards to S. Africa; central & S. America.

2. **Enneapogon schimperanus** (Hochst. ex A. Rich.) Renvoize in Kew Bull. 22: 400 (1968).

APD: *Synonym of Enneapogon persicus Boiss.*

Pappophorum schimperanum Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 403 (1851).

P. elegans Nees ex Steud., Syn. Pl. Glum. 1: 199 (1854).

P. glumosum Hochst. in Flora 38: 203 (1855).

Enneapogon glumosus (Hochst.) Maire & Weiller, Fl. Afr. Nord. 2: 193 (1953); De Miré & Gillet in J. Agric. Trop. 3: 732.

Enneapogon elegans (Nees ex Steud.) Stapf in Kew Bull. 1907: 224; A. Chev. in Rev. Bot. Appliq. 14: 132.

Tufted perennial up to 1 m. high.

Mali: Ansongo (Sept.) Hagerup 397! **Niger:** Air (fide De Miré & Gillet).

Extends eastwards to **Sudan**, **Ethiopia**, and **Arabia**.

[Note: *Pappophorum senegalense* Steud (1854) (= *Enneapogon cenchroides* (Roem. & Schult.) C. E. Hubbard) was actually collected in Gabon, not Senegal.]

35. SCHMIDTIA

Steud. ex J. A. Schmidt, Beitr. Fl. Cap. Verd. Ins. 144 (1852), nom. cons.; Launert in Bol. Soc. Brot. 39: 303 (1965).

- 1 Panicle narrow, 6–12 cm. long, the branches and spikelets softly pubescent all over; spikelets about 1 cm. long; glumes membranous, ovate-lanceolate, acute, 4.5–9 mm. long, 9-nerved; lemmas broadly obovate, with 5 bristles 4.5–9 mm. long, alternating with 6 hyaline lobes 2 mm. long [pappophoroides](#)

Schmidtia pappophoroides *Steud. ex J. A. Schmidt* Beitr. Fl. Cap. Verd. Ins. 145 (1852); A. Chev. in Rev. Bot. Appliq. 14: 132; Berhaut, Fl. Sén. ed 2, 408. *APD acc*

Schmidtia bulbosa *Stapf* in Fl. Capensis 7: 658 (1900).

Caespitose or almost suffrutescent perennial, softly pilose all over.

Maur.: Néma Rossetti 61/137! **Sen.:** Walo Heudelot 516!

Extends eastward to the [Sudan](#) and [Kenya](#), and south to [Angola](#).

36. AELUROPUS

Trin., Fund. Agrost. 143 (1820). *APD acc*

- 1 Culms procumbent, stoloniferous, wiry and woody; leaf-blades subulate-lanceolate, pungent, glabrous, 1.5–3 cm. long; spikelets ovate, 2–5 mm. long, softly villous; lemmas 5–9-nerved, mucronate [lagopoides](#)

Aeluropus lagopoides (*Linn.*) *Trin. ex Thw.* Enum. Pl. Zeyl. 374 (1864); Bor in Webbia 24: 401 (1969). *APD acc*

Dactylis lagopoides *Linn.*, Mant. 33 (1767).

D. brevifolia *Koenig ex Willd.*, Sp. Pl. 1: 410 (1797).

Aeluropus laevis *Trin.*, Fund. Agrost. 143 (1820).

Aeluropus repens (*Desf.*) *Parl.* (1848)—A. Chev. in Rev. Bot. Appliq. 14: 134.

Perennial; [seashores](#), and [saline soils inland](#).

Maur.: Keur Masséne Rossetti 59/8! Nouakchott to Rosso (Nov.) Adam 19584!

From the Mediterranean to the Punjab, reaching southwards into the [Sudan](#), [Ethiopia](#) and Somaliland.

37. ERAGROSTIS

Wolf, Gen. Pl. Vocab. Char. Def. 23 (1776).

- 1 Keels of paleas ciliate, the hairs spreading beyond the margins of the lemmas; spikelets 1.5–4.5 mm. long and 1–2.5 mm. wide, breaking up from the apex downwards; lemmas obtuse: **2**
Keels of paleas glabrous or minutely ciliate (rarely ciliate, but then concealed within the lemma—E. plurigluma): **5**
- 2 Lemmas, or at least the upper, with a few short stiff hairs on the keel; panicle spike-like, woolly, more or less lobed or interrupted, typically 4–12 cm. long and 5–15 mm. wide, the spikelets densely clustered; spikelets 2–4.5 mm. long and 1.5–2 mm. wide; upper glume 1–1.2 mm. long; lemma narrowly elliptic in side view, 0.9–1.5 mm. long; palea hairs much longer than the width of the floret; anthers 2; grain 0.3–0.5 mm. long **1**. [ciliaris](#)
Lemmas smooth or scaberulous on the keel; anthers 3: **3**
- 3 Inflorescence sticky from glands on branchlets and glumes, to which grains of sand adhere **2**. [viscosa](#)
Inflorescence with or without glands, but not sticky: **4**
- 4 Panicle dense, linear-elliptic, 4–22 cm. long and 5–25 mm. wide, not lobed or woolly, nor with the spikelets clustered; spikelets 2–4.5 mm. long and 1.5–2.5 mm. wide; upper glume 1–1.5 mm. long; lemma narrowly elliptic in side view, 1–1.5 mm. long, glabrous on the keel; palea hairs about as long as the width of the floret;

- grain 0.5 mm. long [3. arenicola](#)
- Panicle open, pyramidal to elliptic, 2–14 cm. long and 10–30 mm. wide, the spikelets scattered; spikelets 1.5–2.5 mm. long and 1–1.5 mm. wide; upper glume 0.7–1 mm. long, lemma elliptic in side view, 0.5–1 mm. long, scaberulous on the keel; palea hairs usually shorter than the width of the floret; grain 0.4–0.6 mm. long [4. tenella](#)
- 5 Spikelets breaking up from the apex downwards, the rhachilla disarticulating between the florets so that lemma and palea fall together enclosing the grain; spikelets up to 1.5 mm. wide; lemmas obtuse: [6](#)
- Spikelets breaking up from the base upwards, the rhachilla persistent (except *E. egregia*), and the lemma and palea falling separately: [8](#)
- 6 Panicle ovate-elliptic, 20–35 cm. long and 7–15 cm. wide, loose, the spikelets on long fine pedicels; spikelets 4–10 mm. long, 6–22-flowered, 1–1.5 mm. wide; ligule reduced to a ciliate rim; lemma 1.2–1.7 mm. long; keels of palea scabrid; anthers 3; grain subglobose [5. aspera](#)
- Panicle linear to lanceolate, 10–60 cm. long and 1–5 cm. wide, dense, the spikelets short pedicelled; spikelets 1.3–2.2 mm. long, 4–10-flowered, 0.8–1 mm. wide; ligule membranous, 0.5 mm. long; lemma 0.7 mm. long; anthers 2; grain ellipsoid [7](#)
- 7 Keels of palea smooth [6a. namaquensis var. namaquensis](#)
- Keels of palea scaberulous [6b. namaquensis var. diplachnoides](#)
- 8 Glumes pubescent to pilose; lemmas hairy near the margins or only with a few short hairs at the base; spikelets ovate to oblong; paleas deciduous; anthers 3: [9](#)
- Glumes and lemmas glabrous (or the latter with a few scurfy hairs when young in *E. pobeguinii*): [11](#)
- 9 Perennial; spikelets 4–6.5 mm. wide; lemmas 3–3.5 mm. long, acute, glandular on keel and nerves, hairy near the margins; panicle glandular on branches and pedicels; leaf-blades flat, 3–9 mm. wide and 10–30 cm. long; grain broadly oblong, flattened, 1–6 mm. long [7. blepharostachya](#)
- Annuals; spikelets 2.5–4.5 mm. wide; lemmas 1.8–2.5 mm. long: [10](#)
- 10 Lemmas thinly chartaceous, with a line of white tubercle based hairs near the margins and a few glands on the nerves, obtuse to subacute; panicle glandular on branches and pedicels; spikelets 3–8 mm. long and 2.5–3.5 mm. wide; leaf-blades flat or rolled, 2–18 cm. long and 2–7 mm. wide; grain broadly oblong, plump, 0.7 mm. long [8. scotelliana](#)
- Lemmas coriaceous, glabrous except for a few short rigid hairs at the base, closely packed, broadly rounded at the apex; panicle branches and pedicels usually without glands; spikelets 3–20 mm. long and 3–4 mm. wide; leaf-blades flat, 4–18 cm. long and 2–8 mm. wide; grain broadly elliptic, plano-convex, 1–1.5 mm. long [9. turgida](#)
- 11 Lower 2–5 florets barren, smaller in size, the palea absent or reduced; anthers 3: [12](#)
- Lower florets fertile, as large as or larger than the upper: [14](#)
- 12 Spikelets linear, 9–15 mm. long and 2.5–4 mm. wide, breaking above the sterile lemmas and the upper part falling entire at maturity; lower 3–4 lemmas reduced, the lowest without a palea and glume-like; fertile lemmas imbricate, acute, 2.5–3 mm. long; anthers 2–3, 0.7–1.3 mm. long [10. egregia](#)
- Spikelets ovate to broadly elliptic, 4–6 mm. long and 2–4 mm. wide, the florets falling separately; paleas deciduous: [13](#)
- 13 Fertile lemmas obtuse at the tip, chartaceous, imbricate; paleas ciliate on the keels, the cilia 0.2–0.4 mm. long; barren lemmas 3–5, without paleas [11. plurigluma](#)
- Fertile lemmas acute at the tip, firmly membranous, contiguous; paleas shortly ciliolate on the keels, the cilia 0.1–0.2 mm. long; barren lemmas 2, without paleas [12. cenolepis](#)
- 14 Keels of paleas broadly winged, the wings up to 0.5 mm. wide and folding over the sides of adjacent lemmas; spikelets ovate to oblong, 6–13 mm. long and 4–5 mm. wide, light olive green; lemmas lanceolate, acute, 3–4 mm. long; paleas deciduous; leaf-blades up to 5 mm. wide, but usually narrower and tightly convolute; anthers 3 [13. invalida](#)
- Keels of paleas not or only very narrowly winged: [15](#)
- 15 Paleas falling at about the same time as the lemmas: [16](#)
- Paleas not deciduous, persisting long after the lemmas have fallen: [24](#)
- 16 Leaf-blades spreading horizontally or becoming reflexed, 0.5–6 cm. long and 0.5–2 mm. wide, flat or rolled; spikelets ovate-oblong to oblong, 4–7 mm. long and 2.5–4 mm. wide, dark olive green; lemmas broadly ovate-oblong, 1.3–2.5 mm. long, loosely contiguous, obtuse to subacute, firmly chartaceous, dully shining; keels of the palea narrowly winged, ciliolate; anthers 3 [14. volkensii](#)
- Leaf-blades mostly erect or sometimes obliquely spreading: [17](#)
- 17 Annuals; anthers 0.2 mm. long: [18](#)
- Perennials; spikelets 1.5–3.5 mm. wide; grain ellipsoid, 0.7–0.9 mm. long; anthers 3: [21](#)

- 18 Spikelets ovate to ovate-oblong, 2–3.5 mm. wide; anthers 2: 19
 Spikelets linear, 1–1.5 mm. wide: 20
- 19 Lemmas suborbicular in side view, obtuse at the tip when flattened, firmly chartaceous, olive green, dully shining; panicle stiff, 5–12 cm. long and 3–7 cm. wide, the lateral pedicels 1–2 mm. long; spikelets 3–5.5 mm. long and 2–2.5 mm. wide [15. mokensis](#)
 Lemmas narrowly ovate in side view, acute at the tip when flattened, membranous, tinged with pink or purple; panicle delicate, 5–12 cm. long and 2–6 cm. wide, the lateral pedicels 2–10 mm. long; spikelets 4–12 mm. long and 2–3.4 mm. wide [16. unioides](#)
- 20 Grain subglobose, 0.4–0.6 mm. long; lowest branches of the panicle not whorled, usually solitary, glabrous in the axil; lemmas narrowly ovate, acute to subobtuse, 1–1.5 mm. long, diverging at about 45° from the rhachilla and 3–4 times as long as its internodes; spikelets 4–10 mm. long; glumes lanceolate, about 1/2 as long as the adjacent lemmas; leaf-blades up to 15 cm. or more long, rolled or flat, 1–3 mm. wide; anthers 2 [17. gangetica](#)
 Grain ellipsoid, 0.6–1 mm. long, flattened on one side; lowest branches of the panicle whorled (except in the smallest panicles), usually with a few long white hairs in the axil; lemmas lanceolate-oblong, subacute or obtuse, 1.4–2 mm. long, more or less appressed to the rhachilla and 2–2 1/2 times as long as its internodes; spikelets 3–7 mm. long, 4–14-flowered; leaf-blades up to 20 cm. long, flat or rolled, 1–4 mm. wide; anthers 3 [18. pilosa](#)
- 21 Spikelets ovate to ovate oblong, 5–15 mm. long and 3–3.5 mm. wide, long-pedicelled in large open loose panicles up to 35 cm. long and 25 cm. wide; culms herbaceous; lemmas obliquely ovate in side view, 2–3 mm. long, grey, firmly chartaceous; anthers 1 mm. long [19. chalarothyrsos](#)
 Spikelets linear: 22
- 22 Flowering culms woody, branched and geniculate, rooting at the nodes, and eventually functioning as stolons; lemmas 2–2.3–2 mm. long, lanceolate in side view, acute at the tip when flattened, thinly chartaceous; anthers 0.9–1.3 mm. long; spikelets 2–3 mm. wide and 8–16 mm. long, pallid, loose, the rhachilla clearly visible; panicle lax [20. barteri](#)
 Flowering culms herbaceous, erect; lemmas 1.4–2 mm. long, narrowly ovate in side view, firmly chartaceous; anthers 3, 0.4–1 mm. long; spikelets 1.5–2.5 mm. wide and 5–20 mm. long, dense, the rhachilla concealed by the florets: 23
- 23 Leaf-blades 15–30 cm. long and 2–4 mm. wide, flat or rolled; culms 45–100 cm. high and 1.5–3 mm. diam. at base, leafy; panicle ovate or oblong, spikelets more or less clustered about the obliquely ascending primary branches; spikelets pallid to grey or purple; lemmas 1.4–2 mm. long, acute to subacute at the tip when flattened [21. atrovirens](#)
 Leaf-blades 3–7 cm. long and 1–2 mm. wide, usually rolled; culms about 30 cm. high and 1 mm. diam. at base, wiry, leafless, the leaves mostly basal; panicle linear, the spikelets clustered about the main axis; spikelets dark grey; lemmas 1.4–1.7 mm. long, obtuse at the tip when flattened [22. camerunensis](#)
- 24 Margins of leaf-blades bearing warty glands, the blades flat, 3–11 mm. wide, glabrous; panicle ovate to oblong, open or contracted, loose or dense, 3–25 cm. long and 2–12 cm. wide, usually bearing glands on branches and pedicels; spikelets narrowly oblong to oblong or ovate-oblong, pallid yellowish green to leaden grey; lemmas ovate to ovate-oblong, obtuse; grain subglobose, up to 0.6 mm. long: 25
 Margins of leaf-blades not glandular (rarely with tubercle-based hairs in *E. pobeguinii*); spikelets linear to narrowly oblong: 26
- 25 Spikelets 2–4 mm. wide; lemmas 2–2.8 mm. long [23. cilianensis](#)
 Spikelets 1.3–2 mm. wide; lemmas 1.5–2 mm. long [24. minor](#)
- 26 Perennials: 27
 Annuals: 30
- 27 Panicle scantily branched, bearing up to 15 spikelets, linear, 3–12 cm. long and 0.5–2 cm. wide; spikelets 3–5 mm. wide and 7–18 mm. long, narrowly oblong, pallid to olive-grey; basal sheaths bulbously swollen and hardened below; leaf-blades up to 2 mm. wide, usually rolled and setaceous, pilose with tubercle-based hairs; lemmas 3–4 mm. long, firmly chartaceous, acute, with or without a few deciduous scurfy hairs near the base [25. pobeguinii](#)
 Panicle bearing numerous spikelets; spikelets up to 2.5 mm. wide; basal sheaths not swollen: 28
- 28 Lemmas closely imbricate, their sides pressed flat against adjacent lemmas for almost their entire length; spikelets 5–25 mm. long and 2–2.5 mm. wide, purplish grey; leaf-blades stiff, up to 6 mm. wide, but usually much narrower and rolled, densely scabrid above; panicle elliptic, stiff, open, the spikelets short-pedicelled and loosely appressed to the branches; anthers 2 [26. squamata](#)
 Lemmas contiguous, free from adjacent lemmas for much of their length; pedicels long and slender; anthers 3: 29
- 29 Lower glume about 2/3 as long as the upper, the latter 0.8–1.4 mm. long and barely reaching the base of the adjacent lemma; spikelets dark green, the margins conspicuously saw-toothed; panicle elliptic, open, 5–20 cm. long [27. tenuifolia](#)

Lower glume about as long as the upper, the latter 1.5–2 mm. long and reaching at least to the middle of the adjacent lemma; spikelets pale brownish-green; panicle linear to lanceolate, 10–30 cm. long, the slender flexuous branches ascending close to the axis [28. *domingensis*](#)

- 30** Florets appressed to the rachilla; spikelets 0.8–1.5 mm. wide; anthers 3; grain ellipsoid, 0.5–0.7 mm. long: **31**

Florets diverging at 45°; panicle not whorled (sometimes the lowest branches irregularly whorled in E. macilenta): **32**

- 31** Lower glume as long as lower lemma; panicle narrowly ovate, the branches in successive whorls; spikelets grey, 3–8 mm. long; lemmas 1.5–1.7 mm. long, obtuse; anthers 0.8–1 mm. long [29. *cylindriflora*](#)

Lower glume half as long as lower lemma; panicle at first linear and embraced by the uppermost sheath, but the branches spreading at maturity; spikelets pallid, 3.5–15 mm. long; lemmas 1.2–1.7 mm. long, subacute; anthers 0.2 mm. long [30. *aegyptiaca*](#)

- 32** Spikelets very dark green to almost black, oblong, 3–6 mm. long and 1–2 mm. wide, loosely 6–14-flowered; glumes acuminate, 1–1.5 mm. long; lemmas 1.3–1.6 mm. long, acute; anthers 3, 0.5 mm. long; grain broadly oblong, 0.5 mm. long; panicle ovate-elliptic, up to 35 cm. long, diffuse [31. *macilenta*](#)

Spikelets pallid to purplish, 1.5–2.5 mm. wide: **33**

- 33** Lemmas obtuse at the tip when flattened, 1.5–2 mm. long; anthers 2, 0.1–0.3 mm. long; grain subglobose, 0.5 mm. long: **34**

Lemmas acute at the tip when flattened: **35**

- 34** Base of the florets interleaved with those of the opposite row; panicle ovate to elliptic, 5–50 cm. long, very loose, the spikelets trembling on slender pedicels; spikelets 8–50 mm. long, 10–100-flowered [32. *tremula*](#)

Base of the florets free from those of the opposite row; panicle ovate and open to linear and contracted, 4–15 cm. long; spikelets 8–25 mm. long, 14–50-flowered [33. *elegantissima*](#)

- 35** Panicle linear to narrowly elliptic, dense, the spikelets closely clustered about the primary branches; spikelets 7–35 mm. long and 2–2.5 mm. wide, 10–100-flowered, pallid or pinkish brown; lemmas 2.5–2.7 mm. long, imbricate; anthers 2, 0.1–0.2 mm. long; grain subglobose, 0.3–0.4 mm. long; leaf-blades flat, up to 4 mm. wide [34. *lingulata*](#)

Panicle elliptic, open, the spikelets uniformly distributed; spikelets 3–9 mm. long and 1.5–2 mm. wide, 7–30-flowered, purplish; glumes 1–2 mm. long, lanceolate, covering 3/4 of the adjacent lemma or more; lemmas 1.5–2 mm. long, contiguous; anthers 3, 0.3–0.4 mm. long; grain subglobose, 0.4 mm. long [35. *welwitschii*](#)

- 1. *Eragrostis ciliaris* (Linn.) R. Br.** in Tuckey, Narr. Exp. Congo, Append. 478 (1818); Chev. Bot. 749, and in Rev. Bot. Appliq. 14: 117; Berhaut, Fl. Sén. ed. 2, 396; De Miré & Gillet in J. Agric. Trop. 3: 732. *APD acc*

Poa ciliaris Linn., Syst. Nat. ed. 10, 2: 875 (1759).

Eragrostis pulchella Parl. in Atti Riun. Sci. Ital. 8: 586 (1847).

Annual 15–60 cm. high; **a common weed of roadsides, cultivated land and waste places.**

Sen.: Farmar 124! Roger 12! 41! Casamance (Oct.) Adam 18276! **Gam.:** Saunders 119! Genieri (July) Fox 128! Sankuli-Kunda (Sept.) Pirie 10/33! Yundum, W. Div. (Dec.) Austin 16! Ashrif 14! **Mali:** Labézenga (Sept.) Hagerup 452! Kersani (Aug.) Farrow 22! Dioura (Sept.) Farrow 139! Korienza (Nov.) Davey 200! **Guin.:** Baffing R. (Nov.) Pobéguin 1819! **S. L.:** Morson! Freetown (Oct.) Deighton 2155! Lumley (Jan.) Gledhill 145! Bonthe (Mar.) Deighton 2487! Musaia (Dec.) Deighton 4458! **Lib.:** Buchanan (Mar.) Baldwin 11206! Timbo (Mar.) Baldwin 11222! Sangwin (Mar.) Baldwin 11326! Harper Common (June) Baldwin 5972! **Iv. C.:** Diahbo to Bouaké (July) Chev. 22056! Adiopodoumé (Dec.) Leeuwenberg 2129! Abidjan to Dabou (Dec.) Boughey GC 14453! Cocody, Abidjan (June) Adjanooun 425a! Abouabou (May) Leeuwenberg 4239! **U. Volta:** Ouagadougou (June) Scholz 110! Nadjogo to Nadiokan (June) Scholz 118! Samandeni (Oct.) Kmoch 170! **Ghana:** Cape St. Paul (Feb.) Thorold 4! Nungua (Aug.) Rose Innes GC 30057! Aburi (Sept.) Johnson 840! Kintampo (Dec.) Vigne FH 3196! Tamale (Dec.) Lloyd Williams 460! **Togo Rep.:** Lomé Warnecke 170! Palime Stage 80! **Dah.:** Spire 1918! Agouagon (May) Chev. 23494! Ina Farm No. 24 Serv. Agr.! **N. Nig.:** Sokoto (Nov.) Moiser 148! Nupe Barter 864! Abinsi Dalz.! Katagum Dalz. 248! Yola (Sept.) Kennedy FHI 7284! **S. Nig.:** Ibadan (Jan.) Meikle 946! Lagos (Feb.) W. MacGregor 17! Owo (July) Jones FHI 4375! Agolo, Awka Dist. Thomas! Opobo (Apr.) Jeffreys 2! **W. Cam.:** Victoria (Nov.) Maitland 83!

Throughout the tropics. (See Useful Plants.)

- 2. *Eragrostis viscosa* (Retz.) Trin.** in Mém. Acad. Sci. Petersb. sér. 6, 1: 397 (1830). *APD acc*

Poa viscosa Retz., Obs. Bot. 4: 20 (1786).

Eragrostis retimirrhea Steud. (1854).

Annual, 20–45 cm. high; culms, leaf-sheaths and base of blade sticky; lower glume with a sticky yellow mid-nerve; dry sandy soils.

N. Nig.: Yola to Biu (Nov.) Magaji & Tuley 1847!

Eastwards to the Philippine Islands, south to South Africa; a few records in tropical America.

3. *Eragrostis arenicola* **C. E. Hubbard** in Kew Bull. 4: 345 (1949). *APD acc*

Eragrostis tenella var. *compacta* **Rendle**, Cat. Welw. 2: 233 (1899).

Tufted annual 15–45 cm. high; **old fields and disturbed land.**

N. Nig.: Zaria Dist. (Dec.) Taylor 22! Samaru (Nov.) Thatcher S552! Gindiri (Oct.) Hepper 1132! Yola to Biu (Nov.) Magaji & Tuley 1847! **W. Cam.:** Gurum (Nov.) Hepper 1281!

Tropical Africa generally, but more frequent towards the south.

4. *Eragrostis tenella* (**Linn.**) **P. Beauv. ex Roem. & Schult.** Syst. Veg. 2: 576 (1817); **Berhaut**, Fl. Sén. ed. 2, 408. *APD acc*

Poa tenella **Linn.**, Sp. Pl. 69 (1753).

P. amabilis **Linn.** l.c. 68 (1753).

P. plumosa **Retz.** (1786).

P. lepida **Hochst. ex A. Rich.** (1851).

Eragrostis amabilis (**Linn.**) **Wight & Arn. ex Hook. & Arn** (1838)

Eragrostis plumosa (**Linn.**) **Link** (1827)—**Chev.** Bot. 750, and in Rev. Bot. Appliq. 14: 119.

Delicate annual 7–30 cm. high; **cultivated land, roadsides and waste places.**

Sen.: Dakar (Oct.) **Berhaut** 2821! **Adam** 16907! **Marc Tally** (Oct.) **Adam** 9873! **Kayes** (June) **Chev.** 26022! **Kaolak** (Sept.) **Berhaut** 307! **Gam.:** Yundum **Ashrif** 32! **Mali:** Bamako (Aug.) **Waterlot** 1227! **Kara** (Dec.) **Davey** 186! **Port. G.:** Bubaque (Feb.) **Pereira** 3720! **Guin.:** Dyeke (Oct.) **Baldwin** 9664! **S. L.:** Rokupr (Apr.) **Jordan** 438! **Freetown** (July) **Deighton** 2025! **Njala** (Nov.) **Deighton** 1503! **Bonthe** (Nov.) **Deighton** 2269! **Mesima** (Feb.) **T. S. Jones** 392! **Lib.:** Sinkor (July) **Barker** 1380! **Monrovia** (Nov.) **Dinklage** 3260! **R. Cess** (Mar.) **Baldwin** 11256! **Nyaake** (June) **Baldwin** 6070! **Harper** (June) **Baldwin** 5994! **Iv. C.:** Téhini (Aug.) **de Wilde** 773! **Adiopodoumé** (Dec.) **Leeuwenberg** 2127! **U. Volta:** Diebougou (Oct.) **Rose Innes** GC 31515! **Ghana:** Bawku (Aug.) **Irvine** 5165! **Tamale** (Oct.) **Rose Innes** GC 30677! **Wenchi** (Oct.) **Rose Innes** GC 30520! **Cape St. Paul** (Apr.) **Rose Innes** GC 31227! **Achimota** (May) **Ankrah** GC 20143! **Niger:** Toukounous **Bartha** 77! **N. Nig.:** Biu (Nov.) **Magaji & Oche** MG65! **Naraguta** (July) **Lawlor & Hall** FHI 45570! **Jebba** (Apr.) **Meikle** 1388! **Ilorin** (Oct.) **Ward** 76! **Badeggi, Bida** (June) **Vaillant!** **S. Nig.:** Ibadan (Dec.) **Jones** FHI 4946! **Lagos** (Feb.) **W. MacGregor** 338! **Benin** (Dec.) **Brenan** 8629! **Onitsha** (Nov.) **Baldwin** 13733a! **Port Harcourt** **Maitland!** **W. Cam.:** **Bota, Victoria** **Brunt** 1043! **Victoria** (July) **Maitland** 14!

Throughout the tropics.

5. *Eragrostis aspera* (**Jacq.**) **Nees** Fl. Afr. Austr. 408 (1841); **A. Chev.** in Rev. Bot. Appliq. 14: 117; **Berhaut**, Pl. Sen ed. 2, 408; **Aké Assi**, Contrib. 2: 277. *APD acc*

Poa aspera **Jacq.**, Hort. Vindob. 3: 32 (1776).

P. hippuris **Schumach.**, Beskr. Guin. Pl. 69 (1827).

Annual, 30–90 cm. high, with large feathery panicles; **a weed of old farmland.**

Gam.: **Sankuli Kunda** (Sept.) **Pirie** 50/33! **Mali:** **Ségou** **Rogéon** 285! **Dinderesso** (Nov.) **Néa** 89! **Guin.:** **Baffing R.** (Nov.) **Pobéguin** 1799! **Tinkiaso Valley** (Mar.) **Pobéguin** 1755! **Kouroussa** (Nov.) **Pobéguin** 528! 533! **S. L.:** **Musaia** (Dec.) **Deighton** 4457! **Iv. C.:** **Nambonkaha** (Nov.) **Leeuwenberg** 2064! **U. Volta:** **Lingliékoro** (Nov.) **Scholz** 87! **Nouna** to **Dedougou** (Oct.) **Scholz** 56! **Ghana:** **Gambaga** (Nov.) **Vigne** FH 4680! **Zongoiri** to **Binaba & Tili** (Oct.) **Rose Innes** GC 31102! **Tamale** (Dec.) **Lloyd Williams** 463! **Samu, near Yendi** (Sept.) **Thorold** 204! **Salaga** (Nov.) **Akpabla** 362! **Niger:** **Agades** (July) **Chopard & Villiers!** **N. Nig.:** **Samaru** (Oct.) **Freeman** S136! **Katagum Dist.** **Dalz.** 272! **Nupe Barter** 859! **Makurdi, Benue Prov.** (Nov.) **Keay** FHI 22273! **Ilorin** (Oct.) **Ward** 77! **S. Nig.:** (Jan.) **Dodd** 384! **Awka Thomas!** **Aguku Thomas** 1379! **W. Cam.:** **Gurum** (Nov.) **Hepper** 1268!

In tropical and S. Africa, extending through **Egypt** and **Arabia** to India.

6. *Eragrostis namaquensis* **Nees** in Linnaea 12: 452 (1838); **A. Chev.** in Rev. Bot. Appliq. 14: 119.

APD: *Synonym of Eragrostis japonica* (**Thunb.**) **Trin.**

Eragrostis maritima **A. Chev.** in Bull. Mus. Hist. Nat., sér. 2, 20: 473 (1948), and in Rev. Bot. Appliq. 29: 134.

Diandrochloa namaquensis (**Nees**) **de Winter** in Bothalia 7: 388 (1960).

Poa sporoboloides **A. Rich.**, Tent. Fl. Abyss. 2: 426 (1851).

Sporobolus confertiflorus **A. Rich.**, Tent. Fl. Abyss. 2: 397 (1851).

Tufted annual 15–120 cm. high; **sandy stream sides**.

6a. *Eragrostis namaquensis* var. *namaquensis*

APD: Synonym of Eragrostis japonica (Thunb.) Trin.

Sen.: Chev.! M'Bidjem (Dec.) Chev. 2232! Fadiout (Dec.) Ezanno 29! **Mali:** Ségou (Oct.) Roberty 3156! Tondigame (Oct.) Farrow 26! Dioura (Nov.) Farrow 113! Keribane (Oct.) Davey 477! **Ghana:** Navrongo to Tumu (Dec.) Adams 4360! **Togo Rep.:** Sokodé Schroeder 124! **Niger:** Zinder (Nov.) Hagerup 613! **N. Nig.:** Naraguta F.R. (Dec.) Kennedy 35! Jos (Dec.) Haines 150! Nupe Barter 993! Vogel Peak (Nov.) Hepper 1328! 1452!

Tropical and S. Africa.

6b. *Eragrostis namaquensis* var. *diplachnoides* (Steud.) W. D. Clayton in Kew Bull. 25: 251 (1971).

APD: Synonym of Eragrostis japonica (Thunb.) Trin.

Eragrostis diplachnoides Steud., Syn. Pl. Glum. 1: 268 (1854); A. Chev. in Rev. Bot. Appliq. 14: 117; Berhaut, Fl. Sén. ed 2., 408; De Miré & Gillet in J. Agric. Trop. 3: 732; F.W.T.A. ed. 1, 2: 512.

APD: Synonym of Eragrostis japonica (Thunb.) Trin.

Eragrostis lepreurii Steud. l.c. 269 (1854).

Eragrostis interrupta of A. Chev. in Rev. Bot. Appliq. 14: 118, not of (R. Br.) P. Beauv.

Eragrostis interrupta var. **diplachnoides (Steud.) Hook. f.**, Fl. Brit. Ind. 7: 316 (1896); Chev. Bot. 749.

Tufted annual 30–90 cm. high; **sandy, cultivated soils**.

Sen.: Leprieur! (Nov.) Roberty 10159! Niokolo-koba (Nov.) Adam 17189! Nyazobile Chev. 33916! **Gam.:** Saunders 110! Wali (Oct.) Pirie 58/33! Georgetown (Jan.) Fairchild 484! **Mali:** Tamboukané (Dec.) Chev. 2227! **Port. G.:** Boruntuma (Dec.) Pereira & Correia 2222! Bafata (Dec.) Pereira & Correia 2602! **Guin.:** Baffing R. (Nov.) Pobéguin 1820! Kouroussa (Dec., Jan.) Pobéguin 539! 624! **S. L.:** Wania (Jan.) Morton & Gledhill SL575! **Iv. C.:** Dahou (Dec.) Aké Assi 7157! **Ghana:** Beal 39! Gushiege to Pigu (Oct.) Rose Innes GC 30705! Yapei Ferry, White Volta R. (Oct.) Rose Innes GC 31117! Tamale (Dec.) Williams 464! Saboba (Mar.) Hepper & Morton A3123! **Niger:** Casolé (Feb.) Chev. 42967! **N. Nig.:** Marte (Nov.) Golding 39! Dikwa (Nov.) Johnston N97! Abinsi (June) Dalz. 908! Nupe Barter 1361! Lokoja Ansell! **S. Nig.:** Onitaha (Feb.) Jones FHI 6890!

Tropical Africa, extending eastwards through **Egypt**, **Ethiopia** and the **Sudan** to Iraq, India, Ceylon and Thailand.

7. *Eragrostis blepharostachya* K. Schum. in Engl., Bot. Jahrb. 24: 336 (1897). *APD acc*

Coarse tufted perennial 45–100 cm. high, with a stiff open panicle of straw-coloured spikelets; **roadside gravels and disturbed, often damp, soils**.

Iv. C.: Oroumba Boka (Aug.) Boughey GC 18537! Lamto (Dec.) Aké Assi 9803! Bouaké (Sept.) de Wilde 980! **Ghana:** Banda (Nov.) Harris! Kintampo (Dec.) Vigne FH 3207! Dafo to Winnta (Sept.) Ankrah GC 20353! Amisano, Cape Coast (Mar.) Hall 1288! Kpedsu (Dec.) Howes 1063! **Togo Rep.:** Misahöhe Kling 79. Bodome (July) Baumann 247! Bismarckburg (Aug.) Büttner 100! 120! Palime (Mar.) Stage 14! **S. Nig.:** Iwo (May) Clayton 534! Ife (Mar.) Coombe 149!

8. *Eragrostis scotelliana* Rendle in Elliott in J. Linn. Soc. 30: 99 (1894); A. Chev. in Rev. Bot. Appliq. 14: 120; Aké Assi, Contrib. 2: 279. *APD acc*

Loosely tufted annual 15–60 cm. high, with a delicate spreading panicle of purplish spikelets; **shallow soils over iron pan or rock**.

Guin.: Mali (Apr.) Pitot 1211! Séguéa (Oct.) Adam 12639! Dalaba (Oct., Nov.) Adames 389! Chev. 34594a! Timbo (Oct.) Pobéguin 1748! **S. L.:** Morson! Regent (Dec.) Sc. Elliot 4114! York (Dec.) Deighton 3291! Tambiama (Feb.) Glanville 157! Kissy (Nov.) Deighton 2923! **Lib.:** Genne Loffa, Kolahun Dist. (Nov.) Baldwin 10092! **Iv. C.:** Singrobo (Nov.) Adjanohoun 370a! Séguéla (June) Adjanohoun 234a! **Ghana:** Berekum to Sampa (Oct.) Rose Innes GC 31643! Mampong (Oct.) Rose Innes GC 31157! Kumasi (Dec.) Adams 4445! Tonogo (Nov.) Morton A3460! Mpraeso to Adawso (Nov.) Rose Innes GC 31658! **N. Nig.:** Sha (Sept.) J. Hall K41! Omu-Aran (Nov.) Latilo FHI 62285! **S. Nig.:** Bori to Ogoni (July) Nwanzo 780! **W. Cam.:** Bamenda (Dec.) Baldwin 13837!

Extends southward to the Congo.

9. *Eragrostis turgida* (*Schumach.*) *De Wild.* Compagnie Kasai 250 (1910); Berhaut, Fl. Sén. ed. 2, 409; incl. var. *ivorensis* A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 20; 473 (1948). *APD acc*

Poa turgida *Schumach.*, Beskr. Guin. Pl. 86 (1827).

P. rubiginosa (*Trin.*) *Kunth*, Enum. Pl. 1: 339 (1838).

Eragrostis rubiginosa *Trin.* in Mém. Acad. Sci. Petersb. sér. 6, 1: 401 (1830); Chev. Bot. 750, and in Rev. Bot. Appliq. 14: 119.

Eragrostis ledermannii *Pilger* in Engl., Bot. Jahrb. 45: 210 (1910).

Briza rubella *Steud.*, Syn. Pl. Glum. 1: 282 (1854).

About 15–60 cm. high, with pink-tinged spikelets subsessile on the branches of a stiff panicle; roadsides and old farmland.

Sen.: Leprieur! Diaroumé, Casamance (Oct.) Adam 18410! **Mali:** Fada to Koupéla (Sept.) Chev. 24550! Guelia (Nov.) Chev. 315! San (Sept.) Chev. 2423! Dari (Sept.) Farrow 19! **Port. G.:** Piche (Sept.) Pereira 3196! 3245! **Guin.:** Pobéguin 574! Baffing Valley (Sept.) Pobéguin 1752! Timbo (Oct.) Jac.-Fél. 1887! Kouroussa (Aug.) Pobéguin 1094! **Iv. C.:** N'Zi Plain, Bocanda (June) Adjanohoun 235a! Bouaké (May) de Wilde 56! Confluence of Sassandra & Baffing R. Chev. 21772! **U. Volta:** Konpienga (June) Scholz 52a! **Ghana:** Navrongo (June) Vigne FH 4620! Saboba (Sept.) Rose Innes GC 30468! Tamale (Oct.) Baldwin 13572a! Kete Krachi to Kpetchu (Oct.) Ankrah GC 20375! Accra Don! **N. Nig.:** Katagum Dalz. 251! Naraguta (July) Lely P403! Samaru (July) Clayton 1242! Nupe Barter 401! Kankiya (Aug.) Onwudinjo FHI 24009! **S. Nig.:** Oyo (Oct.) Onochie FHI 34922! Ibadan (Aug.) Tamajong FHI 19514! Iseyin (Aug.) J. B. Gillett 15401! Lagos (Feb.) MacGregor 175! Enugu (Sept.) Jones 6743!

Extends eastwards through **Uganda** to the **Sudan**, and south to the Congo.

10. *Eragrostis egregia* *W. D. Clayton* in Kew Bull. 20: 271 (1966); Berhaut, Fl. Sén. ed. 2, 410. *APD acc*

Caespitose perennial 0.6–1.5 m. high; shallow or disturbed sandy soils.

Sen.: Betanty (Dec.) Adam 18931! **Iv. C.:** Bouaké (Sept.) de Wilde 994! Toumodi to Dimbokro (Aug.) Chev. 22261!

Toumodi Nord (Oct.) Adjanohoun 347a! **Ghana:** Mishuo (Oct.) Rose Innes GC 30767! Tumu to Walembale (Oct.) Rose Innes GC 30791! Banda to Bui (Oct.) Rose Innes GC 31595! Salaga (Oct.) Ankrah GC 20302! Legon (Nov.) Adams 3551!

11. *Eragrostis plurigluma* *C. E. Hubbard* in Kew Bull. 1934: 116; Berhaut, Fl. Sén. ed. 2, 409. *APD acc*

Eragrostis trepidula *C. E. Hubbard* in Kew Bull. 12: 58 (1957).

Tufted perennial about 1 m. high with rolled leaf-blades and delicate open panicle; moist soils.

Sen.: Ziguinchor (Jan.) Raynal 7936. **Mali:** Ségou (Nov.) Adam 19932! **Guin.:** Farmar 171! Conakry (Oct.) Adam 12616! Kindia (Dec.) Pobéguin 1313! Friguiaigbé (Nov.) Chillou 840! **S. L.:** Mateboi (Oct.) Glanville 79! Yonibana (Oct.) Jordan 583!

Also in **Congo**, **Zambia** & **Angola**.

12. *Eragrostis cenolepis* *W. D. Clayton* in Kew Bull. 20: 266 (1966). *APD acc*

Tufted perennial, 45–90 cm. high; with or without long white hairs from the axils of the panicle; moist soils.

Guin.: Mamou (Oct.) Adam 12754! Timbi Madina (Jan.) Langdale-Brown 2552! **S. L.:** Tingi Mts. (Dec.) Morton & Gledhill SL3049! SL3139! Loma Mts. (Nov.) Morton SL2784! Jaeger 8376! 9458! **N. Nig.:** Naraguta Kennedy 37! Jos (Dec.) Monod 9724bis! Samaru, Zaria (Oct.) Freeman S164! Anara F.R. (Nov.) Keay FHI 28120! Kaduna (Nov.) Keay FHI 28111!

Also in **E. Cameroun**.

13. *Eragrostis invalida* *Pilger* in Engl., Bot. Jahrb. 34: 129 (1904). *APD acc*

Eragrostis glanvillei *C. E. Hubbard* in Kew Bull. 1936: 312; F.W.T.A., ed. 1, 2: 516; Aké Assi, Contrib. 2: 279.

A densely tufted perennial 15–90 cm. high, the panicle usually loose and open; inselbergs and rock outcrops.

Guin.: Macenta (Oct.) Baldwin 9754! **S. L.:** Kayihi (Nov.) Glanville 426! Bintumane Peak, 5,400 ft. (Jan.) T. S. Jones 86! 135! Bumban (Oct.) Deighton 3275! Mt. Loma (Sept.) Jaeger 7717! **Iv. C.:** Tonkoui Mt., 4,800 ft. (Oct.) Aké Assi 5717! **N. Nig.:** Naraguta (Aug.) Lely P450! Jos Plateau Batten-Poole 129! **S. Nig.:** Idanre Hills (Oct.) Keay FHI 22596! 22679!

Also in **Gabon**.

14. *Eragrostis volkensii* Pilger in Engl., Bot. Jahrb. 43: 95 (1909). *APD acc**Eragrostis seticaulis* Chiov. (1919).

Perennial with a small stiff panicle, and slender wiry many-noded culms 30–90 cm. high, forming a straggly growth from a dense tussock.

N. Nig.: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2032! **W. Cam.:** Above Lake Oku, 7,900 ft. (Jan.) Keay & Lightbody FHI 28500! Bagango to Bafut-Ngemba (July) Daramola FHI 43205! Bafut-Ngemba F.R., 7,000 ft. (Feb.) Hepper 2205! Bamenda, 7,500 ft. (Jan., Dec.) Migeod 389! Akpabla GC 10579!

On the highlands of East and Central Africa, and in Transvaal.

15. *Eragrostis mokensis* Pilger in Engl., Bot. Jahrb. 51: 419 (1914). *APD acc*

Slender annual up to 30 cm. high, much branched from the base.

N. Nig.: Riyom (Nov.) Clayton 1407! Wana (Nov.) Hepburn 158! Tiba Plateau (Dec.) Peter & Tuley 48! Mandara, Mambila Plateau (Jan.) Latilo & Daramola FHI 28996! Njawai (Nov.) Jackson, Magaji & Tuley 1893! **S. Nig.:** Bebi, near Obudu (Dec.) Tuley 64! Obudu Plateau (Apr.) Tuley 967! Haines 358! **W. Cam.:** Kishong, 6,700 ft. (Jan.) Keay & Russell FHI 28445! **F. Po.:** Moka, 3,900–5,800 ft. Mildbr. 7102! (Dec.) Boughey 154!

16. *Eragrostis unioides* (Retz.) Nees ex Steud. Syn. Pl. Glum. 1: 264 (1854). *APD acc**Poa unioides* Retz., Obs. Bot. 5: 19 (1789).

Annual, 5–45 cm. high, the culms mostly simple; there is considerable variation in the size of spikelet and density of panicle; **a wayside weed.**

Guin.: Conakry (Oct.) Adam 12615! Maneah (Dec.) Chillou 2312! **S. L.:** Port Loko (Oct.) Jordan 805! Brookfields (Aug.) Jordan 787! Kissy (Nov.) Deighton 2922! Hill Station (Aug.) Deighton 2031! **Lib.:** Monrovia (Aug.) Baldwin 13041! Kakota (July) Harley 1080! Harbel (Sept.) Baldwin 13387! Buchanan (Nov.) Adam 16059! Bahtown (Aug.) Baldwin 8040!

Widespread in tropical Asia; now established in W. Africa and Guiana, and possibly in other localities in the tropics.

17. *Eragrostis gangetica* (Roxb.) Steud. Syn. Pl. Glum. 1: 266 (1854); Berhaut, Fl. Sén., ed. 2, 409. *APD acc**Poa gangetica* Roxb., Fl. Ind. 1: 340 (1820).*P. cambessediana* Kunth, Rev. Gram. 2: 469 (1831).*P. ovina* A. Rich. (1851).*Eragrostis cambessediana* (Kunth) Steud., Syn. Pl. Glum. 1: 269 (1854); F.W.T.A. ed. 1, 2: 515; Chev. Bot. 748.*Eragrostis stenophylla* Hochst. ex Miq. (1851)—Chev. Bot. 750.*Eragrostis ovina* (A. Rich.) Steud. (1854)—A. Chev. in Rev. Bot. Appliq. 14: 121.*Eragrostis flamigni* De Wild. (1919).*Eragrostis vinicolor* A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 20: 472 (1948), incl. var. *pallida* A. Chev. l.c. (1948); A. Chev. in Rev. Bot. Appliq. 29: 130.*Eragrostis dumasiana* A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 472 (1948), and in Rev. Bot. Appliq. 29: 132.*Eragrostis dakarensis* A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 470 (1948), and in Rev. Bot. Appliq. 29: 128.*Eragrostis pumila* A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 472 (1948), and in Rev. Bot. Appliq. 29: 130.

Loosely tufted annual, with slender geniculate culms 15–45 cm. high; **in weedy places.**

Maur.: Lake Rkiz (Sept.) Sadio 104! Podor to Boghé (Oct.) Hepper 3673! **Sen.:** Saint-Louis (Feb.) Berhaut 2838! Sangomar (Dec.) Adam 19950! Wallo Leprieur! Tambacounda (Nov.) Berhaut 2840! Diouloulou (Sept.) Adam 18123! **Gam.:** Saunders 86! **Mali:** Timbuktu Hagerup 235! Kabarah (Aug.) Chev. 1326! San (Jan.) Demange 1013! Bamako (Oct.) Adam 15360! Togueré of Saredina (May) Davey 88! **Port. G.:** Nova Lamego (Oct.) Pereira 3354! Fa (Oct.) Guerra 426! Bedanda (Jan.) Pereira & Correia 2777! **Guin.:** Sériba (Oct.) Adam 19708! Dalaba (Nov.) Chev. 34599! Mamou (Nov.) Chev. 34896! Timbo (Oct.) Pobéguin 1794! Kouroussa (July) Pobéguin 489! **S. L.:** Musaia (Dec.) Deighton 4454! Kaballa (Sept.) Thomas 2180! Makump (Oct.) Glanville 67! Freetown (Aug.) Deighton 2051! Brookfields (Aug.) Jordan 786! **Lib.:** Kailahun (Nov.) Baldwin 10125! Vonjama (Oct.) Baldwin 9862! Ganta (Jan.) Harley 1742! Robertsfield (July) Baldwin 6658! Nimba (Jan.) Adam 20490! **Iv. C.:** Bouaké (Dec.) Pitot! Divo F.R., Gagnoa (Aug.) Boughey GC 14650! Dabou (Feb.) Chev.! Bériby (Nov.) Oldeman 636! **U. Volta:** Bobo-Dioulasso to Bonfosa (Jan.) Chev.! Bobo-Dioulasso (May) Chev. 907! Samandeni (Oct.) Kmoch 160! Farakoba (June) Scholz 97! **Ghana:** Bolgatanga to Navrongo (Oct.) Rose Innes GC 31095! Bawku to Bolgatanga (Oct.) Rose Innes GC 30502! Sunyani to Wenchi (Sept.) Rose Innes GC 30146! Kumasi (June) La-Danso 77! Accra to Weija (Mar.) Rose Innes GC 30559! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31353! **N. Nig.:** Katsina (Oct.) Clayton 1370! Maiduguri (Oct.) Johnston N39! Zaria Dist. C. B. Taylor 34! Shendam (Nov.) Clayton 1456! Minna to Zungeru (Jan.) Keay FHI 37319! **S. Nig.:** Ibadan (Feb.) Brenan & Keay 8950! Idanre (Jan.) Brenan

8744! Lagos (Feb.) W. MacGregor 176! Awka (June) Jones 1787! Opobo Jeffreys 19! **W. Cam.:** Mamfe (Dec.) Migeod 262! Bambui (Feb.) Cowell G20! Victoria (July) Maitland 13!

Throughout tropical Africa, and in India. (See Useful Plants.)

A rather variable species; panicle typically condensed about the primary branches, but sometimes diffuse with capillary branchlets; in the northern part of our area the spikelets tend to be longer than elsewhere, and the paleas may be only tardily deciduous; a form found on Ironstone pans (*E. dumasiana* see Lebrun in Bull. Soc. Bot. Fr. 116: 260 (1969)) appears to be a short-lived perennial, but is otherwise identical with plants which are certainly annual; it may be confused with the very similar perennial species *E. atrovirens*, which has 3 stamens.

18. **Eragrostis pilosa** (Linn.) P. Beauv. Ess. Agrost. 162, 175 (1812); Berhant, Fl. Sén. ed. 2, 408; De Miré & Gillet in J. Agric. Trop. 3: 733. *APD acc*

Poa pilosa Linn., Sp. PL 68 (1753).

P. senegalensis Desv., Opusc. 100 (1831).

P. linkii Kunth (1829).

Eragrostis linkii (Kunth) Steud. (1854).

Eragrostis filiformis Link (1827).

Eragrostis tenuiflora Rupt. ex Steud., Syn. Pl. Glum. 1: 268 (1854); A. Chev. in Rev. Bot. Appliq. 14: 120.

Eragrostis baguirmensis A. Chev. in Rev. Bot. Appliq. 29: 135 (1949).

A slender ascending annual 30–60 cm. high, with flexuous panicle branches; **path sides and fallow land.**

Maur.: Gujaf Rossetti 61/211! 61/237! **Sen.:** Heudelot 2837! Dakar (Mar.) Sadio 18! Djoudj (Oct.) Adam 21732! Thiés (Aug.) Adam 14936! Saint-Louis (Feb.) Berhaut 2822! **Gam.:** Ruxton 60! Saunders 113! **Mali:** Kidal to Bousena (Sept.) Rossetti 59/173! Timbuktu (Aug.) Lean 78! Sahel N. Region Leclercq 42685! Dioura (Oct.) Davey 45! Gao (Aug.) Wailly 4724! **S. L.:** Newton (June) Deighton 5552! **Lib.:** Nimba (Dec.) Adam 20283! **U. Volta:** Ouagadougou (Aug.) Chev. 24748! Garango Prost! **Ghana:** Kintampo (Dec.) Vigne FH 3197! Kumasi (Mar.) La-Danso 24! Cape Coast (May) Morton A3672! Achimota (Sept.) Milne-Redh. 5134! Yendi (Sept.) Rose Innes GC 32166! **Dah.:** Cana (Apr.) Newton 18! **Niger:** Agadea (Feb.) Chev. 43452! Toukounous Bartha 14! Maradi (Aug.) Hall 394! **N. Nig.:** Sokoto Prov. (Aug.) Dalz. 492! Gajibo (Nov.) Johnston N63! Kano (Dec.) Hagerup 646a! Samaru (July) Clayton 1236! Naraguta (June) Leay 294! **S. Nig.:** Aboh Barter 400! Lagos (Feb.) W. MacGregor 197! Igboora (Oct.) Haines 351! Ipapo (May) Denton 28! Idanre (May) Brenan 8744a!

Widespread in tropical and warm temperate regions. (See Useful Plants.)

19. **Eragrostis chalarothyrsos** C. E. Hubbard in Kew Bull. 1936: 310. *APD acc*

Perennial with stout culms up to 1.2 m. high and large loose panicles; **swampy soils.**

S. L.: Mange (July) Glanville 240! **Ghana:** Wa to Sawla (Oct.) Rose Innes GC 31026! Ejura (Aug.) Hall CC322!

Also in **Uganda, Kenya** and **Tanzania.**

20. **Eragrostis barteri** C. E. Hubbard in Kew Bull. 1938: 311; Lebrun in Bull. Soc. Bot. Fr. 116: 260 (1969). *E. fluviatilis* A. Chev. in Bull. Mus. Hist. Nat. Paris sér. 2, 20: 472 (1948), and in Rev. Bot. Appliq. 29: 132; C. E. Hubbard in Kew Bull. 4: 343. *APD acc*

Caespitose grass about 1 m. high; the woody culms, left lying obliquely by the subsiding flood, produce fascicles of short flowering shoots from the nodes during the dry season; **rocks and sandbanks in river beds.**

Sen.: Tiquet (Oct.) Audru 2932! **Mali:** Bamako to Quignola (Jan.) Chev. 254. Niger “delta” Duong! **S. L.:** Bure (Jan.) Jordan 856! Mafindo Falls, Kailahun (Feb.) Deighton 4005! **Iv. C.:** Tiassalé (Feb.) Chev.! Soubré (Nov.) de Wilde 3320! **Ghana:** Senchi (Jan.) Irvine 2627! Kete Krachi (Dec., Apr.) Adams 4556! Hall 1288! **N. Nig.:** Hadejia (Dec.) Clayton 471! Bonu (Dec.) Keay FHI 37312! Kontagora (Dec.) Hubbard S582! Nupe Barter 877! Gurora falla, Abuja (Mar.) Vaillant 2772! **S. Nig.:** Oyo to Iseyin (Feb.) Brenan 8958! Olokemeji F.R. (Jan.) Keay FHI 21155! Abeokuta (Dec.) Meikle 924! **W. Cam.:** Bamenda (May) Daramola FHI 41194!

Also in the **Congo.**

[Closely allied to *E. atrovirens*, with which it intergrades.]

21. **Eragrostis atrovirens** (Desf.) Trin. ex Steud. Nom. Bot. ed. 2, 1: 562 (1840); Berhaut, Fl. Sen. ed. 2, 410. *APD acc*

- Poa atrovirens* Desf., Fl. Atlant. 1: 73 (1798).
P. biformis Kunth, Rev. Gram. 2: 471 (1831).
Eragrostis biformis (Kunth) Benth. in Fl. Nigrit. 568 (1849).
Eragrostis multiflora var. *biformis* (Kunth) A. Chev. in Rev. Bot. Appliq. 15: 1042 (1935).
Eragrostis bromoides Jedw. in Bot. Arch. 5: 190 (1924); A. Chev. in Rev. Bot. Appliq. 14: 121; not of Steud. (1854).
Eragrostis atroviridis Maire (1937).
Eragrostis sudanica A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 471 (1948), and in Rev. Bot. Appliq. 29: 128.
Eragrostis gangetica of F.W.T.A., ed. 1, 2: 516; of Chev. Bot. 749, and in Rev. Bot. Appliq. 14: 118; not of (Roxb.) Steud.

A widespread and very variable species; **moist or swampy soils**.

Maur.: Lake Rkiz (Sept.) Sadio 27! **Sen.:** Djoudj (Oct.) Adam 21742! Kaédi (Nov.) Roberty 10136! Niokolo-Koba (Oct.) Adam 15641! Oussouye (July) Berhaut 6211 bis! Casamance (Oct.) Adam 18366! **Gam.:** Sankuli-Kunda (Sept.) Pirie 4/33! **Mali:** Dogo (Apr.) Davey 583! Gao (Apr., Sept.) Hagerup 329! De Wailly 5025! Bandiagara to Mopti (Sept.) Chev. 24938! Mopti (Sept.) Lean 92! **Port. G.:** Bafata (July, Aug.) Pereira 3070! 3096! 3097! Bambadinca (July) Pereira 3037! **Guin.:** Conakry (May) Baldwin 5793! Ditinn (Apr.) Pitot! Dalaba Monod! Dabola (Apr.) Pitot! Faranah (Apr.) Pitot! **S. L.:** Port Loko to Mange (May) Jordan 870! Mayoso (Aus.) Thomas 1495! Sondugu (June) Thomas 689! Kichom (July) Deighton 3757! Toma, Bonthe Is. (Nov.) Deighton 2279! **Lib.:** Robertsport (Dec.) Baldwin 10907! Monrovia (Dec.) Baldwin 10492! Buchanan (Mar., Dec.) Adam 16425! Baldwin 11194! Nimba (Nov.) Adames 738! **Iv. C.:** Bassam (Jan.) Hédin! Abidjan (Oct.) de Wilde 1104! Toussiana (June) Scholz 93! **U. Volta:** Banfora (June) Leeuwenberg 4354! Ouagadougou (Oct.) Stolz 42! 109! **Ghana:** Bawku (Oct.) Rose Innes GC 30259! Zuarungu (June) Williams 507! Burufo Plateau, nr. Lawra (Apr.) Adams 4034! Kumasi (June) La-Danso 75! Nungua (Mar.) Ankrah GC 20120! **Dah.:** Boukombe (Nov.) Risopoulos 1253! **Niger:** Wadi Dollol White 60! Maradi (Aug.) Hall 395! **N. Nig.:** Sokoto (July) Dalz. 494! Baga Seyoram, Kukuwa (Feb.) Davey FHI 27170! Bafin Bauna F.R., Jos (Oct.) Hepper 1173! Nupe Barter 622! Abinsi Dalz. 877! **S. Nig.:** Onitsha (June) Onochie FHI 35860! Ogurude (Jan.) Holland 273! 281! Obu Thomas 431! Port Harcourt (Dec.) Maitland 713! Awgu to Okigwi (July) Tuley 821! **W. Cam.:** Nkambe, 5,800 ft. (Feb.) Hepper & Charter 1935! Bamenda, 5,000–6,000 ft. (Jan.) Migeod 405! Brunt 700! 960! 1023!

N. Africa to Zambia and **Angola**, eastwards to the Philippines.

[The name *E. chariis* (Schult.) Hitchc. has sometimes been applied to our species, but it is a synonym of *E. nutans* (Retz.) Nees ex Steud., a different species from India.]

22. *Eragrostis camerunensis* W. D. Clayton in Kew Bull. 20: 265 (1966). *APD acc*

Densely tufted perennial, 30 cm. high.

S. Nig.: Obudu Plateau (Dec., Feb., Apr.) Tuley 44! 480! Haines 142! **W. Cam.:** Bafut-Ngemba F.R. (Mar.) Coombe 220! Nchan Maitland 10a! Bambui Pedder 23! Kishong Brunt 1027! Ndu (Jan.) Keay & Russell FHI 28433!

23. *Eragrostis cilianensis* (All.) Lut. in Malpighia 18: 386 (1904); Berhaut, Fl. Sén. ed. 2, 409; De Miré & Gillet in J. Agric. Trop. 3: 732; Aké Assi, Contrib. 2: 278. *APD acc*

APD: Synonym of *Eragrostis cilianensis* (All.) Vignolo ex Janch.

- Poa cilianensis* All., Fl. Pedem. 2: 246 (1785).
P. megastachya Koel., Descr. Gram. 181 (1802), superfluous name.
P. cachetica, Schumacher, Beskr. Guin. Pl. 66 (1827).
Briza eragrostis Linn., Sp. Pl. ed. 1, 70 (1753).
Eragrostis major Host, Gram. Austr. 4: 14 (1809); Sprague & Hubbard in Kew Bull. 1933: 15; Chev. Bot. 749, and in Rev. Bot. Appliq. 14: 118.
Eragrostis megastachya Link, Hort. Berol. 1: 187 (1827); Henrard, in Blumea 3: 420.
Eragrostis articulata De Wild. in Bull. Jard. Bot. Brux. 6: 58 (1919).
Eragrostis schweinfurthiana Jedw. in Bot. Arch. 5: 194 (1924).

Loosely tufted annual 15–60 cm. high, usually with pallid panicles; **roadsides and fallow land**.

Sen.: Perrottet 324! 959! (Jan.) Roger 4! Heudelot 519! Dakar (Sept.) Berhaut 1148! Mamelles (Dec.) I.F.A.N.! **Mali:** Kidal (Sept.) Rossetti 59/155! Eloualadji (Mar.) Chev. 43914! Timbuktu (Aug.) Hagerup 272! Sahel zone Leclercq 42582! Dioura (Sept.) Davey 41! **Iv. C.:** Gaoua (Oct.) Rose Innes GC 31661! Tehini (Aug.) de Wilde 743! **U. Volta:** Ouahigouya, Mossi (Aug.) Chev. 24775! **Ghana:** Navrongo (Aug.) Vigne FH 4623! Gambaga Scarp (Oct.) Rose Innes GC 30495! Wenchi (Oct.) Rose Innes GC 30521! Tong Hills (July) Williams 522! Nungua (Oct.) Ankrah GC 20096! **Niger:** Agades (Feb.) Bradley 19a! **N. Nig.:** Kworre, Sokoto (Sept.) Palmer 33! Mongonu (Oct.) Golding 2! Naraguta (July) Lely P428! Nupe (Jan.) Baikie! Abinsi Dalz. 874! **S. Nig.:** (Jan.) Dodd 383! Ibadan Millen 104! Lagos (Feb.) W. MacGregor 5! Aboh Barter 336!

Widespread in tropical and warm temperate regions.

24. *Eragrostis minor* Host Gram. Austr. 4: 15 (1809). *APD acc**Poa eragrostis* Linn., Sp. Pl. 68 (1753).*Eragrostis poaeoides* P. Beauv., Ess. Agrost. 162 (1812).*Eragrostis poaeiformis* Link (1827).

Loosely tufted annual, 15–45 cm. high.

Maur.: Dahr of Néma Rossetti 61/248! **Sen.:** Hann Adam 16909!Also in **Ethiopia**, **Sudan**, **Kenya** and **Tanzania**; widespread in temperate and subtropical regions.Closely allied to *E. cilianensis*, differing in little but the size of the spikelet, and the broadly oblong grain, but the species intergrade and in our area the grain is similar to that of *E. cilianensis*.**25. *Eragrostis pobeguini* C. E. Hubbard** in Kew Bull. 1936: 312; Berhaut, Fl. Sén, ed. 2, 409. *APD acc**Eragrostis fleuryi* A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 20: 47 (1948), and in Rev. Bot. Appliq. 29: 128.

Densely caespitose, about 30 cm. high; shallow soils over rock and ironstone.

Sen.: Niokolo-Koba (June) Adam 14382! Niokolo-Koba to Kedougou (June) Adam 14420! **Guin.:** Timbo (June) Pobéguin 1092! **Ghana:** Agric. Dept.! **W. Cam.:** Bali-Ngemba F.R., Bamenda (May) Ujor FHI 30323!Also in **E. Cameroun**.[A disconcertingly variable species, possibly conspecific with *S. longifolia* Hochst. ex Steud. from Ethiopia, but neither is well known. They are both related to the common African species *E. racemosa*

(Thunb.) Steud.]

26. *Eragrostis squamata* (Lam.) Steud. Syn. Pl. Glum. 1: 274 (1854); Berhaut, Fl. Sén. ed. 2, 410; Aké Assi, Contrib 2: 279. *APD acc**Poa squamata* Lam., Tab. Encycl. 1: 185 (1791).*Eragrostis halophila* A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 473 (1948), and in Rev. Bot. Appliq. 29: 134.

Caespitose perennial 30–120 cm. high, often with glaucous foliage, and sometimes pilose on the sheath; roadsides and waste places, particularly on sandy soils; also on sandy beaches.

Maur.: L. Rkiz (Sept.) Sadio 23! **Sen.:** Kaolak Chev. 1945! Casamance (Oct.) Adam 18296! 18365! Kolda, Casamance (Oct.) Adam 18558! Sangalkam (Sept.) Berhaut 2846! **Mali:** Sotuba, Bamako Adam 11251! 11311! **Port. G.:** Bissau (Dec.) Pereira & Correia 2145! Bedanda (Jan.) Pereira & Correia 2774! 2775! Boruntuma (Dec.) Pereira & Correia 2320! **Guin.:** Fouta Djallon, 3,300 ft. (Jan.) Langdale-Brown 2563! Baffing Valley (Oct.) Pobéguin 1750bis! Timbo (Oct.) Pobéguin 1750! Filicomedji (Oct.) Adam 12591! Mzérékoré (Oct.) Baldwin 9699! **S. L.:** Aberdeen (Nov.) Small 786! Njala (Nov.) Deighton 1778! Bubuya (Sept.) Jordan 319! Mambolo (Dec.) Jordan 738! Samaia (May) Thomas 236! **Lib.:** Bassa Cove Ansell! Monrovia (May) Baldwin 5811! Ganta (Nov.) Harley 1716! Sangwin (Mar.) Baldwin 11324! Harper (June) Baldwin 5975! **Iv. C.:** Adiopodoumé (Dec.) Pitot! Dabou (Nov.) Leeuwenberg 1944! Bériby (Nov.) Oldeman. 661! **Ghana:** Mimima to Nasia (Oct.) Rose Innes GC 30765! Dedoro-Tankara (Dec.) Adams & Akapla 4346! Awiebo to Krisin (Dec.) Rose Innes GC 30536! Atwabo Fishlock 71 of 1931! Nzima (Jan.) Thorold 295! **N. Nig.:** Okene (Mar.) Maggs OK53! Nupe Barter 729! Gombe (Oct.) De Leeuw & Magaii 1978! **S. Nig.:** Oyo (Feb.) Keay FHI 16257! Lagos (June) Dalz. 1308! Awka (May) Jones 1740! Mbieri, near Owerri (Mar.) Brenan 9205! Port Harcourt Maitland!Also in **E. Cameroun** and **the Congos**.[Very similar to the Mexican species *E. plumbea* Scribn.]**27. *Eragrostis tenuifolia* (A. Rich.) Hochst. ex Steud.** Syn. Pl. Glum. 1: 268 (1854). *APD acc**Poa tenuifolia* A. Rich., Tent. Fl. Abyss. 2: 425 (1851).*Eragrostis parviglumis* Hochst. ex Steud. (1854).*Eragrostis collocarpa* K. Schum. (1895).

Slender caespitose grass 30–60 cm. high, the leaves mostly from the tussocky base; highlands.

N. Nig.: Naraguta (July) Lawlor & Hall FHI 45576! Sha (Sept.) Hall K 40! Riyom, 4,000 ft. (Nov.) Clayton 1406! Vom, 4,000 ft. (Oct.–Dec.) Gambles 9! 21! Haines 127! **S. Nig.:** Obudu Plateau, 5,000 ft. (Dec., Feb., Apr.) Tuley 43! 481! Haines 361! **W. Cam.:** Cowell G 25! Bambul, 5,000 ft. (June) Brunt 508! Bamenda Dept. of Agric. 5! Nsongwa, 4,000 ft. (Apr.) Brunt 1052! Bambili (Feb.) Bauer 7!

Throughout tropical Africa; also in India, Australia and S. America.

28. *Eragrostis domingensis* (Pers.) Steud. Syn. Pl. Glum. 1: 278 (1854). *APD acc*

Poa domingensis Pers., Syn. Pl. 1: 88 (1805).

P. linearis Schumach., Beskr. Guin. Pl. 67 (1827).

P. subulata Desv., Opusc. 102 (1831).

Eragrostis guineensis Trin. in Mém. Acad. Sci. Petersb., sér. 6, 1: 404 (1830).

Eragrostis linearis (Schumach.) Benth. in Fl. Nigrit. 567 (1849); F.W.T.A., ed. 1, 2: 515; Berhaut, Fl. Sén. ed. 2, 409.

Eragrostis albescens Steud., Syn. Pl. Glum. 1: 269 (1854).

Eragrostis pallescens Hitchc. in J. Wash. Acad. Sci. 19: 303 (1929); A. Chev. in Rev. Bot. Appliq. 14: 119.

Eragrostis hagerupii Hitchc. in Proc. Biol. Soc. Wash. 43: 92 (1930).

Coarse tufted perennial with hard rigid culms, 90–120 cm. high; leaves mostly cauline, somewhat glaucous; roots clothed in a dense sheath of hairs; *coastal and inland sands*.

Maur.: L. Rkiz (Oct.) Adam 21827! **Sen.:** Heudelot 394! Adanson! Richard-Toll (May, Oct.) Döllinger! Berhaut 2832! Dakar (Aug.) Berhaut 1043! Hann (May) Adam 9200! **Gam.:** Boteler! **Mali:** Timbuktu (June, Aug.) Hagerup 105! Lean 73! Kabara (Aug.) Lean 81! Kadigue to Banguita (Jan.) Davey 9! Banguita (Sept.) Farrow 13! **Iv. C.:** Abidjan to Grand Bassam (Jan.) Leeuwenberg 2341! **U. Volta:** Gourma (July) Rogeon 481! **Ghana:** Labadi to Teshi (Apr.) Irvine 2859! Tema (June) Rose Innes GC 30359! Cape Coast (Apr.) Hall 1905! Cape St. Paul (Apr.) Rose Innes GC 31219! Dawa, Ada Road (May) Adams 4314! **Togo Rep.:** Porto Segoro (July) Rose Innes GC 30085! **Dah.:** Cotonou (July, Nov.) Clayton 405! Chev. 4456! 4460! 4467! Cotonou to Allada (Oct.) Risopoulos 1222! **N. Nig.:** Niger R. T. Vogel! **S. Nig.:** Ikorodu (Dec.) Onochie FHI 32032! Lagos (Sept.) Stubbings 27! Dalz. 1118! Yaba (Apr.) Haines 163! Ogun River F.R. (Mar.) Killick 216!

Also in **Sao Tome** and **tropical America**.

[*E. domingensis* is closely allied to *E. prolifera* (Sw.) Steud. (= *E. fascicularis* Trin.), a species from the Congo Republic, Angola and tropical America with obtuse lemmas, fascicled leaves and a narrowly oblong panicle with short divergent branches. in America, however, the two species are not so clearly separated and tend to intergrade.]

29. *Eragrostis cylindriflora* Hochst. in Flora 38: 224 (1855). *APD acc*

Eragrostis horizontalis Peter in Fedde, Rep., Beih. 40: Anh. 107 (1930).

Eragrostis adenocoleos Pilger in Not. Bot. Gart. Berl. 15: 705 (1942).

Loosely tufted annual 30–76 cm. high.

Niger: Tasker to Bouloutoum (Sept.) P. de Fabrègues 949! **Ghana:** Accra to Ada (Aug.) Ankrah GC 20154! Nungua (May, Sept.) Rose Innes GC 30045! Ankrah GC 20073! Accra (Nov.) Thollon 670! Prampram (July) Irvine 3061!

Tropical and South Africa.

30. *Eragrostis aegyptiaca* (Willd.) Link Hort. Berol. 1: 191 (1827); A. Chev. in Rev. Bot. Appliq. 14: 116; Berhaut, Fl. Sén. ed. 2, 409. *APD acc*

Poa aegyptiaca Willd., Hort. Berol. 107 (1809).

P. antennata Del. ex Poir., Encycl. Suppl. 4: 330 (1816), in synonym.

P. pilosa var. *aegyptiaca* (Willd.) Fedtsch. in Bull. Jard. Bot. Pierre Grand 14 (Suppl. 2): 69 (1915).

Eragrostis senegalensis Nees in Linnaea 10: Litt. 116 (1836); A. Chev. in Rev. Bot. Appliq. 14: 120.

Eragrostis minima Jedw. in Bot. Arch. 5: 188 (1924).

Eragrostis albida Hitchc. in J. Wash. Acad. Sci. 19: 304 (1929); F.W.T.A., ed. 1, 2: 515; A. Chev. in Rev. Bot. Appliq. 14: 116.

Eragrostis nigerica A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 20: 470 (1948), and in Rev. Bot. Appliq. 20: 126.

A tufted annual up to about 30 cm. high, with slender geniculate culms and pale spikelets.

Sen.: St. Louis Leprieur! Matam (Feb.) Berhaut 1441! **Mali:** Timbuktu (July) Hagerup 160! Gourma (Aug.) Rossetti 59/105! Laougna (Apr.) Davey 585! Macina (May) Lean 10! San (July) Chev. 1093! **N. Nig.:** Kalkala Gwynn 132! Nguru (Apr.) Tuley 1137! Nupe Barter 321!

Also in **Egypt** and the **Sudan**.

31. *Eragrostis macilenta* (A. Rich.) Steud. Syn. Pl. Glum. 1: 268 (1854). *APD acc*

Poa macilenta A. Rich., Tent. Fl. Abyss. 2: 428 (1851).

Slender annual 30–60 cm. high.

Iv. C.: Samou to Ouodé (May) Chev. 21620! **N. Nig.:** Naraguta F.R. (July) Lawlor & Hall FHI 45567! **W. Cam.:** Bamenda Maitland 1448! Nchan, 5,000 ft. (May Maitland 10a! 10d! Santa & Bambui Farms (May, June) Pedder 15! Bamali to Bali Kunbat (May) Brunt 441!

In the **Congo**, and in **E. Africa** from the **Sudan** to Zambia; recorded once from India.

32. *Eragrostis tremula* *Hochst. ex Steud.* Syn. Pl. Glum. 1: 269 (1854); Chev. Bot. 750, and in Rev. Bot. Appliq. 14: 120; Berhaut, Fl. Sén. ed 2, 409; De Miré & Gillet in J. Agric. Trop. 3: 733. *APD acc*

Eragrostis lamarekii *Steud.* l.c. (1854).

Eragrostis multiflora *Trin.* in Mém. Acad. Sci. Petersb. sér. 6, 1: 401 (1830); A. Chev. in Rev. Bot. Appliq. 14: 119.

Poa tremula *Lam.*, Tab. Encycl. Meth. Bot. 1: 185 (1791).

P. multiflora *Roxb.* (1820), not of Forsk. (1775).

Loosely tufted annual 60–90 cm. high, with pretty trembling panicles, and pallid spikelets tinged with light brown or purple; **roadsides and waste places.**

Maur.: Dahr of Néma Rossetti 61/203! Gaberni Rossetti 61/315! **Sen.:** Roger! Dahra to Linguère Adam 11088bis! Dakar (Oct.) Berhaut 2833! Bouclau Heudelot 166! M'Bambey (Nov.) Chev. 33951! **Gam.:** Saunders 52! Karawan (Jan.) Dalz. 8416! Kudang (Jan.) Dalz. 8417! Yundum Austin 14! Sankuli-Kunda (Sept.) Pirie 9/33! **Mali:** Timbuktu (Aug.) Hagerup 275! Niafouké to Diré Rogeon 129! Kami, Mopti (Oct.) Davey 196! Dioura, Macina (Nov.) Davey 151! Bamako (Oct.) Adam 15307! **Port. G.:** Nhacra (Nov.) Raimundo & Guerra 27! Bafata (Dec.) Pereira & Correia 2482! **Guin.:** Kindia. Jac.-Fél. 198! Baffing R. (Nov.) Pobéguin 1830! Timbo Pobéguin 1830bis! Kouroussa (Nov.) Pobéguin 529! Sambailo (Sept.) Pitot! **S. L.:** Yongaro (Oct.) Glanville 89! Lumley (Aug.) Melville & Hooker 242! Waterloo to Newton (Nov.) Deighton 5625! **Iv. C.:** Bégué 76! Bemouni (Jan.) De Wit 7531! Bouaké to Katiola (Apr.) Leeuwenberg 3314! Abidjan to Dabou (Dec.) Boughey GC 14456! Tehini (Aug.) de Wilde 816! Bouaké (May) de Wilde 55! **U. Volta:** Ouagadougou (Oct.) Scholz 3a! **Ghana:** Navrongo (Sept.) Vigne FH 4631! Bawku (Aug.) Irvine 4615! Tamale (Dec.) Williams 450! Ejura (June) Thorold 84! Kpandu to Accra (Sept.) Ankrah GC 20198! **Togo Rep.:** Atakpame to Sokode (Oct.) Rose Innes GC 31375! Lomé Warnecke 164! **Dah.:** Gebé Newton 21! Boukombe (Nov.) Risopoulos 1267! **Niger:** Zinder (Nov.) Money-Kyrle Fe 6! Fe 17! Niamey (Oct.) Hagerup 464! Toukounous Bartha 9! Dasso White 16! **N. Nig.:** Sokoto (July) Dalz. 493! Katsina (Oct.) Clayton 1373! Dikwa (Oec.) Johnston N100! Gurum (Nov.) Hepper 1312! Lokoja (Sept.) T. Vogel 156! Idoma (Oct.) Kennedy FHI 8025! **S. Nig.:** Fashola Thorold! Ibadan (Nov.) Meikle 667! Lagos (June) Dalz. 1320! Awka Div. (July) Jones 6218! Aboh Barter 351!

Throughout tropical Africa and in India. (See Useful Plants.)

33. *Eragrostis elegantissima* *Chiov.* in Ann. Ist. Bot. Roma 8: 367 (1908). *APD acc*

Annual, about 30 cm. high.

U. Volta: Dedougou (Nov.) Bille 3005! **Niger:** Takieta (Sept.) P. de Fabrègues 2394!

Chad and **Eritrea.**

34. *Eragrostis lingulata* *W. D. Clayton* in Kew Bull. 20: 269 (1966); Lebrun in Bull. Soc. Bot. Fr. 116: 260 (1969). *APD acc*

Eragrostis perbella of Berhaut, Fl. Sén. ed. 2, 410. not of K. Schum.

Loosely tufted annual about 30 cm. high; **weedy places.**

Sen.: Vélingara (Oct.) Adam 18569! Kaffrine (Nov.) Berhaut 662! Tambacounda (Apr.) Berhaut 2842! Richard-Toll (Oct.) Berhaut 2843! **Mali:** Boré (Sept.) Davey 7/1957! **Port. G.:** Pirada (Nov.) Esp. Santo 3157! **Guin.:** Sérriba (Oct.) Pitot!.

35. *Eragrostis welwitschii* *Rendle Cat. Welw. 2: 234* (1899). *APD acc*

Eragrostis densa *De Wild.* in Bull. Jard. Bot. Brux. 6: 61 (1910); F.W.T.A., ed 1, 2: 515.

Loosely tufted annual 15–45 cm. high; **roadsides and old farm land.**

Guin.: Timbo (Oct.) Pobéguin 1749! 1749bis! Baffing R. (Nov.) Pobéguin 1832! Mamou (Nov.) Chev. 34893! **S. L.:** Musaia (Dec.) Deighton 4464! Bumbuna (Oct.) Thomas 3210! Waterloo (Dec.) Deighton 3281! Sefadu (Dec.) Deighton 3565! Mange (Nov.) Jordan 820! **Lib.:** Ganta (Nov.) Harley 1719! **Ghana:** Amedzofe and Vane (Nov., Dec.) Morton A4048! Rose Innes GC 31175! 31179! Shiare (Dec.) Hall & Jenik CC1080! **N. Nig.:** Rafin Bauna North F.R. (Oct.) Hepper 1174! Vom (Oct.) Gambles 15! Riyom (Nov.) Clayton 1444! Gembu (Nov.) Magaji & Tuley 1855! **S. Nig.:** Ogurude (Jan.) Holland 286! Ikom (Oct.) Jones 6770! Ezillo (Oct.) Tuley 943! Nsukka (June) Ariwaodu 1431!

Also in **south tropical Africa**, with isolated specimens from Tanzania, **Ethiopia**, Congo Republic and E. Cameroun.

1. *Eragrostis barrelieri* *Daveau* in Journ. de Bot. 8: 289 (1894). *APD acc*

APD: Synonym of *Eragrostis papposa* (Roem. & Schult.) Steud.

Closely resembles *E. minor*, differing in the narrower unequal glumes, longer appressed lemmas and eglandular leaf margins.

Recorded from Air by De Miré & Gillet in J. Agric. Trop. 3: 732 (1956).

Additional species.

2. *Eragrostis trichophora* Coss. & Dur. in Bull. Soc. Bot. Fr. 2: 311 (1855). *APD acc*

Eragrostis atherstonei Stapf (1900).

Similar to *E. cylindriflora* but perennial.

Recorded from Air by De Miré & Gillet in J. Agric. Trop. 3: 733 (1956).

A North and South African species.

Additional species.

38. TRIPOGON

Roem. & Schult., Syst. Veg. 2: 34 (1817); Phillips & Launert in Kew Bull. 25: 301 (1971).

- 1 Spikelets 10–12 mm. long, dark green; glumes subequal, sharply pointed, 7–8 mm. long; lemmas 5 mm. long with a stout awn-point 1–2 mm. long *1. major*

Spikelets 2.5–4 mm. long, closely appressed to the rachia; upper glume 2–3 mm. long, the lower half as long; lemmas 1–2 mm. long, minutely mucronate *2. minimus*

1. *Tripogon major* Hook. f. in J. Linn. Soc. 7: 230 (1864), incl. subsp. *jaegeranus* Gledhill & subsp. *deflexus* Gledhill in Bol. Soc. Brot. 41: 166 (1967). *APD acc*

Tripogon unisetus Pilger (1932).

Tripogon liebenbergii C. E. Hubbard (1934).

Tripogon snowdenii C. E. Hubbard (1934).

Tripogon jaegeranus A. Camus in J. Agric. Trop. 1: 212 (1954).

Densely tufted perennial about 30 cm. high, with narrow involute leaf-blades up to 15 cm. long; mountain grassland.

S. L.: Bintumane Peak 5,000–6,390 ft. (Jan.–May) Jaeger 389! T. S. Jones 108! 154! Mt. Loma (Oct.) Jaeger 7860! Tingi Mts. (Dec.) Morton & Gledhill SL 3112! **N. Nig.:** Chappal Waddi Jackson, Magaji & Tuley 2027! **W. Cam.:** Mann's Springs (Dec.) Boughey GC 12512! Onyanga (Jan.) Steele 72! Cam. Mt. 7,000–8,000 ft. (Dec.) Mann 2098! Maitland 870! 1220!

Sudan and **Ethiopia** to Malawi.

2. *Tripogon minimus* (A. Rich.) Hochst. ex Steud. Syn. Pl. Glum 1: 301 (1854); A. Chev. in Rev. Bot. Appliq. 14: 181; Berhaut, Fl. Sén. ed. 2, 388; Jacques-Félix in J. Agric. Trop. 2: 521. *APD acc*

Festuca minima A. Rich., Tent. Fl. Abyss. 2: 436 (1851).

Densely tufted perennial about 15 cm. high, with fine convolute leaf-blades 2.5–5 cm. long; shallow soils around rock outcrops.

Maur.: 15° 40' N, 9° 30' W Rossetti 61/301! **Sen.:** Heudelot 290! **Mali:** Dioura (Sept.) Farrow 59! **Iv. C.:** Sifié (Oct.) Aké Assi 5754! Séguéla to Vavoua (Oct.) Adjanohoun 389a! **Ghana:** Bole to Wa (Sept.) Rose Innes GC 30179! Damongo Scarp F.R. (Nov.) Rose Innes GC 30832! Kwahu Tafo (Dec.) Adams 4923! Gradaw, Banda Hills (Oct.) Rose Innes GC 31622! Kintampo to Bamboi (Oct.) Rose Innes GC 30624! **Niger:** Toukounous Bartha 92! **N. Nig.:** Sokoto (Aug.) Dalz. 498! Bindawa (Aug.) Grove 48! Kufena Hill, Zaria (Sept.) Clayton 1321! Anara F.R. (July) Clayton 1223! Pansham (Aug.) Lawlor & Hall 617! **S. Nig.:** Lagos (Feb.) W. MacGregor 232! Igboora (Oct.) Haines 331! Fashola Rock, Oyo (Nov.) Gledhill 679!

Throughout tropical and South Africa. (See Useful Plants.)

39. TRICHONEURA

Anderss. in Vet. Akad. Handl. Stockh. 1853: 148 (1855); Ekman in Ark. Bot. 11, 9: 1 (1912).

Leaf-sheaths pilose with tubercle-based hairs; blades 3–6 cm. long and up to 4 mm. broad; ligule membranous; inflorescence 8–18 cm. long, with up to 30 ascending spikes 2–5 cm. long; axis angular, scabrid-pubescent; glumes linear-lanceolate, acuminate, 1-nerved, 5–6 mm. long, slightly exceeding the 4–5 florets; lemmas 2–3 mm. long, conspicuously ciliate on the margins, sparsely hispidulous elsewhere, the apex shortly bilobed with an awn-point 0.5 mm. long from the sinus; anthers 0.4 mm. long [mollis](#)

Trichoneura mollis (*Kunth*) *Ekman* in Ark. Bot. 11, 9: 10 (1912); Berhaut, Fl. Sén. ed. 2, 401. *APD acc*

Leptochloa mollis *Kunth*, Rev. Gram. 2: 443 (1831).

L. longiglumis *Hitchc.* in Proc. Biol. Soc. Wash. 43: 91 (1930).

Triodia mollis (*Kunth*) *Dur. & Schinz* (1894).

Crossotropis mollis (*Kunth*) *Stapf* in Hook., Ic. Pl. t. 2609 (1899).

Uralespis ciliata *Steud.*, Syn. Pl. Glum. 1: 247 (1854).

Trichoneura arenaria (*Hochst. & Steud.*) *Ekman* (1912).

Annual about 30 cm. high; **dry soils**.

Maur.: Dahr of Néma Rossetti 61/180! 61/197a! **Sen.:** Roger! Walo (Sept.) Leprieur 17! Tivaouane (Dec.) Berhaut 1437!

Mali: Labbézenga (Sept.) Hagerup 453! **Niger:** Toukounous Bartha 82! **N. Nig.:** Sokoto (Oct.) Moiser 135!

40. DINEBRA

Jacq., Fragn. 77 (1809).

- 1 Leaf-blades flat, broadly linear, up to 15 cm. long and 1 cm. broad; ligule membranous; inflorescence stiff, up to 25 cm. long; racemes 0.5–6 cm. long, at first erect, at length deflexed; glumes 6–8 mm. long, long attenuate to an awn-like tip, exceeding and concealing 2–3 florets; lemmas 2–3 mm. long, acute [retroflexa](#)

Dinebra retroflexa (*Vahl*) *Panz.* in Denkschr. Acad. Wiss. München 270, t. 12 (1814); Berhaut, Fl. Sén. ed. 2, 401. *APD acc*

Cynosurus retroflexus *Vahl*, Symb. Bot. 2: 20 (1791).

Dinebra arabica *Jacq.*, Fragn. 77 (1807); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 130.

Leptochloa arabica (*Jacq.*) *Kunth* (1829).

Coarse annual up to 60 cm. high; **on dry soils**.

Sen.: Roger 11! 32! **N. Nig.:** Marte (Nov.) Golding 40! Kalkala Gwynn 132a! Logomani (Nov.) Johnston N89! Ngala, Dikwa (Mar.) Tuley 122! Talasse, Bauchi Prov. (Oct.) De Leeuw & Magaji 1900!

Throughout tropical and S. Africa, extending eastwards through **Egypt**, Iraq and India. (See Useful Plants.)

41. DACTYLOCTENIUM

Willd., Enum. Hort. Berol. 1029 (1809).

- 1 Leaf-blades broadly linear, up to 20 cm. long and 7 mm. broad, tapered to a fine point, more or less pilose with tubercle based hairs; spikes 2–6 (rarely solitary), 2–5 cm. long, ending in a point 2–5 mm. long; spikelets 3 mm. long, 3–5-flowered, glabrous; upper glume with a short oblique awn; lemmas ovate in side view, acuminate or with a short awn-point; grain coarsely rugose [aegyptium](#)

Dactyloctenium aegyptium (*Linn.*) *P. Beauv.* Ess. Agrost. t. 15, f. 2 (1812); A. Chev. in Rev. Bot. Appliq. 14: 129; Berhaut, Fl. Sén. ed. 2, 389, 398; De Miré & Gillett in J. Agric. Trop. 3: 730. *APD acc*

Cynosurus aegyptius *Linn.*, Sp. Pl. 72 (1753).

Chloris guineensis *Schumach.*, Beskr. Guin. Pl. 75 (1827).

Dactyloctenium mucronatum (*Michx.*) *Willd.* (1809).

Dactyloctenium prostratum *Willd.* (1809)—A. Chev. in Rev. Bot. Appliq. 14: 130.

Dactyloctenium aegyptiacum *Willd.* (1809)—Chev. Bot. 747.

Eleusine aegyptia (*Linn.*) *Roberty* in Bull. I.F.A.N. 17: 50 (1955).

Loosely tufted or stoloniferous annual, prostrate or ascending, 15–60 cm. high; **a weed, often on trampled path-sides.**

Maur.: Gujaf Rossetti 61/212! **Sen.:** Roger 11! Dakar (May) Baldwin 5733! Bargny (Aug.) Adam 14926b! Djembering (Sept.) Broadbent 144! Oussouye (Sept.) Broadbent 109! **Gam.:** Saunders 24! Ruxton 16! Yundum (Aug.) Corbett 7! Frith 127! Genieri (July) Fox 129! **Mali:** Timbuktu (Aug.) Hagerup 250! Kara (Aug.) Farrow 119! Kersani (Aug.) Farrow 120! **Port. G.:** Bolama Rodriguez & Carvalho! **Guin.:** Kouroussa (July) Pobéguin 477! **S. L.:** Rokupr (Sept.) Jordan 111! Freetown (Oct.) Deighton 2156! Aberdeen (Nov.) Small 793! Magbile (Dec.) Thomas 5961! Bendurna Deighton 1969! **Lib.:** Rocktown (Mar.) Baldwin 11638! Zwedru (Aug.) Baldwin 7043! Cape Palmas (June) Baldwin 5967! **Iv. C.:** Lamto (May) Aké Assi 10602! Divo F.R. (Aug.) Boughey GC 14648! Abidjan (June) Adjanohoun 424a! Grand Bassam (Mar.) Leeuwenberg 3145! Tiebissou (May) Leeuwenberg 4262! **U. Volta:** Banfora (June) Leeuwenberg 4431! Ouagadougou (July, Sept.) Mordant 349! Scholz 5! **Ghana:** Navrongo (May) Vigne FH 4547! Tamale (Mar.) Williams 604! K'bong (Mar.) Johnson 1014! Winneba (Apr.) Morton A1986! Tema (Jan.) Hall 2160! **Togo Rep.:** Atakpame to Sokode (Oct.) Rose Innes GC 31380! Palime Stage 78! **Dah.:** Cotonou (Apr.) Chev. 23472! **Niger:** Toukounous Bartha 7! Agades (Feb.) Bradley 20! **N. Nig.:** Kworre (Sept.) Palmer 2! Biu (Sept.) Kennedy FHI 8014! Naraguta (July) Lely 416! Nupe Barter 1388! Ilorin (July) Ward 83! **S. Nig.:** Fashola Thorold! Ibadan (Nov.) Meikle 657! Ijokodo (Sept.) Hamblar 392! Lagos I. (Jan.) Killick 88!

Throughout the Old World tropics, introduced into America. (See Useful Plants.)

42. ACRACHNE

Wight & Arn. ex Chiov. in Ann. 1st. Bot. Roma 8; 361 (1908). APD acc

- 1 Racemes 3–10 cm. long, in several whorls along a central axis up to 5 cm. long or more; spikelets compressed, mostly 5–7 mm. long, several flowered; glumes narrowly lanceolate, aristate-acuminate; lemmas glabrous, ovate in profile, truncate-emarginate at the tip with the midrib excurrent into a short awn-point; ligule hyaline and densely ciliate [racemosa](#)

Acrachne racemosa (Heyne ex Roem. & Schult.) Ohwi in Bull. Tokyo Sci. Mus. 18: 1 (1947). APD acc

Eleusine racemosa Heyne ex Roem. & Schult., Syst. Veg. 2: 583 (1817).

E. verticillata Roxb., Fl. Ind. 1: 346 (1820); F.W.T.A., ed. 1, 2: 518; Berhaut, Fl. Sén. ed. 2, 299.

Leptochloa racemosa (Heyne ex Roem. & Schult.) Kunth (1829).

L. verticillata (Roxb.) Kunth (1829).

L. schimperana Hochst. (1855),

Acrachne verticillata (Roxb.) Chiov. (1908).

Annual 30–60 cm. high; **disturbed soils.**

Sen.: Banks of Senegal R. Heudelot 309! **Mali:** Timbuktu (Aug.) Hagerup 282!

Tropics of the Old World, and in the West Indies.

43. ELEUSINE

Gaertn., Fruct. 1: 7, t. 1 (1789).

- 1 Spikes 3–6 mm. broad, slender, straight; grain concealed within the floret; lemma 2.7–3(-3.5) mm. long; spikelets 4–5.5 mm. long; rhachis 0.5–1 mm. broad [1. indica](#)
Spikes 9–13 mm. broad, stout, incurved or rarely straight; grain frequently exposed [2. coracana](#)

1. **Eleusine indica (Linn.) Gaertn.** Fruct. 1: 8 (1789); Chev. Bot. 747, and in Rev. Bot. Appliq. 14: 129; Berhaut, Fl. Sén. ed. 2, 399. **APD acc**

Cynosurus indicus Linn., Sp. Pl. 72 (1753).

Eleusine glabra Schumach., Beskr. Guin. Pl. 53 (1827).

Erect annual up to 60 cm. high; **common wayside weed.**

Sen.: Dakar (Apr.) Clayton 4002! 4072! Cape Verde (Jan., Nov.) Naegelé 36! 1708! Oussouye to Ziguinchor (Sept.) Broadbent 103! **Gam.:** Hancock 27! Ruxton 21! Saunders 25! **Mali:** Kayes (Oct.) Hepper 3736! Pétal, Macina (Sept.) Davey 50! **Guin.:** Timbo (Oct.) Pobéguin 1700! Kouroussa (July) Pobéguin 544! Kankan (Mar.) Chev. 563! Kouria Chev.

15078! **S. L.:** King Tom Deighton 2004! Rokupr (July) Jordan 455! Kamasigi to Kanike (Oct.) Glanville 95! Makute (June) Thomas 457! Bonthe (Nov.) Deighton 2268! **Lib.:** Monrovia (May) Baldwin 5823! Paynesville (Sept.) van Dillewijn 91! Nanakru (Mar.) Baldwin 11576! Harper (June) Baldwin 5971! Gbanga (Sept.) Linder 510! **Iv. C.:** Sassandra (Feb.) Leeuwenberg 2898! Dabou (Nov.) Leeuwenberg 1945! Cocody (June) Adjanohoun 426a! Abidjan (Jan.) Hédin! **U. Volta:** Ouagadougou (Sept.) Scholz 6! **Ghana:** Tamale Williams 3! Kintampo (Dec.) Vigne FH 3198! Aburi (Sept.) Johnson 834! Cape Coast (July) T. Vogel 55! Achimota (Apr.) Ankrah GC 20134! **Togo Rep.:** Palime (Mar.) Stage 3! **Dah.:** Cotonou to Allada (Oct.) Risopoulos 1226! **Niger:** Gaya White 26! **N. Nig.:** Zaria Dist. C. B. Taylor 31! Samara (July) Clayton 1238! Naraguta F.R., Jos (July) Lawlor & Hall FHI 46546! Ilorin (July) Ward 86! Nupe Barter 1386! **S. Nig.:** Ibadan (Nov.) Clayton 561! Lagos (Feb.) W. MacGregor 45! Benin (Dec.) Brenan 8633! Obudu Plateau, 5,000 ft. (Dec.) Tuley 45! Opobo (Apr.) Jeffreys 11! **W. Cam.:** Bambui Farm (May) Pedder 27! Buea (Nov., Jan.) Migeod 94! Maitland 350! Bambili (Feb.) Bauer 6! Nkambe (Feb.) Charter FHI 36988! **F. Po:** T. Vogel!

Throughout the tropics. (See Useful Plants.)

2. **Eleusine coracana** (Linn.) Gaertn. Fruct. 1: 8 (1789); Chev. Bot. 747, and in Rev. Bot. Appliq. 14: 129; Berhaut Fl. Sén. ed. 2, 399; Portères in Bull. I.F.A.N. 13: 1 (1951). *APD acc*

Cynosurus coracanus Linn., Syst. Nat. ed. 10, 2: 875 (1759).

A crop plant cultivated in Nigeria, particularly Jos Plateau, N. Cameroons and Lake Chad area. Also in E. Africa from **Ethiopia** to Natal and in India.

[Note: *E. africana* J. Kennedy-O'Byrne in Kew Bull. 12: 65 (1957), is a tetraploid species resembling diploid *E. indica*, with the lemmas (3.5-)4-5 mm. long, the spikelets 6-7.5 mm. broad, and the rhachis 1.5-2 mm. broad. Although some plants from our area encroach upon these dimensions, typical specimens of *E. africana* seem to be absent from our area.]

44. COELACHYRUM

Hochst. & Nees in Linnaea 16: 221 (1842).

- 1 Leaf-blades 2-6 cm. long and up to 5 mm. broad; inflorescence 4-5 cm. long, 3-5 branched; spikelets 3.5-4 mm. long, 6-8-flowered; lemmas broadly obtuse, yellowish green with 3 prominent dark green nerves, glabrous or hispidulous; grain more or less discoid, radiately grooved on one side and deeply hollowed on the other *brevifolium*

Coelachyrum brevifolium Hochst. & Nees in Linnaea 16: 221 (1842). *APD acc*

Coelachyrum oligobrachiatum A. Camus in Bull. Mus. Hist. Nat., sér. 2, 3: 546 (1931); F.W.T.A., ed. 1, 2: 518; De Miré & Gillet in J. Agric. Trop. 3: 701.

Eleusine brevifolia (Hochst. & Nees) Steud. (1854).

Eragrostis coelachyrum Benth. (1881).

Annual, 5-45 cm. high, the culms ascending from a loose tuft; a desert grass.

Mali: Tin Zaoutène (Sept.) Rossetti 191/59! **N. Nig.:** Arege (Oct.) Golding 37!

North Africa from Mauretania to **Egypt** and the **Sudan**, and in **Arabia**.

45. BEWSIA

Goossens in S. Afr. J. Sci. 37: 183 (1941).

- 1 Spikelets 2-4-flowered; glumes lanceolate, 2.5-8 mm. long; lemmas 4-6 mm. long, pubescent on either side of the mid-nerve below, obtuse or notched at the tip; awn up to 8 mm. long, arising about 1/3 the length of the lemma from its tip; grain terete *biflora*

Bewsia biflora (Hack.) Goossens in S. Afr. J. Sci. 37: 184 (1941). *APD acc*

Diplachne biflora Hack. in Bull. Herb. Boiss. 3: 387 (1895).

Tufted perennial 45-90 cm. high, the spikelets reddish brown; in woodland.

Dah.: Natitingou to Tangueta (Aug.) Adjanohoun 461! **N. Nig.:** Jos Plateau (Sept.) Tuley 1643!

Tanzania to South Africa.

46. POGONARTHRIA

Stapf in Fl. Capensis 7: 316 (1898).

- 1 Inflorescence linear, up to 20 cm. long and 3 cm. broad; racemes 1–2 cm. long, curved, divergent; spikelets 4–10 mm. long, 5–12-flowered, laterally compressed; glumes lanceolate, the lower 1 mm. long, the upper 1·5–2 mm.; lemmas 2–2·5 mm. long, keeled [suarrosa](#)

Pogonarthria suarrosa (*Licht. ex Roem. & Schult.*) *Pilger* in Notizbl. Bot. Gart. Berl. 5: 149 (1910).

APD acc

Poa suarrosa *Licht. ex Roem. & Schult.*, Syst. Veg. 2: 553 (1817).

Erect perennial 45–90 cm. high; **bare stony and disturbed soils.**

Ghana: Nungua (June) Ankrah GC 20152! **Dah.:** Agouagon (May) Chev. 23547! **N. Nig.:** Gombe to Bauchi (Dec.) Magaji MG 100! Sara Hills (Oct.) Hepper 1127! Isanlu Makatu (Jan.) Clayton 710! Yola to Biu (Nov.) Magaji & Tuley 1846! **S. Nig.:** Oyo (Nov.) Clayton 562!

Throughout tropical and S. Africa.

47. LEPTOCHLOA

P. Beauv., Ess. Agrost. 71 (1812).

- 1 Leaf-blades broad, oblong-lanceolate, 4–12 cm. long and 8–18 mm. broad, thin, flaccid, abruptly acute; glumes 2 mm. long, lanceolate, acuminate, exceeding the single floret; lemma 1·5 mm. long, acute [1. uniflora](#)
- Leaf-blades linear, 2–8 mm. broad, long-attenuate at the tip; spikelets 2–6-flowered; lemmas obtuse to emarginate: [2](#)
- 2 Racemes flexuous; culms typically 10–20-noded, hard, decumbent and rooting at the lower nodes; spikelets 2·5–3 mm. long, 3–6-flowered; lower glume narrowly lanceolate, 0·75–1 mm. long; upper glume narrowly oblong, 1·2–1·7 mm. long, obtuse or emarginate, mucronate; lemmas 1·5–2 mm. long, obscurely ciliolate on the nerves [2. caerulescens](#)
- Racemes straight; culms about 4-noded, erect: [3](#)
- 3 Upper glume linear to narrowly lanceolate, acute, 1·5–1·8 mm. long; lower glume 1·2–1·5 mm. long; spikelets 2–3 mm. long, 2–5-flowered; lemmas 1–1·5 mm. long, glabrous [3. filiformis](#)
- Upper glume narrowly oblong, obtuse and mucronate, 1–1·3 mm. long; lower glume 0·8–1 mm. long; spikelets 1·5–2 mm. long, 2–3-flowered; lemmas 1 mm. long, minutely mealy hairy [4. panicea](#)

1. **Leptochloa uniflora** *Hochst. ex A. Rich.* Tent. Fl. Abyss. 2: 409 (1851). *APD acc*

Craspedorhachis uniflora (*Hochst. ex A. Rich.*) *Chippendall* in Meredith, Grasses & Pastures of S. Africa 205 (1956).

Erect or trailing annual, 30–60 cm. high; **pathsides and fallow land.**

Ghana: New Tafo (Sept.) Lovi WACRI 3909! Ampam (Dec.) Adams 5030! Aburi (Mar., June, Sept.) Deighton 613! Ankrah GC 20050! Johnson 833! **S. Nig.:** Thomas 1764! Ibadan (May) Townrow 8! Idanre (Jan.) Brenan & E. W. Jones 8731! Aguku Dist. Thomas 1000! 1045!

Throughout tropical and S. Africa, and in **India** and **Ceylon**.

2. **Leptochloa caerulescens** *Steud.* Syn. Pl. Glum. 1: 209 (1854); *Berhaut*, Fl. Sén. ed. 2, 401. *APD acc*

Annual up to 1 m. high, sometimes erect but usually the culms decumbent and stolon-like at the base; near water.

Sen.: Roger 24! **Mali:** El Oualadji (Mar.) Chev. 43897! Koli-Koli Stream (July) Lean 50! Tondigamé (Oct.) Farrow 24! Labbézenga (Sept.) Hagerup 444! **Port. G.:** Nabijã (Dec.) Guerra 512! **S. L.:** Rokupr (Oct.) Jordan 126! Makump (Sept.) Glanville 353! Batkanu (Apr.) Thomas 11! Njala (May) Deighton 1731! L. Mabessi (Apr.) Deighton 4755! **Iv. C.:** Vavoua (May) Adjanohoun 268a! Soubre (Nov.) Leeuwenberg 3223! de Wilde 3327! Gansé to Dabakala (June) Aké Assi 10303! Réserve de Bouna, Kakpin (June) Aké Assi 10255! **U. Volta:** Namenda (June) Scholz 114! **Ghana:** Senchi (Apr.) Irvine 2875! Kpandai (Sept.) Ankrah GC 20232! Bamboi to Kintampo (Oct.) Rose Innes GC 30626! Keta (Quittah) (Sept.) Akpabla 332! Nungua (Apr.) Rose Innes GC 30009! **N. Nig.:** Arege (Oct.) Golding 33! Sherifuri (June) Thornehill 172!

Nupe Barter 160! Jebba I. (Mar.) Meikle 1282! Lokoja I. (Mar.) Maggs OK48! **S. Nig.:** Omo F.R. (Aug.) Okeke FHI 30131! Lagos Dawodu 214! Inoma Anambra F.R. (Feb.) Jones 2763! Afikpo (Apr.) Jones 1416! (FHI 7407!) Amasama F.R., Brass Dist. (Dec.) Daramola FHI 46938!

Extends eastwards to the **Sudan**, and southwards through the Congo to **Angola** and Zambia.

3. *Leptochloa filiformis* (Lam.) P. Beauv. Ess. Agrost. 71, 161, 166 (1812).

APD: *Synonym of Leptochloa mucronata (Michx.) Kunth*

Festuca filiformis Lam., Tab. Encycl. 1: 191 (1791).

Erect annual 30–60 cm. high; **weedy places**.

Ghana: Ashanti (July) Akpabla 3856! **N. Nig.:** Ward 28! **S. Nig.:** Ibadan West! Moor Plantation, Ibadan (Mar.) Clayton 493!

A species of warm temperate and tropical America, introduced into W. Africa and **Angola**.

4. *Leptochloa panicea* (Retz.) Ohwi in Bot. Mag. Tokyo 55: 311 (1941). *APD acc*

Poa panicea Retz., Obs. Bot. 3: 11 (1783).

Leptochloa chinensis of F.W.T.A., ed. 1, 2: 517; of Chev. Bot. 748, and Rev. Bot. Appliq. 14: 121, not of (Linn.) Nees (1824).

Erect or ascending annual about 60 cm. high with slender racemes; **old farmland and weedy places**.

Ghana: Takoradi (Mar.) Deighton 559! Cape Coast (July) Hall 1515! Kpong (Dec.) Gyadu GC 20530! Achimota Akpabla! Nungua (Mar.) Clayton 950!

A species from tropical Asia; perhaps introduced, but now widely distributed in tropical Africa.

48. DIPLACHNE

APD: *Synonym of Leptochloa P. Beauv.*

P. Beauv., Ess. Agrost. 80 (1812).

Leaf-blades narrow, linear, tapering to a filiform point; racemes erect, with slightly flexuous branches up to 17 cm. long; glumes lanceolate, the lower 1–2 mm., the upper 2.5–4 mm. long; lemmas 2–3 mm. long, narrowly oblong, scarcely keeled, silky ciliate on the lateral nerves *fusca*

Diplachne fusca (Linn.) P. Beauv. ex Stapf in Fl. Capensis 7: 591 (1900); Chev. Bot. 748, and in Rev. Bot. Appliq. 14: 121; Berhaut, Fl. Sén. ed. 2, 407; De Miré & Gillet in J. Agric. Trop. 3: 731.

APD: *Synonym of Leptochloa fusca (L.) Kunth*

APD: *Synonym of Leptochloa fusca (L.) Kunth*

Festuca fusca Linn., Sp. Pl. ed. 2, 109 (1762).

Poa senegalensis Desf., Cat. Pl. Paris ed. 3: 21, 387 (1829), without description.

Uralespis alba Steud., Syn. Pl. Glum. 1: 248 (1854).

Tufted perennial with ascending culms 60–150 cm. high; spikelets olive green, becoming pallid; **in swamps**.

Sen.: Perrottet 926! Heudelot 499! Nouk (Jan.) Roger 59! Walo (Sept.) Perrottet 18! Seleki (Jan.) Chev. 2404! **Niger:** Zinder (Oct.) Hagerup 576! Agades (Dec.) de Wailly 4940! Maradi (Aug.) Hall 392! **N. Nig.:** Lake Chad (Dec.–June) Elliott 155! Jackson 2579! (FHI 59163!) Golding 85! Gwynn 129! De Leeuw 1896!

Throughout Africa, extending eastwards through the Orient and India, to China and Australia.

49. CTENIUM

Panz. in Denkschr. Acad. Muench. 1813: 288, t. 13 (1814), nom. cons.; Pilger in Notizbl. Bot. Gart. Berl. 9: 114 (1924); Clayton in Kew Bull. 16: 471 (1963).

- 1 Spikes solitary:2
Spikes 2–5, digitate (rarely solitary):4
- 2 Lemmas of both lower florets and palea of fertile floret with a line of yellow glands along the margin; second and third lemmas with 2–8 long bristles from side nerves near apex; annual, with flat leaf-blades 1–3 mm. broad; spike 10–30 cm. long, the rhachis shortly ciliate along the margins; lateral awn of the upper glume shorter than glume, rarely vestigial[1. elegans](#)
Lemmas without glands or bristles:3
- 3 Rhachis of spike villous along the margins (hairs 1–2 mm. long); annual, with flat leaf-blades up to 2 mm. broad; sterile lemmas subequal, keels glabrous, the ciliate margins of the lower forming a short, very dense, crest; fertile lemma 3.5–4 mm. long; spike 2–10 cm. long, coiled in a flat spiral [2. villosum](#)
Rhachis of spike shortly pubescent along the margins; perennial with narrow convolute leaf-blades; sterile lemmas unequal, the lower 1.5–2 mm. the upper 2–2.5 mm. long, margins and sometimes keels ciliate but not crested; fertile lemma 2.5–3 mm. long; spike (5-)7–20(-30) cm. long, almost straight or coiled in a lax corkscrew spiral [3. newtonii](#)
- 4 Upper glume 6.5–8 mm. long:5
Upper glume 3–4 mm. long; first lemma vestigial, or represented by an awn; second lemma 1.5–2 mm. long; fertile floret with entire lemma and 3-toothed palea [6. sesquiflorum](#)
- 5 Back of rhachis glabrous, the edges with a ciliate fringe; first lemma irregularly 3-toothed; second lemma entire, glabrous; margins of fertile lemma long ciliate [4. canescens](#)
Back of rhachis pubescent; sterile lemmas bilobed, the margins ciliate [5. ledermannii](#)

1. *Ctenium elegans* *Kunth* Rev. Gram. 1: 295 (1830); Pilger in Notizbl. Bot. Gart. Berl. 9: 115; A. Chev. in Rev Bot. Appliq. 14: 128 (incl. var. *longispicatum*); Berhaut, Fl. Sén. ed. 2, 390. *APD acc*

Chloris elegans (*Kunth*) *Roberty* in Bull. I.F.A.N. sér. A, 17: 51 (1955), not of Kunth (1816).

Ctenium serpentinum *Steud.*, Syn. Pl. Glum. 1: 202 (1854).

Up to about 120 cm. high, with aromatic leaves; on dry sandy soils.

Sen.: Heudelot 143! Kaolack (Nov.) Chev. 28453! **Gam.:** (July) Brooks 9! Saunders 79! **Mali:** Koréra (Nov.) Rossetti 59/217! **Port. G.:** Pirada, Gabu (Nov.) Esp. Santo 3156! **U. Volta:** Samandeni (Nov.) Kmoch 176! Yonde (Nov.) Scholz 121! **Ghana:** Beal 16! Tamale (Dec.) Williams 462! Nakpanduri to Bunkpurugu (Oct.) Rose Innes GC 30746! Navrongo to Naga (Nov.) Rose Innes GC 32525! Nakpanduri to Gambaga (Nov.) Rose Innes GC 32513! **Niger:** Niamey (Oct.) Hagerup 480! 21 miles N. of Zinder (Nov.) Money-Kyrle Fe 18! Wadi Dollol White 27! Toukounous Bartha 65! **N. Nig.:** Zaria (Nov.) Dandaura FHI 7001! Sokoto (Sept.) Dalz. 505! Katsina (Oct.) Clayton 1342! Katagum Dalz. 247! Maiduguri (Oct.) Johnston W32!

Also in the **Sudan**. (see Useful Plants.)

2. *Ctenium villosum* *Berhaut* in Mém. Soc. Bot. Fr. 1953–54: 10 (1954), and Fl. Sén. ed. 2, 390. *APD acc*

Up to about 45 cm high; on shallow soils.

Sen.: Ouassadou (Sept.) Berhaut 647! Tambacounda (Sept.) Berhaut 3188! **Mali:** Sikasso to Bobo-Dioulasso (Sept.) Adam 15102! Ségou Lécard 258! **Guin.:** Youkounkoun (Oct.) Pitot! **Ghana:** Yendi to Gambaga (Sept.) Ankrah GC 20263! Yendi to Chereponi (Sept.) Rose Innes GC 30472! Navrongo to Lawra (Oct.) Rose Innes GC 30279! Bawku to Nakpanduri (Oct.) Ankrah GC 20494! Bawku to Bolgatanga (Oct.) Rose Innes GC 31443! **Togo Rep.:** Kande (Oct.) Rose Innes GC 31411!

3. *Ctenium newtonii* *Hack.* in Bol. Soc. Brot. 5: 229 (1887); Pilger l.c. 115 (incl. vars. *majusculum* Pilger & *productum* Pilger); Berhaut, Fl. Sén. ed. 2, 390; Clayton in Kew Bull. 16: 472; Aké Assi, Contrib. 2: 280. *APD acc*

Ctenium schweinfurthii *Pilger* l.c. 116 (1924).

Ctenium elegans of Chev. Bot. 745, and of Rev. Bot. Appliq. 14: 128, partly (Chev. 2333).

Ctenium camposum *A. Chev.* in Rev. Bot. Appliq. 14: 128 (1934).

Up to 1.2 m. high, with aromatic leaves; usually on poor or shallow soils.

Sen.: Kédougou (Nov.) Adam 20013! Nétéboulou (Oct.) Diallo 548! **Mali:** Koulikoro (Oct.) Chev. 2333! Sikasso (Sept.) Adam 15433! Banguita (Sept.) Farrow 118! **Port. G.:** Barro to Sedengal (Nov.) Esp. Santo 3125! **Guin.:** Timbo (Oct.) Pobéguin 1769! Kouroussa (Aug.) Pobéguin 496! Kindia Jac.-Fél. 175! Friguiagbé (Aug.) Chillou 603! Dalaba (Oct.) Adames 391! **S. L.:** Matamba to Manyakoi (Oct.) Glanville 93! Tabe (Sept.) Deighton 3036! Bumbuna (Oct.) Thomas 3930! Kono, Tingi Mts. (Dec.) Morton & Gledhill SL 3168! **Lib.:** Duport (Oct.) Barker 1447! **iv. C.:** Tiebiessou (Oct.) Chev. 34286! Toumodi to Yamounokro (Oct.) Adjanohoun 325a! Sokrogo to Ahouaho (Sept.) Adjanohoun 263a! Sifié (Oct.) Adjanohoun 262a! Bouna (Oct.) Rose Innes GC 31545! **U. Volta:** Po to Leo (Oct.) Rose Innes GC 31483! Leo to Ouassa (Oct.) Rose Innes GC 31498! Douthé (Sept.) Scholz 2b! Koumbili (Oct.) Scholz 179! **Ghana:** Accra Plains (Oct.) Ankrah GC 20087! Brown 426! Bole to Sawla (Oct.) Rose Innes GC 30665! Red Volta bridge, Bolgatanga to Bawku (Oct.) Rose Innes GC 30247! Togo Plateau (Nov.) Morton A3599! **Togo Rep.:** Atakpamé to Sokodé (Oct.) Rose Innes GC 31384! Badou to Atakpamé (Sept.) Rose Innes GC 31361! Sansanné Mango (Oct.) Rose Innes GC 31420! Palimé Stage 52! **Dah.:** Zumbodji (Sept.) Newton 7! Porto Novo (Dec.) Froment 1078! **N. Nig.:** Ilorin (Oct.) Ward 0054! Wuya ferry (Sept.) Clayton 359! Jebba Barter! Naraguta (Oct.) Kennedy FHI 8048! Anara F.R., Zaria (Oct.) Keay FHI 5481! Vogel Peak area (Nov.) Hepper 1365! **S. Nig.:** Lagos (Oct.) Dalz. 1120! Olokemeji (Nov.) Onochie FHI 8114! Sobo Plains (Sept.) Butler-Cole 3! Nanka, Awka (Nov.) Keay FHI 21527! Ogoja Rosevear 14/30a! **W. Cam.:** Bamenda (Mar.) Brunt 1049! **F. Po:** Milne!

Also in **Congo**, **Angola**, **Uganda** and **Sudan**.

A very variable grass, the types of *C. newtonii* and *C. schweinfurthii* representing two extremes which appear to be linked by a full range of intermediates.

4. **Ctenium canescens Benth.** in Fl. Nigrit. 566 (1849); Pilger l.c. 118; A. Chev. in Rev. Bot. Appliq. 14: 128. *APD acc*

Chloris pulchra Schumach. (1827), illegitimate name.

Perennial up to 1.2 m. high, with characteristic short curved rhizomes covered in white scales; **on sandy soils**.

iv. C.: Salaye to Wolobidé (Dec.) Adjanohoun 438a! Bouna to Say3 (Nov.) Aké Assi 9305! **U. Volta:** Kaporé (Oct.) Scholz 173! **Ghana:** Accra Plains (Sept.) Ankrah GC 20026! Kete Krachi to Attebubu (Oct.) Rose Innes GC 30606! Sunyani to Wenchi (Sept.) Rose Innes GC 30148! Tamale to Yendi (Sept.) Ankrah GC 20248! 33 miles S. of Lawra (Oct.) Rose Innes GC 30303! **Togo Rep.:** SansanneMango (Oct.) Rose Innes GC 31419! **Dah.:** Zumbodji (Sept.) Newton 8! Cocotomey (Jan.) Froment 1118! Cotonou (Dec.) Froment 1017! **N. Nig.:** Kontagora (Dec.) Hubbard S581! Lokoja Barter! Gindiri, Jos Plateau (Oct.) Hepper 1137! Minna (Dec.) Keay FHI 37301! Biliri, Bauchi Prov. (Oct.) Magaji 1987!

5. **Ctenium ledermannii Pilger** l.c. 119 (1924). *APD acc*

Perennial 60–90 cm. high, with dark green paired spikes.

N. Nig.: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2053! **S. Nig.:** Obudu Plateau (Feb.) Tuley 492! 1019! **W. Cam.:** Bayango, Bamenda (Sept.) Ujor FHI 30215!

Also in **E. Cameroun** and **C. Afr. Rep.**

6. **Ctenium sesquiflorum W. D. Clayton** in Kew Bull. 14: 239 (1960). *APD acc*

About 30 cm. high, decumbent and rooting at the lower nodes.

Guin.: Ditinn to Diaguissa (Apr.) Chev. 12860! Ditinn (Apr.) Pitot!

50. TETRAPOGON

Desf., Fl. Atlant. 2: 388, t. 255 (1799).

- 1 Leaf-sheaths keeled, flabellate; ligule very short, ciliolate; blades linear, glaucous, about 6 cm. long, ciliate with long hairs towards the base; upper sheath dilated-spathaceous, with or without a short blade, enclosing the inflorescence; raceme solitary, one-sided, 4–5 cm. long; spikelets densely overlapping, truncate, with about 4 fertile florets, and 4 sterile florets above; glumes membranous, acuminate, the upper 7–9 mm. long; lemmas broadly ovate, villous, awned from just below the bilobed tip, the margins with a membranous wing above
.....*cenchriformis*

Tetrapogon cenchriformis (A. Rich.) W. D. Clayton in Kew Bull. 16: 250 (1962). *APD acc*

Lepidopironia cenchrifomis A. Rich., Tent. Fl. Abyss. 2: 442, t. 101 (1851).

Chloris cenchrifomis (A. Rich.) Baill. (1893).

C. savatieri Baill. (1893).

C. spathacea Hochst. ex Steud. (1854).

Tetrapogon spathaceus (Hochst. ex Steud.) Hack. ex Dur. & Schinz (1895)—F.W.T.A., ed. 1, 2: 520; Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 131; Berhaut, Fl. Sén. ed. 2, 422; De Miré & Gillet in J. Agric. Trop. 3: 736.

Annual, 10–60 cm. high; **dry sandy or gravelly soils.**

Maur.: El Beyed Rossetti 61/325! **Sen.:** Dahra (Nov.) Raynal 7642 bis. **Mali:** Tabankort (Jan.) Chev.! Boulel (Oct.) Davey 055! Dorey (Aug.) Rossetti 59/125! **Niger:** Tanout (Apr.) Guile!

Also in **Cape Verde Islands**, and eastwards to **Kenya** and **Arabia**. (See Useful Plants.)

51. CHLORIS

Sw.: Prod. Veg. Ind. Occ. 25 (1788).

- 1 Lemma shortly awned, awn less than 1½ times as long as lemma:2
 Lemma long awned, awn over twice as long as lemma:5
- 2 Lemmas pilose with hairs 2 mm. long:3
 Lemmas shortly ciliate:4
- 3 Spikes 1–4 (usually 2), 4–7 cm. long, embraced below by the spathaceous upper leaf-sheath; upper glume 6 mm. long; lemma boat-shaped, dark brown, with an awn 4–6 mm. long from near the tip[1. lamproparia](#)
 Spikes 15–30, 10–15 cm. long, digitate or in tiers, the inflorescence silky hairy; upper glume 3 mm. long; lemma linear-lanceolate, pilose on the nerves with white hairs[2. robusta](#)
- 4 Spikelet conspicuously cuneate; upper lemmas 2, truncate, empty; awns 2, the longest about 3 mm. long [3. pilosa](#)
 Spikelet not cuneate; upper lemmas 1 or 2, subacute in profile, accompanied by paleas; rachilla terminating in a little clavate appendage[4. gayana](#)
- 5 Spikelets (1-)2-awned:6
 Spikelets 3–6-awned:7
- 6 Lemma nearly glabrous; leaf-blades abruptly narrowed to a sub-acute point[5. pycnothrix](#)
 Lemma long pilose on margins above (hairs 2 mm. long); leaf-blades gradually tapering to an acute point[6. virgata](#)
- 7 Spikelets 3-awned, awns 5–7 mm. long; fertile lemma acute, ciliate towards apex (hairs 2 mm. long), without glands; sterile florets truncate[7. barbata](#)
 Spikelets 4–6-awned; fertile lemma lanceolate, shortly ciliate above, with a row of glands down each side[8. prieurii](#)

1. **Chloris lamproparia** Stapf in Mém. Soc. Bot. Fr. 2, 8: 220 (1912); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 126.

APD: *Synonym of Stapfochloa lamproparia* (Stapf) H. Scholz

Tufted annual 30–60 cm. high; **on dry bare soils.**

Mali: Baguirmi Chev. 9653 bis! Bore (Aug.) Demange 14/1957! **U. Volta:** Ouagadougou (Aug.) Chev. 24674! **N. Nig.:** Garin Basan (Aug.) De Leeuw 1103! Damaturu (Aug.) De Leeuw 1097a! Zaria Taylor 7! Samaru, Zaria (Aug.) Sawyer K13! Dan Tashi (Aug.) Hall 315!

Also in the **Sudan** and **E. Africa** (See Useful Plants.)

2. **Chloris robusta** Stapf l.c. 221 (1912); A. Chev. in Rev. Bot. Appliq. 14: 127; Berhaut, Fl. Sén. ed. 2, 398. **APD acc**

Robust perennial 1–2 m. high, with glaucous leaves and with the culms often thick and woody below; **in sandy river beds.**

S. L.: Mafindo Falls, Kailahun (Feb.) Deighton 4004! **Iv. C.:** Marabadiassa (Dec.) Adjanohoun 178a! Aké Assi 7178! Bouna (Oct.) Rose Innes GC 31553! Sanlo to Kakpin (Nov.) Aké Assi 9291! **Ghana:** Nakpanduri to Bawku (Oct.) Rose Innes GC 30750! Yendi (Dec.) Adams & Akpabla 4101! Volta R., near Daboya (Nov.) Thorold 288! Navrongo (Dec.)

Adams & Akpabla 4361! Sakogu to Shishe (Oct.) Ankrah GC 20507! **Dah.:** Lake Azri to Zagnanado (Feb.) Chev. 23054! Ouerne (Dec.) Froment 1074! **N. Nig.:** Jebba (Dec.) Hagerup 692! Okene (Nov.) Clayton 579! Minna (Dec.) Meikle 736! Sokoto (Oct.) Dalz. 500! Gurum, Vogel Peak area (Nov.) Hepper 1255! Yola (Dec.) Dalz. 269! **S. Nig.:** Lagos (Oct.) Foster 2! Awba Hills F.R. (Jan.) Onoehie & Jones FHI 14666! Ogun R., Oyo (Feb.) Brenan 8959! Fashola, Oyo (Jan.) Keay FHI 25642! Nzam Anambra F.R., Onitsha (Feb.) Jones FHI 6888!

Also in the **Sudan**, **Uganda**, and **Congo**.

3. **Chloris pilosa** *Schumach.* Beskr. Guin. Pl. 55 (1827); Berhaut, Fl. Sén. ed. 2, 399. *APD acc*

Chloris breviseta *Benth.* in Fl. Nigrit. 566 (1849); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 125.

Chloris nigra *Hack.* (1906).

Annual, 30–60 cm. high; common on roadsides and old farmland.

Maur.: Néma Rossetti 61/172! **Sen.:** Roger 22! Dakar (May) Baldwin 5714! Djembering (Sept.) Broadbent 161! Ziguinchor (Sept.) Broadbent 79! **Gam.:** Saunders 54! Sankuli-Kunda (Sept.) Pirie 12/33! **Mali:** Dioura (Nov.) Davey 167! Kara (Aug.) Farrow 98! Bouta (Feb.) Davey 31! **Guin.:** Kouroussa (July) Pobéguin 546! Baffing R. (Nov.) Pobéguin 1824! Nzérékoré (Oct.) Baldwin 9722! **S. L.:** Freetown (Sept.) Hepper 919a! Newton (Nov.) Deighton 1462! Mano (May) Deighton 674! Makump (Oct.) Glanville 75! Musaia (Apr.) Deighton 5386! **Lib.:** Timbo (Mar.) Baldwin 11223! Sasstown (Mar.) Baldwin 11603! Harper (June) Baldwin 5993! 10 miles inland from River Cess (Mar.) Baldwin 11228! Gbanga (Sept.) Linder 520! **Iv. C.:** Kouibly (Oct.) Adjanohoun 413a! Tehini (Aug.) Oldeman 353! de Wilde 819! Bouaké (Sept.) Oldeman 411! **U. Volta:** Ouagadougou (Sept.) Scholz 31a! 31b! 120! **Ghana:** Cape Coast T. Vogel 41! Nungua, Accra (June) Ankrah GC 20160! Navrongo (June) Vigne FH 286! Mampong (Oct.) Baldwin 13519! Bawku (Oct.) Rose Innes GC 30250! **Togo Rep.:** Palime Stage 73! **Dah.:** Newton 24! Parakou (Sept.) Risopoulos 1197! **N. Nig.:** Jebba (Dec.) Hagerup 739! Nupe Barter 496! Kworre, Sokoto (Sept.) Palmer 9! Fika (Oct.) Daggash FHI 24890! Samaru, Zaria (Sept.) Freeman S116! Gurum, Vogel Peak area (Nov.) Hepper 1291! Barra, Dikwa (Dec.) McClintok 89! **S. Nig.:** Lagos (May, Oct.) Denton 41! Dalz. 1124! Burutu Parsons 4! Ibadan (Apr.) Brenan 9601! Awka Thomas! **W. Cam.:** Victoria (July) Maitland 9! **F. Po:** Mann 118!

Also in **Sudan**, **Congo**, **Uganda** and **Tanzania**. (See Useful Plants.)

4. **Chloris gayana** *Kunth* Rev. Gram. 1: 293, t. 58 (1830); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 125; Berhaut, Fl. Sén. ed. 2, 399. *APD acc*

Perennial up to 1.2 m. high

Apparently indigenous in the northern part of our area, but probably introduced elsewhere.

Sen.: Döllinger 21! Roger 40! M'Bidjem (June) Berhaut 1096! **Mali:** Timbuktu (Aug.) Hagerup 276! El Oualadji (Mar.) Chev. 43927! Kadigué to Banguita (Jan.) Davey 5! Banguita Farrow 97! Saredina (May) Davey 91! Koubita (Jan.) Davey 251! **Guin.:** Paraheolle Heudelot 393! **Ghana:** Aiyinase (July) Irvine 5061! **Niger:** Wadi Dollol White 25! **N. Nig.:** Baga (Jan.) Daggash FHI 24970! Gusko (Oct.) Golding 21! Kalkala Golding 78! Wulgo (Feb.) Davey FHI 27175! Tilum (Apr.) Davey FHI 27151! Widely spread in E. Africa and S. Africa. (See Useful Plants.)

5. **Chloris pycnothrix** *Trin.* Gram. Unifl. 234 (1824); A. Chev. in Rev. Bot. Appliq. 14: 127. *APD acc*

Chloris intermedia *A. Rich.*, Tent. Fl. Abyss. 2: 407 (1851).

Stoloniferous perennial up to 30 cm. high; inflorescence tinged with pink; fallow land and lawns.

Guin.: Timbo Pobéguin 1707! Mamou (Nov.) Chev. 34887! Nzérékoré (Oct.) Baldwin 9725! **S. L.:** Kabala Gledhill 224! **Iv. C.:** Kouibly (Oct.) Adjanohoun 301a! Pakobo (June) Adjanohoun 384a! **Ghana:** Wenchi (Oct.) Rose Innes GC 30519! Ejura (Aug.) Irvine 5156! Sampa (Dec.) Morton A1053! **N. Nig.:** Zaria (Oct., Dec.) Taylor 19! Clayton 1332! Jos Plateau (Sept.) Lely P769! Naraguta (Dec.) Kennedy FHI 1139! Vodni Saunders 20! **S. Nig.:** Obudu Plateau (Feb., Apr.) Tuley 485! Haines 139! **W. Cam.:** Buea (Jan., Nov.) Maitland 351! Migeod 91! Bamenda (Jan.) Migeod 290! Bambui (July) Bumpus 19! Nkambe (Feb.) Hepper & Charter 1938!

Throughout Africa, and also in **Arabia** and **Brazil**.

6. **Chloris virgata** *Sw.* Fl. Ind. Occ. 1: 203 (1797); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 127. *APD acc*

Chloris meccana *Hochst. & Steud. ex Schlechtend.* (1844)—A. Chev. in Rev. Bot. Appliq. 14: 125.

Chloris multiradiata *Hochst.* (1855); A. Chev. in Rev. Bot. Appliq. 14: 126.

Chloris rogeoni *A. Chev.* in Rev. Bot. Appliq. 14: 127 (1934).

Annual up to 60 cm. high.

Mali: Leclercq 42716! El Oualadji (Mar.) Chev. 43937! Diré (Mar.) Chev. 43871! Leclercq 42357! **Niger:** Agades (Feb.) Bradley 5! **N. Nig.:** Ward 19! Gudumbali, Bornu (Oct.) Blair-Rains! Arege (Oct.) De Leeuw 2072!

Widely distributed in the tropics.

7. **Chloris barbata** Sw. Fl. Ind. Occ. 1: 200 (1797); De Miré & Gillet in J. Agric. Trop. 3: 729; Aké Assi, Contrib. 2: 280. *APD acc*

Andropogon barbatus Linn. (1771), not of Linn. (1754).

Chloris inflata Link (1821).

Annual, 30–60 cm. high, often stoloniferous; roadsides and waste lands.

Iv. C.: Abidjan (May) Adjanohoun 428a! **Ghana:** Takoradi (Mar.) Deighton 560! Accra Plains (Apr., Oct.) Rose Innes GC 30008! Baldwin 13439! Kpeshi (Dec.) Adams 3606! Pong Tamale (July) Williams 832! Near Lomé (Nov.) Clayton 894! **S. Nig.:** Lagos (Oct.) Haines 160! Ward 9! Benin (July Unknown Coll. FHI 54119!

Widely distributed in the tropics.

8. **Chloris prieurii** Kunth Rev. Gram. 2: 441 (1831); Chev. Bot. 746, and in Rev. Bot. Appliq. 14: 126; Berhaut, Fl. Sén. ed. 2, 397; De Miré & Gillet in J. Agric. Trop. 3: 729.

APD: Synonym of Enteropogon prieurii (Kunth) Clayton

Annual about 45 cm. high.

Sen.: Roger 23! Perrottet 924! Roberty 16817! Almadies (Nov.) I.F.A.N.! Dagana (Oct.) Hepper 3636! **Gam.:** Skues! **Mali:** Sansanding (Sept.) Chev. 24958! Kabarah (Aug.) Chev. 1323! Sarédina (May) Davey 86! Timbuktu (Aug.) Lean 75! Kersani (Aug.) Farrow 100! **U. Volta:** Gourma (Aug.) Rossetti 59/110! **Ghana:** Accra (Mar.) Deighton 573! Kpeshi lagoon (May) Adams 4239! 4299! **N. Nig.:** Damaturu (Aug.) De Leeuw 1150! Katagum Dalz. 279! Kauwa (Sept.) Gwynn 127! Kauwa to Kingowa (Oct.) Golding 20!

Also in **Cape Verde Is.**, **Arabia**, **Sudan** and **S.W. Africa**.

1. **Chloris subtriflora** Steud. Syn. Pl. Glum. 1: 208 (1854).

Senegambia Leprieur.

The description fits *C. pilosa*, but the number of spikes (15) is higher than usual.

2. **Chloris parva** Mimeur in Bull. Mus. Hiatt. Nat. sér. 2, 22: 128 (1950). Senegal Talmy 86.

From the description this species appears to be the same as *C. prieurii*; the type is missing.

52. CHRYSOCHLOA

Swallen in Proc. Biol. Soc. Wash. 54: 44 (1941).

- 1 Stoloniferous, or sometimes caespitose, annual or perennial; leaf-blades 1–15 cm. long and up to 5 mm. broad, rounded at the tip; spikes 2–10; spikelets 3–4 mm. long, laterally compressed and keeled; lower lemma long ciliate on margins and keel, shortly awned from below the tip [hindsii](#)

Chrysochloa hindsii C. E. Hubbard in Kew Bull. 4: 349 (1949). *APD acc*

Chrysochloa annua C. E. Hubbard in Kew Bull. 12: 59 (1957).

Chrysochloa caespitosa W. D. Clayton in Kew Bull. 14: 239 (1960).

Chrysochloa subaequiluma of Berhaut, Fl. Sén. ed. 2, 398, not of (Rendle) Swallen.

Bracteola subaequiluma of A. Chev. in Rev. Bot. Appliq. 14: 127 (1934), and of F.W.T.A., ed. 1, 2: 522, not of (Rendle) C. E. Hubbard.

Culms 10–75 cm. high, the habit very variable; seasonally flooded shallow pans and clayey soils.

Sen.: M'Bouné (Aug.) Fotius 538! **Mali:** Boré (Sept.) Demange 5/1957! **U. Volta:** Mossi (Aug.) Chev. 24754! Ouagadougou (Sept.) Scholz 55! Boromo (Sept.) Aké Assi 6464! Fada to Koupéla (July) Chev. 24569! Batié to Gaoua (Oct.) Rose Innes GC 31537! **Ghana:** Damongo Hinds 16! Kintampo (Oct.) Rose Innes GC 30625! Yapei ferry (Oct.)

Ankrah GC 20417! Windenaba (Aug.) Rose Innes GC 32004! Tamale (Sept.) Yamoah SLUS 804! **Togo Rep.:** Palime, Lomé Stage 17! **N. Nig.:** Maichi Gusau (Sept.) De Leeuw 1573!

Also in **E. Cameroun**, **Tanzania**, **Zambia** and **Malawi**.

53. ENTEROPOGON

Nees in Lindl., Introd. Nat. Syst. ed. 2, 448 (1836); Clayton in Kew Bull 21: 105 (1967).

- 1 Awn of fertile floret 1–5 mm. long, the lemma 4–5–8 mm. long; florets 2, sometimes 3; culms wiry, often bare below, the basal buds clad in short white scales; leaf-blades broadly linear [1. *rupestris*](#)
 Awn of fertile floret 10–18 mm. long, the lemma 7–10 mm. long; florets 3; culms arising from a basal tussock; leaf-blades narrowly linear, often folded [2. *macrostachyus*](#)

1. *Enteropogon rupestris* (J. A. Schmidt) A. Chev. in Rev. Bot. Appliq. 15: 1048 (1935). *APD acc*

Ctenium rupestre J. A. Schmidt, Beitr. Fl. Cap. Verd. Ins. 149 (1852).

Enteropogon somalensis Chiov. in Ann. Istit. Bot. Roma 6: 170 (1896).

Enteropogon ruspolianus Chiov. Lc. 7: 72 (1897).

Caespitose perennial about 60 cm. high; **dry places**.

Maur.: Néma Rossetti 61/171! **Niger:** Godo (Sept.) P. de Fabrègues 8075!

Also in the **Cape Verde Is.**; **Kenya**, **Sudan**, **Somalia** and **Ethiopia**; and in **SW. Africa** and **Botswana**.

2. *Enteropogon macrostachyus* (Hochst. ex A. Rich.) Munro ex Benth. in J. Linn. Soc. 19: 101 (1881). *APD acc*

Chloris macrostachya Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 408 (1851).

C. simplex Schumach., Beskr. Guin. Pl. 54 (1827), illegitimate name.

Enteropogon simplex (Schumach.) A. Chev. in Rev. Bot. Appliq. 14: 125 (1934).

Perennial up to about 1 m. high, with long curved spikes.

Ghana: Accra to Ada (Dec.) Ankrah GC 20330! Salt Pond (Oct.) Baldwin 13613! Achimota (Apr.) Irvine 652! Accra Plains (June, Nov.) Dalz. 166! Clayton 388!

Tropical Africa from the **Sudan** to the Transvaal and SW. Africa.

54. SCHOENEFELDIA

Kunth, Rev. Gram. 1: 283, t. 53 (1830).

- 1 Spikes 1–4, digitate, slender, up to 15 cm. long; spikelets densely 2-seriate on one side of the flattened rhachis, 1-flowered; glumes subequal, subulate-acuminate, compressed and keeled, the upper 3–5 mm. long, pilose, shortly bifid with a slender curved awn about 3 cm. long arising from between the lobes [gracilis](#)

Schoenefeldia gracilis Kunth Rev. Gram. 1: 283, t. 53 (1830); Chev. Bot. 745, and in Rev. Bot. Appliq. 14: 122; Berhaut. Fl. Sén. ed. 2, 389. 397; De Miré & Gillet in J. Agric. Trop. 3: 735. *APD acc*

Schoenefeldia ramosa Trin., Sp. Gram. Ic. 3: t. 359 (1836).

Schoenefeldia pallida Edgew. (1852).

Schoenefeldia nutans Steud., Syn. Pl. Glum. 1: 202 (1854).

Schoenefeldia stricta Steud. Lc. (1854).

Tufted annual 15–90 cm, high, recognised by the beautiful braiding of the awns; **dry soils, particularly hardpans and depressions**.

Maur.: Guberni Rossetti 61/307! **Sen.:** Heudelot 389! Borboni Desert (Aug.) Roger 52! M'Bambey (Nov.) Chev. 33858! Fatick (Jan.) Adam! **Mali:** Sompé (Aug.) Chev. 2389! Bongo to Thio (Aug.) Chev. 24875! Gao (Sept.) Hagerup 342! Tondidarou (Oct.) Farrow 47! Sarédina (May) Davey 84! **U. Volta:** Koudougou (Sept.) Aké Assi 6454! Ouagadougou (Oct.) Scholz 53a! **Ghana:** Accra to Ada (Dec.) Ankrah GC 20331! Kete Krachi (Sept.) Rose Innes GC 30430! Mirigu (Oct.) Vigne FH 4644! White Volte, Bawku to Bolgatanga (Oct.) Rose Innes GC 30508! Lawra Hinds 3848! **Togo Rep.:** Atakpamé to Sokodé (Oct.) Rose Innes GC 31372! **Niger:** 162 miles south of Agades (Nov.) Money-Kyrle Fe9! Agades

(Feb.) Bradley 19b! Toukounous Bartha 93! **N. Nig.:** Sokoto (Oct.) Dalz. 506! Kano (Nov.) Taylor 5! Fika (Oct.) Daggash FHI 24885! L. Chad (Oct.) Golding 7! Sherifuri (Sept.) Thornevill 186!

Extends eastwards to **Sudan**, Eritrea and **Ethiopia**; also in **India**. (See Useful Plants.)

55. BRACHYACHNE

Stapf in Hook. Ic. Pl. 31: t. 3099 (1922); Van der Veken in Bull.

Jard. Bot. Brux. 28: 83 (1958).

- 1 Leaf-blades acicular, about 2 cm. long, glabrous; spike slender, 3–6 cm. long; glumes subequal, obtuse, keeled, glabrous, 2–3 mm. long, golden-brown when dry; lemma widely emarginate, delicate, 3-nerved, nerves long pilose; palea pilose on the keels [obtusiflora](#)

Brachyachne obtusiflora (*Benth.*) *C. E. Hubbard* in Kew Bull. 1933: 503. *APD acc*

Microchloa obtusiflora *Benth.* in Fl. Nigrit 565 (1849); Chev. Bot. 744.

Tiny tufted annual 10–20 cm. high, growing in crevices on rock and ironstone outcrops.

Sen.: Messira-Kouba (Oct.) Boudet 4102 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 258 (1969)). **Mali:** Doung! **S. L.:** Kambia, Magbema (Nov.) Jordan 664! Port Loko (Oct.) Jordan 807! **iv. C.:** Sifié (Oct.) Adjanohoun 239a! Aké Assi 5752! **Ghana:** Burufo (Oct.) Hinds 5014! Damongo Scarp (Nov.) Harris! Jirapa to Lawra (Oct.) Ankrah GC 20456! Yendi to Tamale (Sept.) Rose Innes GC 32249! GC 32463! **N. Nig.:** Patti Lokoja Barter 537! T. Vogel 189!

Also in the **C. African Rep.**

56. CYNODON

L. Rich., Syn. Pl. 1: 85 (1805); Clayton & Harlan in Kew Bull. 24: 185 (1970); nom. cons.

- 1 Underground rhizomes present (in addition to surface stolons); spikes 4–6, digitate, 1.5–6(-8) cm. long; glumes 1/2–3/4 as long as the lemma [1. dactylon](#)
Underground rhizomes absent (but with surface stolons): **2**
- 2 Culms very robust, woody; racemes in 2–5 whorls (rarely 1), stiff, red or purple [2. aethiopicus](#)
Culms soft, not woody; racemes in 1 whorl (occasionally 2), slender, green or reddish **3**
- 3 Racemes 4–7 cm. long; culms moderately robust to somewhat wiry, 1–1.5 mm. diam. [3a. nlemfuensis var. nlemfuensis](#)
Racemes 6–10 cm. long; culms robust, 2–3 mm. diam. [3b nlemfuensis. var. robustus](#)

1. **Cynodon dactylon** (*Linn.*) *Pers.* l.c. (1805); Chev. Bot. 745 and in Rev. Bot. Appliq. 14: 124; Berhaut, Fl. Sén. ed. 2, 399; De Miré & Gillet in J. Agric. Trop. 3: 730. *APD acc*

Panicum dactylon *Linn.* (1753).

Stems creeping, rooting at the nodes and producing from them fascicles of barren shoots and flowering culms; 7–40 cm. high.

Sen.: Roger 113! Dakar (May) Boivin 390! Baldwin 5725! Hann (Aug.) Berhaut 308! Mbao (Aug.) Broadbent 7! **Mali:** Macina (May, Sept.) Chev. 24931! Lean 13! Timbuktu (June) Hagerup 108! Dogo (May) Davey 79! Mopti (Sept.) Matthes 3! **S. L.:** Rokupr (June) Jordan 39! **Lib.:** Ganta (Jan.) Harley 1741! **U. Volta:** Sindou (May) Chev. 872! Ouagadougou (June) Scholz 106a! **Ghana:** Axim (Mar.) Chipp 412! Ogo Williams 279! Kumasi (Mar.) La-Danso 23! Yendi (Mar.) Hepper & Morton A3083! Nungua (June) Ankrah GC 20148! **Dah.:** Sô valley (Dec.) Froment 1033! **Niger:** Agades (Mar.) Bradley 24a! **N. Nig.:** Ilorin (Nov.) Ward S700! Borgu Barter 861! Zaria (Dec.) Taylor 37! Sokoto Prov. (Oct.) Dalz. 497! Baga Seyoram to Kalkala (Oct.) Golding 19! **S. Nig.:** Lagos (Mar.) Maitland 171a! Ibadan (Apr.) Keay FHI 25701! Brenan 9607! Port Harcourt Maitland! Calabar (Apr.) Holland 122!

Very variable in vegetative, and to a lesser extent spikelet, characters throughout its range, although specimens from a limited area are usually fairly constant. A common grass in lawns and on paths, and often a pest in agricultural land. Distributed throughout tropical and warm temperate regions. (See Useful Plants.)

2. *Cynodon aethiopicus* Clayton & Harlan in Kew Bull. 24: 187 (1970). *APD acc*

Up to 1 m. high; a species from eastern Africa introduced as a fodder grass.

N. Nig.: Mokwa cattle ranch (Aug.) Scholz 108a! 108b!

Ethiopia to South Africa.

3. *Cynodon nlemfuensis* Vanderyst in Bull. Agric. Congo Belge 13: 342 (1922). *APD acc*

30–60 cm. high.

An East African species introduced to West Africa both fortuitously and as a pasture grass.

3a. *Cynodon nlemfuensis* var. *nlemfuensis*. *APD acc*

S. Nig.: Ilora (Oct.) Gledhill 647!

Ethiopia to Rhodesia.

3b. *Cynodon nlemfuensis* var. *robustus* Clayton & Harlan in Kew Bull. 24: 189 (1970). *APD acc*

Ghana: Cape Coast, Ankaful (Apr.) Hall 3451!

Ethiopia to Rhodesia.

57. MICROCHLOA

R. Br., Prod. Fl. Nov. Holl. 208 (1810).

- 1 Annual; culms slender, often branched; leaf-blades up to 3 cm. long, linear-setaceous; spikes slender, curved, up to 15 cm. long; rachis tough, minutely ciliate; glumes lanceolate-oblong, acute, 2–3 mm. long, the lower keeled, the upper flattened on the back; lemma 2 mm. long, abruptly acuminate, ciliate on the nerves *l. indica*
Perennial, the base clothed with fibrous remains of leaf-sheaths; otherwise similar to the preceding *2. kunthii*

1. *Microchloa indica* (Linn. f.) P. Beauv. Ess. Agrost. 13, t. 20, f. 8 (1812); Hack. in Fedde Rep. 7: 373; Merrill in Phillip. J. Sci. Bot. 7: 74; Chev. Bot. 744, and in Rev. Bot. Appliq. 14: 123; Berhaut, Fl. Sén. ed. 2, 388. *APD acc*

Nardus indica Linn. f., Suppl. 105 (1781).

Rottboellia setacea Roxb. (1798).

Microchloa setacea (Roxb.) R. Br. (1810).

5–26 cm. high, weakly ascending or straggling; shallow and overgrazed soils.

Mali: Mopti (Sept.) Chev. 24922! Mahina Lécard! Dioura (Sept.) Davey 037! Labbézenga (Sept.) Hagerup 455! **Port. G.:** Bafata (Oct.) Esp. Santo 2803! **Guin.:** Dalaba Adames 337! **S. L.:** Falaba (Apr.) Morton & Jarr SL 2093! **Iv. C.:** Dimbokro to Bocanda (June) Adjanohoun 228a! N'zi to Bocanda (June) Adjanohoun 227a! Téhini (Aug.) de Wilde 775! **U. Volt.:** Ouagadougou (Sept.) Scholz 60I! Bobo-Dioulasso (Sept.) Aké Assi 6393! Nouna to Dedougou (Oct.) Giessler 60! Gourma (July) Chev. 24554! **Ghana:** Yapei (Sept.) Goodall 15787! Sunyani to Wenchi (Sept.) Rose Innes GC 30147! Tamale (Oct.) Baldwin 13545! Banda hills (Oct.) Rose Innes GC 31625! Tindagia (Apr.) Williams 1035! **Togo Rep.:** Atakpamé to Sokodé (Oct.) Rose Innes GC 31373! Kande (Oct.) Rose Innes GC 31418! **N. Nig.:** Jebba Barter! Patti Lokoja (Sept.) Jones FHI 3655! Panbegwa (July) Keay FHI 37085! Vodni, Plateau Saunders 70! Sokoto (Oct.) Dalz. 499! **S. Nig.:** Lagos Dawodu 226! **W. Cam.:** Cam. Mt. (Dec.) Mann 2095!

Throughout the tropics. (See Useful Plants.)

2. *Microchloa kunthii* Desv. Opusc. 75 (1831). *APD acc*

Microchloa abyssinica Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 404 (1851); F.W.T.A., ed. 1, 2: 524.

Up to 30 cm. high, caespitose; generally a more robust plant than the preceding, but the size range overlaps considerably; shallow and overgrazed soils.

Iv. C.: Sifilé (Oct.) Aké Assi 5753! **Ghana:** Accra plains Rose Innes GC 30020! Agomeda (Nov.) Adams 4387! Kpandu to Kete Krachi (Sept.) Rose Innes GC 30421! Andanso (Nov.) Harris! Kete Krachi to Kpetchu (Oct.) Ankrah GC 20374! **N.**

Nig.: Samaru (Aug.) Thatcher S491! Naraguta (July) Lely P434! Lawlor & Hall 110! Vodni, Plateau Saunders 61! Panshanu (Aug.) Lawlor & Hall 208! **S. Nig.:** Sadibo, Owo (Aug.) Symington FHI 5631! **W. Cam.:** Unwin 10180! Hall (Mar.) Brunt 1087! Bamenda (Mar.) Brunt 1050!

Throughout the tropics.

58. OROPETIUM

Trin., Fund. Agrost. 98, t. 3 (1820).

- 1 Upper glume 2–3 mm. long, acute; lemma hyaline, 1.5–2 mm. long, mucronate; rhachis ± flattened, tardily disarticulating [1. capense](#)
Upper glume 7.5 mm. long, long-acuminate; lemma hyaline, 3–3.5 mm. long, bearing an awn 2–2.5 mm. long; rhachis cylindrical, fragile [2. aristatum](#)

1. *Oropetium capense* Stapf in Fl. Capensis 7: 742 (1900). *APD acc*

Tiny perennial up to 6 in. high, with narrow-rolled leaf-blades.

Mali: Ansongo (Sept.) Hagerup 3996! (This sheet bears a mixed gathering of *O. capense* and *Tripogon minimus*).

Eastwards to **Somalia** and Tanzania; also in **Rhodesia** and **South Africa**.

2. *Oropetium aristatum* (Stapf) Pilger in Engl., Bot. Jahrb. 74: 14 (1947); Jac.-Fél. in J. Agric. Trop. 2: 524; Gillet & Quézel in J. Agric. Trop. 6: 43. *APD acc*

Lepturella aristata Stapf in Mém. Soc. Bot. Fr. 2, 8: 222 (1907); Chev. Bot. 751, and in Rev. Bot. Appliq. 14: 123; Berhaut, Fl. Sén. ed. 2, 388; F.W.T.A. ed. 1, 2: 524.

Tiny annual 5–10 cm. high with involute leaf-blades; **shallow soil pockets on rock or ironstone outcrops.**

Mali: Mahina Lecard! **Iv. C.:** Yérébodi to Sanlo (Nov.) Aké Assi 9741! **U. Volta:** Near Koupéla (July) Chev. 24598! Gaoua (Oct.) Rose Innes GC 31521! Poa (Sept.) Aké Assi 6438! **Ghana:** Damongo Scarp F.R. (Nov.) Rose Innes GC 30836! Yendi to Tamale (Oct.) Rose Innes GC 30686! Babile Hinds 3810! Lawra (Oct.) Rose Innes GC 31043! Jirapa to Lawra (Oct.) Ankrah GC 20455!

[The genus is taken to include *Kralikia* Coss. & Dur. (= *Kralikella* Coss. & Dur.) and *Chaetostichium* C. E. Hubbard]

59. SPOROBOLUS

R. Br., Prod. 169 (1810).

- 1 Branches of the inflorescence verticillate, sometimes merely subverticillate but then the spikelets almost black; panicle open: **2**
Branches of the inflorescence not whorled; spikelets never almost black: **11**
2 Perennials: **3**
Annuals; leaf-blades conspicuously pectinate-ciliate on the margins: **7**
3 Panicle linear or narrowly lanceolate, usually 20–40 cm. long, of 10–20 whorls; spikelets subsessile along the primary branches: **4**
Panicle pyramidal, ovate, up to about 15 cm. long: **5**
4 Spikelets 2–2.2 mm. long; branches 1–2 cm. long, arcuate, incurved, successive whorls not usually overlapping though sometimes with a few of the lowest branches longer and straggling; leaf-blades flat, up to 7 mm. broad [1. dinklagei](#)
Spikelets 2.7–3 mm. long; branches mostly 1.5–6 cm. long, spreading or ascending, usually longer than the distance between successive whorls; leaf-blades up to 7 mm. broad, but usually much narrower and often involute; spikelets dark reddish in colour [2. sanguineus](#)
5 Spikelets 2–2.2 mm. long; panicle delicate, diffuse, the branches very fine and tinged with red; spikelets grey [3. ioclados](#)
Spikelets 3–4 mm. long, rarely longer, clustered towards the ends of the filiform spreading branches of the

- inflorescence; panicle of 3–4 whorls, sometimes subverticillate:6
- 6 Basal sheaths broad, papery or horny and yellowish; leaf-blades linear, involute, 15–30 cm. long and about 3 mm. broad, sometimes shorter (down to 7 cm.) but then linear-lanceolate and 3–5 mm. broad; spikelets greyish-green, 3–4 mm. long[4. mauritianus](#)
- Basal sheaths more or less fibrous; leaf-blades mostly 2–7 cm. long, involute, about 2 mm. broad; spikelets very dark green, 3–8–4 mm. long or more [5. montanus](#)
- 7 Grain spherical; lower glume half as long as the spikelet:8
- Grain ellipsoid or obovoid, \pm laterally flattened:9
- 8 Grain 0.3–0.6 mm. diam.; spikelets 0.9–1.6 mm. long [6. stolzii](#)
- Grain 0.8–1 mm. diam.; spikelets 1.5–2 mm. long [7. subglobosus](#)
- 9 Lower glume lanceolate, acute to acuminate; spikelets reddish to dark red; panicle lanceolate; stamens 3[8. paniculatus](#)
- Lower glume ovate, obtuse, often \pm suppressed; spikelets greenish or greyish; panicle ovate: 10
- 10 Spikelets 1.6–2 mm. long; anthers 3, 0.7–1.1 mm. long [9. cordofanus](#)
- Spikelets 1–1.2 mm. long; anthers 2, 0.3–0.6 mm. long [10. microprotus](#)
- 11 Inflorescence dense or fairly dense, spike-like or with the spikelets clustered about the whole length of the primary branches; branches and pedicels not capillary: 12
- Inflorescence very delicate and lax, with filiform branches and often very slender pedicels, or with the spikelets clustered at the tips of the branchlets: 21
- 12 Upper glume as long as the spikelet, or almost so: 13
- Upper glume up to 2/3 as long as the spikelet (but if panicle spiciform and leaf-blades pungent see *S. spicatus*): 17
- 13 Plants annual; panicle spiciform, slender, 3–6 mm. broad; leaf-blades flat, or convolute when dry; glumes thin, membranous, acute, the lower 2/3 as long as the spikelet [11. piliferus](#)
- Plants perennial: 14
- 14 Leaf-blades convolute: 15
- Leaf-blades flat, 2–15 cm. long and 2–4 mm. broad, strongly glaucous; glumes acuminate, the lower 4/5 to as long as the spikelet; panicle usually distinctly branched but sometimes subspiciform, 5–20 mm. broad, the branches 5–20 mm. long; culms wiry, 1 mm. diam. [15. helvolus](#)
- 15 Panicle spiciform, the primary branches closely appressed to the rachis; leaf-blades pungent; culms 1–2 mm. diam.: 16
- Panicle distinctly branched, 10–40 mm. broad, the primary branches 20–50 mm. long and \pm spreading; leaf-blades 10–20 cm. long, tapering to a filiform tip (rarely with the culm-leaves flat and up to 7 mm. broad in the most robust specimens); culms 2–3 mm. diam. at the base; glumes acute, the lower typically 4/5 as long as the spikelet, but rather variable [14. robustus](#)
- 16 Lower glume 1/4–1/3 as long as the spikelet, hyaline, nerveless; panicle slender, 2–4 mm. broad, the primary branches 1–5 mm. long [12. spicatus](#)
- Lower glume 2/3–4/5 as long as the spikelet, chartaceous, 1-nerved; panicle usually 6–7 mm. broad, the primary branches 5–15 mm. long; leaf-blades 2–10 cm. long [13. virginicus](#)
- 17 Spikelets markedly acuminate, 1.7–2 mm. long; lower glume a tiny hyaline scale; upper glume abruptly acuminate to a short awn-point up to 0.5 mm. long; palea 1/2–2/3 as long as the lemma; panicle branches 5–25 mm. long [16. molleri](#)
- Spikelets not acuminate: 18
- 18 Panicle pyramidal, 3–4 cm. long, the spikelets clustered at the ends of the branches; grain ellipsoid [17. tourneuxii](#)
- Panicle linear, 10–40 cm. long, open or contracted, the spikelets not clustered; grain truncate: 19
- 19 Upper glume obtuse, 1/4–1/3 as long as the spikelet; basal leaf-sheaths narrow; panicle not spiciform [18. pyramidalis](#)
- Upper glume acute, 1/2–2/3 as long as the spikelet: 20
- 20 Panicle lax with spreading branches; basal leaf-sheaths breaking into fibres at maturity [19. pellucidus](#)
- Panicle narrow to subspiciform, the branches appressed and mostly 1–2 cm. long; basal leaf-sheaths broad and membranous [20. africanus](#)
- 21 Perennials: 22
- Annuals: 26
- 22 Inflorescence with long fine white hairs from the axils of the branches; spikelets 2–2.5 mm. long; glumes acuminate, both 2/3 as long as the spikelet; rhachilla produced for about 1 mm. above the base of the floret [21.](#)

subtilis

- Inflorescence not hairy in the axils; rhachilla not produced: 23
- 23 Spikelets clustered at the tips of the branchlets, 1.5–2.1 mm. long; upper glume 2/3–4/5 as long as the spikelet, acute; basal sheaths fibrous or somewhat indurated *22. nervosus*
- Spikelets borne in a diffuse panicle: 24
- 24 Base fibrous, the fibres woolly tomentose within; spikelets 1.4–2.1 mm. long; upper glume acute *23. stapfianus*
- Base ± fibrous, but never woolly: 25
- 25 Upper glume acute; spikelets 1–1.5 mm. long *24. festivus*
- Upper glume mucronate, abruptly acuminate, or with the single nerve excurrent; spikelets 1.6–2.6 mm. long *25. myrianthus*
- 26 Spikelets 2–3 mm. long; inflorescence of 10–20 spikelets, more or less racemose on the main axis, or the lowest paired; glumes subequal, about 1/2 as long as the spikelet; grain ovoid-elliptic *26. pauciflorus*
- Spikelets at most 2 mm. long; inflorescence a branching panicle with numerous spikelets: 27
- 27 Upper glume cuspidate-acuminate, the central nerve excurrent; lower glume small (0.1–0.2 mm. in our area); spikelet 0.8–1.2(–2) mm. long; grain elliptic; leaf-blades seldom over 6 cm. long *27. pectinellus*
- Upper glume subacute to acute: 28
- 28 Spikelets 1.3–1.7 mm. long (exceptionally 0.8–2 mm.); grain elliptic; leaf-blades mostly 1–5 cm. long; panicle 2–12 cm. long *28. infirmus*
- Spikelets 0.8–1 mm. long; grain obovoid, truncate; leaf-blades mostly 10–20 cm. long; panicle 10–40 cm. long *29. tenuissimus*

1. **Sporobolus dinklagei** Mez in Fedde Rep. 17: 298 (1921); A. Chev. in Rev. Bot. Appliq. 14: 112. *APD acc*

Caespitose perennial 5–10 cm. high; **sandy soils and roadsides.**

S. L.: Freetown (Sept.) Deighton 2003! Ronietta (Nov.) Thomas 5369! Njala (Oct.) Deighton 1420! Gbap (Oct.) Jordan 610! Sembehun (Oct.) Jordan 626! **Lib.:** Monrovia (Nov.) Barker 1454! Buchanan (Nov.) Adam 15996! Tawata (Nov.) Baldwin 10324! Sanokwele (Nov.) Harley 1617! Webo, Nyaake (June) Baldwin 6155! **Iv. C.:** Moossou (Nov.) Adjanohoun 453a!

Closely allied to *S. sanguineus*, with which it intergrades.

2. **Sporobolus sanguineus** Rendle Cat. Welw. 2: 209 (1899). *APD acc*

Sporobolus oxylepis Mez in Fedde Rep. 17: 298 (1921); F.W.T.A., ed. 1, 2: 527.

Sporobolus marginatus of F.W.T.A., ed. 1, 2: 527.

Sporobolus schweinfurthii Stapf (1908).

Sporobolus rhodesiensis Stent & Rattray (1933).

Sporobolus schliebenii Pilger (1932).

Tufted perennial about 60 cm. high; **pockets and crevices in rock outcrops (in southern Africa it occurs on deeper soils in Brachystegia woodland).**

Guin.: Dalaba (Oct.) Adam 12582! **Iv. C.:** Mont Mafa (Nov.) Aké Assi 10367! Séguélo (Oct.) Aké Assi 6601! Samatigela (Oct.) Boudet 3324! **Ghana:** Damongo Scarp (Sept.) Rose Innes GC 30207! Nsemre F.R. (Dec.) Adams 5239! Krobo Hill, Mampong Scarp (Nov.) Rose Innes GC 30862! Kwahu Tafo (Nov.) Rose Innes GC 31654! Tonogo, Togo Plateau (Nov.) Morton A3496! **N. Nig.:** (Sept.) Lely P765! **S. Nig.:** Nauka (July) Tuley 802! Lokoja (Oct.) Dalz. 294! Naraguta (Aug.) Lely 448! Lawlor & Hall 103! Panshanu (Aug.) Lawlor & Hall 544!

Throughout tropical Africa.

[Exceedingly variable in inflorescence characters, but apparently without sufficient correlation between these characters to justify the recognition of more than one species. The variation in spikelet length is much greater (2–3.5 mm.) in southern Africa.]

3. **Sporobolus ioclados** Nees Fl. Afr. Austr. 161 (1841). *APD acc*

APD: **Synonym of *Sporobolus nervosus* Hochst.**

Sporobolus marginatus Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 397 (1851); A. Chev. in Rev. Bot. Appliq. 14: 113; Berhaut, Fl. Sén. ed. 2, 412.

Vilfa marginata (Hochst. ex A. Rich.) Steud. (1854).

V. pallida Nees ex Trin. (1840).

Sporobolus pallidus (Nees ex Trin.) Boiss. (1884), not of Lindl. (1848).

Sporobolus laetevirens Coss. (1889).

Caespitose perennial 30–60 cm. high; **seasonally moist, usually alkaline, soils in dry regions.**

Maur.: Néma Rossetti 61/167! **Mali:** Toguère of Sarédina (May) Davey 87! Goumbomba, Koubita (Dec.) Davey 26! Dogo (Apr.) Davey 560! Banguita (Sept.) Farrow 9! **Niger:** Zinder to Médik (Aug.) P. de Fabrègues 2031!

Throughout Africa, and in **India**.

4. *Sporobolus mauritanus* (Steud.) Dur. & Schinz Consp. Fl. Afr. 5: 822 (1894).

APD: *Synonym of Sporobolus subulatus Hack.*

APD: *Synonym of Sporobolus rigidifolius (Trin.) Mez ex Veldkamp*

Vilfa mauritiana Steud., Syn. Pl. Glum. 1: 157 (1854).

Sporobolus ledermonnii Mez in Fedde Rep. 17: 296 (1921).

Sporobolus hubbardii A. Chev. in Bull. Mus. Hist. Mat. sér. 2, 20: 469 (1948), and in Rev. Bot. Appliq. 29: 126.

Densely caespitose perennial, 30–60 cm. high.

Guin.: Diédédou to Niassomoridou (Feb.) Chev. 20855! Macenta (Jan., Apr.) Jac.-Fél. 1590! Adam 3359! 3644! 4249! **S. L.:** Mt. Loma (Jan., Feb., June) Jaeger 9161! 9391! 9774! Tingi Mts (Apr., Dec.) Morton & Gledhill SL 1872! SL 3057! **Ghana:** Amedzofe (July) Thorold 124! Gabi Mt., Amedzofe (Dec.) Rose Innes GC 31181! Maliato, Togo Plateau (Dec.) Morton A3837! Shiare (Dec.) Jenik & Hall CC 1040! **N. Nig.:** Kakara, Mambilla Plateau (Jan.) Hepper 1789! **W. Cam.:** Bamenda (Mar.) Daramola FHI 40533! Bambui (Mar.) Jackson 2505! Mbakakeka Mt., Bafut-Ngemba F.R. (Feb.) Hepper 2125! Kishong, Bamenda (Mar.) Brunt 1026!

Throughout tropical and S. Africa.

5. *Sporobolus montanus* Engl. in Abh. Preuss. Akad. Wiss. 2: 127 (1892). *APD acc*

Vilfa montana Hook. f. in J. Linn. Soc. 7: 228 (1864), not of (R. Br.) P. Beauv. (1812).

Densely caespitose perennial about 30 cm. high, with short rolled leaves.

W. Cam.: Cam. Mt. (Jan., Dec.) Boughey GC 12543! Maitland 1269! Hinds C19! Mildbr. 10895! Mann 2088!

6. *Sporobolus stolzii* Mez in Fedde Rep. 17: 297 (1921). *APD acc*

Sporobolus granularis Mez in Fedde Rep. 17: 297 (1921); Berhaut, Fl. Sén. ed. 2, 410; F.W.T.A., ed. 1, 2: 527.

Annual, up to 60 cm. high.

Sen.: Heudelot 440! Fatick (Sept.) Adam 18019! Tambacounda (Oct.) Adam 12721! 15867! Cambérène (Sept.) Berhaut 2884! **Mali:** Bamako (Sept.) Adam 15365! Sotuba (Sept.) Boudet 331! Koulikoro Chev. 2223! Boré (Aug.) Demange 17/1957! **Guin.:** Pita (Sept.) Adames 343! **Niger:** Niamey (Oct.) P. de Fabrègues 322!

Ethiopia to Rhodesia.

Closely allied to *S. capillaris* Miq. (1851) from India, which is a more robust plant with wider leaf-blades.

7. *Sporobolus subglobosus* A. Chev. in Bull. Mus. Hist. Mat., sér. 2, 20: 469 (1948). *APD acc*

Annual, 30–90 cm. high; **along roadsides.**

Iv. C.: Bouaké (July) Chev. 22075! Koébonou to Varalé (Sept.) Aké Assi 6507! Bouaké to Béoumi (June) Adjanohoun 455a! **Ghana:** Tamale (Oct.) Baldwin 13549! Gambaga (Aug.) Amensor 581! Kanville to Yamalkaraga (Aug.) Rose Innes GC 31841! Tumu (June) Rose Innes GC 31705! Lawra (Sept.) Irvine 4736! Nakpanduri (Sept.) Rose Innes GC 32114! **N. Nig.:** Nupe Barter 1395! Jebba (June) Clayton 1159! Ogbomoshu to Ilorin (July) Sawyer K9! Zongon Daji (Nov.) Clayton 599! Zungeru to Bida (Nov.) Freeman S192! **S. Nig.:** Igbetti (July) Stanfield!

[Differs from *S. paniculatus* only in grain shape, which may not justify its acceptance as a distinct species W.D.C.]

8. *Sporobolus paniculatus* (Trin.) Dur. & Schinz Consp. Fl. Afr. 5: 823 (1895); Clayton in Kew Bull. 19: 294. *APD acc*

Vilfa paniculata Trin. in Mém. Acad. Sci. Petersb. sér. 6, 5, 2: 67 (1840).

Triachyrum micranthum Steud., Syn. Pl. Glum. 1: 176 (1854).

Sporobolus micranthus (Steud.) Dur. & Schinz, Consp. Fl. Afr. 5: 822 (1895).

Sporobolus strictus Franch. in Bull. Soc. Hist. Nat. Autun 8: 368 (1895); A. Chev. in Rev. Bot. Appliq. 14: 115.

Sporobolus patulus Hack. in Oesterr. Bot. Zeitschr. 52: 58 (1902); F.W.T.A., ed. 1, 2: 527 *Sporobolus regularis* Mez in Fedde Rep. 17: 299 (1921); Clayton in Kew Bull. 19: 294.

Sporobolus granularis of F.W.T.A., ed. 1, 2: 527, partly.

Sporobolus myxosperma Stapf ex Hutch. & Dalz., F.W.T.A., ed. 1, 2: 527 (1936), name only; Berhaut, Fl. Sén. ed. 2, 412.

Sporobolus polycyclus Berhaut, Fl. Sén. 253 (1954), name only.

Up to 60 cm. high, with dark red spikelets; **rock outcrops and hillsides**.

Sen.: Ouassadou (Dec.) Berhaut 1408! **Guin.:** Dalaba-Diaguissa Plateau (Oct.) Chev. 18787! 18878! Timbo Pobéguin 1719! Nzérékoré (Oct.) Baldwin 9692! **S. L.:** Hill Station (Oct.) Deighton 157! Regent (Oct.) Jordan 949! Picket Hill (Nov.) T. S. Jones 223! Sefadu (Nov., Dec.) Deighton 3564! 4667! **Lib.:** Tawata (Nov.) Baldwin 10352! Nimba (Nov., Dec.) Adam 16488! 20070! 20140! Adames 734! **Ghana:** Damongo (Aug.) Rose Innes GC 31983! Ejura (Sept.) Asare 10132! Wenchi to Bamboi (Dec.) Adams & Akpabla 4503! **N. Nig.:** Kaduna R., Mokwa to Bida (Aug.) Sawyer K10! Sha (Sept.) J. Hall K12! Naraguta (Sept.) Olorunfemi FHI 55012! Vom (Oct.) De Leeuw 1605! Njawai (Nov.) Jackson, Magaji & Tuley 1910! **S. Nig.:** Quorra, Atta (Sept.) T. Vogel 89! Okelifi, Ondo (Nov.) Onochie FHI 34222! Mt. Orosun (= Carter Peak), Idanre (Oct.) Keay FHI 22591! Obudu Plateau (Apr., Nov.) Tuley 1008! Haines 363! **W. Cam.:** Bum, Bamenda (May) Maitland 7a! Ekwe, Bamenda (May) Maitland 6a! Ndop (Nov.) Gillett 10! Bamenda (Jan.) Migeod 348!

Throughout tropical Africa; also in **Madagascar** and **Mexico**.

9. *Sporobolus cordofanus* (Steud.) Coss. in Bull. Soc. Bot. Fr. 36: 253 (1889). *APD acc*

Triachyrum cordofanum Steud., Syn. Pl. Glum. 1: 176 (1854).

Sporobolus humifusus var. *cordofanus* (Steud.) Massey, Sudan Grasses 43 (1926).

Sporobolus pyramidatus of Lebrun in Bull. Soc. Bot. Fr. 116: 265 (1969), not of (Lam.) Hitchc.

Annual or short-lived perennial 30–60 cm. high; **sandy soils**.

Sen.: Thioump (Aug.) Audru 2403! Bétio (Aug.) Audru 2074! 2076! 2175! Boslabal (Sept.) Mosnier 2355! **Niger:** Diffa (Sept.) P. de Fabrègues 2146! **N. Nig.:** Sokoto (Sept.) De Leeuw 2030a! Bornu (Oct.) De Leeuw 2061! Kaura Namoda (July) Latilo FHI 62594!

Sudan Republic to Rhodesia.

[There is no clear separation between *S. cordofanus* and *S. ioclados*, but I hesitate to associate the weedy annual and the tufted perennial in the same species.]

10. *Sporobolus microprotus* Stapf in Mém Soc. Bot. Fr. 2, 8: 218 (1912); Clayton in Kew Bull. 19: 293. *APD acc*

Sporobolus scabriflorus Stapf ex Massey, Sudan Grasses 42 (1926).

Sporobolus aequiglumis Stapf ex A. Chev. in Rev. Bot. Appliq. 14: 111 (1934).

Sporobolus coromandelianus of F.W.T.A., ed. 1, 2: 527, including var. *senegambiae* A. Chev. in Bull. Mus. Hist. Nat., sér. 2, 20: 469 (1948); Berhaut, Fl. Sén. ed. 2, 410.

Sporobolus humifusus var. *cordofanus* of A. Chev. in Rev. Bot. Appliq. 14: 113.

About 30 cm. high, panicle ovate; **roadsides and waste places**.

Sen.: Roger 13! M'bouné (Aug.) Fotius 541! Yoff (Oct.) Berhaut 458! **Mali:** Dioura (Sept.) Davey 71! Boré (July) Davey 15/1957! Douentza (Aug.) Davey 16/1957! Ansongo (Sept.) Hagerup 390! Sanga Dieterlen! **Iv. C.:** Béoumi (Aug.) Aké Assi 6843! Ferkessédouppou (Sept.) Aké Assi 6301! Ouagadougou to Yako (Aug.) Chev. 24762! **U. Volta:** Bobo-Dioulasso (Sept.) Aké Assi 6394! Ouagadougou (Sept.) Scholz 57! Ouagadougou to Sikasso (Sept.) Adam 15441! Boromo (Sept.) Aké Assi 6463! **Ghana:** Bawku Town (Oct.) Rose Innes GC 31440! Morago R. bridge. Sakogu to Shishe (Oct.) Ankrah GC 20505! Pong Tamale to Nabogo (Sept.) Oppong 193! Lawra Hinds 3547! Grupe, Sawla to Damongo (Dec.) Rose Innes GC 31016! **Niger:** Toukounous (Feb.) P. de Fabrègues 370! **N. Nig.:** Fika (Oct.) Daggash FHI 24886! Biu Dst. (Sept.) Kennedy FHI 8005! Biliri, Bauchi Prov. (Oct.) De Leeuw & Magaji 1985! Damagum (Sept.) De Leeuw 1242!

Extends eastwards through C. African Rep. and **Sudan** to Eritrea and **Kenya**.

11. *Sporobolus piliferus* (Trin.) Kunth Enum. Pl. 1: 211 (1833). *APD acc*

Vilfa pilifera Trin., Diss. Bot. 157 (1824).

Sporobolus stachydanthus A. Rich., Tent. Fl. Abyss. 2: 394 (1851).

Sporobolus praecox A. Chev. in Rev. Bot. Appliq. 14: 113 (1934), and 29: 124, also in Bull. Mus. Hist. Nat. sér. 2, 20: 468 (1948).

Small annual, 15–30 cm. high; **shallow soils**.

Guin.: Tossékéré, Fouta Djallon (Oct.) Adam 12756! Labé (Nov.) Chev. 34907! Mali (Nov.) Chev. 34337! Mt. Loura (Nov.) Chev. 34916! **N. Nig.:** Panshanu (Aug.) Lawlor & Hall 336! 438!

Throughout tropical Africa, extending eastwards through India to Malesia.

12. **Sporobolus spicatus** (*Vahl*) *Kunth* Rev. Gram. 1: 67 (1829); Chev. Bot. 743, and in Rev. Bot. Appliq. 14: 115; Berhaut, Fl. Sén. ed. 2, 392; De Miré & Gillet in J. Agric. Trop. 3: 736. *APD acc*

Agrostis spicata *Vahl*, Symb. Bot. 1: 9 (1790).

Stoloniferous perennial 30–60 cm. high, the leaves painfully pungent; **alkaline or saline soils.**

Maur.: Nouakchott to Tanit Rossetti 59/20! **Sen.:** Roger 58! St. Louis (Oct., Nov.) Cher. 33890! Dakar (Jan., Dec.) Talmy! Berhant 1161! Djembering (Sept.) Broadbent 175! **Mali:** Sarédina (Mar., May) Davey 52! 92! LeClereq 42639! Timbuktu (June, Aug.) Hagerup 124! Lean 72! **N. Nig.:** L. Chad (Dec.) Golding 18! Elliott 154! Baga Seyoram (Jan., Feb.) Daggash FHI 24968! Davey FHI 27166! 70 mi. north of Maiduguri (Mar.) De Leeuw 1914!

Throughout the drier regions of Africa from Morocco to the Transvaal, extending through the Middle East into India. (See Useful Plants.)

13. **Sporobolus virginicus** (*Linn.*) *Kunth* Rev. Gram. 1: 67 (1829); A. Chev. in Rev. Bot. Appliq. 14: 116; Berhaut, Fl. Sén. ed. 2, 392; Clayton in Kew Bull. 19: 295. *APD acc*

Agrostis virginica *Linn.*, Sp. Pl. 63 (1753).

Vilfa virginica (*Linn.*) *P. Beauv.* (1812).

V. conferta (*J. A. Schmidt*) *Steud.* (1854).

Agrostis congener *Schumacher*, Beskr. Guin. Pl. 46 (1827).

Sporobolus pungens of Chev. Bot. 742, and in Rev. Bot. Appliq. 14: 114, not of Kunth.

Sporobolus confertus *J. A. Schmidt*, Fl. Cape Verd. Ins.: 142 (1852)—fide A. Chev., Fl. Cap Vert.: 1044 (1935).

Sporobolus littoralis (*Lam.*) *Kunth* (1829).

Rhizomatous perennial up to about 60 cm. high, often with distichous leaf-blades; **sandy sea-shores.**

Sen.: Adanson! Heudelot 499! Hann (Oct.) Berhaut 2792! Djembering (Sept.) Broadbent 178! Oussouye (Sept.) Broadbent 117! **S. L.:** Lumley to Aberdeen (Aug.) Melville & Hooker 145! Sussex (May) Deighton 2680! Mesima (Apr.) Adames 35! Freetown (Aug.) Hooper 119! Juba (May) Morton SL 1330! **Lib.:** Monrovia (May, Oct.) Baldwin 5812! Harley 1671! Sinkor (July) Barker 1386! Harper (June) Baldwin 5966! Garaway (Mar.) Baldwin 11632a! **Iv. C.:** Sassandra (May) Chev. 17941! **Ghana:** Anomabu (June) Irvine 1464! Elmina (Mar.) Rose Innes GC 30887! Axim (Apr.) Thorold 44! Kpeshi lagoon (Sept.) Milne-Redhead 5139! Old Ningo (May) Rose Innes GC 31262! **Dah.:** Cotonou (Apr.) Chev. 23475!

Tropical sea-shores generally.

14. **Sporobolus robustus** *Kunth* Rev. Gram. 2: 425 (1832); A. Chev. in Rev. Bot. Appliq. 14: 114; Berhaut, Fl. Sén. ed. 2, 414; Clayton in Kew Bull. 19: 296. *APD acc*

APD: *Synonym of Sporobolus consimilis Fresen.*

Sporobolus assakae *Cab.* (1936).

Sporobolus insulanus *Parl.* (1846)—Hooker, Fl. Nigrit. 187 (1849), as “*S. insularis*”.

Sporobolus littoralis var. *elongatus* *Dur. & Schinz*, Consp. Fl. Afr. 5: 821 (1895).

Sporobolus senegalensis *Chiov.*, Pl. Nov. Minus Not. Aeth. 26 (1928).

Vilfa robusta (*Kunth*) *Trin.* (1840).

V. insulanus (*Parl.*) *Steud.* (1854).

Agrostis abyssinica *Ehrenb. & Hempr. ex Trin.* (1840), in synonymy.

A. barbata var. *senegalensis* *Pers.*, Syn. Pl. 1: 76 (1805), illegitimate name.

Stoloniferous perennial 60–90 cm. high; **saline soils of the sea coast, usually on the landward side of *S. virginicus*.**

Sen.: (Feb.) Dollinger W M'bour to Rufisque (Mar.) Chev. 44129! Mbao (Oct.) Berhaut 2882! Almadies (Aug.) Broadbent 26! **Gam.:** Brumen ferry (July) Rhind & Deighton 5586! Balingho ferry (July) Fox 154! **S. L.:** Martin (Jan.) Deighton 3543! Mabatu (June) Deighton 4023! Mortail (Feb.) Deighton. 4116! **Lib.:** Grand Bassa (July) T. Vogel 31! **Ghana:** Accra (May) Dalz. 170! Kpeshi lagoon, Labadi (Mar.) Adams 3778! Keta (Hay) Thorold 62! Elmina (Mar.) Row Innes GC 30888! Tema (June) Rose. Innes GC 30358! **Togo Rep.:** Lomé Warnecke 316! **W. Cam.:** Amba Bay, Victoria (Apr.) Brenan 9588! Victoria (July) Maitland 7!

W. African coast from Rio de Oro to **Angola.**

15. *Sporobolus helvolus* (Trin.) Dur. & Schinz Consp. El. Afr. 5: 820 (1894); Berhaut, Fl. Sén. ed. 2, 392, 415; De Miré & Gillet in J. Agric. Trop. 3: 736. *APD acc*

Vilfa helvola Trin. in Mém. Acad. Sci. Petersb. sér. 6, livr. 1–2: 52 (1840).

V. glauca Trin. (1840), in synonym.

V. glaucofolia Steud., Syn. Pl. Glum. 1: 154 (1854).

Sporobolus glaucifolius (Steud.) Hochst. ex Dur. & Schinz, Consp. Fl. Afr. 5: 820 (1894); Chev. Bot. 742, and in Rev. Bot. Appliq. 14: 112.

Agrostis aequalis Ehrenb. & Hempr. ex Trin. (1840), in synonym.

Perennial, about 45 cm. high; seasonally flooded land in dry regions.

Maur.: Sadio 1521! Keur Masséne Rossetti 59/6! **Sen.:** Adamson! Richard-Tol (Feb.) Döllinger 20! Ross (Feb.) Berhaut 1382! **Mali:** Chev. 43897! Bandiagara (Sept.) Rogeon, 209! Koubita (Jan.) Davey 257! Bangnita (Sept.) farrow 20! Baragungu Hagerup 314! **N. Nig.:** Rann (Feb.) Davey FHI 27171! Arege (Oct.) Golding 38! Ngala (Oct.) Gwynn 115! 60 m. north of Maiduguri (Mar.) De Leeuw 1907! Malamfaturi (Jan.) De Leeuw 2065!

Extends eastwards into Tanzania, **Kenya**, **Sudan** and Somaliland, thence through **Arabia** to India. (See Useful Plants.)

16. *Sporobolus mollerii* Hack. in Bol. Soc. Brot. 5: 213 (1887); A. Chev. in Rev. Bot. Appliq. 14: 113. *APD acc*

Sporobolus mayumbensis Franch. in Bull. Soc. Hist. Nat. Autun 8: 367 (1895).

Small annual about 30 cm. high; cultivated land and pathsides.

Guin.: Kindia (Oct.) Adam 12585! Dalaba (Oct.) Adames 386! **N. Nig.:** Tiba Plateau (Dec.) Peter & Tuley 67! Gembu (Sept., Nov.) Oche MRK 80! Magaji & Tuley 1851! Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2074! **S. Nig.:** Obudu Plateau (Nov.) Tuley 990! **W. Cam.:** Cam. Mt. (Mar.) Brenan 9262! Buea (Jan., Nov., Dec.) Maitland 349! Migeod 101! Hinds C73! Bamenda (June) Daramola FHI 41560! **F. Po:** Moka (Jan., Dec.) Guinea 2064! 2066! Boughey 141!

Through the Congo to Tanzania and Rhodesia.

17. *Sporobolus tourneuxii* Coss. in Bull. Soc. Bot. Fr. 36: 250 (1889). *APD acc*

Sporobolus indicus Stapf ex T. Cooke, Fl. Bombay 2: 1018 (1908).

Perennial up to about 30 cm. high; culms tough, almost woody, at the base; leaf-blades 3–4 cm. long; saline soils.

Maur.: Nouakchott to Akjoujt (Nov.) Adam 19416!

Also in **Tunisia**, **Somali Republic**, **Arabia** & **Pakistan**.

18. *Sporobolus pyramidalis* P. Beauv. Fl. Oware 2: 36 (1812); Chev. Bot. 732; Berhaut, Fl. Sén. ed. 2, 415; Clayton in Kew Bull. 19: 289. *APD acc*

Vilfa pyramidalis (P. Beauv.) Trin. ex Steud., Nom. Bot. ed. 2, 2: 786 (1841).

Agrostis extensa Schumacher, Beskr. Guin. Pl. 45 (1827).

A. owarensis Roem. & Schult., Syst. 2, Mant. 199 (1824).

Sporobolus wombaliensis Vanderyst (1920), in synonym.

Sporobolus indicus of A. Chev. in Rev. Bot. Appliq. 14: 113, not of Linn.

Densely tufted perennial; it belongs to a difficult group of closely related species allied to the American *S. indicus* Linn. (see also *S. pellucidus* and *S. africanus*).

Gam.: Yundum, Kombo North (Aug.) Frith 128! **Mali:** Ségou (Apr.) Roberty 2689! **Port. G.:** Banjara Farim (Aug.) Esp. Santo 3062! Contubo el Canhamine (Sept.) Esp. Santo 2759! Piche (Sept.) Pereira 3188! 3252! **Guin.:** Kindia Jac.-Fél. 128! Kouroussa (July) Pobéguin 549! Baffing R. (Nov.) Pobéguin 1821! Konkouré (Mar.) Pitot 206! **S. L.:** Kambia (Dec.) Deighton 813! Magburaka (Oct.) Glanville 72! Mano Thomas 10381! Rokupr, Magbema (July) Jordan 454! Bunebu Bumpé (Apr.) Deighton 1689! **Lib.:** Monrovia (May) Barker 1306! Baldwin 5814! Sanokwele (Sept.) Baldwin 9500! Suakoko (Apr.) Blickenstaff 44! Gletown, Tchien Dist. (July) Baldwin 6783! **iv. C.:** Sassandra valley (Feb., Apr.) Portères 619! Leeuwenberg 2851! Cocody (June) Adjanohoun 422a! **U. Volta:** Mangodara (June) Scholz 10! Samandeni (Sept.) Kmoch 113! Banfora (June) Leeuwenberg 4432! **Ghana:** Kintampo (Dec.) Vigne FH 3203! Tamale (May) Williams 818! Kumasi (Apr.) La Danso 37! Aburi (Sept.) Johnson 841! Dayi R. bridge, Kpandu to Accra (Sept.) Ankrah GC 20211! **Togo Rep.:** Palime (Mar.) Stage 9! **Dah.:** Allada (Mar.) Chev. 23382! **N. Nig.:** Katagum Dist. Dalz. 286! Bida (Mar.) Meikle 1319! Naraguta (July) Lely P410! Yola (Sept.) Kennedy FHI 7296! Vogel Peak (Nov.) Hepper 1452a! Mambila Dist., Sardauna Prov. Hill! **S. Nig.:** Lagos (June) Dalz. 1309! Ibadan (Apr.) Meikle 1412! Aguku Dist. Thomas 1062! Opobo Jeffreys 3!

Oban Talbot 845! **W. Cam.:** (Dec.) Unwin 9039! Victoria (Nov.) Maitland 173! Ekuse, Bamenda (May) Maitland 5a! Baba, Ndop (May) Brunt 428!

Tropical and S. Africa, extending to Yemen, Madagascar and Mauritius. (See Useful Plants.)

Note. Robust plants typical of *S. pyramidalis* do not occur in tropical America, and the smaller local species has therefore been regarded as distinct and named *S. jacquemontii*. Identical plants are found in West Africa, suggesting the introduction of the American species. Unfortunately it intergrades with depauperate specimens of *S. pyramidalis*, so that in Africa the two species are doubtfully separable: -

S. pyramidalis

S. jacquemontii

Culms 1–2 mm. diam. at base, usually 50–70 cm. high; leaf-blades 1.5–2.6 mm. broad; panicle branches loosely appressed to the main axis, the lower 3–4 cm. long; grain 1–1.1 mm. long, obovoid-elliptic, slightly truncate at the top

Culms 2–6 mm. diam. at base, usually 90–160 cm. high; leaf-blades 3–10 mm. broad; panicle branches spreading horizontally at anthesis, the lower mostly 5–10 cm. long; grain 0.8–1 mm. long, obovoid, strongly truncate (see above)

[**Sporobolus jacquemontii** *Kunth* Rev. Gram. 2: 427 (1831); Clayton in Kew Bull. 19: 288.

APD: Synonym of Sporobolus pyramidalis P. Beauv.

Vilfa jacquemontii (*Kunth*) *Trin.* (1840).

Sporobolus pyramidalis var. **jacquemontii** (*Kunth*) *Jov. & Guéd.* in Bull. Cent Stud. Rech. Sci., Biarritz 7: 60 (1968), invalidly published.

S. L.: Freetown (May) Baldwin 5796! **Lib.:** Ganta (Sept.) Harley 275! Sarbo (July) Baldwin 6380! **iv. C.:** Adiopodoumé (.Nov.) Leeuwenberg 1885! **Ghana:** Aburi (Sept.) Johnson 842! Legon Hill (Oct.) Adams 3360! **N. Nig.:** Oturkpo, Benue Prov. (Oct.) Kennedy 8027! **S. Nig.:** Lagos (Mar.) Maitland 172! **W. Cam.:** Buea (July) Maitland 18!]

19. **Sporobolus pellucidus** *Hochst.* in Flora 38: 201 (1855). *APD acc*

Perennial about 60 cm. high.

Niger: Guéré (Aug.) P. de Fabrègues 2024!

Also from **Ethiopia** to Zambia.

20. **Sporobolus africanus** (*Poir.*) *Robyns & Tournay* in Bull. Jard. Bot. Brux. 25: 242 (1955); Clayton in Kew Bull. 19: 291. *APD acc*

Agrostis africana *Poir.* in Lam., Encycl. Meth. Bot. suppl. 1: 254 (1810).

A. capensis *Willd.*, Sp. Pl. ed. 4, 1: 372 (1798), not of Lam. (1783).

Vilfa capensis *P. Beauv.*, Ess. Agrost. 16, 147, 181 (1812).

Sporobolus capensis (*P. Beauv.*) *Kunth*, Enum. Pl. 1: 212 (1833); F.W.T.A., ed. 1, 2: 527.

Sporobolus batesii *A. Chev.* in Bull. Mus. Hist. Nat. sér. 2, 20: 469 (1948).

Perennial, up to about 60 cm. high; **montane grasslands**.

N. Nig.: Mambila Plateau: Maisamari (Aug.) De Leeuw 1735! Gembu (Dec.) Daramola FHI 62425! Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2072! **S. Nig.:** Obudu Plateau (Feb.–May) Tuley 482! 621! Haines 144! **W. Cam.:** Cam. Mt. (Jan.) Maitland 927! W. of Mann's Springs (Dec.) Morton K856! Bambui (Dec.) Boughey 10749! Bamenda road (Dec.) Boughey 10450! Ndu, Nkambe Div. (Feb.) Hepper 1946!

South Africa, extending northwards into the highlands of tropical Africa; also in **Mauritius**, **Ceylon**, **Australia**, **New Zealand**, **Hawaii** and, **Easter Island**.

[Some intermediate specimens (such as Bumpus 16 from Bambui) have a long acute upper glume, but a spreading, pyramidal panicle. They have been described as *S. natalensis* (Steud.) Dur. & Schinz (1894) and *S. indicus* var. *laxus* (Nees) Stapf (1900), and may be of hybrid origin.]

21. **Sporobolus subtilis** *Kunth* Rev. Gram. 2: 421 (1831); A. Chev. in Rev. Bot. Appliq. 14: 115. *APD acc*

Vilfa subtilis (*Kunth*) *Trin.* in Mém. Acad. Sci. Petersb. sér. 6, 2: 88 (1840).

Sporobolus barbigerus *Franch.* in Bull. Soc. Hist. Nat. Autun 8: 371 (1895).

Densely tufted perennial 30–46 cm. high, with coarsely fibrous base.

S. L.: Mt. Loma (Feb.) Jaeger 9400! 9419! Tingi Mts. Morton & Gledhill SL 3060! **Lib.:** Monrovia (June, Aug.) Baldwin 5918! 9194! Paynesville (Feb.–Mar.) Harley 2117! Voorhoeve 862b! Duport (Oct.) Barker 1445! **S. Nig.:** Obudu Plateau (Feb., Apr.) Tuley 483! Haines 359!

Extends through the Congo and Tanzania to Zambia, Rhodesia, **Angola**, Mozambique and S. Africa; also in **Madagascar**.

22. *Sporobolus nervosus* Hochst. in Flora 38: 202 (1855). *APD acc*

Sporobolus longibrachiatus Stapf in Kew Bull. 1907: 219 (1907).

Tufted perennial 15–60 cm. high.

Maur.: Nouakchott (Oct.) Adam 21775!

Ethiopia to Tanzania, and in **S.W. Africa**.

23. *Sporobolus stapfianus* Gandoger in Bull. Soc. Bot. Fr. 66: 302 (1920); De Miré & Gillet in J. Agric. Trop. 3: 736. *APD acc*

Sporobolus festivus var. *stuppeus* Stapf in Fl. Capensis 7: 582 (1900).

Sporobolus stuppeus (Stapf) Stent in Bothalia 2: 264 (1927).

Very similar to the following, but with a less delicate inflorescence.

N. Nig.: Zaranda Mt. (May) Lely 196!

Tropical and S. Africa generally.

24. *Sporobolus festivus* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 398 (1850); Chev. Bot. 742, and in Rev. Bot. Appliq. 14: 112 (incl. var. *fibrosus* Stapf ex Stent in Bothalia 2: 264 (1927)); Berhaut, Fl. Sén. ed. 2, 412. *APD acc*

Vilfa festiva (Hochst. ex A. Rich.) Steud., Syn. Pl. Glum. 1: 158 (1854).

Densely tufted perennial up to 60 cm. high, with strongly fibrous base and very delicate, often reddish, inflorescence; **crevices and hollows in rock outcrops and shallow soils**.

Maur.: Néma Rossetti 61/190! **Gam.:** Saunders 51! Genieri to Massambe (July) Fox 172! **Mali:** Kersani (Aug.) Farrow 75! Dioura (Sept.) Farrow 74! **Guin.:** Tambailo (Aug.) Adam 14838! **Iv. C.:** Séguéla (Apr.) Leeuwenberg 3267! **U. Volta:** Bougoura (June) Scholz 8! Barmoussa (June) Scholz 8a! Kain (July) Scholz 8b! **Ghana:** Navrongo (June) Vigne FH 4545! Zuarungu (June) Williams 509! Berekum to Sampa (Apr.) Morton A3239! Gradaw, Banda Hills (Oct.) Rose Innes GC 31626! Kintampo to Bamboi (Oct.) Rose Innes GC 30623! **N. Nig.:** Anara F.R., Zaria Prov. (July) Keay & Okeke FHI 43505! Bakura-Tureta F.R. near Bimasa, Sokoto Prov. (July) Keay FHI 37790! Gaya, Kano Prov. (July) Daygash FHI 22387! Katagum Dist. Dalz. 253! Nupe Barter 1392! **S. Nig.:** Ipapo, Lagos (May) Denton 30! Ago-Are F.R., Oyo Prov. (May) Keay FHI 37753! Aku Rock (Apr.) Hambler 462! Owo (Apr.) Haines 149! **W. Cam.:** (Dec.) Unwin 9703! 9753!

Throughout tropical and S. Africa, and in **Madagascar**. (See Useful Plants.)

25. *Sporobolus myrianthus* Benth. in Fl. Nigrit. 565 (1849). *APD acc*

Loosely tufted perennial with short leaves and slender culms 30–90 cm. high, the basal sheaths somewhat indurated and more or less fibrous.

N. Nig.: Patti Lokoja (Sept.) T. Vogel 190! Jos Plateau Batten-Poole 126! Panshanu F.R., Bauchi Prov. (Aug.) Drew! Lawlor & Hall 85! 398! Sha (Sept.) Hall K47!

Eastwards to **Kenya** and south to Rhodesia.

26. *Sporobolus pauciflorus* A. Chev. in Bull. Mus. Hist. Nat. Paris, sér. 2, 20: 470 (1948). *APD acc*

A tiny annual up to 12 cm. high; **on ironpans**.

Guin.: Nimba (Aug.) Schnell 3437!

27. *Sporobolus pectinellus* Mez in Fedde Rep. 17: 295 (1921); Berhaut, Fl. Sén. ed. 2, 412. *APD acc*

Sporobolus vogelii Stapf ex A. Chev. in Rev. Bot. Appliq. 14: 116 (1934); Chev. Bot. 743.

Delicate annual about 30 cm. high; **shallow soils**.

Sen.: Heudelot 497! Oussadou (Sept.) Berhaut 615! **Mali:** Bamako (Sept.) Adam 14966! **Port. G.:** Piche (Sept.) Pereira 3249! **Guin.:** Ditinn (Sept.) Schnell 7405! Iribéléya to Timbo Chev. 18283! Kouroussa (Aug., Sept.) Pobéguin 506! 1095! Tossekré, Fouta Djallon (Oct.) Adam 12757! **S. L.:** Musaia (Sept.) Small 274! Makene (Oct.) Glanville 80! Koinadugu Distr. (Aug.) Mead 255! Jui peninsular (Oct.) Morton & Jarr SL2333! **Iv. C.:** Bouaflé to Zuenoula (Oct.) Adjanohoun 311a! **Ghana:** N. of Bole, Wa road (Sept.) Rose Innes GC 30175! Damongo Scarp F.R. (Nov.) Rose Innes GC 30838! Atonso (Oct.) Baldwin 13486! Gambaga F.R. (Oct.) Ankrah GC 20272! Kete Krachi (Sept.) Ankrah GC 20224! **Togo Rep.:** Atacora Mt. pass, Sokode to Lama Kara (Oct.) Rose Innes GC 31393! **N. Nig.:** R. Niger McWilliam! Anara F.R. (Sept.) Jackson 619968! Oturkpo, Idoma Div. (Sept.) Kennedy 8019! Panshanu (Aug.) Lawlor & Hall 416! Sha (Sept.) Hall K16! **S. Nig.:** Lagos MacGregor 140!

Also in **Uganda** and the **Congo**.

28. *Sporobolus infirmus* Mez in Fedde Rep. 17: 294 (1921). *APD acc*

Sporobolus tenuis Stapf ex A. Chev. in Bull. Mus. Hist. Nat. sér. 2, 20: 469 (1948), and in Rev. Bot. Appliq. 29: 125.

Sporobolus schnellii A. Chev. l.c. 470 (1948), and in Rev. Bot. Appliq. 29: 126.

Slender annual 10–30 cm. high, rather variable; **rock outcrops and ironstone exposures**.

Guin.: Mt. Loura, Fouta Djallon (Sept.) Schnell 7121! Macenta (Oct.) Baldwin 9753! Mt. Koiré, Nzérékoré (Sept.) Baldwin 13283! Friguiagbé (July) Chillou 562! **S. L.:** Wonkifu (Oct.) Jordan 937! Yakala (Sept.) Thomas 2359! Sefadu (Sept.) Jordan 521! Adames 270! Rolip (Sept.) Jordan 536! **Iv. C.:** Mid-Cavally to Mid-Sassandra (Sept.) Portères 1001! **Ghana:** Burufo (Oct.) Hinds 5009! Krobo Hill, Mampong (Oct.) Row Innes GC 31155! Kwahu Tafo (Nov., Dec.) Rose Innes GC 31651! Adams 4921! Volta R., Kete Krachi (Oct.) Rose Innes GC 30928! **N. Nig.:** (Sept.) Lely P754! Panshanu (Aug.) Lawlor & Hall 428! Hall 508! Jebba Barter! **S. Nig.:** Lagos MacGregor 47! Igboora (Oct.) Haines 332! Iseyin (Oct.) Jackson 2360! **W. Cam.:** Ndop (July) Boughey GC 10962a! Bambui (Mar.) Brunt 72!

Also in the **C. African Rep.**, **Congo** and **Uganda**.

29. *Sporobolus tenuissimus* (Schränk) O. Ktze. Rev. Gen. Pl. 3: 369 (1893). *APD acc*

Panicum tenuissimum Schrank in Denkschr. Bot. Ges. Regensb. 2: 26 (1822).

Vilfa minutiflora Trin., Diss. Bot. 158 (1824).

Sporobolus minutiflorus (Trin.) Link, Hort. Berol. 1: 88 (1827); F.W.T.A., ed. 1, 2: 527; Berhaut, Fl. Sén. ed. 2, 412.

Sporobolus bibansiensis Vanderyst (1920), in synonymy.

Annual 30–90 cm. high.

Sen.: Dakar (May) Baldwin 5726! Sangalkam (June) Raynal 5958! **Guin.:** Conakry (Jan., June) Dalz. 8418! 8419! Martine 6! **Lib.:** Nimba (Sept., Dec.) Adam 20282! Adames 544! **S. Nig.:** Boughey GC 11400! Lagos (Oct.) Haines 180! **F. Po:** Santa Isabel Swarbrick 2910!

Occurs in **Gabon**, **Kenya** and **Tanzania**, extending eastwards through **Arabia** and Mauritius to India; also in **tropical America**.

60. CRYPSIS

Ait., Hort. Kew. 1: 48 (1789); C. E. Hubbard in Hook., Ic. Pl. 35: t. 3457 (1947); Lorch in Bull. Res. Counc. Israel 11D: 91 (1962); nom. cons.

- 1 Inflorescence an ovoid head of densely crowded spikelets, up to 2 cm. long and 0.8 cm. broad, embraced below by two inflated leaf-sheaths; spikelets 2.5–4 mm. long; glumes shortly ciliate on the keel *schoenoides*

Crypsis schoenoides (Linn.) Lam. Tab. Encycl. Méth. Bot. 1: 166 (1791); Lebrun in Bull. Soc. Bot. Fr. 166: 258 (1969). *APD acc*

Phleum schoenoides Linn., Sp. Pl. 60 (1753).

Heleochloa schoenoides (Linn.) Host (1801)—F.W.T.A., ed. 1, 2: 530.

Crypsis compacta Steud., Syn. Pl. Glum. 1: 151 (1854).

Annual, with prostrate stems radiating from the root.

Sen.: Leprieur! Roger 31!

Extends northwards into Mediterranean Europe, and eastwards through **Ethiopia** and the Middle East to N.W. India; isolated records southwards to Malawi.

61. PEROTIS

Ait., Hort. Kew. 1: 85 (1789).

- 1 Base of spikelets abruptly rounded, without a definite callus; spikelets 1.7–2.7 mm. long, crowded, usually spreading; awns 9–17 mm. long [1. patens](#)
- Base of spikelets drawn out into a distinct stipitiform callus: **2**
- 2 Spikelets 1.5–2.5 mm. long (excl. callus); awns 5–15 mm. long; glumes, and their slender mid-nerve, uniformly scaberulous or hispidulous; grain terete [2. indica](#)
- Spikelets 2.5–3.5 mm. long: **3**
- 3 Spike lax, the spikelets distant by several times their own width; mid-nerve of upper glume depressed and spinulose; glumes irregularly hispidulous; awn 5–15 mm. long; grain strongly flattened [3. hildebrandtii](#)
- Spike dense, the spikelets contiguous; mid-nerve of upper glume neither depressed nor markedly spinulose; glumes hispidulous in lines along their length; awn 20–35 mm. long; grain slightly flattened [4. scabra](#)

1. *Perotis patens* *Gandoger* in Bull. So Bot. Fr. 66: 301 (1920). *APD acc*

Perotis transvaalensis *Gandoger* l.c. (1920).

Glaucous annual or short-lived perennial up to 60 cm. high, with dense spikes; [roadsides and weedy places](#).

IV. C.: Pakobo Nord (June) Adjanohoun 378a! Abouabou (Jan.) Leeuwenberg 2391! Bouaké (Sept.) de Wilde 977! **U. Volta:** Sindou (June) Leeuwenberg 4332! **Ghana:** Accra Brown 385! Kete Krachi to Kpetchu (Oct.) Ankrah GC 20378! Tamale (Dec.) Williams 457! Damongo (Mar.) Bannerman-Bruce! Navrongo (June) Vigne FH 4544! **Togo Rep.:** Lomé Warnecke 314! Sokode to Atakpame (Oct.) Rose Innes GC 31382! **Dah.:** Porto Novo (Mar.) Etève 64! **N. Nig.:** Ilorin Ward 53! Nupe Barter 754! Okene (Mar.) Maggs OK52! Naraguta (Aug.) Lely P437! Lafia (Oct.) Kennedy FHI 8028! Yola (Sept.) Dalz. 281! **S. Nig.:** Lagos (Mar.) Maitland 162! Dalz. 1119! Ibadan (Jan.) Meikle 999! Shaki (Aug.) Latilo, Taylor & Leafers FHI 43242! Okigwi to Awgu (Mar.) Tuley 613!

Tropical Africa and **S. Africa**, and **Madagascar**.

2. *Perotis indica* (Linn.) O. Ktze. Rev. Gen. Pl. 2: 787 (1891). *APD acc*

Anthoxanthum indicum Linn. Sp. Pl. 28 (1753).

Perotis spicata (Linn.) Th. & H. Durand (1909).

Perotis latifolia Ait. (1789), superfluous name.

Annual about 30 cm. high, the spike rather loose in W. African specimens; [roadsides and weedy places](#).

S. L.: Hastings (Aug.) Jordan 2167! Mahera (Nov.) Deighton 5682! Newton (Feb., Aug.) Jordan 197! Deighton 3761! **S. Nig.:** Ilaro, Abeokuta (Apr.) Daramola FHI 46012! Ibadan (Feb.) Townrow 7! Okomu F.R. (Dec.) Brenan 8626! Benin (Apr., Sept.) Maggs 9! Haines 365!

Also in **E. Cameroun**, **C. African Rep.**, **Congo** and **Tanzania**; and in **India** and **SE. Asia**. (See Useful Plants.)

3. *Perotis hildebrandtii* *Mez* in Fedde Rep. 17: 145 (1921). *APD acc*

Annual, 15–45 cm. high, geniculately ascending, with purplish or reddish “bottle brush” inflorescence; [roadsides and lawns](#).

S. L.: Freetown (Jan., Aug., Sept.) Hooper 123! Harvey 107! Gledhill 144! Lumley to Aberdeen (Aug.) Melville & Hooker 151! **Lib.:** Sangwin, Sinoe Co. (Mar.) Baldwin 11322! **Ghana:** Half-Assini (Dec.) Rose Innes GC 30544! Legon (Apr.) Morton. A4160! Biakpa (Dec.) Rose Innes GC 31184! Jasikan to Abotoase (Oct.) Rose Innes GC 30923! Ajena to Akwamu West (June) Adams 4797! **Dah.:** Cotonou (Dec.) Froment 1011! **S. Nig.:** Lagos (Mar., Oct.) Maitland 169! Haines 161! Ibadan (Sept.) Latilo FHI 54899! Owo (Apr.) Maggs OK61! Oyo, Fashola Thorold 4!

Also in **Kenya**, **Tanzania**, and the **Seychelles**.

4. *Perotis scabra* Willd. ex Trin. Gram. Unifl. 172 (1824). *APD acc*

Annual up to about 60 cm. high, decumbent at the base; [roadsides and lawns](#).

Sen.: (Sept.) Farmer 72! Heudelot 650! M’bao (Nov.) I.F.A.N.! **Gam.:** (July) Brooks 3! **S. L.:** Mambolo, Kichom (Oct.) Glanville 425! Pamaro (Nov.) T. S. Junes 44!

62. TRAGUS

Haller, Hist. Stirp. Helv. 2: 203 (1768); *Schweickerdt* in Ann. Natal Mus. 10: 15 (1941); nom. cons.

- 1 Upper glume of lowermost spikelet of each cluster 7-nerved, 3.5–5 mm. long; clusters composed of 2–4 fertile spikelets and 1–2 reduced sterile spikelets; anthers 0.6–0.8 mm. long *1. racemosus*
 Upper glume of lowermost spikelet of each cluster 5-nerved, 2–3 mm. long; clusters composed, of 2 spikelets, the upper smaller and borne upon a short internode; anthers 0.4–0.6 mm. long *2. berteronianus*

1. **Tragus racemosus** (*Linn.*) *All.* Fl. Ped. 2: 241 (1785); *Chev.* Bot. 721, and in *Rev. Bot. Appliq.* 14: 110; *Berhaut* Fl. Sén. ed. 2, 389, 393; *De Miré & Gillet* in *J. Agric. Trop.* 3: 737. *APD acc*

Cenchrus racemosus *Linn.*, Sp. Pl. 1049 (1753).

Tragus decipiens (*Fig. & De Not.*) *Boiss.* (1884).

Tragus paucispina *Hack.* (1901).

Tragus racemosus var. *erectus* *Mut.* (1837),

Tragus racemosus var. *decipiens* (*Fig. & De Not.*) *Dur. & Schinz* (1894),

Tragus racemosus var. *paucispina* (*Hack.*) *Maire* (1941).

Annual, up to about 30 cm. high; roadsides and waste places on dry sandy soils.

Maur.: Atar (Sept.) Kesby 41! **Mali:** Sahel Canal Leclercq 42757!

Southern Europe, **N. Africa** and **C. African Rep.**, extending through **Ethiopia** and Somaliland into **Arabia**; also in **S. Africa**.

2. **Tragus berteronianus** *Schult.* Mant. 2: 205 (1824); *Lebrun* in Bull. Soc. Bot. Fr. 116: 266 (1969). *APD acc*

Tragus racemosus var. *berteronianus* (*Schult.*) *Hack.* in *Osterr. Bot. Zeit.* 51: 195 (1901).

Tragus ciliatus *Leprieur ex Kunth*, *Rev. Gram.* 2: 413 (1831), in synonym.

Lappago racemosa var. *erecta* *Kunth*, *Rev. Gram.* 2: 413, t. 120 (1831).

Mali: Oualata (July, Aug.) Boëry! Goundam (Aug.) Chev. 2334! Timbuktu (July, Aug.) Hagerup 172! Lean 74! **U. Volta:** Gourma (Aug.) Rossetti 93/1959!

Throughout Africa and the warmer parts of America; also in **Arabia**, **Afghanistan** and **China**.

63. LEPTOTHRIUM

Kunth, *Rev. Gram.* 1: 156 (1829). *Latipes* *Kunth*, *Rev. Gram.* 1: 261 (1830).

- 1 Leaf-blades linear, flat or rolled, 2–10 cm. long; inflorescence up to 15 cm. long or more, the rachis tough and wavy; spikelets single or paired, often purplish, 3–5.5 mm. long, persistent on hard flattened cuneate peduncles and falling with them; one glume in each cluster drawn out into a recurved flattened tail up to 8 mm. long and ciliate with hooked hairs; other glumes thickened and tuberculate-spinulose on the back *senegalense*

- Leptothrium senegalense** (*Kunth*) *W. D. Clayton* in *Kew Bull.* ined. (1972). *APD acc*

Latipes senegalensis *Kunth*, *Rev. Gram.* 1: 261 (1830); *F.W.T.A.*, ed. 1, 2: 537; *Chev.* Bot. 722, and in *Rev. Bot. Appliq.* 14: 111; *Berhaut*, Fl. Sén. ed. 2, 389; *De Miré & Gillet* in *J. Agric. Trop.* 3: 734.

Lappago latipes *Steud.* (1854).

Tragus senegalensis *Gay ex Kunth*, in synonym. (1830).

Perennial, forming tough wiry bunches on dry soils.

Maur.: Tagent Coll. Admin. 3473! **Sen.:** (Nov.) Roger 19! Heudelot 494! **Mali:** Goundam (Aug.) Chev. 2331! Bandiagara to Douentza (July) Rogeon 449! Timbuktu (July, Aug.) Hagerup 206! Lean! Oualata (Sept., Oct.) Boëry! **Ghana:** Prampram (Feb.) Darko 559!

Also in E. Africa from **Egypt** to Tanzania, extending through **Arabia** to Persia and Pakistan.

- Zoysia matrella** (*Linn.*) *Merr.* *APD acc*

Widely used as a lawn grass in tropical Asia, has been introduced to Ife, Nigeria for the same purpose.

Additional genus

Zoysia tenuifolia Trin. APD acc

Has been used for lawns in Lomé, Togo (Charter FHI 40822!).

A finer leaved species (than *Zoysia matrella*), from Korea & Japan.

Additional genus

64. TRISTACHYA

Nees, Agrost. Bras. 458 (1829); F.T.A. 10: 52 (1937); C. E. Hubbard in Kew Bull. 1936: 321; Conert in Engl., Bot. Jahrb. 77: 296 (1957); Phipps in Kirkia 4: 101 (1964); Clayton in Kew Bull. 21: 120 (1967).

- 1 Pedicels connate; triads in a narrow raceme, with short erect peduncles; lower glume beset with tubercle-based hairs [1. thollonii](#)
 Pedicels free, up to 6 cm. long; spikelets in a narrow panicle; lower glume glabrous [2. superba](#)

1. Tristachya thollonii Franch. in Bull. Soc. Hist. Nat. Autun 8: 374 (1895); F.T.A. 10: 62; Conert l.c. 306. APD acc

Apochaete thollonii (Franch.) Phipps l.c. 105 (1964).

Tufted perennial up to 1·2 m. high; **seasonally damp soils.**

N. Nig.: Shika, Zaria (Oct.) Magaji 1631! Abinsi (Dec.) Dalz. 882! 886!

Also extends from the Congo to Zambia and Malawi.

2. Tristachya superba (De Not.) Schweinf. & Aschers. Beitr. Fl. Aethiop. 302 (1867); Conert l.c. 299; Phipps l.c. 102. APD acc

Loudetia superba De Not. in Ind. Sem. Hort. Genuens. 24 (1852) & in Ann. Sci. Nat. sér. 3, 19: 369 (1853); F.T.A. 10: 47; Berhaut, Fl. Sén. ed. 2, 416.

Stout perennial 1·5–3·5 m. high; base of culm swollen and clad in silky hairy leaf-sheaths.

Mali: Bamako (Sept.) Adam 15353! Sikasso (Sept.) Adam 15049! **U. Volta:** Takalédougou, Banfora (Sept.) Aké Assi 6316! Samandeni, Bobo-Dioulasso (Oct.) Kmoch 138! **Ghana:** Yapei Ferry, White Volta R. (Aug.) Rose Innes GC 31992! Tamale to Yendi (Sept.) Rose Innes GC 30451! Kulpeni R., Yendi Hinds 8! Daka R., Yendi (Nov.) Addei SLUS 734! Damongo scarp (Sept.) Hall CC 841! **N. Nig.:** Michika, Bornu (Aug.) De Leeuw 1814! Mando F.R., Birnin Gwari Dist. (Sept.) Keay FHI 28032! Gombe to Bauchi (Dec.) Oche 96! Yankari Game Reserve (Sept.) Oche & Tuley 1693!

Extends through tropical Africa.

[Although *Loudetia* was not properly described until 1854, the epithet *superba* was validly described in combination with the earlier illegitimate generic name.]

65. ARUNDINELLA

Raddi, Agrost. Bras. 37, t. 1, fig. 3 (1823); F.T.A. 10: 1 (1937); Hubbard in Kew Bull. 1936: 319; Conert in Engl., Bot. Jahrb. 77: 329 (1967); Phipps in Kirkia 4: 97 (1964) and in Can. J. Bot. 45: 1047 (1967); Clayton in Kew Bull. 21: 121 (1967). **APD acc**

- 1 Perennial up to 3 m. high; culms hard; leaf-blades stiff, linear; panicle oblong, 30–50 cm. long, the spikelets arising singly or in pairs from the primary branches, rarely from secondary branches; spikelets 4·5–5·5 mm. long [1. nepalensis](#)
 Annual; culms soft; leaf-blades flaccid, narrowly lanceolate; panicle effuse, obovate; up to 25 cm. long; spikelets 1·5–2·5 mm. long [2. pumila](#)

1. Arundinella nepalensis Trin. Gram. Panic. 62 (1826). APD acc

Arundinella ecklonii Nees (1841), incl. var. major C. E. Hubbard (1934); F.T.A. 10: 2; F.W.T.A., ed. 1, 2: 546; A. Chev. in Rev. Bot. Appliq. 14: 42; Berhaut, Fl. Sén. ed. 2, 417.

An extremely variable grass, the culms 0.6–3.5 m. high, and the panicles 10–50 cm. long, but with the spikelets relatively constant; the West African specimens fall into the upper part of this range.

Sen.: Niokolo-Koba (Feb., Apr., Oct.) Berhaut 1596! Adam 15714! 17437! **Mali:** Marigot Farako (Feb.) Duong 2102!

Guin.: Labé to Mali (Nov.) Chev. 34593! Mali to Mt. Laura Chev. 34601 bis !

Tropical and South Africa, extending through India to China and Australia.

2. *Arundinella pumila* (Hochst. ex A. Rich.) Steud. Syn. Pl. Glum. 1: 114 (1854); F.T.A. 10: 3; Conert in Engl., Bot. Jahrb. 77: 340; Bor in J. Ind. Bot. Soc. 27: 62. *APD acc*

Acratherum pumilum Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 414 (1851).

Arundinella effusa C. E. Hubbard in Kew Bull. 12: 63 (1857).

Guin.: Mali Jac.-Fél. 1988! Massif du Benna (Oct.) Jac.-Fél. 7163! Kindia (Jan.) Chillou 1806! Ditinn (Apr.) Pitot! **S. L.:** Tingi Mts., Kono (Dec.) Morton & Gledhill SL 2930! **Ghana:** Boti Falls, Huhunya (Oct.) Hall 1619! **N. Nig.:** Wana, Lafia (Nov.) Hepburn 157! **W. Cam.:** Metschum R. Falls, Bamenda (Jan.) Keay & Russell FHI 28524!

Also in NE. Africa, extending through India to Indonesia.

66. LOUDETIOPSIS

Conert in Engl., Bot. Jahrb. 77: 277 (1957); Clayton in Kew Bull. 21: 122 (1967).

- 1 Lobes of upper lemma awned, with a tuft of hairs below each lobe; stamens 3:2
Lobes of upper lemma awnless, the lemma uniformly hairy or glabrous on the back; stamens usually 2:4
- 2 Pedicels 5–25 mm. long, the spikelets in loose groups of 2 or 3; spikelets 6–10 mm. long[1. occidentalis](#)
Pedicels 0.5–1 mm. long, the spikelets in close clusters of 3:3
- 3 Annual; spikelets 5 mm. long; lower glume 3–3.5 mm. long; panicle dense, of 40 or more triads ...[2. pobeguinii](#)
Perennial; spikelets 6–12 mm. long; lower glume 4–11 mm. long; panicle loose, of 4–35 triads [3. tristachyoides](#)
- 4 Annual; spikelets 14–17 mm. long with, or rarely without, pale yellow tubercle-based hairs; callus of upper floret 2-toothed; awns 7–12 cm. long[4. kerstingii](#)
Perennials:5
- 5 Awns 4.5–7 cm. long:6
Awns 0.3–3 cm. long:7
- 6 Callus of upper floret obliquely 1-toothed or truncate; spikelets 13–20 mm. long; lower glume 8–13 mm. long, narrowly lanceolate, tapering to an acute or acuminate tip, the lateral nerves encrusted with a continuous line of tubercles; peduncle sharply recurved[5. chrysothrix](#)
Callus of upper floret 2-toothed; spikelets 9–13 mm. long; lower glume 5–8 mm. long, lanceolate, narrowing to an obtuse tip, the lateral nerves usually with isolated tubercles, rarely glabrous; peduncle straight or flexuous, rarely recurved[6. scaëtae](#)
- 7 Peduncles sinuous or sharply recurved, and densely hairy beneath the triads:8
Peduncles straight or almost so, and glabrous beneath triads (though sometimes with hairy pedicels): 10
- 8 Awns 20–30 mm. long; spikelets 6–7 mm. long; leaf-blades setaceous, involute, up to 1 mm. broad; panicle branches pilose to villous; lower lemma 3-nerved; stamens 2 [7. capillipes](#)
Awns 3–5 mm. long; triads deciduous as a whole; lower lemma 7-nerved; stamens 3:9
- 9 Column of awn lacking; upper lemma sparsely pubescent, with an oblong truncate callus[8. baldwinii](#)
Column of awn 1.5 mm. long, twisted; upper lemma densely pilose, with a very short rounded callus [9. falcipes](#)
- 10 Lower glume 3/4 to almost as long as the upper; glumes glabrous or with a few tubercle-based hairs; lower lemma 5–9-nerved; stamens 3 [10. trigemina](#)
Lower glume 1/2–2/3 as long as upper; stamens 2: 11
- 11 Basal leaf-sheaths tomentose below; glumes and pedicels glabrous, or the lower glume pubescent towards the apex; lower glume acute to acuminate; lower lemma 3–5-nerved [11. glabrata](#)
Basal leaf-sheaths glabrous below; glumes and pedicels usually setose with tubercle-based hairs; lower lemma 3-nerved: 12

- 12** Culm glabrous and smooth below panicle; panicle contracted and rather dense, 2.5–11 cm. broad, branches erect or ascending; lower glume obtuse to sub-acute [12. *ambiens*](#)
- Culm scabrid and rough to the touch below panicle; panicle open and very loose, 6–25 cm. broad, branches widely spreading and often conspicuously whorled; lower glume truncate to obtuse [13. *thoroldii*](#)

1. *Loudetiopsis occidentalis* (Jac.-Fél.) W. D. Clayton in Kew Bull. 21: 123 (1967). *APD acc*

Dilophotriche occidentalis Jac.-Fél. in J. Agric. Trop. 7: 408 (1960).

Danthoniopsis occidentalis Jac.-Fél. in Rev. Bot. Appliq. 30: 424 (1950), without latin descr.

Perennial, 60–90 cm. high.

Guin.: Conakry (Dec.) Adam 12617! Kindia Jac.-Fél. 1852! Friguiagbé (Sept.–Dec.) Chillou 25! 105! Kanea (Oct.) Adam 12630!

(The tufts of hair on the upper lemma are lacking in this specimen).

2. *Loudetiopsis pobeguinii* (Jac.-Fél.) W. D. Clayton in Kew Bull. 21: 123 (1967). *APD acc*

Dilophotriche nobeguinii Jac.-Fél. in J. Agric. Trop. 7: 408 (1960).

Danthoniopsis pobeguinii Jac.-Fél. in Rev. Bot. Appliq. 30: 423 (1950), without latin descr.

About 60 cm. high; **moist places**.

Sen.: Niokolo-Koba (Jan.) Berhaut 4672! Kanéméré (Aug.) Fotius 369 ter (fide Lebrun in Bull. Soc. Bot. Fr. 116: 263 (1969)). **Port. G.:** Madina de Boé, Gabú (Dec.) Esp. Santo 2848! **Guin.:** Seriba to Kiffaya (Oct.) Adam 12703! Touba to Kadé (June) Pobéguin 2035!

3. *Loudetiopsis tristachyoides* (Trin.) Conert in Engl., Bot. Jahrb. 77: 291 (1957). *APD acc*

Panicum tristachyoides Trin. in Bull. Sci. Acad. Petersb. 1: 71 (1836).

Tristachya tristachyoides (Trin.) C. E. Hubbard in Kew Bull. 1935: 309 (1935); F.T.A. 10: 59; F.W.T.A., ed. 1, 2: 546.

T. purpurea C. E. Hubbard l.c. 308; F.T.A. 10: 60; F.W.T.A., ed. 1, 2: 546.

T. multinodis C. E. Hubbard l.c. 308; F.T.A. 10: 59; F.W.T.A., ed. 1, 2: 546.

T. microstachya Nees ex Steud. (1854).

T. tuberculata Stapf (1897).

T. minuta A. Chev. in Rev. Bot. Appliq. 14: 43 (1934), partly, without proper descr.

Danthoniopsis tristachyoides (Trin.) Jac.-Fél. in Rev. Bot. Appliq. 30: 424 (1950).

D. tuberculata (Stapf) Jac.-Fél. l.c. 423 (1950); Berhaut, Fl. Sén. ed. 2, 417.

D. multinodis (C. E. Hubbard) Jac.-Fél. l.c. 423 (1950).

D. purpurea (C. E. Hubbard) Jac.-Fél. l.c. 424 (1950).

Arundinella tristachyoides (Trin.) Roberty in Bull. I.F.A.N. 17: 56 (1955).

Loudetiopsis purpurea (C. E. Hubbard) Conert in Engl., Bot. Jahrb. 77: 292 (1957).

Dilophotriche purpurea (C. E. Hubbard) Jac.-Fél. in J. Agric. Trop. 7: 408 (1960).

D. tristachyoides (Trin.) Jac.-Fél. l.c. (1960).

D. tuberculata (Stapf) Jac.-Fél. l.c. (1960).

Up to 1.2 m. high; **damp pockets on rock outcrops**.

Sen.: Heudelot 141! Kanéméré (Aug.) Fotius K369 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 263 (1969)). **Mali:** (Aug.) Duong! Bamako (Sept.) Adam 14954! Sikasso (Sept.) Adam 15107! **Guin.:** Conakry (Oct.) Adam 12612! Kouria to Trébéléya (Sept.) Chev. 18278! Mamou (Sept.) Schnell 6783! Pita Adames 360! Timbo (Sept.) Pobéguin 1796! **S. L.:** Brookfields (Oct.) Deighton 2176! Sugar Loaf Mt. (Oct.) T. S. Jones 249! Kambia, Magbema (Jan.) Jordan 661! Karina (Oct.) Glanville 82! Bumbuna (Oct.) Thomas 3117! **U. Volta:** Cascade de Toussiana (Oct.) Scholz 68!

4. *Loudetiopsis kerstingii* (Pilger) Conert in Engl., Bot. Jahrb. 77: 289 (1957). *APD acc*

Trichopteryx kerstingii Pilger in Engl., Bot. Jahrb. 34: 128 (1904).

Tristachya kerstingii (Pilger) C. E. Hubbard in Kew Bull. 1934: 435; F.T.A. 10: 57; F.W.T.A., ed. 1, 2: 546; Aké Assi, Contrib. 2: 283.

T. glabrinodis C. E. Hubbard in Kew Bull. 4: 358 (1949).

Diandrostachya kesrstingii (Pilger) Jac.-Fél. in J. Agric. Trop. 7: 408 (1960).

D. glabrinodis (C. E. Hubbard) Phipps in Bol. Soc. Brot. 41: 202 (1967).

Up to 1 m. high; panicles erect, peduncles straight or stiffly flexuous; **shallow soils over ironstone**.

Mali: Sindou Koroni (Sept.) Adam 15187! **Iv. C.:** Bassawa (Oct.) Adjanohoun 274a! Toupé to Saléya (Jan.) Adjanohoun 222a! Bouna to Batié (Oct.) Rose Innes GC 31543! Yérébodi to Sanlo (Nov.) Aké Assi 9271! **U. Volta:** Lafègué (Sept.) Adam 15145! Baoulé (Oct.) Kmoch 124! Takalédougou, Banfora (Sept.) Aké Assi 6334! Batié to Bouna (Oct.) Rose Innes GC 31538! Cascade de Toussiana (Oct.) Scholz 75! **Ghana:** Sampa (Dec.) Vigne FH 3491! Lawra Hinds 3853! Bamboi to

Bole (Oct.) Rose Innes GC 30649! Gambaga to Yendi (Sept.) Ankrah GC 20265! Chereponi to Yendi (Oct.) Rose Innes GC 30972! **N. Nig.**: Nupe Barter 1385! Mokwa (Nov.) De Leeuw & Ocche MRK 96! Lokoja (Sept.) H. B. Jones FHI 3656!

5. *Loudetiopsis chrysothrix* (Nees) Conert in Engl., Bot. Jahrb. 77: 285 (1957). *APD acc*

Tristachya chrysothrix Nees, Agrost. Bras. 460 (1829); F.T.A. 10: 56; F.W.T.A., ed. 1, 2: 546.

T. fulva C. E. Hubbard in Kew Bull. 1934: 434; F.T.A. 10: 56; F.W.T.A., ed. 1, 2: 546.

Loudetiopsis fulva (C. E. Hubbard) Conert in Engl., Bot. Jahrb. 77: 287 (1957).

Diandrostachya chrysothrix (Nees) Jac.-Fél. in J. Agric. Trop. 7: 408 (1960).

D. fulva (C. E. Hubbard) Jac.-Fél. l.c. (1960).

Up to 1.2 m. high, with panicles of nodding triads of spikelets covered in long brown hairs; **dry soils**.

Guin.: Timbo (Sept.) Pobéguin 1758! **S. L.**: Bintumane Peak, 5,000–6,000 ft. (Jan., Nov.) T. S. Jones 110! Jaeger 404! Sankan Biriwa, 6,080 ft. (Jan.) Cole 156! Tingi Mts. (Dec.) Morton SL 2961! **Togo Rep.**: Badou to Atakpame (Sept.) Rose Innes GC 31360! **N. Nig.**: Jos Plateau (Aug.) Lely P493! Jos to Bukuru (Aug.) Keay FHI 20078! William Camp, Jos Plateau, 4,200 ft. (Sept.) Lawlor & Hall 646! Sha (Sept.) Hall K2! Hoss (Apr.) Tuley 1521!

Also in **Brazil** and **Paraguay**.

6. *Loudetiopsis scaëttae* (A. Camus) W. D. Clayton in Kew Bull. 21: 123 (1967). *APD acc*

Tristachya scaëttae A. Camus in Bull. Soc. Bot. Fr. 85: 556 (1939).

Diandrostachya scaëttae (A. Camus) Phipps in Bol. Soc. Brot. 41: 202 (1967).

Up to 2 m. high; **shallow soils over rock or ironstone**.

Guin.: Tinka Mt., Dalaba (Nov.) Schnell 2255! Dalaba-Diaguissa Plateau, 1000–1300 m. (Sept.–Oct.) Chev. 18373! **S. L.**: Bintimani (Nov.) Morton SL 2667! **iv. C.**: Ferkessédougou to Niangbo (Dec.) Adjanohoun 221a! Bouna to Bondoukou (Oct.) Rose Innes GC 31546! **U. Volta**: Sindou (Sept.) Aké Assi 6368! Adam 15171! Scaëtta 2303! Batié to Bouna (Oct.) Rose Innes GC 31541! **Ghana**: Sawla to Wa (Oct.) Rose Innes GC 32399! Mole Game Reserve (Oct.) Rose Innes GC 32413! Damongo-Tamale-Kintampo junction (Oct.) Rose Innes GC 31119! Zan, Tamale to Yendi (Nov.) Rose Innes GC 32466! Nakpanduri to Yendi (Sept.) Rose Innes GC 32154! **Togo Rep.**: Kande to Sansanné Mango (Oct.) Rose Innes GC 31408! Sansanné Mango to Dapongo (Oct.) Rose Innes GC 31432! **Dah.**: Tanguieta to Kobli (Nov.) Risopoulos 1273! **N. Nig.**: Ilorin to Jebba (Nov.) Jackson 2411!

[Intergrades with the preceding species, the specimens from Guinée differing from *L. chrysothrix* only in the possession of a 2-toothed callus.]

7. *Loudetiopsis capillipes* (C. E. Hubbard) Conert in Engl., Bot. Jahrb. 77: 284 (1957). *APD acc*

Loudetia capillipes C. E. Hubbard in Kew Bull. 1934: 432; F.T.A. 10: 45; F.W.T.A., ed. 1, 2: 544.

Tristachya minuta A. Chev. in Rev. Bot. Appliq. 14: 43 (1934), partly, without proper descr.

Slender perennial up to 75 cm. high; **shallow soils over ironstone**.

Guin.: Pobéguin 1757! Madina Tossékéré (Oct.) Adam 12547! Tombo, Labé (July) Adames 315! Pita (Sept.) Adames 359! **iv. C.**: Séguélo (Oct.) Aké Assi 6591!

8. *Loudetiopsis baldwinii* (C. E. Hubbard) Phipps in Kirkia 5: 249 (1966). *APD acc*

Loudetia baldwinii C. E. Hubbard in Kew Bull. 4: 356 (1949).

Loosely tufted, about 60 cm. high; panicle 2.5–5 cm. broad.

Guin.: Macenta (Oct.) Baldwin 9757!

9. *Loudetiopsis falcipes* (C. E. Hubbard) Phipps in Kirkia 5: 249 (1966). *APD acc*

Loudetia falcipes C. E. Hubbard in Kew Bull. 12: 61 (1957)

Loosely tufted, about 75 cm. high; panicle up to 10 cm. broad.

Lib.: Genne-Loffa, Kolahun Dist. (Nov.) Baldwin 10085! Soplina, Vonjama Dist. (Nov.) Baldwin 10058!

10. *Loudetiopsis trigemina* (C. E. Hubbard) Conert in Engl., Bot. Jahrb. 77: 283 (1957). *APD acc*

Loudetia trigemina C. E. Hubbard in Kew Bull. 1934: 432; F.T.A. 10: 47; F.W.T.A., ed. 1, 2: 544.

Tufted perennial 60 cm. high; panicles up to 10 cm. long; rocky hills.

N. Nig.: Riyom (Nov.) Clayton 1409! Shene Mts. (Aug.) J. Hall 537! Sha (Sept.) J. Hall K25! Panshanu Pass (Aug.) J. Hall 491! Wana Hepburn! **W. Cam.:** Bafut-Ngembra F.R. (July) Brunt 776a!

11. Loudetiopsis glabrata (K. Schum.) Conert in Engl., Bot. Jahrb. 77: 287 (1957). *APD acc*

Trichopteryx glabrata K. Schum. in Engl., Bot. Jahrb. 24: 336 (1897).

Loudetia glabrata (K. Schum.) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 46; T.W.T.A., ed. 1, 2: 544.

Loudetiopsis villosipes C. E. Hubbard in Kew Bull. 4: 355 (1949).

Loudetiopsis villosipes (C. E. Hubbard) Conert in Engl., Bot. Jahrb. 77: 283 (1957).

Caespitose grass about 1 m. high; **crevices in rock outcrops.**

Ghana: Aketebua (Jan.) A. S. Thomas D51! Kwahu Tafo (Nov.) Rose Innes GC 31655! **S. Nig.:** Okelift, Ondo Dist. (Nov.) Onochie FHI 34223! Akure F.R. (Oct.) Keay FHI 22666! Mt. Orosun, Idanre (Oct.) Keay & Onochie FHI 21563!

Also in **E. Cameroun.**

12. Loudetiopsis ambiens (K. Schum.) Conert in Engl., Bot. Jahrb. 77: 281 (1957). *APD acc*

Trichopteryx ambiens K. Schum. in Engl., Bot. Jahrb. 24: 335 (1897).

T. ternata Stapf in Morot, Journ. Bot. 19: 106 (1905).

Loudetia ambiens (K. Schum.) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 43; F.W.T.A., ed. 1, 2: 544.

Loudetiopsis ternata (Stapf) C. E. Hubbard l.c. (1934); F.T.A. 10: 43; F.W.T.A., ed. 1, 2: 544.

Loudetiopsis ternata (Stapf) Conert in Engl., Bot. Jahrb. 77: 282 (1957).

Tristachya parviflora Hack. (1902).

Tussocky perennial up to 2·1 m. high; **seasonally marshy soils.**

Guin.: Kouroussa (Sept.) Pobéguin 910! **Iv. C.:** Kodio Koffi Dist, Tiégouakro to Kodio Koffi (Aug.) Chev. 22332! Serébissou (May) Adjanohoun 218a! Singrobo (Oct.) Adjanohoun 344a! 359a! Dabou (Nov.) Leeuwenberg 1938! **Ghana:** Kintampo to Bamboi Ferry (Oct.) Rose Innes GC 31136! Krobo Hill, Mampong Scarp (Nov.) Rose Innes GC 30865! Attebubu to Kete Krachi (Oct.) Rose Innes GC 30595! Maliato, Togo Plateau (Nov.) Morton A3539! Tiasi, Afram Plains (Aug.) Hall CC 162! **Togo Rep.:** Palimo Stage 70! Lama Kara to Kande (Oct.) Rose Innes GC 31400! **Dah.:** Parakou (Nov.) Risopoulos 1289! **N. Nig.:** Auna to Wara (Feb., Oct.) Magaji 112! Ayuba 60! Abinsi (Oct.) Dalz. 885!

Also in **E. Cameroun & Angola.**

13. Loudetiopsis thoroldii (C. E. Hubbard) Phipps in Kirkia 5: 249 (1966). *APD acc*

Loudetia thoroldii C. E. Hubbard in Kew Bull. 12: 62 (1957).

Tussocky perennial up to 2·1 m. high; **poorly drained soils.**

U. Volta: Pendjori R. near Dahomey frontier (Dec.) Scholz 194! **Ghana:** Tumu to Walembale (Oct.) Ankrah GC 20475! Damongo (Nov.) Thorold 285! Tamale (Oct.) Baldwin 13565! Yendi to Gambaga (Sept.) Ankrah GC 20528! Bimbila to Kpandai (Nov.) Rose Innes GC 32475!

67. LOUDETIA

Hochst. ex Steud., Syn. Pl. Glum. 1: 238 (1854); A. Br. in Flora 24: 713 (1841), nom. superfl.; F.T.A. 10: 12 (1937); C. E. Hubbard in Kew Bull. 1936: 319; Conert in Engl., Bot. Jahrb. 77: 247 (1957); Phipps in Kirkia 4: 98 (1964); Clayton in Kew Bull. 21: 122 (1967).

- 1 Spikelets 22–27 mm. long, in groups of 3 on pedicels up to 2 cm. long; lower floret barren and reduced to the 5-nerved lemma; anthers 2, their tips with a minute tuft of hairs; awn 9–20 cm. long; callus unequally 2-toothed [1. togoensis](#)
Spikelets up to 17 mm. long (rarely up to 22 mm.) paired or solitary; lower floret with a palea, the lemma 3-nerved; anther tips glabrous: **2**
- 2 Upper lemma loosely pilose with hairs up to 2 mm. long; leaf-blades up to 1 m. long and 2 cm. broad; panicle 30–60 cm. long, contracted and dense; spikelets 6–7 mm. long; callus of upper floret truncate; awn 12–18 mm. long, including a column 2–3 mm. long [2. phragmitoides](#)
Upper lemma pubescent or glabrescent: **3**
- 3 Annuals; awn 5–12 cm. long; spikelets 14–17 mm. long or rarely longer; lower lemma 1/2–2/3 as long as the spikelet: **4**
Perennials, usually densely tufted; awn up to 5·5 cm. long; lower lemma from 3/4 to as long as the spikelet: ... **5**

- 4 Callus of upper floret with two equal teeth; panicle elliptic or oblong, typically 12–20 cm. long and 3–4 cm. broad (excluding awns) [3. annua](#)
- Callus of upper floret obliquely 1-toothed, pungent, sometimes with a reduced second tooth; panicle linear, contracted, typically 15–30 cm. long and 1–2 cm. broad (excluding awns) [4. hordeiformis](#)
- 5 Panicle very dense and spike-like, up to 15 cm. long and 6–14 mm. broad; branches very short, up to 6 mm. long, 1–4 spiculate; lower leaf-sheaths densely pilose at the base; lower glume narrowly lanceolate, acute, 7 mm. long, dorsally flattened, setulose from a single line of black tubercles along each lateral nerve [5. coarctata](#)
- Panicle loose or contracted but not spike-like, up to 60 cm. long and 15 cm. broad: [6](#)
- 6 Glumes acuminate, tapering to a setaceous tip, glabrous or sparsely pilose with tubercle-based hairs; callus narrowly truncate: [7](#)
- Glumes, especially the lower, obtuse or subacute at the tip; stamens 2: [8](#)
- 7 Culms stout, erect; leaf-blades 20–40 cm. long; panicle dense, containing numerous spikelets; spikelets 8–15 mm. long; awn 2.5–3 cm. long; stamens 3 [6. flavida](#)
- Culms slender, straggling; leaf-blades 2–5 cm. long; panicle scanty, containing up to 15 spikelets; spikelets 8–9 mm. long; awn 1.5–2 cm. long; stamens 2 [7. jaegerana](#)
- 8 Callus of upper floret truncate or slightly emarginate; panicle robust, 20–60 cm. long, the branches conspicuously whorled; leaf-blades 30–70 cm. long and 6–15 mm. broad; basal sheaths silky pubescent but scarcely tomentose; nodes glabrous or bearded [8. arundinacea](#)
- Callus of upper floret 2-toothed: [9](#)
- 9 Upper lemma obscurely 2-lobed, the lobes up to 0.2 mm. long; lower glume subacute, about half as long as the spikelet; basal leaf-sheaths glabrous or at most pubescent; spikelets 8–10 mm. long, always hairy [9. kagerensis](#)
- Upper lemma acutely 2-lobed, the lobes 0.3–1 mm. long; lower glume obtuse, usually about 1/3 as long as the spikelet; basal leaf-sheaths usually woolly tomentose in our area; spikelets 8–14 mm. long, mostly glabrous [10. simplex](#)

1. **Loudetia togoensis** (Pilger) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 51; Conert l.c. 276; Berhaut, Fl. Sén. ed. 2, 416. *APD acc*

Trichopteryx togoensis Pilger in Engl., Bot. Jahrb. 37: 128 (1904).

T. crinita Stapf in Morot, Journ. Bot. 19: 106 (1905); Chev. Bot. 743, and in Rev. Bot. Appliq. 14: 42.

T. figarii Chiov. (1917).

Arundinella togoensis (Pilger) Roberty in Bull. I.F.A.N., sér. A, 17: 56 (1955).

Annual up to 1 m. high, with long curved awns; on dry or shallow soils.

Maur.: 15° 40' N: 9° 30' W. Rossetti 61/296! **Sen.:** Heudelot 305! **Gam.:** Ruxton 131! **Mali:** Koulikoro (Oct.) Chev. 2372 (partly)! Ségou to Sansanding (Sept.) Chev. 2375! Pého Dioura (Jan.) Davey 216! Kanikomboli, Macina (Mar.) Chev. 24889! in Tillit (Aug.) Rossetti 135/59! **Port. G.:** Piche, Canquelifá (Sept.) Pereira 3261! **Guin.:** Fetoré Plain, Passo, Fouta Djallon (Oct.) Adames 399! Kassagui to Kinde, Fouta Djallon (Nov.) Adames 414! Kouroussa (Aug.–Sept.) Pobéguin 492! 505! **Iv. C.:** Gaoua (July) Adjanohoun 52a! Ferkessédougou to Niangbo (Dec.) Adjanohoun 203a! Bouna to Bondoukou (Oct.) Rose Innes GC 31551! **U. Volta:** Samandeni (Oct.) Kmoch 174! Bobo-Dioulasso (Sept.) Aké Assi 6385! Tougan (Sept.) Aké Assi 6418! Ouassa to Leo (Oct.) Rose Innes GC 31504! Ouagadougou (Sept.) Scholz 67! **Ghana:** Bole to Bamboi (Oct.) Rose Innes GC 30650! Wa to Dorimon (Oct.) Rose Innes GC 31029! Chuchilliga, Laura to Navrongo (Oct.) Rose Innes GC 30277! Bolgatanga (Aug.) Vigne FH 4624! Yendi to Chereponi (Oct.) Rose Innes GC 30966! **Togo Rep.:** Sansanne Mango to Dapango (Oct.) Rose Innes GC 31431! Sokodé to Lama Kara (Oct.) Rose Innes GC 31394! **Dah.:** Boukombe (Nov.) Risopoulos 1255! **Niger:** Niamey (Oct.) Hagerup 495! Dasso White 7! Dogondoutch White 42! **N. Nig.:** Samaru, Zaria Prov. Thatcher S548! Kufena hill, Zaria (Sept.) Clayton 1310! Zaria (Aug.) Keay FHI 28018! Damaturu (July) De Leeuw 309! Maiduguri (Oct.) Johnston N30!

Extends eastwards to the **Sudan** Republic. (See Useful Plants.)

2. **Loudetia phragmitoides** (Peter) C. E. Hubbard in Kew Bull. 1934: 428; F.T.A. 10: 18; Berhaut, Fl. Sén. ed. 2, 417. *APD acc*

Trichopteryx phragmitoides Peter in Fedde Rep., Beih. 40: 1, Anh.: 96 (1930).

T. flammida of Chev. Bot. 744.

Arundinella flammida of A. Chev. in Rev. Bot. Appliq. 14: 41 (1934).

Loudetia flammida of Conert in Engl., Bot. Jahrb. 77: 250 (1957), partly.

A pampas-like perennial up to 4.5 m. high, forming dense tussocks on marshy ground.

Sen.: Niokolo (Nov.) Adam 15919! **Mali:** Oyako Valley, Bamako (Dec.) Duong 2077! Sikasso to Bobo-Dioulasso (Sept.) Adam 15090! **Guin.:** Baffing R. (Oct.) Pobéguin 1801! Bambaya (Oct.) Jaeger 2131! **S. L.:** Mapotolon to Suribulomia (Nov.) T. S. Jones 41! Benekoro (Nov.) Glanville 321! Tingi Mts. Morton & Gledhill SL 2950! **Lib.:** Zigida, Vonjama Dist.

(Oct.) Baldwin 10015! Palilah, Gbanga Dist. (Feb.) Baldwin 11036! Ganta, Sanokwele Dist. (Sept.–Oct.) Baldwin 12016! Harley 1018! Sanokwele (Sept.) Baldwin 9490! **Iv. C.:** Singrobo (Oct., Nov.) Adjanohoun 342a! Abouabou Forest de Wilde 3163! Oldeman 689! **U. Volta:** Cascade de Toussiana (Oct.) Scholz 69! **Ghana:** Bole to Bamboi Ferry (Oct.) Rose Innes GC 32405! Damongo (Nov.) Thorold 304! Yapei Ferry to Kintampo (Nov.) Rose Innes GC 30853! Bimbila to Kpandai (Nov.) Rose Innes GC 32480! Golokuati to Hohoe (Sept.) Rose Innes GC 30915! **N. Nig.:** Ilorin (Oct.) Ward 94! Jebba Barter 1028! Badeggi (Sept.) Clayton 365! Jos Plateau Batten-Poole 389! Vom (Nov.) Gambles 7! **S. Nig.:** Oyo to Iseyin (Oct.) Onochie FHI 34930! Lagos (Feb.) W. MacGregor 162! Enugu Extension F.R., Udi Dist. (Sept.) Onochie FHI 34103! Agolo Thomas 293! Obudu Plateau road (Feb.) Tuley 578! **W. Cam.:** Baba, Ndop Plain (Mar.) Brunt 122!

Throughout tropical Africa. (See Useful Plants.)

Closely allied to the S. American species *L. flammida* (Trin.) C. E. Hubbard.

3. **Loudetia annua** (Stapf) C. E. Hubbard in Kew Bull. 1934: 429; F.T.A. 10: 40; Conert l.c. 271; Berhaut, Fl. Sén. ed. 2, 416; Lebrun in Bull. Soc. Bot. Fr. 116: 262 (1969). *APD acc*

APD: Synonym of Loudetia annua var. thorbeckei (Pilg.) Jacq.-Fél.

Trichopleryx annua Stapf in Kew Bull. 1897: 295.

T. thorbeckei Pilger (1914).

Loudetia bidentata Berhaut in Mém. Soc. Bot. Fr. 1952–54: 11 (1954).

Annual, up to 1·2 m. high; **humid soils flanking ditches.**

Sen.: Kaolak (Oct.) Berhaut 5667! Niokolo-Koba, Tambacounda (Oct.) Adam 15488! Elinkine, Casamance (Oct.) Adam 18261! Forêt de Boudié, Casamance (Nov.) Berhaut 6379! **Port. G.:** Boruntuma (Dec.) Pereira & Correia 2175! Caium R., Gabu Dist. (Oct.) Esp. Santo 3110! **Guin.:** Koundara (Oct.) Adam 12759! **U. Volta:** Kaporé (Oct.) Scholz 75a! **Ghana:** Bolgatanga to Bawku (Oct.) Rose Innes GC 31100! Bawku to Nakpanduri (Oct.) Ankrah GC 20493! **N. Nig.:** Lely 761! Zaria Dist. C. B. Taylor 30! Jos Plateau (Aug.–Oct.) Lely P650! P808! Vodni, Pankshin Div. Saunders 51!

Extends to **Sudan** Republic. (See Useful Plants.)

4. **Loudetia hordeiformis** (Stapf) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 41; Conert l.c. 272. *APD acc*

Trichopleryx hordeiformis Stapf in Kew Bull. 1897: 297 (1897); Chev. Bot. 744, and in Rev. Bot. Appliq. 14: 42; Berhaut, Fl. Sén. ed. 2, 395.

Arundinella hordeiformis (Stapf) Roberty in Bull. I.F.A.N., sér. A, 17: 56 (1955).

Annual, up to 1·5 m. high; **disturbed sandy soils.**

Sen.: Goulonnibo to Tambacounda (Oct.) Pitot! Niokolo-Koba (Nov.) Adam 15919! Casamance (Sept.–Oct.) Adam 18165! 18274! Tièl (Oct.) Raynal 7673. **Gam.:** Yoroberi Kunda (Sept.) Pirie 47/33! **Mali:** Koulikoro (Oct.) Chev. 2372 bis! Ségou to Sansanding (Sept.) Chev. 2375! Keribane (Oct.) Davey 84! **Port. G.:** Praia Varela, Suzana (Nov.) Esp. Santo 3140! **Iv. C.:** Séguéla to Vavoua (Oct.) Adjanohoun 312a! Bouaké to Langouassou (July) Chev. 22149! Bouaké, to M'Bayakro (Oct.) Adjanohoun 350a! Bouna to Bondoukou (Oct.) Rose Innes GC 31557! Dabakala to Katiola (Nov.) Aké Assi 9233! **U. Volta:** Sindou (Sept.) Aké Assi 6364! Ouassa to Leo (Oct.) Rose Innes GC 31492! Nankoum (Oct.) Scholz 168! Linguékoro (Nov.) Scholz 86! **Ghana:** Lawra to Navrongo (Oct.) Rose Innes GC 30275! Sawla to Damongo (Oct.) Rose Innes GC 30987! Damongo (Nov.) Thorold 284! Tamale (Nov.) Williams 1023! Gambaga Scarp, Nakpanduri (Oct.) Rose Innes GC 30738! **Togo Rep.:** Dapango to Sansanné Mango (Oct.) Rose Innes GC 31433! **Dah.:** Abomey to Boguila (Feb.) Chev. 23183! Boukombe (Nov.) Risopoulos 1264! **Niger:** Zinder (Nov.) Money-Kyrle Fe21! Niamey (Oct.) Hagerup 502a! Dasao White 18! 12! **N. Nig.:** Sokoto (Sept.) Dalz. 504! Katsina (Oct.) Clayton 1340! Jebba Barter 954! Acharane F.R., Okura Dist. Latilo FHI 34013! Abinsi (Oct.) Dalz. 883! **S. Nig.:** Enugu Extension F.R., Udi Dist. (Sept.) Onochie FHI 34105! Ngwo, Udi Dist. (Oct.) Jones 6777! Igbete (Nov.) Gledhill 709! Iseyin (Oct.) Gledhill 1022!

Extends east to **Sudan** Republic. (See Useful Plants.)

5. **Loudetia coarctata** (A. Camus) C. E. Hubbard in Kew Bull. 1934: 428; F.T.A. 10: 37; Conert l.c. 268. *APD acc*

Tristachya coarctata A. Camus in Bull. Soc. Bot. Fr. 53: 774 (1933).

T. triticoides A. Camus & C. E. Hubbard ex A. Chev. in Rev. Bot. Appliq. 14: 43 (1934).

Densely tufted perennial, 1–1·2 m. high; **poorly drained soils.**

Guin.: Timbi Madina (Jan.) Langdale-Brown 2551! Dalaba Chev. 34898! (Oct.) Adames 324! Timbo to Ditinn (Sept.) Chev. 18445! **N. Nig.:** Anara F.R., Zaria (Oct.) Keay FHI 5447! Auna to Warra (Feb.) Magaji 111! Vom, Jos Plateau (Oct.) Gambles 57! Sugu (Dec.) Peter & Tuley 74!

Also in the [Congo](#), [Sudan](#) & [Zambia](#).

6. *Loudetia flavida* (Stapf) C. E. Hubbard in Kew Bull. 1934: 429; F.T.A. 10: 34; Conert l.c. 264. *APD acc*

Trichopteryx flavida Stapf in Kew Bull. 1897: 298.

T. acuminata Stapf l.c. 297 (1897).

T. glabra Hack. (1901).

Loudetia acuminata (Stapf) C. E. Hubbard in Kew Bull. 1934: 429; F.T.A. 10: 33; F.W.T.A., ed. 1, 2: 544; Conert l.c. 263.

Coarse tufted perennial 1.2–1.6 m. high with golden brown panicles; [shallow soils in open savanna woodland](#).

U. Volta: Tumu to Leo (Oct.) Rose Innes GC 31489! Zoaga (Oct.) Scholz 158! **Ghana:** Wa to Lawra (Oct.) Ankrah GC 20446! Tumu to Walembale (Oct.) Rose Innes GC 32269! Yapei Ferry (Oct.) Rose Innes GC 30675! Bawku to Nakpanduri (Oct.) Ankrah GC 20486! Gambaga F.R. (Oct.) Ankrah GC 20270! **Togo Rep.:** Dapango to Timbou (Oct.) Rose Innes GC 31437! **N. Nig.:** Biu (Nov.) Magaji & Oche MG 51! Jebba Barter 953! Lokoja (Oct.) Dalz. 291! Bogalo, Benue R. Macleod 80! Vom, 4,000 ft. (Oct.) Gambles 34!

[Tropical Africa](#) and [Transvaal](#).

7. *Loudetia jaegerana* A. Camus in J. Agric. Trop. 1: 212 (1954). *APD acc*

Slender straggling perennial with culms up to about 30 cm. long.

S. L.: Mt. Loma (Sept.) Jaeger 1705! 7669! Tingi Mts. (Jan.) Morton & Gledhill SL 3036!

8. *Loudetia arundinacea* (Hochst. ex A. Rich.) Steud. Syn. Pl. Glum. 1: 238 (1854); F.T.A. 10: 20; Conert l.c. 254. *APD acc*

Tristachya arundinacea Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 417 (1851).

Trichopteryx arundinacea (Hochst. ex A. Rich.) Hack. ex Engl. (1891); Chev. Bot. 743, and in Rev. Bot. Appliq. 14: 42.

Loudetia eriopoda C. E. Hubbard (1934).

Tufted perennial up to 3 m. high; [dry soils, commonly associated with inselbergs and rock outcrops](#).

Sen.: Niokolo-Koba (Nov.) Adam 15919! **Guin.:** Kindia Jac.-Fél. 181! Dalaba to Songueta Chev. 20171! Timbo (Oct.) Pobéguin 1729! Macenta (Oct.) Baldwin 9751! **S. L.:** Kambia (Dec.) Deighton 814! Binle (Oct.) Adames 255! Mabonto (Oct.) Thomas 3601! Matamba to Manyakoi (Oct.) Glanville 64! Musaia (Mar.) Deighton 5398! **Lib.:** Karmadhun, Kolahun Dist. (Nov.) Baldwin 10222! **iv. C.:** Séguélo (Oct.) Aké Assi 6586! Séguéla to Vavoua (Oct.) Adjanohoun 271a! Séguéla to Bouaké (Oct.) Adjanohoun 275a! Dimbokro to Toumodi (Sept.) Adjanohoun 211a! Bouna to Bondoukou (Oct.) Rose Innes GC 31549! **U. Volta:** Takalédougou (Sept.) Aké Assi 6352! Chutes Comoé (Sept.) Adam 15298! Banfora (Sept.) Adam 15148! Cascade de Toussiana (Oct.) Scholz 76! **Ghana:** Nkwanta, Buem-Krachi Dist. (Apr.) Hall 1393! Damongo (Sept.) Goodall GC 15914! Kintampo to Bamboi Ferry (Oct.) Ankrah GC 20319! Bimbila to Yendi (Sept.) Rose Innes GC 32195! Maliato, Togo Plateau (Nov.) Morton A3527! **Togo Rep.:** Kande to Sansanné Mango (Oct.) Rose Innes GC 31409! **N. Nig.:** Kabba Parsons! Jos Plateau (Aug.) Lely P498! Fadan Karshi, Wamba Div. (Oct.) Kennedy FHI 8035! Naraguta F.R., Jos (Dec.) Kennedy FHI 1154! Dakemi, Adamawa Div. (Nov.) Hepper 1373! **S. Nig.:** Lagos W. MacGregor 240! Usonigbe F.R., Sobo Plains (Oct.) Keay & Onochie FHI 21596! Agulu, Awka Dist. (Nov.) Keay FHI 22282! Ifon F.R., Owo Dist. (Oct.) Adebuseyi FHI 43581! Oban Talbot 843! **W. Cam.:** Bansa, 5,800 ft. (June) Brunt 586! Nyen, 5,000 ft. (May) Brunt 1127! Mbenguri, 4,000 ft. (Mar.) Brunt 1036! Bamenda, 6,000 ft. (Jan.) Migeod 347! Kambo Boughey !

South to [Angola](#) & [Mozambique](#).

[The glumes and lower lemma are usually glabrous, but a few specimens bear a tuft of tubercle-based hairs at the tip of the lower lemma. in var. *hensii* (De Wild.) C. E. Hubbard ex Pichi-Sermolli (1951) (var. *trichantha* (Peter) C. E. Hubbard ex Hutch. in F.W.T.A., ed. 1, 2: 544) an East African variety recorded from Sierra Leone in our area, the glumes are pilose with tubercle-based hairs.]

9. *Loudetia kagerensis* (K. Schum.) C. E. Hubbard ex Hutch. in F.W.T.A., ed. 1, 2: 544 (1936); F.T.A. 10: 28; Conert l.c. 255; Aké Assi, Contrib. 2: 282. *APD acc*

Trichopteryx kagerensis K. Schum. in Engl., Pflanzenw. Ost.-Afr. C: 109 (1895).

T. reflexa Pilger in Engl., Bot. Jahrb. 33: 52 (1902).

Tristachya kagerensis (K. Schum.) A. Chev. in Rev. Bot. Appliq. 14: 43 (1934).

Up to 1 m. high with wiry culms and fine leaves; [shallow soils](#).

Guin.: Friguiagbé (Aug.) Chillou 601! Dalaba (Sept.) Schnell 6892! Dalaba to Diaguissa (Sept.–Oct.) Chev. 18861! Timbo (Oct.) Pobéguin 1728! **S. L.:** Freetown (Dec.) Deighton 796! Waterloo (Aug.) Melville & Hooker 305! Brookfields (Oct.) Deighton 2168! Sankan Biriwa, 4,500 ft. (Jan.) Cole 129! Bintumane Peak, 5,000 ft. (Jan.) T. S. Jones 152! **iv. C.:** Zuénoula to Bouaflé (Oct.) Adjanohoun 323a! Dougba, Oumé to Hiré (Sept.) Adjanohoun 207a! Singrobo (Oct.) Adjanohoun 340a! **Ghana:** Bupe Ferry (Oct.) Rose Innes GC 31123! Yinahin Range, Kumasi (Nov.) Rose Innes GC 30528! Kwahu Tafo (Dec.) Adams 4927! Pepease to Nkwantanang (Apr.) Morton A777! Yendi to Kete Krachi (Oct.) Ankrah GC 20414! **N. Nig.:** Mambila (Aug.) De Leeuw 1789! Mayo Daga (Nov.) Magaji & Tuley 1877!

East Africa, Congo and Angola.

10. Loudetia simplex (Nees) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 25; Conert l.c. 259; Aké Assi, Contrib. 2: 282. *APD acc*

Tristachya simplex Nees, Fl. Afr. Austr. 269 (1841).

Trichopteryx nigrifolia Stapf in Kew Bull. 1897: 297.

T. camerunensis Stapf in Kew Bull. 1897: 296.

Loudetia camerunensis (Stapf) C. E. Hubbard in Kew Bull. 1934: 431; F.T.A. 10: 24; F.W.T.A. ed. 1, 2: 544; Conert l.c.: 258.

Arundinella simplex (Nees) Roberty in Bull. I.F.A.N., sér. A, 17: 56 (1955).

Tufted perennial 0.3–1.6 m. high; a common grass on shallow soils.

Sen.: Niokolo-Koba (Oct.) Adam 15615! Kanéméré (July) Fotius K228 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 263 (1969)). **Mali:** Bamako (Sept.) Adam 14991! Bougouni to Sikasso (Sept.) Adam 15046! **Guin.:** Bandakure, Fouta Djallon Adames 283! Timbo (Oct.) Pobéguin 1725! Kouroussa (Aug.) Pobéguin 504! Fon Massif, 1,000–1,100 m. (Aug.) Schnell 6616! **S. L.:** Russell (Dec.) Deighton 3285! Sakasakala (Sept.) Deighton 6141! Mt. Loma (Sept.) Jaeger 1674! **Lib.:** Nimba, Sanokwele Dist. (Sept., Dec.) Adam 16459! 20351! Adames 481! **iv. C.:** Upper Sassandra and Cavally (Dec.–May) Portères 403! 549! Tehini (Aug.) Oldeman 289! Bouaflé to Zuénoula (Oct.) Adjanohoun 302a! Fetekro to Tiebissou (July) Chev. 22192! **U. Volta:** Samandeni (Oct.) Kmoch 173! Gaoua to Batié (Oct.) Rose Innes GC 31524! Ouagadougou (Sept.) Irvine 4685! Doutié (Sept.) Scholz 70! **Ghana:** Bole (Sept.) Irvine 4754! Navrongo (Sept.) Vigne FH 4628! Salaga to Tamale (Oct.) Rose Innes GC 30313! Vane to Hohoe (Sept.) Ankrah GC 20220! Wiawia, Hohoe Dist. (Oct.) St. Cl. - Thompson FH 1535! **Togo Rep.:** Mountain top, Ahamansu, Togo frontier (Sept.) Rose Innes GC 31327! Badou to Atakpame (Sept.) Rose Innes GC 31347! Sokodé to Lama Kara (Oct.) Rose Innes GC 31392! **Dah.:** Bambereka to Ina (Sept.) Risopoulos 1203! **N. Nig.:** Jebba Barter! Naraguta F.R., Jos Plateau (Aug.) Keay FHI 20056! Samaru, Zaria (Sept.) Clayton 1277! Cheranchi, Katsina (Oct.) Clayton 1346! Abinsi (Oct.) Dalz. 867! Vogel Peak, 5,500 ft. (Nov.) Hepper 2752! Obudu Plateau (Dec.) Tuley 58!* **S. Nig.:** Opi, Nsukka Div. (Aug.) Jones 6439! Nsukka (Jan.) Okigbo 124! **W. Cam.:** Ndop, 3,800 ft. (May) Brunt 1135! Santa, 6,000 ft. (July) Brunt 854! 856!* Bambui (Dec.) Pedder 6! Bamenda, 5,000 ft. (Dec.) Baldwin 13856!* Cam. Mt., 7,000–8,000 ft. (Nov.–Feb.) Mann 2080!* Migeod 217!* Maitland 1036!*

Tropical and South Africa.

[A form from Cameroun with large dark brown spikelets has been separated as *L. camerunensis*. These specimens (marked*) are quite distinct in our area, but similar plants occur in East Africa where they merge into the main body of the species. It seems that *L. camerunensis* should be included in *L. simplex*, of which it is merely an extreme variant.—W.D.C.]

68. DANTHONIOPSIS

Stapf in Hook., Ic. Pl. 31: t. 3075 (1916); F.T.A. 10: 73 (1937); Hubbard in Kew Bull. 1936: 319 (1936); Jacques-Félix in Rev. Bot. Appliq. 10: 422 (1950); Conert in Engl., Bot. Jahrb. 77: 317 (1957); Phipps in Kirkia 4: 113 (1964); Clayton in Kew Bull. 21: 121 (1967).

- 1** Lower leaf-sheaths densely and shortly silky-villous at the base; blades broadly linear, up to 60 cm. long and 2 cm. broad; panicle narrowly ovate, about 20 cm. long, loose; spikelets 8–10 mm. long, variegated with purple or brown; glumes glabrous, 3-nerved, the lower ovate, 5–6 mm. long, the upper as long as the spikelet; lower lemma 5-nerved; stamens 3; upper lemma sparsely pilose, with a transverse line of hairs below each lateral lobe; keels of the upper palea narrowly winged throughout; awn 14–16 mm. long, flattened below ..[chevalieri](#)

Danthoniopsis chevalieri A. Camus & C. E. Hubbard in Rev. Bot. Appliq. 14: 780 (1834); F.T.A. 10: 76; A. Chev. in Rev. Bot. Appliq. 14: 44 (1934); Jacques-Félix l.c. 424; Conert l.c. 320; Berhaut, Fl. Sén. ed 2, 417. *APD acc*

Arundinella chevalieri (A. Camus & C. E. Hubbard) Roberty in Bull. I.F.A.N. 17: 55 (1955).

Tufted perennial 1.8–2.7 m. high.

Guin.: Labé to Mali (Nov.) Chev. 34603! Dalaba to Souguéta Chev. 20190! Timbo (Oct.) Pobéguin 1727! Ditinn (Oct.) Pitot! Sériba (Oct.) Pitot! **S. L.:** Serikudi (Nov.) Glanville 313! Musaia (Dec.) Deighton 4523!

69. TRICHOPTERYX

Nees in Lindl., Nat. Syst. ed. 2: 449 (1836); F.T.A. 10: 4; Hubbard in Kew Bull. 1936: 319 (1936); Conert in Engl., Bot. Jahrb. 77: 238 (1957); Phipps in Kirkia 4: 119 (1964); Clayton in Kew Bull. 21: 120 (1967).

1 Annual; culms erect or geniculately ascending; glumes glabrous or bearing stiff tubercle-based hairs [1. elegantula](#)

Perennial; culms wiry and trailing; glumes minutely pubescent [2. marungensis](#)

1. **Trichopteryx elegantula** (*Hook. f.*) *Stapf* in Hook., Ic. Pl. 24: t. 2394 (1895); F.T.A. 10: 11; Conert l.c. 246. *APD acc*

APD: *Synonym of Trichopteryx elegantula (Hook. f.) Stapf*

Arundinella elegantula *Hook. f.* in J. Linn. Soc. 7: 233 (1864).

Trichopteryx glanvillei *C. E. Hubbard* in Kew Bull. 1934: 426; F.T.A. 10: 11; F.W.T.A., ed. 1, 2: 545.

A delicate annual, 5–17 cm. high.

S. L.: Bintumane (Nov., Jan.) Glanville 335! T. S. Jones 100! 147! Morton SL2660! Mt. Loma (Oct.) Jaeger 7861! 8312! **N. Nig.:** Njawai (Nov.) Jackson, Magaji & Tuley 1908! Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2026! **S. Nig.:** Obudu Plateau (Nov.) Tuley 978! **W. Cam.:** Cam. Mt., 6,000–8,500 ft. (Nov., Dec.) Migeod 204! Mann 2092! Bansa to Bamenda (Oct.) Tamajong FHI 23489! L. Bambuluwe (Sept.) Ujor FHI 30209! Bambui Bumpus Bam/11!

South to Malawi and Zambia.

2. **Trichopteryx marungensis** *Chiov.* in Nuovo Giorn. Bot. Ital. n.s. 26: 67 (1919); F.T.A. 10: 9 (1937). *APD acc*

Trichopteryx gracillima *C. E. Hubbard* in Kew Bull. 1934: 425; F.T.A. 10: 8; Phipps l.c. 120; Conert l.c. 243.

Trichopteryx decumbens *C. E. Hubbard* in Kew Bull. 4: 350 (1949); Conert l.c. 244.

Trailing wiry culms 30–60 cm. long; **swampy places.**

N. Nig.: Tugan (Dec.) Daramola FHI 62430! Mayodaga, Mambila Plateau (Apr.) Gbile & Daramola FHI 62892! **W. Cam.:** Kumbo to Oku (Feb.) Hepper & Charter 2019! Nkambe (Feb.) Brunt 991! Mbiami (June) Brunt 751!

Also in **Uganda**, and southwards to Rhodesia.

70. ISACHNE

R. Br., Prodr. Fl. Nov. Holl. 196 (1810); F.T.A. 9: 1090 (1934).

1 Lemmas similar in shape and texture, and more or less in size; florets almost contiguous: [2](#)

Lemmas dissimilar, the lower larger, thinner, glabrous, the upper smaller, minutely hairy; florets separated by a minute rhachilla-joint; spikelets contracted about the primary branches: [4](#)

2 Florets subrotund, indurated; panicle diffuse; leaf-blades linear-lanceolate: [3](#)

Florets elliptic, subacute, thinly coriaceous, usually glabrous; panicle contracted about the primary branches; leaf-blades linear [3. angolensis](#)

3 Lemmas minutely pubescent; glumes slightly shorter than the florets [1. buettneri](#)

Lemmas glabrous; glumes as long as or slightly longer than the florets [2. mauritiana](#)

4 Leaf-blades linear-lanceolate, 6–12 cm. long, glabrescent below; spikelets about 2 mm. long [4. guineensis](#)

Leaf-blades lanceolate, 3–6 cm. long, pubescent below; spikelets about 1.5 mm. long, rarely longer [5. kiyaensis](#)

1. **Isachne buettneri** *Hack.* in Verh. Bot. Ver. Prov. Brandenb. 31: 69 (1889); F.T.A. 9: 1091; Chev. Bot.

724, and in Rev. Bot. Appliq. 14: 40. *APD acc*

Ascending or half-climbing in forest shade.

Port. G.: S. Domingo (Aug.) Pereira 3131! **S. L.:** Kasewe Hills F.R. (June) Deighton 5838! Potoru (Apr.) Deighton 1661! Heddle's Farm, Freetown (May) Deighton 1194! Kuntaia (June) Thomas 411! Makali (July) Deighton 4398! **Lib.:** Reppue's Town Linder 370! Ganta (Sept.) Baldwin 12177! Gretown (July) Baldwin 6760! Diebla (July) Baldwin 6303! Cape Palmas T. Vogel! **iv. C.:** Cavally R. Chev. 19547! Abidjan (Sept., Oct.) Leeuwenberg 1809! de Wilde 886! Yapo Forest (Oct.) Adjanohoun 403a! **Ghana:** Shiare (Apr.) Hall 1407! Mpraeso Scarp (Dec.) Adams 5178! Aburi (June) Ankrah GC 20047! Kade (Jan.) Ankrah GC 20332! Aiyinase (July) Irvine 5068! **N. Nig.:** Nupe Barter 1362! **S. Nig.:** Benin (Sept.) Maggs 7! Opobo Jeffreys 7! Oban Talbot 769! Ogbokum (May) Jones & Onochie FHI 18882! Obudu (Apr.) Haines 360! **W. Cam.:** Kumba (Apr.) Ejiofor FHI 29346! **F. Po:** Monte Balea (Dec.) Guinea 354!

Also in **E. Cameroun**, **the Congos**, **Uganda** and **Zambia**.

2. *Isachne mauritiana* Kunth Rev. Gram. 1: 243 (1830). *APD acc*

Isachne aethiopica Stapf & C. E. Hubbard in Kew Bull. 1933: 300; F.T.A. 9: 1092.

In forest shade.

S. Nig.: Obudu Plateau (Nov.) Tuley 1033! **W. Cam.:** Buea (Mar.) Boughey GC 6762! Cam. Mt. (Dec.) Maitland 879! Hinds C71! Esele (Feb.) Maitland 1032! Mimbila (Mar.) Brenan 9547! **F. Po:** (Dec.) Boughey GC 10819! Moka (Jan., Sept.) Guinea 1967a! Wrigley 655! Pico Serrano (Jan.) Guinea 2013!

Also in S. Tomé, and throughout E. Africa, extending through the Congo, Rhodesia and Malawi to Mozambique, Madagascar and Mauritius.

3. *Isachne angolensis* Rendle Cat. Welw. 2: 166 (1899).

APD: *Synonym of Coelachne angolensis (Rendle) Jacq.-Fél.*

Coelachne occidentalis Jac.-Fél. in Adansonia, n.s. 6: 533 (1966).

Weakly erect perennial 30–45 cm. high; damp shady places.

N. Nig.: Tugan, Mambila plateau (Dec.) Daramola FHI 62431!

Also in **E. Cameroun**, **Zambia**, **Malawi** and **Angola**.

4. *Isachne guineensis* Stapf & C. E. Hubbard in Kew Bull. 1933: 302; F.T.A. 9: 1094; A. Chev. in Rev. Bot. Appliq. 14: 41. *APD acc*

Culms ascending, rooting at the lower nodes.

Guin.: Mali to Mt. Loura (Nov.) Chev. 37601! Timbi (Oct.) Adam 12520!

5. *Isachne kiyalaensis* Robyns in Bull. Jard. Bot. Brux. 9: 199 (1932); F.T.A. 9: 1096. *APD acc*

Panicum kiyalaense Vanderyst in Bull. Agric. Congo Belge 10: 246 (1919), provisional name.

Isachne caillei A. Chev. in Rev. Bot. Appliq. 14: 41 (1934).

Weakly ascending, up to about 45 cm. high, culms slender; marshy places in shade.

Guin.: Dalaba (Apr.) Chev. 18139! Kindia (Dec.) Jac.-Fél. 7443! Koba (Nov.) Jac.-Fél. 7268! Timbi (Oct.) Adam 12512! **S. L.:** Giema (Apr.) Deighton 1640! Regent (Oct.) Deighton 2183! Yetaya (Sept.) Thomas 2446! Port Loko (Dec.) Thomas 6521! Kenema (Jan.) Thomas 7542! **Lib.:** Ganta (Oct.) Harley 2052! Monrovia (Oct.) Cooper 26! Kandessu (Dec.) Baldwin 10667! Mecca (Nov.) Baldwin 10434! Taurazon (Mar.) Baldwin 11482! **iv. C.:** Abouabou (Nov.) Adjanohoun 452a! Grabo to Olodio (Feb.) Aké Assi 9429! **Ghana:** Awuabo to Krisin (Mar.) Rose Innes GC 30880! **S. Nig.:** Jamieson R. (Jan.) Stanfield & Lowe 1947! Sapoba (Feb.) Onochie FHI 31944! Udi (Sept.) Onochie FHI 34089! Aguku Thomas 631!

Also in **Congo** and **Angola**.

71. HETERANTHOECIA

Stapf in Hook., Ic. Pl. 30: t. 2927 (1911); F.T.A. 9: 1098 (1934).

- 1 Leaf-blades lanceolate, short, 1.5–3 cm. long, 3–5 mm. broad; ligule a line of long fine hairs; spikelets borne in short one-sided racemes 0.5–1 cm. long scattered along a main axis; raceme rhachis ciliate on the margins, tapering to an acute tip; spikelets 1.5–2 mm. long; glumes subequal, a little shorter than the spikelet; lemmas chartaceous, the lower as long as the spikelet, subacuminate, glabrous except at the base; the upper half as long, pubescent [guineensis](#)

Heteranthoecia guineensis (*Franch.*) *Robyns* in Bull. Jard. Bot. Brux. 9: 201 (1932); F.T.A. 9: 1099; Berhaut, Fl. Sén. ed. 2, 403. *APD acc*

Dinebra guineensis *Franch.* in Bull. Soc. Hist. Nat. Autun 8: 376 (1895).

Heteranthoecia isachnoides *Stapf* (1911)—A. Chev. in Rev. Bot. Appliq. 14: 41.

Annual, up to 60 cm. high; culms ascending, rooting at the lower nodes; in swamps or pond margins.

Guin.: Timbi (Dec.) Jac.-Fél. 7421! Nimba Mts. (Apr.) Schnell 5038! **S.L.:** Rowala (July) Thomas 1091! Pateya to Njagbema (July) Deighton 5791! Lunsar (Mar.) Jordan 26! Tebor (July) Deighton 5808! Kissy Tungi (Sept.) Jordan 528! **Lib.:** Harley 1750! Ganta (Jan.) Harley 2104! Nimba (Jan.) Adam 20667! **N. Nig.:** Nupe Barter 1348! Kontagora to Ibeto (Jan.) Meikle 1091! Jos (Oct.) Hepper 1185! **S. Nig.:** Enugu Jones FHI 6226!

Extends eastwards to **Uganda** and Tanzania, and southwards to the Congo and **Angola**.

72. SETARIA

P. Beauv., Ess. Agrost. 51 (1812); F.T.A. 9: 768 (1920–30); nom. cons.

- 1 Inflorescence a cylindrical spike-like panicle: 2
 Inflorescence a branched panicle: 7
- 2 Bristles retrorsely barbellate, clinging tenaciously to clothing; upper glume as long as the spikelet, concealing the smooth upper lemma [1. verticillata](#)
 Bristles antrorsely barbellate or smooth: 3
- 3 Annual; upper glume up to 1/2 as long as the spikelet, exposing the conspicuously rugose upper lemma; spikes 2–8 cm. long, rarely longer, with tawny bristles 6–8 mm. long; spikelets 2–2.3 mm. long [2. pallide-fusca](#)
 Perennials: 4
- 4 Basal sheaths pubescent with silky white hairs below; upper glume 4/5 to almost as long as the spikelet, concealing the obscurely rugose upper lemma; spikelets turgid; spikes 5–12 cm. long, yellowish green [3. ciliolata](#)
 Basal sheaths glabrous below; upper glume 1/4–3/4 as long as the spikelet, exposing the conspicuously rugose upper lemma; spikelets more or less dorsally compressed: 5
- 5 Culm 5–10-noded, 3–6 mm. diam. at base, compressed; basal sheaths strongly keeled and often flabellately interleaved, but falling away in older specimens; leaf-blades 4–10 mm. broad, glabrous; spikes 10–30 cm. long [4. anceps](#)
 Culms 2–4-noded, 1–3 mm. diam. at base, not compressed; basal sheaths more or less rounded on the back or weakly keeled, not flabellately folded; leaf-blades 2–6 mm. wide; spikes 5–20 cm. long: 6
- 6 Old leaf-sheaths breaking into a dense mass of fibres at the base; leaf-blades glabrous or sparsely hairy [5. aurea](#)
 Old leaf-sheaths not becoming fibrous at the base; leaf-blades glabrous [6. sphacelata](#)
- 7 Leaf-blades flat, not pleated; panicle branches glabrous or minutely scabrid, except for sparse tubercle-based hairs: 8
 Leaf-blades pleated fan-wise at the base; panicle branches pubescent, with or without tubercle-based hairs: 9
- 8 Upper lemma strongly transversely rugose; upper glume 1/2–2/3 as long as the spikelet; leaf-blades linear, firm, without false petioles [7. longiseta](#)
 Upper lemma smooth; upper glume 3/4 as long as the spikelet; leaf-blades lanceolate-linear, flaccid, the lower often narrowed at the base into a false petiole 1–8 cm. long [8. gracilipes](#)
- 9 Annual, up to 1 m. high, ascending or geniculate at the base; leaf-blades up to about 1.5 cm. wide; upper lemma strongly rugose [9. barbata](#)
 Perennials, with stout culms up to 3.5 m. high and broad leaf-blades up to 10 cm. wide; upper lemma obscurely rugose: 10
- 10 Spikelets 3–4 mm. long; lower lemma terminating in a short incurved beak, and exceeding the upper lemma by 0.2–0.5 mm.; panicle stiff, erect [10. caudula](#)
 Spikelets 2.5–5 mm. long; lower lemma equalling or very shortly exceeding the upper lemma: 11

- 11** Panicle stiff, erect, dense; the branches rigid, projecting from the main axis at an angle of 45°-90° or even slightly deflexed, decreasing gradually in length to form a pagoda-like spire; culm up to 4 mm. diam. at base of panicle; palea of lower floret as long as the lemma; leaf-sheaths glabrous; leaf-blades up to 10 cm. broad ..[11. megaphylla](#)

Panicle slender, more or less drooping, lax; the branches flexuous, ascending and often appressed to the main axis, of irregular lengths; culm up to 2 mm. diam. at base of panicle; palea of lower floret usually absent, less often up to 3/4 as long as the lemma, rarely of the same length; leaf-sheaths usually pilose with tubercle-based hairs, less often glabrous; leaf-blades usually under 5 cm. broad[12. chevalieri](#)

- 1. *Setaria verticillata* (Linn.) P. Beauv.** Ess Agrost. 51, 178 (1812); F.T.A. 9: 824; Chev. Bot. 734. and in Rev. Bot. Appliq. 14: 31; Berhaut, Fl. Sén. ed. 2, 393; De Miré & Gillet in J. Agric. Trop. 3: 735. *APD acc*

Panicum verticillatum Linn., Sp. Pl. ed. 2, 82 (1762).

P. adhaerens Forsk. (1775).

P. aparine Steud. (1854).

Setaria adhaerens (Forsk.) Chiov. in Nuov. Giorn. Bot. Ital. n.s. 26: 77 (1919).

Ascending annual up to 1 m. high; **weedy places.**

Maur.: Gani (Oct.) Hepper 3650! **Sen.:** Roger! **Gam.:** Ruxton 140! **Mali:** Sarédina (May) Davey 83; Dioura (Oct.) Davey 063! **U. Volta:** Ouahigouya (Aug.) Chev. 24871! Zoaga (Oct.) Scholz 155! Niangoloko (July) Aké Assi 10757! **Ghana:** Achimota (Oct.) Irvine 829! Christiansborg, Accra (Apr.) Johnson 1022! Burufu (May) Agric. Dept. 17! Daboya (Nov.) Thorold 286! Damongo to Sawla (Oct.) Rose Innes GC 30998! **Niger:** Zinder (Oct.) Hagerup 579! **N. Nig.:** Nupe Barter 1356! Sokoto (Sept.) Palmer 25! Katagum Dalz. 287! Fika (Oct.) Daggash FHI 24899! Mongonu (Oct.) Golding 12! **S. Nig.:** Lagos W. Macgregw 129!

Widespread in tropical and warm temperate regions. (See Useful Plants.)

[It has been stated that *S. verticillata* is a temperate species distinct from the tropical *S. adhaerens*. These however are only two of several overlapping geographical races which scarcely warrant specific rank].

- 2. *Setaria pallide-fusca* (Schumach.) Stapf & C. E. Hubbard** in Kew Bull. 1930: 259; F.T.A. 9: 815; A. Chev. in Rev. Bot. Appliq. 14: 31; Berhaut, Fl. Sén. ed. 2, 396; De Miré & Gillet in J. Agric. Trop. 3: 735; Aké Assi, Contrib. 2: 289.

APD: *Synonym of Setaria pumila* (Poir.) Roem. & Schult.

Panicum pallide-fusum Schumach., Beskr. Guin. Pl. 58 (1827).

Setaria rubiginosa (Steud.) Miq. (1857).

Setaria imberbis of Chev. Bot. 734.

Setaria glauca var. *pallide-fusca* (Schumach.) Koyama in J. Jap. Bot. 37: 237 (1962).

Ascending, up to about 60 cm. high. Closely allied to *S. glauca* (Linn.) P. Beauv. of warm temperate regions, which has larger spikelets 3 mm. long.

Sen.: Dakar (May, Aug.) Baldwin 5713! Berhaut 2819! Djembering (Sept.) Broadbent 163! Mt. Roland (Aug.) Broadbent 58! Ziguinchor (Sept.) Broadbent 77! **Gam.:** Saunders 13! Ruxton 160! Sankuli-Kunda (Sept.) Pirie 2/33! Wallikunda (Sept.) MacLuskie 13! Yundum Frith 129! **Mali:** Bamako (Oct.) Hepper 3772! Dioura (Aug.) Davey 009! Banguita (Sept.) Farrow 49! Kouli (Aug.) Farrow 50! **Port. G.:** Pirada (June) Esp. Santo 3036! Piche (Sept.) Pereira 3182! **Guin.:** Timbo (Nov.) Pobéguin 1827! Tamba to Sambaïlo (Sept.) Pitot! **S. L.:** Freetown to Hastings (Aug.) Hooper 133! Koinadugu Distr. (Aug.) Mead 221! **Iv. C.:** Batié (Oct.) Rose Innes GC 31539! Tehini (Aug.) Oldeman 303! de Wilde 823! **U. Volta:** Banfora (June) Leeuwenberg 4425! Ouagadougou (Sept.) Scholz 59! Nassougou (June) Scholz 59a! **Ghana:** Achimota (May) Rose Innes GC 30355! Sapoba to Wapuli (Sept.) Rose Innes GC 30469! Tamale Williams 1083! Nangodi (July) Williams 535! Lawra (Aug.) Thorold 219! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31359! **Niger:** Dogondoutch White 40! **N. Nig.:** Jebba Barter 1359! Gindiri, Plateau (Oct.) Hepper 1148! Sokoto (Sept.) Palmer 36! Kano (July) Onwudinjo FHI 22358! Biu (Sept.) Kennedy FHI 8006! Gurum, Vogel Peak (Nov.) Hepper 1311! **S. Nig.:** Lagos W. MacGregor 143! Onitsha (Aug.) Jones FHI 6689!

Tropical regions in Africa, Asia and Australasia. (See Useful Plants.)

- 3. *Setaria ciliolata* Stapf & C. E. Hubbard** in F.T.A. 9: 807 (1930).

APD: *Synonym of Setaria incrassata* (Hochst.) Hack.

About 60 cm. high, with narrow glaucous leaf-blades; **heavy clay.**

N. Nig.: Biu (Oct.) De Leeuw 1315! Kaltungo, Bauchi Prov. (Oct.) De Leeuw & Magaji 1992! Biu (Oct.) Oche MRK 125!

Also in **Sudan**, **Kenya**, **Uganda** and **Rhodesia**.

4. **Setaria anceps** *Stapf ex Massey* Sudan Grasses 33 (1926); F.T.A. 9: 793; A. Chev. in Rev. Bot. Appliq. 14: 29; Clayton in Kew Bull. 20: 263; Aké Assi, Contrib. 2: 288.

APD: Synonym of Setaria sphacelata var. sericea (Stapf) Clayton

Setaria tenuispica *Stapf & C. E. Hubbard* in F.T.A. 9: 805 (1930); A. Chev. in Rev. Bot. Appliq. 14: 30.

Tufted perennial up to 2 m. high; on moist soils.

Maur.: Lac Rkiz (Sept.) Sadio! **Sen.:** Richard! Richard Tol (Feb.) Döllinger 17! Dakar (Oct.) Adam 18499! Bambey (Aug.) Adam 14938! **Mali:** Dari (Sept.) Farrow 51! Kara (Aug.) Farrow 53! Mopti (Sept.) Lean 88! San (Sept.) Chev. 2257 bis! **Port. G.:** S. Domingo (Aug.) Pereira 3136! **Guin.:** Fouta Djallon (Oct.) Adam 12567! **S. L.:** Messima (June) Fisher 2013! Kagberi (Sept.) Jordan 544! Kichom (July) Deighton 3758! Njala (June) Deighton 1759! Kittam (June) T. S. Jones 163! **Iv. C.:** Bassam to Yakassé (Jan.) Hedin! Bouaké to Katiola (Sept.) de Wilde 987! Dimbokro to Bocanda (May) Adjanohoun 252a! **U. Volta:** Mossi (Aug.) Chev. 24592! 24765! Farakoba (June) Scholz 95! Aragio (Nov.) Scholz 189! **Ghana:** Takoradi (Oct.) Howes 983! Keta (May) La Danso 54! Somanya to Akuse (May) Rose Innes GC 30354! Kete Krachi to Yendi (Sept.) Rose Innes GC 30428! Funsu to Tumu (Oct.) Rose Innes GC 30793! **Togo Rep.:** Lomé Warnecke 318! Atakpamé to Sokodé (Oct.) Rose Innes GC 31366! Palimé Stage 37! 81! **Dah.:** Cotonou (Nov.) Clayton 397! Sémé (Sept.) Adjanohoun 533! **N. Nig.:** Ilorin (Aug.) Ward 14! W. Yagba (May) Ward 1! Dogon Kurmi, Jemaa (Apr.) E. W. Jones 278! Zonkwa (Nov.) Freeman S173! Nupe Barter 1378! **S. Nig.:** Lagos W. MacGregor 170! Sobo plains, Warri Prov. (Sept.) Cole 29! Oyo (Aug.) J. B. Gillett 1541! Obubra (May) Jones 1581! Obudu Plateau (Dec.) Tuley 47! **W. Cam.:** above Bamenda, 8,000 ft. (Jan.) Migeod 329! Bambui (Dec.) Pedder 5! Jakiri Hepper 2070! Nkambe (Nov.) Charter FHI 36985!

Tropical Africa.

[A variable species, the largest plants grading imperceptibly into the giant *S. splendida* Stapf (1930). These hybridize readily with the following two species; Hacker (in Austr. J. Bot. 16: 539, 551 (1968)) finds several polyploid levels in each, and little evidence of cytological barriers between them. Morphological distinctions are equally blurred, and it may be better to treat them as a single polymorphic species.—W.D.C.]

5. **Setaria aurea** *Hochst. ex A. Br.* in Flora 24: 276 (1841).

APD: Synonym of Setaria spacelata var. aurea (Hochst. ex A. Braun) Clayton

Pennisetum aureum *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 378 (1851).

Densely caespitose, up to 1.2 m. high.

Iv. C.: Touba to Waninou (June) Adjanohoun 253a! **Ghana:** Kwahu Tafo (Apr.) Morton A687! Kwahu Tafo to Adawso (Oct.) Rose Innes GC 30568! Banda Ravine (Apr.) Morton A3271! **Togo Rep.:** Badou to Atakpamé (Sept.) Rose Innes GC 31352! **N. Nig.:** Naraguta, Plateau (Oct.) Kennedy FHI 8049! Darazo F.R., Bauchi (Oct.) De Leeuw & Magaji 1997! Sha (Sept.) Hall K37! **S. Nig.:** Iseyin (May) Dawodu 46! **W. Cam.:** Ndop Plain (Mar.) Brunt 261b! Jakiri (June) Brunt 690!

Also in **Kenya**, **Uganda** and **Tanzania**, extending into the **Sudan** and Congo.

[*S. aurea* is apparently conspecific with the common East African species *S. trinervia* Stapf (1930), the latter being imperfectly distinguished by its 3-nerved upper glume.—W.D.C.]

6. **Setaria sphacelata** (*Schumach.*) *Stapf & C. E. Hubbard ex M. B. Moss* in Kew Bull. 1929: 195 (1929); F.T.A. 9: 795, partly; A. Chev. in Rev. Bot. Appliq. 14: 30; Clayton in Kew Bull. 20: 262; Berhaut, Fl. Sén. ed. 2, 396. *APD acc*

Panicum sphacelatum *Schumach.*, Beskr. Guin. Pl. 78 (1827).

Setaria laxispica *Stapf* in F.T.A. 9: 802 (1930).

Caespitose perennial about 1 m. high, arising from a short rhizome.

Sen.: Niokolo-Koba (June) Adam 14191! **Guin.:** Sambailo (Aug.) Adam 14844! **U. Volta:** Ouagadougou (July) Scholz 123! Po (July) Scholz 32a! **Ghana:** Winnebah plains Dalz. 8424! Nungua, Accra plains (Oct.) Gyadu! Legon Hill (Dec.) Adams 3593! Anum (Apr.) Rose Innes GC 30338! Kete Krachi to Yendi (Sept.) Rose Innes GC 30433! **Togo Rep.:** Palime, Lomé Stage 26! 77! **N. Nig.:** Patti Lokoja (May) Richardson! Naraguta F.R. (July) lawlor & Hall FHI 45594! FHI 45595! Zaria Taylor 24! Vogel Peak (Nov.) Hepper 1426!

Tropical Africa generally. (See Useful Plants.)

[*S. sphacelata* strictly refers to short tufted plants with narrow glaucous leaf-blades from the Accra plains. Similar plants are widely distributed in tropical Africa, and the boundaries of the species are ill-defined. The name has often been applied indiscriminately to various members of the complex.]

7. **Setaria longiseta** *P. Beauv.* Fl. Oware 2: 81, t. 110, fig. 2 (1819); F.T.A. 9: 836; A. Chev. in Rev. Bot. Appliq. 14: 31; Aké Assi, Contrib. 2: 289. *APD acc*

Panicum longifolium Schumach. (1827).

P. rescissum Trin. (1834).

Perennial, usually 60–90 cm. high; **shady places on pathsides and fallow land.**

Guin.: Tinkisso Pobéguin! **S. L.:** T. Vogel 110! Freetown (Dec.) Deighton 800! Mt. Loma (Nov., Dec.) Jaeger 485! Morton SL421! SL2615! **Iv. C.:** Toumodi (Oct.) Adjanohoun 335a! **Ghana:** Legon (Oct.) Adams 3472! Anum to Asikuma (Sept.) Rose Innes GC 30385! Mampong (Oct.) Baldwin 13525! Kumasi (Oct.) Baldwin 13459! Assuantsi Agric. Stn. (Feb.) Dalz. 8422! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31343! **Dah.:** Porto Novo (Aug.) Adjanohoun 27! **N. Nig.:** Nupe Barter 915! Naraguta, Plateau (Aug.) Lely P440! Gindiri, Plateau (Oct.) Hepper 1108! Wuse to Bukum (Oct.) Oche & Tuley 1668! Gembu (Dec.) Daramola FHI 62469! **S. Nig.:** Lagos (June) Dalz. 1321! W. MacGregor 73! Ibadan (Mar.) Meikle 1305! Akure (Dec.) Brenan 8637! Aguku Thomas 673!

Throughout tropical Africa.

8. **Setaria gracilipes** *C. E. Hubbard* in Kew Bull. 4: 362 (1949).

APD: *Synonym of Setaria seriata Stapf*

A sprawling annual 60–90 cm. high; leaf-blades occasionally with indistinct pleate; **damp places in shade.**

Iv. C.: Groumania (July) Aké Assi 9097! **Ghana:** Kete Krachi to Kpandu (Sept.) Rose Innes GC 30407! **Dah.:** Pobé (Sept.) Adjanohoun 66! **N. Nig.:** Kwal, Jos plateau (Aug.) Tuley 1579! **S. Nig.:** Igboora (Oct.) Haines 346! Obokum, Ogoja Prov. (May) Jones & Onochie FHI 18878! Ekosoro, Obubra Div. (Apr.) Jones 1527!

9. **Setaria barbata** (*Lam.*) *Kunth* Rev. Gram. 1: 47 (1829); F.T.A. 9: 854; Chev. Bot. 734, and in Rev. Bot. Appliq. 14: 32; Berhaut, Fl. Sén. ed. 2, 401. *APD acc*

Panicum barbatum Lam., Tab. Encycl. Meth. Bot. 1: 171 (1797).

P. lineatum Schumach., Beskr. Guin. Pl. 61 (1827).

P. basisetum Steud. (1854)—Chev. Bot. 724.

A **weed on disturbed land.**

Sen.: Roger 17! M'Bidjem Thierry 8! Bignona (Sept.) Adam 18032! Ziguinchor (Sept.) Broadbent 88! **Mali:** Yatenga (Aug.) Chev. 24877! Ségou Lécard 245! **Guin.:** Kindia Jac.-Fél. 174! Kranz 291! Timbo (Oct.) Pobéguin 1732! Madina (Oct.) Adam 12553! Pita (Sept.) Adames 338! **S. L.:** Musaia (Oct.) Thomas 2666! Yakala (Sept.) Thomas 3284! **Iv. C.:** Toumodi Chev. B22257! Singrobo (Oct.) Adjanohoun 353a! Diebougou to Gaoua (Oct.) Rose Innes GC 31517! Bouaké (Sept.) de Wilde 957! **U. Volta:** Doutié (Sept.) Scholz 48b! **Ghana:** Atwabo Fishlock 38! Kumasi (Apr.) La Danso 52! Wenchi (Sept.) Rose Innes GC 30152! Ajena (Nov.) Ankrah GC 20027! Bamboi Ferry (Oct.) Rose Innes GC 31146! **Togo Rep.:** Loma Kara to Kande (Oct.) Rose Innes GC 31403! **Dah.:** Allada (Mar.) Chev. 23374! **N. Nig.:** Bida (Sept.) Clayton 361! Oturkpo (Oct.) Kennedy FHI 8026! Naraguta, Plateau (Aug.) Lely P441! Ruma, Katsina (Aug.) Onwudinjoh FHI 24007! Biu (Sept.) Kennedy FHI 8017! **S. Nig.:** Lagos Dalz. 1134! Abeokuta Irving! Ibadan (Oct.) Onochie FHI 7943! Onitsha (Aug.) Jones FHI 6684! Barter 1746! **W. Cam.:** Victoria (Jan., Nov.) Maitland 78! 149! Buea (Dec.) Maitland 859! Cam. Mt., 7,500 ft. (Nov.) Migeod 218a! Bamenda (Aug.) Brunt 1261! **F. Po:** T. Vogel 34! Santa Isabel (Dec.) Guinea 170!

Also in **Sudan, Congo** and **Angola**, and in **Madagascar, tropical Asia** and **America**. (See Useful Plants.)

10. **Setaria caudula** *Stapf* in F.T.A. 9: 845 (1930).

APD: *Synonym of Setaria poirotiana (Schult.) Kunth*

Tufted perennial 1.2–1.8 m. high, with broad plicate leaf-blades.

N. Nig.: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2059! **S. Nig.:** Obudu Plateau (Feb.) Tuley 486! **W. Cam.:** Cam. Mt., 2,000–3,000 ft. (Dec.) Mann 2102! Buea (Dec.) Maitland 107! Masaka Camp, Cam. Mt., 6,000 ft. (Dec.) Maitland 885! Bamenda (Oct.) Agric. Off. Bam/18! Ndop, Bamenda (Dec.) Boughey GC 11128! **F. Po:** (Dec.) Boughey GC 10823!

Also in the **Sudan, Congo, Uganda, Tanzania** and **Zambia**.

11. *Setaria megaphylla* (Steud.) Dur. & Schinz Consp. Fl. Afr. 5: 773 (1894); F.T.A. 9: 840; A. Chev. in Rev. Bot. Appliq. 14: 32. *APD acc*

Panicum megaphyllum Steud., Syn. Pl. Glum. 1: 53 (1854).

P. phyllomacrum Steud. (1854).

Setaria sulcata of Chev. Bot. 734.

Coarse perennial up to 3 m. high; marshy places in forest.

Port. G.: Bedanda (Jan.) Pereira 2822! **S. L.:** Gorahun (Nov.) Deighton 354! Baiima (Sept.) Deighton 3073! Falaba (Oct.) Small 431! Musaia (Oct.) Thomas 2650! Yonibana (Oct.) Thomas 3988! **Lib.:** Reynolds! Soplina, Vonjama (Nov.) Baldwin 10067! Javajai, Boporo (Nov.) Baldwin 10270! Gbanga (Sept.) Linder 509! Suacoco, Gbanga (Oct.) Daniel 23! **Iv. C.:** Abidjan (Aug.) de Wilde 659! **Ghana:** Accra to Ho (Sept.) Rose Innes GC 30397! Akwapim (Jan.) Irvine 2601! Mampong (Sept.) Darko 716! Suhum (Sept.) Ankrah GC 20071! Togo Plateau (Sept.) Thompson 1448! **Togo Rep.:** Badou (Sept.) Rose Innes GC 31341! **N. Nig.:** Abuja (Dec.) Meikle 739! Jemaa (Apr.) E. W. Jones 38! Wamba to Assob (Oct.) Oche & Tuley 1686! **S. Nig.:** Lagos W. MacGregor 233! Awba Hills F.R. (Oct.) Jones FHI 7098! Old Oyo F.R. (Sept.) Latilo FHI 23550! Oban Rubber Estate (July) Tuley 668! Ikom (Sept.) Olorunfemi & Adetunji FHI 45482! **W. Cam.:** Victoria Maitland! Buea (Oct.) Migeod 1! Kumba (Oct.) Ejiofor FHI 8452! **F. Po.:** (Dec.) Mann 110!

Extending to E. and C. Africa.

12. *Setaria chevalieri* Stapf in F.T.A. 9: 842 (1930); A. Chev. in Rev. Bot. Appliq. 14: 32.

APD: *Synonym of Setaria megaphylla* (Steud.) T. Durand & Schinz

Setaria megaphylla (Steud.) Dur. & Schinz var. *chevalieri* (Stapf) Berhaut, Fl. Sén. ed. 2, 401 (1954).

Coarse perennial up to 3 m. high; forest margins.

Sen.: Heudelot 701! **Gam.:** Ingram! **Guin.:** Timbo (Oct.) Pobéguin 1733! Baffing R. (Oct.) Pobéguin 1733bis! 1736! **S. L.:** Njala (Oct., Dec.) Deighton 1341! 1505! Kenema Lane-Poole 451! Joru (Dec.) Pyne 47! Kamabai to Kabala (Dec.) Deighton 5689! **Lib.:** Bumbuna (Nov.) Linder 1330! Tappita (Aug.) Baldwin 9054! Sanokwele (Nov.) Harley 1613! Nimba (Dec.) Adam 16501! Ganta (Oct.) Harley 1034! **Iv. C.:** Nimba (Aug.) Boughey GC 18167! Anguédédou (Sept.) de Wilde 3103! Tonkouli (Aug.) Boughey GC 18337! **Ghana:** Aburi (Nov.) Howes 1013! Wenchu to Bamboi (Oct.) Rose Innes GC 31149! Mampong (Sept.) Rose Innes GC 30138! Otrokpe (Oct.) Vigne FH 4016! Kumasi (Aug.) La Danso 129! **Togo Rep.:** Badou (Sept.) Rose Innes GC 31342! **N. Nig.:** Dagoul, R. Niger T. Vogel! Jemaa (Oct., Nov.) Clayton 1416! Gambles 62! Baissa (Feb.) De Leeuw AS10! Njawai to Mayo Daga (Nov.) Jackson, Magaji & Tuley 2107! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8137! Okomu F.R., Benin (Dec.) Brenan 8451! Akure (Nov.) Clayton 559! Awka Thomas 45! Opobo Jeffreys 13! **W. Cam.:** Victoria Maitland 82! Buea (Jan., Feb.) Maitland 106! 334! 336! Dalz. 8427! **F. Po.:** Clarence Peak (Oct.) T. Vogel 44!

Throughout tropical Africa. (See Useful Plants.)

[A variable grass in which forma with slender erect panicles and glabrous leaf-sheaths approach very closely to *S. megaphylla*, with which it may hybridize. It is closely related to *S. paniculifera* (Steud.) Fourn. of tropical America, which is distinguished by its narrower more acute spikelets.]

Setaria viridis (Linn.) P. Beauv. Ess. Agrost. 51, 171, 181 (1812). *APD acc*

Panicum viride Linn., Syst. Nat. ed. 10, 2: 870 (1759).

Annual, inflorescence spiciform; upper glume as long as the spikelet.

Niger: recorded at Aïr, by De Miré & Gillet in J. Agric. Trop. 3: 736 (1956).

Warm temperate regions.

Additional species.

73. SACCIOLEPIS

Nash in Britton, Man. Fl. North. U.S. 89 (1901); F.T.A. 9: 747 (1920).

- 1 False spikes much attenuated downwards, bearing there imperfect tightly appressed spikelets (these sometimes absent in the smallest spikes); branches fused with the axis of the false spike; spikelets 2.5–3.5 mm. long; lower glume with a single broad median nerve and hyaline margins; lower lemma with a U-shaped fringe of hairs on the back *L. ciliocincta*

- False spikes cylindrical, without imperfect florets; branches not or imperfectly fused with the axis; lower glume 3- or more-nerved; lower lemma glabrous or uniformly hairy:2
- 2 Spikelets 0.7–1 mm. long, glabrous [2. *micrococca*](#)
- Spikelets 1.8–4 mm. long:3
- 3 Spikelets dorsally slightly compressed, obtuse to subacute, quite glabrous, light green, 2.5–3 mm. long; false spikes stout, 10–30 cm. long, rarely shorter [3. *africana*](#)
- Spikelets more or less laterally compressed, acute to acuminate:4
- 4 Spikelets 1.8–2.5 mm. long; leaf-sheaths without auricles:5
- Spikelets 3–4 mm. long (rarely less); leaf-sheaths with auricles 0.5–5 mm. long at the mouth:6
- 5 Lower lemma conspicuously gibbous, the nerves thickened on the bulge; spikelets glabrous, strongly laterally compressed, 2.2–2.5 mm. long; spikes up to 40 cm. long [4. *cymbiandra*](#)
- Lower lemma not markedly gibbous, unthickened, the nerves distinct; spikelets nearly always hairy, slightly laterally compressed, 1.8–2.2(–2.5) mm. long; spikes up to 12 cm. long, rarely longer [5. *chevalieri*](#)
- 6 Annual, ascending from a decumbent rambling base emitting long aerial roots from its nodes; culms up to about 1.5 mm. diam. at the base; leaf-blades seldom over 15 cm. long; spikelets 3–3.5 mm. long, usually hairy [6. *auriculata*](#)
- Perennial, erect or ascending from a short underground rhizome; culms about 3 mm. diam. at the base; leaf-blades often 20–30 cm. long; spikelets 3.5–4 mm. long, usually glabrous [7. *rigens*](#)

1. ***Sacciolepis ciliocincta* (Pilger) Stapf** in F.T.A. 9: 751 (1920); Berhaut, Fl. Sén. ed. 2, 390. *APD acc*

Panicum ciliocinctum Pilger in Engl., Bot. Jahrb. 33: 48 (1904).

Annual up to 12 ins. high; [seasonal marsh on ironstone pavement](#).

Sen.: Tambacounda Berhaut 900. **iv. C.:** Bassawa (Oct.) Adjanohoun 276a! Bonndiali to Mankono (Nov.) Aké Assi 8286!

U. Volta: Bobo-Dioulasso (Sept.) Adam 15121! **Ghana:** Burufo (Sept.–Nov.) Hinds 5012! Harris! Rose Innes GC 32345! Hall CC 754! Sampa (Dec.) Morton A 1066!

Also in the [Congo](#) and [Sudan](#).

2. ***Sacciolepis micrococca* Mez** in Fedde Rep. 15: 122 (1918); F.T.A. 9: 753; A. Chev. in Rev. Bot. Appliq. 14: 28; Berhaut, Fl. Sén., ed. 2, 390. *APD acc*

Tufted annual 30–60 cm. high; [marshy ground, rice fields](#).

Sen.: Heudelot 551! Gassane (Oct.) Raynal 7688. **Mali:** Dogo (Jan.) Davey 203! **Guin.:** Kouroussa Pobéguin 536! **S. L.:** Fintonia (Jan.) Morton & Gledhill SL 588! **iv. C.:** Bassawa (Oct.) Adjanohoun 295a! Boundiali (Nov.) Aké Assi 8278! **Ghana:** Tamale (Nov.) Williams 1025! Thorold 292! Tamale to Bolgatanga (Oct.) Rose Innes GC 31112! Banda (Dec.) Morton GC 25096! Damongo (Dec.) Morton GC 25055! **N. Nig.:** Minna (Jan., Dec.) Keay FHI 37318! Meikle 725! Shendam (Nov.) Clayton 1460! Borgu Barter 759! Maiduguri (Oct.) Johnston N27! **S. Nig.:** Oyo Gledhill 740! Igboora (Oct.) Haines 353! Abakaliki (Nov.) Tuley 8!

Also in [Sudan](#), [Uganda](#), [Zambia](#) and [Malawi](#).

3. ***Sacciolepis africana* C. E. Hubbard & Snowden** in Kew Bull. 1936: 294. *APD acc*

Sacciolepis interrupta of F.T.A. 9: 757; of F.W.T.A., ed. 1, 2: 555; of A. Chev. in Rev. Bot. Appliq. 14: 28; and of Berhaut, Fl. Sén. ed. 2, 390.

Panicum interruptum of Chev. Bot. 727, not of Willd. (1798).

Perennial 1.2–1.8 m. high, with thick spongy culms, rooting at the lower nodes; [growing in water](#).

Gam.: Ruxton 122! Wallikunda (Oct.) Macluskie 30! **Mali:** Gao (Jan.) Chev. 43084! 43120! Tenenkou (Sept.) Lean 103! Banguita to Dogo (Jan.) Davey 10! Sarédina (May) Davey 123! **Guin.:** Timbo Pobéguin 1740! Kindia (Dec.) Jac.-Fél. 126! 7444! Seliori (Oct.) Adam 12678! Nzérékoré (Oct.) Baldwin 9720! **S. L.:** Bumba (Sept.) Thomas 1991! Mamaha (Nov.) Thomas 4508! Rokupr (Sept.) Jordan 94! Musaia (Sept.) Small 259! Sherbro Island (July) Jones 164! **Lib.:** Gbanga (Sept.) Linder 521! Ganta (Sept.) Baldwin 12021! Harley 1015! **iv. C.:** Man (Aug.) Boughey GC 18416b! Fettekro to Bassawa (Oct.) Adjanohoun 297a! Bassawa (Oct.) Adjanohoun 282a! **U. Volta:** Yondé (Nov.) Scholz 190! **Ghana:** Anum to Asikuma (Sept.) Rose Innes GC 30388! Kpandai (Sept.) Ankrah GC 20235! Damongo to Sawla (Nov.) Rose Innes GC 30828! Nalerigu (Dec.) Adams & Akpabla! Lungiri (Nov.) Thorold 269! **N. Nig.:** Bida (Aug.) Sawyer K34! Naraguta, Plateau (June) Lely 327! Fodama (Nov.) Moiser 224! Sokoto Dalz. 478! Gajibo, Bornu (Nov.) Johnston N98! **S. Nig.:** Lagos Rowland! Akinjare, Owo (Apr.) Jones FHI 3122! Aligbeta (Aug.) Onochie FHI 33291! Opobo Jeffreys! Awka (Aug.) Jones FHI 6693!

Extends eastwards to **Ethiopia** and Tanzania, and southwards to Malawi and **Angola**. (See Useful Plants.)

[Closely related to *S. interrupta* (Willd.) Stapf, an Asiatic species with more acute spikelets and shorter upper lemma.]

4. **Sacciolepis cymbiandra** Stapf in F.T.A. 9: 758 (1920); A. Chev. in Rev. Bot. Appliq. 14: 29; Berhaut, Fl. Sén. ed. 2, 390. *APD acc*

Erect perennial up to 1 m. high, with spongy culm; growing in water and marshy places.

Port. G.: Nova Lamego to Pixe (Jan.) Raimundo & Guerra 897! Pitche (Dec.) Pereira & Correia 2378! **Guin.:** Baffing R. Pobéguin 1746! **S. L.:** Kambia (Dec.) Deighton 804! Mabould (Oct.) Thomas 3555! Rokupr (Oct.) Jordan 129! **Iv. C.:** Ferkessédougou (Nov.) Leeuwenberg 2023! **U. Volta:** Ouagadougou (Oct.) Adam 12741! **Ghana:** Beal 45! Nassia (Dec.) Vigne FH 4671! Menji to Banda (Dec.) Adams 3106! Sawla (Nov.) Harris! Lawra (Oct.) Ankrah GC 20463! **N. Nig.:** Edozhigi, Bida (Jan.) Clayton 642! Badeggi (Dec.) Haines 109! **S. Nig.:** Abakaliki (Nov.) Tuley 9!

5. **Sacciolepis chevalieri** Stapf in F.T.A. 9: 754 (1920); A. Chev. in Rev. Bot. Appliq. 14: 28; Berhaut, Fl. Sén. ed. 2, 390; Aké Assi, Contrib. 2: 288. *APD acc*

Panicum chevalieri of Chev. Bot. 725, name only.

Erect perennial up to 60 cm. high growing from a short rhizome, the culms soft below; marshy places.

Sen.: Kanéméré (Oct.) Fotius K867. **Mali:** Dogo (Apr.) Davey 553! Niger “delta” Duong! **Guin.:** Labé (Oct.) Adam 12566! Koulountou (Mar.) Adam 17892! **Iv. C.:** Toumodi to Yamoussokro (Oct.) Adjahoun 330a! N. Korhogo (Oct.) Boudet 3121! **U. Volta:** Ouagadougou (Oct.) Adam 12743! Toussiana (June) Scholz 101! **Ghana:** Tiasi (Aug.) Hall CC 156! Attebubu to Kete Krachi (Oct.) Rose Innes GC 30597! Wulugu (Oct.) Rose Innes GC 30777! Burufo, Lawra (Apr.) Adams 4059! Salaga to Bimbila (Oct.) Rose Innes GC 30960! **Dah.:** Mt. Atacora (June) Chev. 24186! **N. Nig.:** Vodni Saunders 12! Vom (Nov.) Gambles 5! Anara F.R. (Oct.) Keay FHI 5445! Vogel Peak (Nov.) Hepper 1335! Wamba (Dec.) Haines 107! **W. Cam.:** Jakiri, Bamenda (Feb.) Hepper 2072!

Also in **Kenya**, **Uganda**, **Zambia** and **Malawi**.

[The boundaries of this species are probably too widely drawn, but little improvement can be made until its indistinctly differentiated allies in east and central Africa have been revised.]

6. **Sacciolepis auriculata** Stapf in F.T.A. 9: 762 (1920); A. Chev. in Rev. Bot. Appliq. 14: 29.

APD: *Synonym of Sacciolepis indica* (L.) Chase

Straggling grass of wet places, with light green spikelets.

Guin.: Baffing R. (Sept.) Pobéguin 1745! Bilima (Dec.) Jac.-Fél. 7448! Friguiagbé (Dec.) Chillou 1108! **S. L.:** Njala (Nov.) Deighton 1430! Kamaron (Nov.) Morton SL 3348! Moria to Fintonia (Jan.) Morton & Gledhill SL 589! Sefadu (Nov.) Deighton 4661! Makump (Dec.) Glanville 98! **Ghana:** Vane to Dzolokpuita (Nov.) Morton GC 9358! **N. Nig.:** Borgu Barter 752! Minna (Dec.) Meikle 726! Kogigiri, Jog (Oct.) Hepper 1049! Kufena Hill, Zaria (Sept.) Clayton 1307! Maska (Nov.) Thatcher S512! **S. Nig.:** Lagos W. MacGregor 157! Olokemeji to Iseyin (Nov.) Onochie FHI 8161! Ezillo (Oct.) Tuley 938! Igbete Rock (Nov.) Gledhill 756!

Also in **Sudan**, **Uganda**, **Congo**, **Zambia** and **Angola**.

7. **Sacciolepis rigens** A. Chev. in Rev. Bot. Appliq. 14: 29 (1934). *APD acc*

Panicum rigens Mez in Engl., Bot. Jahrb. 34: 141 (1903), not of Swartz (1788); F.T.A. 9: 767.

Sacciolepis auriculata of F.W.T.A., ed. 1, 2: 555, partly.

Up to 1.2 m. high, with light brown spikelets; on moist soils.

Ghana: Kete Krachi to Kpandui (Sept.) Rose Innes GC 30411! Kpandui (Sept.) Ankrah GC 20236! Yendi to Zabzugu (Oct.) Rose Innes GC 30695! Kpetchu to Kete Krachi (Oct.) Ankrah GC 20384! Tamale to Salaga (Aug.) Rose Innes GC 31875! **Togo Rep.:** Sokode to Basari Kersting 595!

74. CYRTOCOCCUM

Stapf in F.T.A. 9: 745 (1920).

- 1 Leaf-blades narrowly lanceolate to broadly linear, up to 12 cm. long and 1.5 cm. broad, very acute, thin,

prominently ciliate near the base; panicles delicate, broadly oblong to obcuneate in outline, somewhat flat-topped, the base enclosed in the uppermost leaf-sheath; pedicels long and slender, loosely beset with long white hairs; spikelets about 2 mm. long, dark brown; glumes thinly pilose[chaetophoron](#)

Cyrtococcum chaetophoron (*Roem. & Schult.*) *Dandy* in J. Bot. 69: 55 (1931); Berhaut, Fl. Sén. ed. 2, 413. *APD acc*

Panicum chaetopharon *Roem. & Schult.* in Linn., Syst. Veg., ed. 9, 2: 884 (1817).

Cyrtococcum setigerum *Stapf* in F.T.A. 9: 746 (1920); F.W.T.A., ed. 1, 2: 555; A. Chev. in Rev. Bot. Appliq. 14: 27.

Panicum setigerum *P. Beauv.* (1806), not of Retz. (1786).

Panicum jadinii *Steud.* (1854).

Isachne jadinii (*Steud.*) *Dur. & Schinz* (1894).

Perennial up to 1 m. high; culms slender, ascending; **forest shade**.

Sen.: Oussouye (Nov.) Berhaut 6603! **S. L.:** Freetown (Nov.) Gledhill 235! Njala (Nov.) Deighton 1495! **Lib.:** Kakatown Whyte! Zuie (Nov.) Baldwin 12033! Peahat (Dec.) Baldwin 10599! Ganta (Oct., Nov.) Harley 1713! 2065! **Iv. C.:** Brafouédi (Oct.) Adjanohoun 435a! Abidjan (Dec.) Schnell 3903! **Ghana:** Aburi hills (Nov.) Johnson 286! Aiyinasi (Dec.) Rose Innes GC 30327! Bunsu to Anyinam (Nov.) Adams 4434! Asuansi (Dec.) Rose Innes GC 30532! Yinahin Range, Kumasi (Nov.) Rose Innes GC 30524! **N. Nig.:** Kabba road (Oct.) Parsons 28! Abuja (June) E. W. Jones 164! Kagoro to Jemaa (Oct.) Magaji & Tuley 1776! Kubacha (Oct.) Magaji & Tuley 1744! **S. Nig.:** Lagos W. MacGregor 312! Otta (Oct.) Haines 113! Mama F.R. (Dec.) Onochie FHI 7492! Ife (Jan.) Sandford 216! Gambari (Nov.) Jackson 3231168!

Also in **E. Cameroun**, **Congo**, **Angola** and the **Sudan**.

75. PANICUM

Linn., Sp. Plant. 55 (1753), and Gen. Pl. ed. 5, 29 (1754); F.T.A. 9: 638 (1920).

- 1 Inflorescence consisting of several more or less secund compound racemes, the secondary branches very short (3–5 mm. long) and closely appressed to the spreading primary branches; leaf-blades broadly linear, 2–8 mm. broad; spikelets glabrous, elliptic, 1–1.5 mm. long; lower glume about 1/3 as long as the spikelet; lower lemma 3-nerved; upper lemma smooth[1. laxum](#)
 Inflorescence an open panicle, very rarely with the spikelets loosely contracted about the primary branches:**2**
- 2 Spikelets slightly oblique to gibbous in profile, diffusely scattered in delicate open panicles; leaf-blades thin, ovate to lanceolate; upper glume and lower lemma 5-nerved:**3**
 Spikelets symmetrical in profile:**5**
- 3 Lower glume as long as the spikelet, lanceolate; spikelets 1.2–1.5 mm. long, glabrous or sometimes pubescent; leaf-blades ovate to lanceolate, amplexicaul at the base:**4**
 Lower glume half as long as the spikelet, broadly ovate; spikelets 1–1.2 mm. long, obscurely puberulous; leaf-blades narrowly lanceolate[4. trichoides](#)
- 4 Panicle branchlets viscid from brown patches of glandular tissue; upper lemma minutely papillose; rachilla internode not distinctly swollen[2. heterostachyum](#)
 Panicle branchlets neither viscid nor glandular; upper lemma smooth; second rachilla internode swollen, and covered by a small bulge at the base of the upper glume[3. brevifolium](#)
- 5 Upper glume and lower lemma pectinate at the tip, with 3 long and two smaller teeth; lower glume trifid (in West African specimens almost to the base, with the lateral lobes often suppressed); spikelets 3–3.5 mm. long; inflorescence axis often bearing clavate hairs[5. ecklonii](#)
 Upper glume and lower lemma entire:**6**
- 6 Axis and branches of the inflorescence bearing clavellate-tipped hairs:**7**
 Axis and branches of the inflorescence glabrous, or if hairy the hairs not clavellate-tipped:**8**
- 7 Lower glume 1-nerved, lanceolate; spikelets 2–3 mm. long; lower lemma 9-nerved; leaf-blades 2–8 cm. long and 2–8 mm. broad[6. hymeniophilum](#)
 Lower glume 5-nerved, ovate, 1/2–2/3 as long as the spikelet; spikelets 3 mm. long, oblong, acute; lower lemma 11-nerved; leaf-blades up to 12 cm. long and 20 mm. broad[7. sadinii](#)
- 8 Upper lemma transversely rugose; spikelets oblong, 3–3.5 mm. long; lower glume obtuse, about 1/3 as long as the spikelet; panicle up to 50 cm. long, the lower branches usually whorled[8. maximum](#)
 Upper lemma not transversely rugose:**9**
- 9 Upper lemma verrucose; spikelets broadly elliptic to subglobose in outline, obtuse to subacute at the apex, tending to break up at maturity; lower glume usually 2/3–4/5 as long as the spikelet (to p. 427): **10**

- Upper lemma smooth; spikelets acuminate or distinctly acute (except *P. parvifolium*), usually not plump (except *P. turgidum*): **19**
- 10** Perennials: **11**
- Annuals: **16**
- 11** Leaf-blades lanceolate, 5–13 cm. long, 5–17 mm. broad, glabrous, cordate at base; panicle loose, obovate; spikelets 1.5–2 mm. long, glabrous [9. dinklagei](#)
- Leaf-blades linear or involute: **12**
- 12** Spikelets 1–1.5 mm. long, greyish, pubescent; blades involute, sometimes flattened but rarely much over 2 mm. broad: **13**
- Spikelets 1.5–234 mm. long; leaf-blades linear, flat, 3 mm. or more broad: **14**
- 13** Culms usually 7- or more-noded, leafy; innovations extravaginal, the buds clad in short scales; leaf-blades involute or flattened, 5–15 cm. long; lower lemma truncate to emarginate at the tip with prominent hyaline wings; lower glume 3/4–4/5 as long as the spikelet [10. pubiglume](#)
- Culms 2–4-noded, the leaves mostly basal; innovations intravaginal, without scales; leaf-blades acicular, 2–12 cm. long; lower lemma obtuse at the tip without wings; lower glume 1/3–2/3 as long as the spikelet [11. filifolium](#)
- 14** Spikelets 1.5–1.8 mm. long, glabrous or pubescent, dull, yellowish grey; upper glume emarginate at the tip when flattened, the margins expanded into delicate narrow hyaline wings; panicle branches spreading; culms 1–3 mm. diam. at base; leaf-blades 3–10 mm. broad, 5–20 cm. long [12. strictissimum](#)
- Spikelets 1.7–2.5 mm. long, with a metallic bronze lustre; upper glume obtuse at the tip, without hyaline wings; panicle branches ascending: **15**
- 15** Culms stout, 2–4 mm. diam. at base; leaf-blades 5–10 mm. broad, 10–30 cm. long; spikelets usually glabrous [13. praealtum](#)
- Culms slender, up to 1 mm. diam. at base; leaf-blades 3–5 mm. broad, 5–20 cm. long; spikelets glabrous or pubescent [14. baumannii](#)
- 16** Upper lemma with deep longitudinal striations, verrucose only towards the tip; spikelets 2.5 mm. long, glabrous; leaf-blades 3–13 cm. long, 3 mm. broad [15. calocarpum](#)
- Upper lemma without incised striations: **17**
- 17** Leaf-blades linear, 2–7 cm. long, 1–3 mm. broad; spikelets (1-)1.4–1.7(-2) mm. long, grey to yellow, pubescent to villous, rarely glabrous; upper lemma warts hemispherical [16. lindleyanum](#)
- Leaf-blades lanceolate to linear-lanceolate: **18**
- 18** Blades 1–2(-3) cm. long, 2–3(-7) mm. broad; upper lemma warts longitudinally elongated; Spikelets 1–1.5 mm. long, glabrous or pubescent [17. glaucocladum](#)
- Blades 4–6 cm. long, 4–6 mm. broad; upper lemma warts hemispherical, prominent; spikelets 1.8–2.2 mm. long, glabrous [18. gracilicaule](#)
- 19** Spikelets 5–6 mm. long, glabrous; upper glume and lower lemma acuminate, 7-nerved [19. nigerense](#)
- Spikelets up to 4.5 mm. long, usually much less: **20**
- 20** Spikelets gaping open early and permanently, the tips of upper glume and lower lemma usually acuminate and turned slightly outwards: **21**
- Spikelets not conspicuously and permanently gaping or only when mature, the tips of the upper glume and lower lemma straight or slightly incurved: **30**
- 21** Perennials; lower glume mostly 1/2–2/3 as long as the spikelet: **22**
- Annuals; lower glume usually 3/4 as long as the spikelet or more; lower lemma 5-nerved; leaf-blades up to 20 cm. long, but usually less than 10 cm.: **27**
- 22** Upper glume and lower lemma 7–9-nerved: **23**
- Upper glume and lower lemma 5-nerved, or the former 7-nerved: **24**
- 23** Leaf-blades glaucous, glabrous, rarely over 25 cm. long, 4–6 mm. broad; spikelets 3.6–4.3 mm. long; panicle sparse, with 5–10 primary branches occurring singly [20. anabaptistum](#)
- Leaf-blades dark green, glabrous or pubescent, 40–70 cm. long, 6–10 mm. broad or more; spikelets 2.8–3.8 mm. long; panicle dense, with 15–25 or more primary branches usually occurring in whorls of 3–5 [21. phragmitoides](#)
- 24** Panicle with long spreading hairs from the branchlets, or at least from the pedicels; culms slender, 1.5 mm. diam. and compactly caespitose at the base; leaf-blades glabrous or hirsute, up to 3 mm. broad; spikelets 2–3 mm. long, the glumes acuminate and drawn out into awnlets 0.5–1 mm. long; roots pinkish [22. pilgeri](#)
- Panicle branches glabrous: **25**
- 25** Plants compactly caespitose, the slender culm up to 2 mm. diam. and coated with persistent leaf-sheaths which

- form a dense erect mass at the base of the plant; panicle 10–15 cm. long: **26**
- Plants neither compactly caespitose nor with a dense coat of persistent leaf-bases; culms 3–8 mm. diam. at base, rarely less; leaf-blades flat, 4–10 mm. broad; panicle 20–30 cm. long; spikelets 2–2.7 mm. long [25. fluviicola](#)
- 26** Leaf-blades up to 3 mm. broad, flat or often involute; basal sheaths silvery-tomentose below; spikelets 2–2.8 mm. long [23. dregeanum](#)
- Leaf-blades 0.5 mm. diam., setaceous, glabrous; basal sheaths glabrous or sometimes pubescent; spikelets 1.5–1.7 mm. long [24. congoense](#)
- 27** Branchlets, or at least the pedicel tips, bearing stiff white hairs up to 2 mm. long; spikelets pilose with tubercle-based hairs, rarely glabrous, 2–2.7 mm. long; whole plant softly pilose [26. griffonii](#)
- Branchlets, pedicels and spikelets glabrous: **28**
- 28** Glumes gaping widely, separated by an angle of 90°; spikelets 1.2–1.8 mm. long; lower glume long-acuminate, with an awn-point 0.3–0.5 mm. long [27. afzelii](#)
- Glumes not widely gaping, separated by an angle of about 45°: **29**
- 29** Spikelets 1.7–2.1 mm. long; lower glume at most acuminate, with a mucro up to 0.2 mm. long; panicle untidily ovate [28. walense](#)
- Spikelets 2.5–2.7 mm. long; lower glume drawn out into an awnlet 0.3–1 mm. long; panicle compactly lanceolate [29. paucinode](#)
- 30** Upper glume pilose above, and bearing 2–4 bristles as long as the spikelet; leaf-blades lanceolate, 3–8 cm. long, 8–23 mm. broad, with transverse veins; spikelets 2–2.5 mm. long; lower palea suppressed [30. acrotrichum](#)
- Upper glume glabrous or pubescent, but without long bristles: **31**
- 31** Lower lemma 3-nerved; spikelets 2 mm. long, pubescent, lanceolate; lower glume 1/3–1/2 as long as the spikelet, separated from the upper by an internode 0.1 mm. long; leaf-blades narrowly lanceolate, 3–8 cm. long [31. mueense](#)
- Lower lemma 5–11-nerved: **32**
- 32** Lower glume 1/2 as long as the spikelet or more, rarely less (*P. monticola*), lanceolate to ovate: **33**
- Lower glume 1/3 as long as the spikelet or less, very broadly ovate, clasping the base of the spikelet: **40**
- 33** Suffrutescent, with glaucous woody culms and hard pungent leaf-blades; spikelets (3-)3.5–4 mm. long, plump, acute at the tip; lower glume 2/3 to almost as long as the spikelet; lower lemma 9–11-nerved [32. turgidum](#)
- Herbaceous: **34**
- 34** Plants perennial, rambling or creeping, the leaf-blades narrowly lanceolate to lanceolate: **35**
- Plants annual; lower palea present: **38**
- 35** Leaf-blades less than 2 cm. long, lanceolate, amplexicaul at the base; spikelets 1.2–1.8 mm. long, elliptic-oblong, subacute, glabrous; lower glume 1/2–2/3 as long as the spikelet, 3-nerved [33. parvifolium](#)
- Leaf-blades mostly over 4 cm. long, not amplexicaul: **36**
- 36** Lower glume 3-nerved, 2/3–3/4 as long as the spikelet, lanceolate; leaf-blades mostly 5–12 cm. long, gradually tapering from base to tip, reflexed on the stem; spikelets 2–2.3 mm. long, glabrous or rarely scabrid-hairy, the nerves prominent and often forming raised ribs; lower palea present; inflorescence with or without long glistening white hairs on the axis [34. hochstetteri](#)
- Lower glume 1-nerved; lower palea absent: **37**
- 37** Lower glume ovate, 1/3–1/2 as long as the spikelet; spikelets 2.5–3 mm. long, glabrous; leaf-blades lanceolate (if linear see *P. coloratum*) [35. monticola](#)
- Lower glume lanceolate, 1/3–2/3 as long as the spikelet; spikelets 2–2.5 mm. long, glabrous or sparsely hispid [36. calvum](#)
- 38** Leaf-blades 1–2 cm. long, or sometimes a little longer, narrowly lanceolate, not amplexicaul; culms prostrate; spikelets 1.7–2 mm. long, glabrous or pubescent; lower glume 3-nerved, 3/4 the length of the spikelet; upper lemma smooth [37. pusillum](#)
- Leaf-blades 5–45 cm. long, linear; culms erect, robust; spikelets 2.5–3 mm. long, glabrous; lower glume 5-nerved: **39**
- 39** Spikelets borne in contiguous pairs, distant on long branchlets; lower glume sharply acute at the tip, 1/2–2/3 as long as the spikelet; palea about half as long as the lower lemma; leaf-blades softly hairy above and below [38. pansum](#)
- Spikelets neither paired nor contiguous, evenly spaced on the branches; lower glume obtuse to subacute at the tip, 1/2 as long as the spikelet or a little less; palea as long as the lower lemma; leaf-blades glabrous and glaucous, or stiffly pilose below near the base [39. laetum](#)
- 40** Leaf-blades linear, firm, not narrowed at the base: **41**
- Leaf-blades narrowly lanceolate, thin and delicate with fine transverse veins, up to 15 cm. long, narrowed to the

- midrib at the base: 44
- 41 Plants creeping, with long wiry underground rhizomes; barren shoots distichously leafy, the blades more or less involute, rigid and glaucous; lower lemma 9-nerved, with a palea [40. repens](#)
- Plants not creeping: 42
- 42 Spikelets cuspidate acuminate at the tip, 2.5–3.5 mm. long, narrowly ovate; lower lemma 7-nerved, accompanied by a palea; panicle broadly ovate, loose, the branches spreading [41. porphyrrhizos](#)
- Spikelets acute at the tip: 43
- 43 Lower floret without a palea (in most W. African plants), its lemma 9-nerved or very rarely 7-nerved; spikelets ovate-elliptic, 2.5–3 mm. long; panicle terminal, narrowly oblong, dense, the primary branches ascending with the spikelets loosely contracted about them [42. subalbidum](#)
- Lower floret with a palea, its lemma 7–9-nerved; spikelets ovate, plump, 2–3 mm. long, prominently nerved; panicle broadly ovate, more or less spreading [43. coloratum](#)
- 44 Upper glume 3-nerved; lower glume very broadly ovate, subacute [44. congoense](#)
- Upper glume 5-nerved; lower glume ovate-elliptic, usually obtusely rounded [35. monticola](#)

1. **Panicum laxum** Sw. Prod. Veg. Ind. Occ. 23 (1788); Hitchc. & Chase in Contrib. U. S. Nat. Herb. 15: 115; Aké Assi, Contrib. 2: 286. *APD acc*

Annual, 30–60 cm. high, the inflorescence superficially resembling that of a *Brachiaria*; **roadsides and clearings, particularly on damp soils.**

Guin.: Séguéa (Oct.) Adam 12641! **S. L.:** Freetown (May) Baldwin 5797! Njala (June) Deighton 732! Musaia (Mar.) Deighton 5439! Gbangbama to Senge (Nov.) Deighton 2343! Mt. Bintimani, 5,600 ft. (July) Bakshi 303! **Lib.:** Bushrod I. (Apr.) Barker 1292! Suacoco (Apr.) Blickenstaff 43! Blazie (Nov.) Adam 16039! Monrovia (Oct.) van Harten 178! Nimba Mt. (July) Leeuwenberg & Voorhoeve 4607! 4666! **iv. C.:** Séguéa (July) Adjanohoun 240a! Ayamé to Bianoua (Nov.) Aké Assi 9763! **Ghana:** Elmina (July) Hall 1533! Awuabo to Krisin (Mar.) Rose Innes GC 30889! Aiyinasi (Dec.) Rose Innes GC 30545! Kade (Jan.) Ankrah GC 20333! Princetown (Mar.) Morton A316! **N. Nig.:** Zaria (Aug.) Sawyer K41! **S. Nig.:** Lagos (Oct.) Haines 187!

A native of tropical America, introduced to W. Africa; first collected at Njala in 1927, it has now become naturalized.

2. **Panicum heterostachyum** Hack. in Oest. Bot. Zeitschr. 51: 430 (1901). *APD acc*

Erect or ascending annual up to 60 cm high; **in shade.**

Niger: Maradi to Takieta (Nov.) P. de Fabrègues 1217!

Widespread in Africa.

3. **Panicum brevifolium** Linn. Sp. Pl. 59 (1753); F.T.A. 9: 731; Chev. Bot. 724, and in Rev. Bot. Appliq. 14: 26; Berhaut, Fl. Sén. ed. 2, 416. *APD acc*

Panicum plantagineum Schumacher, Beskr. Guin. Pl. 64 (1827), not of Link (1827).

Panicum subobliquum Stapf in F.T.A. 9: 723 (1920); F.W.T.A. ed. 1, 2: 554; A. Chev. in Rev. Bot. Appliq. 14: 26.

Panicum ovalifolium Poir. (1816).

Panicum guineense Desv. ex Poir. (1816).

Panicum amplexicaule Poir. ex P. Beauv. (1819).

Panicum trichopiptum Steud. (1854).

A rambling annual 30–60 cm. high, with long aerial roots from the nodes; **forest shade.** Very rarely the outer spikelets of the panicle are long-hairy and apparently surrounded by a delicate halo.

Sen.: Sédhiou (Oct.) Adam 18445! Berhaut 6410! **Port. G.:** Bricama (Dec.) Pereira 3582! **Guin.:** Timbo Pobéguin 1722! Fouta Djallon (Oct.) Chev. 18755! Adam 12751! **S. L.:** Rokupr (Sept.) Jordan 312! Bumbuna (Oct.) Thomas 3397! Bafodeya (Apr.) Sc. Elliot 1892! Mabala (Oct.) Glanville 61a! Bintumane, 3,200 ft. (Jan.) T. S. Jones 123! **Lib.:** Kakatown Johnston! Monrovia (Nov.) Dinklage 3269! Buchanan (Nov.) Adam 15999! Wanau (Nov.) Harley 2057! Ganta (Sept.) Baldwin 12017! **iv. C.:** Abidjan (Nov.) Dec.) Leeuwenberg 1878! Boughey GC 13508! Adiopodoumé (Oct.) Leeuwenberg 1711! Dabou (June) Leeuwenberg 4469! Guéyo (Mar.) Leeuwenberg 3803! **Ghana:** Aiyinasi (Dec.) Rose Innes GC 30326! Kintampo to Bamboi (Oct.) Rose Innes GC 31141! Kwamang to Mampong (Nov.) Rose Innes GC 30872! Kumasi (Apr.) La Danso 34! Vane (Dec.) Adams 4723! **N. Nig.:** Gusau (Oct.) De Leeuw & Magaji 1955! **S. Nig.:** Lagos (Oct.) Dalz. 1121! Ibadan (Oct.) Keay FHI 13761! Okomu F.R., Benin (Dec.) Brenan 8420! Onitsha Barter 1781! Port Harcourt (Oct.) Stubbings 63! **W. Cam.:** Buea (Jan., July) Maitland 20! 326! Bamenda (May) Maitland 8a! 9a! Mensham R. (Feb.) Brunt 951! **F. Po:** T. Vogel 85! Mann 116! Bahia de Venus (Dec.) Guinea 250!

Throughout the Old World tropics.

4. *Panicum trichoides* Sw. Prodr. Veg. Ind. Occ. 24 (1788); F.T.A. 9: 730. *APD acc*

Ascending annual about 30 cm, high.

Ghana: Mansu Cummins 11! Kumasi (Aug.) Irvine 4521! **S. Nig.:** Thomas 1760! Benin (Sept.) Maggs 8! Epe (Aug.) Gillett 15265! Degema (Sept.) Holland 135! Umudike (July) Tuley 791!

Throughout tropical America, and also in the **Malayan islands**; probably introduced to Africa.

5. *Panicum ecklonii* Nees Fl. Afr. Austr. 43 (1841). *APD acc*

A densely caespitose perennial about 30 cm. high.

S. L.: Mt. Loma (Feb.) Jaeger 9371! Bintumane (June) Jaeger 9773! Morton & Gledhill SL 1091a! Tingi Mts (Apr., Dec.) Morton & Gledhill SL 1859! SL 3102! **Lib.:** Nimba (Feb.) Adam 20884! **Iv. C.:** Nimba Mts. (Aug.) Boughey GC 18067! **N. Nig.:** Chappal Waddi (Apr.) Gbille & Daramola FHI 63281! **S. Nig.:** Obudu (Apr.) Haines 143! **W. Cam.:** Bamenda (Jan., Oct.) Daramola FHI 40599! Agric. Off. 11! Bafut-Ngamba F.R. (Feb., Mar.) Hepper 2116! Coombe 215! Bambui (Mar.) Brunt 77!

Tanzania and southwards to South Africa.

6. *Panicum hymeniochilum* Nees Fl. Afr. Austr.: 46 (1841). *APD acc*

Panicum kisantuense *Vanderyst ex Robyns* in Mém. Inst. Col. Belge 1, 6: 25 (1932).

Panicum djalonen *A. Chev.* in Rev. Bot. Appliq. 14: 27 (1934); F.W.T.A. ed. 1, 2: 554.

Panicum snowdenii *C. E. Hubbard* in Kew Bull. 1928: 132.

Prostrate perennial, rarely with the clavellate hairs absent; **moist places**.

Guin.: Dalaba (Apr.) Caille in Hb. Chev. 18139 bis! **Iv. C.:** Pakobo Nord (Oct.) Adjanohoun 369a! **S. Nig.:** Nguroje (Nov.) Magaji & Tuley 1868! 1872a! Mambila (Aug.) De Leeuw 1747! 1792! **W. Cam.:** ?Cam. Mt. Boughey GC 12694! Kumbo (Feb.) C. N. A. D. 1789!

Throughout tropical Africa.

7. *Panicum sadinii* (*Vanderyst*) *Renvoize* in Kew Bull. 22: 485 (1968). *APD acc*

Brachiaria sadinii *Vanderyst* in Bull. Agric. Congo Belge 16: 665 (1926).

Panicum lineatum *Trin.*, Sp. Gram. 2: t. 233 (1829), not of Schumach. (1827); F.T.A. 9: 653; F.W.T.A. ed. 1, 2: 551; Aké Assi, Contrib. 2: 286.

Panicum scandens *Mez* in Engl., Bot. Jahrb. 57: 190 (1921), not of (Schrad. ex Roem. & Schult.) Trin. (1826).

Ascending perennial 60–90 cm. high, the base decumbent and rooting at the nodes; very rarely with the clavellate hairs reduced to stumps or absent; **shady places**.

Guin.: Pela (Sept.) Baldwin 13273! Tossekéré (Oct.) Adam 12669! Macenta (Apr.) Pitot! **S. L.:** Yonibana (Oct.) Thomas 4049! Kanya (Oct.) Thomas 3015! Mabaka (Oct.) Glanville 71! Moselelo (Nov.) Deighton 2376! Picket Hill (Nov.) T. S. Jones 215! **Lib.:** Gola Forest (Dec.) Baldwin 10717! Nimba (Dec.) Adam 16497! Banga (Oct.) Linder 1191! Ganta (Sept.) Baldwin 9287! Grand Bassa (Mar.) Baldwin 11233!

Also in the **Congo**, **Zambia** and **Angola**.

8. *Panicum maximum* Jacq. Ic. Pl. Rar. 1: 2, t. 13 (1781); F.T.A. 9: 655; Chev. Bot. 727, and in Rev. Bot. Appliq. 14: 20; Berhaut, Fl. Sén. ed. 2, 412. *APD acc*

Panicum praelongum *Steud.*, Syn. Pl. Glum. 1: 73 (1854).

Panicum sparsum *Schumach.*, Beskr. Guin. Pl. 64 (1827).

A robust perennial up to 3 m. high, densely tufted from a stout rhizome; **moist places and roadside ditches**.

Sen.: Sangalkam (Oct.) Berhaut 2897! **S. L.:** Freetown (Oct.) Deighton 2147! T. Vogel! Wellington (Jan.) Morton & Gledhill SL 1634! **Lib.:** Ganta (Feb.) Harley 1801! Harper (Mar., June) Baldwin 5983! 5999! 11640! **Iv. C.:** Abidjan to Dabou (Oct.) de Wilde 3109! Adiopodoumé (Nov.) Leeuwenberg 1887! Cocody (June) Adjanohoun 409a! Abidjan (Aug.) de Wilde 653! **Ghana:** Kumasi (Mar.) La Danso 18! Adawso (Oct.) Rose Innes GC 30583! Accra Plains (Oct.) Baldwin 13430! Ahamansu to Jasikan (Oct.) Rose Innes GC 30920! Kpeve (Mar.) Lloyd Williams 71! **Dah.:** Cotonou (Apr.) Chev. 4469! **N. Nig.:** Ilorin (Oct.) Ward 56! Lokoja (Oct.) Dalz. 285! Abinsi (June) Dalz. 904! Okene (Oct.) Magaji MG 255! Makurdi (Aug.) De Leeuw 1712! **S. Nig.:** Lagos (July) Dalz. 1311! Ibadan (Nov.) Meikle 649! Tapa (Apr.) Hamblar 466!

Ala (Nov.) Thomas 1972! Opobo Jeffreys 1! **W. Cam.:** Victoria (Feb., July) Maitland! 15! 152! Brunt 1040! Kalu FHI 13984! Buea (Jan.) Maitland 332!

Throughout the tropics.

[Although very variable elsewhere in Africa, the W. African material is fairly uniform and is closely similar to specimens from the type locality in the West Indies.]

9. ***Panicum dinklagei* Mez** in Engl., Bot. Jahrb. 57: 190 (1921). *APD acc*

Robust perennial, with firm dark green leaves and thin cane-like culms scrambling over other vegetation.

Guin.: Kindia Jac.-Fél. 209! Macenta (Oct.) Baldwin 9789! Nzérékoré to Macenta (Oct.) Baldwin 9743! Dyeke (Oct.) Baldwin 9656! Séguéa (Oct.) Adam 12638! **S. L.:** Mabala (Oct.) Glanville 61! Regent (Oct.) Pyne 137! Picket Hill (Nov.) T. S. Jones 226! Sembehun (Oct.) Jordan 625! Kenema (Jan.) Thomas 7642! **Lib.:** Vonjama (Oct.) Baldwin 9949! Monrovia (May) Baldwin 5831! Ganta (Oct.) Harley 1712! Moala (Nov.) Linder 1363! Nimba (Dec.) Adam 16462! **Ghana:** Maliato (Nov.) Morton A3556! Shiare (Dec.) Hall CC 1129!

10. ***Panicum pubiglume* Stapf** in F.T.A. 9: 670 (1920); Chev. Bot. 729, and in Rev. Bot. Appliq. 14: 20; Berhaut, Fl. Sén. ed. 2, 413.

APD: *Synonym of Panicum brazzavillense Franch.*

Loosely tufted perennial about 60 cm. high, with weak culms; **on wet or swampy soils.**

Sen.: Kanéméré (July) Fotius K306! Kabrousse to Oussouye Adam 18363! Marécage des Bayottes (Aug.) Berhaut 6332! **Mali:** Sikasso (May) Chev. 805! **Guin.:** Dalaba-Diaguissa Plateau (Oct.) Chev. 18766! Friguiagbé (Sept.) Chillou 1689! Chutes Komoré (Sept.) Adam 15251! Guésservolé (June) Adam 14655! **S. L.:** Gbap (June) Adames 50! **Iv. C.:** Singrobo (Oct.) Adjanohoun 306a! **Ghana:** Kintampo to Bamboi (Oct.) Rose Innes GC 31139! Damongo scarp (Sept.) Rose Innes GC 30202! Ho to Senchi (May) Rose Innes GC 30376! Nakpanduri to Gambaga (Oct.) Ankrah GC 20501! Wa (Oct.) Rose Innes GC 32376! **Togo Rep.:** Palimé Stage 58! **N. Nig.:** Nupe Barter 1013! Baro (Oct.) Parsons 13! Lokoja Richardson! Abinsi (June) Dalz. 899! Kontagora (Nov.) De Leeuw & Magaji 2002! Mundar, Jos (Sept.) Lawlor & Hall 634! **S. Nig.:** Igboora (Oct.) Haines 328!

Also in the **Congo.**

11. ***Panicum filifolium* W. D. Clayton** in Kew Bull. 21: 111 (1967). *APD acc*

Densely tufted perennial about 30 cm. high, with slender erect culms; **in sandy savanna.**

Lib.: Monrovia (Aug.) Baldwin 9184! 9185! 13020! Robertsfield (Mar.) Harley 2119! Buchanan (Nov.) Adam 16055!

12. ***Panicum strictissimum* Afzel. ex Sw.** Adnot. Bot. 4 (1829); F.T.A. 9: 666; A. Chev. in Rev. Bot. Appliq. 14: 20. *APD acc*

***Isachne sapinii* Vandyerst** (1925).

***Panicum sapinii* (Vandyerst) Robyns** (1932).

Culms erect or ascending, 60–90 cm. high; **in swamps.**

Guin.: Baffing (Oct.) Adam 12665! **S. L.:** Kambia (Sept.) Jordan 308! Rokon (July) Jordan 485! Madina (Aug.) Jordan 915! Tabe to Jama (Sept.) Deighton 3026! Mabum (Aug.) Thomas 1540! **S. Nig.:** Mamu R. (Aug.) Jones 6691!

Also in the **Congo.**

[Closely related to the two following species, but with a preference for moist habitats.]

13. ***Panicum praealtum* Afzel. ex Sw.** Adnot. Bot. 5 (1829); F.T.A. 9: 667; A. Chev. in Rev. Bot. Appliq. 14: 20; Berhaut, Fl. Sén. ed. 2, 414; Schnell in Ic. Pl. Afr. IFAN. 5: 117 (1960). *APD acc*

***Panicum caillei* A. Chev.**, Bot. 725 (1920), name only.

Robust perennial 60–120 cm. high; **sandy soils in savanna.**

Sen.: Bakor (Oct.) Adam 18494! Kédougou (Nov.) Fotius K696! **Guin.:** Kouria Caille 15010! Kouria to Trebeleya (Sept.) Chev. 18229! Friguiagbé (Oct.) Chillou 1743! **S. L.:** Mando (Sept.) Adames 134! Bubuya (Sept.) Jordan 318! Binkolo (Aug.) Thomas 1878! Musaia (Aug.) Deighton 4399! Falaba (Oct.) Small 448! **Ghana:** summit E. of Ahamansu village

(Sept.) Rose Innes GC 31326! **N. Nig.:** Gembu (Dec.) Daramola FHI 62320! **S. Nig.:** Udi Plateau (Sept.) Tuley 870! Abakaliki (Aug.) Nwauzo 767! Enugu (July, Sept.) Opara 805! Onochie FHI 34084!

Also in **E. Cameroun**.

[A more robust plant than the following species with which it intergrades, and apparently limited to W. Africa.]

14. *Panicum baumannii* K. Schum. in Engl., Bot. Jahrb. 24: 331 (1897).

*APD: Synonym of *Panicum nervatum* (Franch.) Stapf*

***Panicum fulgens* Stapf** in F.T.A. 9: 668 (1920); F.W.T.A., ed. 1, 2: 553; Aké Assi, Contrib. 2: 285.

***Panicum globulosum* Mez** in Engl., Bot. Jahrb. 57: 188 (1921).

Erect or weakly ascending perennial 60–90 cm. high; **often on shallow stony soils**.

Guin.: Manea (June) Chillou 2619! **S. L.:** Tingi Mts. (Dec.) Morton & Gledhill SL 3039! **Lib.:** Nimba Mts. (Nov.) Adam 24715! **Iv. C.:** Singrobo (Oct.) Adjanohoun 339a! Dabou (Mar., Nov.) Leeuwenberg 1951! 3126! Séguélo (Oct.) Aké Assi. 6603! Koébonou to Varalé (Sept.) Aké Assi 6506! **Ghana:** Sawla to Wa (Oct.) Rose Innes GC 31028! Kpandu to Accra (Sept.) Ankrah GC 20214! Kpandu to Kete Krachi (Sept.) Rose Innes GC 31314! Ahamansu to Jasikan (Oct.) Rose Innes GC 30919! Golokuati (Sept.) Rose Innes GC 20354! **N. Nig.:** Anara F.R., Kanjimi (Nov.) Latilo FHI 37968! Afaka F.R. (Nov.) Clayton 1390! Wuya Ferry (Sept.) Clayton 363! Samaru (Oct.) Freeman S178! Zaria Dist. Taylor 3! **S. Nig.:** Ezillo (Oct.) Tuley 964! **W. Cam.:** Bambui (Sept.) Nditapah 52!

Also in the **Congo** and **Angola**, extending eastward to the **Sudan**, Tanzania and Zambia.

15. *Panicum calocarpum* Berhaut in Bull. Soc. Bot. Fr. Mém. 1953–54: 11 (1954), and Fl. Sén. ed. 2, 414. *APD acc*

About 75 cm. high; **swamps**.

Sen.: Badi (Dec.) Berhaut 767!

16. *Panicum lindleyanum* Nees ex Steud. Syn. Pl. Glum. 1: 91 (1854); F.T.A. 9: 673; A. Chev. in Rev. Bot. Appliq. 14: 21; Berhaut, Fl. Sén. ed. 2, 413.

*APD: Synonym of *Panicum tenellum* Lam.*

***Panicum hystrix* Steud.** l.c. 95 (1854); F.W.T.A., ed. 1, 2: 553; Chev. Bot. 726, and in Rev. Bot. Appliq. 14: 21.

***Panicum drosocarpum* Stapf** (1905).

***Panicum viciniflorum* Stapf** in F.T.A. 9: 675 (1920); F.W.T.A., ed. 1, 2: 553; A. Chev. in Rev. Bot. Appliq. 14: 21.

***Panicum filicaule* Stapf** in F.T.A. 9: 676 (1920); F.W.T.A., ed. 1, 2: 553; A. Chev. in Rev. Bot. Appliq. 14: 21.

***Panicum trochainii* (A. Camus) A. Camus** in Bull. Mus. Hist. Nat., sér. 2, 6: 99 (1934); F.W.T.A., ed. 1, 2: 553.

***Isachne trochainii* A. Camus** in Bull. Mus. Hist. Nat., sér. 2, 5: 250 (1933); F.T.A. 9: 1098; A. Chev. in Rev. Bot. Appliq. 14: 40.

***Panicum gemmeum* C. E. Hubbard** in Kew Bull. 4: 361 (1949).

A delicate tufted or weakly ascending annual from 10 cm to about 60 cm. high; **shallow pools and wet flushes on rock outcrops and ironstone pans**.

Sen.: Heudelot 583! Janu de Fayll (Oct.) Berhaut 5666! Bignona (Feb.) Trochain 1438! Kabrousse (Oct.) Adam 18290! Oussouye (Mar.) Berhaut 7252! **Mali:** Lécard 250! Koulikoro (Oct.) Chev. 2178! **Port. G.:** Orango Grande (Jan.) Raimundo & Guerra 928! **Guin.:** Kouroussa (Dec.) Pobéguin 541! Mamou to Trebeleya (Sept.) Chev. 8622 bis! Nzérékoré (Oct.) Baldwin 9689! Macenta (Oct.) Baldwin 9795! Filicoundji (Oct.) Adam 12590! **S. L.:** Rokupr (Nov.) Jordan 690! Sugar Loaf Mt. (Oct.) T. S. Jones 257! Tombo (Jan.) Deighton 995! Brookfields (Oct.) Deighton 2174! Mapatolon (Nov.) T. S. Jones 40! **Lib.:** Monrovia (Nov.) Barker 1464! Buchanan (Nov.) Adam 16056! Tawata (Nov.) Baldwin 10349! Vonjama (Oct.) Baldwin 9861! Genne-Loffa (Nov.) Baldwin 10084! **Iv. C.:** Sifié (Oct.) Aké Assi 5716! **Ghana:** Nakpanduri to Yendi (Oct.) Rose Innes GC 30735! Berekum to Sampa (Dec.) Adams 5273! Kwahu Tafo (Dec.) Harris! Hohoe to Dafo (Sept.) Rose Innes GC 31319! Yinahin range (Nov.) Rose Innes GC 30530! **Togo Rep.:** Mango (Nov.) Bille JG 339! **N. Nig.:** Anara F.R. (Oct.) Keay FHI 5500! Jos (Oct.) Hepper 1059! Okene (Oct.) Magaji MG 278! **S. Nig.:** Idanre (Jan.) Brenan & Keay 8658! Ife (Feb.) Hall 64! Oyo (April) Gledhill 986!

Also in **Central African Rep.**, **Congo** and **Zambia**.

[Although usually a more slender plant than the perennial species, *P. lindleyanum* is difficult to separate from them unless the base is well represented. It displays a wide range of variation, but there are no obvious discontinuities nor any clear distinguishing features. It seems best, for the present, to treat it as a single species.—W.D.C.]

17. *Panicum glaucocladum* C. E. Hubbard in Kew Bull. 1933: 501. *APD acc**Panicum pusillum* var. *glabriglumatum* Schnell in Rev. Gen. Bot. 57: 290 (1950).

Slender decumbent annual; damp places in shade.

Guin.: Nimba (Sept.) Schnell 3684! **S. L.:** Mt. Loma (Oct., Nov.) Jaeger 7862! Morton SL 2715! Bintumane (Jan.) T. S. Jones 84! Tingi hills (Dec.) Morton & Gledhill SL 3042! Toma, Bonthe I. (Nov.) Deighton 2282! **Lib.:** Fisherman's lake (Dec.) Baldwin 10898!**18. *Panicum gracilicaule* Rendle** in Cat. Welw. 2: 179 (1899); F.T.A. 9: 672; Berhaut, Fl. Sén. ed. 2, 415. *APD acc**Panicum sublaetum* Stapf in F.T.A. 9: 671 (1920); F.W.T.A., ed. 1, 2: 553; A. Chev. in Rev. Bot. Appliq. 14: 21.*Panicum membranaceum* Robyns (1932).*Panicum tambacoundense* Berhaut in Mem. Soc. Bot. Fr. 1953–54: 11 (1954), and Fl. Sén. ed. 2, 414.

Up to 60 cm. high, with flaccid, light green leaves; roadsides and weedy places.

Sen.: Niokolo-Koba (Oct.) Adam 15675! Barkédédji (Oct.) Berhaut 3867! Tambacounda (Oct.) Adam 12722! Sefa (Oct.) Adam 18416! Bougnadou (Oct.) Adam 18478! **Gam.:** Yundum (Dec.) Austin 21! **Port. G.:** Mansoa (Nov.) Pereira & Correia 1983! Susana (Dec.) Raimundo & Guerra 262! 307! Bissau I. (Nov.) Raimundo & Guerra 45! Nova Lamego (Dec.) Pereira & Correia 2427! **Guin.:** Baffing R. (Nov.) Pobéguin 1723! 1822! Kouroussa (Oct.) Pobéguin 523! Sériba to Kiffaya (Oct.) Adam 12698! **S. L.:** Musaia (Dec.) Deighton 4478! **N. Nig.:** Riyom (Nov.) Clayton 1410! Shendam (Nov.) Clayton 1452! Plateau Prov. (Aug.) Lely P496! Mundar, Jos (Sept.) Lawlor & Hall 636! Abinsi Dalz. 892!

Extends through the Congo into Malawi and Zambia.

19. *Panicum nigerense* Hitchc. in Proc. Biol. Soc. Wash. 43: 90 (1930). *APD acc*

Annual up to 1.5 m. high, with a large panicle of reddish-brown spikelets; on dry sandy soils.

Mali: Macina (Sept.) Chev. 24911! **U. Volta:** Sindau (Sept.) Adam 15174! Toussiana to Banfora Adam 15219! **Niger:** Niamey (Oct.) Hagerup 481! Zinder (Apr.) Guile! **N. Nig.:** Katsina (Oct.) Clayton 1338! Ward 63! Damaturu (Sept.) De Leeuw 1162!**20. *Panicum anabaptistum* Steud.** Syn. Pl. Glum. 1: 75 (1854); F.T.A. 9: 678; A. Chev. in Rev. Bot. Appliq. 14: 22; Berhaut, Fl. Sén. ed 2., 413. *APD acc**Panicum oxanthum* Steud. (1854).*Panicum cinereo-viride* Mez in Engl., Bot. Jahrb. 57: 190 (1921).*Panicum glaucifolium* Hitchc. in Proc. Biol. Soc. Wash. 43: 90 (1930).*Garnotia africana* Janowski in Fedde Rep. 17: 86 (1921).

Up to about 1.5 m. high; on flood plains.

Maur.: Lake Rkiz (Sept.) Sadio 10! **Sen.:** Richard-Tol (Feb.) Döllinger 18! Walo (Dec.) Roger 51! St. Louis (Oct.) Chev. 33893! Heudelot 286! **Mali:** Zingueni to Sompi (Aug.) Chev. 2289! Toguère of Dogo (May) Davey 80! Djenné (Sept.) Chev. 2274! Diré Rogeon 257! Kabara (Sept.) Hagerup 304! **Iv. C.:** Koro to Kaboro-Kendé (Sept.) Chev. 24887! **Ghana:** Gushiago to Pigu (Oct.) Rose Innes GC 30709! Kpasinkpe (Oct.) Rose Innes GC 30778! Bawku to Bolgatanga (Aug.) Rose Innes GC 32092! Lawra (Sept.) Hall CC 766! **Niger:** Zinder (Nov.) Hagerup 616! Dassa White 17! Toukounous Bartha 37! **N. Nig.:** Nupe Barter 838! Sokoto (Sept.) Palmer 16! Hadejia (Dec.) Clayton 474! Bornu Prov. (Oct.) Johnston N 48! Katagum Dist. Dalz. 274! **W. Cam.:** Bama (Dec.) McClintock 104!Also in **E. Cameroun** and the **Sudan**. (See Useful Plants.)**21. *Panicum phragmitoides* Stapf** in F.T.A. 9: 677 (1920); A. Chev. in Rev. Bot. Appliq. 14: 21. *APD acc**Panicum klingii* Mez in Engl., Bot. Jahrb. 57: 188 (1921).*Panicum afrum* Mez l.c.**Robust reed**-like grass up to 2 in. high; in savanna, on dry soils.**Guin.:** Pita (Sept.) Adames 358! **Iv. C.:** Bouna to Bondoukou (Oct.) Rose Innes GC 31550! Bouaflé to Zuénoula (Oct.) Adjanohoun 320a! Bocanda (June) Adjanohoun 249a! Bouaké (Sept.) de Wilde 942! **U. Volta:** Sikasso to Bobo-Dioulasso (Sept.) Adam 15124! Samandéni (Oct.) Kmoch 133! 156! Doutié (Sept.) Scholz 15a! Gaoua to Batié (Oct.) Rose Innes GC 31529! Ouassa to Leo (Oct.) Rose Innes GC 31490! **Ghana:** Sawla Junction (Oct.) Rose Innes GC 30306! Sawla to Tamale (Oct.) Rose Innes GC 30673! Gambaga (Oct.) Rose Innes GC 30266! Kete Krachi (Oct.) Rose Innes GC 30610! Kpevi to

Anum (Sept.) Rose Innes GC 30899! **Togo Rep.:** Badou to Atakpamé (Sept.) Rose Innes GC 31348! Sokode to Lama Kara (Oct.) Rose Innes GC 31388! Bismarckburg Kling 243! 254! **N. Nig.:** Shika (Sept.) Clayton 1271! Zaria Dist. (Sept.) Freeman S21! Taylor 45; Naraguta (Oct.) Kennedy FHI 8045! Gindiri (Oct.) Hepper 1141! **S. Nig.:** Obudu Plateau (Nov.) Tuley 1021! 1022! **W. Cam.:** Bamenda (Dec.) Agric. Off.! Boughey 11148! Ndop (Mar., Nov.) Brunt 22! Gillett 13! Maibinka (Feb.) Brunt 985!

Extends through Cameroun and the Congos to **Angola** and Malawi.

22. *Panicum pilgeri* Mez in Engl., Bot. Jahrb. 34: 146 (1904); F.T.A. 9: 686. *APD acc*

***Panicum lasiopodum* Stapf** (1905).

Densely tufted perennial up to about 1 m. high; **wet and marshy places.**

Guin.: Kouroussa (Aug.) Pobéguin 500! Gali to Hinde (July) Adames 311! Kindia (Oct.) Kent 44! **S. L.:** Waterloo (June) Deighton 2742! Bumban (Oct., Nov.) Deighton 3276! Morton SL 2902! Tingi Mts. (Dec.) Morton & Gledhill SL 2952! SL 3173! **Iv. C.:** Mankono (July) Chev. 21981! Singrobo (Oct.) Adjanohoun 307a! Brobo (Sept.) de Wilde 941! Bouaké (Sept.) Oldman 410! Toumodi to Yamoussokro (Oct.) Adjanohoun 328a! **U. Volta:** Sikasso to Bobo-Dioulasso (Sept.) Adam 15083! **Ghana:** Kwahu Tafo (Aug., Oct.) Rose Innes GC 30569! Hall CC 123! Amentin (Oct.) Rose Innes GC 30588! 30589! Kete Krachi to Yendi (Sept.) Rose Innes GC 30438! Velempé, Wa (Aug.) Addei SLUS 7! **N. Nig.:** Nupe Barter 1377! Vom (Oct., Nov.) Gambles 4! 53! Yola to Makridi (Aug.) De. Leeuw 1720!

23. *Panicum dregeanum* Nees Fl. Afr. Austr. 42 (1841); F.T.A. 9: 684; A. Chev. in Rev. Bot. Appliq. 14: 22; Berhaut, Fl. Sén. ed. 2, 414. *APD acc*

***Panicum amethystinum* Franch.** (1895).

***Panicum chilanthum* A. Chev.,** Sudania 62, 132 (1911), name only.

***Panicum poccilanthum* Stapf** in F.T.A. 9: 684 (1920); F.W.T.A., ed. 1, 2: 553.

Tufted, erect, 60–90 cm. high; **seasonally moist soils.**

Sen.: Boukitingo (Oct.) Adam 18323! Oussouye (Aug.) Berhaut 6255! **Guin.:** Friguiagbé (Sept.) Chillou 704! Sambaïlo (Sept.) Pitot! **S. L.:** Tingi Mts. (Dec.) Morton & Gledhill SL 3092! Loma Mt. (Dec.) Morton SL 395! **Lib.:** Paynesville (Sept.) Van Dillewijn 79! **N. Nig.:** Anara F.R., Zaria (May) Keay FHI 22870! Naraguta (July) Lely 423! Abinsi (July) Dalz. 897! **W. Cam.:** (Dec.) Unwin 9185!

Throughout tropical and S. Africa.

24. *Panicum congoense* Franch. in Bull. Soc. Hist. Nat. Autun 8: 342 (1895); F.T.A. 9: 682; Aké Assi, Contrib. 2: 285. *APD acc*

***Panicum mitophyllum* Pilger** (1903).

Very densely tufted grass 30–60 cm. high, with tiny spikelets; **in marshes.**

Sen.: Salikénié (Oct.) Adam 18523! **S. L.:** Waterloo (Aug.) Melville & Hooker 301b! Rokupr (Mar.) Jordan 421! Bonthe Isl. (Nov.) Deighton 2299! Tabe (Sept.) Deighton 3037! Kitchom (Jan.) Deighton 937! **Lib.:** Paynesville (Sept.) van Dillewijn 79! Monrovia (Aug.) Baldwin 9196! Duport (Nov.) Linder 1461! Nimba (Feb., Oct.) Adam 20878! Adames 703! **Ghana:** Essiama (Oct., Dec.) Hall 2658! Rose Innes GC 30551! Awiebo to Krisin (Dec.) Rose Innes GC 30540!

Also in **the Congos** and **Angola**.

25. *Panicum fluviicola* Steud. Syn. Pl. Glum. 1: 89 (1854); F.T.A. 9: 689. *APD acc*

***Panicum aphanoneurum* Stapf** in F.T.A. 9: 687 (1920); F.W.T.A., ed. 1, 2: 553; Chev. Bot. 724, and in Rev. Bot. Appliq. 14: 22; Berhaut, Fl. Sén. ed. 2, 414 (incl. var. *silvicola* Berhaut, Fl. Sén. ed. 1, 254 (1954), without latin descr.); Aké Assi, Contrib. 2: 284.

***Panicum rowlandii* Stapf** in F.T.A. 9: 688 (1920); F.W.T.A., ed. 1, 2: 553.

***Panicum purpurascens* Mez** in Engl., Bot. Jahrb. 57: 188 (1921), not of Raddi (1823).

***Panicum sparmannii* Mez** l.c. 188.

***P. radicosum* Mez** l.c. 189.

A reed-like grass 1–2 m. high; basal sheaths glabrous or sometimes pubescent; **streamsides, flood plains and moist soils.**

Maur.: Lake Rkiz (Sept.) Sadio 121! **Sen.:** Niokolo-Koba (Oct.) Adam 15642! 15646! 15651! **Gam.:** Don! Hancock 21! **Mali:** San (Jan.) Demange 1018! Macina (Sept.) Chev. 24950! Sarédina (Mar.) Davey 69! Mopti (Sept.) Matthes 6! Dari (Sept.) Farrow 40! **Port. G.:** Bafata (Dec.) Pereira & Correia 2521! Bissau Is. (Nov.) Raimundo & Guerra 117! Bubaque (Jan.) Raimundo & Guerra 994! Farim (Oct.) Pereira 3387! **Guin.:** Baffing R. Pobéguin 1720! 1721! 1730! Kindia Jac.- Fel. 256! Sita (Oct.) Adam 12685! **S. L.:** Batkanu (Dec.) Deighton 5693! Musaia (Dec.) Deighton 4489! Kamiototo (Nov.)

Glanville 311! Masuri (Oct.) Glanville 84! Makeni (Dec.) Morton & Gledhill SL 310! **Iv. C.:** Nambonkaha (Nov.) Leeuwmsberg 2046! Toumodi (Oct.) Adjanohoun 348a! Zuenoula (Oct.) Adjanohoun 316a! **U. Volta:** Leo to Po (Oct.) Rose Innes GC 31470! Fada-N'Gourma to Pama (Aug.) Scholz 142! **Ghana:** Morago R. (Oct.) Rose Innes GC 30753! Wulugu (Oct.) Rose Innes GC 30776! Kpandai (Oct.) Rose Innes GC 30953! Tonogo (Nov.) Morton A3505! Anum (Sept.) Rose Innes GC 30390! **Togo Rep.:** Sokode (Oct.) Kersting 254! Schroeder 146! Dapango (Oct.) Rose Innes GC 31425! Palime Stage 59! **Niger:** Dallol (Jan.) Virgo 76! **N. Nig.:** Katagum Dist. Dalz. 258! Ekan (Sept.) Ward 17! Naraguta (Dec.) Kennedy 12! Minna Div. (Dec.) Meikle 737! Abinsi Dalz. 905! **S. Nig.:** Lagos (Oct.) Dalz. 1328! Ago-Are F.R. (Nov.) Keay FHI 37697! Jesse (Sept.) Butler-Cole 2! Aboh Barter 343! Enugu (Sept.) Onochie FHI 34104!

Throughout tropical Africa.

26. **Panicum griffonii** *Franch.* in null. Soc. Hist. Nat. Autun 8: 342 (1895); F.T.A. 9: 691; A. Chev. in Rev. Bot. Appliq. 14: 22; Berhaut, Fl. Sén. ed. 2, 413; Aké Assi, Contrib. 2: 285. **APD acc**

Straggling or weakly ascending, 15–30 cm. high; **shallow soil on rock outcrops and inselbergs.**

Sen.: Bougnadou Adam 18483! Sédhio (Nov.) Berhaut 6404! **Guin.:** Macenta (Oct.) Baldwin 9760! **S. L.:** N. Prov. (Oct.) Glanville 94! Rokon (Oct.) Jordan 575! Njala (July) Deighton 1167! Makeni (Jan.) Deighton 4149! Mabould (Oct.) Thomas 3662! **Lib.:** Vonjama (Oct.) Baldwin 9876! Palilah (Aug.) Baldwin 9149! Nimba (Dec.) Adam 16458! Zorzor (Oct.) Baldwin 10027! Gbau (Sept.) Baldwin 9449! **Iv. C.:** Vaoua (Oct.) Adjanohoun 314a! Séguéla (Oct.) Adjanohoun 242a! Odienné (Oct.) Aké Assi 8236! **Ghana:** Gradaw (Oct.) Rose Innes GC 31624! Krobo Hill (Oct.) Rose Innes GC 31152! Tonogo (Nov.) Morton A3493! Atonso (Oct.) Baldwin 13535! Kumasi (Dec.) Adam 4451! **N. Nig.:** Vodni Saunders 1! Riyom (Oct., Nov.) Clayton 1404! De Leeuw 1626! Sha (Sept.) Hall K28! **S. Nig.:** Lagos Dawodu 186! Ebute Metta (Nov.) Millen 13! Igboora (Oct.) Haines 330! Ado Rock (Oct.) Savory & Keay FHI 25447! Mt. Orosun, Idanre Hills (Oct.) Keay FHI 22597! **W. Cam.:** Bamenda (Dec.) Baldwin 13837a!

Extends southwards through E. Cameroun and Congo to **Angola**, and eastwards to **Uganda** and Tanzania.

27. **Panicum afzelii** *Sw.* Adnot Bot. 5 (1829); F.T.A. 9: 695; A. Chev. in Rev. Bot. Appliq. 14: 23; Berhaut, Fl. Sén. ed. 2, 414. **APD acc**

Panicum muscarium *Trin.* (1829).

Delicate grass about 30 cm. high; very closely related to the two following species; **shallow or disturbed soils in moist places.**

Sen.: Ziguinchor (Dec.) Berhaut 6707! Kanéméré (Sept.) Fotius K489! **Port. G.:** Bissau Is. (Nov., Dec.) Pereira & Correia 2096! 2129! Raimundo & Guerra 207! **Guin.:** Conakry (Oct.) Adam 12603! 12614! Filicoundji (Oct.) Adam 12589! Dalaba (Nov.) Chev. 34594! Timbo Pobéguin 1717! Manéa (Dec.) Chillon 2301! **S. L.:** Regent (Dec.) Sc. Elliot 4115! Kambia (Jan.) Deighton 914! Roboli (Nov.) Jordan 170! Magbile (Dec.) Thomas 6467! Foni flats, Brookfields (Oct.) Deighton 2143! **Iv. C.:** Bassawa (Oct.) Adjanohoun 270a! Ouango-Fitini (Dec.) Aké Assi 7527! Dabakala to Comoë (Nov.) Aké Assi 9247! **U. Volta:** Samandeni (Oct.) Kmoch 175! Cascade de Toussiana (Oct.) Scholz 77! **Ghana:** Burufu (Oct.) Rose Innes GC 31042! 32348! Hinds 5015! Mole Reserve (Nov.) Hall & Enti GC 35831!

28. **Panicum walense** *Mez* in Engl., Bot. Jahrb. 34: 146 (1904), as “watense”; Clayton in Kew Bull. 20: 264; Lebrun in Bull. Soc. Bot. Fr. 116: 263.

APD: *Synonym of Panicum humile Nees ex Steud.*

Panicum humile *Nees ex Steud.*, Syn. Pl. Glum. 1: 84 (1854), not of Thunb. ex Trin. (1825); F.T.A. 9: 693; F.W.T.A., ed. 1, 2: 554; Chev. Bot. 726, and in Rev. Bot. Appliq. 14: 23; Berhaut, Fl. Sén. ed. 2, 415.

Panicum austro-asiaticum *Ohwi* in Act. Phytotax. & Geobot. 11: 45 (1942).

Panicum vescum *Stewart* (1945).

Annual 30–60 cm. high, with a delicate bushy inflorescence; **often forming a dense cover over shallow or disturbed sites on moist soils.**

Sen.: Matam (Dec.) Chev. 2235! Tamboukané (Dec.) Chev. 2234! Kala (Jan.) Davey 201! Walo (Mar.) Leprieur 52! Sefa (Oct.) Adam 18429! **Gam.:** Saunders 80! **Mali:** Macina (Nov.) Duong 1186! Dioura (Sept.) Farrow 29! Sorme (Sept.) Farrow 43! Zangoula (Oct.) Farrow 64! **Guin.:** Madina (Oct.) Adam 12511! Kinkon to Pita (Oct.) Pitot! Labé (Nov.) Adames 413! **S. L.:** Fonima (Oct.) Fisher 71! **U. Volta:** Koumbili (Oct.) Scholz 181! **Niger:** (Sept.) P. de Fabrègues 2114! **N. Nig.:** Hadejia (Dec.) Clayton 473! Kano (Dec.) Hagerup 666! Naraguta F.R. (Oct.) Hepper 1015! Moiser 201! Birnin Kebbi (Nov.) Vaillant 2774! **S. Nig.:** Olokemeji (Nov.) Jackson 581169!

Also in **Sudan**, **India**, **China** and **Malesia**.

29. *Panicum paucinode* Stapf in F.T.A. 9: 692 (1920). *APD acc*

60–90 cm. high, rather more robust than the preceding; shallow or disturbed sites on moist soils.

Guin.: Timbo Pobéguin 1718! **Ghana:** Burufu (Sept.) Hall CC 751! Yendi to Gambaga (Oct.) Rose Innes GC 30480! Tamale to Bolgatanga (Nov.) Hall & Enti 35967! **N. Nig.:** Kufena Hill, Zaria Prov. (Sept.) Clayton 1308! Shendam (Nov.) Clayton 1451! Yola (Aug., Nov.) Dalz. 270! Hepper 1202! Lely 786!

Also in **E. Cameroun**.

30. *Panicum acrotrichum* Hook. f. in J. Linn. Soc. 7: 226 (1864); F.T.A. 9: 721. *APD acc*

A straggling grass, rooting from the lower nodes; in forest shade.

W. Cam.: Cam. Mt. (Dec., Feb., Mar.) Mann 2100! Maitland 851! 1040! Brenan 9533! Oku, Bamenda Div. (Feb.) Hepper 2028! **F. Po:** El Pico (Dec.) Boughey 119! 134!

31. *Panicum mueense* Vandyerst in Bull. Agric. Congo Belge 10: 248 (1919). *APD acc*

Panicum microthyrsum Stapf in F.T.A. 9: 729 (1920); F.W.T.A., ed. 1, 2: 544.

Ichnanthus mueensis (Vandyerst) Vandyerst l.c. 16: 681 (1925).

Perennial, with culms decumbent and rooting at the nodes; gallery forest.

S. Nig.: Okomu F.R., Benin (Dec., Jan., Feb.) Richards 5058! Brenan 8397! 8896! **W. Cam.:** Kindong R., Mbalange (Jan.) Binuyo & Daramola FHI 35496!

Also in **E. Cameroun** and **Congo**.

32. *Panicum turgidum* Forsk. Fl. Aegypt.-Arab. 18 (1775); F.T.A. 9: 706; Chev. Bot. 730, and in Rev. Bot. Appliq. 14: 24; Berhaut, Fl. Sén. ed. 2, 415; De Miré & Gillet in J. Agric. Trop, 3: 734. *APD acc*

Perennial up to 1.2 m. high, with stout roots, and sturdy stems branching untidily in all directions; dry sandy soils.

Sen.: Heudelot 393! Saint Louis (Oct.) Berhaut 857! **Mali:** Leclercq 42488! Ségou (Mar.) Chev. 44000! Timbuktu (June, Aug.) Hagerup 97! Chev. 1221! Lean 65! **Niger:** Agadez (Feb., Apr.) Bradley 6! Guile!

Through N. Africa and the **Sudan** to **Arabia**, India and Iraq. (See Useful Plants.)

33. *Panicum parvifolium* Lam. Tab. Encycl. 1: 173 (1791); F.T.A. 9: 726; A. Chev. in Rev. Bot. Appliq. 14: 26; Berhaut, Fl. Sén. ed. 2, 414. *APD acc*

Panicum raripilum Kunth (1831).

Creeping perennial with long wiry stolons, and rigid glaucous leaves; swamps.

Sen.: (June) Leprieur! **Mali:** Sikasso (Feb.) Laferrère 19! **S. L.:** Mambolo (Apr.) Glanville 225! Rokupr (Mar.) Jordan 19! Songo (Nov.) T. S. Jones 291! Njala (Sept.) Deighton 2099! Mayoso (Aug.) Thomas 1503! **Lib.:** Monrovia (June) Baldwin 5854! Buchanan (Nov.) Adam 16006! Suacoco (Aug.) Barker 1393! Duport (Nov.) Linder 1458! Ganta (Oct.) Harley 2053! **Ghana:** Atuabo (Aug.) Thorold 220! Eikwe (Dec.) Rose Innes GC 30546! Esiam (Mar.) Rose Innes GC 30877! Gulumpe (Nov.) Rose Innes GC 30855! Nakpanduri to Gambaga (Oct.) Ankrah GC 20500! **Dah.:** Sémé (Feb.) Raynal 13539! **S. Nig.:** Lagos (Sept.) Dalz. 1319! Emo R. (July) Jeffreys 17! Sapoba (Sept.) Onochie FHI 34276! Eket Dist. (May) Onochie FHI 32927! Mamu R. flood plain (Aug.) Jones FHI 6695!

Tropical Africa generally, **Madagascar**, and **tropical America**.

34. *Panicum hochstetteri* Steud. Syn. Pl. Glum. 1: 90 (1854); F.T.A. 9: 724. *APD acc*

Panicum mokaense Mez in Engl., Bot. Jahrb. 57: 189 (1921).

Isackne refracta Hook. f. (1864).

Loosely tufted perennial up to 1 m. high with weak stems; in forest, and in grassland just above the forest limit.

S. L.: Loma Mt. (Nov., Dec.) Morton SL 2716! Jaeger 8232! 8317! Bintumane (Jan.) T. S. Jones 122! **Ghana:** Shiare (Dec.) Jenik & Hall CC 1035! **N. Nig.:** Gembu (Dec.) Daramola FHI 62476! Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2025! 2031! **S. Nig.:** Obudu Plateau (Nov.) Tuley 1028! **W. Cam.:** Bamenda (Oct.) Agric. Off. Bam. 16! Ashong

(Mar.) Brunt 1091! Cam. Mt. (Dec., Jan.) Mann 2082! Boughey 12591! Maitland 849! **F. Po:** Moka (Nov.) Mildbr. 7086! Musola (Jan.) Guinea 1011! 1013!

Also in the **Congo**, extending eastwards through **Uganda** to **Kenya** and **Ethiopia**.

35. *Panicum monticola* Hook. f. in J. Linn. Soc. 7: 226 (1864); F.T.A. 9: 722. *APD acc*

***Panicum mannii* Mez** in Engl., Bot. Jahrb. 34: 143 (1904).

***Panicum macrophyllum* Guinea ex W. D. Clayton** in Kew Bull. 21: 111 (1967).

Mountain tops.

S. Nig.: Obudu Plateau (Nov.) Tuley 1031! **W. Cam.:** Cam. Mt. Mann 1353! Hinds C67! Mann's Spring (Jan.) Steele 93! Buea (Jan.) Maitland 331! 1266! **F. Po:** Moka (Dec.) Boughey 63! Musola to Balacha (Jan.) Guinea 1470! 1472!

Mountain tops throughout tropical Africa.

36. *Panicum calvum* Stapf in F.T.A. 9: 723 (1920); Aké Assi, Contrib. 2: 284. *APD acc*

Closely allied to the preceding.

Iv. C.: Mt. Tonkoui (Nov.) Aké Assi! **W. Cam.:** Cam. Mt. (Dec.) Hinds C63! Buea (Nov., Dec., Jan.) Migeod 60! Maitland 104! 327! 850!

Also in the **Congo**, extending eastwards to **Kenya** and Tanzania.

37. *Panicum pusillum* Hook. f. in J. Linn. Soc. Bot. 7: 227 (1864); F.T.A. 9: 275. *APD acc*

A weak prostrate annual growing in loose mats; **wet flushes on rock and ironstone outcrops.**

S. L.: Mt. Loma (Oct.) Jaeger 7799! **N. Nig.:** Vom (Sept.) Magaji & Tuley 1803! Njawai (Nov.) Jackson, Magaji & Tuley 1909! Chappal Waddi (Nov.) Jackson, Magaji & Tuley 2023! **W. Cam.:** Bafut-Ngemba F.R. (Feb.) Hepper 2124! Nyango Camp (Dec.) Maitland 1218! Cam. Mt. (Sept., Dec.) Boughey A307! Mann 2090!

Also in the **Congo**, extending eastwards through **Uganda** to **Kenya** and **Ethiopia**.

[The inclusion of the Jaeger plant, a tiny annual with 1-nerved lower glume, is open to question.—W.D.C.]

38. *Panicum pansum* Rendle Cat. Welw. 2: 117 (1899); F.T.A. 9: 700; Lebrun in Bull. Soc. Bot. Fr. 116: 263; **P. kerstingii** Mez in Engl., Bot. Jahrb. 34: 145 (1904); F.T.A. 9: 699; F.W.T.A., ed. 1, 2: 554; Chev. Bot. 727, and in Rev. Bot. Appliq. 14: 23; Berhaut, Fl. Sén. ed. 2, 412, 415; Aké Assi, Contrib. 2: 286. *APD acc*

60–90 cm. high; **a weed of waste places.**

Sen.: Kanéméré (Sept.) Fotius K409! Vélingara (Nov.) Boudet 4605! Bougnadou (Oct.) Adam 18470! **Guin.:** Baffing (Oct.) Pobéguin 1823! **Iv. C.:** Sampa to Bondoukou (Oct.) Rose Innes GC 31563! Bouaké (May) de Wilde 53! Bocanda (June) Adjanohoun 250a! Lomo (Oct.) Aké Assi 6544! **U. Volta:** Bama (Oct.) Kmoch 143! Folonto (Oct.) Scholz 90! Sindou (Sept.) Aké Assi 6365! **Ghana:** Mankuma (Oct.) Rose Innes GC 30663! Tamale (Oct.) Baldwin 13567! Kete Krachi (Oct.) Rose Innes GC 30924! Kpandu (Sept.) Ankrah GC 20360! Adome Bridge to Asikuma (Nov.) Adams 5207! **Togo Rep.:** Lama-Kara Kande (Oct.) Rose Innes GC 31401! Dapango (Oct.) Bille TG 69! **N. Nig.:** Daddara (Nov.) Latilo FHI 43763! Fika, Bornu Prov. (Oct.) Daggash FHI 24896! Nupe Barter 1374! Yola (Sept.) Kennedy FHI 7281! Gurum, Vogel Peak area (Nov.) Hepper 1230! **S. Nig.:** Lagos W. MacGregor 155! Ibadan (Oct.) Onochie FHI 7942! Igboora (Oct.) Haines 349! Aguku Dist. Thomas 623! 660!

Extends southwards through the Congo to **Angola**, and eastwards into the **Sudan**.

39. *Panicum laetum* Kunth Rev. Gram. 2: 399 (1831); F.T.A. 9: 700; A. Chev. in Rev. Bot. Appliq. 14: 23; Berhaut, Fl. Sén. ed. 2, 416; De Miré & Gillet in J. Agric. Trop. 3: 734. *APD acc*

***Panicum psilopodium* var. *afrum* A. Chev.**, Sudania 34, 160 (1911); Chev. Bot. 728; name only.

***Panicum albidulum* Stead.**, Syn. Pl. Glum. 1: 69 (1854).

30–60 cm. high; **moist soils.**

Maur.: Kiffa Jumelle 6! Néma Rossetti 61/265! Gani (Oct.) Hepper 3652! **Sen.:** Dakar (Oct.) Berhaut 2867! Almadies (Aug.) Broadbent 25! Badion (Sept.) Boudet 3887! **Gam.:** Ruxton 62! **Mali:** Oualata Jumelle 7! Dioura (Oct.) Davey 68! Leclercq 42648! Labézenga (Sept.) Hagerup 4418! Takadji (Aug.) Chev. 2281! **U. Volta:** Ouagadougou (Sept.) Scholz 58!

124! Mossi (July) Chev. 24599! **Ghana:** Bawku (Aug.) Hall CC 552! **Niger:** Toukounous Bartha 57! **N. Nig.:** Bornu (Sept.) Goss 4! Gajibo (Aug., Dec.) Grove 52! Johnston N2! Davey FHI 27121! Katagum Dist. Dalz. 262!

Also in the **Sudan**, **Ethiopia** and **Eritrea**. (See Useful Plants.)

40. **Panicum repens** *Linn.* Sp. Pl. ed. 2, 87 (1762); F.T.A. 9: 708; Chev. Bot. 729, and in Rev. Bot. Appliq. 14: 25; Berhaut, Fl. Sén. ed. 2, 415. *APD acc*

Panicum convolutum *P. Beauv. ex Spreng.* (1852).

Rhizomatous perennial about 60 cm, high; **coastal and riverside sands**.

Sen.: Heudelot 979! Adanson 126! Djembering (Sept.) Broadbent 179! **Mali:** Goundam (Aug.) Chev. 2247! Diré Lean 82! Faguibine (Sept.) Chev. 2248! Leclercq 42961! Ansongo (Sept.) Hagerup 373! **Guin.:** Dabola (Apr.) Pitot! **S. L.:** Rokupr (Oct.) Jordan 563! Mahera (Mar.) Glanville 233! Bonthe (Jan.) Dalz. 941! Limba (Apr.) Deighton 1690! Mungeru (Jan.) Thomas 7258! **Lib.:** Robertsport (Dec.) Baldwin 10889! Monrovia (May, Nov., Dec.) Baldwin 5834! 10491! Linder 1417! Sinkor (July) Barker 1378! **Iv. C.:** Ferkessédougou (Nov.) Leeuwenberg 2015! Mbrago (Jan.) Hédin! Cocody (June) Adjanohoun 429a! **Ghana:** Takoradi (June) Morton A3431! Elmina (July) Hall 1531! Cape Coast (June) Hall 1466! Sakumo Lagoon (Sept.) Ankrah GC 20550! Keta (June) Thorold 92! **Niger:** Gaya White 24! **N. Nig.:** Baga Seyoram (Oct.) Golding 26! Chad (Mar.) Gwynn 105! Naraguta (July) Lely 401! Ilorin (Oct.) Ward 57! Nupe Barter 1355! **S. Nig.:** Lagos W. MacGregor 215! Badagry (Aug.) Onochie FHI 33465! Ibadan (July) Onochie FHI 33239! Onitsha (July) Jones FHI 6261! Big Town, Eket Dist. (May) Onochie FHI 32930! **W. Cam.:** Victoria (Nov.) Maitland 84! 85!

Throughout the tropics and subtropics. (See Useful Plants.)

41. **Panicum porphyrrhizos** *Steud.* Syn. Pl. Glum. 1: 72 (1854); F.T.A. 9: 712. *APD acc*

Caespitose perennial up to 1 m. high; **by ditches and on moist soils**.

Sen.: Dakar (May) Baldwin 5719! 5736! **Ghana:** Cape Coast (June) Hall 3056! Weija (June) Hall 3101! Accra Plains (Nov.) Ankrah GC 20032! Kpong (Dec.) Gyadu GC 20535! Achimota (June) Irvine 5027! **Niger:** Biffa (Sept.) P. de Fabrègues 2156!

Also in **Sudan**, **Ethiopia**, **Uganda**, **Tanzania** and **Zambia**.

[*P. porphyrrhizos* intergrades with both *P. subalbidum* and *P. coloratum*; its status will remain unclear until material from southern Africa has been properly revised.]

42. **Panicum subalbidum** *Kunth* Rev. Gram. 2: 397, t. 112 (1831); Chev. Bot. 730; Berhaut, Fl. Sén. ed. 2, 415. *APD acc*

Panicum glabrescens *Steud.*, Syn. Pl. Glum. 1: 71 (1854); A. Chev. in Rev. Bot. Appliq. 14: 25.

Panicum longijubatum *Stapf* in F.T.A. 9: 718 (1920); F.W.T.A., ed. 1, 2: 554; Aké Assi, Contrib. 2: 287.

Panicum kermesinum *Mez* in Engl., Bot. Jahrb. 57: 189 (1921).

Panicum paludosum of Berhaut, Fl. Sén. ed. 2, 415, not of Roxb.

0.6–2 m. high with spongy culms and broad lush leaves; **swamps**.

Maur.: Nima (Oct.) Hepper 3710! Rosso (Oct.) Hepper 3618! **Sen.:** Richard-Tol (Sept.) Martine 132! Fété Faouron (Aug.) Fotius 500! Rong (Sept.) Audru 2532! Bambilor (May) Raynal 5871! Gadiaga, Kayar (July) Raynal 7178! **Gam.:** Ruxton 27! Sankuli Kunda (Sept.) Pirie 6/33! 13/33! 15/33! Wallikunda (Sept.) Macluskie 20! **Mali:** Kerdial (Sept.) Davey 198! Bamako (Aug.) Waterlot 1258! Macina (Sept.) Chev. 24891! Mopti (Sept.) Lean 91! Ansongo (Sept.) Hagerup 376! **Guin.:** Kouroussa (July) Pobéguin 488! Frigulagbé (Aug., Sept.) Chillou 1650! 1688! **S. L.:** Kambia (July) Jordan 53! Rokupr (Feb.) Deighton 4184! Bumba (Sept.) Thomas 1938! Makene (Aug.) Deighton 5032! Katakera (Apr.) Glanville 231! **Iv. C.:** Sikensi to N'douci (June) Adjanohoun 381a! **U. Volta:** Bobo-Dioulasso (Sept.) Aké Assi 6392! Ouagadougou (July, Sept.) Scholz 64! 64a! Lediga (July) Scholz 122! **Ghana:** Bawku (Oct.) Rose Innes GC 30248! Yapei (Sept.) Goodall 15762! Aburi (May) La Danso 63! Elmina (July) Hall 1532! Christiansborg (Apr.) Johnson 1028! **Niger:** Toukounous Bartha 48! Maradi (Aug.) Hall 393! Abalak (Sept.) P. de Fabrègues 45! **N. Nig.:** Sokoto (Aug.) Dalz. 483! Kaita (Aug.) Onwudinjo FHI 24002! Ilorin (Aug.) Ward 15! Naragute (July) Lely 426! Samara (July) Taylor 28! **S. Nig.:** Lagos (Sept.) Haines 343!

Throughout tropical Africa.

[Most West African plants have no lower palea, a short ligule, smooth upper leaf surface and erect culms. In eastern Africa this form is mixed with another form having a palea in the lower floret, a long ligule, scabrid upper leaf surface and decumbent culms; there are also intermediates in which the character correlation breaks down. The taxonomic significance of these forms is at present not clear. The species is closely allied to *P. dichotomiflorum* Michx. of America; the upper glume and lower lemma of the latter are nearly always 7-nerved, and it commonly bears both axillary and terminal inflorescences.]

43. **Panicum coloratum** *Linn.* Mant. 1: 30 (1767); F.T.A. 9: 713; incl. var. minus Stapf ex Chiov., Res. Sci. Miss. Stef.-Paoli 1, Bot. Coll. 183, 226 (1916); F.T.A. 9: 715. *APD acc*

Tufted perennial up to 1.2 m. high; introduced as a fodder grass.

N. Nig.: Arege, Bornu (Oct.) De Leeuw 2058!

Egypt to South Africa; introduced as a fodder grass to West Africa and other tropical countries.

[A polymorphic species from southern Africa. The specimen cited is a depauperate form known as var. minus.]

44. **Panicum comorense** *Mez* in Engl., Bot. Jahrb. 57: 185 (1921). *APD acc*

Weakly ascending annual, 30–60 cm. high, decumbent at the base; forest shade.

Ghana: Kpandu to Kete Krachi (Sept.) Rose Innes GC 30406! **N. Nig.:** Jemaa (Oct.) Gambles 64! **S. Nig.:** Olokemeji F.R. (Nov.) Jones, Eeay & Onochie FHI 14572! Jackson 1181168!

Throughout tropical Africa.

Imperfectly known species.

- Panicum deustum** *Thunb.* Prodr. 1: 19 (1794); Berhaut, Fl. Sén. ed. 2, 404, 415. *APD acc*

Sen.: Leprieur!

Apparently a mislabelled duplicate from Quartin Dillon's gathering of this species in Ethiopia.

- Panicum ozogonum** *Steud.* Syn. Pl. Glum. 1: 68 (1854). *APD acc*

Sen.: Leprieur.

Probably tile same as *Brachiaria ramosa*.

76. STENOTAPHRUM

Trin., Fund. Agrost. 175 (1820); F.T.A. 9: 578 (1920).

- 1 False spike winged, the herbaceous wings forming chambers on alternate sides of a wavy midrib and produced upwards into a broad acute tooth; racemes of 3–5 spikelets, sunk in chambers on the anterior face of the spike *1. dimidiatum*
- False spike subcylindrical, corky, entire; racemes bearing a solitary spikelet (rarely more) with a short barren rhachis appressed to its outer side, deeply embedded in the anterior face of the spike *2. secundatum*

1. **Stenotaphrum dimidiatum** (*Linn.*) *Brongn.* in Duperr., Bot. Voy. Coquille 127 (1831); F.T.A. 9: 580. *APD acc*

Panicum dimidiatum *Linn.*, Sp. Pl. 57 (1753).

Stenotaphrum glabrum *Trin.* (1820).

Stoloniferous perennial of coastal regions, with obtuse leaf-tips and compressed basal sheaths.

U. Volta: Ouagadougou (June) Scholz 113! **Ghana:** Accra (July) Rose Innes GC 30082! Ohawu (July) Irvine 4936! Aiyinase (July) Irvine 5103! Cape Coast (Sept.) Hall 2378!

Introduced into W. Africa; also in **E. Africa**, **Madagascar** and **India**.

2. **Stenotaphrum secundatum** (*Walt.*) *Kuntze* Rev. Gen. Pl. 2: 794 (1891); F.T.A. 9: 579 (excl. syn. *APD acc*

Stenotaphrum glabrum); *A. Chev.* in Rev. Bot. Appliq. 13: 891.

Ischaemum secundatum *Walt.*, Fl. Carol. 249 (1788).

Rotthoellia tripsacoides *Lam.*, Tab. Encycl. 1: 205 (1791).

Stenotaphrum glabrum of Chev. Bot. 737, not of Trin.

Stenotaphrum americanum *Schrank* (1820)—Berhaut, Fl. Sén. ed. 2, 389.

A strongly stoloniferous perennial of seashores, with obtuse leaf tips and compressed basal sheaths.

Sen.: Dakar (Dec.) Clayton 4073! **S. L.:** Smeathman! Freetown (Dec.) Deighton 465! Yele, Turtle Is. (Nov.) Deighton 2311! **Lib.:** Monrovia (Jan., Oct., Nov.) Linder 1426! Harley 1670! 1082a! Reppue's Town (July) Harley 1082! Garaway (Mar.) Baldwin 11632! **iv. C.:** Port Bouet (Mar., Dec.) Raynal 13582! Aké Assi 9858! Grand Bassam (Mar.) Leeuwenberg 3136! **Ghana:** Half Assinie (Jan., July) Chipp 274! Thorold 294! Axim (Apr.) Thorold 42! Atwabo Fishlock 10! Essiama Boughey GC 10264! **S. Nig.:** Nun R. (Sept.) Mann 529! Opobo (July) Jeffreys 18! **W. Cam.:** Victoria (July) Maitland 25!

The west coast of Africa from Sierra Leone to S. Africa, the east coast of America, the Pacific generally and **Australia**. (See Useful Plants.)

77. **ACROCERAS** Stapf in F.T.A. 9: 621 (1920). *APD acc*

- 1 Leaf-blades lanceolate, up to 20 mm. broad, rounded and contracted at the base; spikelets oblong, 5–5.5 mm. long; tips of keels of upper palea reflexed [1. *zizanioides*](#)
 Leaf-blades linear or narrowly linear-lanceolate, about 5 mm. broad, rounded- subcordate at the base and amplexicaul; spikelets lanceolate, 6 mm. long; tips of keels of upper palea reflexed [2. *amplectens*](#)

1. **Acroceras zizanioides** (Kunth) Dandy in J. Bot. 69: 54 (1931); Berhaut, Fl. Sén. ed. 2, 404.

Panicum zizanioides Kunth in Humb. & Bonpl., Nov. Gen. & Sp. Pl. 1: 100 (1816); Chev. Bot. 731 (excl. var.).
Acroceras oryzoides Stapf in F.T.A. 9: 622 (1920); A. Chev. in Rev. Bot. Appliq. 14: 18.
Panicum oryzoides Sw. (1788), not of Ard. (1763).
Echinochloa zizanioides (Kunth) Roberty (1955).

Rambling perennial 60–120 cm. high, rooting at lower nodes; moist and shady soils, or growing in shallow water.

Sen.: Sédhio (Nov.) Berhaut 6410 bis! **Guin.:** Kindia Jac.-Fél. 169! Timbo (Mar.) Pobéguin 1712! Nzérékoré (Sept., Oct.) Baldwin 9728! 13282! **S. L.:** Falaba (Mar.) Sc. Elliot 5097! Kanya (Oct.) Thomas 2943! Matotoka (July) Thomas 1355! Mahera (Nov.) Deighton 5668! Gebwema (Aug.) Deighton 5569! **Lib.:** Monrovia (Aug.) Baldwin 12544! Gbanga (Sept.) Linder 519! Gletown (July) Baldwin 6769! Ganta (Aug.) Harley 1823! Harbel (Sept.) Baldwin 9221! **iv. C.:** Boka (Aug.) Schnell 6515! Adiopodoumé (Oct.) Leeuwenberg 1802! Ferkessédougou (Nov.) Leeuwenberg 2017! Abidjan to Dabou (Dec.) Boughey GC 14459! Agboville forest (Sept.) Adjanohoun 396a! **Ghana:** Pokoase (Sept.) Ankrah GC 20075! Gambaga to Bawku (Oct.) Rose Innes GC 30754! Damongo to Sawla (Nov.) Rose Innes GC 30827! Asuansi (Dec.) Rose Innes GC 30534! Accra to Ho (Sept.) Rose Innes 30398! **N. Nig.:** Jebba Barter! Akpata (Dec.) Clayton 617! Anara (Sept.) Jackson 219968! Jemaa (Oct.) Gambles 60! Maraba (Oct.) Oche & Tuley 1680! **S. Nig.:** Lagos Dawodu 94! Abeokuta Irving! Sapoba (Nov.) Keay & Meikle 551! Umudura (Aug.) Jones FHI 6445! Orem (Jan.) Onochie FHI 36049x! **W. Cam.:** Victoria (Jan.) Maitland 1291! Victoria to Buea (Aug.) Maitland 65! Cam. Mt. (Dec.) Maitland 880! Likomha (Oct.) Mildbr. 10578! **F. Po:** Mann 1176!

Extends southward through E. Cameroun and the Congos to **Angola**; also in **India** and **tropical America**. (See Useful Plants.)

2. **Acroceras amplexens** Stapf in F.T.A. 9: 625 (1920); A. Chev. in Rev. Bot. Appliq. 14: 18; Berhaut, Fl. Sén. ed. 2, 404.

Panicum zizanioides var. **angustatum** A. Chev., Bot. 731 (1920), name only.
Acroceras basicladum Stapf in F.T.A. 9: 626 (1920).
Neohusnotia amplexens (Stapf) C. Hsu in Journ. Fac. Sci. Univ. Tokyo, Bot. 9: 94 (1965).

Scrambling annual 60–90 cm. high, rooting at the lower nodes; marshy places or shallow water.

Sen.: Casamance (Jan.) Chev. 2188! Bignona (Sept.) Adam 18054! Djembering (Sept.) Broadbent 142! **Gam.:** Wallikunda (Aug.) Macluskie 8! Sankuli Kunda (Sept.) Pirie 52/33! **Mali:** Koulikoro Chev. 2187! Ségou Lecard 246! Mopti (Oct.) Davey 197! Kara (Aug.) Davey 189! Dogo (Mar.) Davey 017! **Guin.:** Timbo (Oct.) Pobéguin 1713! Baffing R. Pobéguin 1713 bis! **S. L.:** Makete (Oct.) Glanville 86! Musaia (Aug.) Haswell 104! Kambia (Dec.) Deighton 803! Subu (Jan.) T. S. Jones 383! Mange Bure (Oct.) Deighton 5604! **iv. C.:** Bouaké (Sept.) Oldeman 409! Bouaké to Katiola (Sept.) de Wilde 985! **U. Volta:** Tindangou to Porga (Aug.) Schols 139! Banfora (Sept.) Aké Assi 6313! Koupéla Chev. 24600! Ouagadougou (Sept.) Scholz 139a! **Ghana:** Yendi (Nov.) Thorold 275! Kpandai (Sept.) Ankrah GC 20233! Damongo to Tamale (Oct.) Rose Innes GC 30219! Bolgatanga to Navrongo (Oct.) Rose Innes GC 30244! Walewale to Gambaga (Oct.) Rose Innes GC 31109! **Togo Rep.:** Sansanne Mango (Oct.) Rose Innes GC 31417! **N. Nig.:** Jebba (Dec.) Hagerup 677! Badeggi (Sept.) Clayton 302! Naraguta F.R. (July) Lawlor & Hall FHI 46608! Maska (Oct.) Freeman S144! Zaria (Aug.) Sawyer K33! **S. Nig.:** Lagos W. MacGregor 219! Erawa (Oct.) Haines 326! Okomu F.R., Benin (Dec.) Brenan & E. W. Jones 8592! Uguoka, Awka (Aug.) Jones FHI 6697! Ogoja to Abakaliki (Aug.) Tuley 761!

Also in the **Sudan**, **C. African Rep.** and **Congo**. (See Useful Plants.)

78. MICROCALAMUS

Franch. in Journ. de Bot. 3: 282 (1889), not of Gamble (1890); F.T.A. 9: 490 (1919).

- 1 Leaf-blades mostly 5–8 cm. long and 2–3.5 cm. broad, glabrous, much constricted at the base; sheaths and nodes pilose, with a transverse ciliate rim on the outside at junction of sheath and blade; spikelets 6–6.5 mm. long, slightly compressed laterally; lower glume adaxial, about a quarter the length of the spikelet; upper lemma laterally flattened at the tip, its margins inrolled over the prominent keels of the palea; callus of the upper floret rounded [barbinodis](#)

Microcalamus barbinodis *Franch.* in Journ. de Bot. 3: 282 (1889); F.T.A. 9: 491. *APD acc*

Ascending perennial about 30 cm. high with wiry culms; **forest shade**.

W. Cam.: Banga, S. Bakundu F.R. (Mar.) Brenan 9442!

Also in **Middle Congo**.

79. COMMELINIDIUM

Stapf in F.T.A. 9: 627 (1920).

- 1 Leaf-blades mostly 5–8 cm. long and 1.5–3.5 cm. broad, glabrous, minutely pubescent or sparsely pilose, much constricted at the base, acuminate at the tip; spikelets 5–5.5 mm. long, dorsally flattened; lower glume abaxial, about half the length of the spikelet, separated from the upper by an internode 1 mm. long; upper lemma laterally flattened at the tip, and with a rounded callus [gabunense](#)

Commelinidium gabunense (*Hack.*) *Stapf* in F.T.A. 9: 629 (1920).

APD: *Synonym of Acroceras gabunense (Hack.) Clayton*

Panicum gabunense *Hack.* in Verhandl. Bot. Ver. Brandenb. 31: 70 (1889).

Commelinidium nervosum *Stapf* in F.T.A. 9: 628 (1920); F.W.T.A., ed. 1, 2: 558; A. Chev. in Rev. Bot. Appliq. 14: 19.

Commelinidium mayumbense (*Franch.*) *Stapf* l.c.;

Panicum mayumbense *Franch.* in Bull. Soc. Hist. Nat. Autun 8: 343 (1895).

Echinochloa nervosa (*Stapf*) *Roberty* (1965).

A scrambling perennial emitting long aerial roots from the nodes; **forest shade**.

Lib.: Soplima (Nov.) Baldwin 10069! Wanau (Jan., Dec.) Harley 1727! 2105! Bahtown (Aug.) Baldwin 8033! Zeahtown (July) Baldwin 6932! **iv. C.:** Guidéko Chev. 16396! Assikasso (Dec.) Chev. 22598! Bouaké (Oct.) Adjanohoun 404a! Issia (Aug.) Boughéy GC 14678! **Ghana:** Cape Coast (July) Hall 1512! Jachi, Kumasi (July) Thorold CB 113! Yaya F.R. (Dec.) Adams 5231! Kumasi (Oct.) Baldwin 13472! Volta River F.R. (Nov.) Morton GC 6069! **N. Nig.:** Acharane F.R., Kabba Prov. (Nov.) Latilo FHI 34016! **S. Nig.:** Olokemeji (Nov.) Jackson 181169! **W. Cam.:** Mamfe (Mar.) Coombe 197!

Also in **E. Cameroun**, **the Congos**, **Uganda** and **Angola**.

80. ICHNANTHUS

P. Beauv., Ess. Agrost. 56 (1812); F.T.A. 9: 743 (1920).

- 1 Leaf-blades broadly lanceolate, oblique and rounded on one side at the base, 5–6 cm. long and 1.5–2 cm. broad; inflorescence lax, the upper primary branches racemose, the lower usually with secondary branches; spikelets 4.5–5 mm. long, strongly nerved, on pedicels up to 1 cm. long; lower glume abaxial; callus of the upper floret drawn into a very short stipe with small lateral hyaline wings [vicinus](#)

Ichnanthus vicinus (*Bail.*) *Merr.* Enum. Phillip. Fl. Pl. 1: 70 (1923). *APD acc*

Panicum vicinum *Bail.*, Syn. Queensl. Fl. Suppl. 3: 82 (1890).

Ichnanthus pallens of F.W.T.A., ed. 1, 2: 554, of F.T.A. 9: 744, and of A. Chev. in Rev. Bot. Appliq. 14: 27, not of Munro.

Perennial, up to 60 cm. high, rooting at the lower nodes.

S. L.: Tingi Mts. (Dec.) Morton & Gledhill SL 3013! Mamaha (Nov.) Thomas 4635! 4571! **Lib.:** Nimba (Dec.) Adames 807!

Also in **E. Cameroun**, throughout tropical Asia, and in **Australia**.

[Closely allied to *I. pallens* (Sw.) Munro from tropical America, which has shorter spikelets, and a more compact panicle].

81. CHLOACHNE

Stapf in Hook., Ic. Pl. t. 3072 (1916); F.T.A. 9: 489 (1919).

- 1 Leaf-blades lanceolate, 6–12 cm. long and 5–15 mm. broad, acuminate, asymmetrical at the base; racemes distant; spikelets 7 mm. long; lower glume abaxial, about two thirds as long as the spikelet *oplismenoides*

Chloachne oplismenoides (Hack.) *Stapf ex Robyns* in Bull. Jard. Brux. 9: 173 (1932).

APD: *Synonym of Poecilostachys oplismenoides* (Hack.) Clayton

Panicum oplismenoides Hack. in Bol. Soc. Brot. 6: 141 (1888).

Chloachne secunda *Stapf* in Hook., Ic. Pl. t. 3072 (1916); F.T.A. 9: 489.

Poecilostachys flaccidula *Stapf ex Rendle* in J. Linn. Soc. 40: 231 (1911).

Oplismenus anomalus Mez ex Peter in Fedde, Rep., Beih. 40, 1: 220, 222 (1981).

A trailing grass with long aerial roots from the lower nodes; in montane forest shade.

S. Nig.: Sonkwala, 5,200 ft, Obudu Div., (Dec.) Savory & Keay FHI 25257! **W. Cam.:** Cam. Mt., 4,000 ft. (Feb.) Mann 1354! Liwanga, 5,500 ft. (Mar.) Brenan 9551! Esole, 5,200 ft. (Feb.) Maitland 1031! Buea (Jan.) Maitland 340! Bafut-Ngamba F.R., 7,000 ft. (Feb.) Hepper 2197! **F. Po:** El Pico, 4,800 ft. (Dec.) Boughey 167!

In montane forests of **Sudan**, **Ethiopia**, **Kenya**, **Tanzania**, **Rhodesia** and **Malawi**.

82. PSEUDECHINOLAENA

Stapf in F.T.A. 9: 494 (1919).

- 1 Leaf-blades lanceolate, 1–6 cm. long; inflorescence slender, of several lax racemes; spikelets about 4 mm. long, obliquely ovoid, gaping; lower glume almost as long as the spikelet, adaxial; upper glume shorter, gibbous, usually armed with conspicuous hooked bristles but these sometimes short and appressed; lower lemma chartaceous, with membranous margins *L. polystachya*

Pseudechinolaena polystachya (Kunth) *Stapf* in F.T.A. 9: 495 (1919); A. Chev. in Rev. Bot. Appliq. 13: 884. *APD acc*

Echinolaena polystachya Kunth in Humb. & Bonpl., Nov. Gen. & Sp. 1: 119 (1816).

Echinochloa polystachya (Kunth) *Roberty* (1955), not of Hitchc. (1920).

Panicum uncinnatum *Raddi* (1823)—Chev. Bot. 730.

Culms slender, ascending, the prostrate portion rooting from the nodes and often forming a dense carpet; a forest grass in damp shady places.

Guin.: Dalaba-Diaguissa Plateau Chev. 18570! Dyecke (Sept., Oct.) Baldwin 9667! 13323! **S. L.:** Potoru (Apr.) Deighton 1662! Kenema (Nov.) Deighton 416! Musaia (Dec.) Deighton 5699! Gebwema (Oct.) Deighton 5193! Pyne 15! **Lib.:** Nimba (Dec.) Adam 16500! Wohmen (Oct.) Baldwin 12029! Gbanga (Sept.) Linder 705! Dubo (Sept.) Baldwin 9484! Wanau (Nov.) Harley 2056! **Iv. C.:** Nimba (Aug.) Boughey GC 18173! Mt. Tonkoui (Oct.) Adjanohoun 398a! **Ghana:** Bunsu (July) Thorold 110! Aburi (June) Ankrah GC 20051! Amentia (Aug.) Vigne FH 3998! Kwahu (Bee.) Adams 5115! Kumasi (Oct.) Baldwin 13471! **S. Nig.:** Oyo (Apr.) Haines 200! Okomu F.R. (June, Dec.) Onochie FHI 34615! Brenan 8506! Aboh Barter 1354! Oban Talbot 851! **W. Cam.:** Esole (Feb.) Maitland 1030! Buea (Jan., Feb., Dec.) Keay FHI 28577! Hinds C1! Maitland 147! Ndop (Dec.) Boughey GC 1112! **F. Po:** Monte Balea (Dec.) Guinea 347! Moka (Dec.) Boughey 151!

Occurs throughout the tropics.

83. ERIOCHLOA

Kunth in Humb. & Bonpl., Nov. Gen. & Sp. 1: 94 (1815); F.T.A. 9: 497 (1919).

- 1 Lower glume suppressed, more or less adnate to the swollen lowest rhachilla internode, and terminating in an obscure rim above it; racemes simple, the spikelets pedicelled in pairs; spikelets mostly 3–3.5 mm. long, sparsely appressed-pilose, lanceolate, acuminate; upper glume produced into an awn-point 0.2–1 mm. long or more; lower floret reduced to a barren lemma; upper lemma obtuse, and bearing a mucro 0.1–0.6 mm. long [1. nubica](#)

Lower glume developed, about 0.5 mm. long, obscurely and obtusely 3-lobed, adnate below to the swollen internode; racemes usually compound, the rhachis triquetrous, and the spikelets borne upon short aide branches; side-branches commonly oppressed to the rhachis, but sometimes spreading and paniculate; spikelets 3–3.8 mm. long, glabrous or pilose, ovate-lanceolate, acute; upper glume acute; lower floret with a well developed palea; upper lemma obtuse, with a minute mucro at the apex [2. meyerana](#)

1. **Eriochloa nubica** (Steud.) Hack. & Stapf ex Thell. in Vierteljahrschr. Nat. Ges. Zurich 64: 697 (1919); Chev. Bot. 723; Lebrun in Bull. Soc. Bot. Fr. 118: 262 (1969).

APD: *Synonym of Eriochloa fatmensis* (Hochst. & Steud.) Clayton

Helopus nubicus Steud., Syn. Pl. Glum. 1: 100 (1854).

Eriochloa acrotricha (Steud.) Hack. ex Thell. op. cit. 52: 435 (1907), not of Hack. (1905); F.W.T.A., ed. 1, 2: 564; F.T.A. 9: 499; A. Chev. in Rev. Bot. Appliq. 13: 884; Berhaut, Fl. Sén. ed. 2, 404.

Helopus acrotrichus Steud. (1854).

Digitaria acrotricha (Steud.) Roberty (1955).

Tufted annual 30–60 cm. high.

Maur.: Gani (Oct.) Hepper 3653! **Sen.:** Dakar (Jan.) Chev. 2289! Richard-Tol Roger 17! **Mali:** Boré (Aug.) Demange 18/1957! **Ghana:** Bawku to Gambaga (Oct.) Ankrah GC 20283! Cape Coast (Mar.) Hall 1316! Nungua, Accra (Feb., Oct.) Rose Innes GC 30333! Ankrah GC 20091! Keta (June) Thorold 88! **N. Nig.:** Kano (Nov.) Taylor 4! Bumsa (Aug.) De Leeuw 1129! Ngala Gwynn 113! Maiduguri to Dikwa (Oct.) De Leeuw 1830! South of Arege (Oct.) De Leeuw 2073!

Widely spread in tropical and S. Africa, extending into [Arabia](#). (See Useful Plants.)

2. **Eriochloa meyerana** (Nees) Pilger in Engl. & Prantl, Pflanzenfam., Aufl. 2, 14, c: 56 (1940). *APD acc*

Panicum meyeranum Nees, Fl. Afr. Austr. 32 (1841); F.T.A. 9: 650; F.W.T.A. ed. 1, 2: 551.

Eriochloa borumensis Hack. (1901), not of Stapf in F.T.A. 9: 500 (1919).

Perennial, 90–120 cm. high.

Ghana: Irvine 1427! Cape Coast (May) Hall 2975! Christiansborg (Apr.) Johnson 1036! Labadi, Accra (Mar.) Morton GC 6654! Nungua, Accra (Nov.) Ankrah GC 20033!

Throughout tropical and S. Africa, extending into [Arabia](#); also in [Thailand](#).

The species is almost exactly intermediate between *Brachiaria mutica* and *Eriochloa borumensis* of Stapf (not of Hack.), some specimens approaching very closely to these extremes.

84. OPLISMENUS

P. Beauv., Fl. Oware 2: 14 (1808); F.T.A. 9: 630 (1920).

- 1 Perennial; awns viscid, smooth, stiff, the tips truncate; leaf-blades narrowly ovate to lanceolate-linear, 1.5–12 cm. long and 7–25 mm. wide, rounded at the base, the tip acuminate; racemes 0.5–3 cm. long; spikelets 2–4 mm. long, with awns up to 15 mm. long [1. hirtellus](#)

Annual; awns antorsely barbellate, slender, flexuous, tapering; leaf-blades narrowly ovate to lanceolate, 1.5–4 cm. long and 3–11 mm. broad, rounded at the base, the tip acuminate; racemes 0.8–2 cm. long; spikelets 2–2.5 mm. long, with awns up to 10 mm. long [2. burmannii](#)

1. **Oplismenus hirtellus** (Linn.) P. Beauv. Ess. Agrost. 54, 170 (1812); F.T.A. 9: 631; Chev. Bot. 733, and in Rev. Bot. Appliq. 14: 19; Berhaut, Fl. Sén. ed. 2, 401. *APD acc*

APD: *Synonym of Oplismenus hirtellus subsp. capensis* (Hochst.) Mez ex U. Scholz

Panicum hirtellum Linn., Syst. Nat., ed. 10, 2: 870 (1759).

P. incanum Schumacher. (1827).

Oplismenus africanus P. Beauv. (1808).

Straggling, often with long aerial roots from the nodes; **forest shade**. Rather variable, particularly in the size, shape and hairiness of its leaf-blades, and also in panicle characters.

Sen.: Tanma (July) Berhaut 2779! Mbidjem (Oct.) Raynal 6469b. **Mali:** Sikasso (Dec.) Vuillet 506! **Guin.:** Baffing R. (Nov.) Pobéguin 1737! **S. L.:** Mamaha Thomas 4639! Njala (Nov.) Deighton 1496! Magkuna (Nov.) Mormo 78! Gola (Nov.) Deighton 374! Magboloko (Nov.) Glanville 99! **Lib.:** Kakatown Whyte! So (Oct.) Linder 1130! Bangee (Nov.) Baldwin 10368! Vonjama (Oct.) Baldwin 9867! Ganta (Dec.) Harley 1054! **Iv. C.:** Bouroukrou (Jan.) Chev. 16572! Upper Sassandra (Dec.) Portères! Tiébissou (Nov.) Leeuwenberg 2091! Kokondékro (Oct.) Adjanohoun 352a! Singrobo (Nov.) Adjamhoun 377a! **Ghana:** Cape Coast (July) Hall 1530! Aburi (Oct.) Ankrah GC 20113! Akwapim hills (Nov.) Johnson 781! S. Fomansu F.R. (Dec.) Adams 4453! Yinahin hills (Nov.) Rose Innes GC 30526! **Togo Rep.:** Misahöhe (Nov.) Mildbr. 7284! Sokodé-Basari Schroeder 159! **S. Nig.:** Acharane F.R., Kabba Prov. (Nov.) Latilo FHI 34017! Lokoja to Kabba (Oct.) Parsons 26! Naraguta, Plateau Prov. (Oct.) Hepper 1071! Jemaa (Oct.) Gambles 59! Nguroie, Mambila (Sept.) Oche 75! **S. Nig.:** Lagos (Dec.) Dalz. 1324! Olokemeji F.R., (Nov.) Jones, Keay & Onochie FHI 14576! Usonigbe F.R. (Oct.) Keay & Onochie FHI 21597! Bende F.R., (Nov.) Jones FHI 6819! Oban Talbot 849! **W. Cam.:** Victoria (Dec.) Maitland 83! Buea (Nov.) Migeod 24! Cam. Mt., 5,600 ft. (Feb.) Maitland 1037! Kumba (=Johann-Albrechtshöhe) Staudt 450! Bambui (July) Brunt 1188! **F. Po:** T. Vogel 140! Mann 112! Moka (Sept., Dec.) Melville 478! Boughey 56! Bahia de Venus (Dec.) Guinea 254!

Widely distributed in tropical and S. Africa, Mascarenes, America and Polynesia. (See Useful Plants.)

2. *Oplismenus burmannii* (Retz.) P. Beauv. Ess. Agrost. 54, 168, 169 (1812); F.T.A. 9: 636; Chev. Bot. 733, and in Rev. Bot. Appliq. 14: 19; Berhaut, Fl. Sén. ed. 2, 395, 401. *APD acc*

Panicum burmannii Retz., Obs. Bot. 3: 10 (1783).

Creeping, often with long aerial roots from the nodes; **forest shade**.

Sen.: Casamance Heudelot 590! Kafountine (Dec.) Adam 18186! Hann (Mar.) Chev. 44093! **Guin.:** Kouria Chev. 14924! Dyeke (Oct.) Baldwin 9654! Badabon (Oct.) Schnell 7552! **S. L.:** Rokupr (Oct.) Jordan 652! Kambia (Dec.) Deighton 806! Bumbuna (Oct.) Thomas 3343! Mamaba (Nov.) Thomas 4414! Mabala (Oct.) Glanville 60! **Lib.:** Wohmen, Vonjama (Oct.) Baldwin 12030! **Iv. C.:** Abidjan (Dec.) Boughey GC 13518! Singrobo (Nov.) Adjanohoun 375a! **Ghana:** Kwamang to Mampong (Nov.) Rose Innes GC 30871! Kumasi (Nov.) Adams 4423! Ho (Dec.) Phillips GC 30552! Anum (Dec.) Rose Innes GC 31173! Assuantsi (July) Irvine 5080! **N. Nig.:** Lely P752! Panshanu (Aug.) Lawlor & Hall 223! **S. Nig.:** Lagos (Oct.) Baldwin 13638! Ibadan (Oct., Nov.) Onochie FHI 6990! Baldwin 13676! Ifon (Oct.) Maggs 22! Ndoni Barter 1767! **W. Cam.:** Victoria Maitland 69! Buea (Oct., Dec.) Migeod 97! Maitland 130! **F. Po:** T. Vogel 212! 246! Guinea 576!

Throughout the tropics. (See Useful Plants.)

85. ECHINOCHLOA

P. Beauv., Ess. Agrost. 53 (1812); F.T.A. 9: 604 (1920). *APD acc*

- 1 Ligule represented by a fringe of hairs, at least in the lower leaves:2
Ligule absent:4
- 2 Spikelets obtuse, 3 mm. long (if 4 mm. long see *Brachiaria obtusiflora*), scaberulous towards the tips only; lower glume obtuse, about a third as long as the spikelet; upper glume as long as the spikelet; racemes erect, about 2 cm. long, nearly their own length apart [1. obtusiflora](#)
Spikelets acute, acuminate or awned, scabrid or ciliate on the nerves:3
- 3 Spikelets mostly 2.5–3.5 mm. long, awnless; racemes 20 or more, up to 8 cm. long, in a dense panicle up to 30 cm. long [2. pyramidalis](#)
Spikelets mostly 4–6 mm. long, the upper lemma usually with an awn 4–20 mm. long; racemes 5–15, up to 6 cm. long; inflorescence variable, the spikelets densely imbricate and the racemes closely overlapping, or the spikelets contiguous and secund and the racemes distant [3. stagnina](#)
- 4 Racemes simple, 1–3 cm. long, suberect, about half their own length apart, alternate or rarely in whorls of 2 or 3; spikelets 2–3 mm. long, acute or cuspidate, sometimes with the lower lemma drawn out into a short awn-point up to 1 mm. long; leaf-blades 3–7 mm. broad [4. colona](#)
Racemes compound, up to 10 cm. long, the spikelets densely clustered on short side branches; spikelets 2.5–3 mm. long, the lower lemma usually with a short awn up to 2 mm. long; leaf-blades 10–15 mm. broad. [5. crus-pavonis](#)

1. *Echinochloa obtusiflora* Stapf in F.T.A. 9: 606 (1920); Berhaut, Fl. Sén. ed. 2, 406. *APD acc*

Erect annual up to 1 m. high; in shallow pools and wet places.

Niger: Wadi Dollol White 23! **N. Nig.:** Gajibo (Nov.) Johnston N61! Fika (Oct.) Daggash FHI 24881! Kufena Hill, Zaria (Sept.) Clayton 1309! Ungun Shefu, Zaria Prov. (Nov.) Freeman S185! Yola (Nov.) Hepper 1200!

Also in **E. Cameroun** and the **Sudan**.

2. *Echinochloa pyramidalis* (Lam.) Hitchc. & Chase in Contrib. U.S. Nat. Herb. 18: 345 (1917); F.T.A. 9: 615; A. Chev. in Rev. Bot. Appliq. 14: 18; Berhaut, Fl. Sén. ed. 2, 405. *APD acc*

Panicum pyramidale Lam., Tab. Encycl. 1: 171 (1791); Chev. Bot. 729.

Echinochloa senegalensis Mez in Notizbl. Bot. Gart. Berl. 7: 56 (1917); Berhaut, Fl. Sén. ed. 2, 405.

A robust rhizomatous perennial up to 3.5 m. high, somewhat variable in size of spikelets and density of panicle; on river banks, marshes or in open water, sometimes forming extensive meadows on flood plains.

Sen.: Adanson 126! Roger 22! Heudelot 443! Ziarsy (Oct.) Berhaut 7590! L. Tanma (July) Adam 14894! **Gam.:** Ruxton 52! Sankuli Kunda (Sept.) Pirie 3/33! Wallikunda (Sept.) Macluskie 9! 10! **Mali:** Sébi to L. Debo (Aug.) Chev. 2173! Sompi to L. Debo (Aug.) Chev. 2179! Bura (Sept.) Hagerup 410! Mopti (Sept.) Matthes 14! Lean 89! **Port. G.:** Ingore to Barro (Aug.) Esp. Santo 3082! **S. L.:** Gbap (Jan.) Adames 9! Gbenti (Mar.) Adames 160! Nongoba Bullom (Oct.) Jordan 602! Kibai Island (Mar.) T.S. Jones 399! Mano (May) Bakshi 157! **Iv. C.:** Cocody (June) Adjanohoun 427a! **U. Volta:** Mossi (July) Chev. 24605! Ouagadougou (Sept.) Irvine 4677! Scholz 61! Namenda (June) Scholz 116! **Ghana:** Cape Coast Castle (Apr.) T. Vogel 31! Sakumo Lagoon, Accra (July) Irvine 2788! Agbosome (May) La Danso 72! Senchi (July) Thorold 127! Gambaga to Bawku (Oct.) Rose Innes GC 30756! **Niger:** Niamey (Jan.) Vaillant 782! **N. Nig.:** Jebba (June) Onochie FHI 40246! Badeggi (Sept.) Clayton 339! Naraguta, Plateau Prov. (July) Lely P413! Sokoto (Sept.) Dalz. 482! Kuka (Feb.) T. Vogel 37! **S. Nig.:** Ibu (Aug.) T. Vogel 49! Lagos (May, June) Dalz. 1327! Haines 173! 179! Onitsha (May) Onochie FHI 7517! **W. Cam.:** Victoria (July) Maitland 11!

Throughout tropical Africa. (See Useful Plants.)

3. *Echinochloa stagnina* (Retz.) P. Beauv. Ess. Agrost. 53, 161, 171 (1812); F.T.A. 9: 617; A. Chev. in Rev. Bot. Appliq. 14: 17; Berhaut, Fl. Sén. ed. 2, 403. *APD acc*

Panicum stagninum Retz., Obs. Bot. 5: 17 (1789); Chev. Bot. 730 (incl. var. burgu (A. Chev.) A. Chev.).

P. scabrum Lam. (1797)—Chev. Bot. 729.

P. scabrum subsp. *stagninum* (Retz.) A. Chev. in Comptes Rend. Assoc. Franc. Avanc. Sci. 1900: 651 (1901);

P. scabrum subsp. *oryzeturum* A. Chev. l.c. 651;

P. scabrum subsp. *lelievrei* A. Chev. l.c. 651;

P. scabrum subsp. *burgu* (A. Chev.) A. Chev. l.c. 652.

P. burgu A. Chev. in Rev. Cult. Colon 7: 513 (1900).

P. oryzeturum (A. Chev.) A. Chev., Bot. 728 (1920), not of Bal. (1890).

Echinochloa oryzeturum (A. Chev.) A. Chev. in Rev. Bot. Appliq. 14: 18 (1934).

Echinochloa lelievrei (A. Chev.) Berhaut in Mém. Soc. Bot. Fr. 1953–54: 9 (1954), & Fl. Sén. ed. 2, 403.

Robust perennial up to 2 m. high (occasionally weaker and behaving as an annual), with stout, often floating rhizomes; in swamps and in water, often forming large floating mats.

Maur.: Rosso (Oct.) Hepper 3621! **Sen.:** Roger 22! 28! Adanson 173! Heudelot 300! Gae (Oct.) Hepper 3656! **Mali:** Ségu Lécard 244! Sébé to Debo (Aug.) Chev. 2170! Mopti (Sept.) Lean 90! Banguita to Dogo (Jan.) Davey 14! Mopti (Sept.) Matthes 12! **S. L.:** Mange, Bure (Nov., Dec.) Jordan 722! 821! **U. Volta:** Mossi (Aug.) Chev. 24757! Diébougou (Sept.) Aké Assi 6479! **Ghana:** Lawra to Navrongo (Oct.) Rose Innes GC 30293! Bawku (Oct.) Ankrah GC 20287! Tumu to Leo (Oct.) Rose Innes GC 31484! Navrongo (Sept.) Irvine 4678! Savelugu (Dec.) Morton GC 9889! **Niger:** Niamey (Oct.) Hagerup 527! S. Dallol (Jan.) Virgo 72! **N. Nig.:** Nupe Barter 843! Sokoto (Nov.) Dalz. 479! Kano (Dec.) Hagerup 673! Hadejia (Dec.) Clayton 467! Gajibe (Nov.) Davey FHI 27107! **S. Nig.:** Itu, Calabar (Jan.) Jones FHI 6189!

Tropical regions in Asia and Africa.

4. *Echinochloa colona* (Linn.) Link in Hort. Berol. 2: 209 (1833); F.T.A. 9: 607; A. Chev. in Rev. Bot. Appliq. 13: 892; Berhaut, Fl. Sén. ed. 2, 404 (incl. specimens ascribed to *E. crus-galli*); De Miré & Gillet in J. Agric. Trop. 3: 731; Aké Assi, Contrib. 2: 281. *APD acc*

Panicum colonum Linn., Syst. Nat. ed. 10, 2: 870 (1759); Chev. Bot. 725 (incl. var. *equitans* (Hochst. ex A. Rich.) Hack. ex Dur. & Schinz (1894)).

P. hookeri Parl. (1846).

P. daltoni Parl. ex Webb (1849).

P. equitans Hochst. ex A. Rich. (1851).

P. brachiaraeforme Steud. (1854).

Opismenus daltoni (Part. ex Webb) Schmidt (1852).

Echinochloa verticillata Berhaut in Mém. Soc. Bot. Fr. 1953–54: 9 (1954), & Fl. Sén. ed. 2, 403.

Echinochloa equitans (Hochst. ex A. Rich.) C. E. Hubbard ex Troupin (1956).

Annual grass 30–60 cm. high, erect or sometimes rooting at the lower nodes; **damp places and near water.**

Maur.: Podor to Boghé (Oct.) Hepper 3676! Oujaf Rossetti 61/210! **Sen.:** Roger 62! Heudelot 534*! Dakar (May) Baldwin 5720! Tambacounda (Sept.) Berhaut 3179! Youmbeul (Dec) Berhaut 5612! Kaolack (Sept.) Adam 18025*! Baila (Sept.) Adam 18116*! **Gam.:** Saunders 29*! 53! Ruxton 19! 49! Wallikunda (Aug., Sept.) Macluskie 12! 26! **Mali:** Leclercq 42755! Koulikoro (Oct.) Chev. 2177! Gao (Sept.) Hagerup 356! Diré (Aug.) Lean 64! Tondigame (Oct.) Farrow 86! **Guin.:** Kouroussa (July) Pobéguin 481! Mamou (Aug.) Adames 331! **S. L.:** Bali (Apr.) Glanville 232! Kambia (Dec.) Deighton 848! Kukuna (Oct.) Jordan 940! Rokupr (July) Jordan 486! Katema (Dec.) Jordan 741! **Iv. C.:** Sérébissou (May) Adjanohoun 223a! Ouango-Fitini (June) Adjanohoun 390a! **U. Volta:** Po (Oct.) Rose Innes GC 31466! Gaoua (Oct.) Rose Innes GC 31532! Ouagadougou (Sept.) Scholz 63! 63a! Tenkodogo (June) Scholz 115! Nassougou (June) Scholz 115a! **Ghana:** Accra (May) Adams 2416! Nungua (Sept.) Ankrah GC 20007! Zuarungu (Sept.) Thorold CB 201! Navrongo (July) Vigne FH 4715! Bawku (Oct.) Rose Innes GC 30258! **Niger:** Toukounous Bartha 15! **N. Nig.:** Jebba Barter 1396! Jimeta, Yola (Dec.) Hepper 1613! Sokoto (Sept.) Palmer 26! Kaita, Katsina (Aug.) Onwudinjoh FHI 24001! Dikwa (Oct.) Johnston N50! **S. Nig.:** Lagos (Jan., July) Haines 125! 175! Gledhill 801!

Throughout the tropics and subtropics. (See Useful Plants.)

[E. colona is rather more variable in Africa than elsewhere in its range. Forms with cuspidate spikelets 2.5–3 mm. long and with 2–3 branches from the lowest node of the panicle have been separated as E. equitans and E. verticillata, but they appear to grade imperceptibly into typical E. colona. Our species differs from E. crus-galli (Linn.) P. Beauv. of warm temperate regions in its simple shorter racemes, narrower leaf-blades, and smaller awnless spikelets; I have seen no specimens entirely typical of E. crus-galli from our area. but those marked* approach very closely to it. The declension of the epithet depends upon whether it is regarded as a noun or as an adjective. Lexicographers differ, but the adjectival use was acceptable to those of Linnaeus' own time.—W.D.C.]

5. *Echinochloa crus-pavonis* (Kunth) Schult. Mant. 2: 269 (1824); F.T.A. 9: 612; A. Chev. in Rev. Bot. Appliq. 14: 17; Aké Assi, Contrib. 2: 292. *APD acc*

Opismenus crus-pavonis Kunth in Humb. & Bonpl., Nov. Gen. & Sp. 1: 108 (1815).

Erect annual 1–2 m. high; **near water.**

Guin.: Baffing R. (Oct.) Pobéguin 1735! Dyehe (Oct.) Baldwin 9665! Macenta (Oct.) Baldwin 9842! **S. L.:** Port Loko (Dec.) Thomas 5848! Hall (Apr.) Glanville 228! Musaia (Dec.) Deighton 4517! Gbap (Oct.) Jordan 617! Bandajuma (Nov.) Deighton 3782! **Lib.:** Vonjama (Oct.) Baldwin 9868! Kailahun (Nov.) Baldwin 10124! Javajai (Nov.) Baldwin 10267! Sanokwele (Sept.) Baldwin 9489! 9546! **Iv. C.:** Touba to Odienné (Oct.) Aké Assi 8222! 8224! **Ghana:** Kumasi (Oct., Nov.) Howes 1000! Bannerman-Bruce 4440! Sampa to Wenchi (Oct.) Rose Innes GC 31575! **N. Nig.:** Naraguta (Aug.) Lely P447! Shendam (Oct.) De Leeuw 1612! Tiba Plateau (Dec.) Peter & Tuley 61! Mambila Plateau (Jan., Sept.) Hepper 1658! Oche 74! **S. Nig.:** Lagos Dawodu 225! Ibadan (Mar., Apr.) Meikle 1241! 1425; Oke Eleyele (July) Keay & Jones FHI 19435! Oban Talbot 850! **W. Cam.:** Bamenda (Feb.) Daramola FHI 40474! Kumbo, Bamenda (Feb.) Hepper 1983! Wum, Bamenda (Dec.) Boughey GC 11588! Santa (July) Bumpus 30!

Tropical Africa and America.

86. PASPALIDIUM

Stapfin F.T.A. 9: 582 (1920).

- 1 Inflorescence up to 30 cm. long, the racemes 1–3 cm. long, regularly spaced along a common axis and more or less appressed to it; spikelets imbricate, 2.5 mm. long; lower glume a rounded scale 0.5 mm. long; upper glume 2/3 the length of the spikelet, obtuse; lower lemma acute *geminatum*

Paspalidium geminatum (Forsk.) Stapf in F.T.A. 9: 583 (1920); A. Chev. in Rev. Bot. Appliq. 13: 891; Berhaut, Fl. Sén. ed. 2, 405. *APD acc*

Panicum geminatum Forsk., Fl. Aegypt.-Arab. 18 (1775).

Echinochloa geminata (Forsk.) Roberty (1955).

Panicum fluitans Retz. (1783)—Chev. Bot. 726.

A stoloniferous perennial with stout, rather spongy, culms; **damp places**.

Sen.: Cambérène (Oct.) Berhaut 982! Mbao (Aug.) Broadbent 9! **Mali:** Bourem (Mar.) Chev. 43780! Rharous (Mar.) Chev. 43829! Timbuktu (July) Chev. 1231! Niafouké (Mar.) Davey 79! Toumoura (Jan.) Davey 24! **iv. C.:** Abidjan (Nov.) Adjanohoun 395a! Adiopodoumé (May, Oct.) Adjanohoun 399a! Leeuwenberg 4186! **Ghana:** Korle Lagoon, Accra (Oct.) Ankrah GC 20325! Cape Coast Castle (July) T. Vogel 54! Irvine 5108! Nungua (Apr.) Morton A4170! **Niger:** Niamey (Oct.) Hagerup 550! Aké Assi 10391! Dosso to Niamey (Feb.) Chev. 43751! Guidimouni (July) P. de Fabrègues 485! **N. Nig.:** Sokoto (June, Nov.) Dalz. 484! Moiser 143! Kworre (Sept.) Palmer 21! L. Chad (Dec., Mar.) Elliott 160! De Leeuw 1900! **S. Nig.:** Ilesha (Apr.) Haines 138!

Throughout tropical Africa, extending eastwards to **Egypt**, Madagascar and India, and westwards to tropical America. (See Useful Plants.)

87. UROCHLOA

P. Beauv., Ess. Agrost. 52 (1812); F.T.A. 9: 586 (1920).

- 1 Leaf-blades linear-lanceolate, coarsely pilose with tubercle-based hairs; spikelets ovate, acuminate, 5 mm. long, borne singly in two rows on the raceme; lower glume irregularly truncate, narrower than the spikelet and about 3/4 as long, with a tuft of tubercle-based hairs in the centre; upper glume as long as the spikelet, pubescent; lower lemma ciliate with tufts of tubercle-based hairs along the margins; upper lemma broadly ovate, transversely rugose, the mucro up to 1.5 mm. long [trichopus](#)

Urochloa trichopus (Hochst.) Stapf in F.T.A. 9: 589 (1920); A. Chev. in Rev. Bot. Appliq. 13: 891. **APD acc**

Panicum trichopus Hochst. in Flora 27: 254 (1844).

A coarsely leaved annual about 60 cm. high.

Sen.: Dahra (Oct.) Raynal 7642 bis. Ndjarno (Sept.) Raynal 7565. **Mali:** Gao (Sept.) Hagerup 349! Wailly 4750 bis! Gourma to Haoussa (July) Rogeon 462! **N. Nig.:** Garin Basan (Aug.) De Leeuw 1095! Bama (Oct.) De Leeuw 1836!

Extends eastwards to Eritrea and south to Mozambique. (See Useful Plants.)

88. BRACHIARIA

Griseb. in Ledeb., Fl. Ross. 4: 469 (1853); F.T.A. 9: 505.

- 1 Lower glume 3/4 or more than 3/4 as long as the spikelet, obtuse, 9–13-nerved: **2**
Lower glume at most half as long as the spikelet (rather longer in *B. xantholeuca*): **5**
- 2 Spikelets glabrous, conspicuously reticulate-nerved, 4–4.5 mm. long, sessile, borne in 1–2 rows upon a narrow rhachis with sparsely ciliate margins; leaf-blades linear-lanceolate, the margins cartilaginous and minutely undulate-serrulate [1. stigmatisata](#)
Spikelets hairy; perennials: **3**
- 3 Rhachis of racemes subtriquetrous, wavy, glabrous or with a few scattered hairs along the margins; spikelets 4–5 mm. long, in 1–2 rows; upper glume and lower lemma pubescent; leaf-blades linear lanceolate, the margins cartilaginous and minutely spinulose [2. humidicola](#)
Rhachis of racemes herbaceous, more or less ribbon-like, with the setulosely ciliate margins curving over the base of the spikelets; spikelets mostly 3–3.5 mm. long: **4**
- 4 Leaf-blades convolute, glaucous, up to 4 mm. broad; racemes up to 3 cm. long sparsely ciliate with pale hairs at most 2 mm. long [3. falcifera](#)
Leaf-blades flat, 4–10 mm. broad; racemes up to 5 cm. long, copiously ciliate with fulvous hairs up to 4 mm. long [4. jubata](#)
- 5 Rhachis of racemes flat, herbaceous, more or less ribbon-like; spikelets glabrous: **6**
Rhachis of racemes triquetrous or filiform: **8**
- 6 Spikelets 4–5 mm. long, solitary, subsessile, in 1–2 rows; margins of raceme-rhachis scabrid (if ciliate see *B. brizantha*); lower glume separated from the upper by an internode 0.5 mm. long [5. plantaginea](#)

- Spikelets 2.5–3.5 mm. long; margins of raceme-rhachis scabrid (but pedicels may be setose); internode between glumes obscure or absent: [7](#)
- 7** Spikelets sessile in 1 row; racemes 2–4, 2–6 cm. long; leaf-blades linear, up to 6 mm. broad [6. distachyoides](#)
- Spikelets paired, one of each pair on an elongated pedicel, usually irregularly 4-rowed, often borne upon short side-branches (very rarely sessile in 2 rows); racemes 8–20, 2–8 cm. long; leaf-blades lanceolate-linear, up to 10 mm. broad [7. mutica](#)
- 8** Plants perennial: [9](#)
- Plants annual, the basal sheaths glabrous or pubescent: [10](#)
- 9** Spikelets 4.5–5.5 mm. long, in 1 row, narrowed at the base into a short stipe 0.5 mm. long, glabrous or rarely sparsely hairy; margins of raceme-rhachis ciliate [8. brizantha](#)
- Spikelets 2–3 mm. long, in 2 rows, silky villous, usually with a transverse apical fringe, rarely almost glabrous; basal leaf-sheaths woolly tomentose; lower lemma muticous or with an awn-point up to 2 mm. long [9. brachylopha](#)
- 10** Lowest internode of rhachilla forming a bead-like swelling covered by the base of the lower glume; spikelets 3–4 mm. long, glabrous, in 2 (rarely 4) rows [10. callopus](#)
- Lowest internode of the rhachilla not swollen, though sometimes elongated: [11](#)
- 11** Racemes densely and irregularly 4-rowed, the spikelets borne on short side branches; spikelets 3.5–4.5 mm. long, plump, glabrous, narrowed at the base into a little stipe 0.5 mm. long [11. obtusiflora](#)
- Racemes 1–2-rowed, or spikelets much shorter: [12](#)
- 12** Spikelets 4–4.5 mm. long, obtuse to subacute, glabrous; racemes loosely 2-rowed, the spikelets paired with the primary pedicelled; leaf-blades glabrous to pilose below, the margins cartilaginous and serrulate [12. serrifolia](#)
- Spikelets 2–4 mm. long: [13](#)
- 13** Leaf-blades velvety pubescent, not cartilaginous on the margin; spikelets 3–4 mm. long, nearly always solitary and sessile in two dense rows, hispidulous (rarely glabrous), rostrate-acuminate or cuspidate at the tip, narrowed at the base into a short stipe up to 0.5 mm. long; racemes 1–3 cm. long [13. xantholeuca](#)
- Leaf-blades glabrous, pilose or (in *B. distichophylla*) pubescent; spikelets 2–3 mm. long, paired with one of the spikelets more or less pedicelled, or borne on short side branches (but often solitary in *B. distichophylla*), glabrous or hispidulous, the stipe obscure or absent: [14](#)
- 14** Spikelets 2–2.5 mm. long; leaf-blades 2–8 mm. wide and 1–8 cm. long, the margins cartilaginous and spinulose; racemes slender, secund: [15](#)
- Spikelets 2.5–3 mm. long; leaf-blades up to 20 mm. broad and 25 cm. long, not cartilaginous on the margins; racemes scarcely secund, 2–8 cm. long: [16](#)
- 15** Spikelets solitary above, paired below and sometimes on very short secondary branches at the base of the raceme, not gaping; racemes 1–4 cm. long [14. distichophylla](#)
- Spikelets borne on short side-branches, forming little clusters or glomerules of 2–6, frequently gaping; racemes up to 8 cm. long [15. kotschyana](#)
- 16** Pairs of spikelets very loosely scattered, distant by up to 10 mm. or more; primary pedicels up to 10 mm. or more long [16. deflexa](#)
- Pairs of spikelets approximate, evenly distant by less than their own length; primary pedicels not more than 2 mm. long: [17](#)
- 17** Margins of leaf-blades ciliate with tubercle-based hairs towards the rounded base; spikelets mostly sessile [17. lata](#)
- Margins of leaf-blades not ciliate below; one spikelet of each pair usually pedicelled [18. ramosa](#)

1. *Brachiaria stigmatisata* (Mez) Stapf in F.T.A. 9: 520 (1919); A. Chev. in Rev. Bot. Appliq. 13: 885; Berhaut, Fl. Sén. ed. 2, 404; Aké Assi, Contrib. 2: 293. *APD acc*

Panicum stigmatisatum Mez in Engl., Bot. Jahrb. 34: 140 (1904).

Annual up to 60 cm. high; [disturbed soils](#).

Sen.: Djembering (Sept.) Broadbent 129! Ziguinchor (Sept.) Broadbent 78! Sari Hamadi (Sept.) Diallo 207! **Gam.:** Ruxton 135! **Mali:** Bamako (Sept.) Adam 15324! Kaboila (Sept.) Adam 15072! **Guin.:** Timbo Pobéguin 1711! **S. L.:** Port Loko (Oct.) Jordan 362! Gbinle (Oct.) Jordan 789! Makene (Sept.) Deighton 3981! Kagberi (Sept.) Jordan 541! **Iv. C.:** N'zi to Bocanda (June) Adjanohoun 183a! Ouagadougou (June) Scholz 111! Tindangouto Porga (Aug.) Scholz 138! **U. Volta:** Ouahigouya (Sept.) Aké Assi 6433! Mossi (Aug.) Chev. 24755! **Ghana:** Abotoase to Worawora (Oct.) Ankrah GC 20371! Kete Krachi to Kpandu (Sept.) Rose Innes GC 30417! Pong Tamale (Aug.) Addei 38! Yendi (Sept.) Thorold 202! Lawra (Aug.) Thorold 217! **N. Nig.:** Ilorin (Aug.) Ward L102! Batati (Aug.) Sawyer K16! Jebba Barter! Naraguta F.R. (July) Lawlor & Hall FHI 45552! Zaria (Sept.) Freeman S126! **S. Nig.:** Umudike (June) Tuley 785!

Also in the **Sudan**. (See Useful Plants.)

2. **Brachiaria humidicola** (*Rendle*) *Schmeick*. in Kew Bull. 1936: 297 (1936). *APD acc*

Panicum humidicola *Rendle* in Cat. Welw. 2: 169 (1899),

Brachiaria dictyoneura of F.T.A. 9: 512 (partly), and of F.W.T.A., ed. 1, 2: 561.

A stoloniferous perennial up to about 60 cm. high.

N. Nig.: Naraguta, Plateau Prov. (July) Lely P405! Lawlor & Hall FHI 46591! Vodni, Plateau Prov. Saunders 35! Hoss, Plateau Prov. (Aug.) Keay FHI 12694!

Also in **Tanzania**, **Rhodesia**, **Malawi**, **Angola** and **Natal**.

[Closely allied to the caespitose *B. dictyoneura* (Fig. & De Not.) Stapf].

3. **Brachiaria falcifera** (*Trin.*) *Stapf* in F.T.A. 9: 517 (1919); A. Chev. in Rev. Bot. Appliq. 13: 884. *APD acc*

Panicum falciferum *Trin.*, Gram. Pan. 127 (1826); Chev. Bot. 726.

P. collare *Schumach.*, Beskr. Guin. Pl. 60 (1827).

Brachiaria brevis of F.W.T.A., ed. 1, 2: 563, partly.

Tufted perennial about 60 cm. high.

Ghana: Irvine 2660! Christiansborg (Mar.) Johnson 1021! Legon Hill (Apr.) Adams 4274! Nungua, Accra Plains (Apr.) Ankrah GC 20136! 20137!

4. **Brachiaria jubata** (*Fig. & De Not.*) *Stapf* in F.T.A. 9: 563 (1919).

APD: Synonym of Urochloa jubata (Fig. & De Not.) Sosef

Panicum jubatum *Fig. & De Not.* in Mém. Ace. Torin.sér.2,14: 331(1864).

Brachiaria fulva *Stapf* in F.T.A. 9: 518(1919); F.W.T.A., ed. 1, 2: 663; A. Chev. in Rev. Bot. Appliq. 13: 884; Berhaut, Fl. Sén. ed. 2, 406.

Brachiaria brevis *Stapf* in F.T.A. 9: 519 (1919); F.W.T.A., ed.1, 2: 663, partly; A. Chev. in liev. Bot. Appliq. 13: 884.

Tufted grass 60–120 cm. high; **often on shallow soils with seasonal extremes of drought and waterlogging.**

Sen.: Djembering (Sept.) Broadbent 127! **Cam.:** Skuesi. Ruxton 18! **Mali:** Klela (July) Farrow 901 Banguita (Sept.) Farrow 89! **Port.G.:** Bambadinca (July) Pereira 3052! **Guin.:** Kouroussa (Apr.) Pobéguin 699! **iv. C.:** Dabou (June, Oct., Nov.) Adjanohoun 410a! Roberty 15573! Leeuwenberg 1959! **U. Volta:** Barmorissa (June) Scholz 117! Banfora (June) Leeuwenberg 4350! **Ghana:** Kpandu to Accra (Sept.) Ankrah GC 20197! Yendi to Kete Krachi (Oct.) Rose Innes GC 30955! Tamale (Oct.) Baldwin 13551! Damongo (Oct.) Rose Innes GC 30209! Navrongo (June) Vigne FH 4540! **Togo Rep.:** Lomé Stage 24! **Dah.:** Agouagon to Savalou (May) Chev. 23677! **N. Nig.:** Badeggi, Bida (Sept.) Clayton 307! Anara F.R. (May) Keay FHI 22973! Kankiya, Katsina (Aug.) Onwudinjoh FHI 24008! Naraguta, Plateau Prov. (June) Lely 289! Jemaa (Apr.) E. W. Jones 275! **S. Nig.:** Ogboro road (May) Dawodu 34! Awba Hills F.R. (Apr.) Onochie FHI 32079! Igbete-Kishi (Nov.) Gledhill 733!

Throughout tropical Africa.

5. **Brachiaria plantaginea** (*Link*) *Hitchc.* in Contrib. U.S. Nat. Herb. 12: 212 (1909). *APD acc*

Panicum plantagineum *Link*, Hort. Berol. 1: 206 (1827).

Annual, rooting at the lower nodes; leaf-blades thin, broadly linear.

U. Volta: Wagadugu (Aug.) Irvine 5175! **Ghana:** Kumasi, (Mar., Apr., May) Adams 3844! Darko 5564! La Danso 51! Akpabla 3846! Navrongo (Aug.) Irvine 5176! **W. Cam.:** Buea (July, Dec.) Maitland 26! 860!

Also in the **Congo** and in **tropical America**.

6. **Brachiaria distachyoides** *Stapf* in F.T.A. 9: 530 (1919). *APD acc*

Slender annual, rooting at the lower nodes; **growing in or near water.**

S. L.: Port Loko (Oct.) Jordan 809! Njala (July) Deighton 1172! Tabe to Jama (Sept.) Deighton 3027! Kambia (Aug.) Jordan 299! **iv. C.:** Zuénoula to Vavoua (Oct.) Adjanohoun 368a! Mankono (July) Aké Assi 6151! Boka to Lenguera (June)

Boudet 2832! **Ghana:** Takoradi (Aug.) Hall 3319! Accra (Aug.) Hall 3265! **S. Nig.:** Lagos (July) Dawodu 163! Haines 117! 171! 319!

Also in the **Congo**.

7. **Brachiaria mutica** (*Forsk.*) *Stapf* in F.T.A. 9: 526 (1919); A. Chev. in Rev. Bot. Appliq. 13: 885; Berhaut, Fl. Sén. ed. 2, 406. *APD acc*

Panicum muticum *Forsk.*, Fl. Aegypt.-Arab. 20 (1775); Chev. Bot. 728.

P. purpurascens *Raddi* (1823).

P. numidianum *Lam.* (1791).

Brachiaria purpurascens (*Raddi*) *Henr.* in Blumea 3: 434 (1940).

Brachiaria numidianum (*Lam.*) *Henr.* l.c. (1940).

Urochloa mutica (*Forsk.*) *Nguyen* in Nov. Sist. Vys. Rast. 1966: 13 (1966).

Perennial, often rooting at the lower nodes, 0.6–1.8 m. high; **wet places**.

Sen.: Tivaouane (Dec.) Chev. 2294! Tiarsy (Oct.) Berhaut 975! **Gam.:** Boteler! **Mali:** Kayes (June) Chev. 26019! Dogo (Apr.) C.I.P.A.S. 605! Ansongo (Sept.) Hagerup 415! Mopti (Sept.) Matthes 9! 16! **S. L.:** Mange (Nov.) Jordan 822! **Lib.:** Grand Bassa (July) T. Vogel 32! Buchanan (Mar.) Baldwin 11169! **U. Volta:** Samandeni (Oct.) Kmoch 157! **Ghana:** Nandaw (May) Agric. Dept.! Kumasi (May) Darko 5566! Tumu to Tamale (Oct.) Rose Innes GC 32290! Tumu to Leo (Oct.) Ankrah GC 20467! Rose Innes GC 31485! **Niger:** Niamey (Sept.) P. de Fabrègues 2086! **N. Nig.:** Shendam (Nov.) Clayton 1450! Fodama (Nov.) Moiser 220! Sokoto (Aug.) Dalz. 481! Baga (Jan.) Daggash FHI 24967! Wulgo (Mar.) Johnston N24! **S. Nig.:** Ikorodu (Oct.) Haines 334! **W. Cam.:** Victoria (July, Oct.) Maitland 10! 69! 73! Buea (Dec.) Maitland 105!

Throughout the tropics and subtropics. (See Useful Plants.)

[Henrard. (l.c.) supports Hitchcock (Man. Grasses W. Indies 247) in maintaining the American *B. purpurascens* as a separate species, but the distinguishing characters are not reliable in W. Africa. A form with the spikelets sessile in two rows is occasionally found in W. Africa, but it is otherwise similar to the typical form.]

8. **Brachiaria brizantha** (*Hochst. ex A. Rich.*) *Stapf* in F.T.A. 9: 531 (1919); A. Chev. in Rev. Bot. Appliq. 13: 885. *APD acc*

Panicum brizanthum *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 363 (1851).

Robust perennial up to about 2 m. high.

Guin.: Gali to Hinde (July) Adames 310! **S. L.:** Yenkisa (Nov.) Glanville 310! Sekurede (Nov.) Jaeger 8163! **Iv. C.:** Briankouma to Touba (Oct.) Aké Assi 8194! **Ghana:** Ejura to Kintampo (Nov.) Rose Innes GC 30858! Maliato, Togo Plateau (Nov.) Morton A3535! Ejura (Oct.) Asare 9637! **N. Nig.:** Omu Aran, Ilorin Prov. (Oct.) Ward L101! Sanga Kiver F.R., Jemaa (Nov.) Keay FHI 37243! Kogigiri, Jos (Oct.) Hepper 1047! Naraguta, Plateau Prov. (July) Lely P422! Maska, Katsina Prov. (Aug.) Thatcher S456! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8123! Ila (Oct.) Thomas 1930! Ubiaja F.R., Ishan (Apr.) Daramola FHI 31274! Usonigbe F.R., Benin (Oct.) Keay & Onochie FHI 19684! Awka (June) Jones FHI 1776! **W. Cam.:** Bamenda (Oct.) Agric. Off. Bam 14! Donga Plain Brunt 1010! Iwo & Mencham (Feb.) Brunt 939!

Throughout tropical Africa and in **S. Africa**. (See Useful Plants.)

9. **Brachiaria brachylopha** *Stapf* in F.T.A. 9: 539 (1919); A. Chev. in Rev. Bot. Appliq. 13: 886.

APD: *Synonym of Brachiaria serrata* (Thunb.) *Stapf*

Panicum brachylophum (*Stapf*) *A. Chev.*, Bot. 724 (1920).

P. serratum var. **brachylophum** (*Stapf*) *A. Chev.*, Bot. 730 (1920).

Tufted perennial about 60 cm. high.

Iv. C.: Dabou (June) Adjanohoun 412a! Chev. 17148! Toumodi (Aug.) Boughey GC 18554! Séguéla (Apr.) Leeuwenberg 3260! Asakra (Aug.) Boughey GC 18633! **U. Volta:** Doutié (Sept.) Scholz 22a! **Ghana:** Kete Krachi to Yendi (Sept.) Ankrah GC 20242! Biakpa (Sept.) Rose Innes GC 30905! Lawra to Navrongo (Oct.) Rose Innes GC 30286! Bole (May) Vigne FH 3829! Damongo (Mar.) Adams 3949! **Togo Rep.:** Sokodé to Lama Kara (Oct.) Rose Innes GC 31397! **N. Nig.:** Lokoja (May) Richardson! Nupe Barter 1397! Kuseriki (July, Aug.) Clayton 1101! Sawyer K18! Birnin Gwari (June) Keay FHI 25871!

Very closely allied to *Brachiaria serrata* (Thunb.) *Stapf* of eastern and southern Africa.

10. **Brachiaria callopus** (*Pilg.*) *Stapf* in F.T.A. 9: 533 (1919).

APD: Synonym of Echinochloa callopus (Pilg.) Clayton

Panicum callopus Pilg. in Engl. Bot. Jahrb. 33: 46 (1902).

Brachiaria stipitata C. E. Hubbard in Kew Bull. 1933: 498; Berhaut, Fl. Sén. ed. 2, 405, 406.

Annual with spongy culms up to 1 m. high; **shallow pools**.

Sen.: Bouchet! Baïla, Casamance (Sept.) Adam 18136! **Mali:** Ségou (Nov.) Roberty 2959! **Guin.:** Mamou (Oct., Nov.) Chev. 34598! Adam 12646! **S. L.:** Kukuna (July) Morton & Gledhill SL 46! **Iv. C.:** Boundiali to Mankono (Nov.) Aké Assi 8295! Boundiali to Tingréla (Nov.) Aké Assi 8284! **U. Volta:** Baoulé (Oct.) Kmoch 122! **N. Nig.:** Damagum (Oct.) De Leeuw 1233!

Also in the **Sudan**.

11. *Brachiaria obtusiflora* (Hochst. ex A. Rich.) Stapf in F.T.A. 9: 534 (1919). *APD acc*

Panicum obtusiflorum Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 367 (1851).

Annual, 2–4 ft. high; **on clay soil with Acacia seyal**.

N. Nig.: Damaturu (Nov.) De Leeuw 1171!

Also in **Sudan** and **Ethiopia**.

12. *Brachiaria serrifolia* (Hochst.) Stapf in F.T.A. 9: 548 (1919). *APD acc*

Panicum serrifolium Hochst. in Flora 38: 190 (1855).

Annual 30–90 cm. high; **in shade**.

Niger: Toukounous (Mar.) P. de Fabrègues 1794!

Extends eastwards to **Ethiopia** and southwards to Rhodesia.

13. *Brachiaria xantholeuca* (Hack. ex Schinz) Stapf in F.T.A. 9: 541 (1919); A. Chev. in Rev. Bot. Appliq. 13: 886; Berhaut, Fl. Sén. ed. 2, 405; De Miré & Gillet in J. Agric. Trop. 3: 728. *APD acc*

Panicum xantholeucum Hack. ex Schinz in Verhandl. Bot. Ver. Brandenb. 30: 141 (1889).

P. anisotrichum Mez in Notizbl. Bot. Gart. Berl. 7: 70 (1917).

P. orthostachys Mez in Notizbl. Bot. Gart. Berl. 7: 66 (1917).

Brachiaria orthostachys (Mez) W. D. Clayton in Kew Bull. 20: 265 (1966); Lebrun in Bull. Soc. Bot. Fr. 116: 257 (1969).

Brachiaria hagerupii Hitchc. in J. Wash. Acad. Sci. 19: 303 (1929); F.W.T.A., ed. 1, 2: 564; A. Chev. in Rev. Bot. Appliq. 13: 888; Berhaut, Fl. Sén. ed. 2, 406.

Annual 30–45 cm. high; **growing on old farm land**.

Maur.: Néma Rossetti 61/193! **Sen.:** Adanson! Walo Leprieur 21! Ross-Béthio (Aug.) Audru 2259! Dakar (Aug.) Adam 14934! **Gam.:** Genieri (July) Fox 127! **Mali:** Timbuktu (Aug.) Lean 76! Hagerup 271! Oualata to Heissa Jumelle 5! Gourma (Aug.) Rossetti 59/114! Bango to Koro (Aug.) Chev. 24880! Gao (Jan.) Chev. 43039! **Ghana:** Sinibaga (Aug.) Rose Innes GC 32071! Navrongo (June) Vigne FH 4538! Rose Innes GC 31673! Till to Windenaba (Aug.) Rose Innes GC 32019! **Niger:** Toukounous Bartha 3! Gouré (Aug.) P. de Fabrègues 771! **N. Nig.:** Nupe Barter 1366! Zaria (July) Clayton 1254! Sokoto (July) Dalz. 476! 476a! Bindawa (Aug.) Grove 16!

Throughout tropical Africa.

[In a few specimens the racemes are rather lax with the spikelets paired, the primary on a pedicel; otherwise the spikelets are similar to the typical form.]

14. *Brachiaria distichophylla* (Trin.) Stapf in F.T.A. 9: 557 (1919); A. Chev. in Rev. Bot. Appliq. 13: 888; Berhaut, Fl. Sén. ed. 2, 405.*APD: Synonym of Brachiaria villosa (Lam.) A. Camus*

Panicum distichophyllum Trin., Gram. Pan. 147 (1826); Chev. Bot. 725.

P. serrulatum Schumach., Beskr. Guin. Pl. 62 (1827).

P. viviparum Schumach. (1827).

P. despreauxii Steud. (1854).

P. distichophylloides Mez (1905).

Slender annual up to about 45 cm. high; sometimes displays a vegetative proliferation of the spikelets; **disturbed soils**.

Maur.: Guberni Rossetti 61/332! **Sen.:** Hann (Oct.) Berhaut 2765! Cayor Heudelot 398! Ziguinchor (Sept.) Broadbent 67! **Gam.:** Saunders 12! 34! 50! Sankuli-Kunda (Sept.) Pirie 11/33! Yundum Ashrif 29! **Mali:** Sindou (Oct.) Chev. 875! Macina (Sept.) Davey 40! Dioura (Sept.) Farrow 87! in Tillit (Aug.) Rossetti 59/132! Ansongo (Sept.) Hagerup 413! **Guin.:** Timbo (Oct.) Pobéguin 1734! Kouroussa (July) Pobéguin 476! 486! Kindia Jac.-Fél. 137! Kranz 281! **S. L.:** Freetown (Aug.) Deighton 2032! Mabum (Aug.) Thomas 1577! Kitchom (Jan.) Deighton 930! Kumrabai-Mamila (Nov.) Deighton 4936! Kambia (July) Jordan 466! **Lib.:** Harper (June) Baldwin 6000! **Iv. C.:** Pakobo (June) Adjanohoun 385a! Tehini (Aug.) Oldeman 356! **U. Volta:** Sindou (June) Leeuwenberg 4317! Banfora (June) Leeuwenberg 4347! **Ghana:** Legon (Jan.) Adams 3653! Kete Krachi (Oct.) Rose Innes GC 30929! Half Assinie (Dec.) Rose Innes GC 30541! Avume (Aug.) Thorold 120! Navrongo (June) Vigne FH 4537! **Togo Rep.:** Lomé Warnecke 169! Atakpamé to Sokodé (Oct.) Rose Innes GC 31379! **Dah.:** Séme (Sept.) Adjanohoun 532! Cotonou (Dec.) Froment 1049! **Niger:** Niamey (Oct.) Hagerup 484! Toukounous Bartha 4! Wadi Dolo! White 28! **N. Nig.:** Nupe Barter 367! Bida (Jan.) Meikle 1103! Lafia (Oct.) Kennedy FHI 8029! Katsina (Oct.) Clayton 1355! Sokoto (July) Dalz. 475! Gurum, Vogel Peak (Nov.) Hepper 2783! **S. Nig.:** Lagos Dalz. 1135! Ibadan (Apr.) Brenan 9600! Aku Rock (Apr.) Hambler 465! Opobo Jeffreys! Awka (June) Jones FHI 1784!

Probably throughout tropical Africa, but the taxonomy of the species in east and central Africa is confused as it tends to intergrade with the following. (See Useful Plants.)

15. *Brachiaria kotschyana* (Hochst. ex Steud.) Stapf in F.T.A. 9: 559 (1919); A. Chev. in Rev. Bot. Appliq. 13: 889.

APD: *Synonym of Urochloa comata* (Hochst. ex A. Rich.) Sosef

Panicum kotschyenum Hochst. ex Steud., Syn. Pl. Glum. 1: 68 (1854); Chev. Bot. 727.

Slender annual about 60 cm. high.

Sen.: Kayar (Sept.) Raynal 7347! **N. Nig.:** Yola (July, Sept.) Dalz. 275! Kennedy FHI 7286! Ibaji Ojoko F.R., Kabba Prov. (June) Latilo FHI 47753! Gembu, Mambila (Sept.) Oche 87! **S. Nig.:** Aguhu Thomas 1390! **W. Cam.:** Wum, Bamenda (Dec.) Boughey GC 11568!

Extends eastwards to Eritrea, and south to **Angola** and the Congo. (See Useful Plants.)

16. *Brachiaria deflexa* (Schumach.) C. E. Hubbard ex Robyns in Bull. Jard. Bot. Brux. 9: 181 (1932); Berhaut, Fl. Sén. ed. 2, 413; incl. var. *sativa* Portères in Agron. Trop. 6: 38 (1951), without latin descr. *APD acc*

Panicum deflexum Schumach., Beskr. Guin. Pl. 63 (1827).

Krachiaria regularis (Nees) Stapf in F.T.A. 9: 544 (1919); A. Chev. in Rev. Bot. Appliq. 13: 886; De Miré & Gillet in J. Agric. Trop. 3: 728.

Panicum regulare Nees, Fl. Afr. Austr. 41 (1841).

P. nudiglume Hochst. (1844)—Chev. Bot. 728.

Pseudobrachiaria deflexa (Schumach.) Launert in Mitt. Bot. Munchen 8: 158 (1970).

Annual up to 45 cm. high; the inflorescence, with its distant spikelets and long pedicels, simulates a panicle, and the plant is commonly mistaken for a species of *Panicum*; a weed of cultivated land and disturbed soils.

Gam.: Dipa Kunda Fox 157! **Mali:** Sompi (Aug.) Chev. 2282! Boré (Aug.) Demange 19/1957! Port G.: Contubo (Aug.) Pereira 3113! **Iv. C.:** Adiopodoumé (Nov.) Leeuwenberg 1937! Bouaké (May) de Wilde 58! **U. Volta:** Mossi (Aug.) Chev. 24752! **Ghana:** Achimota (May) Irvine 1633! Aburi (Aug.) Johnston 1004! Otokpe (Oct.) Vigne FH 4015! Cape St. Paul (Apr.) Rose Innes GC 31228! Yamoransa (Jan.) Thorold 28! **Togo Rep.:** Palime Stage 79! **Dah.:** Niaouli (Oct.) Risopoulos 1238! **N. Nig.:** Nupe Barter 1367b! Kalawala, Bornu (Aug.) De Leeuw 1088! Badeggi to Lapai (June) E. W. Jones 186! **S. Nig.:** Lagos Dawodu 70! Ibadan (Mar.) Meikle 1260! Olokemeji F.R. (Nov.) Olafusi FHI 14264! Fashola Thorold 3! Benin (Dec.) Brenan 8630!

Throughout tropical Africa, extending into **Arabia**, Madagascar and S. Africa. (See Useful Plants.)

17. *Brachiaria lata* (Schumach.) C. E. Hubbard in Hook., Ic. Pl. t. 3363 (1938); Berhaut, Fl. Sén. ed. 2, 406; Aké Assi, Contrib. 2: 293. *APD acc*

Panicum latum Schumach., Beskr. Guin. Pl. 61 (1827).

Urochloa lata (Schumach.) C. E. Hubbard in Kew Bull. 1934: 112 (1934); F.W.T.A., ed. 1, 2: 560; De Miré & Gillet in J. Agric. Trop. 3: 740.

U. insculpta (Steud.) Stapf in F.T.A. 9: 599 (1920); A. Chev. in Rev. Bot. Appliq. 13: 892.

Panicum insculptum Steud. (1854)—Chev. Bot. 727.

P. exasperatum Nees ex Steud. (1854).

A coarse-leaved annual, usually 30–60 cm. high, but sometimes much higher; a weed of cultivated land and disturbed soil.

Maur.: Nema Rossetti 61/175! **Sen.:** Cambérène (Oct.) Berhaut 1107! Bargny (Aug.) Adam 14924! 14927! 14928! Mt. Roland (Aug.) Broadbent 50! **Gam.:** Ruxton 49! 58! **Mali:** Djenné (Sept.) Chev. 2196! Sarédina (Mar.) Davey 67! Boré (July) Demange 6/1957! Dioura (Oct.) Davey 067! **Guin.:** Kouroussa (July) Pobéguin 478! Conakry (Aug.) Chillou 2738! **iv. C.:** N'Douci (Apr.) Leeuwenberg 3324! Minankro (Nov.) Boudet 1457! **U. Volta:** Bougoura (June) Scholz 28! Ouagadougou (July) Scholz 126! **Ghana:** Christiansborg (Mar.) Johnson 1013! Takoradi (Apr.) Brenan 9613! Kumasi (June) La Danso 69! Damongo (Sept.) Rose Innes GC 30199! Navrongo (June) Vigne FH 4539! **Dah.:** Parakou (Sept.) Risopoulos 1198! Ajuda Newton 2–23! Cotonou (Apr.) Chev. 23476! Froment 1197! Niaouli (Oct.) Risopoulos 1239! **N. Nig.:** Mokwa (June) Clayton 1193! Sokoto (July) Dalz. 477! Maska (July) Thatcher S553! Biu (Sept.) Kennedy FHI 8012! Kalkala, Chad (July) Gwynne 131! **S. Nig.:** Lagos W. MacGregor 109! Ibadan (Jan., Mar., Sept.) Deightan 541! Keay FHI 25415! Gledhill 795!

Extending east to Ethiopia and Arabia.

B. lata var. pubescens C. E. Hubbard in Kew Bull. 4: 125 (1949), distinguished by its pubescent spikelets, is occasionally found in our area.

18. **Brachiaria ramosa** (Linn.) Stapf in F.T.A. 9: 542 (1919); A. Chev. in Rev. Bot. Appliq. 13: 886; Berhaut, Fl. Sén. ed. 2, 405. *APD acc*

Panicum ramosum Linn., Mant. 1: 29 (1767); Chev. Bot. 729.

Echinochloa ramosa (Linn.) Roberty in Bull. I.F.A.N. 17: 64 (1955).

Panicum arvense, Kunth (1831).

P. brachylachrum Steud. (1854).

P. cognatissimum Steud. (1854).

Urochloa ramosa (Linn.) Nguyen in Nov. Sist. Vys. Rast. 1966: 13 (1966).

Annual 30–60 cm. high.

Maur.: Gani (Oct.) Hepper 3655! **Sen.:** Roger 15! Richard-Tol (Aug.) Roger 34! Bargny (Aug.) Adam 14925! Dakar (Apr.) Clayton 4003! **Gam.:** Yundum (Sept.) Wallace 7! **Mali:** Damako (Sept.) Adam 15367! El Oualadji (Mar.) Chev. 43915! Diré (May) Rogeon & Leclercq 268! Bore (Aug.) Demange 20/1957! Timbuktu (Aug.) Hagerup 259! **Port. G.:** Pirada (June) Esp. Santo 3037! **N. Nig.:** Kalkala, Chad Golding 78!

Also in eastern Tropical Africa, extending to India and Thailand.

89. ENTOLASIA

Stapf in F.T.A. 9: 739 (1920).

- 1 Leaf-blades lanceolate, up to 18 mm. broad, with faint transverse veins beneath; panicle up to 15 cm. long, the racemes densely distributed along a central axis, bearing the spikelets upon short (6–10 mm. long) appressed secondary racemes; spikelets lanceolate, 2.5 mm. long; lower glume a short hyaline scale; upper glume and lower lemma as long as the spikelet; upper lemma villous *olivacea*

Entolasia olivacea Stapf in F.T.A. 9: 740 (1920). *APD acc*

Panicum olivaceum Stapf ex A. Chev., Sudania 60, 90 (1911), name only.

Guin.: Ziama (Feb.) Adam 3549 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 370 (1969)).

Extends eastwards through Chad and Cameroun to Congo.

90. PASPALUM

Linn., Syst. Nat. ed. 10, 2: 855 (1759); F.T.A. 9: 568 (1919).

- 1 Spikelets with a ciliate fringe from the margins of the upper glume:2
Spikelets glabrous or minutely pubescent, without a ciliate fringe:4
- 2 Plants stoloniferous; spikelets orbicular, greenish yellow, 1.5 mm. long, closely appressed to the rachis of paired slender racemes; basal leaf-sheaths flattened *L. conjugatum*

- Plants caespitose; spikelets 2–4 mm. long, green to brownish:**3**
- 3** Racemes 3–5; spikelets ovate, acute, 3–4 mm. long [2. dilatatum](#)
- Racemes 10–18, from a long main axis; spikelets elliptic, 2–3 mm. long [3. urvillei](#)
- 4** Spikelets oblong-ovate, acute, rather flattened, 3–3.5 mm. long, glabrous; racemes usually paired, up to 5 cm. long; leaf-blades linear, acute, up to about 10 cm. long, the sheaths imbricate [4. vaginatum](#)
- Spikelets orbicular to broadly elliptic, conspicuously plano-convex:**5**
- 5** Spikelets minutely pubescent, dark brown, 1.5 mm. long; racemes 20–30, fastigate [5. paniculatum](#)
- Spikelets quite glabrous:**6**
- 6** Leaf-blades linear-lanceolate, more or less rounded at the base, up to 20 mm. broad and 10–20 cm. long; spikelets 2.5–3 mm. long; racemes 3–4(-10), up to 7 cm. long [6. auriculatum](#)
- Leaf-blades linear, not rounded at the base, up to 12 mm. broad; spikelets 1.8–2.5 mm. long, rarely more:**7**
- 7** Racemes 1–5, rarely more, the longest up to about 8 cm. long; stems slender, 1–3 mm. diam. at the base, usually tufted, rarely with thin stolons or roots from the lower nodes; basal sheaths glabrous or pilose [7. orbiculare](#)
- Racemes 3–5 the longest over 8 cm. long, or more numerous; stems stout, 3–7 mm. diam. at the base, rooting at the lower nodes; basal sheaths nearly always glabrous [8. polystachyum](#)

1. *Paspalum conjugatum* Berg. in Act. Helv. Phys. Math. 7: 129, t. 8 (1772); F.T.A. 9: 569; Chev. Bot. 722, and in Rev. Bot. Appliq. 13: 889. *APD acc*

Paspalum africanum Poir. (1816).

Creeping perennial up to about 60 cm. high, sometimes more; [open places in forests](#).

S. L.: Rokupr (June) Jordan 452! Njala (Sept.) Deighton 2086! Kamakuia (May) Thomas 296! Bumbuna (Oct.) Thomas 3342! Makump (Oct.) Glanville 57! **Lib.:** Jabrocca (Dec.) Baldwin 10870! Timbo (Mar.) Baldwin 11225! Gbanga (Sept.) Linder 511! Ganta (May) Harley 305! Gbawia (July) Baldwin 6711! **Iv. C.:** Adiopodoumé (Sept.) Adjanohoun 431a! Abidjan (Oct., Dec.) Boughey GC 14458! Leeuwenberg 1705! Gagnoa (Aug.) Boughey GC 14651! Bianouan (Apr.) Leeuwenberg 3967! **Ghana:** Dawa (May) Howes 907! Mampong (Sept.) Rose Innes GC 30134! Assin-Yan-Kumasi Cummins 166! Aburi (June) Ankrah GC 20044! Amedzofe (Oct.) Morton 6044! **Dah.:** Porto Novo (Aug.) Adjanohoun 25! **N. Nig.:** Baissa (Mar.) Ayuba AS14! Kagoro to Jemaa (Oct.) Magaji & Tuley 1774! **S. Nig.:** Lagos (May) Dalz. 1314! Ibadan (Dec.) Meikle 913! Benin (Dec.) Brenan 8533! Opobo (Apr.) Jeffreys 31! Calabar (Apr.) Holland 116! **W. Cam.:** Victoria (June) Rosevear! Buea (Feb.) Maitland 151! Ndop, Bamenda (Dec.) Boughey GC 11145! Mamfe (Mar.) Coombe 227! Bambui (July) Brunt 1188! **F. Po:** T. Vogel 14! Mann 119! Moka (Sept., Dec.) Wrigley 596! Boughey 113! S. Isabel (Dec.) Guinea 179!

Throughout the tropics.

2. *Paspalum dilatatum* Poir. in Lam., Encycl. Méth. Bot. 5: 35 (1804). *APD acc*

Perennial 0.6–1.5 m. high.

Ghana: Kumasi (June) La Danso 73! Kade (Jan.) Agyakwah GC 31202!

A S. American grass, introduced throughout the tropics.

3. *Paspalum urvillei* Steud. Syn. Pl. Glum. 1: 24 (1854). *APD acc*

Tufted perennial 1–2 m. high.

Lib.: Robertsport (Dec.) Baldwin 10887!

A S. American grass, now found in most tropical countries.

4. *Paspalum vaginatum* Sw. Prod. Veg. Ind. Occ. 21 (1788); F.W.T.A., ed. 1, 2: 561; F.T.A. 9: 570; A. Chev. in Rev. Bot. Appliq. 13: 889; Berhaut, Fl. Sén. ed. 2, 399. *APD acc*

Paspalum distichum Linn., Syst. Kat. ed. 10, 2: 855 (1759), rejected name.

Paspalum squamatum Steud. (1854).

A stoloniferous creeping grass 30–60 cm. high; [seashores, near the beach or on tidal flats](#).

Sen.: Roger! Heudelot 451! Malika (Aug.) Broadbent 47! Oussouye (Sept.) Broadbent 118! St. Louis (Oct.) Hepper 3609! **Gam.:** Balingho (July) Fox 155! **S. L.:** Freetown (May) Deighton 1177! Mambolo (Jan.) Deighton 977! Rokupr (July) Jordan 459! Petifu Creek (Aug.) Pelly 139! Tumbu (Apr.) Glanville 229! **Iv. C.:** Grand Lahou (May) Adjanohoun 432a! Sassandra (Dec.) Leeuwenberg 2237! **Ghana:** Sakumo Lagoon (Sept., Nov.) Morton A4117! Ankrah GC 20540! Anyanuwi

(Feb.) La Danso 16! Anyako (July) Irvine 4934! Keta Lagoon (Aug.) Rose Innes GC 30083! **Dah.:** Abomey (Dec.) Froment 1000! Cotonou to Allada (Oct.) Risopoulos 1217! **S. Nig.:** Lagos (Jan.) Baldwin 14010! Barber! Nun R. T. Vogel 60! **W. Cam.:** Victoria (Mar., July) Brunt 1042! Maitland 8! Bota (Aug.) Chum! CDC 249! **F. Po:** Mann 441!

Tropics and subtropics generally. (See Useful Plants.)

[Owing to a mistake in typification the name *P. distichum* has been consistently misapplied to another species, and should now be rejected as a nomen confusum.]

5. ***Paspalum paniculatum* Linn.** Syst. Nat. ed. 10, 2: 855 (1759); F.T.A. 9: 577; A. Chev. in Rev. Bot. Appliq. 13: 890. *APD acc*

***Paspalum multispica* Steud.** (1854).

Caespitose perennial up to 1.2 m. high.

Lib.: Sarbo (July) Baldwin 6389! Jabroke (July) Baldwin 6494! **W. Cam.:** Tiko (Feb.) Maitland 976! Buea (Jan., Mar., July) Maitland 4! 352! Brenan 9332! Victoria to Buea (Mar.) Brunt 1046! **F. Po:** El Pico (Dec.) Boughey 185! Estrada farm (Jan.) Akpabla GC 11494! Santa Isabel Swarbrick 2922!

Also in **E. Cameroun, Gabon, S. Tomé, Principé, Uganda, Mauritius, New Guinea, Australia, Polynesia** and **Tropical America**.

6. ***Paspalum auriculatum* J. S. Presl** Rel. Haenk. 217 (1830); F.T.A. 9: 572; A. Chev. in Rev. Bot. Appliq. 13: 890; Aké Assi, Contrib. 2: 292.

APD: Synonym of Paspalum scrobiculatum var. lanceolatum de Koning & Sosef

Culms erect or geniculate and rooting at the lower nodes, up to 1.5 m. high, 4–5 mm. diam. at the base; **marshy places**.

Sen.: Mahon (Oct.) Boudet 3995 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 264 (1969)). **S. L.:** Bumban (Sept.) Thomas 1967! Kaballa (Sept.) Thomas 2229! Jigaya (Sept.) Thomas 2837! Kamakwie (Feb.) Deighton 4045! **Lib.:** Kailahun (Nov.) Baldwin 10133! Ganta (Jan., Sept.) Harley 2103! 2136! Baldwin 12022! Gbanga (Sept.) Linder 706! **W. Cam.:** Bamenda (Oct.) Agric. Off. Bam. 19!

Throughout the moister parts of tropical Africa and in **Java, Tonkin** and the **Phillipines**.

7. ***Paspalum orbiculare* Forst.** Fl. Insul. Austr. Prodr. 7 (1786).

APD: Synonym of Paspalum scrobiculatum L. var. scrobiculatum

***Paspalum commersonii* Lam.,** Tab. Encycl. Méth. Bot. 1: 175 (1791).

Paspalum scrobiculatum of Berhaut, Fl. Sén. ed. 2, 398, not of Linn.

***Paspalum scrobiculatum* var. *commersonii* (Lam.) Stapf** in F.T.A. 9: 573 (1919); F.W.T.A. ed. 1, 2: 561; A. Chev. in Rev. Bot. Appliq. 13: 890;

***Paspalum scrobiculatum* var. *deightonii* C. E. Hubbard** in Kew Bull. 1928: 40; F.W.T.A., ed. 1, 2: 561.

***Paspalum barbatum* Schumacher,** Beskr. Guin. Pl. 53 (1827), not of (Trin.) Schult. (1827).

***Paspalum ledermannii* Mez** in Fedde Rep. 15: 65 (1917).

Perennial, more or less tufted or rarely stoloniferous, up to about 60 cm. high; **usually in moist or shady places**.

Maur.: Nima (Oct.) Hepper 3711! **Sen.:** Adanson 158! Matam (Dec.) Chev. 2249! Mbao (Oct.) Berhaut 2767! Djembering (Sept.) Broadbent 143! Ziguinchor (Sept.) Broadbent 66! **Gam.:** Saunders 55! Yundum (Dec.) Austin 15! Ashrif 20! 41! Genieri Fox 144! **Mali:** Mopti (Sept.) Matches 8! Labézenga (Sept.) Hagerup 443! Diafarabé (Sept.) Lean 96! **Guin.:** Timbo (Oct.) Pobéguin 1704! Friguiagbé (Sept.) Chillou 3890! **S. L.:** Freetown (Aug.) Deighton 778! Rokupr (July) Jordan 277! Njala (May) Deighton 649! Musaia (Dec.) Deighton 4427! Serabu (Apr.) Deighton 1680! **Lib.:** Jabrocca (Dec.) Baldwin 10872! Monrovia (May) Baldwin 5822! Gbanga (Sept.) Linder 514! Ganta (May) Harley 955! Bahtown (Aug.) Baldwin 8039! **Iv. C.:** Toumodi (Dec.) Boughey GC 14428! Asakra (Aug.) Boughey GC 18623! Bengasso (May) Adjanohoun 266a! Cocody (May) Adjanohoun 420a! Singrobo (Oct.) Adjanohoun 354a! **U. Volta:** Samandéni (Oct.) Kmoch 169! Ouagadougou (June) Scholz 112! Bobo-Dioulasso (June) Scholz 29a! **Ghana:** Cape Coast Rose Innes GC 30015! Labadi (Mar.) Deighton 577! Mampong (Sept.) Rose Innes GC 30136! Navrongo (June) Vigne FH 4546! Bawku (Oct.) Rose Innes GC 30249! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31354! **Dah.:** Cotonou to Allada (Oct.) Risopoulos 1219! **N. Nig.:** Jebba (Feb.) Meikle 1180! Abinsi (Sept.) Dalz. 872! Naraguta Lely P406! Zaria Taylor 33! Sokoto (Sept.) Palmer 29! **S. Nig.:** Lagos (Mar.) Hepper 2263! Ibadan (Feb.) Brenan 8975! Benin (Dec.) Brenan 8632! Opobo Jeffreys 25! Onitsha (Oct.) Jones FHI 6759! **W. Cam.:** Victoria (July) Maitland 5! Buea (Nov.) Migeod 109! Kumba

(Nov.) Thorold TN96! Nkambe (Nov.) Charter FHI 36987! Bamenda (Oct.) Agric. Off. Bam. 15! **F. Po:** Mann 119 (partly)! El Bokoko de San Carlos (Jan.) Guinea 898!

Old World tropics generally.

[A very variable species in which the customary division between *P. orbiculare* and *P. commersonii* (see Jansen in Reinwardtia 2: 319 (1953)) breaks down in W. Africa. It probably represents a swarm of apomictic segregates with as many subdivisions as one cares to find characters, and I have deemed it best to treat the species in a wide sense. The closely allied *P. scrobiculatum* Linn. is an annual crop plant from India.]

8. *Paspalum polystachyum* R. Br. Prod. Fl. Nov. Holl. 188 (1810).

APD: *Synonym of Paspalum scrobiculatum* L. var. *scrobiculatum*

APD: *Synonym of Paspalum scrobiculatum* L.

Paspalum scrobiculatum var. *polystachyum* (R. Br.) Stapf in F.T.A. 9: 576 (1919); F.W.T.A., ed. 1, 2: 561; Chev. Bot. 723, and in Rev. Bot. Appliq. 13: 890.

A very variable grass, distinguished (perhaps arbitrarily) from *P. orbiculare* by its robust habit with large inflorescences and stout stems rooting at the nodes, but there are many intermediate forms; **wet places**.

Gam.: Ruxton 88! Wallikunda (Sept.) Macluskie 16! 29! **Mali:** Nafadie (Oct.) Chev. 2250! Banguita (Sept.) Farrow 44! Dari (Sept.) Farrow 45! **Guin.:** Kouroussa (Aug.) Pobéguin 487! Kindia Jac.-Fél. 177! **S. L.:** Freetown (Aug.) Melville & Hooker 212! Njala (Aug.) Deighton 774! 2914! Kambia (July) Jordan 461! Makump (July) Thomas 966! Rokupr (Aug.) Hooper 91! **Lib.:** Paynesville (Sept.) van Dillewijn 90! Monrovia (May, June) Barker 1319! Baldwin 5944! Ganta (Oct.) Harley 1040! **Iv. C.:** Ferkessédougou (Nov.) Leeuwenberg 2028! Abidjan (Oct.) Leeuwenberg 1803! Lamto Adjanohoun 411a! Assanou (Aug.) Aké Assi 6848! **U. Volta:** Baoulé (Oct.) Kmoch 121! Latourgo to Varalé (Sept.) Aké Assi 6516! Konpiénga (June) Scholz 119! **Ghana:** Kpandu to Accra (Sept.) Ankrah GC 20200! Nsawam (Jan.) Irvine 1939! Senchi (July) Thorold 126! Tamale to Yendi (Oct.) Rose Innes GC 30680! Lawra to Navrongo (Oct.) Rose Innes GC 30287! **Togo Rep.:** Palimé, Lomé Stage 28! **N. Nig.:** Ajidogari, Ilorin (July) Ward 11! Badeggi, Bida (Sept.) Clayton 314! Abinsi (Jan.) Dalz. 871! Naraguta, Plateau Prov. (July) Lely 332! Bindawa (Aug.) Grove 35! **S. Nig.:** Olokemeji (Sept.) Jones FHI 20264! Onitsha (Aug.) Jones FHI 6696! Buroto (Sept.) Parsons 1! Nun R. (Sept.) Mann 535! Port Harcourt (Sept.) Holland 132! **W. Cam.:** Sabonari, Mbaw Plain (May) Brunt 897!

Throughout Africa, and in the **Mascarenes**, **Australia** and **New Guinea**. (See Useful Plants.)

91. AXONOPUS

P. Beauv., Ess. Agrost. 12, 154 (1812); Black. in Adv. Front. Pl. Sci. 5 (1963); F.T.A. 9: 565 (1919); Gledhill in Bol. Soc. Brot. 40: 125 (1966), and in J. West Afr. Sci. Ass. 11: 20 (1966). *APD acc*

- 1 Upper lemma almost as long as the spikelet, obscurely hairy at the tip; leaf-blades 1.5–7 mm. broad; spikelets 1.6–2.1 mm. long; nodes glabrous [1. affinis](#)
- Upper lemma distinctly shorter than the spikelet; leaf-blades 8–16 mm. broad: **2**
- 2 Spikelets 2–2.4 mm. long; nodes pubescent; upper lemma about 4/5 as long as the spikelet, bearing a short tuft of hairs at the apex [2. compressus](#)
- Spikelets 2.8–4 mm. long; nodes glabrous; upper lemma about 2/3 as long as the spikelet, glabrous [3. flexuosus](#)

1. *Axonopus affinis* Chase in J. Wash. Acad. Sci. 28: 180 (1938). *APD acc*

A creeping lawn grass.

S. L.: Fourah Bay Gledhill 62! **Lib.:** Nimba (Jan.) Adam 20576!

A species from tropical and subtropical America, introduced as a lawn grass.

2. *Axonopus compressus* (Sw.) P. Beauv. Ess. Agrost. 12, 154, 167 (1812); F.T.A. 9: 566; A. Chev. in Rev. Bot. Appliq. 13: 889; Jac.-Fél. in J. Agric. Trop. 4: 139; including subsp. *brevipedunculatus* Gledhill in Phytomorph. 12: 413 (1962). *APD acc*

Milium compressum Sw., Prodr. Veg. Ind. Occ. 24 (1788).

Paspalum platycaulon Poir. (1804)—Chev. Bot. 722.

Axonopus kisantuensis Vanderyst in Bull. Agric. Congo Belge 16: 667 (1925).

Axonopus brevipedunculatus Gledhill in Bol. Soc. Brot. 40: 127 (1966).

Echinochloa compressa (Sw.) Roberty in Bull. I.F.A.N. 17: 60 (1955).

A strongly stoloniferous perennial up to 60 cm. high; **on pathsides and lawns in the forest zone.**

Guin.: Kindia (Dec.) Jac.-Fél. 7441! **S. L.:** Freetown (Aug.) Deighton 2030! Makump (Aug.) Deighton 1364! Mabum (Aug.) Thomas 1599! Rokupr (July) Jordan 456! Aurcol (Jan.) Gledhill 45! **Lib.:** Vahun, Kolahun Dist. (Nov.) Baldwin 10231! Bomi Hills (Feb.) Baldwin 14079! Cavally (June) Baldwin 6013! Harley 1740! Nimba (Dec.) Adam 20067! **Ghana:** Cape Coast (July) Hall 1506! Kumasi (Mar., June) Adams 3843! La Danso 74! Aburi (May, June) La Danso 67! Ankrah GC 20045! **S. Nig.:** Lagos (Mar.) Maitland 164! Agege (Oct.) Haines 185! Ibadan (May, Nov.) Townrow 21! Clayton 560! **W. Cam.:** Victoria (Mar., July) Brunt 1038! Maitland 17! Cam. Mt. Maitland! Kumba (Nov.) Thorold TN97!

A native of tropical America, now introduced to most tropical countries. (See Useful Plants.)

3. *Axonopus flexuosus* (Peter) C. E. Hubbard ex Troupin, Fl. Garamba 18 (1956); Jac.-Fél. in J. Agric. Trop. 4: 3 39; Aké Assi, Contrib. 2: 294. *APD acc*

Digitaria flexuosa Peter in Fedde, Rep. Beih. 40, 1: Anh. 60 (1930).

Axonopus compressus of F.T.A. 9: 566, and of F.W.T.A., ed. 1, 2: 564 (partly).

Axonopus compressus subsp. *congoensis* Henr. in Blumea 5: 529 (1945);

Axonopus compressus var. *congoensis* (Henr.) G. A. Black in Adv. Front. Pl. Sci. 5: 31 (1963).

Axonopus arenosus Gledhill in Bol. Soc. Brot. 40: 130 (1966).

A robust stoloniferous perennial up to 1 m. high; **swampy places.**

Guin.: Forécariah (Dec.) Jac.-Fél. 7403! Kindia Jac.-Fél. 127! Dalaba (Nov.) Chev. 34899! Timbo (Oct.) Pabéguin 1703! Madina Tossékéré (Oct.) Adam 12542! **S. L.:** Njala (July, Sept.) Deighton 734! 750! 2075! Kichom (July) Deighton 3765! **Lib.:** Kailahun (Nov.) Baldwin 10126! Roberts Field (July) Baldwin 6644! Harbel (June) Baldwin 5924! 5925! Gbau (Sept.) Baldwin 9452! **Iv. C.:** Cavally basin Chev. 19762! **Ghana:** Eikwe village (Dec.) Rose Innes GC 30547! Esiam (Feb., Mar.) Rose Innes GC 30875! Irvine 2340! Atuabo (Apr.) Thorold CB 41! Ankaful (Mar.) Hall 1296! **Dah.:** Ouidah (Aug.) Adjanohoun 219! Porto Novo Adjanohoun 255! Sémé (Feb.) Raynal 13540! **N. Nig.:** Sha (Sept.) Hall K34! **S. Nig.:** Ikoyi Plains, Lagos (Oct., July) Dalz. 1313! Jones FHI 19419! Brass R. Barter 1842! Mamu R. flood plain (Aug.) Jones FHI 6698! Opobo Jeffreys 29! **F. Po.:** Moka (Sept.) Wrigley & Melville 595!

Throughout tropical Africa.

92. ACRITOCOAETE

Pilger in Engl., Bot. Jahrb. 32: 53 (1903); F.T.A. 9: 481 (1919). *APD acc*

- 1 Leaf-blades narrowly lanceolate, sparsely pilose, narrowed at the base, drawn out into a filiform tip; inflorescence of 1–4 slender racemes appressed to the main axis; spikelets secund, lanceolate, 6 mm. long, on pedicels 2 mm. long; lower glume an ovate scale 1 mm. long; upper glume and lower lemma hispidulous, with a few scattered bristles *volkensii*

Acritochaete volkensii Pilger in Engl., Bot. Jahrb. 32: 53 (1903). *APD acc*

Perennial, with weak trailing culms up to 1 m. long; **mountains.**

N. Nig.: Chappal Waddi, Sardauna Prov. (Nov.) Magaji, Jackson & Tuley 1968! **W. Cam.:** Cam. Mt., 6,000 ft. (Dec.) Hinds C65! Mokanda, 6,000 ft. (Feb.) Maitland 1339! Mann's Spring, 7,000–7,500 ft. (Dec.) Boughey GC 10716! GC 12623!

Also on the mountains of east and north-east Africa.

93. ALLOTEROPSIS

J. S. Presl. ex C. B. Presl, Rel. Haenk. 343 (1830); emend. Hitchc. in Contrib. U.S. Nat. Herb. 12: 210 (1909); F.T.A. 9: 482 (1919); Butzin in Willdenowia 5: 123 (1968). *APD acc*

- 1 Leaf-blades linear, narrow at the base:2
 Leaf-blades lanceolate, rounded-cordate at the base; basal sheaths pubescent:3

- 2 Spikelets 5–7 mm. long; upper lemma with an awn 3 mm. long; basal sheaths silky hairy; racemes 2–5, digitate; margins of upper glume ciliate, and sometimes extended into a broad fimbriate wing; lower lemma sometimes transversely barred with purple bands [1. *semialata*](#)
- Spikelets 3–4 mm. long; upper lemma mucronate; basal sheaths at most pubescent; racemes 2(–3); margins of upper glume shortly ciliate [2. *angusta*](#)
- 3 Spikelets lanceolate, 3.5–4 mm. long; upper glume with a narrow fringe of short appressed hairs along the margins, and tipped with an awn-point up to 1 mm. long; upper lemma with an awn 3–5 mm. long; margins of leaf-blades cartilaginous and crisped-wavy, usually glabrous; racemes 10–20, in 2 or more whorls [3. *paniculata*](#)
- Spikelets ovate, 4 mm. long; upper glume with a dense conspicuous band of sub-appressed hairs along the margins, and tipped with an awn point up to 1 mm. long; upper lemma with an awn 2–5 mm. long; margins of leaf-blades cartilaginous and pectinate-ciliate; racemes 5–10, in 1–2 whorls [4. *cimicina*](#)

1. **Alloteropsis semialata** (*R. Br.*) Hitchc. in Contrib. U.S. Nat. Herb. 12: 210 (1909); F.T.A. 9: 483; A. Chev. in Rev. Bot. Appliq. 13: 883. *APD acc*

Panicum semialatum *R. Br.*, Prodr. 192 (1810).

Axonopus semialatus (*R. Br.*) Hook. f. (1896)—Chev. Bot. 723.

Coridochloa semialata (*R. Br.*) Nees (1833).

Tufted perennial 60–90 cm. high with erect culms; [in savanna](#).

Sen.: Siminti (June) Adam 14185. Kanéméré (June) Fotius K124 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 257 (1969).

Guin.: Timbo Pobéguin 1833! Mamou to Kindia Chev. 13580! **S. L.:** Port Loko (May) Deighton 4783! Jordan 869!

Ghana: Tamale to Yendi (May) Akpabla 508! Han road, Wa (July) Adams 916! Adamsu (Mar.) Morton A3243a! **Dah.:** Atacora Mts. Chev. 24183! **N. Nig.:** Zaranda Mt. (May) Lely 195! Jos Plateau (Apr.) Lely P242! Kaduna (May) Keay FHI 25797! Anara F.R., Zaria (May) Keay FHI 22948! **W. Cam.:** Bangola, Ndop (Mar.) Brunt 279!

Throughout the tropics of Africa and Asia.

2. **Alloteropsis angusta** Stapf in F.T.A. 9: 485 (1919). *APD acc*

Perennial 60–90 cm. high, with slender ascending culms; [swampy places](#).

N. Nig.: Gembu to Donga Valley, Sardauna Prov. (Aug.) De Leeuw 1808!

Also in [Uganda](#), [Kenya](#), [Zambia](#) and [Angola](#).

3. **Alloteropsis paniculata** (*Benth.*) Stapf in F.T.A. 9: 486 (1919); A. Chev. in Rev. Bot. Appliq. 13: 883; Berhaut, Fl. Sén. ed. 2, 417. *APD acc*

Urochloa paniculata *Benth.*, Fl. Nigrit. 558 (1849).

Axonopus paniculatus (*Benth.*) A. Chev., Bot. 723 (1920).

Echinochloa paniculata (*Benth.*) Roberty in Bull. I.F.A.N. 17: 67 (1955).

Panicum benthamii Steud. (1854).

P. aubertii Mez (1905).

Mezochloa aubertii (*Mez*) Butzin in Willdenowia 4: 211 (1960).

Annual up to about 1.2 m. high; [moist soils and marshy places](#).

Mali: San (June, Nov.) Chev. 1092! 2291! **Guin.:** Kindia Jac.-Fél. 260! **S. L.:** Mano Thomas 10646! Rombe (Apr.)

Glanville 227! Kambia (Dec.) Deighton 845! Rotebana (Mar.) Adames 154! Rokupr (May) Jordan 38! **Lib.:** Gbeidin (Apr.,

May) Harley 1807! 2034! Baila (May) Harley 1415! **Iv. C.:** Soubré (Apr.) Leeuwenberg 3224! **Ghana:** Kpong (June)

Ankrah GC 20055! Amedica, R. Volta (May) Irvine 3006! **N. Nig.:** Lokoja Ansell! **S. Nig.:** Ajagbodudu, Benin (Aug.)

Wright 59! Onitsha Barter 1756! Afikpo (June) Stone 10! Abakaliki (Apr.) Haines 140!

Also in [C. African Rep.](#), [Congo](#), [Malawi](#), [Zanzibar](#) and [Mauritius](#), (See Useful Plants.)

4. **Alloteropsis cimicina** (*Linn.*) Stapf in F.T.A. 9: 487 (1919). *APD acc*

Milium cimicinum *Linn.*, Mant. Alt. 184 (1771).

Panicum cimicinum (*Linn.*) Retz. (1783).

Coridochloa cimicina (*Linn.*) Nees (1833).

Annual 60–90 cm, high; [moist soils](#).

N. Nig.: Maska, Katsina Prov. (Nov.) Thatcher S551! Damaturu (July) De Leeuw 1031!

Throughout tropical Asia and Africa.

94. DIGITARIA

Heist. ex Fabric., Enum. Pl. Hort. Helmst. 207 (1759); F.T.A. 9: 422 (1919); Henrard, Monograph of the genus *Digitaria* (1950).

- 1 Pedicel tips bearing white setulae as long as the spikelets, the latter quite glabrous; lower glume suppressed, the upper reduced to a small scale and exposing much of the chestnut-brown upper lemma; lower lemma 3-nerved: **2**
- Pedicel tips glabrous or hispidulous: **3**
- 2 Perennial, with densely silky base; spikelets 1.7–2.1 mm. long, the upper glume distinct and up to 0.5 mm. long [1a. diagonalis var. hirsuta](#)
- Annual; spikelets 0.7–1 mm. long, the upper glume represented by a minute scale [2. minutiflora](#)
- 3 Racemes in a succession of 6 or more whorls on a slender common axis about 20 cm. long, the whorls each of 10–12 racemes; raceme rhachis triquetrous, 3–5 cm. long; spikelets 1.8 mm. long; upper glume 3-nerved, as long as the spikelet; leaf-blades lanceolate from a broad subcordate base [3. perrottetii](#)
- Racemes digitate or subdigitate, sometimes with an elongated common axis but then with the racemes longer than the axis and few in number: **4**
- 4 Upper glume shorter than the lower lemma, 3-nerved, the back of the upper lemma partly exposed: **5**
- Upper glume as long as the lower lemma, 5- or rarely 3-nerved, concealing the back of the upper lemma: **17**
- 5 Base of culms densely coated with fibrous remains of leaf-sheaths; rhachis triquetrous, without wings; spikelets clothed in fine pale brown hairs; fruit dark chestnut brown: **6**
- Base of culms not fibrous: **7**
- 6 Spikelets 2–2.5 mm. long [4. homblei](#)
- Spikelets 3–3.5 mm. long [5a. phaeotricha var. patens](#)
- 7 Upper lemma with an awn-point 1.3 mm. long; spikelets 1.7 mm. long, obscurely puberulous with verrucose hairs; racemes digitate, 2–4 cm. long, the rhachis flat and herbaceous with a low rounded midrib [6. aristulata](#)
- Upper lemma acute or acuminate, but not aristulate: **8**
- 8 Spikelets ternate in the middle part of the raceme (sometimes the longest pedicel is partly adnate to the midrib and the spikelets appear to be alternately paired and solitary, or the lowest spikelet is aborted): **9**
- Spikelets paired in the middle part of the raceme; midrib of rhachis triquetrous and usually winged: **13**
- 9 Rhachis of racemes triquetrous, without lateral wings: **10**
- Rhachis of racemes flat, laterally winged, the wings about the same width as the rounded or triquetrous midrib: **11**
- 10 Hairs of spikelets usually short, appressed-clavate with acute tips, not mixed with stout bristles; spikelets 1.7–2.2 mm. long; fruit black [7. delicatula](#)
- Hairs of spikelets mixed with stiff glistening bristles; spikelets 1.8–2 mm. long; fruit black [8. lecardii](#)
- 11 Perennial; tips of pedicels glabrous; spikelets 2–2.2 mm. long, obscurely hairy with oppressed truncate hairs; upper glume obtuse, about 1/2 as long as spikelet; fruit light chestnut brown [9. seminuda](#)
- Annuals; tips of pedicels with a corona of short hairs up to 0.3 mm. long: **12**
- 12 Spikelets with dense lines of short appressed hairs between the nerves, the hairs clavate with obtuse tips; spikelets 1.8–2 mm. long; upper glume acute, 3/4 as long as spikelet; fruit black [10. ternata](#)
- Spikelets quite glabrous, 2 mm. long, dark brown to black, the 3 central nerves of the lower lemma close together; midrib of rhachis triquetrous [11. iburua](#)
- 13 Lower lemma apparently 3-nerved in face view (actually 5-nerved, with the lateral nerves contiguous); spikelets 3 mm. long, narrowly lanceolate; midrib of rhachis triquetrous, 3-winged; fruit yellowish-brown [12. timorensis](#)
- Lower lemma 5-nerved on the face, the nerves spaced: **14**
- 14 Spikelets acuminate at the tip, 3–4 mm. long, with or without stiff brown bristle-hairs along the margins of the lower lemma; racemes 15–25 cm. long, stiff, straight; fruit bluish-grey [13. acuminatissima](#)
- Spikelets acute at the tip, up to 3 mm. long: **15**
- 15 Spikelets quite glabrous, 1.8–2 mm. long, about 3 times as long as broad; racemes triquetrous, scarcely winged, 3–6 cm. long on a short common axis up to 3 cm. long, spreading almost horizontally, the spikelets borne rather laxly on one side; lower glume a green ovate scale 0.3 mm. long; upper glume 2/3–3/4 as long as the spikelet; fruit bluish grey [14. abyssinica](#)
- Spikelets hairy, though often obscurely so, very rarely glabrous; racemes narrowly winged, the spikelets appressed; lower glume varying from an obscure rim to a distinct scale: **16**

- 16** Spikelets 3 times as long as broad, mostly 2–2.3 mm. long; racemes 5–11 cm. long, digitate, stiffly ascending; spikelets imbricate, overlapping by at least half their own length; upper glume usually half as long as the spikelet or more; pedicelled spikelet often with a rufous ciliate fringe at maturity [15. ciliaris](#)
- Spikelets 5 times as long as broad, mostly 2–2.5 mm. long; racemes 8–14 cm. long, digitate or more often on a common axis up to 6 cm. long, more or less spreading; spikelets less dense, overlapping by less than half their length at least in parts of the raceme; upper glume usually less than half as long as the spikelet; pedicelled spikelet without a conspicuous ciliate fringe [16. horizontalis](#)
- 17** Rhachis of racemes flat, ribbon-like, with a low rounded midrib: **18**
- Rhachis of racemes triquetrous, sometimes narrowly winged but then the spikelets attached to a sharp-edged midrib: **21**
- 18** Spikelets pubescent or hirsute with verrucose hairs: **19**
- Spikelets quite glabrous: **20**
- 19** Spikelets 2 mm. long, clothed in fleecy white hairs drawn out into a tuft about 1 mm. beyond the end of the spikelet; lower lemma with a prominent glabrous middle nerve; racemes paired, 8–15 cm. long [17. argyrotricha](#)
- Spikelets 1.2–1.5 mm. long, with short appressed hairs not extending beyond the spikelet; racemes typically paired, 2–5 cm. long [18. longiflora](#)
- 20** Plant creeping, up to about 20 cm. high; spikelets 1.5 mm. long; racemes typically paired, 2–6 cm. long; fruit light brown, the tip distinctly protruding beyond the lower lemma [19. fuscescens](#)
- Plant geniculately ascending, 40–80 cm. high; spikelets 1.7–2 mm. long; racemes 3–5, 4–15 cm. long; fruit bluish grey, not exceeding the lower lemma [20. exilis](#)
- 21** Spikelets densely clothed in long silvery or purplish hairs produced into a long tuft 3–4 mm. beyond the end of the spikelet; spikelets 3–4 mm. long, ternate; lower glume a truncate, nerveless, hyaline scale 0.75 mm. long; upper glume 3-nerved; upper lemma acuminate, rostrate [21. gayana](#)
- Spikelets glabrous or hairy, the hairs not extending beyond the tip of the spikelet; spikelets paired: **22**
- 22** Upper glume 0.5 mm. longer than the lower lemma, caudate-acuminate at the tip, 7-nerved; spikelets 2.5–3 mm. long, narrowly lanceolate, obscurely puberulous; lower glume a membranous collar separated from the rest of the spikelet by a distinct internode 0.1–0.2 mm. long [22. debilis](#)
- Upper glume and lower lemma subequal, acute: **23**
- 23** Lower glume a broad truncate scale, 1/4–1/3 the length of the spikelet, with a snow white fringe of hairs protruding from underneath; spikelets 3 mm. long, pubescent with verrucose hairs [23. patagiata](#)
- Lower glume an obscure glabrous rim at the base of the spikelet: **24**
- 24** Spikelets 3.7–4 mm. long, minutely pubescent; upper glume 3-nerved [24. gentilis](#)
- Spikelets 1.7–2.2 mm. long: **25**
- 25** Spikelets appressed-pubescent, the hairs very fine with curled tips, 1.6–2 mm. long; upper glume 5-nerved; fruit greyish purple [25. leptorhachis](#)
- Spikelets quite glabrous, 2–2.2 mm. long; upper glume 3–5-nerved; fruit grey [26. barbinodis](#)

1. *Digitaria diagonalis* (Nees) Stapf in Fl. Capensis 7: 381 (1898). *APD acc*

Panicum diagonale Nees, Fl. Afr. Austr. 23 (1841).

P. uniglume Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 370 (1851).

Digitaria uniglumis (Hochst. ex A. Rich.) Stapf in F.T.A. 9: 474 (1919).

1a. *Digitaria diagonalis* var. *hirsuta* (De Wild. & Th. Dur.) Troupin Fl. Garamba 1: 29 (1956). *APD acc*

Panicum diagonale var. *hirsutum* De Wild. & Th. Dur., Pl. Thonn. Congol. 4 (1900).

Digitaria uniglumis var. *hirsuta* (De Wild. & Th. Dur.) Robyns (1955).

Digitaria uniglumis var. *major* Stapf in F.T.A. 9: 476 (1919); F.W.T.A., ed. 1, 2: 569; Henrard, Monogr. Digitaria 767; A. Chev. in Rev. Bot. Appliq. 13: 883; Aké Assi, Contrib. 2: 296.

Robust erect perennial, 1–3 m. high, with handsome spreading inflorescence.

Sen.: Kanéméré (July) Fotius K307! **S. L.:** Bintumane Peak, 5,000 ft. (Jan.) T. S. Jones 150! Mt. Loma (Nov.) Jaeger 503! Morton SL 2684! **iv. C.:** Bouaflé to Zuénoula (Oct.) Adjanohoun 331a! Odiénné to Boundiali (July) Adjanohoun 287a!

Ghana: Bosomoa F.R. (June) Vigne FH 3054! Sawla to Wa (Nov.) Rose Innes GC 30825! Yapei ferry to Kintampo (Nov.) Rose Innes GC 30851! Ejura to Kintampo (Oct.) Rose Innes GC 30516! Banda (Apr.) Morton A3286! **Togo Rep.:** Sokode to Lama Kara (Oct.) Rose Innes GC 31389! **N. Nig.:** Gwada, Niger Prov. (Sept.) Lamb FHI 3164! Gwari, Niger Prov. (Aug.) Onochie FHI 35701! 35713! Mando F.R., Zaria (June) Keay FHI 37078! Vogel Peak (Nov.) Hepper 1500! Maisamari, Mambila (Sept.) Oche MRK57! **S. Nig.:** Lagos W. MacGregor 208! Ago-Are F.R., Shaki (Oct.) Sofoluwe FHI 38180! Akure to Owo (Oct.) Maggs 20! Mamu River F.R., Awka (Sept.) Onochie FHI 34075! Ikem, Nsukka (Oct.) Jones

FHI 6774! **W. Cam.:** Bafut-Ngemba F.R. (Feb.) Hepper 2206! Bambui (Dec.) Pedder 3! Boughey GC 10751! Kishong (June) Brunt 713!

Throughout tropical Africa.

2. ***Digitaria minutiflora* (Hochst. ex A. Rich.) Stapf** in F.T.A. 9: 476 (1919); *Henr. l.c.* 421; A. Chev. in *Rev. Bot. Appliq.* 13: 883.

APD: Synonym of Digitaria pseudodiagonalis Chiov.

***Panicum minutiflorum* Hochst. ex A. Rich.**, *Tent. Fl. Abyss.* 2: 362 (1851).

Erect grass about 60 cm. high.

Guin.: Timbo (Oct.) Pobéguin 1701! Madina Tossékéré (Oct.) Adam 12560! **S. L.:** Benekoro (Sept.) Glanville 328! Bintumane (Nov.) Jaeger 8223! Loma Mt. (Nov.) Morton SL 2685!

Extends eastwards to **Ethiopia** and Tanzania, southwards through the Congo to Zambia.

3. ***Digitaria perrottetii* (Kunth) Stapf** in F.T.A. 9: 435 (1919); *Henr. l.c.* 547; A. Chev. in *Rev. Bot. Appliq.* 13: 879; Berhaut, *Fl. Sén. ed.* 2, 403. *APD acc*

***Panicum perrottetii* Kunth**, *Rev. Gram.* 2: 395 (1829).

***P. pseudagrostis* Steud.**, *Syn. Pl. Glum.* 1: 71 (1854).

***Milium minutiflorum* Trin.** (1834).

Erect annual with coarse leaves, 1–1.2 m. high.

Sen.: Leprieur! Roger! Heudelot 448!

Also in **Angola**, **Rhodesia**, **Malawi**, **Mozambique**, **Tanzania** and **Madagascar**.

4. ***Digitaria homblei* Robyns** in *Inst. Roy. Col. Belge, Mém.* 1: 27 (1931).

APD: Synonym of Digitaria compressa Stapf

Caespitose perennial 60 cm. high.

N. Nig.: 30 mi. W. of Kaduna (June) Clayton 1098! Anara F.R., Zaria (May) Keay FHI 22865! Zaria Taylor 32! Iyatawa (July) Keay FHI 25933!

Also in **Katanga** and **Zambia**.

5. ***Digitaria phaeotricha* (Chiov.) Robyns** in *Inst. Roy. Col. Belge, Mém.* 1: 28 (1931). *APD acc*

***Digitaria parlatorei* var. *phaeotricha* Chiov.** in *Ann. Bot. Roma* 13: 41 (1914).

- 5a. ***Digitaria phaeotricha* var. *patens* W. D. Clayton** in *Kew Bull.* 23: 294 (1969).

APD: Synonym of Digitaria setifolia Stapf

Caespitose perennial 60 cm. high.

S. L.: Mt. Loma (Mar., Apr.) Jaeger 9677! 9791!

6. ***Digitaria aristulata* (Steud.) Stapf** in F.T.A. 9: 471 (1919); *Henr. l.c.* 50; Chev. *Bot.* 731, and in *Rev. Bot. Appliq.* 13: 882; Berhaut, *Fl. Sén. ed.* 2, 400. *APD acc*

***Panicum aristulatum* Steud.** *Syn. Pl. Glum.* 1: 42 (1854).

Creeping Cynodon-like annual up to about 15 cm. high.

Sen.: Leprieur! **Mali:** San (June) Chev. 1094! Djenné (June) Chev. 1121! San to Djenné (June) Lean 40!

7. ***Digitaria delicatula* Stapf** in F.T.A. 9: 454 (1919); *Henr. l.c.* 173; A. Chev. in *Rev. Bot. Appliq.* 13: 881. *APD acc*

Erect annual about 60 cm. high.

Sen.: Kanéméré (Aug.) Fotius K570 (fide Lebrun in Bull. Soc. Bot. Fr. 116: 258 (1969)). **Mali:** Banguita (Sept.) Farrow 109! **Iv. C.:** Bocanda (June) Adjanohoun 257a! Niangbo (July) Aké Assi 10758! Sipilou (Oct.) Aké Assi 9680! **U. Volta:** Adiokrou (Feb.) Chev. 17149! **Ghana:** Akwamu to Ajena (June) Adams 4795! Wenchi (Sept.) Rose Innes GC 30154! Kpandu to Accra (Sept.) Ankrah GC 20206! Yendi (Sept.) Thorold 203! Pong-Tamale (Oct.) Adesi! **Dah.:** Parakou (Sept.) Risopoulos 1193! **N. Nig.:** Panshanu (Aug.) Lawlor & Hall 197! 206! Damagum (Sept.) De Leeuw 1235! Jebba (Aug.) Hall 301! Guga F.R., Zaria (Aug.) De Leeuw 1951! **S. Nig.:** Lagos W. MacGregor 210! Aladidan (July) Sawyer K6! Igboora (Oct.) Haines 335!

8. **Digitaria lecardii** (*Pilger*) *Stapf* in F.T.A. 9: 450 (1919); *Henr. l.c.* 382; A. Chev. in *Rev. Bot. Appliq.* 13: 880; *Berhaut*, *Fl. Sén. ed.* 2, 400.

APD: Synonym of Digitaria argillacea (Hitchc. & Chase) Fernald f. argillacea

Panicum sanguinale var. **lecardii** *Pilger* in *Engl., Bot. Jahrb.* 30: 118 (1901).

Erect annual about 60 cm. high; scarcely distinct from the preceding.

Mali: Ségou Lecard 243! **Iv. C.:** Téhini (Aug.) de Wilde 776! **U. Volta:** Fada, N'Gourma Chev. 24556! Kassandé (July) Scholz 39! Barmoussa (June) Scholz 121! **Ghana:** Damongo (Sept.) Goodall 15917! Navrongo (Aug.) Williams 552! Gambaga (Oct.) Vigne FH 4637! Tamale (Aug.) Irvine 4536! Damongo to Tamale (Aug.) Rose Innes GC 31926! **Dah.:** Tanguieta to Boukombe (Nov.) Risopoulos 1272! **N. Nig.:** Nupe Barter 1358! Vodni, Plateau Saunders 59! Kuduru (Aug.) Sawyer K3! Samaru (Aug.) Thatcher S478! Yola (Sept.) Dalz. 274! **S. Nig.:** Igbetti (July) Stanfield!

9. **Digitaria seminuda** *Stapf* in F.T.A. 9: 446 (1919); *Henr. l.c.* 675; A. Chev. in *Rev. Bot. Appliq.* 13: 880; Aké Assi, *Contrib.* 2: 296.

APD: Synonym of Digitaria atrofusca (Hack.) A. Camus

Tufted perennial 60–90 cm. high.

Guin.: Kouria (July) Caille in *Hb. Chev.* 15020! **S. L.:** Mabum (Aug.) Thomas 1516! Tingi Mts. (Dec.) Morton & Gledhill SL 3127! Njala (June, July) Deighton 733! 3232! Madina (Aug.) Jordan 914! **Ghana:** Mankessim (May) Hall 2968! Kpandai (Sept.) Ankrah GC 20240! Cape Coast (June) Hall 3053! Elmina (June) Hall 1485! Kete Krachi to Yendi (Oct.) Rose Innes GC 30951! **N. Nig.:** Shika, Zaria (Sept.) De Leeuw & Magaji 1951a! Gembu, Mambila (Aug.) De Leeuw 1786! **S. Nig.:** Lagos Dalz. 1425! Haines 314! Opobo Jeffreys 24! Ogoni (July) Tuley 781!

10. **Digitaria ternata** (*A. Rich.*) *Stapf* in *Fl. Capensis* 7: 376 (1898); F.T.A. 9: 452; *Henr. l.c.* 737; A. Chev. in *Rev. Bot. Appliq.* 13: 881. *APD acc*

Cynodon ternatus *A. Rich.*, *Tent. Fl. Abyss.* 2: 405 (1851).

Tufted annual up to 60 cm. high.

Mali: Man to Bamako (Sept.) Adam 15005! **Guin.:** Timbo Pobéguin! **S. L.:** Mabonto (Aug.) Deighton 1301! **Ghana:** Lawra (Sept.) Hall CC 636! **N. Nig.:** Naraguta F.R. (July) Lawlor & Hall 112! Riyom, Plateau (Aug.) Sawyer K5! Hoss, Plateau (Aug.) Keay FHI 12693! Samaru, Zaria (Aug., Sept.) Thatcher S484! Biu (Oct.) De Leeuw 1317! **S. Nig.:** Obudu Plateau (Nov.) Tuley 1025! **W. Cam.:** Bamenda (Oct.) Agric. Off. Bam 13! Bambui (Aug.) Brunt 1241!

Throughout tropical and S. Africa, extending eastwards through India to Thailand and China.

11. **Digitaria iburua** *Stapf* in *Kew Bull.* 1915: 382 (1915); F.T.A. 9: 455; *Henr. l.c.* 338; Portères in *J. Agric. Trop.* 2: 359; A. Chev. in *Rev. Bot. Appliq.* 13: 881. *APD acc*

Annual crop plant up to about 1.4 m. high.

Iv. C.: Azaguié (Oct.) Aké Assi 10331! **Togo Rep.:** Kandé, Kpessedé, Ataloté (fide Portères). **Dah.:** Birni to Natitingou (fide Portères). **N. Nig.:** Zaria (Sept.) Lamb 54! Jos (Oct., Nov.) Hepper 2867! Keay FHI 21429! Riyom (Nov.) Philcox 1011! 1012!

12. **Digitaria timorensis** (*Kunth*) *Bal.* in *Morot, Journ. de Bot.* 4: 138 (1890); *Henr. l.c.* 745.

APD: Synonym of Digitaria radicata (J. Presl) Miq.

Panicum timorense *Kunth*, *Enum. Pl.* 1: 83 (1833).

Slender creeping annual about 23 cm. high, probably introduced.

W. Cam.: Buea (July) Maitland 2!

Also in **Mauritius**, and extending eastwards from India to Malesia and Polynesia.

13. **Digitaria acuminatissima** Stapf in F.T.A. 9: 441 (1919); **Henr. l.c.** 4 (incl. var. *conformis* **Henr.** and var. *typica* subvar. *grandiflora* **Henr.**); **A. Chev.** in *Rev. Bot. Appliq.* 13: 880; **Berhaut**, *Fl. Sén. ed.* 2, 400. *APD acc*

Digitaria sanguinalis var. *subacuminata* **A. Chev.**, *Sudania* 30, 33 (1911); **Chev. Bot.** 732; name only.

Annual 60–90 cm. high with long stiff racemes; **on riverside flats subject to seasonal flooding.**

Maur.: L. Rkiz (Oct.) Adam 21818! **Mali:** Goundam to Faginbirg (Aug.) **Chev.** 2284! **San** (Sept.) **Chev.** 2218! **Mopti** (Sept.) **Chev.** 24957! **Gao** (Aug.) de Wailly 5132! **Ghana:** Pong-Tamale (June) Addei 757! **Ningo Mt.** (July) Hall 3148! **Amedica** (Aug.) Hall 3301! **Lawra** (Sept.) Hall CC 772! **N. Nig.:** Lokoja (Mar.) Maggs OK49! **Abinsi** (May) Dalz. 907! **Nguru** (July) Golding 42! **Sokoto** (Sept.) De Leeuw 1556! **Bornu** (Oct.) De Leeuw 2045!

Extends southward to the Congo and **Angola**.

14. **Digitaria abyssinica** (**Hochst. ex A. Rich.**) Stapf in *Kew Bull.* 1907: 213; **F.T.A.** 9: 460; **Henr. l.c.** 1.

APD: Synonym of Digitaria scalarum (Schweinf.) Chiov.

Panicum abyssinicum **Hochst. ex A. Rich.**, *Tent. Fl. Abyss.* 2: 360 (1851).

A slender creeping perennial with culms up to about 30 cm. high.

N. Nig.: Gembu, Mambila Plateau (Jan., Sept., Nov.) Hepper 1841! **Oche MRK** 81! **Magaji & Tuley** 1849! **Mayo Daga** to **Njawai** (Nov.) **Jackson**, **Magaji & Tuley** 1892! **S. Nig.:** Obudu Plateau (Nov.) **Tuley** 1032! **W. Cam.:** **Bambui** (May) **Pedder** 24! **Ndop** (Apr.) **Brunt** 374! **Nkambe** (Feb.) **Hepper & Charter** 1936! **Bamenda** to **Santa Akpabla GC** 10562! **Buea** (Mar.) **Boughey GC** 7018!

Also in east Africa from **Ethiopia** to Tanzania.

15. **Digitaria ciliaris** (**Retz.**) **Koel.** *Descr. Gram.* 27 (1802). *APD acc*

APD: Synonym of Digitaria abyssinica (Hochst. ex A. Rich.) Stapf

Panicum ciliare **Retz.**, *Obs. Bot.* 4: 16 (1786).

P. adscendens **Kunth** in *Humb. & Bonpl., Nov. Gen. et Sp. Pl.* 1: 97 (1816).

Digitaria adscendens (**Kunth**) **Henr.** in *Blumea* 1: 92 (1934); **Henr.**, *Monogr. Digitaria* 9 & 998 (incl. subsp. *chrysoblephora* (**Fig. & De Not.**) **Henr.**, subsp. *marginata* (**Link**) **Henr.** and var. *rhachisetata* **Henr.**); **De Miré & Gillet** in *J. Agric. Trop.* 3: 731.

Digitaria marginata **Link** (1821); **F.T.A.** 9: 439 (incl. var. *linkii* **Stapf**, anii var. *fimbriata* (**Link**) **Stapf**; **A. Chev.** in *Rev. Bot. Appliq.* 13: 879; **Aké Assi**, *Contrib.* 2: 295.

Digitaria sanguinalis of **Chev. Bot.** 732, not of **Scop.** [this closely allied species of temperate regions has shorter spikelets and upper glumes, see **Ebinger** in *Brittonia* 14: 248 (1962)].

Creeping or ascending annual up to about 60 cm. high; **common on roadsides, old farmland, and waste ground.**

Maur.: **Néma Rossetti** 61/173! **Rosso** (Oct.) **Hepper** 3820! **Sen.:** **Ziguinchor** (Jan.) **Chev.** 2188 bis! **Dakar** (May, Oct.) **Baldwin** 5740! **Adam** 14929! **Diégoune** (Sept.) **Adam** 18064! **Sefa** (Oct.) **Adam** 18427! **Gam.:** **Saunders** 26! **Ruxton** 59! **Yundum** (Aug., Dec.) **Frith** 17! 126! **Mandingo Pirie** 1a! **Mali:** **Macina** (Sept.) **Chev.** 24884! **Bamba** (Mar.) **Chev.** 43813! **Timbuktu** (July, Aug.) **Hagerup** 207! **Lean** 66! **Dioura** (Aug.) **Davey** 62! **Port. G.:** **S. Domingos** (Aug.) **Pereira** 3130! **Guin.:** **Timbo Pobéguin** 1703! 1705! **Kouroussa** (Aug.) **Pobéguin** 498! **S. L.:** **Freetown** (Dec., Mar.) **Deighton** 798! **Gledhill** 46! **Mane** (May) **Deighton** 2879! **Newton** (Aug.) **Deighton** 2202! **Kissy** (Nov.) **Deighton** 4388! **Lib.:** **Monrovia** (Dec.) **Adam** 16521! **Paynesville** (Sept.) **van Dillewijn** 89! **Nimba** (May) **Adam** 25517! **U. Volta:** **Kondougou** (Sept.) **Aké Assi** 6455! **Ghana:** **Accra** (June) **Dalz.** 169! **Damongo** (Mar.) **Adams** 3970! **Mamprusi** **Hepper & Morton** A3152! **Bolgatanga** (Oct.) **Rose Innes GC** 30241! **Bawku** (Oct.) **Rose Innes GC** 30253! **Niger:** **Niamey** (Oct.) **Hagerup** 515! **Toukounous Bartha** 28! **N. Nig.:** **Ilorin** (Mar.) **Meikle** 1316! **Nupe Barter** 1365! **Naraguta Lely** P402! **Sokoto** (Sept.) **Palmer** 4! **Fika** (Oct.) **Daggash FHI** 24891!

Throughout the tropics.

[This and the following species are closely related and are both variable. The most reliable distinguishing features are the shape and disposition of the spikelets and the attitude of the racemes, features which, unfortunately, are difficult to describe in words.]

16. *Digitaria horizontalis* Willd. Enum. Hort. Berol. 92 (1809); F.T.A. 9: 436; Henr. l.c. 329; Chev. Bot. 732, and in Rev. Bot. Appliq. 13: 879. *APD acc*

Digitaria horizontalis var. *porrantha* (Steud.) Henr. ex Hubbard & Vaughan, The grasses of Mauritius and Rodriguez 88 (1940); Henr., Monogr. Digitaria 333.

Panicum porranthum Steud. (1854)—Chev. Bot. 728.

P. diamesum Steud. (1854).

Digitaria diamesum (Steud.) Henr. l.c. 177 (1950).

Digitaria reflexa Schumach. (1827)—Henr. l.c. 621.

Digitaria nuda Schumach. (1827)—Henr. l.c. 500.

Digitaria velutina of F.W.T.A., ed. 1, 2: 567; and of Berhaut, Fl. Sén. ed. 2, 400. (This closely allied species is confined to East Africa.)

Creeping or ascending annual 30–60 cm. high; waste places.

Sen.: Perrottet 909! Kafountine (Sept.) Adam 18174! **Gam.:** Sankuli-Kunda (Sept.) Pirie 8! Yundum Ashrif 33! **Port. G.:** Piche (Sept.) Pereira 3174! **Guin.:** Baffing R. Pobéguin 1705bis! Kouroussa (July) Pobéguin 549! Kindia Jac.-Fél. 261! **S. L.:** Mabum (Aug.) Thomas 1545! Royanka (Sept.) Melville & Hooker 638! Rokupr (June) Jordan 274! Makump (Aug.) Deighton 1366! Musaia (Apr.) Deighton 5457! **Lib.:** Bushrod I. (Apr.) Barker 1291! Du R. (Aug.) Linder 223! Monrovia (May) Baldwin 5819! Ganta (July) Harley 1809! Gretown (July) Baldwin 6795! **Iv. C.:** Mbrabo (Jan.) Hédin! Tonkoui (Aug.) Boughey GC 18324! Lamé, Abidjan (Oct.) Leeuwenberg 1738! Cocody (June) Adjanohoun 416a! Gagnoa (Aug.) Boughey GC 14647! **U. Volta:** Banfora (July) Scholz 34! Ouagadougou (July) Scholz 34b! **Ghana:** Achimota, Accra (Apr.) Ankrah GC 20117! Damongo (Sept.) Rose Innes GC 30197! Mampong (Oct.) Baldwin 13532! Half Assinie (Dec.) Rose Innes GC 30542! Aburi (Apr.) Johnson 1010! **Togo Rep.:** Lomé Warnecke 340! Palime Stage 57! **Dah.:** Sémé (Sept.) Adjanohoun 531! Cotonou (July) Chev. 4477! **N. Nig.:** Ilorin (Oct.) Ward 45! Lokoja Richardson! Abinsi Dalz. 880! Acharane F.R., Kabba Prov. (June) J. K. Jackson 5163! **S. Nig.:** Lagos W. MacGregor 6! Ibadan (Nov.) Meikle 658! Okomu F.R. (Dec.) Brenan 8623! Umuahia (July) Jones FHI 6214! Opobo (Oct.) Jeffreys 8! **W. Cam.:** Buea (July, Oct.) Migeod 90! Maitland 3! 24! 203! Bamenda to Buli (Mar.) Brunt 1084! **F. Po:** Clarence Peak (Oct.) T. Vogel!

Throughout tropical Africa and America. (See Useful Plants.)

17. *Digitaria argyrotricha* (Anderss.) Chiov. in Result. Sci. Miss. Stef.-Paoli 1: 183 (1916); F.T.A. 9: 468; Henr. l.c. 49. *APD acc*

Panicum argyrotrichum Anderss. in Peters, Nat. Reise Mossamb. 2: 548 (1864).

Tufted or trailing annual.

Ghana: Legon (Jan., Apr.) Adams 3647! Morton A4159! Keta (July, Dec.) Thorold 273! Hall 3263! Cape St. Paul (June) Rose Innes GC 31224!

Also in east Africa from the **Sudan** to Mozambique.

18. *Digitaria longiflora* (Retz.) Pers. Syn. Pl. 1: 85 (1805); F.T.A. 9: 469; Henr. l.c. 409; A. Chev. in Rev. Bot. Appliq. 13: 882; Berhaut, Fl. Sén. ed. 2, 399, 400; Aké Assi, Contrib. 2: 294. *APD acc*

Paspalum longiflorum Retz., Obs. Bot. 4: 15 (1786).

Creeping stoloniferous annual or short-lived perennial up to about 30 cm. high; roadsides, fallow land and waste places.

Sen.: Niokolo-Koba (Oct.) Adam 15568 bis! Diégoune (Sept.) Adam 18066! Oussouyé (Sept.) Broadbent 105! Ziguinchor (Sept.) Broadbent 64! Djembering (Sept.) Broadbent 152! **Gam.:** Pirie! Ruxton 137! Genieri (July) Fox 173! **Mali:** Ségou Lécard 252 (partly)! Kara (Aug.) Farrow 1121 Banguita (Sept.) Farrow 114! Kouli (Aug.) Farrow 116! **Guin.:** Timbo (Oct.) Pobéguin 1702 bis! 1706! 1828! Madina Tossekré (Oct.) Adam 12549! Dalaba (June) Adames 274! **S. L.:** Fwendu Deighton 1589! Njala (May, Sept.) Deighton 130! Small 20! Kabala (July) Glanville 238! Kambia (July) Jordan 465! **Lib.:** Monrovia (Nov.) Dinklage 3270! Timbo (Mar.) Baldwin 11226! Ganta (Jan.) Harley 1743! Sinkor (June) Barker 1369! Buchanan (Nov.) Adam 16028! **Iv. C.:** Touba to Odienné (Oct.) Aké Assi 8307! **U. Volta:** Ouahigouya (July) Scholz 125! **Ghana:** Kpeshi (Apr.) Adams 4258! Kpandu to Accra (Sept.) Ankrah GC 20199! Wenchi (Sept.) Rose Innes GC 30150! Jasikan (July) Thorold CB119! Mampong (Oct.) Baldwin 13520! **Dah.:** Porto Novo (Dec.) Froment 1093! **N. Nig.:** Ilorin (Oct.) Ward 85! Naraguta F.R. (July) Lawlor & Hall FHI 46599! Panshanu (Aug.) Lawlor & Hall 182! Zaria (Aug., Dec.) Clayton 1287! Taylor! **S. Nig.:** Lagos MacGregor 39! Dalz. 1427! Benin (Sept.) Maggs 6! Opobo Jeffreys 5! Sapoba (Aug.) Keay FHI 46321!

Throughout the tropics.

19. *Digitaria fuscescens* (Presl) Hern. in Med. Rijks Herb. 61: 8 (1930). *APD acc*

Paspalum fuscescens Presl, Rel. Haenk. 213 (1830).

Stoloniferous annual resembling the previous species.

Lib.: Sinkor (July) Barker 1387! **iv. C.:** Cocody (June) Adjanohoun 418a! **Ghana:** Accra (Aug.) Hall 3304! 3460! Nyakpala (Nov.) Thorold 289a! **S. Nig.:** Lagos (June, Oct.) Hall 3474! Haines 176! **W. Cam.:** Mukonji Maitland 1175!

Throughout tropical Asia, and in **Tanzania**.

20. *Digitaria exilis* (Kippist) Stapf in Kew Bull. 1915: 385; F.T.A. 9: 470; **Henr.**, Monogr. Digitaria 237; Portères in J. Agric. Trop. 2: 365 (with key to varieties on p. 498); Chev. Bot. 731, and in Rev. Bot. Appliq. 13: 882; Berhaut, Fl. Sén. ed. 2, 400. *APD acc*

Paspalum exile Kippist in Clarke in Proc. Linn. Soc. 1: 157 (1842).

Panicum exile (Kippist) A. Chev., Bot. 726 (1920).

Annual crop plant 30–75 cm. high.

Gam.: Dir. of Agric.! Dawe 50! Mandingo Pirie 1! **Mali:** San (Sept.) Chev. 2216! 2217! **Port. G.:** Piche (Sept.) Pereira 3175! **Guin.:** Labé to Mali (Nov.) Chev. 34905! Timbo (Oct.) Pobéguin 1702! Kouroussa (July, Aug.) Pobéguin 490! 1088! **S. L.:** Mayoso (Aug.) Thomas 1485! Makump (Sept.) Glanville 398! Roruks (July) Deighton 1324! Musaia (July) Deighton 4823! Rokupr (Oct.) Jordan 564! **U. Volta:** Banfora (Sept.) Aké Assi 6358! **Ghana:** Lawra Agric. Dept.! **Togo Rep.:** Difalu Kersting 193! Badou to Atakpamé (Sept.) Rose Innes GC 31358! **N. Nig.:** Nassarawa (Sept.) Elliot 105! Plateau Prov. (Sept.) Lely P755! Jal, Plateau Prov. (Nov.) Philcox 1016! Kwakwi, Plateau Prov. (Nov.) Philcox 1006! Zaria (Sept.) Lamb 53!

21. *Digitaria gayana* (Kunth) Stapf ex A. Chev. Sudania 1: 163 (1911); F.T.A. 9: 449; **Henr.** l.c. 278; Chev. Bot. 732, and in Rev. Bot. Appliq. 13: 880; Berhaut, Fl. Sén. ed. 2, 398. *APD acc*

Panicum gayanum Kunth, Rev. Gram. 1: 239 (1829).

Panicum dimidiostachyum Steud. (1854).

Tufted annual 30–90 cm. high, with a distinctive silky inflorescence; fallow land and disturbed soils.

Maur.: Guberni Rossetti 61/313! **Sen.:** Heudelot 446! Kouma (Aug.) Roger 56! Sangalkam (Sept.) Berhaut 2817! **Gam.:** Sankuli Kunda (Sept.) Pirie 7/33! **Mali:** Dioura (Aug.) Davey 64! Farrow 110a! Dorey (Aug.) Rossetti 59/128! **Port. G.:** Praia de Varela (Aug.) Esp. Santo 3072! Piche (Sept.) Pereira 3212! **Guin.:** Kindia Jac.-Fél. 258! **U. Volta:** Banfora (June) Leeuwenberg 4429! Tenkodogo (June) Scholz 96! Bobo-Dioulasso (Oct.) Scholz 9a! **Ghana:** Ejura (June) Thorold 80! Bawku to Gambaga (Oct.) Ankrah GC 20275! Bawku (Oct.) Rose Innes GC 30254! Tamale (Dec.) Williams 458! Navrongo (June) Vigne FH 4541! **Togo Rep.:** Sokodé to Atakpamé (Oct.) Rose Innes GC 31383! Sansanné Mango to Dapango (Oct.) Rose Innes GC 31426! **Dah.:** Porto Novo (Dec.) Froment 1091! **Niger:** Niamey (Oct.) Hagerup 482! Toukounous Bartha 61! **N. Nig.:** Nupe Barter 718! Stirling T. Vogel 163! Zaria (Aug.) Keay FHI 28027! Bindawa, Katsina (Aug.) Grove 46! Sokoto (Aug.) Dalz. 501! **S. Nig.:** Lagos (Mar.) Dalz. 1128! Maitland 157! Igboora (June) Haines 371! Oban (July) Tuley 812!

Throughout tropical Africa. (See Useful Plants.)

22. *Digitaria debilis* (Desf.) Willd. Enum. Hort. Berol. 91 (1809); F.T.A. 9: 464; **Henr.** l.c. 165 (incl. var. reimarioides (Anderss.) **Henr.** l.c. 168); Chev. Bot. 731, and in Rev. Bot. Appliq. 13: 882; Berhaut, Fl. Sén. ed. 2, 400. *APD acc*

Panicum debile Desf., Fl. Atlant. 1: 59 (1798).

Annual, geniculately ascending, up to 60 cm. high.

Sen.: Pont-Diak (July) Berhaut 2784! Mbidjem (July) Raynal 6028! **Mali:** San (June) Chev. 1095! **S. L.:** Makump (May) Deighton 1717! **U. Volta:** Tengréla (July) Aké Assi 10756! **Ghana:** Akuse (May, Aug.) Irvine 3009! Hall 3299! Pong Tamale (June) Addei 756! Kete Krachi to Yendi (Oct.) Rose Innes GC 30952! **N. Nig.:** Abinsi (May) Dalz. 879! Riyom (Aug.) Sawyer K37! Shaganu (July) Cook 381! Katagum Dalz. 254! Sokoto (July) Dalz. 496! **S. Nig.:** Lagos Foster 7a! Obudu Plateau (Apr., May) Tuley 626! Haines 368! **W. Cam.:** Bamenda (Jan., May) Migeod 406! Maitland 8! Bambui (May) Pedder 25! Ndop (May) Brunt 431! Batibo (Mar.) Brunt 1063!

Throughout tropical Africa, extending to the Mediterranean countries and S. Africa. (See Useful Plants.)

23. *Digitaria patagiata* **Henr.** l.c. 525 (1950); Berhaut, Fl. Sén. ed. 2, 400. *APD acc*

Creeping; inflorescence a solitary raceme; moist soils.

Sen.: Casamance (Oct.) Adam 18259! **Guin.:** Kindia Jac.-Fél. 258! 2131! Friguiagbé (July) Chillou 1634!

24. **Digitaria gentilis** *Henr.* l.c. 284 (1950); Berhaut, Fl. Sén. ed. 2, 400. *APD acc*

Sen.: Hann (Sept.) Trochain 570.

25. **Digitaria leptorhachis** (*Pilger*) *Stapf* in F.T.A. 9: 462 (1919); *Henr.* l.c. 393; A. Chev. in Rev. Bot. Appliq. 13: 882. *APD acc*

Panicum leptorhachis *Pilger* in Engl., Bot. Jahrb. 30: 119 (Mar. 1901).

Digitaria nigriflora (*Hack.*) *Stapf* in F.T.A. 9: 463 (1919); *Henr.* l.c. 494.

Panicum nigriflorum *Hack.* in Oest. Bot. Zeitschr. 51: 293 (Aug. 1901).

Digitaria chevalieri *Stapf* in F.T.A. 9: 458 (1919), as to the perennial form; *Henr.* l.c. 119; A. Chev. in Rev. Bot. Appliq. 13: 881; Berhaut, Fl. Sén. ed. 2, 400.

Digitaria richardsonii *Mez* in Engl., Bot. Jahrb. 57: 193 (1921); *Henr.* l.c. 625.

Decumbent or ascending annual or short-lived perennial up to about 60 cm. high; racemes often bare at the base, but with traces of arrested spikelets, and sometimes clothed in spreading white hairs.

Sen.: Baila (Sept.) Adam 18131! Djembering (Sept.) Broadbent 146! 171! **Mali:** Ségou Lécord 252! Bamako (Nov.) Adam 15351! **iv. C.:** Bingerville (Dec.) Chev. 16003! **U. Volta:** Sindoukoroni (Sept.) Adam 15197! **Ghana:** Cape Coast (June) Hall 3122! Wenchu to Kumasi (Oct.) Rose Innes GC 30523! Mampong (Oct.) Baldwin 13516! Kwahu Tafo (Nov.) Rose Innes GC 31652! Adidome (Nov.) Ankrah GC 20510! **Togo Rep.:** Sokode to Atakpame (Oct.) Rose Innes GC 31370! Lomé Stage 27! **Dah.:** Cotonou to Allada (Oct.) Risopoulos 1214! **N. Nig.:** Lokoja (June) Richardson! Naraguta, Jos (July) Lely P407! Vodni Saunders 23! 49! Abukur, Katsina (Oct.) Clayton 1356! **S. Nig.:** Lagos (Mar., June) Dalz. 1123! 1426! Maitland 165! Brass R. (Jan.) Barter 27! Awka (May) Jones FHI 6508!

Also in the **Congo**.

26. **Digitaria barbinodis** *Henr.* l.c. 67 (1950). *APD acc*

Mali: Chev. 43090! **N. Nig.:** Kwakwi, Plateau (Nov.) Philcox 1005 [mixed with *D. exilis*]! Rahoss, Riyom (Nov.) Philcox 1013 [mixed with *D. iburua*]!

95. RHYNCHELYTRUM

Nees in Lindley, Nat. Syst. ed. 2, 446 (1836); F.T.A. 9: 869 (1930).

- 1 Lower glume up to 3 mm. long, separated from the rest of the spikelet by a conspicuous internode nearly 1 mm. long; spikelets 5–12 mm. long; upper glume and lower lemma shortly and obtusely bilobed, awned or awnless, the former conspicuously gibbous, tapering above into a narrow glabrous beak [1. villosum](#)

Lower glume about 1 mm. long, separated from the upper by a short internode up to 0.3 mm. long: **2**

- 2 Palea of lower floret ciliate on the keels; upper glume and lower lemma bilobed or emarginate, shortly awned, gibbous and clothed in silky hairs below, narrowing above into a glabrous beak a quarter to a half the length of the spikelet; spikelets 2.5–6 mm. long [2. repens](#)

Palea of lower floret glabrous on the keels; upper glume and lower lemma bilobed and awned, more or less straight on the back and not narrowed into a beak, hairy on keel and margins or margins only, otherwise glabrous; spikelets 4–6 mm. long [3. bellespicatum](#)

1. **Rhynchelytrum villosum** (*Parl.*) *Chiov.* in Ann. Ist. Bot. Roma 8: 310 (1908).

APD: *Synonym of Melinis repens subsp. grandiflora* (*Hochst.*) *Zizka*

Monachyrion villosum *Parl.* in Hook., Fl. Nigrit. 191 (1849).

Annual or short-lived perennial, 45–100 cm. high. The size of the spikelets is remarkably variable.

Ghana: Zabzugu (Apr.) Morton GC 9065! Kumasi (May) Darko 5568! **Niger:** Aïr (fide De Miré & Gillet in J. Agric. Trop. 3: 735).

Also in the **Cape Verde Is.**, most of tropical Africa outside our area, **Madagascar**, **Arabia** and **India**.

2. **Rhynchelytrum repens** (*Willd.*) *C. E. Hubbard* in Kew Bull. 1934: 110.

APD: Synonym of Melinis repens (Willd.) Zizka subsp. repens

APD: Synonym of Melinis repens (Willd.) Zizka

Saccharum repens Willd., Sp. Pl. 1: 322 (1798).

Tricholaena repens (Willd.) Hitchc. in U.S. Dept. Agric. Misc. Pub. No. 243: 331 (1936).

T. sphacelata Benth. (1849).

T. rosea Nees (1835)—Chev. Bot. 733.

Rhynchelytrum roseum (Nees) Stapf & C. E. Hubbard ex Bews (1929)—F.T.A. 9: 880; A. Chev. in Rev. Bot. Appliq. 14: 33.

Melinis argentea Mez (1921).

M. brachyrhynchus Mez (1921).

Annual 60–90 cm. high; panicles fluffy, silvery white to pink. **A weed of old farmland.**

S. L.: Freetown (Dec.) Deighton 3333! Tower Hill (Feb., Apr.) Gledhill 110! 468! **Iv. C.:** Abidjan (Apr.) Leeuwenberg 3919! Dihabo to Bouaké (July) Chev. 22057! Cocody (June) Adjanohoun 421a! Téhini (Aug.) de Wilde 764! Bouaké (May) de Wilde 54! **U. Volta:** Banfora (June) Leeuwenberg 4419! Kassandé (July) Scholz 37a! **Ghana:** Cape St. Paul (Feb.) Thorold 5! Legon, Accra (Oct.) Adams 3347! Ejura (Aug.) Andoh 5058! Tamale (Dec.) Williams 451! Navrongo (June) Vigne FH 4543! **Togo Rep.:** Mahoux! Lomé Warnecke 167! Palime Stage 72! Atakpame to Sokode (Oct.) Rose Innes GC 31377! **Dah.:** Cotonou Debeaux 157! Cotonou to Allada (Oct.) Risapoulos 1212! **N. Nig.:** Nupe Barter 756! Lokoja Richardson 5! Gindiri, Plateau (Oct.) Hepper 1145! Yola (June) Dalz. 278! Biu (Sept.) Kennedy FHI 8013! **S. Nig.:** Lagos (Mar.) Dalz. 1125! Maitland 170! Ibadan (Jan.) Meikle 943! Nalende, Ibadan (Nov.) Onochie FHI 6986! Abeokuta (Apr.) Baldwin 11982! **W. Cam.:** Buea (Jan.) Maitland 324! Kalu FHI 13981! Babessi (Jan.) Migeod 285! Bambui (Dec.) Pedder 9! Bamenda (Jan.) Migeod 313!

Throughout tropical Africa, and introduced to most other tropical countries. (See Useful Plants.)

3. *Rhynchelytrum bellespicatum* (Rendle) Stapf & C. E. Hubbard in F.T.A. 9: 900 (1930).

APD: Synonym of Melinis longiseta subsp. bellespicata (Rendle) Zizka

Tricholaena bellespicata Rendle in Cat. Welw. 2: 196 (1899).

About 30 cm. high.

N. Nig.: Jos (July, Oct.) Blair Rains! De Leeuw 1624a! Naraguta F.R. (July) Lawlor & Hall FHI 45574!

Also in **Angola** and **Malawi**.

96. TRICHOLAENA

Schrad. in Roem. & Schult., Syst. Veg. 2, Mant. 163 (1824); F.T.A. 9: 908 (1930).

- 1 Spikelets 1.7–2.2 mm. long; lower glume a minute hyaline rim; upper lemma glabrescent to pubescent on the margins; panicle loose, up to 15 cm. long *monachne*

Tricholaena monachne (Trin.) Stapf & C. E. Hubbard in F.T.A. 9: 909 (1930); A. Chev. in Rev. Bot. Appliq. 14: 33. *APD acc*

Panicum monachne Trin. in Spreng., Neue Entd. 2: 86 (1821).

Xylochlaena monachne (Trin.) Stapf (1922).

Tricholaena delicatula Stapf & C. E. Hubbard in F.T.A. 9: 911 (1930); F.W.T.A., ed. 1, 2: 569.

Tricholaena bicolor (Schumach.) C. E. Hubbard in F.T.A. 10: 88 (1937).

Aira bicolor Schumach., Beskr. Guin. Pl. 65 (1827).

Decumbent perennial 30–60 cm. high, rooting at the lower nodes; **seashore sands, often drenched by salt spray.**

Ghana: Saltpond (Oct.) Baldwin 13614! Labadi (Mar.) Deighton 574! Teshi (Nov.) Irvine 803! Tema (June) Rose Innes GC 30360! Nungua (June) Rose Innes GC 30079!

Tropical Africa, S. Africa and **Mascarene Islands**, mostly on the coast but also from some inland stations.

97. MELINIS

P. Beauv., Ess. Agrost. 54 (1812); F.T.A. 9: 916 (1930).

- 1 Spikelets deeply grooved between the prominent nerves, glabrous; leaf-blades linear, softly pilose with sticky hairs; panicle narrow, compact; upper lemma usually long awned, but sometimes with the awn short or absent
1. minutiflora.....2
.....@
- Spikelets not grooved, finely nerved:3
- 2 Pedicels scaberulous, without long hairs; lower glume an ovate scale 0.2–0.3 mm. long*1a. minutiflora var. minutiflora*
Pedicels bearing a few white hairs towards the apex; lower glume a scarious rim up to 0.1 mm. long*1b. minutiflora var. setigera*
- 3 Pedicels without long hairs, scaberulous; leaf-blades linear, sparsely pilose with sticky hairs; panicle rather dense with short pedicels; spikelets usually glabrous; lower glume reduced to an obscure rim; upper glume 7-nerved, distinctly bilobed with denticulate lobes; lower lemma with long conspicuous awn, bifid for 1/4 of its length, the lobes acute*2. macrochaeta*
Pedicels bearing long white hairs towards the apex; leaf-blades linear-lanceolate, not sticky, glabrous to softly pubescent; spikelets puberulous to sparsely hairy; upper glume truncate or obscurely lobed; lower lemma shortly bilobed, usually awned:4
- 4 Lower glume reduced to an obscure rim; panicle delicate, open, with capillary branchlets; pedicels smooth between the bristles; upper glume 5-nerved*3. tenuissima*
Lower glume a tiny ovate scale 0.25 mm. long; panicle moderately dense, the branches ascending; pedicels scaberulous; upper glume 7-nerved*4. effusa*

1. **Melinis minutiflora** *P. Beauv.* Ess. Agrost. 54, t. 11, f. 4 (1812); F.T.A. 9: 931; Chev. Bot. 722, and in Rev. Bot. Appliq. 14: 34; including var. *inermis* Rendle, Cat. Welw. 2: 200 (1899), and var. *mutica* Hack. in Sitz. Acad. Wiss. Wien. 89: 126 (1884); Berhaut, Fl. Sén. ed. 2, 419. *APD acc*

Perennial, erect or ascending from a prostrate base, the culms up to 2 m. long; leaves covered in sticky hairs and smelling strongly of molasses or linseed oil.

1a. **Melinis minutiflora var. minutiflora** *APD acc*

Guin.: Dalaba (Nov.) Chev. 31900! Kindia Jac.-Fél. 237! *S. L.*: Pujehun (Dec.) Deighton 256! Bintumane (Nov., Jan.) Glanville 332! 478! T. S. Jones 111! Mt. Loma (Nov.) Jaeger 525! *Lib.*: Sanoquelle (Nov.) Harley 1615! Nimba (Dec.) Adam 20142! Adames 822! *Iv. C.*: Dabou (Feb.) Chev. 17255! *Ghana*: Kumaai (Nov.) Vigne FH 4084! Krobo Hill (Nov.) Irvine 1707! Mt. Demi (Dec.) Howes 1059! Togo Plateau (Nov.) St. Clair-Thompson 1624! Morton A3481! *N. Nig.*: Ekan, Ilorin (Oct.) Ward 64! Malsamari, Mambila Plateau (Jan.) Hepper 1646! *S. Nig.*: Lagos (Dec.) Dalz. 1326! Newi, Onitsha (Oct.) Jones FHI 6222! Ikwetete, Ogoja (Dec.) Savory & Keay FHI 25233! Obudu (Apr.) Haines 362! *W. Cam.*: Ndop (Dec.) Boughey GC 11130! Ndu (Jan.) Keay & Russell FHI 28434! Bamenda (Dec., Jan.) Baldwin 13840! Migeod 409!

Tropical Africa and America; introduced into most other tropical regions. (See Useful Plants.)

1b. **Melinis minutiflora var. setigera** *W. D. Clayton* in Kew Bull. 21: 113 (1967). *APD acc*

W. Cam.: Buea (Nov.–Feb.) Maitland 102! 102a! 148! Migeod 223! Kalu FHI 13982!

Also in *E. Cameroun*.

2. **Melinis macrochaeta** *Stapf & C. E. Hubbard* in Kew Bull. 1926: 443; F.T.A. 9: 927; A. Chev. in Rev. Bot. Appliq. 14: 34. *APD acc*

Annual, erect or ascending, up to 1.2 m. high, often with stilt roots from the lower nodes; leaves less sticky and odorous than *M. minutiflora*.

Iv. C.: Bouaké (May) de Wilde 129! *N. Nig.*: Lely P841! Kabba (Oct.) Parsons 23! Riyom, Plateau (Nov.) Clayton 1408! Jos (Nov.) Keay FHI 21428! Naraguta, Plateau (Oct.) Kennedy FHI 8044! Vom (Dec.) Haines 153! (this specimen has setose pedicels;? hybrid with *M. tenuissima*). *S. Nig.*: Ago-Are, Shaki (Nov.) Olorunfemi FHI 40305! Yala Hill, Oyo Prov. (May) Hambler 464! Olokemeji (Nov.) Clayton 569! (this specimen has an open panicle and scale-like lower glume;? hybrid with *M. minutiflora*.)

Throughout tropical Africa.

3. *Melinis tenuissima* Stapf in Hook., Ic. Pl. 27: t. 2660 (1900); F.T.A. 9: 926. *APD acc*

Perennial, erect or geniculately ascending, up to 1.5 m. long; leaves usually pubescent in West African specimens, but not markedly sticky.

Iv. C.: Béoumi (Dec.) Adjanohoun 454a! **Ghana:** Kumasi (Dec.) Adams 4448! Manhia (Nov.) Irvine 2555! Shiare (Nov., Dec.) Morton A4097! Jenik & Hall CC 1110! Ejura (Dec.) Morton GC 9600! **N. Nig.:** Tiba Plateau (Dec.) Peter & Tuley 69! **S. Nig.:** Ibadan (Mar., Nov.) Deighton 546! Stanfield FHI 55610! Ibadan to Abeokuta (Mar.) Schlechter 12338! **W. Cam.:** Bamenda (Dec.) Baldwin 13839!

Throughout tropical Africa.

4. *Melinis effusa* (Rendle) Stapf in Kew Bull. 1922: 310, and l.c. 1926: 444; F.T.A. 9: 925. *APD acc*

Melinis minutiflora var. *effusa* Rendle, Cat. Welw. 2: 200 (1899).

Perennial with ascending culms 60–90 cm. high.

Ghana: Tonogo, Togo Plateau (Nov.) Morton A3507! **N. Nig.:** Naraguta (Dec.) Kennedy 21! 27! Gembu (Dec.) Daramola FHI 62472! **W. Cam.:** Ndop (Dec.) Boughey GC 11129!

Extends south to the Congo, Malawi and **Angola**; east to **Uganda** and **Kenya**.

98. ANTHEPHORA

Schreb., Besch. Gräser 2: 105 (1810); F.T.A. 9: 933 (1930). *APD acc*

- 1 Clusters of spikelets broadly conical, the lower glumes united for one third of their length to form a disc-like rimmed base 3–4 mm. diam; spikelets glabrous; spikes 3–7 cm. long [1. cristata](#)
- Clusters of spikelets oblong, the lower glumes free almost to the base: [2](#)
- 2 Lower glume scaberulous, narrowly ovate to lanceolate, acuminate, the nerves not anastomosing; lower lemma glabrous or rarely ciliate at the tip; spikelets 4–6 mm. long; spikes dense, cylindric, 8–17 cm. long [2. ampullacea](#)
- Lower glume pubescent, becoming shortly villous at the base; lower lemma ciliate towards the tip: [3](#)
- 3 Lower glume lanceolate, setaceously acuminate, 4–8 mm. long, the nerves not anastomosing; spikes very dense, 10–20 cm. long, the clusters closely imbricate [3. hochstetteri](#)
- Lower glume elliptic-oblong, shortly acute, 4–6 mm. long, the nerves anastomosing on the inner side; spikes dense, cylindric, 13–21 cm. long [4. nigritana](#)

1. *Antheophora cristata* (Doell) Hack. ex De Wild. & Dur. Reliq. Dewevr. 255 (1901); F.T.A. 9: 935; Chev. Bot. 721, and in Rev. Bot. Appliq. 14: 34. *APD acc*

Antheophora elegans var. *cristata* Doell in Mart., Fl. Bras. 2, 2: 314 (1877).

Annual, erect or ascending, up to 1 m. high.

Guin.: Conakry (Aug.) Jac.-Fél. 7001! **Iv. C.:** Cocody (May) Adjanohoun 419a! **Ghana:** Cape Coast (May) Morton A3666! Anomabu to Cape Coast (June) Irvine 1466! Saltpond (Jan.) Thorold C.B. 29! Elmina (May) Morton A906! **Dah.:** Gébé (May) Newton 14a! Cotonou (Mar.) Chev. 23486bis! **S. Nig.:** Lagos (Oct.) Dawodu 17! Dalz. 1129! Badagry (Feb.) Haines 133! Abeokuta (Feb.) Burt 31!

Also in **the Congos**, **Angola** and **Brazil**.

2. *Antheophora ampullacea* Stapf & C. E. Hubbard in F.T.A. 9: 939 (1930). *APD acc*

Antheophora acuminata (Rendle) Robyns ex Stapf & C. E. Hubbard l.c. 940 (1930).

Antheophora elegans var. *acuminata* Rendle, Cat. Welw. 2: 193 (1899).

Perennial up to 1 m. high.

Guin.: Kindia (Oct.) Jac.-Fél. 483! Benna Plateau (Oct.) Jac.-Fél. 7175! **N. Nig.:** Aboh Barter 463! Ankpa to Oturkpo (June) Daramola FHI 38027! Idah (Mar.) Clayton 860! **S. Nig.:** Enugu (Sept.) Onochie FHI 34116! Udi (May, Nov., Dec.) Jones & Rosevear FHI 18852! Onyeagocha FHI 7774! Keay FHI 22277! Awgu to Oji (Mar.) Tuley 613!

Also in **Congo** and **Angola**.

Specimens from Guinée have the lower lemma ciliate at the tip.

3. *Anthephora hochstetteri* Nees in Flora 27: 249 (1844); F.T.A. 9: 944.

APD: *Synonym of Anthephora pubescens* Nees

Tufted, glaucous perennial up to 1 m. high.

Mali: Kidal (Sept.) Rossetti 59/152!

Extends eastwards to **Kenya**, **Uganda**, **Sudan**, **Ethiopia** and **Somalia**.

4. *Anthephora nigritana* Stapf & C. E. Hubbard in F.T.A. 9: 937 (1930). *APD acc*

Perennial, up to 75 cm. high.

Niger: Toukounous Bartha 46! **N. Nig.**: Nupe Barter 1380! Sokoto (July) Dalz. 507! Kano (July, Nov.) Onwudinjoh FHI 22384a! Taylor 6! Katagum Dalz. 260!

Also in the **Sudan**.

99. PARATHERIA

Griseb., Cat. Pl. Cuba. 236 (1866); F.T.A. 9: 1084 (1934).

- 1 Nodes bearded; leaf-blades glabrous or pubescent; branches of the inflorescence and bristles scabrid; peduncles 2–5 mm. long; bristles (15–)25–40 mm. long; spikelets (6–)10–12 mm. long, glabrous except for a little tuft of hair surrounding the base; glumes ovate, obtuse, 1–2 mm. long *l. prostrata*

Nodes glabrous; leaf-blades glabrous; branches of the inflorescence and bristles quite smooth; peduncles 10–15 mm. long; bristles 15–25 mm. long; spikelets 10–12 mm. long, glabrous; glumes ovate, acute, 2–3 mm. long *glaberrima*

1. *Paratheria prostrata* Griseb. Cat. Pl. Cuba 236 (1866); F.T.A. 9: 1085; Berhaut, Fl. Sén. ed. 2, 396.

APD acc

Prostrate perennial, growing in water; cleistogamous spikelets, resembling normal spikelets except for the absence of the bristle, occur at the base of the raceme and also in the uppermost leaf-sheaths.

Sen.: Oussouye (Apr.) Berhaut 5835! **Guin.**: Soumbalako Maounde (June) Adames 280! **S. L.**: Njala (May, July) Deighton 704! 737! Mabum (Aug.) Thomas 1515! Luti (July) Jordan 283! Rosino (July) Jordan 43! **U. Volta**: Banfora (July) Adjanohoun 192a! **S. Nig.**: Yaba (June) Dalz. 1423!

Also in the **Congo**, **Zambia**, **SW. Africa**, **Madagascar** and **tropical America**.

2. *Paratheria glaberrima* C. E. Hubbard in Kew Bull. 4: 365 (1949). *APD acc*

Prostrate perennial, **growing in water**; cleistogamous spikelets as in preceding species.

S. L.: Luti (July) Deighton 4337!

100. BECKEROPSIS

Fig. & De Not. in Mem. Acad. Sci. Torino ser. 2, 14: 365 (1854); F.T.A. 9: 948 (1934); Clayton in Hook., Ic. Pl. 37: t. 3643 (1967). *APD acc*

- 1 Perennial; leaf-blades firm, up to 60 cm. long and 20 mm. broad, usually with a slender petiole-like base; apex of leaf-sheath usually bearded with a line of hairs on the abaxial side; raceme rhachis and peduncles pubescent, the spikelets overlapping by 3/4 their own length or more; spikelets acute, 2.5–3 mm. long; glumes subequal, up to 0.5 long; lower lemma hispidulous, the upper scaberulous *l. unisetia*

Annual; leaf-blades thin, flaccid, up to 10(–25) cm. long and 6(–14) mm. broad, the lower narrowed into slender filiform false petioles; apex of leaf-sheath without hairs on the abaxial side; raceme rhachis and peduncles scaberulous, spikelets overlapping by 1/2 their own length; spikelets acuminate, mostly 3.5–4 mm. long; glumes subequal, the upper 0.75–1 mm. long; both lemmas spinulose-hispidulous above *l. laxior*

1. **Beckeropsis unisetata** (Nees) K. Schum. in Engl., Pflanzenw. Ost-Afr. B: 52 (1895); F.T.A. 9: 949; A. Chev. in Rev. Bot. Appliq. 14: 34; Berhaut, Fl. Sén. ed. 2, 421.

APD: *Synonym of Pennisetum unisetum* (Nees) Benth.

Gymnothrix unisetata Nees, Fl. Afr. Austr. 66 (1841).

A tall perennial up to 3.5 m. high; in woodland shade.

Sen.: Oussouye (Oct.) Adam 18420! **Port. G.:** São Domingo (Jan.) Pereira 1491! **Guin.:** Baffing R. (Nov.) Pobéguin 1815! **S. L.:** Musaia (Dec.) Deighton 4432! Sefadu to Jagbwema (Nov.) Deighton 4668! Kamiototo (Nov.) Glanville 312! Bintumane Peak, 5,300 ft. (Jan.) T. S. Jones 67! Jaeger 484! **Lib.:** Yekepa (Dec.) Adames 825! **Iv. C.:** Singrobo (Oct.) Adjanohoun 356a. Marahoué to Séguéla (Oct.) Aké Assi 6654! **U. Volta:** Koumbili (Oct.) Scholz 178! Leo to Po (Oct.) Rose Innes GC 31479! Samandeni (Oct.) Kmoch 163! **Ghana:** Kwahu Tafo (Oct.) Rose Innes GC 30573! Togo Plateau F.R. (Nov.) St. Clair-Thompson FH 1643! Sekodumasi (Oct.) Vigne FH 3403! Damongo to Sawla (Oct.) Rose Innes GC 30988! Banda hilla Rose Innes GC 31611! **Dah.:** Konanda to Ketou (Nov.) Risopoulos 1278! **N. Nig.:** Ilorin (Oct.) Ward 93! Kaiama (Oct.) Ward 28! Okene (Oct.) Ward L151! Plateau Prov. (Sept.) Lely P760! Anara F.R., Zaria (Oct.) Keay FHI 5439! Vogel Peak area (Nov.) Hepper 1451! **S. Nig.:** Olokemeji F.R. (Nov.) Latilo FHI 36689! Akure to Owo (Oct.) Maggs 16! Ila (Oct.) Thomas 1934! Ogoja Prov. Rosevear 8/30a! Enugu (Nov.) Jones FHI 6234! **W. Cam.:** Bambuko F.R. (Nov.) Argent 974! Ndop (Dec.) Boughey GC 11111! Bambui (July) Bumpus Bam 25! Wum (Nov.) Brunt 874! Kuk-we (Nov.) Brunt 879!

Throughout tropical Africa.

2. **Beckeropsis laxior** W. D. Clayton in Bull. Brit. Mus. Bot. 3: 118 (1963).

APD: *Synonym of Pennisetum laxior* (Clayton) Clayton

Beckeropsis nubica of F.T.A. 9: 952 (partly), and of F.W.T.A. ed. 1, 2: 571, not of (Hochst.) Fig. & De Not.

Thin-leaved annual up to 80 cm. high; exposed rock domes and inselbergs.

Ghana: Mpraeso Scarp (Nov.) Morton A2764! **N. Nig.:** (Sept.) Lely P751! **S. Nig.:** Igboora (Oct.) Haines 342! Ado Rock (Oct.) Savory & Keay FHI 25448! Idanre (Oct.) Keay FHI 22678! Okelifi, Ondo (Nov.) Onochie FHI 34226! Igbete (Nov.) Gledhill 753! **W. Cam.:** Victoria to Bota (Nov.) Maitland 82! Buea (Nov.) Migeod 107! Maitland!

Also in **E. Cameroun**, **S. Tomé** and **Annobon**.

101. PENNISETUM

L. Rich. in Pers., Syn. Pl. 1: 72 (1805); F.T.A. 9: 954 (1934).

- 1 Inflorescence reduced to a cluster of 2–4 spikelets, subsessile and enclosed in the uppermost leaf-sheath; spikelets 10–20 mm. long; leaf-blades up to about 12 cm. long, subobtuse at the tip [1. clandestinum](#)
- Inflorescence a false spike of numerous spikelets, conspicuously exserted: **2**
- 2 Rhachis angular with sharp-edged decurrent wings below the scars of the fallen involucre, glabrous or at most puberulous (but see *P. pedicellatum*); peduncles deciduous; upper glume as long as the spikelet: **3**
- Rhachis cylindric or with rounded ribs, glabrous or hairy: **8**
- 3 Upper glume and lower lemma acuminate, 6–7 mm. long; upper lemma acuminate, chartaceous, glabrous, not readily separating from the rest of the spikelet; spikelets solitary, sessile; involucre bristles glabrous, in a single whorl, up to 2 cm. long; basal sheaths laterally compressed [2. ramosum](#)
- Upper glume and lower lemma more or less 3-lobed, 2.5–6 mm. long; upper lemma obtuse, thinly coriaceous, ciliate at the apex, readily disarticulating from the rest of the spikelet: **4**
- 4 Spikelets in clusters of 1–5 within the involucre, at least one of the spikelets upon a pedicel 1–3 mm. long; bristles densely woolly plumose, forming a fluffy ovate involucre 0.5–1 cm. long; spikelets 4–6 mm. long; rhachis puberulous, very rarely pubescent [3. pedicellatum](#)
- Spikelets solitary and sessile within the involucre: **5**
- 5 Bristles, or at least the inner ones, plumose in the lower half: **6**
- Bristles glabrous, or the longer obscurely ciliate: **7**
- 6 Spikelets 3–5 mm. long; false spike (6–)8–10(–15) mm. broad, excluding the bristles; longest bristle 15–25 mm. long, the other inner bristles usually more than twice as long as the spikelet, rarely less [4. polystachion](#)

- Spikelets 2.5–3 mm. long; false spike 4–7 mm. broad, excluding the bristles; longest bristle 6–12 mm. long, the other bristles less than twice as long as the spikelet [5. subangustum](#)
- 7 Longest bristle 11–16 mm. long, the others irregularly 2-whorled and up to twice as long as the spikelet or more; spikelets 3–4 mm. long; false spike 7 mm. broad, excluding the bristles [6. atrichum](#)
- Longest bristle 5–6 (- 8) mm. long, the others in 1 whorl of 6–8 and subequal to the spikelet or up to 1 1/2 times as long, rarely longer; spikelets 2.5–3 mm. long; false spike 4–6 mm. broad, excluding the bristles [7. hordeoides](#)
- 8 Plants perennial: **9**
- Plants annual; rhachis pubescent or pilose; anther tips with a tiny tuft of hairs; **15**
- 9 Involucres borne upon a peduncle 1–3 mm. long, and falling with it at maturity; bristles plumose, up to about 3 cm. long; spikelets in clusters of 1–3, 4.5–6.5 mm. long; anther-tips smooth; leaf-blades rigid, about 3 mm. broad, usually convolute or folded [8. setaceum](#)
- Involucres subsessile, or disarticulating from the peduncle at maturity with the latter remaining upon the rhachis; bristles glabrous (sometimes obscurely ciliate in *P. purpureum*): **10**
- 10 Rhachis densely pubescent to loosely pilose; culm pubescent just below spike; bristles unequal: **11**
- Rhachis glabrous or hispidulous; culm glabrous below spike; anther tips glabrous: **12**
- 11 Spikes 14–30 mm. broad (excl. bristles); leaf-blades up to 40 mm. broad; anther tips with a tiny tuft of hairs; rhachis densely pubescent; persistent peduncles obscure, involucres subsessile; spikelets 4–7 mm. long; lower floret variable [9. purpureum](#)
- Spikes 6–9 mm. broad (excl. bristles); leaf-blades up to 10 mm. broad, but usually narrower; anther-tips smooth; rhachis shortly and loosely pilose, at least in the lower part and beneath the spike; persistent peduncles conspicuous, up to 1 mm. long, appressed to the rhachis; spikelets 5 mm. long; lower floret reduced to an empty lemma as long as the spikelet [10. monostigma](#)
- 12 Spikelets 6–7 mm. long; spikes terminal and axillary; lower floret as long as the spikelet, usually barren; leaf-blades up to 20 mm. broad [11. trachyphyllum](#)
- Spikelets 3–5 mm. long; spikes terminal only: **13**
- 13 Terminal bristle of the involucre not much longer than the rest, up to 8 mm. long; lower floret barren, almost as long as the spikelet [12. glaucocladum](#)
- Terminal bristle of the involucre twice as long as the rest, up to 18 mm. long: **14**
- 14 Lower floret male, as long as the spikelet [13. giganteum](#)
- Lower floret barren, and reduced to a lemma 1/2 as long as the spikelet [14. glabrum](#)
- 15 Clusters readily deciduous; grain not exerted from the spikelet; wild grasses or degenerate escapes from cultivation: **16**
- Clusters persistent; grain usually exerted from the gaping spikelet; cultivated plants [19. americanum](#)
- 16 Upper lemma glabrous on the margins, narrowly lanceolate, acuminate, thinly coriaceous, readily deciduous; rhachis slender, more or less flexuous; leaf-blades and sheaths mostly hirsute; involucres 5–10 mm. long, sometimes with 1 bristle up to 8 mm. longer than the rest: **17**
- Upper lemma ciliate on the margins, narrowly ovate, acute, chartaceous, tardily deciduous; rhachis stiff, straight; leaf-blades and sheath mostly glabrous: **18**
- 17 Involucral bristles plumose and fluffy [15. violaceum](#)
- Involucral bristles merely ciliate [16. fallax](#)
- 18 Involucral bristles plumose [17. stenostachyum](#)
- Involucral bristles glabrous [18. dalzielii](#)

1. *Pennisetum clandestinum* Hochst. ex Chiov. in Ann. Ist. Bot. Roma 8: 41 (1903); F.T.A. 9: 1009.

APD: *Synonym of Cenchrus clandestinus* (Hochst. ex Chiov.) Morrone

A creeping perennial with stout stolons forming a dense mat; the silvery filaments of the stamens are conspicuously exerted from the leaf-sheath when in flower.

S. Nig.: Obudu Plateau (Feb., Apr.) Tuley 478! Haines 366! **W. Cam.:** Bafut-Ngemba F.R. (Jan.) Dammola FHI 40629! Bamenda to Bali (Mar.) Brunt 1082! Bambui (June) Brunt 1181!

Introduced in 1948, and now naturalized; native in the E. African highlands, and widely introduced to upland regions throughout the tropics.

2. *Pennisetum ramosum* (Hochst.) Schweinf. Beitr. Fl. Aethiop. 301 (1867); F.T.A. 9: 976.

APD: Synonym of Cenchrus ramosus (Hochst.) Morrone

Gymnothrix ramosa Hochst. in Flora 27: 252 (1844).

Annual, up to 1·2 m. high; on seasonally swampy heavy soils.

N. Nig.: Ngala (Oct.) Gwynne 114! Gumari (Nov.) Davey FHI 27111! Logomani (Nov.) Johnston W74! Biu (Sept.) Kennedy FHI 8001! Kingowa (Oct.) Golding 27!

Extends east to Eritrea, south to **Uganda** and Tanzania. (See Useful Plants.)

3. *Pennisetum pedicellatum* Trin. in Mém. Acad. Sc.i. Petersb. sér. 6, 3: 184 (1834); F.T.A. 9: 1065; Chev. Bot. 736, and in Rev. Bot. Appliq. 14: 38; Berhaut, Fl. Sén. ed. 2, 395; De Miré & Gillet in J. Agric. Trop. 3: 734; incl. var. pubirhachis Berhaut in Mém. Soc. Bot. Fr. 1953–54: 10 (1954), and Pl. Sén. ed. 2, 394 (the variety is distinguished by its pubescent rhachis).

APD: Synonym of Cenchrus pedicellatus (Trin.) Morrone

Pennisetum implicatum Steud. (1854).

Annual up to about 1 m. high, with fluffy white or purple inflorescences; often dominant upon fallow land in the drier savanna.

Maur.: Néma Rossetti 61/249! Nima (Oct.) Hepper 3715! **Sen.:** Farmar 17! Walo (Aug.) Roger 50! Matam (Dec.) Chev. 2262bis! M'Bambey (Nov.) Chev. 33819! Ngazobile (Nov.) Chev. 33925! **Gam.:** Saunders 117! Brooks 12! Yoroberi Kunda (Sept.) Pirie 48/33! Yundum Corbett 1! 11! **Mali:** Diré Rogeon 282! Bamako (June) Chev. 25987! San (Sept.) Chev. 2264! Ansongo (Sept.) Hagerup 376a! Dioura (Jan.) Davey 215! **Guin.:** Kouroussa (Nov.) Pobéguin 1089! Timbi Madina (Jan.) Langdale-Brown 2547! **Iv. C.:** Haut Sassandra & Haut Cavally (Nov.) Portéres 386! Singrobo (Sept.) Adjanohoun 393a! Béoumi (Aug.) Aké Assi 6844! **U. Volta:** Ouahigouva (Sept.) Aké Assi 6434! Ouagadougou (Sept.) Scholz 41a! **Ghana:** Nungua, Accra (Sept.) Ankrah GC 20079! Yendi to Chereponi (Oct.) Rose Innes GC 30964! Tamale (Dec.) Williams 448! Damongo to Tamale (Oct.) Rose Innes GC 30212! Navrongo (Sept.) Vigne FH 4632! **Togo Rep.:** Anécho Mahoux 16! Sansanné Mango to Dapango (Oct.) Rose Innes GC 31434! **Dah.:** Boukombe (Nov.) Risopoulos 1260! **Niger:** Niamey (Jan.) Chev. 43210! Dasso White 8! 15! Tessaoura (Feb.) Chev. 43687! Toukounous Bartha 55! **N. Nig.:** Ilorin (Aug.) Ward 13! Nupe Barter 1371! Samaru, Zaria (Dec.) Thatcher S559! Sokoto (Oct.) Moiser 153! Katagum Dalz. 282! Gwoza, Dikwa (Dec.) McClintock 81! **S. Nig.:** Lagos (Sept.) W. MacGregor 1! 51! Tuley 869! Ibadan (May) Latilo FHI 44091!

Also in **E. Cameroun**, and extending eastwards to **Ethiopia**, the **Sudan** and India. (See Useful Plants.)

[This species may hybridize with *P. polystachion*; some specimens have the narrow plumose involucre of the latter but containing a single pedicelled spikelet.]

4. *Pennisetum polystachion* (Linn.) Schult. Syst. Veg. Mant. 2: 146 (1824); F.T.A. 9: 1057; A. Chev. in Rev. Bot. Appliq. 14: 39; Berhaut, Fl. Sén. ed. 2, 395.

APD: Synonym of Cenchrus polystachios (L.) Morrone

Panicum polystachion Linn., Syst. Nat., ed. 10, 2: 870 (1759).

Pennisetum setosum (Sw.) L. Rich. in Pers., Syn. Pl. 1: 72 (1805); Chev. Bot. 736, and in Rev. Bot. Appliq. 14: 38.

Cenchrus setosus Sw., Prodr. Veg. Ind. Occ. 26 (1788).

Panicum cauda-ratti Schumach. (1827).

Pennisetum cauda-ratti (Schumach.) Franch. (1895).

Pennisetum tenuispiculata Steud. (1854)—A. Chev. in Rev. Bot. Appliq. 14: 39.

Pennisetum elegans Nees ex Steud. (1854).

Annual or perennial, 0·3–1·8 m. high, varying greatly in the stiffness and colouring of the inflorescence; common on fallow land and disturbed soils.

Sen.: Charoi-Kow, Cape Verde Brunner 119! Ngazobib (Nov.) Chev. 33927! **Gam.:** Boteler! Yundum Corbett 12! **Mali:** Diafarabé (Jan.) Davey 403! Bamako (Sept.) Adam 15372! **Port. G.:** Pitche (Dec.) Pereira & Correia 2397! Bissau (Dec.) Pereira & Correia 2152! **Guin.:** Labé to Mali (Nov.) Chev. 34906! Timbo (Oct.) Pobéguin 1741! 1762! Mont Loura (Dec.) Schnell 2376! Timbi Madina (Jan.) Langdale-Brown 2556! **S. L.:** Mandu (Apr.) Jordan 224! Newton (Nov.) Deighton 1467! Regent (Dec.) Sc. Elliot 4047! Samaia (May) Thomas 230! Freetown (Mar.) Dawe 800! **Lib.:** Harper (June) Baldwin 5982! Monrovia (Aug.) Baldwin 9201! Vonjama (Oct.) Baldwin 9943! Soplina (Nov.) Baldwin 10063! Duport (Sept.) van Dillewijn 98! **Iv. C.:** Haut Sassandra & Haut Cavally (May) Chev. 711! Dimbokro (Nov.) Roberty 12530! Cocody (June) Adjanohoun 406a! Cosrou (May) Leeuwenberg 4251! Yérébodi to Sanlo (Nov.) Aké Assi 9270! **U. Volta:** Farako-Ba (Nov.) Kmoch 181! Tondoura (Oct.) Scholz 80! Banankélédaya (Oct.) Kmoch 146! Po (Oct.) Rose Innes GC 31078! Po to

Leo (Oct.) Rose Innes GC 31482! **Ghana:** Elmina (Jan.) Rose Innes GC 31198! Achimota (Apr.) Irvine 2861! Yendi (Oct.) Rose Innes GC 30976! Mampong (Oct.) Rose Innes GC 31151! Kintampo (Dec.) Vigne FH 3199! **Togo Rep.:** Sokode to Bassari (Jan.) Schroeder 139! **Dah.:** Burton! **Niger:** Niamey (Oct.) Hagerup 557! **N. Nig.:** Nupe Barter 979! Zaria (Dec.) Thatcher S560! Jos (Nov.) Keay FHI 21025! Kano (Dec.) Hagerup 657! Katagum Dalz. 283! Vogel Peak (Nov.) Hepper 1227! 13531 **S. Nig.:** Lagos (Oct.) Dalz. 1331! Ibadan (Nov.) Keay FHI 28137! Iseyin (May) Denton 27! Benin (Oct.) Maggs 12! Opobo Jeffreys 10! **W. Cam.:** Mbaw plain (May) Brunt 487! Bamenda (Aug.) Brunt 1268!

Throughout the tropics. (See Useful Plants.)

It is not at present clear whether the annual and perennial forms merit recognition as distinct [species, if so, then the name *P. polystachion* should be retained for the annuals and *P. setosum* be applied to the perennials.]

5. *Pennisetum subangustum* (Schumach.) Stapf & C. E. Hubbard in Kew Bull. 1933: 271; F.T.A. 9: 1062; Berhaut, Fl. Sén. ed. 2, 395.

*APD: Synonym of *Pennisetum polystachion* (L.) Schult. subsp. polystachion*

***Panicum subangustum* Schumach.**, Beskr. Guin. Pl. 59 (1827).

***Pennisetum gracile* Benth.** (1849).

Annual, up to about 1·2 m. high, sometimes higher; **on fallow land and disturbed soils.**

Sen.: Farmar 153! Bargny (Nov.) Berhaut 2955! Niokolo-Koba (Oct.) Adam 15519! **Gam.:** Boteler! Yoroberi Kunda (Sept.) Pirie 48A/33! Yundum Corbett 3! 6! **Port. G.:** Cacine (Jan.) Pereira & Guerra 2911! Susana (Dec.) Raimundo & Guerra 392! Bissau Is. (Nov.) Raimundo & Guerra 62! 102! Safim (Nov.) Raimundo & Guerra 7! **Guin.:** Conakry Rattray! Baffing R. (Oct.) Pobéguin 1743! Timbo (Oct.) Pobéguin 1760! Farana (Apr.) Pitot! **S. L.:** Mabonto Thomas 3505! Newton (Nov.) Deighton 1466! Makump (Oct.) Glanville 54! Rokon (Oct.) Jordan 568! Madagbo (Feb.) Bakshi 10! **Lib.:** Monrovia (June, Sept., Nov.) Baldwin 5947! Wrigley & Melville 702! Barker 1468! Mecca (Nov.) Baldwin 10423! **Iv. C.:** Abidjan (Dec.) Boughéy GC 14457! **U. Volta:** Ouagadougou (Sept.) Scholz 41b! **Ghana:** Otrokpe (Oct.) Vigne FH 4014! Tarkwa (Dec.) Morton A3613! New Tafo Lovi 3960! Bawku to Bolgatanga (Oct.) Rose Innes GC 31464! Tumu to Leo (Oct.) Rose Innes GC 31488! **Togo Rep.:** Palime Stage 64! **N. Nig.:** Jemaa Clayton 1421! **S. Nig.:** Lagos (Oct.) Dalz. 1333! Ibadan (Nov.) Russell FHI 14954! Burutu (Sept.) Parsons 5! Orlu (July) Jones FHI 6659! Oban Talbot 847! **W. Cam.:** Victoria Maitland 153! Wum (Nov.) Brunt 877!

Also occurs in the **Congo**.

6. *Pennisetum atrichum* Stapf & C. E. Hubbard in Kew Bull. 1933: 282; F.T.A. 9: 1061; Berhaut, Fl. Sén. ed. 2, 394.

*APD: Synonym of *Pennisetum polystachion* (L.) Schult.*

*APD: Synonym of *Pennisetum polystachion* subsp. *atrichum* (Stapf & C.E. Hubb.) Brunken*

***Pennisetum parviflorum* var. *majus* Chev.**, Bot. 735, name only.

Perennial, up to 2 m. high.

Sen.: Heudelot 305! **Gam.:** Sankuli-kunda (Sept.) Pirie 35/33! **Mali:** Bamako (Sept.) Adam 15016! **Port. G.:** Catio (Jan.) Raimundo & Guerra 791! Boruntuma (Dec.) Pereira & Correia 2319! **Guin.:** Timbo (Oct.) Pobéguin 176! (partly)! Wellia (Feb.) Sc. Elliot 1892! Friguiagbé (Jan.) Chillou 3437! Pita (Oct.) Adam 12556! **S. L.:** Magbema (Oct.) Jordan 802! Makump (July) Thomas 918! **Iv. C.:** Abidjan (Aug.) Monod! **N. Nig.:** Fakun, Borgu Barter 842! Naraguta, Plateau Prov. (Aug.) Lely P439!

Extends through the Congo to **Kenya**, Malawi and Zambia.

7. *Pennisetum hordeoides* (Lam.) Steud. Syn. Pl. Glum. 1: 103 (1854); F.T.A. 9: 1063; Berhaut, Fl. Sén. ed. 2, 394.

*APD: Synonym of *Cenchrus hordeoides* (Lam.) Morrone*

***Panicum hordeoides* Lam.**, Tab. Encycl. Meth. Bot. 1: 170 (1791).

***Pennisetum parviflorum* Trin.**, Gram. Pan. 65 (1826); Chev. Bot. 735, and in Rev. Bot. Appliq. 14: 39.

***Pennisetum siguirens* Mimeur** in Rev. Bot. Appliq. 30: 314 (1950).

Annual, up to 1·2 m. high; **disturbed soils.**

Sen.: Niokolo-Koba Sadio 5! Ziguinchor (Sept.) Broadbent 89! **Gam.:** Ruxton 42! Sankuli-kunda (Sept.) Pirie 5/33! **Mali:** Ségou (Sept.) Chev. 2259! **Guin.:** Timbo (Oct.) Pobéguin 1140 (in part)! Nzérékoré (Oct.) Baldwin 9688! Dyéké (Oct.) Baldwin 9662! Siguiri (Nov.) Jac.-Fél. 1414! Dalaba (Oct.) Adames 387! **S. L.:** Barter! Pujahun Thomas 8041! Kenema (Jan.) Thomas 7807! Bumbuna (Oct.) Thomas 3806! Musaia (Dec.) Deigliton 4551! **Lib.:** Grand Bassa (July) T. Vogel 93! Gbanga (Oct.) Linder 1197! Ganta (Dec.) Harley 2101! Tappita (Aug.) Baldwin 9084! Vonjama (Oct.) Baldwin 9942! **Iv. C.:** Fonvonou-Attienkro (Jan.) Aké Assi 5928! **Ghana:** Kpeve (Dec.) Rose Innes GC 31194! Biakpa (Dec.) Rose Innes GC 31190! Ho to Anyirawasi (Dec.) Blair GC 31204! Kumasi (Apr., Dec.) La Danso 31! Adams 4452! **N. Nig.:** Lely 782! Kaiama (Oct.) Ward 21! Jemaa (Nov.) Clayton 1431! Plateau Prov. (Oct.) Lely P850! Vom (Oct.) Gambles 13! **S. Nig.:** Lagos Millen 81! Ikom (Apr.) Jones FHI 1555! Calabar Thollon! **W. Cam.:** Unwin 8645! Sopo (Dec.) Maitland 877! Ndop (Dec.) Boughy GC 11105! Mbaw plain (May) Brunt 471! Mbem (Feb.) Brunt 976! **F. Po:** Mann 111! Bahia de Venus (Dec.) Guinea 228bis!

Extends south to the Congo; also in **India**.

8. Pennisetum setaceum (Forsk.) Chiov. in Bull. Soc. Bot. Ital. 1923: 113 (1923); F.T.A. 9: 1013.

APD: Synonym of Cenchrus setaceus (Forssk.) Morrone

Phalaris setacea Forsk., Fl. Aegypt.-Arab. 17 (1775).

Pennisetum asperifolium (Desf.) Kunth (1829)—Berhaut, Fl. Sén. ed. 2, 394.

Cenchrus asperifolius Desf. (1800).

Densely tufted perennial with hard glaucous leaf-blades.

Sen.: Heudelot 484 (partly)!

Extends from Tunisia to Israel, thence southwards to Tanzania; also grown as an ornamental.

9. Pennisetum purpureum Schumach. Beskr. Guin. Pl. 44 (1827); F.T.A. 9: 1016; Chev. Bot. 736, and in Rev. Bot. Appliq. 14: 36; Berhaut, Fl. Sén. ed. 2, 394.

APD: Synonym of Cenchrus purpureus (Schumach.) Morrone

Pennisetum benthamii Steud. (1854).

Pennisetum pallescens Leeke (1907).

A robust perennial up to 8 m. high and 2.5 cm. diam. at the base; **commonly occurs near the banks of streams.**

Guin.: Baffing R. (Nov.) Pobéguin 1825! **S. L.:** Talla Hills Sc. Elliot 4936! Kabala (Dec.) Deighton 4410! Tumbu (Oct.) Deighton 3272! Juring (Dec.) Deighton 296! Kamabai (Jan.) Glanville 131! **Lib.:** Kakatown Whytei! Gondolahun (Nov.) Baldwin 10118! Kailahun (Nov.) Baldwin 10136! Kitoma (Jan.) Baldwin 11033! Nimba (Oct.) Adames 718! **Iv. C.:** Abidjan (Dec.) Leeuwenberg 2152! Dabou to Sikensi (Jan.) Aké Assi 6860! Adiopodoumé (Sept.) de Wilde 1000! **Ghana:** Krepi (Jan.) Johnson 541! Chirra (Dec.) Chipp 781! Ho (Feb.) Howes 1113! Abetifi to Pepease (Jan.) Irvine 1667! Brufu Edru Cummins 12b! **Togo Rep.:** Kersting A119! **N. Nig.:** Ilorin (Nov.) Ward L107! Nupe Barter 1390! Abinsi (Dec.) Dalz. 888! Gindiri, Plateau Prov. (Oct.) Hepper 1112! Mambila Plateau (Feb.) Hepper 1852! **S. Nig.:** Lagos (Oct.) Dalz. 1335! Ute, Owo (Aug.) Symington FHI 5644! Brass Barter 1836! Aboh Barter 1353! Awka Thomas 46! **W. Cam.:** Buea (Nov.) Migeod 3! Bamenda (Jan.) Migeod 311! **F. Po:** T. Vogel! Mann 115! Moka (Aug.) Wrigley 517!

Throughout tropical Africa, and widely introduced elsewhere in the tropics. (See Useful Plants.)

10. Pennisetum monostigma Pilger in Engl., Bot. Jahrb. 30: 120 (1901); F.T.A. 9: 991. *P. jacquesii* Mimeur in Rev. Bot. Appliq. 30: 314 (1950). *APD acc*

Pennisetum kamerunense Mez (1917).

Densely tufted perennial up to 1 m. high.

S. L.: Bintumane Peak (Jan., Oct.) Glanville 474! T. S. Jones 113! Mt. Loma (Oct.) Jaeger 303! 7889! Nichols 7! **N. Nig.:** Chappal Waddi, Mambila Plateau (Nov.) Jackson, Magaji & Tuley 2098! **W. Cam.:** Mann's Spring, Cam. Mt., 7,500 ft. (Mar., Dec.) Brenan & Onochie 9535! Boughy GC 10600! Cam. Mt., 9,000 ft. (Jan., Nov., Dec.) Maitland 1229! Migeod 169! Mildbraed 10842! **F. Po:** Boughy GC 10795! Mann 1463! Lago Biao, 5,000 ft. (Sept.) Wrigley 672! Pico de Santa Isabel (Mar.) Guinea 2781!

Also in **E. Cameroun**.

11. Pennisetum trachyphyllum Pilger in Engl., Bot. Jahrb. 30: 122 (1901); F.T.A. 9: 967.

APD: Synonym of Cenchrus trachyphyllus (Pilg.) Morrone

Perennial up to 2 m. high.

W. Cam.: Buea (Jan.) Maitland 341! Bamenda (Oct.) Agric. officer Bam/20!

Also in eastern Africa, from the mountains of **Ethiopia** south to Kilimanjaro.

12. Pennisetum glaucocladum Stapf & C. E. Hubbard in Kew Bull. 1933: 276; F.T.A. 9: 984.

APD: Synonym of Pennisetum macrourum Trin.

Stout perennial, 1·2–2·4 m. high; **streamsides**.

N. Nig.: Vom (Apr.) Morton K323!

Also in **Tanzania**, **Zambia**, **Rhodesia**, **Malawi** and **Botswana**.

13. Pennisetum giganteum A. Rich. Tent. Fl. Abyss. 2: 382 (1851); F.T.A. 9: 979.

APD: Synonym of Pennisetum macrourum Trin.

Pennisetum togoense Mez in Engl., Bot. Jahrb. 57: 191 (1921); F.T.A. 9: 988.

Stout perennial up to 5 m. high; **streambanks**.

Guin.: Dabola Jac.-Fél. 550 (fide Mimeur in Rev. Bot. Appliq. 30: 313). **Togo Rep.:** Sokode to Basari Kersting A698! **N. Nig.:** Yankari (Sept.) Magaji & Tuley 1798! Kwagiri, Gashaka (Nov.) Latilo & Daramola FHI 28762! Nguroge (Nov.) Magaji & Tuley 1867! Chappal Waddi, Sardauna Prov. (Nov.) Jackson, Magaji & Tuley 2096!

Extends eastwards to the **Sudan** and **Kenya**.

[P. giganteum belongs to a cluster of poorly differentiated species, mainly from eastern Africa, whose taxonomy requires revision. The name is here used in a wide sense].

14. Pennisetum glabrum Steud. Syn. Pl. Glum. 1: 104 (1854); F.T.A. 9: 995.

APD: Synonym of Pennisetum thunbergii Kunth

Perennial with slender culms 30–90 cm. high; **damp places**.

N. Nig.: Chappal Waddi, Sardauna Prov. (Nov.) Jackson, Magaji & Tuley 2099!

Extends eastwards to the **Sudan** and southwards to **Zambia**.

15. Pennisetum violaceum (Lam.) L. Rich. in Pers., Syn. Pl. 1: 72 (1805); F.T.A. 9: 1027; Berhaut, Fl. Sén. ed. 2, 394; De Miré & Gillet in J. Agric. Trop. 3: 734; incl. vars, chudeaui (Maire) Maire and monodii (Maire) Maire in Fl. Afr. Nord 1: 337 (1952).

APD: Synonym of Cenchrus violaceus (Lam.) Morrone

Panicum violaceum Lam., Illustr. Gen. 1: 169 (1791).

Pennisetum mollissimum Hochst. in Flora 27: 253 (1844); F.T.A. 9: 1022; F.W.T.A., ed. 1, 2: 574; Chev. Bot. 735, and in Rev. Bot. Appliq. 14: 35.

Pennisetum ramosissimum Steud., Syn. Pl. Glum. 1: 105 (1854).

Pennisetum cognatum Steud. l.c. 107.

Pennisetum subeglime Trabut in Bull. Soc. Hist. Nat. Nord Afr. 10: 187 (1919).

Pennisetum molle Hitchc. in Proc. Biol. Soc. Wash. 43: 91 (1930).

Pennisetum chudeaui Maire in Bull. Mus. Hist. Nat. Paris sér.2, 3: 252 (1931); incl. subsp. monodii Maire l.c.; A. Chev. in Rev. Bot. Appliq. 14: 35.

Pennisetum rogeri Stapf & C. E. Hubbard in Kew Bull. 1933: 285; F.T.A. 9: 1023; F.W.T.A., ed. 1, 2: 574; A. Chev. in Rev. Bot. Appliq. 14: 37.

Pennisetum barteri Stapf & C. E. Hubbard in Kew Bull. 1933: 287 (1933); F.T.A. 9: 1026; F.W.T.A., ed. 1, 2: 574.

Pennisetum darfuricum Stapf & C. E. Hubbard in Kew Bull. 1933: 283 (1933); F.T.A. 9: 1020; A. Chev. in Rev. Bot. Appliq. 14: 37.

Annual, 30–120 cm. high; **a very variable species, divisible into a profusion of indistinct subordinate taxa; a weed of roadsides and fallow land.**

Maur.: Oujaf Rossetti 61/244! **Sen.:** Adanson! Dakar (May.) Rattray! Baldwin 5739! Kaolack (Nov.) Adam 19906! Louga (Oct.) Chev. 34027! **Mali:** Gourma (July) Rogeon 448! Gao (Sept.) Hagerup 340! Tin Zaoutene (Sept.) Rossetti 59/190! in Tillit (Aug.) Rossetti 59/123! Kidal (Sept.) Rossetti 59/163! **Niger:** Tahoma to in Gall (Feb.) Chev. 43321! **N. Nig.:** Wurge, Chad (Oct.) Gwynn 122! Logomani, Bornu (Nov.) Johnston N84! Nupe Barter 1376!

Also in **Central African Republic** and **Sudan**. (See Useful Plants.)

16. **Pennisetum fallax** (*Fig. & De Not.*) Stapf & C. E. Hubbard in Kew Bull. 1933: 270; F.T.A. 9: 1019.

APD: *Synonym of Pennisetum violaceum (Lam.) Rich.*

Penicillaria fallax *Fig. & De Not.* in Mem. Accad. Sci. Torino ser. 2, 14: 371 (1854).

Pennisetum ochrops Stapf & C. E. Hubbard in Kew Bull. 1933: 284; F.T.A. 9: 1021; F.W.T.A., ed. 1, 2: 574; A. Chev. in Rev. Bot. Appliq. 14: 38.

Annual weed 60–120 cm. high; perhaps not distinct from the preceding.

Maur.: Néma Rossetti 61/202! **Sen.:** Galam Heudelot 299! M'Bidjem (Aug.) Thierry 66! **N. Nig.:** Gushko, Chad (Oct.) Golding 22!

Also in the **Sudan** and **Eritrea**. (See Useful Plants.)

17. **Pennisetum stenostachyum** (*Klotzsch ex A. Br.*) Stapf & C. E. Hubbard in Kew Bull. 1933: 270; F.T.A. 9: 1031.

APD: *Synonym of Pennisetum polystachion (L.) Schult. subsp. polystachion*

APD: *Synonym of Pennisetum sieberianum (Schltr.) Stapf & C.E. Hubb.*

Penicillaria stenostachya *Klotzsch ex A. Br.* in Ind. Sem. Hort. Berol. 1855 App. 25 (1855).

Pennisetum sclerocladum Stapf & C. E. Hubbard in Kew Bull. 1933: 288; F.T.A. 9: 1033; F.W.T.A., ed. 1, 2: 574.

Pennisetum sampsonii Stapf & C. E. Hubbard l.c. 289; A. Chev. in Rev. Bot. Appliq. 14: 37.

Pennisetum niloticum Stapf & C. E. Hubbard l.c. 293.

Coarse annuals 1–1.5 m. high, **usually in proximity to the cultivated species.**

Sen.: Walo Perrottet 76! Thiès to St. Louis (Nov.) Chev. 2266! St. Louis Roger! Kaolack (Nov.) Adam 19905! **Gam.:** Boteler! Georgetown (Jan.) Sampson 56! **N. Nig.:** Ilorin (Dec.) Sampson 44!

Also in **Egypt** and **Sudan**. (See Useful Plants.)

This taxon is probably no more than an assemblage of worthless segregates from the cultivated plants.

18. **Pennisetum dalzielii** Stapf & C. E. Hubbard in Kew Bull. 1933: 290; F.T.A. 9: 1030.

APD: *Synonym of Pennisetum sieberianum (Schltr.) Stapf & C.E. Hubb.*

N. Nig.: Sokoto Dalz. 511! 512! 513!

Very doubtfully distinct from the preceding.

19. **Pennisetum americanum** (*Linn.*) K. Schum. in Engl., Pflanzenw. Ost-Afr. B: 51 (1895). *APD acc*

Panicum americanum *Linn.*, Sp. Pl. 56 (1753).

Pennisetum typhoides (*Burm.*) Stapf & C. E. Hubbard (1933).

Pennisetum pycnostachyum (*Steud.*) Stapf & C. E. Hubbard (1933); Berhaut, Fl. Sén. ed. 2, 393.

Pennisetum nigritarum (*Schlechtld.*) Dur. & Schinz (1894).

Pennisetum anchylochaete Stapf & C. E. Hubbard (1933).

Pennisetum cinereum Stapf & C. E. Hubbard (1933).

Pennisetum gibbosum Stapf & C. E. Hubbard (1933).

Pennisetum maiwa Stapf & C. E. Hubbard (1933).

Pennisetum gambiense Stapf & C. E. Hubbard (1933); Berhaut, Fl. Sén. ed. 2, 393.

Pennisetum leonis Stapf & C. E. Hubbard (1933).

[Many species of “Bulrush Millet” were accepted in F.T.A. and F.W.T.A. ed. 1. It is becoming apparent, however, that these do not form satisfactory units, either morphologically, genetically or agriculturally. The solution lies in uniting them into a single species, within which cultivars may be recognised according to the provisions of the International Code of Nomenclature for Cultivated Plants.- W.D.C.].

***Pennisetum divisum* (Forsk. ex Gmel.) Henr.** in *Blumea* 2: 162 (1938).

APD: Synonym of Cenchrus ramosissimus Poir.

***Panicum divisum* Forsk. ex Gmel.**, *Syst. Nat.* 2: 156 (1791).

***Pennisetum dichotomum* (Forsk.) Del.** (1813).

A glabrous bushy perennial with stout woody stems; rhachis glabrous, inconspicuously angular; spikelets 7–8 mm. long, the lower glume half as long.

Recorded at Air, Niger, by De Miré & Gillet in *J. Agric. Trop.* 3: 734 (1956).

From N. Africa, [Arabia](#) and India.

Additional species

***Pennisetum villosum* Fresen.** in *Mus. Senck.* 2: 134 (1837).

APD: Synonym of Cenchrus longisetus M. C. Johnst.

***Pennisetum longistylum* Hochst. ex A. Rich.** (1851); *Berhaut, Fl. Sén. ed. 2*, 393.

Perennial, with handsome plumose involucre up to 7 cm. long.

An [Ethiopian](#) species sometimes grown as an ornamental.

Additional species

Imperfectly known species.

***Pennisetum senegalense* Steud. ex Jard.** *Herbor. Côte Occid. Afr.* 10 (1851), name only. *APD acc*

Probably one of the wild annual species growing near Dakar.

Additional species

102. CENCHRUS

Linn., *Sp. Pl.* 1049 (1753), and *Gen. Pl. ed. 5*, 470 (1754); De Lisle in *Iowa State J. Sci.* 37: 259 (1963); *F.T.A.* 9: 1070 (1934).

- 1 Bristles of the involucre retrorsely barbellate and adhering to clothing, rigid, prickly, 4–8 mm. long; outer bristles present: **2**
- Bristles of the involucre antrorsely barbellate, not prickly: **3**
- 2 Bristles connate at the base into a shallow elliptic disc up to about 3 mm. across, but free above the rim of the disc [1. biflorus](#)
- Bristles connate for about half their length to form a deep cup [2. echinatus](#)
- 3 Inner bristles flattened, rigid, 2.5–5 mm. long, ciliate on the inside, with the margins fused for 1/3 of their length above the rim of the basal disc; outer bristles suppressed or reduced to minute points [3. setigerus](#)
- Inner bristles slender, 9 mm. long or more, free above the basal disc; outer bristles numerous: **4**
- 4 Involucral bristles connate for a short distance from the base to form a shallow elliptic disc up to 3 mm. across; inner bristles stiff, subequal, 15–20 mm. long, scantily ciliate in the lower half [4. priouri](#)
- Involucral bristles connate only at the very base to form a disc up to 1 mm. diam.; inner bristles flexible, unequal, one longer than the others, 9–12 mm. long, densely ciliate in the lower half [5. ciliaris](#)

1. *Cenchrus biflorus* Roxb. *Fl. Ind.* 1: 238 (1820); *Berhaut, Fl. Sén. ed. 2*, 393. *APD acc*

***Cenchrus barbatus* Schumach.**, *Beskr. Guin. Pl.* 43 (1827); *F.T.A.* 9: 1079.

***Cenchrus catharticus* Del.** (1839)—*Chev. Bot.* 734, and in *Rev. Bot. Appliq.* 14: 39; De Miré & Gillet in *J. Agric. Trop.* 3: 728.

***Cenchrus leptacanthus* A. Camus** in *Bull. Soc. Bot. Fr.* 80: 774 (1934).

Annual, geniculately ascending, about 60 cm. high; the burrs vary somewhat in size and spinescence, and in a few cases the acicular outer bristles are suppressed simulating *C. setigerus*; [old farmland and waste places](#).

Maur.: Bafréchié (Sept.) Sadio 39! 234! Guberni Rossetti 61/317! **Sen.:** (July) Roger! Sar I. Brunner 29! Dakar (May) Baldwin 5728! Kouma (Aug.) Roger 63! Djembering (Sept.) Broadbent 125! **Gam.:** Saunders 31! 112! Ruxton 159! Yundum Frith 132! Genieri (July) Fox 125! **Mali:** Timbuktu (July) Chev. 1229! Hagerup 146! Divé (Aug.) Lean 63! Sarédina (Mar.) Davey 51! Dioura (Jan.) Davey 242! **Port. G.:** Buruntuma (July) Esp. Santo 2714! Piche to Orebode (June) Esp. Santo 3025! **U. Volta:** Nadjogo to Nadiokan (June) Scholz 4b! **Ghana:** Accra Brown 427! Ada (Jan.) De Wit & Morton A2991! Damongo (Mar.) Adams 3973! Tamale (July) Vigne FH 4549! Yeji (Apr.) Williams 226! **Dah.:** Cotonou (Apr.) Debeaux! Kraké (Oct.) Risopoulos 1230! **Niger:** Zinder (Nov.) Money-Kyrle Fe19! Dasso White 11! D'in-Abbangarit (Nov.) Money-Kyrle Sah39! Toukounous Bartha 85! 87! **N. Nig.:** Jebba (Dec.) Meikle 684! Ankpa (June) Daramola FHI 38028! Sokoto (Oct.) Moiser 138! Kano (July) Onwudinjoh FHI 22383! Mongonu (Oct.) Golding 13! **S. Nig.:** Lagos (Sept., Nov., Jan.) Dalz. 1130! Maitland 159! Stubbings 73! Bels 45! Birket-Smith 83!

Extending south to Zambia and Rhodesia and east to Eritrea and India. (See Useful Plants.)

2. **Cenchrus echinatus** *Linn. Sp. Pl.* 1050 (1753); *F.T.A.* 9: 1082. *APD acc*

Annual 30–90 cm. high.

Ghana: Cape Coast (May) Hall 3039! Accra (Oct.) Morton! Achimota (Apr.) Ankrah GC 20129! Accra to Aburi (June) Oduro 11! **S. Nig.:** Lagos (Oct.) Haines 183!

A native of tropical America, occurring as an adventive in most tropical countries.

3. **Cenchrus setigerus** *Vahl Enum. Pl.* 2: 395 (1806); *F.T.A.* 9: 1077; Berhaut, *Fl. Sén. ed.* 2, 393; De Miré & Gillet in *J. Agric. Trop.* 3: 729. *APD acc*

Perennial.

Ghana: Legon (Mar.) Morton A4156! Aiyinase (July) Irvine 5060!

Also in **Sudan**, **Ethiopia**, **Kenya**, **Arabia** and **India**, and introduced elsewhere as a fodder plant.

4. **Cenchrus prieuri** (*Kunth*) *Maire* in *Bull. Mus. Hist. Nat. Paris*, ser. 2, 3: 523 (1931); *F.T.A.* 9: 1071; Berhaut, *Fl. Sén. ed.* 2, 395; De Miré & Gillet in *J. Agric. Trop.* 3: 729. *APD acc*

Pennisetum prieuri *Kunth*, *Rev. Gram.* 2: 411 (1831).

P. breviflorum *Steud.* (1854).

Cenchrus macrostachys *Hochst. ex Steud.* (1854)—A. Chev. in *Rev. Bot. Appliq.* 14: 40.

Annual, culms ascending, up to about 75 cm. high.

Maur.: Bafréchié (Sept.) Sadio 235! **Sen.:** Adanson! Roger! Leprieur! **Mali:** Timbuktu (Aug.) Hagerup 277! Lean 67! Dioura (Sept.) Davey 69! Gao (Aug.) de Wailly 4725! Kidal (Sept.) Rossetti 59/168! **Niger:** Air Trabut! Zinder (Nov.) Hagerup 611a! **N. Nig.:** Kafinsoli (Sept.) Butler S107!

Extending eastwards to the **Sudan** and into India. (See Useful Plants.)

5. **Cenchrus ciliaris** *Linn. Mant. Alt.* 302 (1771); *F.T.A.* 9: 1072; Berhaut, *Fl. Sén. ed.* 2, 394; De Miré & Gillet in *J. Agric. Trop.* 3: 729. *APD acc*

Pennisetum ciliare (*Linn.*) *Link* (1827); A. Chev. in *Rev. Bot. Appliq.* 14: 36.

P. cenchroides *Rich.* (1805).

Perennial, culms ascending, up to about 1 in. high; indigenous in the drier areas, but probably introduced in the south where it occurs on rubbish tips, roadsides, etc.

Maur.: Bafréchié (Sept.) Sadio 250! Oualata Rossetti 61/140! **Sen.:** Leprieur! Richard! Walo (Aug.) Roger 61! Richard-Tol (Apr.) Chev. 25779! St. Louis (Feb.) Berhaut 689! **Mali:** Sompi (Aug.) Chev. 2166! Bas el Ma (Aug.) Chev. 2165! Sarédina (Feb.) Davey 19! Bamha (Sept.) Hagerup 322! Tabankort to Kidal Leclercq 42687! **Ghana:** Cape Coast (May) Morton A3673! Accra (June, Oct.) Thorold 95! Baldwin 13441! Ada (Feb.) Adams 5193! Kpong (Jan.) Gyadu GC 31212! **Niger:** Air (Feb.) Chev. 43388! Toukounous Bartha 86! **N. Nig.:** Baga, Chad (Jan.) Daggash FHI 24963! Baga Seyoram, Kukuwa (Feb.) Davey FHI 27162!

Throughout tropical Africa, extending into the Middle East and India; introduced to many other countries as a fodder grass. (See Useful Plants.)

Cyr., Pl. Rar. Neap. 2: 26 (1792); F.T.A. 9: 87 (1917).

- 1 Culms up to 1.25 m. high, from extensively creeping rhizomes; leaf-blades usually erect, sword-like; inflorescence cylindrical, spiciform, silky, with long white hairs from glumes, pedicels and branches; spikelets paired, both pedicelled, the pedicels unequal; glumes membranous; stamens 2 cylindrical IMPERATA.....2 @
- 2 Leaf-blades narrowly linear, 3–6 mm. broad, involute or convolute, rigid, glaucous; panicles very dense and tightly cylindrical [1a. cylindrica var. cylindrica](#)
 Leaf-blades linear to lanceolate-linear, 4–18 mm. broad, flat, firm; panicles rather less dense [1b. cylindrica var. africana](#)

1. **Imperata cylindrica** (Linn.) P. Beauv. Ess. Agrost. 165, 166 (1812); F.T.A. 9: 87; A. Chev. in Rev. Bot. Appliq. 13: 855; Berhaut, Fl. Sén. ed. 2, 396. *APD acc*

Lagurus cylindricus Linn., Syst. Nat. ed. 10, 878 (1759).

Saccharum cylindricum (Linn.) Lam. (1785).

1a. **Imperata cylindrica var. cylindrica**. *APD acc*

Imperata arundinacea Cyr., Pl. Rar. Neap. 2: 26 (1792).

Imperata arundinacea var. *europaea* Anderss. in Öfvers. K. Vet. Akad. Frh. Stock. 1855: 159 (1856).

Imperata cylindrica var. *europaea* (Anderss.) Asch. & Graeb., Syn. Mitteleurop. Fl. 2: 37 (1898).

N. Nig.: Kworre, Sokoto (Sept.) Palmer 27! Baga Seyoram, Kukuwa Dist. (Feb.) Davey FHI 27174! Kalkala, L. Chad (May) Golding 80!

Extending to Hoggar, shores of the Mediterranean, and eastwards through Iraq, Iran and Afghanistan to southern U.S.S.R. (See Useful Plants.)

1b. **Imperata cylindrica var. africana** (Anderss.) C. E. Hubbard in Imp. Agric. Bur., Joint Pub. 7: 10 (1944).

APD: *Synonym of Imperata cylindrica* (L.) Raeusch.

Imperata arundinacea var. *africana* Anderss. l.c. (1856).

Saccharum thunbergii Retz., Obs. Bot. 5: 17 (1789).

Imperata thunbergii (Retz.) Nees, Fl. Afr. Austr. 89 (1841).

Imperata arundinacea var. *thunbergii* (Retz.) Hack. in Bol. Soc. Brot. 6: 142 (1888); Chev. Bot. 712.

Imperata cylindrica var. *thunbergii* (Retz.) Dur. & Schinz., Consp. Fl. Afr. 5: 693 (1895); Chev. Bot. 713.

Usually distinguished fairly readily from var. *cylindrica* by the broader, flat leaf-blades, but in the northern part of our area the two varieties tend to merge and cannot easily be separated.

Sen.: Dakar (May) Baldwin 5723! Joul to Pordutal (Feb.) Dollinger! **Gam.:** Hayes 563! **Mali:** Dio (Jan.) Chev. 166! Koulikoro Dist. (Nov.) Chev. 329! Toguéré de Sabouniaka (Feb.) Davey 17! **Guin.:** Kouroussa (Jan.) Pobéguin 633! Bambaya to Kamaro (Jan.) Jaeger 3892! **S. L.:** Freetown (May) Baldwin 5793! Njala (June) Deighton 2771! Mabum (Aug.) Thomas 1649! Bumban (Sept.) Thomas 1961! Kora R., Scarcies (Feb.) Sc. Elliot 4590! **Lib.:** Duport (Nov.) Linder 1445! Palilah, Gbanga Dist. (Dec.) Baldwin 11039! **Iv. C.:** (Jan.) Hédin! Boundoukou to Abengourou (Mar.) de Wilde 3512! Béréby (Nov.) Oldeman 499! Bigulaye (Jan.) Oldeman 881! **U. Volta:** Bobo-Dioulasso (Aug.) Scholz 94! **Ghana:** Kpong (Jan.) Gyadu GC 31205! Aburi Hills (Nov.) Johnson 291! Kumasi (Mar.) La Danso 25! Kpedsu (Dec.) Howes 1064! Ho (Mar.) Williams 60! **Togo Rep.:** Palime (Mar.) Stage 4! **Dah.:** Poisson! **N. Nig.:** Nupe Barter 1393! Fadau Karshi, Wamba Div. (Oct.) Kennedy FHI 8043! Vodni, Pankshin Div. Saunders 43! Kano (Dec.) Hagerup 662! Yola (Sept.) Dalz. 307! **S. Nig.:** Lagos (Sept.) Stubbings 1! Ibadan (Feb.) Richards 5079! Opobo (Oct.) Jeffreys 33! Port Harcourt (Dec.) Maitland! Okuni-Inkum (Jan.) Holland 279! **W. Cam.:** Buea (Jan.) Maitland 325! Fonfuka, Bamenda Dist. (June) Maitland 1771! Bamenda (Jan.) Migeod 346! Jakiri to Mbawver (June) Brunt 679! Bambili (Feb.) Bauer 24!

Throughout tropical Africa and S. Africa and in **Madagascar**.

[A third variety, var. *major* (Nees) C. E. Hubbard (1940), extends from eastern tropical Africa, through tropical Asia, to Australia. It is much more aggressively rhizomatous than our varieties, and constitutes a most serious pest of agricultural land.]

Linn., Sp. Pl. 54 (1753), and Gen. Pl. ed. 5: 28 (1754); F.T.A. 9: 94 (1917).

- 1 Culm hairy below the panicle, the latter narrowly oblong, up to 45 cm. long; spikelets 4–6 mm. long; callus hairs very fine and white silky, about twice as long as the spikelets; leaf-blades 5–10 mm. broad; ligule crescentic [1. *spontaneum* var. *aegyptiacum*](#)

Culm glabrous below the panicle, the latter broadly pyramidal, up to 1 m. long or more; spikelets up to 4 mm. long; callus hairs shorter, scantier and off-white; leaf-blades up to 4 cm. broad [2. *officinatum*](#)

1. ***Saccharum spontaneum* Linn.** Mant. Alt. 183 (1771); Panje in Ind. J. Agric. Sci. 3: 1013 (1933); Artschwager, U.S. Dept. Agric. Tech. Bull. 811 (1942). *APD acc*

- 1a. ***Saccharum spontaneum* var. *aegyptiacum* (Willd.) Hack.** in DC., Monogr. Phan. 6: 115 (1889); F.T.A. 9: 95.

APD: *Synonym of Saccharum spontaneum subsp. aegyptiacum (Willd.) Hack.*

***Saccharum aegyptiacum* Willd.**, Enum. Hort. Berol. 1: 82 (1809).

***Saccharum biflorum* Forsk.** (1775)—A. Chev. in Rev. Bot. Appliq. 13: 856.

***Saccharum punctatum* Schumacher.** (1827).

***Saccharum palisotii* Tausch.** (1836).

Perennial with culms up to 3·5 m. high; **sandy river banks.**

U. Volta: Tenkodogo (Nov.) Scholz 188! **Ghana:** Gambaga to Bawku (Oct.) Rose Innes GC 30274! Bawku to Nakpanduri (Oct., Nov.) Ankrah GC 20499! Rose Innes GC 32507! **N. Nig.:** Ilorin (Sept.) Ward L130! Wuya Ferry, Kaduna R., (Dec.) Clayton 408! Dogon Kurmi, Jemaa (Sept.) Killick 73! Naraguta, Plateau Prov. (Aug.) Lely P 443! Katagum Dist. Dalz. 277! Gurum, Vogel Peak (Nov.) Hepper 1326! **S. Nig.:** Nun R. (Sept.) T. Vogel 33! Mann 536! Asaba (Sept.) Tuley 865!

Throughout tropical Africa, extending to **Egypt** and the N. African coast, and through **Arabia** to the Middle East and Afghanistan. (See Useful Plants.)

[The species is found throughout the Old World tropics. It is polymorphic, and its many forms are commonly grouped into 2 varieties. var. *spontaneum* differs in having a deltoid ligule, and the leaf-blade narrowed to the midrib at its insertion on the sheath.]

2. ***Saccharum officinarum* Linn.** Sp. Pl. 54 (1753); F.T.A. 9: 96; A. Chev. in Rev. Bot. Appliq. 13: 856; Berhaut, Fl. Sén. ed. 2, 419; Artschwager & Brandes in U.S. Dept. Agric., Handbook 122 (1958). *APD acc*

Culms up to 6 m. high.

Cultivated sugar cane. Grown, particularly as a chewing cane, on moist soils throughout our area. (See Useful Plants.)

105. ERIOCHRYISIS

P. Beauv., Ess. Agrost. 8, t. 4, f. 11 (1812); F.T.A. 9: 91 (1917).

- 1 Callus hairs 1/3 as long as the sessile spikelet, rarely up to 3/4 as long, ferruginous; sessile spikelet bisexual, awnless; pedicelled similar but female and a little smaller; lower glume coriaceous, shining ... [1. *brachypogon*](#)
Callus hairs exceeding the sessile spikelet, yellowish tawny; otherwise similar to above [2. *pallida*](#)

1. ***Eriochrysis brachypogon* (Stapf) Stapf** F.T.A. 9: 93 (1917); A. Chev. in Rev. Bot. Appliq. 13: 856; Berhaut, Fl. Sén. ed. 2, 401. *APD acc*

***Saccharum brachypogon* Stapf** in Mém. Soc. Bot. Fr. 2, 8: 97 (1908); Chev. Bot. 713.

Perennial, about 1·2 m. high: **swampy soils.**

Sen.: Niokolo-Koba Adam 17504. **Ghana:** Sampa (Dec.) Morton A2629! **N. Nig.:** Nupe Barter 1351! Gembu, Mambila (Aug.) De Leeuw 1790!

Through C. African Rep., Congo, **Uganda** and Tanzania to Rhodesia.

2. *Eriochrysis pallida* Munro in Harv., Gen. S. Afr. Pl. ed. 2: 440 (1868); F.T.A. 9: 93; A. Chev. in Rev. Bot. Appliq. 13: 856. *APD acc*

Saccharum pallidum (Munro) Benth. (1881).

S. munroanum Hack. (1889).

Perennial, about 1·2 m. high; **swampy soils**.

Guin.: Timbi (Dec.) Jac.-Fél. 7420! **N. Nig.:** Mundar, Jos (Sept.) Lawlor & Hall 638! Maisamari (Aug.) De Leeuw 1752!

Occurs in **C. African Rep., Ethiopia, Tanzania, Zambia, Rhodesia, Malawi** and **Angola**.

106. SORGHUM

Moench, Meth. 207 (1794); F.T.A. 9: 104 (1917); Snowden in J. Linn. Soc. 55: 191 (1955); nom. cons.

- 1 Nodes bearded; sessile spikelets black, densely clothed in tawny or purplish hairs [1. *purpureo-sericeum*](#)
Nodes pubescent: **2**
- 2 Perennials with well-developed creeping rhizomes; spikelets 4·5–5 mm. long, obtuse, deciduous when mature;
lower glume distinctly 3-toothed; leaf-blades 0·5–2 cm. broad [2. *halepense*](#)
Annuals or tufted perennials without rhizomes: **3**
- 3 Mature sessile spikelets persistent; grains large, often exceeding the glumes in size, usually much exposed;
cultivated [3. *bicolor*](#)
Mature sessile spikelets deciduous; grains enclosed by the glumes; wild: **4**
- 4 Sessile spikelets lanceolate; awns 5–16 mm. long; leaf-blades 0·5–2 cm. broad: **5**
Sessile spikelets narrowly ovate to ovate or elliptic: **6**
- 5 Panicle ovate-oblong to lanceolate, 20–40 cm. long and up to 15 cm. broad, the branches numerous and soon
spreading; sessile spikelets 6–8 mm. long; awn rather stout; grain 2–2·5 mm. broad [4. *lanceolatum*](#)
Panicle long and narrow, 15–60 cm. long and 1–5 cm. broad, the branches scanty and suberect; sessile spikelets
6·5–7 mm. long; awn slender; grain 1·5–2 mm. broad [5. *virgatum*](#)
- 6 Sessile spikelets 8–9 mm. long, 2·5–3·5 mm. broad; acuminate, awnless or more often with an awn 8–16 mm.
long; panicle large, loose, 15–45 cm. long, 5–25 cm. broad; leaf-blades 1–7 cm. broad [6. *vogelianum*](#)
Sessile spikelets 6–8 mm. long: **7**
- 7 Upper lemma of sessile spikelet with an awn 15–30 mm. long; sessile spikelets 2·5–3·5 mm. broad, usually
densely and persistently tomentose with mostly whitish silky hairs; panicle very narrow, 10–40 cm. long and
3–10 cm. broad, with suberect branches; leaf-blades 0·5–3 cm. broad [7. *aethiopicum*](#)
Upper lemma of sessile spikelet awnless or with an awn 5–10 mm. long; sessile spikelets 2–2·5 mm. broad;
panicle large, loose and much-branched, 20–60 cm. long and 10–25 cm. broad; leaf-blades mostly 3–6 cm.
broad [8. *arundinaceum*](#)

1. *Sorghum purpureo-sericeum* (Hochst. ex A. Rich.) Aschers. & Schweinf. Beitr. Fl. Aethiop. 302, 310 (1867); F.T.A. 9: 139. *APD acc*

Andropogon purpureo-sericeus Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 469 (1851).

Annual up to 1 m. high; **clay soils**.

N. Nig.: Biu (Oct.) Oche MRK126! Tallase, Bauchi Prov. Magaji MG192!

Eastwards to Eritrea and southwards to Tanzania.

2. *Sorghum halepense* (Linn.) Pers. Syn. 1: 101 (1805); Snowden in J. Linn. Soc. 56: 191. *APD acc*

Holcus halepensis Linn., Sp. Pl. 1017 (1753).

Andropogon halepensis (Linn.) Brot. (1804).

0·3–1·5 m. high; **old farmland, roadsides and waste places**.

Sen.: Dakar (Apr.) Clayton 4005! **Dah.:** Cotonou (Mar.) Aké Assi 11137!

Mediterranean region, but now found in most of the warmer parts of the world.

3. *Sorghum bicolor* (Linn.) Moench. Méth. 207 (1794). *APD acc*

Holcus bicolor Linn., Mant. Alt. 301 (1771).

Cultivated throughout tropical Africa, with notable centres of diversification in W. Africa and the **Sudan**. Grown to a lesser extent elsewhere in the Old World tropics and subtropics, and introduced to the New World.

[Snowden (The cultivated races of Sorghum, 1936) divides the cultivated Sorghums into 31 species and numerous lesser taxa. However, there is mounting evidence that these species are almost completely interfertile, and should be regarded as the cultivars of a single species. I have adopted that position here, and those requiring a more elaborate classification are referred to Snowden's book. Curtis (in Exp. Agric. 3: 275–286 (1967)) has classified the cultivated Sorghums of Nigeria into agronomic races.

There is a small group of species (or introgression products?) which share the properties of both wild and cultivated plants; they have more or less tough racemes and tardily deciduous sessile spikelets, but occur spontaneously. The following have been introduced to, or recorded in, West Africa: *S. hewisonii* (Piper) Longley, *S. niloticum* (Stapf ex Piper) Snowden, and *S. sudanense* (Piper) Stapf. For further details see Snowden in J. Linn. Soc. Bot. 55: 191 (1955).—W.D.C.]

4. **Sorghum lanceolatum** Stapf in F.T.A. 9: 112 (1917); Snowden in J. Linn. Soc. 55: 216; A. Chev. in Rev. Bot. Appliq. 13: 857. Including *S. virgatum* of F.W.T.A. ed. 1, 2: 580, not of (Hack.) Stapf.

APD: *Sorghum arundinaceum* (Desv.) Stapf

Annual or short-lived perennial up to 2·4 m. high.

Maur.: L. Rkiz (Oct.) Adam 21824! **Sen.:** Heudelot 544! 654! **Mali:** El Oualadji (Mar.) Chev. 43947! **Ghana:** Daboya (Nov.) Thorold 264! Singa (Aug.) Rose Innes GC 31859! **Niger:** Kolo to Niamey (Dec.) P. de Fabrègues 2769! **N. Nig.:** Kwarre (Nov.) Sampson 27! Katagum Dist. Dalz. 293! **S. Nig.:** Onitsha (Mar.) Jones FHI 6277!

5. **Sorghum virgatum** (Hack.) Stapf in F.T.A. 9: 111 (1917). *APD acc*

Andropogon sorghum var. *virgatus* Hack. in DC., Monogr. Phan. 6: 504 (1889).

Annual up to 1·5 m. high.

Maur.: Matmata, Tagant (Apr.) Monod 157! **Sen.:** Niokolo-Koba (Feb.) Adam 17508! **Niger:** Illeba (Sept.) P. de Fabrègues 2528!

Extends eastwards into **Egypt** and the **Sudan**.

6. **Sorghum vogelianum** (Piper) Stapf in F.T.A. 9: 116 (1917); Snowden l.c. 219; A. Chev. in Rev. Bot. Appliq. 13: 857. *APD acc*

Andropogon sorghum subsp. *vogelianus* Piper in Proc. Biol. Soc. Wash. 28: 34 (1915).

Loosely tufted annual, or sometimes perennial, 1–5 m. high.

Mali: Gao (Aug.) de Wailly 5142! **Ghana:** Lawra (Sept.) Hall CC 770! Kpandai (July) Rose Innes GC 32576! **N. Nig.:** (Dec.) Lely 778! Makurdi (Nov.) Sampson 37! Ajaokuta (Aug.) Ward L135! Tungan Bandekwui, Jebba (June) Onochie FHI 40248! **S. Nig.:** Nun R. Vogel 11! Idu (Sept.) Holland 153! Onitsha (Nov.) Baldwin 13733! Yenagoa (Sept.) Tuley 887! **W. Cam.:** Cam. R. (Jan.) Mann 2109!

7. **Sorghum aethiopicum** (Hack.) Rupr. ex Stapf in F.T.A. 9: 119 (1917); Snowden l.c. 221; A. Chev. in Rev. Bot. Appliq. 13: 857. *APD acc*

Annual, up to 3 m. high.

Sen.: N'Tiago (Sept.) Audru 2505! **Mali:** (Jan.) Chev. 43027! Kidal (Sept.) Rossetti 59/164! **S. L.:** Njala (Aug.) Deighton 772! **Niger:** Agades (Apr.) P. de Fabrègues 1482! Zinder (Oct.) P. de Fabrègues 2267! Toukounous (May) Bartha 11! P. de Fabrègues 1558! Tanout (Apr.) P. de Fabrègues 1426! **N. Nig.:** Gajibe (Nov.) Johnston N72! Tilum, Rann Dist. (Apr.) Davey FHI 27152! Wulgo (Feb., Mar.) Davey FHI 27157! Johnston N26! Kalkala Golding 77!

Extends eastward to the **Sudan** and **Somalia**.

8. **Sorghum arundinaceum** (Desv.) Stapf in F.T.A. 9: 114 (1917); Snowden l.c. 227; A. Chev. in Rev. Bot. Appliq. 13: 857. *APD acc*

Rhaphis arundinacea Desv., Opusc. 69 (1831).

Andropogon arundinaceus Willd., Sp. Pl. 4: 906 (1805), not of Berg. (1767).

Annual or perennial 2–3·5 m. high.

Sen.: Niokolo-Koba (Oct.) Adam 15711! M'bout (Nov.) Roberty 10150! Kanéméré (July) Fotius K311! **Gam.:** Yundum, W. Div. (Dec.) Austin 18! **Guin.:** Nzérékoré (Oct.) Baldwin 9726! **S. L.:** Kenema (Jan.) Thomas 7714! Segbwema Deighton 3473! Musaia (Oct., Nov.) Glanville 317! Thomas 2637! **Lib.:** Kle, Boporo Dist. (Dec.) Baldwin 10578! Gbanga (Sept.) Linder 508! Sanokwele (Sept.) Baldwin 9495! Cess R. at Tappita trail (Aug.) Baldwin 9020! Blazié (Nov.) Adam 16078! **Iv. C.:** Abidjan (June) Adjanohoun 408a! Toumodi to Nzaakro (Aug.) Chev. 22424! Kouibly, Man (Oct.) Adjanohoun 300a! Ferkessédougou (Nov.) Leeuwenberg 2016! Beyo (Feb.) Leeuwenberg 2740! **U. Volta:** Gonaba (Dec.) Scholz 193! Konpiénga (Aug.) Scholz 146! **Ghana:** Winneba Plains (Feb.) Dalz. 8423! Accra to Dodowah (June) Rose Innes GC 30081! Kumasi (Apr.) La Danso 35! Odumase (Aug.) Howes 1203! Yapei (Aug.) Williams 844! **Dah.:** Logdo (Feb.) Raynal 13513! **N. Nig.:** Nupe Barter 1379! Katsina Ala (Aug.) De Leeuw 1713! **S. Nig.:** Lagos (May) Dalz. 1322! Oke Ado, Ibadan Dist. (Oct.) Onochie FHI 7940! Eruwa (Nov.) Onochie FHI 8143! Benin (Oct.) Maggs 21! Nun R. (Aug.) T. Vogel 50! **W. Cam.:** Victoria Maitland 977! Batibo to Mambe (June) Brunt 1172! **F. Po.:** (Dec.) Mann 114!

Extends south into the Congo.

[Preliminary investigations suggest that the wild species hybridize rather freely, both among each other and with the cultivated forms. It seems clear that the status of the present species will have to be reconsidered, but until more is known of their breeding behaviour it would be premature to attempt it.]

107. SORGHASTRUM

Nash in Britton, Man. Fl. North U.S. 71 (1901).

- 1 Awns up to 8 mm. long, rarely up to 25 mm. (specimens from Guinée); racemes bearing 1–3 spikelets, therefore at least some of the spikelets truly sessile and accompanied by only 1 pedicel [1. trichopus](#)
- Awns 30–40 mm. long; racemes each bearing only 1 spikelet, therefore every spikelet borne upon a pedicel-like branch and accompanied by 2 pedicels [2. bipennatum](#)

1. *Sorghastrum trichopus* (Stapf) Pilger in E. & P., Pflanzenfam., Aufl. 2, 14e: 142 (1940).

APD: *Synonym of Sorghastrum stipoides (Kunth) Nash*

Andropogon trichopus Stapf in Kew Bull. 1897: 287 (1897); Chev. Bot. 721.

Sorghum trichopus (Stapf) Stapf in F.T.A. 9: 141 (1917); F.W.T.A., ed. 1, 2: 582; A. Chev. in Rev. Bot. Appliq. 13: 858; Berhaut, Fl. Sén. ed. 2, 417.

Perennial, up to 1·5 m. high; spikelets light brown to straw coloured; [river flood plains](#).

Sen.: Ouassadou (Dec.) Berhaut 1688! Niokolo-Koba Adam 16880! **Cam.:** Ruxton 30! **Mali:** Diafarabé (Sept.) Lean 93! Dari (Sept.) Farrow 54a! Macina (Nov.) Duong 1300! **Guin.:** Baffing R. (Nov.) Pobéguin 1731! Kouroussa (Sept.) Pobéguin 507! **N. Nig.:** Nupe Barter 1375! Bida to Badeggi (Aug.) Onochie FHI 35423! Badeggi (Sept.) Clayton 303! Damaturu (Aug.) De Leeuw 1133!

2. *Sorghastrum bipennatum* (Hack.) Pilger in Notiz. Bot. Gart. Berl. 14: 96 (1938); Aké Assi, Contrib. 2: 297. *APD acc*

Andropogon bipennatus Hack. in Flora 68: 142 (1885).

Sorghum bipennatum (Hack.) O. Ktze., Rev. Gen. Pl. 2: 791 (1891); F.T.A. 9: 144 (1917); F.W.T.A., ed. 1, 2: 582; A. Chev. in Rev. Bot. Appliq. 13: 858; Berhaut, Fl. Sén. ed. 2, 416.

Annual, up to 1·2 m, high; spikelets dark brown, with black bigeniculate awns; [disturbed sites on moist soils](#).

Port. G.: Contubo to Djécoi, Bafata Reg. (Nov.) Esp. Santo 2830! Quaina, Gabú Reg. (Nov.) Esp. Santo 3159! Borontuma (Dec.) Pereira & Correia 2232! **Guin.:** Kouroussa (Nov.) Pobéguin 530! **S. L.:** Dankawali, N. Prov. (Nov.) Glanville 324! Musaia (Dec.) Deighton 4434! Kurubonla (Nov.) Morton SL 3347! Sokurella (Nov.) Morton SL 2827! **Iv. C.:** Fétékro to Bassawa (Oct.) Adjanohoun 291a! Tangaoussou to Fétékro Chev. 22159! Séguéla to Kouroukourounga (Oct.) Adjanohoun 292a! Ouorossantiakara, Ferkessédougou (Nov.) Leeuwenberg 2011! Nambonkaha, Ferkessédougou (Nov.) Leeuwenberg 2047! **U. Volta:** Samandeni (Oct.) Kmoch 139! Tondoura (Oct.) Scholz 82! **Ghana:** Asikuma to Tsito (Nov.) Adam 5205! Bole (Oct.) Rose Innes GC 31019! Pong Tamalc (Nov.) Williams 853! Hamale to Lawra (Oct.) Rose Innes GC 31055! Navrongo (Oct.) Vigne FH 4641! **Togo Rep.:** Hnie, Sokode to Atakpame (Oct.) Rose Innes GC 31369! **Dah.:** Boukombe (Nov.) Risopoulos 1257! **Niger:** Wadi Dollol White 22! **N. Nig.:** Lokoja (Nov.) Dalz. 286! Ilorin (Nov.) Keay FHI 28102! Jemaa (Oct.) Gambles 66! Fika (Oct.) Musa Daggash FHI 24882! Maska, Katsina Prov. (Jan.) Thatcher 509! **S. Nig.:**

Olokemeji, Egba Dist. (Nov.) Onochie FHI 8145! Olokemeji F.R. (Nov.) Latilo FHI 36682! Jackson 5161168! **W. Cam.:** Bambuko F.R. (Nov.) Argent 976! Kuk escarpment (Nov.) Brunt 880!

Extends southwards through Cameroun and the Congos to **Angola**, thence east to Zambia, Malawi, Mozambique and Madagascar.

108. CHRYSOPOGON

Trin., Fund. Agrost. 187 (1820); F.T.A. 9: 159 (1917); nom. cons.

- 1 Stems erect, woody at the base, fastigiately branched; awns 2 cm. long or more; panicle open, the triads borne on long flexuous peduncles [1a. aucheri var. quinqueplumis](#)
 Stems creeping, with very close nodes bearing short leafy shoots; awns up to 0.5 cm. long; panicle dense, the peduncles appressed to the axi [2. aciculatus](#)

1. *Chrysopogon aucheri* (Boiss.) Stapf in Kew Bull. 1907: 21. *APD acc*

Andropogon aucheri Boiss., Diagn. sér. 1, 5: 77 (1844).

1a. *Chrysopogon aucheri* var. *quinqueplumis* (A. Rich.) Stapf l.c.; F.T.A. 9: 160; A. Chev. in Rev. Bot. Appliq. 13: 860.

APD: *Synonym of Chrysopogon plumulosus Hochst.*

Chrysopogon quinqueplumis A. Rich., Tent. Fl. Abyss. 2: 450 (1851).

A wiry perennial of **semi-arid regions**.

Niger: Aïr (fide De Miré & Gillet in J. Agric. Trop. 3: 729).

Extends eastwards to **Uganda**, **Sudan**, **Ethiopia** and **Somalia**, thence south to Tanzania.

2. *Chrysopogon aciculatus* (Retz.) Trin. Fund. Agrost. 188 (1820); A. Chev. in Rev. Bot. Appliq. 13: 860. *APD acc*

Andropogon aciculatus Retz., Obs. Bot. 5: 22 (1789); Chev. Bot. 715.

A sward-forming perennial, **sometimes used for lawns**. The very long (3–4 mm.) needle-like callus is a menace, readily penetrating the mouths of cattle and the paws of dogs.

S. L.: New England (Oct.) Morton & Jarr SL 1441! **iv. C.:** Adiopodoumé (Apr.) Leeuwenberg 3826! Port Bouet (Mar.) Raynal 13589! **U. Volta:** Ouagadougou (Sept.) Scholz 151! **Ghana:** Legon Garden (May) Cudjoe! Tafo (Feb.) Rose Innes GC 30332! **S. Nig.:** Ibadan (May, Oct.) Townrow 20! Gledhill 628! Owo (Apr.) Haines 198! Bori to Ogoni (July) Nwanzo 729! **W. Cam.:** Victoria (July, Nov.) Maitland 16! 84! 152! Kumba (Mar., Nov.) Brenan 9459! Thorold TN100!

A species from **tropical Asia**, introduced to W. Africa and now well established in some localities.

Polytrias amaura (Büse) O. Ktze. Rev. Gen. Pl. 788 (1891). *APD acc*

Andropogon amaurus Büse in Miq., Pl. Junghn. 360 (1854).

Prostrate and mat-forming; the inflorescence a solitary raceme of numerous spikelets; spikelets all alike, in threes, 2 sessile and 1 pedicelled; **commonly used as a lawn grass**.

Commonly used as a lawn grass in the Asiatic tropics, and successfully established in the lawns of the Botanic Gardens, Victoria, **W. Cam.:** Maitland 98! 155! Keay FHI 28661!

Additional genus.

109. VETIVERIA

Lem.-Lisanc. in Bull. Soc. Philom. 1822: 43 (1822); F.T.A. 9: 156 (1917).

- 1 Sessile spikelets quite awnless, the callus glabrous; glumes spinulosely muricate [1. zizanioides](#)

Sessile spikelets awned, the callus bearded:2

- 2 Awn a short curved bristle (2)—5–(12) mm. long, enclosed or more or less exserted; callus beard up to 1 mm. long, pallid-brown [2. nigritana](#)
 Awn geniculate, up to 20 mm. long, differentiated into column and limb, the column exserted; callus beard up to 1.5 mm. long, fulvous [3. fulvibarbis](#)

1. **Vetiveria zizanioides** (Linn.) Nash in Small, Fl. Sth.-east. U.S. 67 (1903); F.T.A. 9: 157; A. Chev. in Rev. Bot. Appliq. 13: 858.

APD: *Synonym of Chrysopogon zizanioides* (L.) Roberty

Phalaris zizanioides Linn., Mant. Pl. 2: 183 (1771).

Chrysopogon zizanioides (Linn.) Roberty (1960).

Cultivated for its aromatic roots, and sometimes maintained as an ornamental.

S. L.: Freetown (Dec.) Deighton 3322! Rokupr (July) Jordan 475! **Lib.:** Monrovia (Sept.) Baldwin 9210! **Ghana:** Accra (June) Thorold CB91! Achimota (May, June) Irvine 1638! Akpabla 565!

An Asiatic species, now introduced into most tropical countries. (See Useful Plants.)

2. **Vetiveria nigritana** (Benth.) Stapf in F.T.A. 9: 157 (1917); A. Chev. in Rev. Bot. Appliq. 13: 858; Berhaut, Fl. Sén. ed. 2, 403.

APD: *Synonym of Chrysopogon nigritanus* (Benth.) Veldkamp

Andropogon nigritanus Benth. in Hook., Fl. Nigrit. 573 (1849).

A. squarrosus var. **nigritanus** (Benth.) Hack. (1889); Chev. Bot. 720.

A. zizanioides var. **nigritanus** (Benth.) A. Chev., Bot. 721 (1920).

Lenormandia insignis Steud. (1850).

Mandelorna insignis Steud. (1854).

Robust perennial 1.2–2.4 m. high, growing in clumps; [stream sides and swampy flood plains](#).

Maur.: Diouk (Nov.) Rossetti 59/231! **Sen.:** Senegal R. Adanson 159! Heudelot 294! Roger 24! Bafing plains Lecard 123! **Gam.:** Ruxton 145! **Mali:** Davey 18! Rogeon 239! Soulei, Macina (May) Lean 9! Mopti (Sept.) Lean 87! Kabara (Aug.) Chev. 1353! **Port. G.:** Canhamina to Cambajú (Nov.) Esp. Santo 2969! **Guin.:** Baffing R. (Mar.) Pobéguin 1739! Farana (Mar.) Sc. Elliot 5349! **S. L.:** Batkanu (Jan.) Glanville 127! Katuna, Little Scarcies (Jan.) Deighton 968! Pujahun Thomas 8204! Mesima (Apr.) Deighton 3694! Gombahun (Sept.) Jordan 553! **iv. C.:** Sérébissou, Dimbokro (May) Adjanohoun 231a! Pakobo Nord, Lamto (June) Adjanohoun 379a! Lamto (Dec.) Aké Assi 9814! Soubre (Nov.) de Wilde 3308! **U. Volta:** Baoulé (Oct.) Knoch 119! Touroukoro (Nov.) Scholz 17a! **Ghana:** Accra T. Vogel! Kpong (June) Ankrah GC 20056! Kete Krachi (Dec.) Adams 4588! Damongo to Tamale (Oct.) Rose Innes GC 30218! Navrongo (Sept.) Vigne FH 4626! **Togo Rep.:** Koukomba plain Kersting A661! **Dah.:** Cotonou Chev. 4455! Porto Novo (Sept.) Adjanohoun 263! **Niger:** Sabon Birni (Feb.) Virgo 6! S. Dallol (Jan.) Virgo 74! **N. Nig.:** Badeggi (Sept.) Clayton 299! Kworre, Sokoto (Sept.) Palmer 23! Zaria (Oct.) Keay FHI 21421! Jimeta, Yola (Dec.) Hepper 1612! Kumshe road, Golumba Dist. (Dec.) Davey FHI 27128! **S. Nig.:** Oyan R. (June) Holland 9! Olokemeji F.R., Oyan R. (Nov.) Jones, Keay & Onochie FHI 14557! Nun R. (Aug.) T. Vogel 18! Niger R., Onitsha (May, Aug.) Jones 6686! Onochie FHI 7522!

Tropical and S. Africa generally. (See Useful Plants.)

3. **Vetiveria fulvibarbis** (Trin.) Stapf in F.T.A. 9: 158 (1917); A. Chev. in Rev. Bot. Appliq. 13: 860; Berhaut, Fl. Sén. ed. 2, 403; Aké Assi, Contrib. 2: 297. *APD acc*

Andropogon fulvibarbis Trin. in Mém. Acad. Sci. St. Petersb. sér. 6, 2: 287 (1832); Chev. Bot. 717.

A. verticillatus Schumacher. (1827), not of Roxb. (1820).

Robust perennial up to 2 m. high; [flood plains](#).

Mali: San (Sept.) Chev. 2340! 2342! Méma (Oct.) Vintrebert 9/1957! **Ghana:** Accra T. Vogel! Agomeda to Somanya (Nov.) Adams 4411! Asukawkaw R., Kete-Krachi to Kpandu (Sept.) Rose Innes GC 30413! Bamboi Ferry (Oct.) Rose Innes GC 30629! Pong Tamale (July) Williams 840! **Togo Rep.:** Barkoissi (Nov.) Bille 405!

110. ARTHRAXON

P. Beauv., Ess. Agrost. III, t. 11, f. 6 (1812); F.T.A. 9: 162 (1917). *APD acc*

- 1 Pedicelled spikelets, at least in the upper part of the raceme, developed; racemes villous, the silky hairs on internodes and pedicels 1–2 mm. long; sessile spikelets 2.5–3 mm. long; leaf-blades 1–2 cm. long and 3–7 mm. broad [1. lancifolius](#)
- Pedicelled spikelets not developed, the pedicels represented by a little subulate point 0.25 mm. long; racemes glabrous or inconspicuously hairy, hairs on the internodes up to 0.5 mm. long; spikelets 3–4 mm. long; leaf-blades up to 7 cm. long and 20 mm. broad [2. quartinianus](#)

1. **Arthraxon lancifolius** (*Trin.*) *Hochst.* in Flora 39: 188 (1856); F.T.A. 9: 165; A. Chev. in Rev. Bot. Appliq. 13: 860; Berhaut, Fl. Sén. ed. 2, 397. *APD acc*

Andropogon lancifolius *Trin.* in Mém. Acad. Sci. Petersb. sér. 6, 2: 271 (1832).
Arthraxon microphyllum (*Trin.*) *Hochst.* (1856)—Chev. Bot. 715.

A delicate trailing annual with slender culms; [among rocks and boulders](#).

Sen.: Niokolo-Koba Adam 15706. **Mali:** Koulikoro (Oct.) Chev. 2237! 2238! **Guin.:** Dalaba-Diaguissa Plateau, Fouta Djallon Chev. 18877! Mt. Lansa, Fouta Djallon (Sept.) Schnell 7249! **S. L.:** Bintumane (Nov.) Jaeger 448! Morton SL 2652! **Ghana:** Nakpanduri (Nov.) Hall & Enti GC 35709! **N. Nig.:** Jos Plateau (Sept.) Lely P753! Wana (Nov.) Hepburn 159! Zaria (Sept.) Clayton 1305! Kereng, Jos Plateau (Sept.) Oche & Tuley 1627!

Also in [Ethiopia](#), [Tanzania](#), [Zambia](#), [Rhodesia](#), [Malawi](#), extending eastwards through India to China and Indonesia.

2. **Arthraxon quartinianus** (*A. Rich.*) *Nash* in N. Amer. Fl. 17: 99 (1912); F.T.A. 9: 166; A. Chev. in Rev. Bot. Appliq. 13: 861.

APD: *Synonym of Arthraxon micans (Nees) Hochst.*

Alectoria quartiniana *A. Rich.*, Tent. Fl. Abyss. 2: 448 (1851).

Decumbent annual with tough wiry stems rooting at the lower nodes; shady clearings.

Guin.: Dalaba (Nov.) Chev. 34596! Timbo Pobéguin 1709! Labe (Oct.) Adam 12668! **S. L.:** Freetown (Dec.) Gledhill SL237! Musaia Glanville 316! Mt. Loma (Nov.) Jaeger 8140! **N. Nig.:** Vom (Oct.) Gambles 42! 75! Oche MRK132! Manchok (Oct.) De Leeuw, Magaji & Tuley 1719! Gembu (Dec.) Daramola FHI 62464! **S. Nig.:** Obudu Plateau (Nov.) Tuley 1029! **W. Cam.:** Buea (Dec.) Maitland 103! Bambui Bumpus 13! Oku, Bamenda Div. (Feb.) Hepper 2045!

[Tropical Africa](#), [West Indies](#), [India](#) and [Indonesia](#).

111. BOTHRIOCHLOA

O. Ktze., Rev. Gen. Pl. 762 (1891).

- 1 Racemes usually simple or sometimes the lower divided, borne upon an elongated central axis 2.5–10 cm. long, rarely subdigitate; leaf-blades linear, long tapering to a setaceous point [bladonii](#)

Bothriochloa bladonii (*Retz.*) *S. T. Blake* in Proc. Roy. Soc. Queensland 80: 62 (1969). *APD acc*

Andropogon bladonii *Retz.*, Obs. Bot. 2: 27 (1781).

A. intermedius *R. Br.*, Prodr. 202 (1810).

Amphilophis intermedia (*R. Br.*) *Stapf* in Agric. News W. Ind. 15: 179 (1916), incl. var. *acidula* Stapf in F.T.A. 9: 174.

A. glabra of A. Chev. in Rev. Bot. Appliq. 13: 861, not of (Roxb.) Stapf.

Bothriochloa intermedia (*R. Br.*) *A. Camus* in Ann. Soc. Linn. Lyon 76: 164 (1931); incl. var. *acidula* (Stapf) C. E. Hubbard in Kew Bull. 1934: 109; F.W.T.A., ed. 1, 2: 583; Berhaut, Fl. Sén. ed. 2, 397.

Bothriochloa glabra of F.W.T.A., ed. 1, 2: 583, and of Berhaut, Fl. Sén. ed. 2, 397, not of (Roxb.) A. Camus.

Tufted perennial up to 1 m. high.

Sen.: Dakar (Jan.) Hagerup 774! L. Tanma (Sept.) Adam 18644! Fann (Nov.) Adam 17771! Almadies (Aug.) Broadbent 16! Mt. Roland (Aug.) Broadbent 63! **U. Volta:** Gaoua (July) Aké Assi 6148! Gaoua to Ouangofétini (July) Adjanohoun 456a! Pontieba (Aug.) Winkoun! **Ghana:** Apam (June) Hall 1775! Christiansborg (Mar.) Johnson 1017! Nungua, Accra (Apr., Nov.) Rose Innes GC 30014! Clayton 391! Labadi to Teshi (Apr.) Irvine 2860! **N. Nig.:** Katagum Dalz. 257! Damaturu (Sept.) De Leeuw 1220b!

Also in [W. Indies](#), and extending through India to China and Australia.

[Bothriochloa is currently the object of intensive cytological studies which suggest that all the W. African specimens should be Included in B. bladonii. This conclusion may need to be reviewed when investigations reach a more advanced state.]

112. DICHANTHIUM

Willemet in *Neue Ann. Bot.* 18: 11 (1796); *F.T.A.* 9: 177 (1917).

- 1 Inflorescence subdigitate with 3–9 racemes; sessile spikelets imbricate, oblong, 3–4 mm. long, sparsely ciliate, with a geniculate awn 16–20 mm. long; pedicelled spikelet about as long as the sessile, awnless; anthers all about 1 mm. long [annulatum](#)

Dichanthium annulatum (*Forsk.*) *Stapf* in *F.T.A.* 9: 178 (1917); *A. Chev.* in *Rev. Bot. Appliq.* 13: 861; *De Miré & Gillet* in *J. Agric. Trop.* 3: 731; *Berhaut, Fl. Sén.* ed. 2, 398. *APD acc*

Andropogon annulatus *Forsk.*, *Fl. Aegypt.-Arab.* 173 (1775).

Tufted perennial up to 1 m. high.

Sen.: Ross (Feb.) *Berhaut* 1438! **Bargny** (May) *Adam* 17672! **Mali:** Kidal (Sept.) *Rossetti* 59/153!

Fairly generally distributed in the tropics and subtropics of the Old World. (See Useful Plants.)

113. EUCLASTA

Franch. in *Bull. Soc. Hist. Nat. Autun* 8: 335 (1895); *F.T.A.* 9: 180 (1917).

- 1 Panicle umbelliform, pilose, of up to 15 nodding racemes 5–8 cm. long; axis of the panicle short, long-pilose at the nodes; lower glume of sessile spikelet 5 mm. long, strongly nerved; awns 3–4 cm. long; anthers of sessile spikelet normally 0.5 mm. long, those of pedicelled spikelet about 2 mm. long [condylotricha](#)

Euclasta condylotricha (*Hochst. ex Steud.*) *Stapf* in *F.T.A.* 9: 181 (1917); *A. Chev.* in *Rev. Bot. Appliq.* 13: 861; *Berhaut, Fl. Sén.* ed. 2, 398. *APD acc*

Andropogon condylotrichus *Hochst. ex Steud.*, *Syn. Pl. Glum.* 1: 377 (1854); *Chev. Bot.* 717.

Euclasta glumacea *Franch.* (1895).

Euclasta graminea *Th. & Hél. Dur.* (1909).

Dichanthium condylotrichum (*Hochst. ex Steud.*) *Roberty*, *Boissiera* 9: 163 (1960).

Annual; culms slender, weak, geniculately ascending, up to 1.5 m. high; nodes strongly bearded; *in partial shade*.

Sen.: Niokolo-Koba (Oct.) *Adam* 15590! *Toubacouta* (Oct.) *Monod* 8486! **Mali:** Koulikoro (Oct.) *Chev.* 2346! **Guin.:** Timbo (Oct.) *Pobéguin* 1775! **S. L.:** Musaia (Dec.) *Deighton* 4435! *Kamba* (Nov.) *Glanville* 315! **Iv. C.:** Fétékro to Basaawa (Oct.) *Adjanohoun* 281a! *Ferkessédougou* (Nov.) *Leeuwenberg* 2012! **U. Volta:** Ouagadougou (Oct.) *Scholz* 163! **Ghana:** Kayoro (Oct.) *Vigne* FH 4649! *Pong Tamale* (Nov.) *Williams* 855! *Navrongo to Lawra* (Oct.) *Rose Innes* GC 30280! *Ho* (Dec.) *Howes* 1041! *Bame Pass* (Dec.) *Adams* 4481! **Togo Rep.:** Sokode to Lama Kara (Oct.) *Rose Innes* GC 31386! **Dah.:** Boukombe (Nov.) *Risopoulos* 1263! **N. Nig.:** Jos Plateau (Oct.) *Lely* P806! *Lokoja Dalz.!* *Kaiama* (Oct.) *Ward* 22! *Abinsi* (Oct.) *Dalz.* 887! *Kaduna* (Oct.) *Thatcher* S540! *Gurum, Vogel Peak* (Nov.) *Hepper* 1306! **S. Nig.:** *Olokemeji F.R.* (Nov.) *Clayton* 563! *Onochie FHI* 8107! *Ibadan* (Nov.) *Meikle* 650! *Zalende, Ibadan* (Nov.) *Onochie FHI* 6988! *Ago-Are* (Nov.) *Olorunfemi FHI* 40302!

Tropical Africa and **tropical America**.

114. EREMOPOGON

Stapf in *F.T.A.* 9: 182 (1917).

- 1 Racemes solitary, 3–4 cm. long, on filiform peduncles exerted from a spathe-like sheath; sessile spikelets lanceolate, 4 mm. long, pale and shining with reddish tips; pedicelled spikelets lanceolate-oblong, reddish, unpitted [foveolatus](#)

Eremopogon foveolatus (*Del.*) *Stapf* in *F.T.A.* 9: 183 (1917); *A. Chev.* in *Rev. Bot. Appliq.* 13: 861.

APD: *Synonym of Dichanthium foveolatum (Delile) Roberty*

Andropogon foveolatus Del., Fl. Egypte 16 (1812); Chev. Bot. 717.

Densely tufted perennial up to 60 cm. high with wiry culms and glaucous leaf-blades.

Maur.: Oualata to Oujaf (Aug.) Rossetti 218/61! **Mali:** Bouressa to Tessalit (Sept.) Rossetti 196/59!

Extends from Mauritania to **Egypt**, **Sudan** and **Kenya**, thence through Iran and **Arabia** to India. (See Useful Plants.)

115. THEMEDA

Forsk., Fl. Aegypt.-Arab. 178 (1775); F.T.A. 9: 415 (1919).

- 1 Racemes solitary, each supported by a boat-shaped spatheole up to 5 cm. long, clustered into loose heads; the two lowest pairs of spikelets in each raceme sterile, similar, sessile, glabrous or with a few tubercle-based bristles, and forming an involucre; fertile spikelet 5–6 mm. long, chestnut brown, with a pungent rufously boarded callus; awn 4–6 cm. long [triandra](#)

Themeda triandra *Forsk.* Fl. Aegypt.-Arab. cxxiii & 178 (1775); F.T.A. 9: 416; A. Chev. in Rev. Bot. Appliq. 13: 878; Berhaut, Fl. Sén. ed. 2, 420. *APD acc*

Themeda forskalii *Hack.* (1889)—Chev. Bot. 721.

Tufted perennial 1.2–1.8 m. high with rusty brown spatheoles; **a most important grazing grass in eastern and southern Africa, where it is often a dominant constituent of grasslands.**

Sen.: Ibel Adam 18849. Kédougou (Nov.) Adam 19930! **Mali:** San (Nov.) Chev. 2362! **Guin.:** Ditinn (Dec.) Jac.-Fél. 7427! Timbo to Ditinn Chev. 18503! **U. Volta:** Ouassa to Leo (Oct.) Rose Innes GC 31505! Bobo-Dioulasso (Sept.) Adam 15135! **Ghana:** Anyaboni (Jan.) A. S. Thomas D113! Yapei Ferry (Oct.) Rose Innes GC 30222! Lawra to Wa (Oct.) Rose Innes GC 30300! Lawra to Tamale (Oct.) Rose Innes GC 31052! Daboya (July) Rose Innes GC 31821! **N. Nig.:** Belli to Jalingo, Mambila Plateau (Sept.) Oche MRK89! Kereng, Jos Plateau (Sept.) Oche & Tuley 1626!

Old World tropics generally. (See Useful Plants.)

[Rather variable, but the varieties described do not seem to show much correlation with cytological investigations.]

116. TRACHYPOGON

Nees, Agrost. Bras. 341 (1829); F.T.A. 9: 400 (1919).

- 1 Annual; sessile spikelet neuter, awnless or with an awn up to 3 cm. long, the pedicelled hermaphrodite with an awn about 6 cm. long; pedicels 1.5 mm. long, with very oblique disarticulation; callus 2 mm. long, pungent, fulvously bearded [1. chevalieri](#)
- Perennial; sessile spikelet male and awnless, the pedicelled hermaphrodite with an awn 4–7 cm. long; pedicels 3 mm. long, obliquely disarticulating; callus 2 mm. long, pungent, white-bearded [2. spicatus](#)

1. **Trachypogon chevalieri** (*Stapf*) *Jac.-Fél.* in J. Agric. Trop. 1: 60 (1954). *APD acc*

Homopogon chevalieri *Stapf* in Mém. Soc. Bot. Fr. 1, 8: 103 (1908); F.T.A. 9: 409; A. Chev. in Rev. Bot. Appliq. 13: 878.

Trachypogon ledermannii *Pilger* in Engl., Bot. Jahrb. 48: 342 (1912); F.T.A. 9: 402; F.W.T.A., ed. 1, 2: 594.

Up to 45 cm. high with flat leaf-blades and solitary racemes; **ironstone outcrops.**

N. Nig.: Naraguta (Aug.) Lely P449! Sho, Plateau Prov. (Nov.) Keay FHI 21020! Manchok, Mambila Plateau (Oct.) Magaji & Tuley 1769!

Also in **E. Cameroun**, **Congo**, **Tanzania** and **Zambia**.

2. **Trachypogon spicatus** (*Linn.*) *O. Ktze.* Rev. Gen. Pl. 794 (1891). *APD acc*

Stipa spicata *Linn. f.*, Suppl. 111 (1781).

Trachypogon plumosus (*Willd.*) *Nees* (1829)—F.T.A. 9: 403.

Andropogon plumosus *Willd.* (1806).

Wiry caespitose perennial up to 1.2 m. high; leaf-blades very narrow, usually convolute; racemes usually solitary, sometimes 2 (very rarely more in Africa).

Iv. C.: Odienné (Oct.) Aké Assi 8241! **U. Volta:** Sikasso to Boho-Dioulasso (Sept.) Adam 15127! **Ghana:** Yendi to Nakpanduri (Oct.) Rose Innes GC 30737! Gambaga to Yendi (Oct.) Rose Innes GC 30491! Walewale to Gambaga (Oct.) Rose Innes GC 30265! Gambaga (Oct.) Vigne FH 4635! Gambaga to Bawku (Oct.) Ankrah GC 20276! **Togo Rep.:** Lama Kara to Kande (Oct.) Rose Innes GC 31404! **Dah.:** Taneka to Djougou (Nov.) Risopoulos 1280! **N. Nig.:** Jos Plateau (Sept.) Lely P767! Vodni, Pankshin Div. Saunders 64! Afaka F.R., Kaduna (Nov.) Clayton 1388! Samaru, Zaria Prov. (Sept.) Freeman S115! Anara F.R., Zaria Prov. (Oct.) Keay FHI 20108!

Tropical and subtropical Africa and **tropical America**.

[Very variable in number of racemes, length of ligule and hairiness of spikelets, and some authorities divide it into several species.]

117. HETEROPOGON

Pers., *Syn. Pl.* 2: 533 (1807); *F.T.A.* 9: 410 (1919).

- 1 Lower glume of pedicelled spikelets acuminate, 15–25 mm. long, glabrous, with a line of glandular pits down the middle, keels narrowly winged; racemes with 1–3 awnless pairs at the base; awns 8–15 cm. long [*L. melanocarpus*](#)

Lower glume of pedicelled spikelets acute, 8–10 mm. long, with tubercle-based hairs near the margin, without a line of pits, keels broadly and unequally winged; racemes with 3–10 awnless pairs at the base; awns 5–10 cm. long [*2. contortus*](#)

1. **Heteropogon melanocarpus** (*Ell.*) *Benth.* in *J. Linn. Soc.* 19: 71 (1881); *F.T.A.* 9: 413; *A. Chev.* in *Rev. Bot. Appliq.* 13: 878; *Berhaut, Fl. Sén. ed. 2*, 421. *APD acc*

Andropogon melanocarpus *Ell.*, *Sketch Bot. S. Carol.* 1: 146 (1816).

Annual, up to 2 m. or more; callus pungent, 5 mm. long.

Sen.: Messira (Nov.) *Berhaut* 680! 2726! **Gam.:** Saunders 107! **Dah.:** Boguila to Echitopa (Feb.) *Chev.* 23209! **N. Nig.:** Darazo F.R., Bauchi Prov. (Oct.) *De Leeuw & Magaji* 1994!

A tropical American species, occurring sporadically in Africa and India.

2. **Heteropogon contortus** (*Linn.*) *P. Beauv. ex Roem. & Schult.* *Syst. Veg.* 2: 836 (1817); *F.T.A.* 9: 411; *A. Chev.* in *Rev. Bot. Appliq.* 13: 878; *Berhaut, Fl. Sén. ed. 2*, 421. *APD acc*

Andropogon contortus *Linn.*, *Sp. Pl.* 1045 (1753); *Chev. Bot.* 717.

Perennial, up to about 1 m. high; awns twisted into a spire when young, and forming a malignant tangled knot at maturity; callus painfully pungent.

S. L.: Mt. Aureol (Aug., Sept.) *Melville & Hooker* 324! *Hooper* 147! *Fourah Bay* (Dec.) *Cole* 17! **Iv. C.:** Tehini (Aug.) *de Wilde* 811! *Bouaké* (May) *de Wilde* 63! **U. Volta:** Fada to Koupéla (July) *Chev.* 24574! *Pama* to *Diabiga* (Aug.) *Scholz* 148! **Ghana:** *Christiansborg* (Mar.) *Johnson* 1020! *Nungua, Accra* (Sept.) *Ankrah GC* 20042! *Tamale* (Oct.) *Baldwin* 13552! *Navrongo* (Aug.) *Vigne FH* 4621! *Zuarungu Lynn* 1077! **Togo Rep.:** *Sokode* to *Atakpame* (Oct.) *Rone Innes GC* 31371! **Dah.:** *Porto Novo* (Sept.) *Adjanohoun* 257! *Agouagon* (May) *Chev.* 23487! *Cotonou* (July, Nov.) *Debeaux* 333! *Chev.* 4464! *Clayton* 399! **N. Nig.:** *Ilorin* (Oct.) *Ward* 78! *Lokoja* (Nov.) *Keay FHI* 28094! *Sokoto* (Sept.) *Dalz.* 488! *Yola* (Apr.) *Dalz.* 271! *Biu* (Sept.) *Kennedy FHI* 8003!

Throughout the tropics. (See Useful Plants.)

118. THELEPOGON

Both ex Roem. & Schult., *Syst. Veg.* 2: 46 (1817); *F.T.A.* 9: 34 (1917).

- 1 Leaf-blades lanceolate, broad and subcordate at base, margins rigidly pectinate; racemes 2–17 in a bunch, up to 17 cm. long, stiff; barren pedicel linear, longer than the sessile spikelet, the latter 6–7 mm. long; lower glume prominently transversely rugose-tuberculate; lower floret male with a palea; upper lemma with a glabrous geniculate awn up to 2.5 cm. long [*elegans*](#)

Thelepogon elegans *Roth ex Roem. & Schult.* *Syst. Veg.* 2: 788 (1817); *F.T.A.* 9: 34; *A. Chev.* in *Rev.*

Bot. Appliq. 13: 849; Berhaut, Fl. Sén. ed. 2, 397. *APD acc*

Annual, up to 1 m. high, often with prop roots from the lower nodes; weed in disturbed soils.

Sen.: Népin Adam 18851. **Guin.:** Labé (Oct.) Jac.-Fél. 2016! **Ghana:** Yendi to Zabzugu (Oct.) Rose Innes GC 30704! Kete Krachi to Yendi (Nov.) Rose Innes GC 30440! Tamale (Nov.) Thorold 279! Gambaga (Nov.) Vigne FH 4679! Bawku (Oct.) Rose Innes GC 30252! **Dah.:** Boukombe (Nov.) Risopoulos 1256! **Niger:** Niamey (Oct.) Hagerup 538! Dogondouch White 36! **N. Nig.:** Jebba to Mokwa (Oct.) Hepper & Keay 942! Naraguta, Plateau Prov. (Oct.) Kennedy FHI 8046! Sokoto (Oct.) Moiser 132a! Katsina (Oct.) Clayton 1354! Katagum Dalz. 284! Gurum, Vogel Peak area (Nov.) Hepper 1229!

Throughout tropical Africa; also in **India** and **Malesia**. (See Useful Plants.)

119. ISCHAEMUM

Linn., Sp. Pl. 1049 (1753), and Gen. Pl. ed. 5, 469 (1764); F.T.A. 9: 28 (1917).

- 1 Sessile spikelets concave on the back, 7–8 mm. long, chartaceous; internodes and pedicels clavate to cuneate, swollen; racemes 2–3; awn 7–10 mm. long [1. afrum](#)
- Sessile spikelets flat or convex on the back, coriaceous below and becoming herbaceous towards the tip: **2**
- 2 Lower glume of sessile spikelet rugose or muricate; keels sharply involute for their whole length; racemes 2, firmly appressed together and interlocked when young: **3**
- Lower glume of sessile spikelet smooth; sharply keeled in the upper half, more broadly involute below: **4**
- 3 Lower glume deeply rugose with sharp edged ridges right across its back; sessile spikelets 4–6 mm. long; pedicelled spikelets resembling the sessile and on a pedicel about 1/3 as long as the latter, or much reduced smooth and on a pedicel as long as the sessile spikelet [2. rugosum](#)
- Lower glume with rounded knobs on the keels, not, or only obscurely, joined across the back; sessile spikelets 5.5–7 mm. long; pedicelled spikelets 6 mm. long, smooth, asymmetrically winged, borne on a short pedicel 1–2 mm. long [3. barbatum](#)
- 4 Awn 35–40 mm. long; racemes 3–4 (rarely 1–5), 12–22 cm. long, on a short common axis 1–3 cm. long, very fragile; sessile spikelets 7–10 mm. long, the keels of the lower glume winged towards the tip; spikelets, internodes and pedicels densely villous with purplish hairs [4. amethystinum](#)
- Awns 7–14 mm. long; racemes 2–3, digitate, up to 8 cm. long; internodes and pedicels shortly ciliate; sessile spikelets 5–6 mm. long: **5**
- 5 Sessile spikelets with the keels of both glumes winged, the apex of the lower glume obtuse; racemes paired ... [5. indicum](#)
- Sessile spikelets with the glumes wingless, the apex of the lower glume acute; **6**
- 6 Lower glume of sessile spikelet glabrous, ovate; culms 1 mm. diam. near base; leaf-blades narrowly lanceolate, spreading, mostly 2–10 cm. long and 4–10 mm. broad; ligule 0.5 mm. long, pilose [6. timorense](#)
- Lower glume of sessile spikelet pilose, lanceolate; culms 2–3 mm. diam. near base; leaf-blades broadly linear, erect, mostly 8–14 cm. long and 4–8 mm. broad; ligule 1–2 mm. long, glabrous [7. tallanum](#)

1. *Ischaemum afrum* (*J. F. Gmel.*) *Dandy* in F. W. Andrews, Fl. Pl. Sudan 3: 476 (1956). *APD acc*

Andropogon afer *J. V. Gmel.*, Syst. Nat. ed. 13, 2: 166 (1791).

A. brachyatherus *Hochst.* in Flora 27: 241 (1844).

A. intumescens *Pilger* in Engl., Bot. Jahrb. 45: 208 (1910).

Ischaemum brachyatherum (*Hochst.*) *Fenzl ex Hack.* in DC., Monogr. Phan. 6: 239 (1889); F.T.A. 9: 30; F.W.T.A. ed. 1, 2: 596; A. Chev. in Rev. Bot. Appliq. 13: 849.

Perennial 60–90 cm. high; black clay soils. Hairiness of spikelets varies considerably, from almost glabrous to densely villous.

N. Nig.: Kworre, Sokoto (Sept.) Palmer 17! Shigal, Rann Dist. (Feb.) Davey FHI 27169! Logomani, N. Bornu (Nov.) Johnson N83! Ngala (Mar.) Tuley 1123! Yola Div. (Sept.) Kennedy FHI 7300!

Tropical Africa and **S. Africa**.

2. *Ischaemum rugosum* *Salisb.* Ic. Stirp. Rar. 1, t. 1 (1791); A. Chev. in Rev. Bot. Appliq. 13: 849; Berhaut, Fl. Sén. ed. 2, 389, 423. *APD acc*

Straggling annual up to about 1 m. high; coastal and inland swamps.

Sen.: Kolda, Casamance (Oct.) Adam 18454! Port G.: Nova Lamego (Nov.) Esp. Santo 3158! **Guin.:** Kindia Jac.-Fél. 178! Mamou (Nov.) Chev. 34871! **S. L.:** Kambia (Dec.) Deighton 805! Rokupr (Dec.) Jordan 184! Freetown (Oct.) Deighton 2193! Mabaifu, Rokel R. (Mar.) Glanville 226! Sherbro I. (Nov.) Deighton 2302! **Lib.:** Monrovia (Nov.) Barter 1472! **U. Volta:** Ouagadougou (Dec.) Aké Assi 10445! **Ghana:** Bawku (Oct.) Rose Innes GC 30256! Ankrah GC 20292! Zowse, Bawku (Nov.) Enti & Hall GC 36002!

An Asiatic species, now found in most tropical countries.

3. **Ischaemum barbatum** Retz. Obs. Bot. 6: 35 (1791). *APD acc*

Ischaemum goebelii Hack. (1901).

Ischaemum imbricatum (Munro ex Hack.) Stapf ex Ridley (1925).

Mesochium imbricatum Munro ex Hack. (1889).

Perennial about 1 m. high; **swamps**.

S. Nig.: Sapele (Aug.) Onochie FHI 33425!

Tropical Asia.

4. **Ischaemum amethystinum** J.-P. Lebrun in J. Agric. Trop. 13: 44 (1966). *APD acc*

Ischaemum hirsutum Peter in Fedde Rep., Beih. 40, 1: 356 Anh. 115 (1936), not of Spreng. (1825).

Robust perennial up to 3 m. high.

U. Volta: Bouly (Nov.) Scholz 192! **Ghana:** Ejura to Atebubu (Oct.) Ankrah GC 20314! Yeji Ferry (Oct.) Rose Innes GC 30314! Yapei to Kintampo (Nov.) Rose Innes GC 30857! Pong Tamale (Oct.) Addei SLUS 758! Gambaga to Bawku (Oct.) Ankrah GC 20277! **Togo Rep.:** Koumongou (Oct.) Bille TG 435. **N. Nig.:** Naraguta F.R. (July) Lawlor & Hall FHI 46648! Zonkwa (Oct.) De Leeuw 1602!

Also in **E. Cameroun** and **Tanzania**.

5. **Ischaemum indicum** (Houtt.) Merrill in J. Arn. Arb. 19: 320 (1938). *APD acc*

Phleum indicum Houtt., Nat. Hist. II, 13: 198 (1782).

Ischaemum ciliare Retz. (1791)—Aké Assi, Contrlb. 2: 303.

Ischaemum aristatum of authors, not of Linn. (1753).

S. L.: Mahela, Samu (Nov.) T. S. Jones 46! Mano (Feb.) Deighton 3114! Kowama, Peri (Nov.) Deighton 5251! **Lib.:** Robertsport (Dec.) Baldwin 10886! Monrovia (May, Nov.) Baldwin 5817! Barker 1473! Adam 16522 bis! Dinklage 3235! **iv. C.:** Téké Forest (Mar.) Aké Assi 6966! **U. Volta:** Bobo-Dioulasso (June) Scholz 100! 8. Nig.: Opobo (Oct.) Maitland 64!

An Asiatic species, now distributed throughout the tropics.

6. **Ischaemum timorense** Kunth. Rev. Gram. 1: 369 (1830). *APD acc*

Creeping annual; **damp wayside places**.

W. Cam.: Victoria (Dec.–Feb.) Maitland 91! 154! 154a! Keay FHI 28572! Buea (Dec.) Maitland 857!

An Asiatic species, now found in many tropical countries.

7. **Ischaemum tallanum** Rendle in J. Bot. 31: 359 (1893); F.T.A. 9: 31; Chev. Bot. 715, and in Rev. Bot. Appliq. 13: 849.

APD: Synonym of Ischaemum fasciculatum Brongn.

Argopogon villetii Mimeur in Rev. Bot. Appliq. 31: 213 (1951); Jacques-Félix in Rev. Bot. Appliq. 32: 547 (1952).

A streamside grass about 1·2 m. high, decumbent and rooting at the lower nodes.

Mali: Bamako (Dec.) Duong 20! Sikasso to Bobo-Dioulasso (Dec.) Vuillet 25956! Sikasso, ravin de Sarakoro (Nov.) Demange 2749. Sikasso, Chutes du Farako (Nov.) Demange 3133. **Guin.:** Kouria Chev. 12860 bis! Benna (Oct.) Jac.-Fél. 7177! Dalaba Adames 417! Friguiagbé (Jan.) Chillou 1142! **S. L.:** Farangbaia (Nov.) Lewis 30! Ninia, Talla (Feb.) Sc. Elliot 4927! Loma Mt. (Mar.) Morton & Gledhill SL 1026!

[The species has obvious affinities to *I. fasciculatum* Brong., *I. purpurascens* Stapf and *I. timorense* var. *villosum* C. E. C. Fisher, and a final decision as to its status must await a critical revision of this difficult group.]

120. SEHIMA

Forsk., Fl. Aegypt.-Arab. 178 (1775); F.T.A. 9: 35 (1917).

- 1 Racemes up to 8 cm. long; internodes and pedicels linear, densely ciliate on both sides; sessile spikelets linear, 1–1.4 cm. long; lower glume deeply hollowed between the dorsal keels with 3–5 prominent intercarinal nerves, terminating in an unequally 2-toothed, flat, membranous beak; upper glume with a straight awn 2 cm. long; awn of upper lemma distinctly ciliate along the spiral; pedicelled spikelet up to about 1.5 cm. long, lanceolate, conspicuously 7-nerved, long acuminate into 2 setaceous teeth [ischaemoides](#)

Sehima ischaemoides *Forsk.* Fl. Aegypt.-Arab. 178 (1775); F.T.A. 9: 37; A. Chev. in Rev. Bot. Appliq. 13: 849. *APD acc*

Annual up to 60 cm. high.

Mali: Leclercq 42658! **Niger:** Toukounous Barthé 94! **N. Nig.:** Kohukuwa (Oct.) De Leeuw 1861! Yola (Nov.) Lowe 1599a!

Tropical Africa, Arabia and India.

121. MICROSTEGIUM

Nees in Lindley, Nat. Syst. ed. 2, 447 (1836).

- 1 Leaf-blades linear-lanceolate, up to about 7 cm. long, softly pilose above and beneath; racemes 2–5, subdigitate; spikelets 4.5–6 mm. long, glabrous; lower glume with a deep median channel along the back, the nerves anastomosing near the tip; lower lemma nerveless, up to 4 mm. long, or completely absent; upper lemma 0.2 mm. long, accompanied by a tiny scale-like palea; awn very short, seldom protruding beyond the tip of the spikelet [vimineum](#)

Microstegium vimineum (*Trin.*) *A. Camus* in Ann. Soc. Linn. Lyon, n.s. 68: 201 (1921). *APD acc*

Andropogon vimineus *Trin.* in Mém. Acad. Sci. Petersb., sér. 6, 2: 268 (1832).

Microstegium aristulatum *Robyns & Tournay* in Bull. Jard. Bot. Brux. 25: 240 (1955).

Creeping annual. Asiatic specimens have glabrous or sparsely pubescent foliage, but are otherwise similar.

W. Cam.: Litoka, Cam. Mt., 4,400 ft. (Apr.) Maitland 1086!

Also in the **Congo**, and extending from India to China and Japan.

122. SCHIZACHYRIUM

Nees, Agrost. Bras. 331 (1829); F.T.A. 9: 184 (1917); Jacques-Félix in Rev. Bot. Appliq. 33: 423.

- 1 Fertile lemma bifid to beyond the middle; spikelets usually laterally compressed between internode and pedicel; lower glume of sessile spikelet chartaceous to sub-coriaceous, obscurely nerved, lanceolate to linear: **2**
 Fertile lemma shortly bifid, the lobes not extending beyond the middle (except sometimes in *S. schweinfurthii*) or entire; spikelets usually dorsally compressed; lower glume of the sessile spikelet thinly chartaceous, finely but distinctly 3–5-nerved: **15**
- 2 Leaf-blades obtuse to abruptly acute at the apex; plants rooting at the lower nodes and creeping; pedicelled spikelets smaller than the sessile: **3**
 Leaf-blades gradually tapered to a fine point, sometimes abruptly acute but then the plant erect: **8**
- 3 Column of awn scarcely exceeding the sessile spikelet; fertile lemma bifid almost to the base; racemes 1–2.5 cm. long: **4**
 Column of awn twice as long as the sessile spikelet or longer; lower glume of the sessile spikelet pubescent (sometimes sparsely so in *S. djalonicum*): **7**
- 4 Culms 3–4 mm. diam., compressed; anthers 2–3 mm. long; leaf-blades 7–17 cm. long and 4–8 mm. broad; sheaths mostly longer than the internodes, strongly compressed and keeled; spikelets 3–4.5 mm. long **1.**

platyphyllum

- Culms up to 2 mm. diam.; anthers 0.5–1 mm. long; leaf-blades 2–6 cm. long and 2–7 mm. broad; sheaths mostly shorter than the internodes; spikelets 3–3.5 mm. long: **5**
- 5** Internodes of the rhachis narrowly clavate to linear with a cupuliform tip, narrower than the spikelet; lower glume of sessile spikelet keeled in the upper half, sharply indexed below 2. *brevifolium* **6**
..... **@**
- Internodes of the rhachis broadly clavate, swollen, wider than the spikelet; lower glume of sessile spikelet keeled to the base **3. macclaudii**
- 6** Lower glume of sessile spikelet, internodes and pedicels glabrous **2a. brevifolium var. brevifolium**
Lower glume of sessile spikelet, internodes and pedicels hispid to shortly villous with white hairs **2b. brevifolium var. flaccidum**
- 7** Internodes of the rhachis linear, ciliate on both sides, narrower than the sessile spikelet; lower glume of the latter narrowly lanceolate, not pinched between internode and pedicel, 3.5 mm. long; fertile lemma bifid for 2/3 of its length; racemes 2 cm. long **4. djalonicum**
Internodes of the rhachis swollen, subcylindrical, densely pubescent, broader than the sessile spikelet; lower glume of the latter linear, pinched between internode and pedicel, 4 mm. long; fertile lemma bifid for 3/4 of its length; racemes 4 cm. long **5. radicosum**
- 8** Lower glume of sessile spikelet lanceolate, not pinched between internode and pedicel, up to 6 mm. long, glabrous; pedicelled spikelets as long as or longer than the sessile: **9**
Lower glume of sessile spikelet linear, squeezed between internode and pedicel, 5–8 mm. long; pedicelled spikelets smaller than the sessile: **11**
- 9** Internodes and pedicels clavate to cylindrical, glabrous except for a tuft of hairs on one side at the top of the pedicel; lower glume of sessile spikelet wingless; upper glume awnless; upper lemma with an awn 10–15 mm. long; spikelets 4.5–6 mm. long **6. penicillatum**
Internodes and pedicels linear or narrowly widening upwards; spikelets seldom over 4 mm. long: **10**
- 10** Upper glume of sessile spikelets shortly awned; keels of lower glume wingless, rounded in the lower half; upper lemma with an awn 11–12 mm. long; pedicelled spikelet awnless **7. lomaense**
Upper glume of sessile spikelets without an awn; keels of lower glume sharp, narrowly winged; upper lemma with an awn 2–2.5 cm. long; pedicelled spikelet with a short bristle 1–3 mm. long **8. delicatum**
- 11** Rhachis internodes cylindrical, about 2 mm. broad at the top; racemes stout, cylindrical, 5 cm. long, at length just exerted from the spatheoles; leaf-blades up to 6 cm. long and 2 mm. broad, acuminate at the apex; fertile lemma bifid for rather more than 1/2 its length; spikelets 5–7 mm. long: **12**
Rhachis internodes clavate, about 1 mm. broad at the top; racemes slender; leaf-blades up to 30 cm. long and 2–10 mm. broad: **13**
- 12** Spikelets, internodes and pedicels glabrous except for the pubescent callus concealed within the joint **9. urceolatum**
Spikelets, internodes and pedicels densely pubescent, the callus bearded and forming a conspicuous ring of hairs above each node **10. nodulosum**
- 13** Plants perennial; lower glume of sessile spikelet keeled throughout, glabrous or sometimes pubescent to villous; pedicelled spikelet awnless or with an awn seldom over 3 mm. long; racemes 5–12 cm. long .. **11. sanguineum**
Plants annual: **14**
- 14** Internodes, pedicels and lower glume of the sessile spikelet villous with hairs 2 mm. long; lower glume of sessile spikelet sharply inflexed on the sides, keeled only at the very tip; racemes 2–8 cm. long, usually sessile, rarely on peduncles up to 3 cm. long **12. exile**
Internodes and pedicels shortly ciliate on one or both sides, the lower glume of the sessile spikelet glabrous though usually with ciliate margins, or rarely pubescent; lower glume of sessile spikelet keeled throughout; racemes 4–6 cm. long on peduncles 1–3 cm. long; pedicelled spikelet with an awn 3–10 mm. long **13. rudemale**
- 15** Racemes plumose with hairs 5–6 mm. long from internodes and pedicels, gathered into a terminal bunch; internodes 6–8 mm. long, the pedicels 1–2 mm. longer; awn about 6 mm. long, without a column; fertile lemma entire; leaf-blades abruptly acute **14. pulchellum**
Racemes almost glabrous to sparsely pilose, loosely paniculate; internodes 3–5 mm. long, the pedicels subequal or shorter; awn with a distinct column: **16**
- 16** Racemes compact, cylindrical, almost glabrous (apart from the sessile spikelet callus), long exerted from the spatheole; sessile spikelets twice as long as the internodes or more; internodes and pedicels obscurely ciliate on one side; sessile spikelets glabrous; fertile lemma bilobed to near the middle; leaf-blades narrowly linear, up to 30 cm. long and 3 mm. broad, gradually attenuate at the tip **15. schweinfurthii**
Racemes flexuous, distinctly hairy; sessile spikelets up to 1 1/2 times as long as the internodes; internodes and pedicels ciliate on the lower half of one side, and the upper half of the other; sessile spikelets mostly pilose: **17**
- 17** Annual; fertile lemma entire; leaf-blades gradually acuminate **16. scintillans**

Perennials; fertile lemma bilobed: **18**

18 Leaf-blades convolute, setaceous; fertile lemma bilobed for up to 1/3 its length [17. gresicolum](#)

Leaf-blades flat, shortly acute at the tip; fertile lemma bilobed for up to 1/4 its length; column of awn 5–7 mm.
long [18. rupestre](#)

1. Schizachyrium platyphyllum (Franch.) Stapf in F.T.A. 9: 188 (1917); A. Chev. in Rev. Bot. Appliq. 13: 862; Berhaut, Fl. Sén. ed. 2, 422. *APD acc*

Andropogon brevifolius var. *platyphyllus* Franch. in Bull. Soc. Hist. Nat. Autun 8: 324 (195).

A. platyphyllus (Franch.) Pilger in E. & P., Pflanzenfam. ed. 2, 14e: 166 (1940).

Perennial, or sometimes annual, 90–120 cm. high; grows as an understorey grass among taller species; **marshy soils.**

Sen.: Badé (Dec.) Berhaut 2734! Niokolo-Koba (Oct.) Adam 15720! **Guin.:** Baffing R. (Oct.) Pobéguin 1800! Ouassou (Nov.) Jac.-Fél. 7257! **S. L.:** Mano Salija (Nov.) Deighton 343! Yeraia (Apr.) Glanville 205! Mt. Loma (Nov.) Jaeger 490! 8202! Bintumane Peak (Jan.) T. S. Jones 71! **iv. C.:** Namboukaha (Nov.) Leeuwenberg 2050! Beréby (Nov.) Oldeman 475! **U. Volta:** Samandeni (Oct.) Kmoch 172! Leo to Po (Oct.) Rose Innes GC 31082! **Ghana:** Sampa to Wenchi (Oct.) Rose Innes GC 31573! Damongo (Nov.) Thorold CB283! Tamale to Bolgatanga (Oct.) Rose Innes GC 30770! Lawra to Wa (Oct.) Ankrah GC 20444! Tumu to Leo (Oct.) Rose Innes GC 20469! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31346! **N. Nig.:** Naraguta F.R. (Dec.) Kennedy 9! **S. Nig.:** Oyo (Nov.) Gledhill 745! **W. Cam.:** Bambuko F.R. (Nov.) Argent 973!

Also in **Sudan**, **Uganda**, **the Congos** and **Malawi**. (See Useful Plants.)

2. Schizachyrium brevifolium (Sw.) Nees ex Büse in Miq., Plant. Junghn. 359 (1854); F.T.A. 9: 187; A. Chev. in Rev. Bot. Appliq. 13: 862; Berhaut, Fl. Sén. ed. 2, 422.

Andropogon brevifolius Sw., Prodr. Veg. Ind. Occ. 26 (1788); Chev. Bot. 716.

A. minimus Rendle & C. B. Cl. ex Elliot in J. Linn. Soc. 30: 99 (1894).

Schizachyrium minutum Gledhill in Bol. Soc. Brot. 41: 60 (1967).

A delicate straggling annual 12–18 ins. high, **usually found as an understorey grass beneath other species in damp places.** A most variable species.

2a. Schizachyrium brevifolium var. brevifolium.

Sen.: Bargny (Nov.) Berhaut 2786! **Gam.:** Saunders 81! **Mali:** Bamako (Jan.) Chev. 205! Nyamina to Koulikoro (Oct.) Chev. 2350! Koulikoro (Sept.) Chev. 25019! Somo (Jan.) Damange 1014! Diafarabé to Nonhoun (Feb.) Demange 10/1957! **Guin.:** Kindia (Oct.) Jac.-Fél. 7195! Timbo (Oct.) Pobéguin 1792! 1793! Labé Chev. 34875 bis! Kouroussa (Oct.) Pobéguin 522! **S. L.:** Gorango (Dec.) Deighton 259! Kambia (Jan., Nov.) Deighton 924! Morton & Gledhill SL 73! Mt. Loma (Dec.) Jaeger 8394! 8512! **Lib.:** Nimba Mts. (Nov.) Adam 24662! **iv. C.:** Dabou (Nov.) Leeuwenberg 1964! Bassawa (Oct.) Adjanohoun 430a! Ferkessédougou (Nov.) Leeuwenberg 1990! Sipilou (Oct.) Aké Assi 9679! **U. Volta:** Samandeni (Oct.) Kmoch 161! Leo to Po (Oct.) Rose Innes GC 31087! **Ghana:** Kwamang to Mampong (Nov.) Rose Innes GC 30873! Tamale (Nov.) Williams 1018! Gashiago to Pigu (Oct.) Rose Innes GC 30712! Lawra to Wa (Oct.) Rose Innes GC 30301! Walembele to Tumu (Oct.) Rose Innes GC 30790! **N. Nig.:** Abukur, Katsina (Oct.) Clayton 1350! Nape Barter! Minna (Dec.) Meikle 726a! Shika (Oct.) Freeman S146! Zaria Dist. (Dec.) Taylor 41! Gurum, Vogel Peak (Nov.) Hepper 1327! **S. Nig.:** Igboora (Oct.) Haines 339! Egba (Nov.) Latilo FHI 36700! Ibadan (Nov.) Latilo FHI 54398! Ezillo (Oct.) Tuley 965! Obudu Plateau (Nov.) Tuley 1016!

Throughout the tropics.

2b. Schizachyrium brevifolium var. flaccidum (A. Rich.) Stapf in F.T.A. 9: 188 (1917).

APD: *Synonym of Schizachyrium brevifolium (Sw.) Nees ex Büse*

Andropogon flaccidus A. Rich., Tent. Fl. Abyas. 2: 452 (1851).

A. brevifolius var. *flaccidus* (A. Rich.) Hack. (1889).

Schizachyrium fasciculatum Jac.-Fél. in Rev. Bot. Appliq. 33: 434 (1953).

Guin.: Baffing R. (Nov.) Pobéguin 1811! Siguiri (Oct.) Jac.-Fél. 1337! Friguiagbé (Nov.) Chillou 880! **S. L.:** Rochain (Dec.) Koroma 6! (mixed with *S. macclaudii*). **N. Nig.:** Gembu Magaji & Tuley 1861! (mixed with var. *brevifolium*) **S. Nig.:** Adani (Nov.) Tuley 22! **W. Cam.:** Lumbe R., Victoria (Jan.) Maitland 1292, partly !

Occasionally found throughout tropical Africa and in **India**.

3. *Schizachyrium maclaudii* (Jac.-Fél.) S. T. Blake in Proc. Roy. Soc. Queensland 80: 76 (1969). *APD acc*

Schizachyrium brevifolium var. *maclaudii* Jac.-Fél. in Rev. Bot. Appliq. 83: 432 (1953).

Guin.: Kindia Jac.-Fél. 208! Friguiagbé (Apr.) Chillou 1257! **S. L.:** Kambia (Dec.) Deighton 831! Picket Hill (Nov.) T. S. Jones 224! Roruks (Nov.) Thomas 5699! Rokupr (Nov.) Jordan 678! Musaia (Dec.) Deighton 4472! **Lib.:** Buchanan (Dec.) Adam 16430! Bahtown, Tchien Dist. (Aug.) Baldwin 8038! Kle, Boporo Dist. (Dec.) Baldwin 10570! Mecca, Boporo Dist. (Nov.) Baldwin 10401! Ganta (Nov.) Harley 1718! **Ghana:** Amedzofe (Nov.) Morton GC 9398! Agona to Tarkwa (Aug.) Hall 3349! Agona to Axim (Jan.) Hall & Enti GC 39116! **S. Nig.:** Thomas 1072! **W. Cam.:** Lumbe R., Victoria (Jan.) Maitland 1292, partly!

Also in **tropical south America**.

4. *Schizachyrium djalonicum* Jac.-Fél. in Rev. Bot. Appliq. 33: 426 (1953), and in J. Agric. Trop. 5: 551. *APD acc*

Creeping annual about 30 cm. high.

Guin.: Benna (Oct.) Jac.-Fél. 7170! Pita (Oct.) Jac.-Fél. 1956! **S. L.:** Kayihi Glanville 427! Mt. Loma (Sept., Oct.) Jaeger 7714! 7861 bis!

5. *Schizachyrium radicosum* Jac.-Fél. in Rev. Bot. Appliq. 33: 441 (1953). *APD acc*

Procumbent annual up to 60 cm. high.

Guin.: Tristão Is. (Nov.) Jac.-Fél. 7338! Kindia Jac.-Fél. 255!

6. *Schizachyrium penicillatum* Jac.-Fél. in Rev. Bot. Appliq. 33: 437 (1953). *APD acc*

Tufted perennial about 60 cm. high.

Guin.: Kindia (Sept.) Jac.-Fél. 448! Madina Tossekéré (Oct.) Adam 12530! 12559! **S. L.:** Tingi Mts. (Dec.) Morton & Gledhill SL 3101!

7. *Schizachyrium lomaense* A. Camus in J. Agric. Trop. 1: 210 (1954).

APD: *Synonym of Anadelphia lomaense* (A. Camus) Jacq.-Fél.

Annual about 23 cm. high; **swampy soil**.

S. L.: Bintumane (Oct., Nov.) Jaeger 401! 7885! Morton SL 2666! Tingi Mts. (Dec.) Morton & Gledhill SL 3136!

8. *Schizachyrium delicatum* Stapf in F.T.A. 9: 190 (1917); A. Chev. in Rev. Bot. Appliq. 13: 862. *APD acc*

Schizachyrium alatum Jac.-Fél. in Rev. Bot. Appliq. 33: 429 (1953).

Annual about 30 cm. high; **dry, shallow soils**.

Guin.: Timbo (Oct.) Pobéguin 1791! Macenta (Oct.) Jac.-Fél. 1298! **Iv. C.:** Sanlo to Kakpin (Nov.) Aké Assi 9292! **Ghana:** Sawla to Wa (Oct.) Rose Innes GC 32400! **N. Nig.:** Zaria (Sept.) Clayton 1311! Gidan Mada, Zonkwa (Oct.) Tuley 1715!

9. *Schizachyrium urceolatum* (Hack.) Stapf in F.T.A. 9: 190 (1917). *APD acc*

Andropogon urceolatus Hack. in Flora 68: 115 (1885).

A. nodulosus var. **glabrescens** Pilger in Engl., Bot. Jahrb. 34: 127 (1904); A. Chev. in Rev. Bot. Appliq. 13: 862.

Erect annual up to about 30 cm. high, with cinnamon-coloured racemes; **shallow stony soils**.

Sen.: Hasirik (Oct.) Adam 15717! Loumbol (Oct.) Fotius 137 bis. **U. Volta:** Leo to Po (Oct.) Rose Innes GC 31471! Zabré (Oct.) Scholz 153a! **Ghana:** Tamale (Oct.) Addei! Nandom (Oct.) Rose Innes GC 32297! Jirapa to Lawra (Oct.) Ankrah GC 20458! Bolgatanga to Tamale (Oct.) Rose Innes 30237a! Salaga (Oct.) Rose Innes GC 32453! **Togo Rep.:** Sokode Kersting 260! Kande to Sansanné Mango (Oct.) Rose Innes GC 31407! **Niger:** Niamey (Oct.) Hagerup 503! **N. Nig.:** Kufena hill, Zaria (Sept.) Clayton 1312! Damagum (Oct.) De Leeuw 1264! Jos (Oct.) Oche & Tuley 1708!

Also in **Ethiopia**.

10. *Schizachyrium nodulosum* (Hack.) Stapf in F.T.A. 9: 194 (1919); A. Chev. in Rev. Bot. Appliq. 13: 862; Berhaut, Fl. Sén. ed. 2, 423. *APD acc*

Andropogon nodulosus Hack. in Flora 68: 116 (1885); Chev. Bot. 719.

Annual, about 30 cm. high; rock and ironstone outcrops or shallow gravelly soils.

Sen.: Heudelot 303! Niokolo-Koba (Oct.) Adam 15501! Casamance (Oct.) Adam 18612! **Mali:** Koulikoro (Oct.) Chev. 2401! **Iv. C.:** Odienné (Nov.) Aké Assi 8270! **U. Volta:** Tondoura (Oct.) Scholz 81! Bangaregou (Oct.) Scholz 153b! Leo to Ouassa (Oct.) Rose Innes GC 31503! **Ghana:** Seripe to Dokrupe (Oct.) Ankrah GC 20439! Damongo Scarp F.R. (Nov.) Rose Innes GC 30835! Yendi to Chereponi (Nov.) Rose Innes GC 30470! Lawra (Oct.) Hinds 3827! Nakpanduri to Bawku (Oct.) Rose Innes GC 30498! **N. Nig.:** Gombe to Mubi (Oct.) De Leeuw 1841! 105 miles N of Gusau (Oct.) De Leeuw & Magaji 1967! **S. Nig.:** Abo Barter 371!

11. *Schizachyrium sanguineum* (Retz.) Alston Suppl. Fl. Ceylon 334 (1931); Aké Assi, Contrib. 2: 298; Berhaut, Fl. Sén. ed. 2, 423. *APD acc*

Rottboellia sanguinea Retz., Obs. Bot. 3: 25 (1783).

Schizachyrium semiberbe Nees, Agrost. Bras. 336 (1829); F.T.A. 9: 195; F.W.T.A., ed. 1, 2: 584; A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 423.

Schizachyrium domingense (Spreng. ex Schult.) Nash in N. Amer. Fl. 17: 103 (1912). *S. hirtiflorum* Nees, Agrost. Bras. 334 (1829).

Schizachyrium griseum Stapf in F.T.A. 9: 194 (1918); F.W.T.A., ed. 1, 2: 584; A. Chev. in Rev. Bot. Appliq. 13: 862.

Streptachne domingensis Spreng. ex Schult., Mant. 2: 188 (1824).

Andropogon domingensis (Spreng.) F. T. Hubbard (1913), not of (Roem. & Schult.) Steud. (1821).

A. semiberbis (Nees) Kunth (1833).

A. leptostachyus Benth. (1849).

Tall tufted perennial with reddish culms up to 3 m. high; polymorphic, and occupying a wide range of habitats from shallow stony soils to wet streamside.

Sen.: Casamance (Oct.) Adam 18613! Sédhiou (Nov.) Berhaut 6362! **Mali:** Sikasso to Bougouni (Sept.) Adam 15462! **Guin.:** Ségou (Sept.) Chev. 2354! Younkounkoun (Oct.) Pitot! Baffing R. (Nov.) Pobéguin 1774! **Iv. C.:** Toumodi (Oct.) Adjanohoun 386a! Séguéla road (Oct.) Adjanohoun 305a! Bouaké (Nov.) Leeuwenberg 2078! Issia (July) Adams 878! 879! **U. Volta:** Linguékoro (Nov.) Scholz 45b! Tondoura (Oct.) Scholz 45a! Samandeni (Oct.) Kmoch 151! Gaoua to Batie (Oct.) Rose Innes GC 31526! Leo to Ouassa (Oct.) Rose Innes GC 31497! **Ghana:** Accra Brown 428! Keta (Dec.) Thorold 277! Tamale (Oct.) Baldwin 13561! Mirigu (Oct.) Vigne FH 4643! Gambaga (Oct.) Rose Innes GC 30739! **Togo Rep.:** Baumann 352! Palime Stage 84! Atakpame to Sokode (Oct.) Rose Innes GC 31364! Badou to Atakpame (Sept.) Rose Innes GC 31345! Sansanné Mango to Dapango (Oct.) Rose Innes GC 31423! **Dah.:** Porto Novo (Sept.) Adjanohoun 258! Parakou (Nov.) Risopoulos 1285! **N. Nig.:** Ilorin (Oct.) Ward 59! Kaiama (Oct.) Ward 26! Abinsi (July) Dalz. 869! Nupe Barter 1360! Badeggi (Sept.) Clayton 315! **S. Nig.:** Lagos (Oct.) Haines 195! Enugu (Sept.) Jones FHI 6748! Mamu River F.R. E. W. Jones 4! Awka (Sept.) Onochie FHI 34071! Ogoja Rosevear 5/30a!

Throughout the tropics.

[Plants with glabrous spikelets occur throughout the range; in West Africa and tropical south America the spikelets may also be pubescent or villous. The latter have been separated as *S. domingense*, but the species are otherwise identical, with many intermediates, and it seems best to unite them.—W.D.C.]

12. *Schizachyrium exile* (Hochst.) Pilger in Engl., Bot. Jahrb. 54: 284 (1917); F.T.A. 9: 191; A. Chev. in Rev. Bot. Appliq. 13: 862; Berhaut, Fl. Sén. ed. 2, 423; De Miré & Gillet in J. Agric. Trop. 3: 735; Aké Assi, Contrib. 2: 298. *APD acc*

Andropogon exilis Hochst. in Flora 27: 241 (1844).

Annual, 60–120 cm. high, the spatheoles at length becoming rusty red; typically on disturbed gravelly soils.

Sen.: Mbao (Oct.) Berhaut 2729! **Mali:** Dioura (Oct.) Davey 091! Bore (Oct.) Davey 8/1957! Bouta (Feb.) Davey 34! Ansongo (Sept.) Hagerup 392! Port G.: Nova Lamego (Oct.) Pereira 3353! **Iv. C.:** Bocanda to Ndokouassikro (Sept.) Adjanohoun 196a! **U. Volta:** Ouassa to Dieboungou (Oct.) Rose Innes GC 31511! Nouna to Dedougou (Oct.) Giessler 65! Ouagadougou (Sept.) Scholz 153! Po to Leo (Oct.) Rose Innes GC 31084! **Ghana:** Kpeye to Kpandu (Sept.) Ankrah GC 20219! Sampa (Oct.) Rose Innes GC 31565! White Volta Bridge (Mar.) Hepper & Morton A3155! Bawku to Dapango (Oct.) Rose Innes GC 31439! Tumu (Oct.) Rose Innes GC 32281! **Togo Rep.:** Atakpame to Sokode (Oct.) Rose Innes GC 31374! **Dah.:** Sémé (Feb.) Raynal 13536! Boukombe (Nov.) Risopoulos 1268! **Niger:** Dogondoutch White 43! **N. Nig.:** Katsina (Oct.) Clayton 1343! Lotoja (Oct.) Dalz. 279! Kogigiri, Jos (Oct.) Hepper 1054! Kano (Dec.) Adelodun FHI 5406! Sokoto (Nov.) Moiser 142! Mongonu Golding 5! **S. Nig.:** Igboora (Oct.) Haines 338! Abakaliki (Dec.) Baldwin 13812! Ago-Are F.R. (Nov.) Keay 37687a!

Also in the **C. African Rep.**, **Sudan**, **Ethiopia**, **Malawi** and **Mozambique**. (See Useful Plants.)

13. *Schizachyrium ruderale* W. D. Clayton in Kew Bull. 19: 451 (1965). *APD acc*

Loosely tufted annual up to 2 m. high; **roadside spoil heaps and new fallow land**.

Sen.: Kolda (Oct.) Boudet 3986. Nétéboulou (Oct.) Diallo 556. Diamel (Nov.) Fotius 279. **Mali:** Sikasso (Oct.) Demange 2743. **Gam.:** Saunders 84! **Guin.:** Koundara (Oct.) Adam 12711! **U. Volta:** Leo to Ouassa (Oct.) Rose Innes GC 31495! Bangaregou (Oct.) Scholz 162! **Iv. C.:** Katiola to Dabakala (Nov.) Aké Assi 9234! Fettekro to Bassawa (Oct.) Adjanohaun 290a! **Ghana:** Tamale (Nov.) Williams 1021! Yendi (Oct.) Rose Innes GC 30978! Gambaga Scarp (Oct.) Rose Innes GC 30763! Navrongo to Lawra (Oct.) Rose Innes GC 30281! Seripe to Dokrupe (Oct.) Ankrah GC 20438! **Dah.:** Tanguieta to Boukombe (Nov.) Risopoulos 1270!

14. *Schizachyrium pulchellum* (Don ex Benth.) Stapf in F.T.A. 9: 203 (1919); A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 422. *APD acc*

Andropogon pulchellus Don ex Benth., Fl. Nigrit. 571 (1849); Chev. Bot. 719.
A. guineensis P. Beauv. & Hochreut. (1898), not of Schumach. (1827).

Perennial with prostrate inflorescences, the spathes becoming reddish brown, and rampant stolons; **pioneer of sea-shore sands**.

Sen.: Malika (July) Adam 17811! Cayor (Dec.) Chev. 2366! **S. L.:** Lumley Beach (Dec.) Deighton 789! Hamilton (Nov.) Morton & Gledhill SL 111! Mama Beach, near Kent (Dec.) Deighton 3287! Mahera (Nov.) Deighton 5670! Mano Salija (Nov.) Deighton 347! **Lib.:** Robertsport (Dec.) Baldwin 10916! 10934! Monrovia (Dec.) Baldwin 10490! **Iv. C.:** Grand Bassam (Mar.) Leeuwenberg 3137! Azuretti, Grand Bassam (Dec.) Adjanohoun 394a! Port Bouet (Dec.) Aké Assi 9857! **Ghana:** Aflao (May) Thorold CB53! Ada (Jan., June, Dec.) T. M. Harris! Adams 3622! Morton A1781! Akpabla 1879! **Dah.:** Kraké (Oct.) Risopoulos 1229! **S. Nig.:** Lagos (Sept., Dec.) Dalz. 1325! Stubbings 11! Tarqua Bay (Sept.–Jan.) Birkett-Smith 83a! Ward L141! Haines 152!

Also in the **Congo**.

15. *Schizachyrium schweinfurthii* (Hack.) Stapf in F.T.A. 9: 199 (1919). *APD acc*

Andropogon schweinfurthii Hack. in Flora 68: 118 (1885).

Erect caespitose perennial up to about 1·2 m. high with black roots; **poorly drained shallow soils over hardpan**.

U. Volta: Koumbili (Oct.) Scholz 180! Samandeni (Oct.) Kmoch 158! Po to Leo (Oct.) Rose Innes GC 31089! **Ghana:** Nungua (Nov.) Ankrah 43! Berekum to Sampa (Oct.) Rose Innes GC 31640! Kete Krachi to Yendi (Sept.) Rose Innes GC 30439! Gambaga to Yendi (Oct.) Rose Innes GC 30485! Navrongo to Tumu (Oct.) Rose Innes GC 30784! **Togo Rep.:** Sokode to Atakpame (Oct.) Rose Innes GC 31367! **N. Nig.:** Lokoja (Oct.) Magaji MG 263! Dalz. 289! Mokwa (Nov.) Ayuba AS104! Okene (Oct.) Magaji MG248! Ningi (Nov.) Magaji & Tuley 1823!

Also in the **Sudan**.

16. *Schizachyrium scintillans* Stapf in F.T.A. 9: 202 (1919); A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 422. *APD acc*

Slender annual up to 60 cm. high; **ironstone pans**.

Sen.: Niokolo-Koba (Oct.) Adam 15631! **Guin.:** Conakry (Oct.) Adam 12606! Kindia (Oct.) Jac.-Fél. 7197! Fouta Djallon (Sept.–Oct.) Adam 12746! Schnell 7405 ter! Chev. 18664! **S. L.:** Kent (Nov.) Deighton 5632! No. 2 River (Nov.) T. S. Jones 380! Brookfields, Foni Flats (Oct.) Deighton 2175! Kambia (Nov.) Jordan 665! Lakka (Dec.) Morton SL 1599a!

17. *Schizachyrium gresicolum* Jac.-Fél. in Rev. Bot. Appliq. 33: 446 (1953). *APD acc*

Caespitose perennial about 30 cm. high; **rock outcrops**.

Mali: Kandiarra R. (Oct.) Pitot! **Guin.:** Kindia Jac.-Fél. 183! Benna (Oct.) Jac.-Fél. 7171! **Ghana:** Amedzofe (Dec.) Rose Innes GC 31180! **N. Nig.:** Zonkwa (Oct.) De Leeuw, Magaji & Tuley 1716!

18. *Schizachyrium rupestre* (K. Schum.) Stapf in F.T.A. 9: 204 (1919); Berhaut, Fl. Sén. ed. 2, 423. *APD acc*

Andropogon rupestris K. Schum. in Engl., Bot. Jahrb. 24: 327 (1897).

A. compressus Stapf in Journ. de Bot. 22: 204 (1909), incl. var. *pleiocladus* Stapf l.c.; Chev. Bot. 716.

Schizachyrium compressum (Stapf) Stapf in F.T.A. 9: 201 (1919); F.W.T.A. ed. 1, 2: 585; A. Chev. in Rev. Bot. Appliq. 13: 863.

Schizachyrium thollonii var. **compressum** (Stapf) Jac.-Fél. in Rev. Bot. Appliq. 33: 448 (1953).

Schizachyrium pratorum C. E. Hubbard in Kew Bull. 4: 373 (1949).

Caespitose perennial about 1 m. high, with black roots; **stony slopes**.

Sen.: Moro du Rip (Nov.) Berhaut 2739! Ziguinchor (Dec.) Berhaut 6706! Casamance R. (Jan.) Chev. 2348! **Mali:** Morigueya (Feb.) Chev. 435! **Port. G.:** Prabris, Bissau (Nov.) Pereira & Correia 2094! Raimundo & Guerra 205! Xime (Jan.) Pereira & Correia 2597! **S. L.:** Mateboi (Nov.) Jordan 834! Kasanko (Oct.) Jordan 647! Batkanu (Feb.) Deighton 4187! **Lib.:** Nimba (Oct.) Adames 700! Warner 26! 67! **Ghana:** Gradaw (Oct.) Rose Innes GC 31613! Banda to Bui (Oct.) Rose Innes GC 31599! Bamboi to Bole (Oct.) Rose Innes GC 30645! Dutukpene (Dec.) Adams 4529! Togo Plateau (Nov.) Morton A3484! **Togo Rep.:** Misahöhe Baumann 361! **N. Nig.:** Mokwa (Nov.) De Leeuw & Magaji 2005! **S. Nig.:** Nsukka (Jan.) Okigbo 117! Enugu (Sept.) Tuley 884!

[Closely allied to *S. thollonii* (Franch.) Stapf, which has the column of the awn only 1–2.5 mm. long.]

Imperfectly known species.

Andropogon simplex Vahl & Schumach. in Schumach., Beskr. Guin. Pl. 49 (1827); F.T.A. 9: 206 (1919). *APD acc*

Apparently a species of *Schizachyrium*, but the type is lost, and the description cannot confidently be equated to any of the present species.

123. CYMBOPOGON

Spreng., Pl. Pugill. 2: 14 (1815); F.T.A. 9: 265 (1919).

Lower glume of the sessile spikelet shallowly concave, the keels sharp throughout; racemes conspicuously villous with white hairs up to 4 mm. long; leaf-blades up to 3 mm. broad, mostly arising from the caespitose base ..[4. *schoenanthus*](#)

- 1 Lower glume of sessile spikelet lanceolate, almost flat to shallowly concave on the back with a V-shaped median groove in the lower half, laterally winged at the apex; leaf-blades with a broad (up to 2.5 cm.) rounded base, gradually tapering to a filiform tip; panicle 30 cm. long or more 1. *giganteus*[2 @](#)

Lower glume of sessile spikelet narrowly lanceolate, almost flat to deeply concave with the bottom of the depression rounded, wingless at the apex; leaf-blades linear to filiform, narrowing at the base:[3](#)

- 2 Fertile lemma awned, the awn geniculate with a twisted column 3–6 mm. long and a limb 4–7 mm. long[1a. *giganteus* var. *giganteus*](#)

Fertile lemma awnless, or provided with a straight untwisted awn up to 6 mm. long .. [1b. *giganteus* var. *inermis*](#)

Leaf-blades flat and up to 3 mm. broad, but often convolute or folded in dried specimens, and up to 35 cm. long; panicle compound, the raceme-pairs aggregated into dense clusters; old basal sheaths often curly like wood-shavings[4b. *schoenanthus* subsp. *proximus*](#)

- 3 Fertile lemma awnless; lower glume deeply concave between the keels; leaf-blades up to 60 cm. long or more and 15 mm. broad[2. *citratu*](#)

Fertile lemma awned; leaf-blades up to 4 mm. broad:[4](#)

- 4 Lower glume of the sessile spikelet deeply concave between the keels, these thickened and rounded in the lower half and separated by a gibbous swelling at the base; racemes scantily hairy, the hairs up to 2 mm. long; leaf-blades cauline, 2–4 mm. broad[3. *commutatus*](#)

Leaf-blades convolute, filiform, about 1 mm. broad, up to 15 cm. long; panicle scanty, the raceme-pairs borne singly or in clusters of 2–3, rarely more; old basal sheaths never curly[4a. *schoenanthus* subsp. *schoenanthus*](#)

1. **Cymbopogon giganteus** Chiov. Gram. da Essenze 12 (1909); F.T.A. 9: 288; A. Chev. in Rev. Bot. Appliq. 13: 871; Berhaut, Fl. Sén. ed. 2, 420.

APD: Synonym of Cymbopogon caesius subsp. giganteus (Chiov.) Sales

Andropogon giganteus Hochst. in Flora 27: 242 (1844), not of Ten. (1811).

Tall perennial up to 2.5 m. high with glaucous leaves and dense narrow panicles.

1a. *Cymbopogon giganteus* var. *giganteus* APD acc

Sen.: Perrottet 893! Adanson 47b! (June) Roger! Tambacounda (Oct., Nov.) Chev. 33911! M'Bidjem Thierry 93! **Gam.:** Saunders 85! Dawe 11! (Jan.) Dalz. 8415! Sukuta to Old Yundum (Feb.) Wallace K3! Sankuli-Kunda (Sept.) Pirie 51/33! **Mali:** Tiekole Duong 1500! Bamako (Jan.) Duong! Nioro to Aioun (Nov.) Rossetti 218/59! 219/59! Bura, Ansongo (Sept.) Hagerup 402! **Port. G.:** Nhacré (Nov.) Raimundo & Guerra 18! Mansoa (Nov.) Pereira & Correia 1973! **S. L.:** T. Vogel! **Iv. C.:** Assanou (Aug.) Aké Assi 6847! Séguéla (June) Adjanooun 256a! Bouaké to M'Bayakro (Oct.) Adjanooun 351a! Namboukaha to Ouorossantiakaha (Nov.) Leeuwenberg 1984! **U. Volta:** Batié to Gaoua (Oct.) Rose Innes GC 31534! Touroukoro (Nov.) Scholz 44a! Samandeni (Oct.) Kmoch 154! Kalamon (Sept.) Aké Assi 6489! Sindou (Sept.) Aké Assi 6363! **Ghana:** Accra Plains (Aug.) Johnson 756! Kintampo to Ejura (Oct.) Rose Innes GC 30619! Sawla to Bole (Oct.) Rose Innes GC 30662! Tamale to Bolgatanga (Oct.) Rose Innes GC 30230! Kugri Hill (Oct.) Ankrah GC 20297! **Togo Rep.:** Lomé Warnecke 402! Atakpame to Sokode (Oct.) Rose Innes GC 31365! Sansanné Mango to Dapango (Oct.) Rose Innes GC 31424! **Dah.:** Tanguieta to Kobli (Nov.) Risopoulos 1274! Kpinnou Froment 1149! **Niger:** Dogondoutchi White 54! **N. Nig.:** Kaiama (Oct.) Ward 37! Sokoto Prov. (July) Dalz. 485! Jemaa (Nov.) Keay FHI 37225! Gindiri, Jos Plateau (Oct.) Hepper 1087! Maiduguri (Oct.) Johnston N28! Garbabi, Sardauna Prov. (Jan.) Latilo & Daramola FHI 34420! **S. Nig.:** Lagos (Feb.) W. D. MacGregor 164! Igboora (Oct.) Haines 352! Ibadan (Dec.) Fakunle & Russell FHI 14967! Ago Are F.R., Shaki (Oct., Nov.) Sofoluwe FHI 38170! Keay FHI 37678!

Throughout tropical Africa. (See Useful Plants.)

1b. *Cymbopogon giganteus* var. *inermis* W. D. Clayton in Kew Bull. 19: 454 (1965).

APD: Synonym of Cymbopogon caesius subsp. giganteus (Chiov.) Sales

Maur.: Kiffa Cusfont! N.W. of Nioro (Aug.) Rossetti 61/282! **Mali:** Macina (Nov., Dec.) Duong 1190! Bou Zériha (Oct.) Monod 4020!

2. *Cymbopogon citratus* (DC.) Stapf in Kew Bull. 1906: 357; F.T.A. 9: 282; A. Chev. in Rev. Bot. Appliq. 13: 872; Berhaut, Fl. Sén. ed. 2, 420. APD acc

Andropogon citratus DC., Cat. Hort. Monsp. 78 (1813); Chev. Bot. 716.

Tall perennial 2 m. high or more, rarely flowering, the lower leaf-sheaths with a characteristic waxy bloom. **Only known in the cultivated state; commonly planted along roads and in gardens.**

S. L.: Njala (Apr.) Deighton 2495! **Lib.:** R. Cess, Grand Bassa Co. (Mar.) Baldwin 11229! **Iv. C.:** Tabou Chev. 20098! **Ghana:** Aburi (Oct.) Howes 997!

Cultivated throughout the tropics. (See Useful Plants.)

3. *Cymbopogon commutatus* (Steud.) Stapf in Kew Bull. 1907: 211; F.T.A. 9: 275. APD acc

Andropogon commutatus Steud., Syn. Pl. Glum. 1: 387 (1854).

Erect perennial 1.2–1.5 m. high.

Maur.: (Dec.) Jumelle! **Sen.:** Bakel (Dec.) Berhaut 1311!

Also in **Sudan** and **Eritrea**.

4. *Cymbopogon schoenanthus* (Linn.) Spreng. Pl. Pugill. 2: 15 (1815); F.T.A. 9: 268; A. Chev. in Rev. Bot. Appliq. 13: 871; Berhaut, Fl. Sén. ed. 2, 420; De Miré & Gillet in J. Agric. Trop. 3: 730; Stapf in Kew Bull. 1906: 303. APD acc

Andropogon schoenanthus Linn., Sp. Pl. 1046 (1753).

A. laniger Desf., Fl. Atlant. 2: 379 (1799); Chev. Bot. 718.

Cymbopogon schoenanthus subsp. *laniger* (Desf.) Maire & Weiler, Fl. Afr. Nord. 1: 287 (1952).

4a. *Cymbopogon schoenanthus* subsp. *schoenanthus*. APD acc

Densely caespitose glaucous perennial about 30 cm. high; **in dry soils.**

Mali: Ansongo (Sept.) Hagerup 330! **Ghana:** Saboba, Dagomba Dist. (Mar.) Hepper & Morton A3115! Kaleo Hill, Wa (Apr.) Adams 4008!

N. African coast, eastwards to **Arabia**, the Orient and India; and southwards to the C. Sahara, **Somalia** and Eritrea. (See Useful Plants.)

4b. **Cymbopogon schoenanthus subsp. proximus** (*Hochst. ex A. Rich.*) *Maire & Weiler*. Fl. Afr. Nord. 1: 287 (1952). *APD acc*

Andropogon proximus *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 464 (1851).

Cymbopogon proximus (*Hochst. ex A. Rich.*) *Stapf* in F.T.A., 9: 271 (1919); F.W.T.A., ed. 1, 2: 588; A. Chev. in Rev. Bot. Appliq. 13: 871; Aké Assi, Contrib. 2: 301.

Andropogon schoenanthus var. *proximus* (*Hochst. ex A. Rich.*) *A. Chev.*, Bot. 719 (1920).

Caespitose perennial 60–90 cm. high, on dry stony soils.

Maur.: Bafréchié, Trarza Circle (Sept.) Sadio 251! El Hagner Plateau (Aug.) Monod 2102! **Sen.:** Heudelot 304! **Mali:** Kare, near Dioura (Nov.) Davey 143! Douentza to Hombori (June) Rogeon 407! L. Horo, near Gidigada (Aug.) Lean 83! Ansongo to Tillabéri (Jan.) Chev. 43146! Gao to Ansongo (Jan.) Chev. 43042! **Guin.:** Falama (Mar.) Chev. 614! **Iv. C.:** Téhini (Aug.) Oldeman 328! **U. Volta:** Pontiéba (Aug.) Winkoun! Banfora (June) Leeuwmborg 4299! Ouagadougou (Oct.) Scholz 1a! Kampala (Mar.) Scholz 1! **Ghana:** Tong Hills (July) Williams 520! Tamale (May) Saunders! Chereponi (Oct.) Rose Innes GC 30975! Zuarungu (June) Vigne FH 4548! Bawku (Aug.) Irvine 4605! **Togo Rep.:** Kande (Oct.) Rose Innes GC 31405! **Dah.:** Atacora (June) Chev. 24075! **Niger:** Zinder (Nov.) Money-Kirle Fe 15! Tarraouaji, Aïr Mts., (Sept.) Chopard & Villiers! Toukounous Barthé 5! **N. Nig.:** Sokoto (July) Dalz. 486! Kworre (Sept.) Palmer H7535! Mongonu (Oct.) Golding 4! Kukawa (Mar.) Jackson 2597! Gujba (Aug.) De Leeuw 1130!

Eastwards to **Ethiopia**, **Sudan** and **Kenya**, extending northwards into the Central Sahara. (See Useful Plants.)

[Closely allied to *C. jwarancusa* (Jones) Schult. a common species of flood plains in India.]

Various species of *Cymbopogon* are cultivated, both as ornamental garden plants and as a source of essential oils. The following have been recorded from West Africa: *C. densiflorus* (Steud.) Stapf—Gashaka Dist., Sardauna Prov., N. Nigeria; *C. nardus* (Linn.) Rendle—Hill Station, Freetown, Sierra Leone; *C. winteranus* Jowitt—Aburi, Ghana.

124. ANDROPOGON

Linn., Sp. Pl. 1045 (1763), and Gen. Pl., ed. 5: 468 (1754); F.T.A. 9: 208 (1919); Clayton in Hook., Ic. Pl. 37: t. 3644 (1967). *APD acc*

- 1 Lower glume of sessile spikelet pitted on either side of a median groove; internodes of rhachis and pedicels linear:2
- Lower glume not pitted:3
- 2 Annual; inflorescence of 1–3 distant raceme-pairs partially embraced by narrow spatheoles; pits 2, circular; pedicelled spikelet with an awn 6–8 mm. long[1. pusillus](#)
- Perennial; inflorescence terminal, long exserted, of 2–3 digitate racemes; pits 3–8, irregularly oblong; pedicelled spikelets awnless[2. lacunosus](#)
- 3 Internodes of the rhachis and pedicels linear to filiform:4
- Internodes of the rhachis and pedicels distinctly swollen upwards, clavate or cuneate, rarely almost linear and then the back of the lower glume of the sessile spikelet flat with a conspicuous median groove (A. tectorum);14
- 4 Racemes terminal on the culms; lower glume of sessile spikelet flat or slightly hollowed on the back with 5–11 intercarinal nerves, one of them median (except *A. mannii*); upper glume awned:5
- Racemes gathered into spathate false panicles; lower glume of sessile spikelet concave on the back, with no intercarinal nerves; upper glume acute:9
- 5 Base of plant silky hairy; sessile spikelet 9–11 mm. long; lower glume glabrous to puberulous, winged on the keels, with 7–11 intercarinal nerves; racemes paired[3. distachyos](#)
- Base of plant glabrous:6
- 6 Spikelets pilose, 6–7 mm. long; lower glume with 5–7 intercarinal nerves; internodes and pedicels ciliate on both margins, glabrous on the face; leaf-blades up to 4 mm. broad, herbaceous; racemes paired[4. amethystinus](#)
- Spikelets glabrous:7
- 7 Racemes usually 3–8, rarely 2 or 1; sessile spikelet 7–9 mm. long, the lower glume wingless and without intercarinal nerves; leaf-blades up to 4 mm. broad, stiff but not harshly scabrid, the midrib slender ...[5. mannii](#)
- Racemes 2; lower glume of sessile spikelet with winged keels and 5–7 intercarinal nerves:8
- 8 Leaf-blades up to 2 mm. broad and 30 cm. long or more, harsh and file-like to the touch, the midrib almost 1/3 the width; sessile spikelets 6–8 mm. long; caespitose[6. lima](#)
- Leaf-blades up to 3 mm. broad and about 10 cm. long, herbaceous, with a slender midrib, scabrid only on the

- margins; sessile spikelets 7–8 mm. long; stoloniferous [7. pratensis](#)
- 9 Racemes solitary; callus of sessile spikelet 0.8 mm. long; spikelets 3–4 mm. long: 10
- Racemes paired or digitate: 11
- 10 Lemma of fertile floret entire and awnless [8. festuciformis](#)
- Lemma of fertile floret bilobed and awned from the sinus [9. incomptus](#)
- 11 Racemes 5–6; sessile spikelets about 5 mm. long, the internodes a little longer; internodes and pedicels finely filiform, arcuate, long ciliate [10. tenuiberbis](#)
- Racemes 2, rarely 3: 12
- 12 Leaf-blades involute, filiform; sheaths ciliate at the mouth; sessile spikelets 4.5–6.5 mm. long; awn 16–22 mm. long; rhachis internodes 4–5 mm. long [11. curvifolius](#)
- Leaf-blades flat, 2–4 mm. broad, abruptly acute at the tip: 13
- 13 Awns 5–9 mm. long; fertile lemma bifid for 1/3 its length; rhachis internodes 3 mm. long; racemes dense, the spikelets appressed; sessile spikelets 4.5–5 mm. long [12. incanellus](#)
- Awns 12–25 mm. long; fertile lemma bifid for up to 1/2 its length; rhachis internodes 3–4.5 mm. long; racemes loose, the spikelets divergent; sessile spikelets 4.5–6 mm. long [13. africanus](#)
- 14 Lower glume of sessile spikelets linear, laterally compressed, wedged between internode and pedicel, the back deeply depressed with the keels dorsal and almost meeting over the depression; pedicels not, or obscurely, 2-lobed: 15
- Lower glume of sessile spikelet lanceolate, not wedged between internode and pedicel, flattened on the back with a shallow median groove, the keels lateral; racemes paired, in large spathate panicles: 22
- 15 Racemes solitary, in a fastigiate panicle; upper glume of sessile spikelet with an awn about 1 cm. long; awn of fertile floret up to 5 cm. long; lower glume of pedicelled spikelet obliquely obovate-oblong, nearly 1 cm. long, many-nerved, ending in a fine bristle [14. fastigiatus](#)
- Racemes paired: 16
- 16 Upper glume of sessile spikelet and both glumes of pedicelled spikelet with fine bristle-like awns up to about 10 mm. long; inflorescence a delicate much-branched spathate panicle with conspicuous dark brown awns: 17
- Upper glume of sessile spikelet and glumes of pedicelled spikelet awnless (with awn-points up to 2 mm. long in *A. perligulatus*); raceme-pairs few on each culm, sometimes in scanty spathaceous panicles; perennials: 18
- 17 Annual; awn of fertile floret 35–40 mm. long; leaf-sheaths and blades glabrous [15. pseudapricus](#)
- Perennial; awn of fertile floret 20–35 mm. long; leaf-sheaths and blades glabrous or pubescent [16. ascinodis](#)
- 18 Racemes markedly dorsiventral, the pedicelled spikelets lying flat upon the back, imbricate, and concealing the internodes and pedicels; no auricles; internodes and pedicels ciliate on both sides, not inflated: 19
- Racemes not dorsiventral, the pedicelled spikelets more or less lateral and not covering the internodes and pedicels: 21
- 19 Back of lower glume of sessile spikelet convexly rounded and 5–6-nerved on either side of the median depression, becoming keeled only in the upper half; internodes and pedicels stout, cylindric; palea absent [17. ivorensis](#)
- Back of lower glume of sessile spikelet sharply 2-keeled throughout, the keels dorsal and contiguous; internodes and pedicels clavate; upper floret with a palea: 20
- 20 Leaf-blades linear, up to 45 cm. long and 14 mm. broad, mostly cauline; racemes 6–12 cm. long; sessile spikelets 5–7 mm. long [18. schirensis](#)
- Leaf-blades lanceolate-linear, 5–15 cm. long and up to 5 mm. broad, clustered towards the base; racemes 3–7 cm. long; sessile spikelets 5 mm. long [19. dummeri](#)
- 21 Sheath-auricles and ligules 5–12 mm. long, usually glabrous at the throat; pedicels clavate, about as wide as the gap between internode and pedicel; upper glume usually aristulate [20. perligulatus](#)
- Sheath-auricles and ligules up to 2 mm. long, usually setose at the throat; pedicels inflated, about twice as wide as the gap between internode and pedicel; upper glume acute [21. canaliculatus](#)
- 22 Rhachis internodes and pedicels almost linear, slightly widening at the truncate tips, 3 mm. long, ciliate on both sides; leaf-blades thin, lanceolate, light green; panicle large, decompound; racemes 3–4 cm. long; sessile spikelet 4–5 mm. long with an awn 15–20 mm. long [22. tectorum](#)
- Rhachis internodes and pedicels clavate, conspicuously widening above, the pedicel more or less bilobed at the tip; leaf-blades firm; racemes 4–6 cm. long: 23
- 23 Leaf-blades very large, 20–40 mm. broad and up to 75 cm. long; pedicels broadly clavate, 4 mm. long, scantily ciliate on both sides and often puberulous on the face; lower glume of sessile spikelet 5–6 mm. long; awn of fertile floret 9–16 mm. long; pedicelled spikelet 4–5 mm. long, its awn up to about 1 mm. long; external ligule absent [23. macrophyllus](#)
- Leaf-blades usually less than 16 mm. broad, rarely up to 25 mm.: 24

- 24 Mouth of leaf-sheath produced into acute linear-lanceolate auricles 5–30 mm. long; lower glume of sessile spikelet with a line of hairs in the median groove; leaf-blades up to 10 mm. broad, but usually less: 25
Mouth of leaf-sheath forming rounded shoulders, or rarely produced into ovate auricles up to 3 mm. long: ... 26
- 25 Perennial, the basal sheaths compressed and keeled; internodes and pedicels glabrous or sparsely hairy on the face; sessile spikelet 5·5–7 mm. long, the awn 10–17 mm. long; upper glume glabrous to puberulous 24. [auriculatus](#)
Annual; internodes and pedicels pubescent to tomentose on the face; sessile spikelet 5·5–10 mm. long, the awn 18–25 mm. long; upper glume pubescent to tomentose 25. [chevalieri](#)
- 26 Sessile spikelet 9–11 mm. long, the keels of both glumes bearing a cartilaginous wing; pedicelled spikelet 8–10 mm. long, pilose; pedicels ciliate on both sides 26. [pteropholis](#)
Sessile spikelet up to 8 mm. long, the glumes inconspicuously winged: 27
- 27 Pedicels swollen, almost ovoid, about 4 mm. long and 1·8 mm. broad, ciliate both sides; sessile spikelet 5–6 mm. long, with an awn 15–22 mm. long; pedicelled spikelet glabrous or puberulous; annual 27. [pinguipes](#)
Pedicels clavate, up to 6 times as long as wide, their sides straight or only slightly convex; perennials: 28
- 28 Pedicels 3 mm. long, scantily ciliate on one or both sides, and often puberulous on the face; pedicelled spikelet 4–4·5 mm. long, awnless or with a mucro up to 1 mm. long; sessile spikelet 4–5 mm. long, usually with a line of hairs along the median groove; awn 9–12 mm. long; external ligule absent 28. [gabonensis](#)
Pedicels 4–5 mm. long, conspicuously ciliate, glabrous on the face; pedicelled spikelet 5–7 mm. long; sessile spikelet 5–8 mm. long, glabrous; external ligule often present as a membranous rim at the junction of sheath and blade on the abaxial side 29. [gayanus](#) 29
..... @
- 29 Internodes and pedicels ciliate on one side: 30
Internodes and pedicels ciliate on both sides; sessile spikelet 5–6 mm. long; awn of sessile spikelet 15–30 mm. long and of pedicelled 3–7 mm.: 31
- 30 Pedicelled spikelet glabrous; sessile spikelet 6 mm. long; awn of sessile spikelet 10–20 mm. long, and of pedicelled spikelet 1–2 mm. 29a. [gayanus](#) var. [gayanus](#)
Pedicelled spikelet villous or pubescent; sessile spikelet 6–8 mm. long; awn of sessile spikelet 15–30 mm. long, and of pedicelled spikelet 5–10 mm. 29b. [gayanus](#) var. [tridentatus](#)
- 31 Pedicelled spikelet glabrous 29c. [gayanus](#) var. [squamulatus](#)
Pedicelled spikelet villous 29d. [gayanus](#) var. [bisquamulatus](#)

1. **Andropogon pusillus** *Hook. f.* in J. Linn. Soc. 7: 233 (1864); Clayton in Kew Bull. 19: 455. *APD acc*

Hyparrhenia pusilla (*Hook. f.*) *Stapf* in F.T.A. 9: 379 (1919); F.W.T.A., ed. 1, 2: 591.

Annual up to 15 cm. high.

N. Nig.: Chappal Waddi, Mambila Plateau (Nov.) Jackson, Magaji & Tuley 2054! **W. Cam.:** Cam. Mt., 7,000 ft. (Dec.) Mann 2097!

2. **Andropogon lacunosus** *J.G. Anderson* in Bothalia 8: 113 (1962). *APD acc*

Perennial up to 60 cm. high; **wet places.**

W. Cam.: Mbiambi, 6,000 ft. (June) Brunt 746!

Also in **Transvaal.**

3. **Andropogon distachyos** *Linn.* Sp. Pl. 1046 (1753); F.T.A. 9: 218. *APD acc*

Perennial, 30–75 cm high.

W. Cam.: Mann 1345! Mann's Spring, Cam. Mt., 7,500 ft. (Feb., Dec.) Boughey GC 10621! Mann 2078! Steele 101! Mauve, 8,000 ft. (Feb.) Maitland 1035!

Europe, N. Africa, Levant and **Arabia**, highlands of tropical Africa and in S. Africa.

4. **Andropogon amethystinus** *Steud.* Syn. Pl. Glum. 1: 371 (1854); F.T.A. 9: 216, partly. *APD acc*

Andropogon abyssinicus of F.W.T.A., ed. 1, 2: 586, not of R. Br.

Perennial, tufted or with short underground rhizomes, about 30 cm. high.

W. Cam.: Cam. Mt., 7,800–9,000 ft. (Nov.–Jan.) Migeod 170! Hinds C43! Maitland! Keay FHI 28587! Bafut-Ngemba F.R., 6,990 ft. (Feb.) Hepper 2123! **F. Po:** S. Isabel Peak (Mar.) Guinea 2778!

Also in **Ethiopia**, **Kenya** and **Uganda**.

5. **Andropogon mannii** *Hook. f.* in J. Linn. Soc. 7: 232 (1864); F.T.A. 9: 226. *APD acc*

Densely tufted perennial 30–45 cm. high.

S. L.: Mt. Loma (Feb. –Apr.) Jaeger 9781! 9418! 9487! **iv. C.:** Mt. Momi (Oct.) Aké Assi 9165! **W. Cam.:** Cam. Mt., 9,500–12,000 ft. (Dec., Jan.) Mildbr. 10892! Maitland 1271! Hinds C35! C39! Keay FHI 28826! **F. Po:** Clarence Peak, 9,000 ft. (Dec.) Mann 654!

6. **Andropogon lima** (*Hack.*) *Stapf* in F.T.A. 9: 217 (1919). *APD acc*

Andropogon amethystinus var. **lima** *Hack.* in DC., Monogr. Phan. 6: 464 (1889).

Andropogon amethystinus var. **breviaristatus** *Hack.* l.c.

Andropogon amethystinus of F.T.A. 9: 216, partly.

Densely tufted perennial up to 1 m. high.

W. Cam.: Cam. Mt., 8,500 ft. (Dec.) Mildbr. 10856! Mauve, 8,000 ft. (Feb.) Maitland 1041! Ukele Camp, 8,000 ft. (Feb.) Maitland 1340! Johann-Albrechtshutte, 9,350 ft. (Jan., Dec.) Breteler et al. MC10! Mann 2084!

Also in the **Sudan**, **Ethiopia**, the **African highlands**, and **Malawi**.

7. **Andropogon pratensis** *Hochst. ex Hack.* in DC., Monogr. Phan. 6: 463 (1889); F.T.A. 9: 219.

APD: *Synonym of Andropogon amethystinus Steud.*

Stoloniferous perennial up to about 45 cm. high.

N. Nig.: Vom (Oct.) Gambles 26a!

Also in **Ethiopia**, **Kenya**, **Tanzania** and **Zambia**.

8. **Andropogon festuciformis** *Rendle* in Cat. Welw. 2: 145 (1899); Clayton in Kew Bull. 17: 469 (1964).

APD acc

Andropogon schlechteri *Hack.* in Bull. Herb. Boiss., ser. 2, 6: 703 (1906).

Hypogynium schlechteri (*Hack.*) *Pilger* (1940).

H. spathiflorum of F.T.A. 9: 168, not of Nees.

Caespitose perennial 1 m. high; **flood plains and damp grasslands**.

Mali: Sikasso, Chutes du Farako (Oct.) Demange 3039. **Guin.:** Fouta Djallon (Dec.) Jac.-Fél. 7430!

Also in the **Congo**, **Zambia**, **Angola** and **S. Africa**.

9. **Andropogon incomptus** *W. D. Clayton* in Kew Bull. 17: 467 (1964). *APD acc*

Caespitose perennial up to 2.5 m. high.

Guin.: Madina Tossekré (Oct.) Adam 12528!

10. **Andropogon tenuiberbis** *Hack.* in DC., Monogr. Phan. 6: 435 (1889); F.T.A. 9: 232. *APD acc*

Andropogon calvescens *Stapf* in F.T.A. 9: 232 (1919); F.W.T.A., ed. 1, 2: 586; A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 420.

Leptopogon tenuiberbis (*Hack.*) *Roberty* in Boissiera 9: 203 (1960).

Coarse tufted perennial up to 6 m. high, with sharply keeled and interleaved sheaths; **waterlogged soils**.

Sen.: Kaême (Oct.) Kerharo & Adam 1509. **Guin.:** Baffing R. (Oct.) Pobéguin 1802! **S. L.:** Gberia Timbako (Oct.) Small 465! Dankawali (Nov.) Glanville 323! **Lib.:** Siaple, Sanokwele Dist. (Sept.) Baldwin 9457! **iv. C.:** Bouna to Bondoukou (Oct.) Rose Innes GC 31555! Boundiali to Mankono (Nov.) Aké Assi 8292! **Ghana:** Sawla (Oct.) Rose Innes GC 30667! Bole (Oct.) Rose Innes GC 32406! **N. Nig.:** Ilorin (Oct.) Ward 92! **S. Nig.:** Oyo (Oct., Nov.) Jackson 2335! 121168! Okigwi (Oct.) Ariwaodu 1408!

Also in the **Congo** and the **Sudan**.

11. *Andropogon curvifolius* W. D. Clayton in Kew Bull. 17: 465 (1964). *APD acc*

Densely tufted perennial about 1 m. high; shallow pockets and clefts in rock outcrops.

Guin.: Macenta (Oct.) Baldwin 9825! **Lib.:** Monrovia (Aug.) Baldwin 9191! Genne-Loffa (Nov.) Baldwin 10081! **Iv. C.:** Dougba (Sept.) Adjanohoun 187a! 188a! Minouré (Oct.) Adjanohoun 364a! Séguéla (Oct.) Aké Assi 6585! Séguéla to Bouaké (Oct.) Adjanohoun 280a! **Ghana:** Krobo hill (Nov.) Rose Innes GC 30861! GC 31153! Wa to Ducie (Nov.) Rose Innes GC 30812! Kwahu Tafo (Dec.) Adams 4931!

12. *Andropogon incanellus* W. D. Clayton in Kew Bull. 17: 466 (1964).

APD: *Synonym of Andropogon africanus Franch.*

Tufted perennial up to 1.5 m. high; seasonally flooded alluvial soils.

U. Volta: Fada N'Gourma (Aug.) Scholz 144! **Ghana:** Yendi (Nov.) Addei SLUS 741! Kete Krachi to Kpandu (Sept.) Rose Innes GC 30416! Dorimon (Oct.) Rose Innes GC 31033! Yapei ferry (Oct.) Rose Innes GC 31118! Lawra Hinds 3750!

13. *Andropogon africanus* Franch. in Bull. Soc. Hist. Nat. Autun 8: 325 (1895); F.T.A. 9: 239; A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 426. *APD acc*

Andropogon linearis Stapf in F.T.A. 9: 239 (1919); F.W.T.A., ed. 1, 2: 588; A. Chev. in Rev. Bot. Appliq. 13: 864; Aké Assi, Contrib. 2: 300.

Andropogon prolixus Stapf (1908).

Anatherum africanum (Franch.) Roberty in Boissiera 9: 207 (1960).

Caespitose perennial 0.6–2 m. high; leaf-sheaths usually glabrous, rarely ciliate at the mouth, but specimens from Bintumane have the upper part of the sheath and lower part of the blade densely pilose; flood plains and swampy soils, less often among rock outcrops.

Maur.: L. Rkiz (Sept.) Sadio 5! 25! **Sen.:** Marais des Bayottes, Casamance (Aug.) Berhaut 6333! **Mali:** Bamako to Sotuba (Sept.) Adam 15327! Ségou (Nov.) Roberty 3344! Nouhoun (Feb.) Davey 420! Diafarabé (Jan.) Demange 1 (1957)! Klela (Oct.) Farrow 66! **Guin.:** Conakry (Oct.) Adam 12609! Lane (Oct.) Adam 12521! Fouta Djallon Chev. 18666! **S. L.:** Bumban (Oct.) Deighton 3278! Mt. Loma (Oct.) Jaeger 7963! Bintumane Peak, 5,000 ft. (Jan., Nov.) T. S. Jones 151! Nichols 4! Glanville 334! **Iv. C.:** Toumodi to Yamoussokro (Oct.) Adjanohoun 326a! N. Toumodi (Oct.) Adjanohoun 345a! Zuenoula (Oct.) Adjanohoun 310a! Fétékro to Bassawa (Oct.) Adjanohoun 284a! Bouna to Bondoukou (Oct.) Rose Innes GC 31556! **U. Volta:** Bobo-Dioulasso (Sept.) Adam 15091! Gaoua (Oct.) Rose Innes GC 31502! **Ghana:** Chache, Black Volta R. (Oct.) Rose Innes GC 30660! Wa to Sawla (Oct.) Rose Innes GC 31022! Wa to Lawra (Sept.) Hall 608! Tamale to Salaga (Aug.) Rose Innes GC 31874! **N. Nig.:** Badeggi (Sept.) Clayton 327! Vodni, Panshin Div. Saunders 31! 44! Jos Plateau (Sept.) Lely P758! **S. Nig.:** Ado Rock, Oyo (Oct.) Savory & Keay FHI 25299! Iseyin (Oct.) Jackson 2362! Stanfield!

Through the Congos to Zambia and **Angola**; also in **Kenya**.

14. *Andropogon fastigiatus* Sw. Prodr. Veg. Ind. Occ. 26 (1788).

APD: *Synonym of Diectomis fastigiata (Sw.) P. Beauv.*

Diectomis fastigiata (Sw.) Kunth in Humb. & Bonpl., Nov. Gen. & Sp. 1: 193 (1816); F.T.A. 9: 207; F.W.T.A., ed. 1, 2: 585; A. Chev. in Rev. Bot. Appliq. 13: 863; Berhaut, Fl. Sén. ed. 2, 422.

Cymbachne fastigiata (Sw.) Roberty in Boissiera 9: 255 (1960).

Annual, up to about 1 m. high, with conspicuous purplish papery pedicelled spikelets; shallow or sandy soils, and dry fallow land.

Maur.: 15°40'N, 9°30'W. Rossetti 61/298! **Sen.:** Richard-Toll (Oct.) Berhaut 2741! **Mali:** Bore (Nov.) Demange 2 (1957)! Dioura (Sept.) Farrow 101! **Guin.:** Kindia Jac.-Fél. 214! Mamou (Nov.) Chev. 34600bis! Dalaba (Oct.) Adames 393! Puta (Jan.) Langdale-Brown 2564! Baffing R. (Nov.) Pobéguin 1814! **S. L.:** Russell (Dec.) Deighton 3284! Mussia (Dec.) Deighton 4441! Kasona (Nov.) Glanville 331! Lengekoro (Dec.) Deighton 5716! **Iv. C.:** Bouaké (Nov.) Leeuwenberg 2088! Fétékro to Bassawa (Oct.) Adjanohoun 283a! Bango to Kiri (Sept.) Chev. 24876! **U. Volta:** Baoulé (Oct.) Kmoch 125! Bobo-Dioulasso (Oct.) Kmoch 141! Koechlin 6946! 6968! Fada N'Gourma (Aug.) Scholz 145! **Ghana:** Sunyani to Wenchi (Dec.) Adams 5241! Seripe to Dokrupe (Oct.) Ankrah GC 20437! Tamale (Nov.) Williams 1009! Chache, Black Volta R. (Oct.) Rose Innes GC 30658! Kugri Hill (Oct.) Ankrah GC 20294! **Togo Rep.:** Atacora Mt. Pass (Oct.) Rose Innes GC 31398! Sansanné Mango to Dapaneo (Oct.) Rose Innes GC 31429! **Dah.:** (Aug.) Poisson! Cotonou to Allada (Oct.) Risopoulos 1235! Boukombe (Nov.) Risopaulos 1262! **Niger:** Niamey (Oct.) Hagerup 500! Tahoua (Sept.) Koechlin 6629! Toukounous (Sept.) Koechlin 6563! 6909! **N. Nig.:** Okene (Nov.) Keay FHI 28084! Katsina (Oct.) Clayton 1337! Kaiama

(Oct.) Ward 32! Abinsi (Dec.) Dalz. 894! Samaru (Oct.) Thatcher S503! **S. Nig.:** Ibadan (Nov.) Keay FHI 28126! Olokemeji (Nov.) Onochie FHI 8151! Onitsha (Dec.) Killick 92! Udi (Dec.) Onyeagocha FHI 7776! Abakaliki Baldwin 13809!

Throughout the tropics.

15. *Andropogon pseudapricus* Stapf in F.T.A. 9: 242 (1919); A. Chev. in Rev. Bot. Appliq. 13: 864; Berhaut, Fl. Sén. ed. 2, 425. *APD acc*

***Andropogon apricus* var. *africanus* Hack.** in DC., Monogr. Phan. 6: 457 (1889); Chev. Bot. 716.

Erect annual, 60–120 cm. high; **shallow or sandy soil, common on fallow land.**

Sen.: Vélingara to Goloumbo (Oct.) Adam 18611! Kaolack (Mar.) Chev. 28499! Tambacounda (Oct., Nov.) Berhaut 1761! Adam 12719! Bargny (Oct.) Berhaut 2720! **Gam.:** Saunders 77! Hayes 584! Brooks 11! McCarthy Is., Gambia R. (Jan.) Dalz. 8414! Fulladu Frith 149! **Mali:** Kankan Bardau 24! Bamako Adam 11241! Nyamina to Koulikoro (Oct.) Chev. 2347! Ségou (Oct.) Rogeon 248! Méma (Oct.) Vintrebert 11/1957! **Port. G.:** Boruntuma (Dec.) Pereira & Correia 2177! Farim (Dec.) Pereira 1039! **Guin.:** Kindia Jac.-Fél. 213! Mamou (Nov.) Chev. 34600! Bafing (Oct.) Adam 12664! Koundara (Oct.) Adam 12712! Kouroussa (Sept.) Pobéguin 516! **S. L.:** Freetown (Dec.) Deighton 797! Hill Station to Regent (Oct.) Deighton 2180! Mateboi (Nov.) Jordan 844! Rokupr (Dec.) Jordan 712! Musaia (Dec.) Deighton 4442! **U. Volta:** Samandeni (Oct.) Kmoch 162! Black Volta (Oct.) Kmoch 127! Bobo-Dioulasso (Oct.) Kmoch 142! Leo to Ouassa (Oct.) Rose Innes GC 31508! Leo to Po (Oct.) Rose Innes GC 31080! **Iv. C.:** Boundiali (Oct.) Boudet 3303! **Ghana:** Yendi to Kete Krachi (Oct.) Ankrah GC 20415! Tamale (Nov.) Williams 1016! Mirigu (Oct.) Vigne FH 4647! Bawku to Bolgatanga (Oct.) Rose Innes GC 31450! Bolgatanga to Navrongo (Oct.) Rose Innes GC 31098! **Togo Rep.:** Sansanné Mango to Dapango (Oct.) Rose Innes GC 31436! **Dah.:** Boukombe (Nov.) Risopoulos 1252! **N. Nig.:** Okene (Oct.) Ward L148! Kaiama (Oct.) Ward 24! Anara F.R., Zaria Prov. (Oct.) Keay FHI 5440! Sokoto (Oct.) Dalz. 490! Maiduguri, Bornu Prov. (Oct.) Johnston N38! **S. Nig.:** Ago Are F.R. (Nov.) Keay FHI 37696!

Also in the **Bagirmi region, Chad**, and has been found in **Mexico** and **Brazil**. (See Useful Plants.)

16. *Andropogon ascinodis* C. B. Cl. in J. Linn. Soc. 25: 87 (1889).

APD: Synonym of Andropogon chinensis (Nees) Merr.

***Andropogon apricus* var. *indicus* Hack.** in DC., Monogr. Phan. 6: 457 (1889).

Coarse tufted perennial up to 1.5 m. high, inflorescence less dense than the preceding species; **shallow stony soils and old fallow land.**

Sen.: 4 km. N. of Guinea frontier (Oct.) Boudet 4193. Kanéméré (Sept.) Fotius K464. (fide Lebrun in Bull. Soc. Bot. Fr. 116: 257). **Guin.:** Mamai (Nov.) Chev. 34867bis! **S. L.:** Kasanko (Oct.) Jordan 646! Robumbe (Oct.) Jordan 801! Mange to Kambia (Oct.) Adames 259! **Iv. C.:** Béréby (Nov.) Oldeman 503! Toumodi (Aug.) Boughey GC 18542! Boka (Oct.) Boudet 3052! Vavoua to Séguéla (Oct.) Adjanohoun 405a! **U. Volta:** Gaoua to Batié (Oct.) Rose Innes GC 31523! Samandeni (Oct.) Kmoch 132! Bobo-Dioulasso (Oct.) Kmoch 115! Leo to Ouassa (Oct.) Rose Innes GC 31501! Tondoura (Oct.) Scholz 27! **Ghana:** Nungua (Nov.) Ankrah GC 20328! Dabala junction, Sogakope to Denu (Nov.) Ankrah GC 20515! Bole (Oct.) Rose Innes GC 30661! Kintampo to Tamale (Oct.) Rose Innes GC 31121! Zawse Dam (Sept.) Ankrah GC 20289! **Togo Rep.:** Lama Kara to Sokode (Oct.) Rose Innes GC 31644! **Dah.:** Parakou (Nov.) Risopoulos 1286! **N. Nig.:** Ilorin (Oct.) Ward 38! Kaiama (Oct.) Ward 25! Middle Belt, Niger Prov. (Dec.) Hubbard S576! Zaria (Oct.) Keay FHI 21422! Kangimi, Anara F.R. (Oct.) Keay FHI 5483! **S. Nig.:** Ago Are F.R., Oyo (Nov.) Keay FHI 37684! 37688! Igbete (Nov.) Gledhill 714!

Also in **Congo** and **Rhodesia**, and in **India, Burma** and **Thailand**.

[Closely allied to *A. angustatus* (Presl) Steud. of tropical America, which differs in having less hairy racemes and 1-awned pedicelled spikelets.]

17. *Andropogon ivorensis* Adjanohoun & Clayton in Adansonia 3: 401 (1963). *APD acc*

Perennial up to nearly 2 m. high.

Mali: Sikasso, Chutes du Farako (Sept.) Demange 2736. **Iv. C.:** Kongasso (Oct.) Adjanohoun 388a! Samofigila (Oct.) Boudet 3319! **Togo Rep.:** Atakpamé to Sokode (Oct.) Rose Innes GC 31385!

18. *Andropogon schirensis* Hochst. ex A. Rich. Tent. Fl. Abyss. 2: 456 (1851); F.T.A. 9: 246; Chev. Bot. 719, and in Rev. Bot. Appliq. 13: 866; Berhaut, Fl. Sén. ed. 2, 426. *APD acc*

Erect tufted perennial up to 2 m. high; **particularly on shallow soils over rock or ironstone.**

Sen.: Kanéméré (July) Fotius K321. (fide Lebrun in Bull. Soc. Bot. Fr. 116: 257.) **Guin.:** Timbo (Oct.) Pobéguin 1780! Soumbalako to Boulivel, Fouta Djallon Chev. 18645! Kouroussa (Aug., Sept.) Pobéguin 503! 509! **S. L.:** Yonibana (Oct.) Jordan 591! Mamalia (Nov.) Thomas 4342! Bubuya (Sept.) Jordan 349! Bintumane (Nov.) Glanville 333! Musaia (Dec.) Deighton 4519! **Iv. C.:** Singrobo (Oct.) Adjanohoun 317a! 338a! Ferkessédougou (Sept.) Aké Assi 6302! Nimba Mts. (Aug.) Boughey GC 18070! Tehini (Aug.) de Wilde 802! **U. Volta:** Batié to Kalamon (Sept.) Aké Assi 6488! Gaoua to Batié (Oct.) Rose Innes GC 31522! Diebougou to Ouassa (Oct.) Rose Innes GC 31513! Ouassa to Nandom (Oct.) Rose Innes GC 81507! Tondoura (Oct.) Scholz 12a! **Ghana:** Accra to Kpong (Nov.) Rose Innes GC 31649! Amedzofe (Sept.) Ankrah GC 20221! Wenchu to Bole (Sept.) Rose Innes GC 30155! Attebubu to Ejura (Oct.) Rose Innes GC 30591! Gambaga (Oct.) Vigne FH 4634! **Togo Rep.:** Badou to Atakpamé (Sept.) Rose Innes GC 31350! Sokode to Atakpame (Oct.) Rose Innes GC 31381! **Dah.:** Ina to Bembereke (Sept.) Risopoulos 1201! **N. Nig.:** Bonu, Gwari (Sept.) Onochie FHI 18282! Wuya Ferry, Kaduna R. (Sept.) Clayton 368! Abinsi (Sept.) Dalz. 906! Gindiri, Jos Plateau (Oct.) Hepper 1138! Shika, Zaria (Oct.) Clayton 1330! **S. Nig.:** Lagos (Feb.) W. MacGregor 153! Iseyin (Oct.) Jackson 2366! Ago-Are F.R. (Oct.) Sofoluwe FHI 38183! Enugu (Sept.) Jones FHI 6749! Ogoja Prov. Rosevear 3/80a! **W. Cam.:** Bambui (Dec.) Pedder 2! Bafut-Ngemba F.R. (Feb.) Hepper 2207! Wum area (Nov.) Brunt 881!

Throughout tropical and S. Africa. (See Useful Plants.)

19. *Andropogon dummeri* Stapf in F.T.A. 9: 248 (1919).

APD: *Synonym of Andropogon schirensis Hochst. ex A. Rich.*

Densely tufted perennial up to 1 m. high, coated at the base with persistent fibrous sheaths.

S. L.: Bintumane (Oct.) Jaeger 7894! Loma Mts. (Nov.) Morton SL 2671! **W. Cam.:** Cam. Mt., 7,000–9,000 ft. (Jan.–Dec.) Mildbr. 10857! Hinds C53! Maitland 943! Bafut-Ngemba F.R., 7,050 ft. (July) Brunt 776! Bambui (Dec.) Boughey GC 10384!

Also in **Ethiopia**, **Kenya**, **Uganda** and **Tanzania**.

20. *Andropogon perligulatus* Stapf in Kew Bull. 1908: 410; F.T.A. 9: 250; A. Chev. in Rev. Bot. Appliq. 13: 866. *APD acc*

Erect perennial 1.2–1.8 m. high; anthers red; **swampy soils**.

Sen.: Dinedéfelo (Nov.) Adam 20002! **Mali:** Duong 1260! Bamako (Sept.) Duong! Adam 15313! **Guin.:** Tossékéré (Oct.) Adam 12538! 12738! Boumalol, Fouta Djallon (Oct.) Adam 12563! Timbo (Oct.) Pobéguin 1776! Fouta Djallon (Dec.) Jac.-Fél. 7439! **S. L.:** Waterloo (Sept.) Melville & Hooker 473! Materboi (Oct., Nov.) Glanville 78! Jordan 833! Sasa (Sept.) Jordan 336! Batkanu (Nov.) Jordan 847! **Iv. C.:** Singrobo (Oct.) Adjanohoun 318a! Bocanda (June) Adjanohoun 190a! Bouna to Batié (Oct.) Rose Innes GC 31542! **U. Volta:** Bobo-Dioulasso (Sept.) Adam 15089! Prata (Nov.) Scholz 185! **Ghana:** Togo Plateau F.R. (Sept.) St. Clair-Thompton 1507! Mampong Scarp (Nov.) Rose Innes GC 30866! Bolgatanga to Tamale (Oct.) Rose Innes GC 31115! Tumu to Walembele (Oct.) Ankrah GC 20473! Bolgatanga to Bawku (Oct.) Rose Innes GC 30504! **Togo Rep.:** Misahöhe Baumann 318! Dapango to Sansanné Mango (Oct.) Rose Innes GC 31435! **Dah.:** Sémé (Feb.) Raynal 13541! **N. Nig.:** Maska, Katsina Prov. (Nov.) Thatcher S508! Minna (Jan.) Keay FHI 37316! Wuya Ferry (Sept.) Clayton 369! R. Bahago (Oct.) Keay FHI 5444! Abinsi Dalz. 906a!

21. *Andropogon canaliculatus* Schumacher. Beskr. Guin. Pl. 52 (1827); F.T.A. 9: 251; Chev. Bot. 716, and in Rev. Bot. Appliq. 13: 866; Berhaut, Fl. Sén., ed. 2, 425; Aké Assi, Contrib. 2: 299; incl. var. *fastigians* Stapf in F.T.A. 9: 252 (1919). *APD acc*

Andropogon eucnemis Trin. (1832).

Andropogon macleodiae Stapf in F.T.A. 9: 256 (1919); F.W.T.A., ed. 1, 2: 588 (this is a rare aberrant form with solitary racemes).

Tufted perennial up to nearly 2 m. high; anthers yellow; **swampy soils**.

Mali: Diafarabé (Sept.) Lean 101! Dari (Sept.) Farrow 72! **Guin.:** Timbo (Oct.) Pobéguin 1776! Kouroussa (Jan.) Pobéguin 513! San (Sept.) Chev. 2349! **Iv. C.:** Bondoukou to Bouna (Oct.) Rose Innes GC 31560! Singrobo (Oct.) Adjanohoun 341a! Bouaké (Sept.) Oldeman 408! **U. Volta:** Tondoura (Oct.) Scholz 78! **Ghana:** Achimota (May) Irvine 1632! Kpong (Dec.) Gyadu GC 20524! Agomeda to Somanya (Nov.) Adams 4416! Ekumdipe Drift, Daka R. (Oct.) Ankrah GC 20403! Pong Tamale (July) Williams 838! **Togo Rep.:** Sokode to Atakpamé (Oct.) Rose Innes GC 31368! **N. Nig.:** Ajaokuta (Aug.) Ward L139! Badeggi (Sept.) Clayton 306!

Extends southward to Malawi.

22. *Andropogon tectorum* Schum. & Thonn. Beskr. Guin. Pl. 49 (1827); F.T.A. 9: 257; Chev. Bot. 720, and in Rev. Bot. Appliq. 13: 868; Berhaut, Fl. Sén. ed. 2, 425; incl. var. *falsopetiolatus* Reznik

(1933), and var. *acutatus* Reznik (1933). *APD acc*

Andropogon spectabilis K. Schum. (1897).

Andropogon tenuiculmis Reznik in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 495 (1933); A. Chev. in Rev. Bot. Appliq. 13: 870.

Up to about 3 m. high with cane-like culms, often supported by prop roots, and well-developed false petioles; in shade of trees.

Sen.: Bakor (Oct.) Adam 18493! 18496! **Mali:** Sikasso (Sept.) Adam 15465! **Port. G.:** Teixeira Pinto (Dec.) Raimundo & Guerra 550! Boruntuma (Dec.) Pereira & Correia 2329! Farim (Jan.) Pereira 1280! **Guin.:** Timbo (Oct.) Pobéguin 1784! 1809! Mali (Nov.) Chev. 34879! Kindia Jac.-Fél. 221! Mt. Koiré (Sept.) Baldwin 13281! Friguiagbé (Dec.) Chillou 1057! **S. L.:** Freetown (Feb., Mar.) Johnston 58! Dawe 687! New England (Dec.) Small 809! Kambia (Dec.) Deighton 856! Siemamaia (Mar.) Deighton 4602! **Lib.:** Sanokwele (Jan.) Baldwin 14059! Bilimu Mt. (Dec.) Harley 1543! 1622! Nimba (Dec.) Adam 20214! **Iv. C.:** Bouaké (Aug.) Pitot! Daloa to Abidjan (Dec.) Boughey 599! Fétékro to Bassawa (Oct.) Adjanohoun 293a! Haut Sassandra (Dec.) Portères 438! **U. Volta:** Samandeni (Oct.) Kmoch 135! 167! Touroukoro (Nov.) Scholz 23a! **Ghana:** Amoma (Jan.) Vigne FH 3551! Gambaga to Bawku (Oct.) Rose Innes GC 30270! Seripe to Dokrupe (Oct.) Ankrah GC 20434! Tamale to Kintampo (Oct.) Rose Innes GC 31132! Tumu to Leo (Oct.) Ankrah GC 20468! **Togo Rep.:** Baumann 467! Büttner 301! Misahöhe (Nov.) Mildbr. 7208! **Dah.:** Cotonou (Nov.) Clayton 398! Parakou (Nov.) Risopoulos 1293! **N. Nig.:** Lokoja Dalz. 206! Jagindi (Nov.) Keay & Onochie FHI 21718! Kontagora (Dec.) Hubbard S579! Makwando, Niger Prov. (Nov.) Ayuba 70! **S. Nig.:** Lagos (Nov.) Dalz. 1310! Ibadan (Nov.) Meikle 645! Idanre (Jan.) Brenan 8645! Enugu (Nov.) Jones FHI 6809! Port Harcourt (Dec.) Maitland 714! **W. Cam.:** Bambuko F.R. (Nov.) Argent 977! Munkep (Jan.) Brunt 932!

Also in **C. African Republic.** (See Useful Plants.)

23. *Andropogon macrophyllus* Stapf in F.T.A. 9: 264 (1919); A. Chev. in Rev. Bot. Appliq. 13: 868; incl. var. *pilosus* Reznik (1933). *APD acc*

Andropogon gabonensis of F.W.T.A., ed. 1, 2: 587, not of Stapf.

A robust grass up to 3·5 m. high, with broad coarse leaf-blades.

Guin.: Filicounji (Oct.) Adam 12592! Nimba (Feb.) Schnell 4260! **S. L.:** Musaia (Dec.) Deighton 4526! 4527! Newton (Nov.) Deighton 1469! Kambia (Nov.) Jordan 686! 687! **Lib.:** Nimba (Apr., Oct., Dec.) Harley 2212! Adam 16469! Adames 699! **Iv. C.:** Bondoukou to Bouna (Oct.) Rose Innes GC 31558! Fétékro (Oct.) Adjanohoun 277a! Sipilou Mt. (Mar.) Adjanohoun 691a! Bouaflé (Sept.) Aké Assi 6534! Tiebissou to Boka (Oct.) Boudet 3038! **Ghana:** Sekodumasi (Oct.) Vigne FH 3390! Kintampo to Ejura (Oct.) Rose Innes GC 30512! Tamale to Kintampo (Oct.) Rose Innes GC 31133! Sampa to Wenché (Oct.) Rose Innes GC 31569! **Togo Rep.:** Badou to Atakpamé (Sept.) Rose Innes GC 31344! **N. Nig.:** Manchok (Oct.) Magaji & Tuley 1767! **S. Nig.:** Lagos W. MacGregor 248! Enugu (Sept.) Jones 6750! **F. Po:** Ureka (Feb.) Guinea 2453!

24. *Andropogon auriculatus* Stapf in F.T.A. 9: 258 (1919); A. Chev. in Rev. Bot. Appliq. 13: 868; Berhaut, Fl. Sén. ed. 2, 425; Aké Assi, Contrib. 2: 299. *APD acc*

Andropogon guineensis Steud., Syn. Pl. Glum. 1: 371 (1854), not of Schumach. (1827).

Caespitose perennial up to 1·5 m. high; sandy beaches.

Sen.: Farmar 45! 157! Niokolo-Koba (June) Adam 14203! Dionouar (Dec.) Adam 18916! **Gam.:** Boteler! **Port. G.:** Bedanda (Jan.) Pereira & Correia 2780! Buba (Jan.) Pereira & Correia 2944! **Guin.:** Koba (Nov.) Jac.-Fél. 7272! **S. L.:** Yoni (Mar.) Deighton 2480! Kitchom (Jan.) Deighton 1009! Hamilton (Dec.) Gledhill 120! Mama beach (Dec.) Deighton 3321! Rokupr (Dec.) Jordan 711! **Iv. C.:** Abouabou (Mar.) Raynal 13647! **S. Nig.:** Nun R. (Sept.) Mann 533! Opobo (Oct.) Jeffreys 9! Calabar (Mar.) Brenan 9212! Brass (Dec.) Daramola FHI 43287! Obudu Plateau (Feb.) Tuley 491!

Also in **E. Cameroun.**

25. *Andropogon chevalieri* Reznik in Bull. Mus. Hist. Nat. Paris, sér. 2, 5: 497 (1933); A. Chev. in Rev. Bot. Appliq. 13: 870. *APD acc*

Andropogon felicis Reznik l.c. 499; Berhaut, Fl. Sén. ed. 2, 425.

Andropogon pseudauriculatus Mimeurin Bull. Mus. Hist. Nat. 22: 128 (1950).

Annual 2–2·5 m. high, apparently intergrading with the preceding species; spikelet length very variable, even in the same inflorescence; dry stony soils.

Sen.: Niokolo-Koba (Oct.) Adam 15600! 15892! **Mali:** Bamako (June, Sept.) Adam 15036! 15038! 15310! Koulouba (Sept.) Duong! Vuillet 461! **Port. G.:** Bissau (Nov.) Raimundo & Guerra 17! Mansoa (Nov.) Pereira & Correia 1971! **Guin.:** Mali (Nov.) Chev. 37878! Kindia Jac.-Fél. 244! Sériba (Oct.) Pitot!

26. *Andropogon pteropholis* W. D. Clayton in Hook., Ic. Pl. 37: t. 3644 (1967). *APD acc*

Perennial up to nearly 2 m. high; **roadsides and stony soils**.

Ghana: Gambaga to Bawku (Oct.) Rose Innes GC 30268! Walewale to Gambaga (Oct.) Rose Innes GC 31107! Nakpanduri (Oct.) Yamoah SLUS 514!

27. *Andropogon pinguipes* Stapf in Kew Bull. 1908: 411; F.T.A. 9: 254; A. Chev. in Rev. Bot. Appliq. 13: 866; Berhaut, Fl. Sén. ed. 2, 426. *APD acc*

Annual, 0.3–1.5 m. high.

Sen.: M'Bidjem (Aug.) Thierry 92! Dakar (Oct., Nov.) Adam 15474! 17802! Niokolo-Koba (Oct.) Adam 15975! Iles du Saloum (Dec.) Adam 18927!

28. *Andropogon gabonensis* Stapf in Journ. de Bot. sér. 2, 2: 207 (1909); F.T.A. 9: 260. *APD acc*

Robust perennial up to about 3.5 m. high.

W. Cam.: Bamenda (Jan., Dec.) Migeod 321! Agric. Off. 49! Ndop (Dec.) Boughey GC 10464! Nyen (May) Brunt 1128! 1130!

Extends through the Congos, and into **Angola**.

29. *Andropogon gayanus* Kunth Enum. Pl. 1: 491 (1833); F.T.A. 9: 261; Chev. Bot. 717, and in Rev. Bot. Appliq. 13: 866. *APD acc***29a. *Andropogon gayanus* var. *gayanus***—(as var. *genuinus*) Hack. in DC., Monogr. Phan. 6: 447 (1889); Berhaut, Fl. Sén. ed. 2, 425. *APD acc*

***Andropogon infrasulcatus* Reznik** in Bull. Mus. Hist. Nat. Paris, ser. 2, 5: 496 (1933); A. Chev. in Rev. Bot. Appliq. 13: 870.
***Andropogon reconditus* Steud.**, Syn. Pl. Glum. 1: 386 (1854).

A tall perennial with a somewhat glaucous appearance and a conspicuously fastigiate habit; **seasonal swamps and flood plains**.

Maur.: L. Rkiz (Oct.) Sadio 120! Rosso to Nouakchott (Oct.) Adam 21757! **Sen.:** Roger 29! Fatik to Kaolak (Oct.) Chev. 33938! Ouassoudou (Nov.) Berhaut 2719! Niokolo-Koba (Oct.) Adam 15669! Gouloumbou, Casamance (Oct.) Adam 18622! **Mali:** Rogeon 220! San (Sept.) Chev. 2361! Timbuktu Hagerup 109! Macina (Nov.) Duong 2025! Saraféré (July) Lean 60! **U. Volta:** Ouassa to Diebougou (Oct.) Rose Innes GC 31510! Pendjari R. (Aug.) Scholz 141! Samandeni (Oct.) Kmoch 171! Tindangou to Konpienga (Aug.) Scholz 143! **Ghana:** Kpong (Sept.) Rose Innes GC 30382! Kpandu to Kete Krachi (Sept.) Rose Innes GC 30408! Yendi to Gambaga (Sept.) Ankrah GC 20260! Tamale to Sawla (Oct.) Rose Innes GC 30674! Kpevi to Amedzofe (Sept.) Rose Innes GC 30900! **Togo Rep.:** Sansanné Mango to Kande (Oct.) Rose Innes GC 31415! Palime Stage 85! **Dah.:** Cotonou (July) Chev. 4471! Porto Novo (Sept.) Adjanohoun 397! **N. Nig.:** Ajaokuta (Aug.) Ward L134! Ibu T. Vogel 32! Nupe Barter 1383! Wuya, Bida (Aug.) Sawyer K30! Badeggi (Sept.) Clayton 298! **S. Nig.:** Nun R. T. Vogel 7! Aguku Thomas 963! Orle F.R. (Aug.) Onochie FHI 33281! Yenagoa (Sept.) Tuley 888!

Also in the **Sudan**. (See Useful Plants.)

29b. *Andropogon gayanus* var. *tridentatus* Hack. in DC., Monogr. Phan. 6: 449 (1889). *APD acc*

***Andropogon tridentatus* Hochst.** in Flora 27: 246 (1844), not of Roxb. (1820).
***Andropogon tomentellus* Steud.**, Syn. Pl. Glum. 1: 371 (1854).

Tufted perennial 1.2–1.8 m. high, with occasional solitary racemes. This variety is remarkable in that it contains a high proportion of diploids ($2n = 20$), whereas the other varieties are tetraploid.

Maur.: Néma Rossetti 61/169! **Sen.:** Dakar (May) Baldwin 5732! Ile de la Madeleine, Dakar (Nov.) Adam 1777! M'Bambey (Mar.) Pitot! Almadies (Nov.) Hb. I.F.A.N.! **Gam.:** Karawan (Jan.) Dalz. 8413! **Mali:** Dorey (Aug.) Rossetti 59/126! Kidal (Sept.) Rossetti 59/151! Dioura (Jan., Feb.) Davey 214! 253! Mederdra (Sept.) Popov 125! **Ghana:** Gambaga (Apr.) Morton 9006! **Togo Rep.:** Sansanné Mango to Dapango (Oct.) Rose Innes GC 31427! **Niger:** Dogondoutchi White 41! **N. Nig.:** Bimasa Bakusa Tureta N.A. F.R. (Nov.) Latilo FHI 43790! Zurmi, Sokoto Prov. (Apr.) Keay FHI 16166! Kano (Dec.) Meikle 806! Kingowa (Oct.) Golding 28! Kauwa (Sept.) Gwynn 124!

Also in the **Sudan**.

29c. *Andropogon gayanus* var. *squamulatus* (Hochst.) Stapf in F.T.A. 9: 263 (1919); Chev. Bot. 718;

Berhaut, Fl. Sén. ed. 2, 425; De Miré & Gillet in J. Agric. Trop. 3: 725; Aké Assi, Contrib. 2: 300.

APD: Synonym of Andropogon gayanus var. polycladus (Hack.) Clayton

Andropogon squamulatus Hochst. in Flora 27: 244 (1844).

Tufted perennial up to 3 m. high; a common savanna grass.

Maur.: L. Rkiz (Sept.) Sadio 119! **Sen.:** Niokolo-Koba (Oct.) Adam 15761! 15923! 15927! Gouloumbou (Oct.) Adam 12717! Richard-Toll (Oct.) Martine 18! **Gam.:** Saunders 73! **Mali:** Gao (Sept.) Hagerup 355! Macina (Nov.) Duong 1285! Ségou (Sept.) Roberty 3929! Kouli (Nov.) Farrow 110! Dari (Sept.) Farrow 77! **Guin.:** Bafing (Oct.) Adam 12660! Konkouré (Mar.) Pitot 230! **S. L.:** Sc. Elliot 4261! 5932! Dodo (Apr.) Deighton 3920! **Lib.:** Nimba (Dec.) Adam 20208! **U. Volta:** Zoaga (Oct.) Scholz 157! Zabré to Ziou (Oct.) Scholz 154! Po (Oct.) Rose Innes GC 31467! **Ghana:** Nungua, Accra plains (Sept.) Ankrah GC 20057! Kpedsu (Jan.) Howes 1119! Ejura to Salaga (Oct.) Ankrah GC 20305! Bolgatanga to Tamale (Oct.) Rose Innes GC 30234! Bawku (Oct.) Ankrah GC 20295! **Togo Rep.:** Palime Stage 82! Lama-Kara (Apr.) Aké Assi 10523! **Dah.:** Poisson! Cotonou to Allada (Oct.) Risopoulos 1206! **N. Nig.:** Okene (Oct.) Ward L149! Lokoja (Oct.) Dalz. 288! Zaria Taylor 16! Gindiri, Plateau Prov. (Oct.) Hepper 1142! Hadejia (Dec.) Clayton 466! Gangumi, Gashaka (Nov.) Latilo & Daramola FHI 28774! Gurum, Vogel Peak (Nov.) Hepper 1324! Donga plain (Feb.) Brunt 1009! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8113! Odinjo (Jan.) Swarbrick 2968! Port Harcourt to Ogoni (July) Tuley 778! Obudu Plateau (Nov.) Tuley 974! Ogoja Rosevear 11/30a! **W. Cam.:** Bali to Bamenda (Mar.) Brunt 1066!

Extending east to the **Sudan**, and south to S. Africa.

29d. *Andropogon gayanus var. bisquamulatus (Hochst.) Hack.* in DC., Monogr. Phan. 6: 448 (1889); Berhaut, Fl. Sén. ed. 2, 425. *APD acc*

Andropogon bisquamulatus Hochst. in Flora 27: 245 (1844); incl. var. argyrophoeus Stapf in Mém. Soc. Bot. Fr. 2, 8: 102 (1907); Chev. Bot. 717.

Tufted perennial up to 3 m. high; savanna.

Maur.: L. Rkiz (Sept.) Sadio 15! 22! **Sen.:** Mankono-Ba, Casamance (Oct.) Adam 18467! **Gam.:** Dave 10! Yundum Corbett 10! **Mali:** Ras el Mar (Oct.) Rossetti 59/211! Koulouba (Jan.) Duong! Balasoko (Nov.) Duong! **Port. G.:** Mansoa (Nov.) Pereira & Correia 1972! **Guin.:** Abudia Krause! Kouroussa (Dec.) Pobéguin 540! Kissidougou Martine 228! **Iv. C.:** Abidjan (June) Adjanooun 423a! Bouaké (Dec.) Pitot! **U. Volta:** Bobo-Dioulasso (Oct.) Kmoch 148! Samandeni (Oct.) Kmoch 153! 180! Ouagadougou (Oct.) Scholz 24a! **Ghana:** Accra plains (Oct.) Baldwin 13429! Chindiri (Nov.) Thorold 309! Ejura (Nov.) Vigne FH 3468! Kjura to Yeji (Nov.) Clayton 386! Pong Tamale (Nov.) Williams 851! **Dah.:** Parakou (Nov.) Risopoulos 1287! **N. Nig.:** Ilorin (Dec.) Keay FHI 37295! Minna (Dec.) Keay FHI 37300! Toro, Plateau Prov. (Nov.) Semple 166! Zaria (Oct.) Thatcher S498! Maiduguri (Oct.) Johnston N33! **S. Nig.:** Abeokuta (Oct.) Onochie FHI 40288! Ago-Are F.R. (Nov.) Keay FHI 37685!

Also in **C. African Rep.** and the **Sudan**.

Imperfectly known species.

Andropogon gambiensis A. Chev. in Rev. Bot. Appliq. 13: 870 (1933).

An inadequately described species from Senegal, of which the type is missing.

Andropogon guineensis Schumach. Beskr. Guin. Pl. 51 (1827).

Cymbachne guineensis (Schumach.) Roberty in Boissiera 9: 244 (1960).

The description suggests *A. gayanus*, but it is not conclusive and I have been unable to trace any authentic specimens.

Andropogon leucostachyus Kunth in Humb. & Bonpl., Nov. Gen. & Sp. 1: 187 (1816); F.W.T.A., ed. 1, 2: 586; A. Chev. in Rev. Bot. Appliq. 13: 866.

A tropical American species recorded from Senegal; probably introduced.

Andropogon sp. **A.** *APD acc*

N. Nig.: mile 69 Yola to Biu (Nov.) Magaji & Tuley 1842!

Apparently an annual form of *A. gayanus* var. *squamulatus*.

Stapf in Hook., Ic. Pl. t. 3093 (1922); Clayton in Kew Bull. 20: 73 (1966).

- 1 Leaf-blades not cordate at the base; pedicelled spikelets 16–25 mm. long, laterally winged towards the tip; sessile spikelets 7–8 mm. long, excluding the pungent callus which is 4–5 mm. long; awn 9–15 cm. long, pubescent; homogamous pairs 3–9 at the base of each raceme [1. grandiflorus](#)
- Leaf-blades cordate and semi-amplexicaul at the base; pedicelled spikelets 9–13 mm. long, wingless; sessile spikelets 6–7 mm. long, with an acute to pungent callus 1–2 mm. long; awn 4–8 cm. long; homogamous pairs 1 at the base of the lower raceme: **2**
- 2 Annual; awn hirtellous to hoary hirsute [2. hagerupii](#)
- Perennial; awn shortly pubescent to hirtellous [3a. amplexens var. catangensis](#)

1. *Diheteropogon grandiflorus* (Hack.) Stapf in Hook., Ic. Pl. t. 3093 (1922). *APD acc*

Andropogon grandiflorus Hack. in Flora 68 127 (1885).

Heteropogon grandiflorus (Hack.) Roberty in Boissiera 9: 137 (1960).

Perennial 1–2 m. high **poor sandy soils in drainage hollows or near streams.**

N. Nig.: Nupe Barter 1373! Chappal Waddi, Mambila (Nov.) Jackson, Magaji & Tuley 2079! **S. Nig.:** Udi, Onitsha Prov. (Sept., Oct.) Jones 6782! Onochie FBI 34114! Enugu (Sept.) Tuley 883!

Extends into the Congo, Tanzania, Zambia, Rhodesia, Malawi and **Angola.**

2. *Diheteropogon hagerupii* Hitchc. in Proc. Biol. Soc. Wash. 43: 89 (1930); A. Chev. in Rev. Bot. Appliq. 13: 870 Lebrun in Bull. Soc. Bot. Fr. 116: 259. *APD acc*

Heteropogon hagerupii (Hitchc.) Roberty in Boissiera 9: 137 (1960).

Annual, 1–1.5 m. high; **dry sandy or gravelly soils.**

Maur.: 16° 40' N, 9° 30' W. Rossetti 91/299! **Sen.:** fide Lebrun l.c. **Mali:** Bara, nr. Ansongo (Sept.) Hagerup 401! Shirat (Nov.) Chev. 33830! Macina Doung! Dioura, Sahel (Sept.) Davey 20! Safoulabé, Goudan Doung! **Guin.:** Gouloumbo to Tambacounda (Oct.) Pitot! Sérība to Koundara (Oct.) Adam 19709! **U. Volta:** Bondoukuy (Sept.) Aké Assi 6405! Black Volta bridge (Sept.) Aké Assi 6467! Sindou (Sept.) Ate Assi 6373! Gaoua to Diebougou (Oct.) Rose Innes GC 31518! Ouassa to Leo (Oct.) Rose Innes GC 31506! **Ghana:** Wa to Dorimon (Oct.) Rose Innes GC 31032! Lawra to Wa (Oct.) Rose Innes GC 32356! **Niger:** Dasso White 19! Dogondoutchi White 37! Zinder (Nov.) Money-Kyrle Fe20! Toukounous Bartha 41! **N. Nig.:** Sokoto Prov. Dalz 489! Bimasa, Sokoto Prov. (Nov.) Latilo FHI 43776! Katsina (Oct.) Clayton 1339! Imam FHI 27805! Katagum Dist. Dalz. 267!

3. *Diheteropogon amplexens* (Nees) W. D. Clayton in Kew Bull. 20: 75 (1966). *APD acc*

Andropogon amplexens Nees, Fl. Afr. Austr. 104 (1841); F.T.A. 9: 243.

Cymbachne amplexens (Nees) Roberty in Boissiera 9: 242 (1960).

3a. *Diheteropogon amplexens* var. *catangensis* (Chiov.) W. D. Clayton l.c. (1966). *APD acc*

Andropogon amplexens var. *catangensis* Chiov. in Ann. Bot. Roma 13: 38 (1914).

A. diversifolius Rendle, Cat. Welw. 2: 148 (1899).

A. amplexens var. **diversifolius** (Rendle) Stapf in F.T.A. 9: 244 (1919); F.W.T.A., ed. 1, 2: 588; A. Chev. in Rev. Bot. Appliq. 13: 864; Berhaut, Fl. Sén. ed. 2, 423.

A. subamplexens Berhaut, Fl. Sén. ed. 2, 424, without latin descr.

Perennial with short scaly rhizomes, 1.2–2.1 m. high; usually glabrous, but occasionally densely pubescent all over; **poor sandy soils, or shallow rocky soils of hill slopes.**

Sen.: Niokolo-Koba (Oct.) Adam 15930! Ziguinchor (Dec.) Berhaut 6685! **Guin.:** Kanea (Oct.) Adam 12623! Kindia Jac.-Fél. 187! Pita (Sept.) Adames 361! Timbo (Oct.) Pobéguin 1779! **Iv. C.:** Odienné (Oct.) Aké Assi 8255! **U. Volta:** Baoulé (Oct.) Kmoch 126! **Ghana:** Bawku to Bolgatanga (Oct.) Rose Innes GC 31447! Gambaga to Bawku (Oct.) Rose Innes GC 30272! Gambaga F.R. (Oct.) Ankrah GC 20269! Salaga to Tamale (Oct.) Rose Innes GC 30312! Banda to Bui (Oct.) Rose Innes GC 31603! **N. Nig.:** Gindiri, Jos Plateau (Oct.) Hepper 1140! Kukakowa (Oct.) De Leeuw 1858! Gombe, Bauchi Prov. (Oct.) Magaji 180!

Extends from the Congo, **Kenya** and Tanzania southwards to the Cape. (See Useful Plants.)

Fourn., Mex. Pl. 2: 51 (1886); F.T.A. 9: 291 (1919); Clayton in Kew Bull., Add. Ser. No. 2 (1969).

- 1 Callus of sessile spikelet broadly rounded, semicircular; spikelets glabrous; raceme-bases unequal, the upper more or less flattened, glabrous, 1.5–3 mm. long [1. *glabriuscula*](#)
- Callus of sessile spikelet acute to pungent, rarely obtuse but then the other characters not as above: **2**
- 2 Upper raceme-base terete or filiform, usually much longer than the lower, glabrous or sometimes softly hirtellous, without an appendage; spatheoles narrow: **3**
- Upper raceme-base flattened, scarcely longer than the lower: **18**
- 3 Spikelets wholly or partly rufously hairy: **4**
- Spikelets white-hairy or glabrous: **9**
- 4 Basal leaf-sheaths densely pubescent to tomentose below: **5**
- Basal leaf-sheaths glabrous: **7**
- 5 Sheath hairs white; callus of sessile spikelets 0.8–1.2 mm. long, acute [2. *nyassae*](#)
- Sheath hairs dark purplish red; callus of sessile spikelets 0.5–0.8 mm. long, obtuse to narrowly truncate at the tip
3. *smithiana* **6**
- [@](#)
- 6 Culms 40–100 cm. high; spikelet indumentum very dense, dark rufous to chocolate coloured [3a. *smithiana* var. *smithiana*](#)
- Culms 150–250 cm. high; spikelet indumentum rufous or fulvous [3b. *smithiana* var. *major*](#)
- 7 Fertile spikelets, or some of them, awnless, 12–19 per raceme-pair [4. *exarmata*](#)
- Fertile spikelets awned: **8**
- 8 Sessile spikelets 3–5 mm. long; upper raceme-base 2–3.5 mm. long, with or without 1 homogamous pair; callus obtuse, 0.2–0.8 mm. long; racemes with (7–)9–14 awns per pair; pedicelled spikelets awnless, rarely mucronate [5. *rufa*](#)
- Sessile spikelets 5.5–7 mm. long; upper raceme-base 3.5–7 mm. long, with 1–2 homogamous pairs; callus acute to pungent, 1–2 mm. long; racemes 4–7-awned per pair; pedicelled spikelet often with an awn-point up to 2 mm. long [6. *poecilotricha*](#)
- 9 Upper raceme with or without 1 homogamous pair at the base: **10**
- Upper raceme with 2 homogamous pairs: **15**
- 10 Plants perennial: **11**
- Plants annual: **13**
- 11 Spikelets glabrous to hispidulous; racemes 2–6-awned per pair; callus linear, 1–2 mm. long; upper raceme-base 1.5–2.5 mm. long, hirtellous; pedicelled spikelets with an awn up to 5 mm. long [7. *finitima*](#)
- Spikelets pubescent to villous: **12**
- 12 Racemes not deflexed [8. *hirta*](#)
- Racemes, or some of them, deflexed at maturity [9. *quarrei*](#)
- 13 Racemes 6–9-awned per pair; column of awn bearing hairs up to 1.5 mm. long; upper raceme-base 2–3 mm. long: **14**
- Racemes 2-awned per pair; awn hirsute with hairs 3–5 mm. long; upper raceme-base 4–7 mm. long .. [12. *barteri*](#)
- 14 Awn 2.5–4 cm. long, pubescent with hairs 0.1–0.5 mm. long; callus 0.8–1.2 mm. long, acute [10. *violascens*](#)
- Awn 5–8 cm. long, hirtellous with hairs 1–1.5 mm. long; callus 1.5–2.5 mm. long, pungent [11. *bagirmica*](#)
- 15 Peduncle with spreading yellow hairs towards the tip; racemes deflexed; awns 3–5 per raceme-pair; pedicelled spikelet with an awn 2–10 mm. long [13. *familiaris*](#)
- Peduncle with or without white hairs towards the tip; racemes not deflexed; pedicelled spikelet with an awnlet up to 5 mm. long; awn hirtellous with hairs 0.7–1.2 mm. long; upper raceme-base typically 4.5–8 mm. long; callus 1.8–3 mm. long: **16**
- 16 Annual; awn 5–7.5 cm. long [14. *figariana*](#)
- Perennial; awn 3–5.5 cm. long [15. *filipendula*](#)
- 17 Spikelets glabrous; racemes 2-awned per pair [15a. var. *filipendula*](#)
- Spikelets white villous; racemes 2–4-awned per pair [15b. var. *pilosa*](#)
- 18 Raceme-bases bearded; 1 pair of homogamous spikelets at base of lower raceme only: **19**
- Raceme-bases glabrous; 2 pairs of homogamous spikelets at the base of both racemes: **27**

- 19 Raceme-bases unappendaged, though sometimes with a scarious rim: 20
 Raceme-bases produced at the insertion of the lowest fertile spikelet into a scarious appendage 0.5–4 mm. long; racemes 2–4-awned per pair: 24
- 20 Pedicelled spikelets glabrous: 21
 Pedicelled spikelets villous; awns 4–7 per raceme-pair: 22
- 21 Spatheoles 0.8–1.8 cm. long, enclosing the racemes; awns 3–5 per raceme-pair, up to 1.6 cm. long; callus almost square, broadly obtuse [16. cymbaria](#)
 Spatheoles 3.5–5 cm. long, the racemes exserted; awns 6–11 per raceme-pair, 2.8–3.4 cm. long; callus oblong to cuneate, subobtuse [17. cyanescens](#)
- 22 Awn 0.7–1.3 cm. long; callus rounded; spatheole 1.2–2.3 cm. long; peduncle 3–13 mm. long; pedicelled spikelet muticous or with an awn-point up to 1 mm. long; culms robust and supported by stilt roots [18. umbrosa](#)
 Awn over 1.5 cm. long; callus cuneate; spatheole 2–4 cm. long; peduncle 10–25 mm. long: 23
- 23 Culms robust, supported by stilt roots; awn 2.2–4 cm. long; pedicelled spikelets usually with a bristle 2–6 mm. long [19. rudis](#)
 Culms slender, without stilt roots, arising in clumps from a short underground rhizome; awn 1.5–2.5 cm. long; pedicelled spikelets with a short awn-point 1–3 mm. long [20. collina](#)
- 24 Annuals; panicle loose and leafy; awn 4–6.5 cm. long; pedicelled spikelet with a bristle 2–10 mm. long: 25
 Perennials: 26
- 25 Awns 2 per raceme-pair; appendage narrowly oblong, 3.5–4 mm. long; sessile spikelet 7.5–10 mm. long [21. niariensis](#)
 Awns 3 per raceme-pair; appendage oblong, 0.5–2 mm. long; sessile spikelet 5–7 mm. long [22. welwitschii](#)
- 26 Pedicel tip with a short obtusely triangular lobe; sessile spikelet 4–6 mm. long, the awn 1–2.5 cm. long; pedicelled spikelet muticous or with a mucro up to 1 mm. long; panicle narrow, dense [23. bracteata](#)
 Pedicel tip drawn out into a subulate tooth 0.2–1.5 mm. long; sessile spikelet 6–10 mm. long, the awn 2.2–5.5 cm. long; pedicelled spikelet with a bristle 1–5 mm. long; panicle loose, often scanty [24. newtonii](#)
- 27 Sessile spikelets awnless [25. mutica](#)
 Sessile spikelets awned: 28
- 28 Perennials: 29
 Annual; awn 7–11 cm. long 30
- 29 Column of awn pubescent with hairs 0.2–0.4(–0.5) mm. long, the awn 2–5.5 cm. long; peduncles 3–15 mm. long; spatheoles 2–4.5 cm. long [26. diplandra](#)
 Column of awn hirtellous with hairs 0.5–1.7 mm. long, the awn 4.5–7.5 cm. long; peduncles 10–35 mm. long; spatheoles 3–7 cm. long [27. subplumosa](#)
- 30 Pedicelled spikelet with an awn 8–20 mm. long; awns 4 per raceme-pair; base of spatheole and supporting ray glabrous, or sometimes bearded at the node [28a. involocrata var. involocrata](#)
 Pedicelled spikelet with an awn 1–5 mm. long; awns 2(–4) per raceme-pair; base of spatheole and supporting ray pilose [28b. involocrata var. breviseta](#)

1. **Hyparrhenia glabriuscula** (*Hochst. ex A. Rich.*) *Anderss. ex Stapf* in F.T.A. 9: 372 (1919); Clayton in Kew Bull., Add. Ser. 2: 47 (1969). *APD acc*

Andropogon glabriusculus *Hochst. ex A. Rich.*, Tent. Fl. Abyss. 2: 468 (1851).

Hyparrhenia amoena *Jac.-Fél.* in J. Agric. Trop. 1: 46 (1954); Berhaut, Fl. Sén. ed. 2, 426.

Tufted perennial 1.2–1.8 m. high, closely resembling *Cymbopogon*; **seasonally swampy soils and river flood plains.**

Sen.: Niokolo-Koba (Sept., Oct.) Adam 15715! 15811! 17147! Kidira (Nov.) Berhaut 1896! **U. Volta:** Prost! Go (Oct.) Scholz 169! 170! Nanguédi (Nov.) Scholz 187! **Ghana:** Han to Tumu (Oct.) Rose Innes GC 32427! Naga to Navrongo (Nov.) Rose Innes GC 32524! Bawku to Bolgatanga (Oct.) Rose Innes GC 31099! Bamboi to Bole (Nov.) Brand SLUS 750! Pong Tamale (Oct.) Rose Innes GC 32429! **N. Nig.:** Biu (Oct.) De Lewis 1314! Buratai (Oct.) De Leeuw 1322! Shendam (Nov.) Clayton 1465! Ningi (Nov.) Magaji & Tuley 1825! Pambegua to Kaduna (Oct.) Oche & Tuley 1701!

Also in **Ethiopia**, **Mozambique** and **Malawi**.

2. **Hyparrhenia nyassae** (*Rendle*) *Stapf* in F.T.A. 9: 313 (1919); Clayton l.c. 58. *APD acc*

Andropogon nyassae *Rendle* in J. Bot. 31: 358 (1893).

A. chrysargyreus (*Stapf*) *Stapf ex A. Chev.*, Sudania 1: 77 (1911).

Cymbopogon chrysargyreus Stapf in Journ. de Bot. sér. 2, 2: 213 (1909).
Hyparrhenia chrysargyrea (Stapf) Stapf in F.T.A. 9: 312 (1919).
Hyparrhenia vulpina Stapf l.c. 310 (1919).
Hyparrhenia vanderystii (De Wild.) Vanderyst (1920).
Hyparrhenia schmidiana A. Camus (1955).

Tufted perennial 0.6–1.5 m. high; in savanna woodland.

Ghana: Accra plains (Nov.) Ankrah GC 20109!

Throughout tropical Africa; also in **Thailand** and **Vietnam**.

3. *Hyparrhenia smithiana* (Hook. f.) Stapf in F.T.A. 9: 314 (1919). *APD acc*

Andropogon smithianus Hook. f. in J. Linn. Soc. Bot. 7: 232 (1864).

3a. *Hyparrhenia smithiana* var. *smithiana*. *APD acc*

Tufted perennial 30–90 cm. high; mountain grasslands.

S. L.: Mt. Loma (July) Jaeger 6975! Bintumane (Jan., July, Nov.) T. S. Jones 116! Bakshi 289! Jaeger 322! Morton SL 2669! **W. Cam.:** Bambui (Dec.) Boughey GC 10752! L. Oku (Jan.) Keay & Lightbody FHI 28499! Bafut-Ngemba F.R. Hepper 2848! Bamenda (Jan.) Migeod 343! Cam. Mt. Mann 1342!

3b. *Hyparrhenia smithiana* var. *major* W. D. Clayton in Kew Bull., Add. Ser. 2: 57 (1969). *APD acc*

Hyparrhenia chrysargyrea of F.W.T.A. ed. 1, 2: 591, of A. Chev. in Rev. Bot. Appliq. 13: 872, and of Aké Assi, Contrib. 2: 301, not of Stapf.

Tufted perennial 1.5–2.4 m. high; lowland savanna.

Sen.: Kédougou (Sept.) Fotius K610! **Guin.:** Timbi Madina (Jan.) Langdale- Brown 2555! Dalaba (Oct.) Adam 12672! **S. L.:** Musaia (Dec.) Deighton 4522! Tingi Mts. (Apr., Dec.) Morton & Gledhill SL 1945! SL 3033! Loma Mts. (Nov.) Morton SL 2558! **iv. C.:** Séguéla (Oct.) Adjanohoun 288a! 319a! Zueuoula to Vavoua (Oct.) Adjanohoun 382a! Asakra (Aug.) Boughey GC 18628! Dabou (Jan.) Adjanohoun & Aké Assi! **U. Volta:** Samandeni (Oct.) Kmoch 164! Diebougou to Ouassa (Oct.) Rose Innes GC 31514! Leo to Po (Oct.) Rose Innes GC 31075! **Ghana:** Wa (Oct.) Rose Innes GC 32385! Bamboi to Bole (Oct.) Rose Innes GC 30646! Salaga to Tamale (Oct.) Rose Innes GC 32440! Gambaga (Oct.) Ankrah GC 20271! Kpong (May) Rose Innes GC 30364! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31349! **N. Nig.:** Zaria (Oct., Nov.) Freeman S170! Thatcher S529! S538! Afaka F.R. Zaria (Oct.) Olorunfemi FHI 55087! Lokoja (Oct.) Dalz! Ayere (Dec.) Clayton 616! **S. Nig.:** Olokemeji (Nov.) Clayton 567! Jackson 7161168! Ago-Are F.R. (Nov.) Keay FHI 37683! Ibadan (May) Townrow 22! Ekpesi (Nov.) Keay FHI 28083!

4. *Hyparrhenia exarmata* (Stapf) Stapf in F.T.A. 9: 308 (1919); A. Chev. in Rev. Bot. Appliq. 13: 872; Clayton l.c. 60. *APD acc*

Cymbopogon exarmatus Stapf in Journ. de Bot. sér. 2, 2: 210 (1909).

Andropogon rufus var. *exarmatus* (Stapf) Stapf ex A. Chev., Sudania 1: 180 (1911).

Perennial, or perhaps sometimes annual, 1.5 m. high; in savanna, often bordering swampy soils.

U. Volta: Bobo-Dioulasso (Oct.) Kmoch 120!

Also in **C. African Rep.**, the **Congo** and **Sudan**.

Care should be taken not to confuse this species with specimens of *H. rufa* in which the awn has been destroyed by the attack of a smut fungus.

5. *Hyparrhenia rufa* (Nees) Stapf in F.T.A. 9: 304 (1919); A. Chev. in Rev. Bot. Appliq. 13: 872; Berhaut, Fl. Sén. ed. 2, 426; Clayton l.c. 60. *APD acc*

Trachypogon rufus Nees, Agrost. Bras. 345 (1829).

Perennial or sometimes annual, 0.3–2.4 m. high; typically a tall savanna grass, often preferring moister sites, but dwarfed forms may be found by roadsides and other frequented places.

Maur.: L. Rkiz (Sept.) Sadio 116! **Sen.:** Cape Verde (Dec.) Adam 1841! Dienoundiella (Dec.) Berhaut 2713! **Gam.:** Wallikunda (Sept.) Macluskie 23! **Mali:** Bamako (Dec.) Adam 11309! 11409! Koulikoro (Sept.) Rogeon 228! Macina (Dec.) Duong 1509! Kadigue to Banguita Davey 8! **Port. G.:** Canquelifa (Dec.) Pereira 3617! **Guin.:** Seriba (Oct.) Adam 12710! La Kolenté (Nov.) Chillou 1030! Dalaba (Oct.) Adam 12672! Baffing (Kov.) Pobéguin 1816! Nzérékoré (June)

Adam 5306! **S. L.:** Musaia (Feb., Mar.) Deighton 4205! 5448! Benekoro (Nov.) Glanville 318! Dumbaia (Jan.) Morton & Gledhill SL 573! Sefadu (Dec.) Deighton 3573! Senahun (Apr.) Morton & Gledhill SL 1963! **Iv. C.:** Adam 6594! Nambonkaha (Nov.) Leeuwenberg 2048! Ferkessédougou (Nov.) Leeuwenberg 2018! Zuenoula (Oct.) Adjanohoun 309a! Beriby (Nov.) Oldeman 474! **U. Volta:** Leo to Po (Oct.) Rose Innes GC 31469! Koumbili to Koumbo (July) Scholz 50a! Koumbili to Natiédiougou (Oct.) Scholz 183! Nanguédi (Nov.) Scholz 186! **Ghana:** Lawra to Wa (Oct.) Rose Innes GC 32353! Navrongo to Wiaga (Oct.) Ankrah GC 20480! Pong Tamale (Dec.) Morton GC 9834! Elmina (Nov.) Rose Innes GC 31172! Achimota (Dec.) Ankrah GC 20115! **Togo Rep.:** Lama-Kara (Apr.) Aké Assi 10532! Lomé Stage 19! **Dah.:** Gouka (Mar.) Froment 1186! Kpinnou (Jan.) Froment 1133! Boukombe (Nov.) Risopoulos 1258! Cotonou to Allada (Oct.) Risopoulos 1237! **N. Nig.:** Sokoto (Oct.) Dalz. 487! Gajibo (Dec.) Darey FHI 27123! Zaria (Nov.) Thatcher S523! Minna (Dec.) Keay FHI 37303! Gurum, Vogel Peak (Nov.) Hepper 1310! **S. Nig.:** Ogurude (Jan.) Holland 276! Olokemeji (Nov.) Onochie FHI 8139! Ibadan (Nov.) Keay FHI 28138! Ibadan to Ilorin (Nov.) Jackson 2421! Obudu (Dec.) Tuley 60! **W. Cam.:** Nkambe (Feb.) Hepper 1879! Wum (Nov.) Brunt 870! Bambui to Bamenda (June) Brunt 1182! Nyen (May) Brunt 1129! Victoria Maitland 150a!

Throughout tropical Africa, and also in tropical America. Introduced into most other tropical countries. (See Useful Plants.)

6. *Hyparrhenia poecilotricha* (Hack.) Stapf in F.T.A. 9: 309 (1919); Clayton l.c. 69. *APD acc*

Andropogon poecilotrichus Hack. in Bol. Soc. Brot. 3: 138 (1885).

Perennial, 0.6–1.5 m. high; in savanna

Guin.: Timbo (Dec.) Adam 2673! Nzérékoré to Beyla (May) Adam 5050! Labe (Nov.) Adames 410! **Ghana:** Gambaga (Oct.) Rose Innes GC 30764! Kintampo (Dec.) Vigne FH 3201! **N. Nig.:** Njawai (Nov.) Jackson, Magaji & Tuley 1923! **W. Cam.:** Bambui (June) Brunt 1185!

Throughout tropical Africa.

Perhaps the result of hybridization between *H. rufa* and *H. filipendula*.

7. *Hyparrhenia finitima* (Hochst.) Anderss. ex Stapf in F.T.A. 9: 299 (1919); Clayton l.c. 72. *APD acc*

Andropogon finitimus Hochst. in sched., Schimp. Iter. Abyss. 1797 (1844).

Cymbopogon finitimus (Hochst.) T. Thoms. in Speke, Journ. Discov. Source Nile 652 (1863).

Tufted perennial, 1–2 m. high; inflorescence dense, often fastigiate; a ruderal species of roadsides, waste land and farm fallows.

S. L.: Mateboi (Nov.) Jordan 843!

Rather widely distributed, but mainly in south tropical Africa and **Uganda**.

8. *Hyparrhenia hirta* (Linn.) Stapf in F.T.A. 9: 315 (1919); A. Chev. in Rev. Bot. Appliq. 13: 874; De Miré & Gillet in J. Agric. Trop. 8: 733; Clayton l.c. 75. *APD acc*

Andropogon hirtus Linn., Sp. Pl. 1046 (1753).

Perennial 30–60 cm. high with a dense basal tussock of narrowly linear or filiform leaves; dry soils in open places.

Niger: Aïr (fide de Miré & Gillet).

Shores of the Mediterranean, extending through the Middle East to Pakistan, and southwards through **Egypt** and **Arabia** to northern Tanzania; also in **South Africa**. Probably introduced in Australia and Central America.

9. *Hyparrhenia quarrei* Robyns Fl. Agrost. Congo Belge 1: 171 (1929); Clayton l.c. 82. *APD acc*

Tufted, with culms 1–2 m. high and leaf-blades up to 5 mm. broad; roadsides, clearings and disturbed sites.

N. Nig.: Maska (Nov.) Thatcher S510! Abuja (Dec.) Thatcher S585! Bokkos (Nov.) Magaji & Tuley 1816! Mayo Daga (Nov.) Magaji & Tuley 1879!

Throughout tropical Africa.

Perhaps the result of hybridization between *H. hirta* and *H. nyassae*.

10. *Hyparrhenia violascens* (Stapf) W. D. Clayton in Kew Bull., Add. Ser. 2: 88 (1969). *APD acc*

Hyparrhenia soluta var. *violascens* Stapf in F.T.A. 9: 319 (1919); F.W.T.A., ed. 1, 2: 591.

Annual about 1 m. high; [roadsides and old cultivation](#).

N. Nig.: Bimasa Bakuro-Tureta F.R. (Nov.) Latilo FHI 43780! Katagum Dalz. 263! Fika (Oct.) Daggash FHI 24880! Shendam (Nov.) Clayton 1469! Abinsi (Nov.) Dalz. 891! Gurum, Vogel Peak (Nov.) Hepper 1282!

Also in **E. Cameroun** and **Chad**. (See Useful Plants.)

11. **Hyparrhenia bagirmica** (*Stapf*) *Stapf* in F.T.A. 9: 319 (1919); A. Chev. in Rev. Bot. Appliq. 13: 874; Berhaut, Fl. Sén. ed. 2, 424; Clayton l.c. 89. *APD acc*

Cymbopogon bagirmicus *Stapf* in Journ. de Bot. sér. 2, 2: 214 (1909).

C. solutus *Stapf* l.c. 211 (1909).

Andropogon bagirmicus (*Stapf*) A. Chev., Sudania 1: 166 (1911).

A. brachypodus *Stapf ex A. Chev.*, Sudania 1: 167 (1911), without descr.

Hyparrhenia soluta (*Stapf*) *Stapf* in F.T.A. 9: 318 (1919).

Annual up to nearly 2 m. high; [roadsides and old cultivation](#).

Sen.: Niokolo-Koba (Oct.) Adam 15886! Tambacounda (Oct.) Adam 12720! Samba to Torodo (Oct.) Adam 18456! **N. Nig.:** Moshi, Katsina (Oct.) Clayton 1379! Samaru, Zaria (Oct., Nov.) Thatcher S497! S499! Darazo F.R., Bauchi Prov. (Oct.) De Leeuw & Magaji 1993! Damagum (Oct.) De Leeuw 1254!

Also in **Chad** and the **C. African Republic**.

12. **Hyparrhenia barteri** (*Hack.*) *Stapf* in F.T.A. 9: 321 (1919); A. Chev. in Rev. Bot. Appliq. 13: 874; Clayton l.c. 90. *APD acc*

Andropogon barteri *Hack.* in Flora 68: 124 (1885); Chev. Bot. 716.

Annual up to nearly 2 m. high; inflorescence narrow, dense, of up to 8 fastigiate tiers; [old farmland and roadsides](#).

Togo Rep.: Sokode to Lama Kara (Oct.) Rose Innes GC 31391! **N. Nig.:** Fadan Karshi, Wamba (Oct.) Kennedy FHI 8037! Niger Prov. (Nov.) Freeman S196! Gwada (Sept.) Lamb FHI 3159! Lokoja (Oct.) Dalz. 295! Barter! Okene (Oct.) Ward L145! **S. Nig.:** Awka (Oct.) Thomas! Jones FHI 6791! Ezillo (Oct.) Tuley 933!

Also in **C. African Republic** and **Congo Republic**, **Malawi** and **Zambia**.

13. **Hyparrhenia familiaris** (*Steud.*) *Stapf* in F.T.A. 9: 325 (1919); Clayton l.c. 92. *APD acc*

Andropogon familiaris *Steud.*, Syn. Pl. Glum. 1: 385 (1854).

Hyparrhenia effusa (*Bal.*) A. Camus (1931).

Tufted perennial 0·6–1·5 m. high; [savanna grassland](#).

Guin.: Mamou (Oct.) Adam 12755! Nzérékoré to Beyla (May) Adam 5050a! **Lib.:** Robertsfield (June) Adam 21346! **Ghana:** Amedzofe (Dec.) Rose Innes GC 31177! **N. Nig.:** Gembu (Nov.) Magaji & Tuley 1856! Njawai (Nov.) Jackson, Maqaji & Tuley 1924! **S. Nig.:** Ogoja Prov. Roseveare 10/30a! Obudu Plateau (Nov.) Tuley 775! 1030! **W. Cam.:** Bamenda (Dec.) Baldwin 13835! Nyen (May) Brunt 1126! Hall (Apr.) Brunt 1057!

Also in the Congo and adjacent territories, and in **Vietnam**.

14. **Hyparrhenia figariana** (*Chiov.*) *W. D. Clayton* in Kew Bull., Add. Ser. 2: 94 (1969). *APD acc*

Cymbopogon figarianus *Chiov.* in Bull. Soc. Bot. Ital. 1917: 59 (1917).

Andropogon figarianus *Chiov.* l.c., in synonym.

A. filipendulus var. *calvescens* *Hack.* in DC., Monogr. Phan. 6: 635 (1889).

Hyparrhenia barteri var. *calvescens* (*Hack.*) *Stapf* in F.T.A. 9: 322 (1919).

Erect annual 0·6–2 m. high; inflorescence fastigiate; a coarser plant than *H. filipendula* but otherwise very similar; [waste land and roadsides](#).

N. Nig.: Panshanu, Jos Plateau (Aug.) Lawlor & Hall 183! 339!

Also in **Congo**, **Sudan**, **Uganda** and **Tanzania**.

15. **Hyparrhenia filipendula** (*Hochst.*) *Stapf* in F.T.A. 9: 323 (1919); Clayton l.c. 95. *APD acc*

Andropogon filipendulus *Hochst.* in Flora 29: 115 (1846).

Caespitose with culms 0·6–2 m. high; [in savanna](#).

15a. *Hyparrhenia filipendula* var. *filipendula*. APD acc

Guin.: Madina Tossekré (Oct.) Adam 12543! 12545! Fetoré (Oct.) Adames 398! Mali (Dec.) Schnell 2358! **N. Nig.:** Jos Plateau (Oct.) Lely P807! Jos (Nov.) Clayton 1448! Gindiri (Oct.) Hepper 1135! Panshanu Pass (Aug.) Lawlor & Hall 456! Biu (Oct.) De Leeuw 1308! **W. Cam.:** Jakiri (June) Brunt 766!

15b. *Hyparrhenia filipendula* var. *pilosa* (Hochst.) Stapf in F.T.A. 9: 324 (1919); Clayton l.c. 97. APD acc

Andropogon filipendulus var. **pilosus** Hochst. in Flora 29: 115 (1846).

N. Nig.: Naraguta (July) Lely P433! Okene (Nov.) Clayton 581!

Throughout tropical Africa, and in E. Asia from Ceylon to Australia.

16. *Hyparrhenia cymbaria* (Linn.) Stapf in F.T.A. 9: 332 (1919); Clayton l.c. 110. APD acc

Andropogon cymbarius Linn., Mant. Alt. 303 (1771).

Robust perennial; culms 2–3.5 m. high, initially slender and rambling, subsequently erect and sustained by stilt roots; **in savanna**.

N. Nig.: Mambila Plateau: Chappal Waddi (Nov.) Jackson, Magaji & Tuley 1991! Mayo Daga (Nov.) Magaji & Tuley 1873! Maisamari (Jan., Sept.) Hepper 1645! Oche MRK 51! Ngelyaki F.R., Gembu (Nov.) Daramola FHI 62352! **W. Cam.:** Wum (Nov.) Brunt 876! Bafut-Ngamba F.R. (Mar.) Onochie FHI 34845! Bamenda (Jan.) Migeod 315! Bambui (Aug.) Brunt 1269!

Throughout tropical Africa, and in **Madagascar**.

17. *Hyparrhenia cyanescens* (Stapf) Stapf in F.T.A. 9: 351 (1919); A. Chev. in Rev. Bot. Appliq. 13: 875; Clayton l.c. 120. APD acc

Cymbopogon cyanescens Stapf in Journ. de Bot. sér. 2, 2: 209 (1909).

Andropogon cyanescens (Stapf) A. Chev., Sudania 1: 35 (1911); Chev. Bot. 717.

Robust perennial up to nearly 3 m. high; **moist alluvial soils**.

Sen.: Movissassoum (Nov.) Boudet 4481 bis! Velingara (Nov.) Boudet 4558! 4593! **Gam.:** Ruxton 32! **Mali:** Myomina to Koulikoro (Oct.) Chev. 2359! **Guin.:** Scaëtta 3152! Kouroussa (Sept.) Pobéguin 508! Kankan (Oct.) Duong! **S. L.:** Musaia (Dec.) Deighton 4440! **Iv. C.:** Boundiali (Oct.) Boudet 3312! **Ghana:** Sawla to Wa (Oct.) Rose Innes GC 32394! Bole (Oct.) Rose Innes GC 32407! Damongo (Mar.) Morton GC 8670! Yendi to Zabzugu (Nov.) Rose Innes GC 32471! Tamale to Salaga (Oct.) Rose Innes GC 32441! **N. Nig.:** Maska (Nov.) Thatcher S506! Zaria (Oct.) Freeman S154! Anara F.R. (Oct.) Keay FHI 5490! Biu (Oct.) De Leeuw 1328a! Bida (Dec.) Hubbard S586! Ilorin (Oct.) Ward 39! **S. Nig.:** Olokemeji (Nov.) Clayton 568!

Also in **Congo** and **Angola**.

18. *Hyparrhenia umbrosa* (Hochst.) Anderss. ex W. D. Clayton in Kew Bull., Add. Ser 2: 127 (1969). APD acc

Andropogon umbrosus Hochst. in sched., Schimp. Iter Abyss. 1116 (1842).

Cymbopogon umbrosus (Hochst.) Pilger (1929).

Culms stout, 1.2–1.8 m. high; **highland grassland, by roadsides and in old cultivation**.

N. Nig.: Mandaga, Mambila Plateau (Jan.) Latilo & Daramola FHI 28995! **W. Cam.:** Nkambe (Feb.) Charter FHI 36983! Santa (Jan.) Brunt 908! Bambui (Dec.) Pedder 4! Bamenda (June) Brunt 1176!

Widely scattered in Africa, but not common.

19. *Hyparrhenia rudis* Stapf in F.T.A. 9: 344 (1919); Clayton l.c. 128. APD acc

Coarse perennial 2–3 m. high; **savanna grasslands, favouring damp or alluvial soils**.

Ghana: Sawla to Wa (Oct.) Rose Innes GC 32395! **N. Nig.:** Zaria (Jan.) Bumpus B6! Vom, Jos Plateau (Oct.) Gambles 41! Oche 131! Tiba Plateau, Adamawa (Dec.) Peter & Tuley 52! Gembu (Nov.) Magaji & Tuley 1854!

Throughout tropical Africa.

20. *Hyparrhenia collina* (Pilger) Stapf in F.T.A. 9: 337 (1919); Clayton l.c. 130. *APD acc**Cymbopogon collinus* Pilger in Engl., Bot. Jahrb. 54: 287 (1917).*Andropogon collinus* Pilger (1910), not of Lojac. (1909).

Loosely clumped perennial 30–120 cm. high; damp soils and upland grassland.

N. Nig.: Chappal Waddi, Mambila Plateau (Nov.) Jackson, Magaji & Tuley 2073! **W. Cam.:** Nkambe (June) Brunt 977!

Throughout tropical Africa.

21. *Hyparrhenia niariensis* (Franch.) W. D. Clayton in Kew Bull., Add. Ser. 2: 140 (1969). *APD acc**Andropogon niariensis* Franch. in Bull. Soc. Hist. Nat. Autun 8: 330 (1895).

Culms 1–2 m. high; in savanna.

W. Cam.: Wum (Nov.) Brunt 882!Also in **Central African Republic** and **Congo Republic**.**22. *Hyparrhenia welwitschii* (Rendle) Stapf** in F.T.A. 9: 356 (1919); A. Chev. in Rev. Bot. Appliq. 13: 876; Clayton l.c. 142. *APD acc**Cymbopogon welwitschii* Rendle, Cat. Welw. 2: 157 (1899).*Hyparrhenia gracilescens* Stapf in F.T.A. 9: 357 (1919); F.W.T.A., ed. 1, 2: 591; A. Chev. in Rev. Bot. Appliq. 13: 876.

Coarsely tufted annual 0.3–3 m. high; light to moderate shade in savanna woodland, favouring deep soils with adequate moisture.

Guin.: Fouta Djallon Chev. 20196! Labé (Nov.) Adames 409! Kindia Jac.-Fél. 231! Bafing (Oct.) Adam 12658! Timbo (Oct.) Pobéguin 1797! **S. L.:** Falaba (Nov.) Miszewski 17! Morton SL 2857! Mamudia (Nov.) Glanville 330! Musaia (Feb., Dec.) Deighton 4279! 4433! **Iv. C.:** Touba (Oct.) Aké Assi 8210! Madinani (Oct.) Boudet 3314! Kouiby (Dec.) Portères 424! Séguéla (Oct.) Adjanohoun 286a! **Ghana:** Biakpa (Nov.) Morton! **Dah.:** Parakou (Nov.) Risopoulos 1296! **N. Nig.:** Anara F.R., Zaria (Oct.) Keay FHI 5438! Zungeru (Nov.) Freeman S189! Jemaa (Nov.) Clayton 1434! Lokoja (Oct.) Dalz. 292! Chappal Waddi, Mambila Plateau (Nov.) Jackson, Magaji & Tuley 2094! **S. Nig.:** Ogoja Prov. Rosevear 20/30a!Extends southwards around the Congo basin to **Angola**.**23. *Hyparrhenia bracteata* (Humb. & Bonpl. ex Willd.) Stapf** in F.T.A. 9: 360 (1919); Clayton l.c. 144. *APD acc**Andropogon bracteatus* Humb. & Bonpl. ex Willd., Sp. Pl. 4: 914 (1806).

Densely tufted, 0.6–1.5 m. high; seasonally wet soils.

Iv. C.: Bégué 136! **U. Volta:** Bobo-Dioulasso (June) Adam 15093! **N. Nig.:** Vom (Oct.) De Leeuw 1620! Vodni Saunders 9! Gembu, Mambila (Aug.) De Leeuw 1793! Maisamari, Mambila Plateau (Aug., Sept.) De Leeuw 1751! Oche MRK 58! **S. Nig.:** Obudu Plateau (Nov.) Tuley 1023! **W. Cam.:** Nyen (May) Brunt 1132! Wum (Nov.) Brunt 868! Bambui (July) Bumpus Bam/26! Bamenda (Dec.) Baldwin 13833! Bamenda to Bali (Apr.) Brunt 1667!Extends southwards through western Africa to Rhodesia; also in **S. America**.**24. *Hyparrhenia newtonii* (Hack.) Stapf** in F.T.A. 9: 363 (1919); Clayton l.c. 148. *APD acc**Andropogon newtonii* Hack. in Bol. Soc. Brot. 3: 137 (1885).*Hyparrhenia lecomtei* (Franch.) Stapf in F.T.A. 9: 362 (1919).

Densely tufted, 60–120 cm. high; stony hillsides.

Guin.: Labé (Nov.) Adames 411! **S. L.:** Lorna Mts. (Nov.) Morton SL 2744! **N. Nig.:** Vogel Peak, Sardauna Prov. (Nov.) Hepper 1424! Chappal Waddi, Mambila Plateau (Nov.) Jackson, Magaji & Tuley 2095! **W. Cam.:** Bambui (Dec.) Pedder 7! Bamenda (June) Brunt 1178! 1179! Bansa to Bamenda (Oct.) Tamajong FHI 23486!Extends southwards through western Africa to Rhodesia and Transvaal; also in **Madagascar**, **Thailand**, **Indo-China** and **Indonesia**.**25. *Hyparrhenia mutica* W. D. Clayton** in Kew Bull., Add. Ser. 2: 161 (1969).*APD:* *Synonym of Hyparrhenia diplandra var. mutica* (Clayton) Cope

Coarse grass 1·5–2·5 m. high; **swampy places**.

S. L.: Bintumane (Nov., Dec., Jan.) Morton! T. S. Jones 78! Jaeger 492! Loma Mts. (Nov.) Morton SL 2720! **Lib.:** Nimba Reserve (Nov.) Adames 746! **Ghana:** Essiama (Mar., Dec.) Row Innes GC 30549! GC 30874! **N. Nig.:** Gangumi, Gashaka Dist. (Dec.) Latilo & Daramola FHI 28794!

Widespread in tropical Africa, but not common.

26. *Hyparrhenia diplandra* (Hack.) Stapf in F.T.A. 9: 368 (1919); A. Chev. in Rev. Bot. Appliq. 13: 876; Berhaut, Fl. Sén. ed. 2, 424; Clayton l.c. 166. **APD acc**

Andropogon diplandrus Hack. in Flora 68: 123 (1885).

A. osikensis Franch. (1895).

A. pachyneuros Franch. (1895).

A. obscurus K. Schum. (1897).

Cymbopogon diplandrus (Hack.) De Wild. (1919)—Chev. Bot. 717.

Hyparrhenia pachystachya Stapf in F.T.A. 9: 370 (1919).

Coarse grass 2–3 m. high.

Guin.: Dalaba (Oct.) Adam 12673! Baffing R. (Oct.) Pobéguin 1803! Konkouré (Mar.) Pitot 279! Macenta (Oct.) Baldwin 9750! Nimba (Oct.) Schnell 3865! **S. L.:** Kambia (Dec.) Deighton 877! Juring (Dec.) Deighton 294! Mt. Loma (Nov.) Jaeger 499! Loma Mansa (Dec.) Morton SL 447! Senahun (Apr.) Morton & Gledhill SL 1964! **Lib.:** Gbanga (Dec.) Baldwin 10538! Nimba (Dec., Jan., Apr.) Harley 2211! Adam 20207! 20637! **Iv. C.:** Bingerville (Dec.) Chev. 20091! Hédin! **N. Nig.:** Mandaga, Mambila Plateau (Jan.) Latilo & Daramola FHI 28993! Gembu, Mambila (Sept., Nov.) Oche MRK 84! Magaji & Tuley 1858! Donga R., Mambila (Sept.) Oche MRK 86! **S. Nig.:** Oyo (Oct.) Stanfield! Enugu (May) Jones FHI 18862! Ogoja Prov. Rosevear 16/30a! Obudu (Apr.) Haines 370! **W. Cam.:** Nkambe (Feb.) Charter FHI 36981! Wum (Nov.) Brunt 875! Bafut-Ngemba F.R. (Mar.) Hepper 2242! Bamenda (Dec.) Baldwin 13838! Ndu (Jan.) Keay FHI 28432!

Throughout tropical Africa; also in **Thailand**, **Vietnam** and **Indonesia**.

27. *Hyparrhenia subplumosa* Stapf in F.T.A. 9: 368 (1919); A. Chev. in Rev. Bot. Appliq. 13: 876; Berhaut, Pl. Sén. ed. 2, 424; Clayton l.c. 164. **APD acc**

Robust perennial 2–3 m. high; **savanna woodland, often on poor dry soils**.

Sen.: Kanéméré (Nov.) Fotius K723! Vélingara (Oct.) Adam 18619! Niokolo-Koba (Nov.) Adam 17070! Tambacounda (Nov.) Adam 20031! Tambacounda to Niokolo-Koba (Oct.) Adam 15638! **Mali:** Sikasso (Sept.) Adam 15460! **Guin.:** Pita (Oct.) Adam 12555! Dalaba Chev. 20185! Timbo (Oct.) Pobéguin 1799! Baffing R. (Nov.) Pobéguin 1812! Siguiri (Jan.) Jac.-Fél. 1331! **S. L.:** Kambia (Nov.) Jordan 689! Mabala (Oct.) Glanville 62! Samaia (May) Thomas 227! Musaia (Dec.) Deighton 4444! Mamodia (Nov.) Glanville 329! **Lib.:** Nimba Reserve (Oct., Nov.) Adames 698! 748! **Iv. C.:** Ferkessédougou (Nov.) Leeuwenberg 1999! Séguéla to Vavoua (Oct.) Adjanohoun 361a! Zuénoula to Vavoua (Oct.) Adjanohoun 313a! Toumodi (Apr.) Leeuwenberg 3321! Dabou (Nov.) Leeuwenberg 1967! **U. Volta:** Samandéni (Oct.) Kmoch 128! Bobo-Dioulasso (Oct.) Kmoch 147! Ouassa (Oct.) Rose Innes GC 31509! Leo (Oct.) Rose Innes GC 31074! Tondoura (Oct.) Scholz 83! **Ghana:** Wa to Lawra Rose Innes GC 32354! Gambaga (Oct.) Ankrah GC 20285! Yendi to Zabzugu (Nov.) Rose Innes GC 32470! Elmina (Nov.) Rose Innes GC 31171! Achimota (June) Irvine 3056! Kpong to Somanya (Nov.) Rose Innes GC 31647! **Togo Rep.:** Misahöhe Baumann 328! **Dah.:** Parakou Risopoulos 1294! Cotonou to Allada (Oct.) Risopoulos 1234! **Niger:** Wadi Dollol White 21! **N. Nig.:** Zaria (Nov.) Thatcher S536! Anara F.R., Zaria (Oct.) Keay FHI 20109! Riyom (Nov.) Clayton 1442! Abinsi Dalz. 901! Kaiama (Oct.) Ward 18! Gangumi, Gashaka Dist. (Nov.) Latilo & Daramola FHI 28776! **S. Nig.:** Olokemeji (Nov.) Clayton 566! Ibadan (Nov.) Oguwa FHI 7945! Iseyin (Oct.) Jackson 2364! Akpaka F.R. (Nov.) Onochie FHI 40429! Obudu Plateau (Feb.) Tuley 489!

Also found occasionally southward to **Angola** and Rhodesia. (See Useful Plants.)

28. *Hyparrhenia involucrata* Stapf in F.T.A. 9: 377 (1919); Clayton l.c. 158. **APD acc**

Anthistiria barteri Munro ex Oliv. (1875), without descr.

Androscoepia barteri Anderss. ex Oliv. (1875), without descr.

Hyparrhenia notolasia Stapf in F.T.A. 9: 377 (1919); F.W.T.A., ed. 1, 2: 591.

Robust annual 2 m. high; **in savanna, particularly on dry or shallow soils**.

28a. *Hyparrhenia involucrata* var. *involucrata* APD acc

Ghana: *Bolgatanga* to Tamale (Oct.) Ankrah GC 20300! Yendi to Zabzugu (Nov.) Rose Innes GC 32472! **N. Nig.:** Funtua to Yashi (Oct.) Keay FHI 21147! Samaru, Zaria (Oct.) Freeman S168! Plateau Prov. (Oct.) Lely P849! Nupe Barter 957!

Lokoja (Oct.) Dalz. 299! **S. Nig.:** Igbetti (Oct.) Stanfield FHI 55499! Ago-Are F.R. (Nov.) Keay FHI 37680! FHI 37693! Awba Hills F.R. (Nov.) Jones FHI 7322! Ngwo (Oct.) Jones FHI 6783! Fashola Rock (Nov.) Gledhill 677!

Also in **E. Cameroun** and **C. African Republic**.

28b. *Hyparrhenia involucrata* var. *breviseta* W. D. Clayton in Kew Bull., Add. Ser. 2: 159 (1969).
APD acc

Iv. C.: Séguélo (Oct.) Aké Assi 6567! **U. Volta:** Zabré (Oct.) Scholz 161! Leo to Po (Oct.) Rose Innes GC 31475! **Ghana:** Wa (Oct.) Rose Innes GC 32373! Navrongo (Oct.) Vigne FH 4640! Nakpanduri (Sept.) Rose Innes GC 32119! Yapei ferry (Oct.) Rose Innes GC 30676! Kete Krachi to Yendi (Sept.) Rose Innes GC 30448! **Dah.:** Boukombe (Nov.) Risopoulos 1259!

Also in **Chad** and **C. African Republic**.

127. HYPERTHELIA

W. D. Clayton in Kew Bull. 20: 438 (1966).

- 1** Racemes not deflexed; raceme-bases produced into bract-like linear to narrowly lanceolate appendages 4–11 mm. long; homogamous pairs 1 at the base of the lower raceme; sessile spikelets 10–14 mm. long, including a pungent callus 3–6 mm. long; awn 5–10 cm. long, hirtellous with yellow hairs *dissoluta*

***Hyperthelia dissoluta* (Nees ex Steud.) W. D. Clayton** in Kew Bull. 20: 441 (1966). *APD acc*

***Anthistiria dissoluta* Nees ex Steud.**, Syn. Pl. Glum. 1: 400 (1854).

***Hyparrhenia dissoluta* (Nees ex Steud.) C. E. Hubbard** in F.W.T.A., ed. 1, 2: 591 (1936); Berhaut, Fl. Sén. ed. 2, 421.

***Hyperthelia ruprechtii* Fourn.**, Mex. Pl. Gram. 67 (1886); F.T.A. 9: 320; A. Chev. in Rev. Bot. Appliq. 13: 874.

Perennial up to nearly 3 m. high, with a fastigate yellowish inflorescence; a savanna grass typical of waysides and disturbed places.

Maur.: Gaberni Rossetti 61/292! **Sen.:** Dakar (Oct.) Adam 2141! Hann (Oct.) Berhaut 1078! Tambacounda (Oct.) Adam 18625! Niokolo-Koba Adam 14270! Kayar (Oct.) Trochain 654! **Gam.:** Hayes 514! **Mali:** Niger Delta Doung! Kadigué to Banguita (Jan.) Davey 6! Macina (Sept.) Chev. 24943! Bamako (Sept.) Adam 14989! Rogeon 221! **Guin.:** Kissidougou to Kankan (Oct.) Jaeger 2156! **Port. G.:** Piche (Sept., Nov.) Pereira 3186! 3211! 3491! Cabuca (Oct.) Pereira 3303! **Iv. C.:** Oussou (Mar.) Scaëtta! Dabou (Nov.) Leeuwenberg 1940! Chev. 17150! Dihabo to Bouaké (July) Chev. 22054! **U. Volta:** Bobo-Dioulasso (Oct.) Kmoch 140! Sindou (Sept.) Aké Assi 6374! Sikasso to Bobo-Dioulasso (Sept., Oct.) Adam 15095! Koechlin 6979! Po to Leo (Oct.) Rose Innes GC 31481! **Ghana:** Navrongo (Sept.) Vigne FH 4629! Bolgatanga to Tamale (Oct.) Rose Innes GC 30232! Gambaga to Yendi (Sept.) Rose Innes GC 30460! Pong Tamale (July) Williams 841! Legon Hill (Oct.) Adams 3438! **Togo Rep.:** Sansanné Mango to Dapango (Oct.) Rose Innes GC 31422! Djagba, Atakpame to Sokode (Oct.) Rose Innes GC 31363! **Dah.:** Ouidah to Adjounja (Apr.) Chev. 23466! Agouagon (May) Chev. 23499! Djougou to Pabigou (June) Chev. 23928! **Niger:** Filingé (Sept.) Koechlin 6882! Tahoua (Sept.) Koechlin 6771! Say (Sept.) Koechlin 6394! Toukounous Bartha 27! **N. Nig.:** Kworre, Sokoto (Sept.) Palmer 1! Katagum Dist. Dalz. 265! Anara F.R., Zaria (May) Keay FHI 22968! Ilorin (Oct.) Ward 61! Jebba Barter 281! **S. Nig.:** Lagos W. MacGregor 320! Ikoyi Plains (Mar., June) Dalz. 1316! Maitland 160a! Aworo (June) Dawodu 52! Igboora Haines 337!

Throughout tropical Africa; also in **Mexico**, **Paraguay** and **Colombia**. (See Useful Plants.)

128. PARAHYPARRHENIA

A. Camus in Bull. Mus. Hist. Paris, sér. 2, 22: 404 (1950); Clayton in Kew Bull. 20: 434 (1966).

- 1** Annual; awn of fertile lemma 3–5–10 cm. long *1. annua*
Perennial; awn of fertile lemma 2–7–3–5 cm. long *2. perennis*

1. *Parahyparrhenia annua* (Hack.) W. D. Clayton in Kew Bull. 20: 434 (1966); Berhaut, Fl. Sén. ed. 2, 425. *APD acc*

***Andropogon annuus* Hack.** in Flora 68: 137 (1885).

***Parahyparrhenia jaegerana* A. Camus** in Bull. Mus. Hist. Nat., sér. 2, 22: 404 (1950); Berhaut, Fl. Sén. ed. 2, 424.

***Hyparrhenia jaegerana* (A. Camus) Roberty** in Boissiera 9: 109 (1960).

H. djalonica Jac.-Fél. in J. Agric. Trop. 1: 51 (1954).

H. sulcata Jac.-Fél l.c. 54 (1954); Berhaut, Fl. Sén. ed. 2, 424.

Loosely tufted annual 0.3–1.6 m. high; **shallow pools on sheet ironstone**. Very variable, but without clear distinctions between the various forms.

Sen.: Niokolo-Koba (Oct.) Adam 15616! 15696! Tambacounda Berhaut 3199! Maël Berhaut 3251! Diana Malari (Oct.) Adam 18466! **Mali:** Kita Jaeger 17! **Guin.:** Madina Tossekré (Oct.) Adam 12527! Dalaba (Oct.) Adames 392! Timbo (Oct.) Pobéguin 1778! Ouassou to Koba (Nov.) Jac.-Fél. 7258! Mamou (Nov.) Chev. 34600! **S. L.:** Kambia (Aug., Nov.) Jordan 666! 964! Kambia to Kukuna (Nov.) Morton & Gledhill SL 33! **Iv. C.:** Boundiali to Mankono (Nov.) Aké Assi 8296! 8297! **U. Volta:** Baoulé (Oct.) Kmoch 123! Ouagadougou to Sikasso (Sept.) Adam 15418! Batié to Bouna (Oct.) Rose Innes GC 31540! **Ghana:** Burufu (Oct.) Ankrah GC 20462! Hinds 3770! 5010! Nakpanduri to Yendi (Oct.) Rose Innes GC 30734!

Also in **C. African Rep.** and **Sudan**.

2. Parahyparrhenia perennis W. D. Clayton in Kew Bull. 20: 436 (1966); Berhaut, Fl. Sén. ed. 2, 425.
APD acc

Caespitose grass about 60 cm. high; **ironstone outcrops**.

Sen.: Niama (Nov.) Berhaut 6649! **Guin.:** Conakry (Oct.) Adam 12595! **Lib.:** Warner 66! Paynesville (Sept.) van Dillewijn 82! Duport (Oct.) van Harten 172!

129. ELYMANDRA

Stapf in F.T.A. 9: 407 (1919); Jacques-Félix in Rev. Bot. Appliq. 30: 169 (1950); Clayton in Kew Bull. 20: 287 (1966).

- 1 Racemes solitary, 1-awned; callus of sessile spikelet fulvously bearded [1. gossweileri](#)
Racemes paired; callus of sessile spikelet white bearded: **2**
- 2 Pedicelled and homogamous spikelets glabrous; upper raceme-base 15–25 mm. long; racemes 2-awned per pair; upper glume of sessile spikelet usually awnless; perennial [2. androphila](#)
Pedicelled and homogamous spikelets sparsely hairy to villous; upper raceme-base 3–4 mm. long; upper glume of sessile spikelet with an awn 1–3 cm. long: **3**
- 3 Plants annual; racemes 3–5-awned per pair; homogamous pairs 2–10 at the base of each raceme: **4**
Plants perennial; racemes about 12-awned per pair; homogamous pairs 1 at the base of the lower raceme only [5. grallata](#)
- 4 Homogamous pairs 7–10 at the base of each raceme, the spikelets 7–9 mm. long; racemes 3–5-awned per pair; fertile lemma bifid to the middle [3. subulata](#)
Homogamous pairs 2 at the base of each raceme, the spikelets 10–12 mm. long; racemes 4-awned per pair; fertile lemma shortly bilobed (lobes 1 mm. long) [4. archaelymandra](#)

1. Elymandra gossweileri (*Stapf*) W. D. Clayton in Kew Bull. 20: 288(1966); Berhaut, Fl. Sén. ed. 2, 424. *APD acc*

Pleiadelphia gossweileri *Stapf* in Hook., Ic. Pl. t. 3121 (1927).

Themeda gossweileri (*Stapf*) *Roberty* in Boissiera 9: 103 (1960).

Elymandra monostachya Jac.-Fél. in Rev. Bot. Appliq. 30: 170 (1950).

Erect annual 2 m. high; **shallow sandy soils**.

Sen.: Kabrousse, Casamance (Oct.) Adam 18295 bis! 18374! Niassia (Nov.) Berhaut 6648! **Guin.:** Kanea (Oct.) Adam 12632! Kindia (Oct.) Jac.-Fél. 7193! 7194! **Iv. C.:** Upper Sassandra and Upper Cavally basins Portères 238!

Also in **Angola**.

2. Elymandra androphila (*Stapf*) *Stapf* in F.T.A. 9: 408 (1919); Jac.-Fél. in Rev. Bot. Appliq. 30: 170 (1950); A. Chev. in Rev. Bot. Appliq. 13: 878 (1933); Berhaut, Fl. Sén. ed. 2, 421; Aké Assi, Contrib. 2: 302. *APD acc*

Andropogon androphilus *Stapf* in Journ. de Bot. 19: 103 (1905); Chev. Bot. 715.

Heteropogon androphilus (*Stapf*) *Roberty* in Boissiera 9: 142 (1960).

Coarse perennial up to 2.5 m. high; **poor sandy soils in uncultivated savanna**.

Sen.: Niokolo-Koba Adam. **Mali:** Sotuba to Bamako (Sept.) Adam 15362! **Guin.:** Soumbalako to Boulivel Chev. 18631! Timbo (Oct.) Pobéguin 1786! 1798! Kouroussa (Sept.) Pobéguin 521! **S. L.:** Mange to Kambia (Oct.) Adames 265! Robumbe (Oct.) Jordan 800! Dankawali (Nov.) Glanville 325! Musaia (Dec.) Deighton 4524! Kambaia (Oct.) Small 481! **Lib.:** Nimba (Oct.) Adames 697! **Iv. C.:** N. Toumodi (Oct.) Adjanohoun 337a! Aboakouamékro (Nov.) Aké Assi 10360! **U. Volta:** Sindou (Sept.) Adam 15193! Banfora (Sept.) Adam 15215! Bobo-Dioulasso (Oct.) Koechlin 6962! Samandeni (Oct.) Kmoch 159! Cascade de Toussiana (Oct.) Scholz 74a! **Ghana:** Gradaw (Oct.) Rose Innes GC 31612! Kintampo (Oct.) Ankrah GC 20316! Attebubu to Kete Krachi (Oct.) Rose Innes GC 30616! Kwahu Tafo to Adawso (Oct.) Rose Innes GC 30572! Akaa (Dec.) Adams 4713! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31357! **N. Nig.:** Keffi to Abuja, Benue Prov. (Nov.) Freeman S200! Kontagora (Nov.) De Leeuw & Magaji 2000! Sha (Sept.) Hall K20! Makwando, Niger Prov. (Nov.) Ayuba 73! **W. Cam.:** Nyen, 5,000 ft. (May) Brunt 1125! Bambui, 6,300 ft. (Dec.) Boughey GC 10387!

Also in **C. African Rep., Congo** and **Angola**.

3. **Elymandra subulata** *Jac.-Fél.* in Rev. Bot. Appliq. 30: 170 (1950). *APD acc*

Annual up to nearly 2 m. high.

Guin.: Seriba (Oct.) Adam 12696! Labé (Nov.) Adames 412! Timbi Madina (Jan.) Langdale-Brown 2553! Kindia (Oct.) Jac.-Fél. 7200! Kindia to Conakry (Oct.) Chev. 20203! **S. L.:** Batkanu (Nov.) Jordan 846! Binie (Oct.) Adames 254! **Iv. C.:** Séguéla to Vavoua (Oct.) Adjanohoun 285a!

4. **Elymandra archaelymandra** (*Jac.-Fél.*) *W. D. Clayton* in Kew Bull. 20: 291 (1966). *APD acc*

Hyparrhenia archaelymandra *Jac.-Fél.* in J. Agric. Trop. 1: 48 (1954); Berhaut, Fl. Sén. ed. 2, 424.

Annual up to nearly 2 m. high; **shallow sandy soils**.

Sen.: Niokolo-Koba (Oct.) Adam 15504! Tambacounda (Oct.) Adam 15489! Ouassadou Berhaut 1895! Vélingara (Oct.) Adam 18614! Kolda (Oct.) Adam 18540! **Guin.:** Tamba to Sambailo (Sept.) Pitot!

5. **Elymandra grallata** (*Stapf*) *W. D. Clayton* in Kew Bull. 20: 292 (1966). *APD acc*

Hyparrhenia grallata *Stapf* in F.T.A. 9: 320 (1919).

H. eylesii *C. E. Hubbard* in Kew Bull. 1928: 37.

Tufted perennial 1–2 m. high; **sandy soils in savanna woodland**.

Iv. C.: Sanlo to Kakpin (Nov.) Aké Assi 9290! Tanzania to Angola and S.W. Africa.

130. MONOCYMBIUM

Stapf in F.T.A. 9: 386 (1919); *C. E. Hubbard* in Kew Bull. 4: 375 (1949); *Jac.-Fél.* in Rev. Bot. Appliq. 30: 175 (1950).

- 1 Culms erect, caespitose, rarely weak and straggling; leaf-blades linear, 2–5 mm. broad and 5–15 cm. long or more; lower glume of sessile spikelet villous, not spinulose; callus of sessile spikelet longer than broad, ciliate to bearded on base and sides; callus of pedicelled spikelet 0.9 mm. long [1. *ceresiiforme*](#)

Culms geniculately ascending from a procumbent base, and rooting at the nodes; leaf-blades narrowly lanceolate to lanceolate; lower glume of sessile spikelet glabrous or villous, the margins spinulose towards the tip; callus of sessile spikelet shorter than broad, bearded on the sides but hairless along the obtuse base; callus of pedicelled spikelet 0.3 mm. long: **2**

- 2 Leaf-blades narrowly lanceolate, 1–5 cm. long and 2–7 mm. broad, rounded at the base; culms 0.5–1.7 mm. diam. [2. *deightonii*](#)

Leaf-blades lanceolate, 4.5–9 cm. long and 10–20 mm. broad, amplexicaul at the base; culms 2.5–3 mm. diam. [3. *lanceolatum*](#)

1. **Monocymbium ceresiiforme** (*Nees*) *Stapf* in F.T.A. 9: 387 (1919); *A. Chev.* in Rev. Bot. Appliq. 13: 877. *APD acc*

Andropogon ceresiiformis *Nees*, Fl. Afr. Austr. 109 (1841).

Monocymbium nimbanum *Jac.-Fél.* in Rev. Bot. Appliq. 30: 176 (1950).

A tufted perennial somewhat fibrous at the base; densely caespitose in southern Africa, but in our region usually 90–120 cm. high with erect leafy culms, these weak and often lodged by heavy rain; [shallow stony soils on hillsides](#).

Guin.: Nzérékoré (Oct.) Jac.-Fél. 1930! Mt. Nimba (Sept., Oct.) Schnell 1893! Adam 6714! Kouroussa (Sept.) Pobéguin 511! Macenta to Kérouané (Nov.) Adam 6973! **S. L.:** Dankawali (Nov.) Glanville 326! Tingi Mts. (Dec.) Morton & Gledhill SL 3029! Mt. Loma (Oct., Nov.) Jaeger 7893! Morton SL 2575! SL 2670! **Lib.:** Nimba (Oct.) Adames 650! **iv. C.:** Mt. Orumbo-Boka, Toumodi (Dec.) Boughey A9! Toumodi (Oct.) Adam 6582! Bouaké (Oct.) Adam 6635! Toumodi to Yamoussokro (Oct.) Adjanohoun 327a! Séguélo (Oct.) Aké Assi 6602! **U. Volta:** Batié to Gaoua (Oct.) Rose Innes GC 31525! Samandeni (Oct.) Kmoch 152! Gaoua to Diebougou (Oct.) Rose Innes GC 31519! Leo to Ouassa (Oct.) Rose Innes GC 31496! Bobo-Dioulasso (Oct.) Kmoch 117! **Ghana:** Accra Plains (Sept.) Ankrah GC 20011! Maliato (Nov.) Morton A3534! Banda (Oct.) Rose Innes GC 31587! Damongo to Sawla (Oct.) Rose Innes GC 31010! Bawku to Bolgatanga (Oct.) Rose Innes GC 31452! **Togo Rep.:** Baumann 346! Atacora Mt. Pass, Sokode to Lama Kara (Oct.) Rose Innes GC 31396! Sansanné Mango to Dapango (Oct.) Rose Innes GC 31421! **Dah.:** Boukombe to Nattitingou (Nov.) Risopoulos 1269! **N. Nig.:** Jebba Barter! Abinsi Dalz. 893! Wuya Ferry, Kaduna R., (Sept.) Clayton 366! Kaiama (Oct.) Ward 23! Anara F.R. (Oct.) Keay FHI 20107! **S. Nig.:** Olokemeji (Nov.) Onochie FHI 8111! Akure F.R. (Oct.) Keay FHI 22667! Jesse (Sept.) Butler-Cole 30! Udi (Nov.) Jones 6231! Ogoja Prov. Rosevear 17/30a! **W. Cam.:** Bamenda Dept. of Agric. 2!

Extends eastwards to the **Sudan**, and southwards through the Congo, Tanzania and Rhodesia into S. Africa. (See Useful Plants.)

[The vegetative characters display a remarkably wide, but apparently continuous, range of variation, while the spikelet characters remain constant; I have, therefore, continued to treat it as a single species for the time being.—W.D.C.]

2. **Monocymbium deightonii** *C. E. Hubbard* in Kew Bull. 4: 374 (1949); incl. var. *tonkouii* Jac.-Fél. in Rev. Bot. Appliq. 30: 177 (1950). *APD acc*

Procumbent perennial, with flowering culms 30–60 cm. high; spikelet indumentum ranges from glabrous to villous; [seepage zones on rock outcrops](#).

Guin.: Mamou Adam 7913! Macenta (Oct.) Jac.-Fél. 1314! Baldwin 9784! Mt. Yonon (Oct., Nov.) Adam 6754! 6801! **S. L.:** Sefadu (Nov., Dec.) Deighton 3561! 4666! Kumrabai to Mamila (Nov.) Deighton 4942! Picket Hill (Nov.) T. S. Jones 208! Sugar Loaf Mt. (Nov.) T. S. Jones 265! **Lib.:** Sanokwele (Sept.) Baldwin 9525! Soplina, Vonjama Dist. (Nov.) Baldwin 10064! Genne-Loffa, Kolahun Dist. (Nov.) Baldwin 10095! **iv. C.:** Mt. Tonkoui, Man Jac.-Fél. 1278! Mt. Momi (Oct.) Aké Assi 9167!

3. **Monocymbium lanceolatum** *C. E. Hubbard* in Kew Bull. 1936: 313. *APD acc*

Similar to the preceding, but much more robust; moist, [sheltered situations in secondary bush](#).

Guin.: (Oct.) Adam 6762! Mt. Gangan, Kindia Jac.-Fél. 272! Benna (Oct.) Jac.-Fél. 7184! **S. L.:** Mamuria to Kulufaga (Nov.) Glanville 337! Fotane (Nov.) Glanville 100! Gbenge Hills (Nov.) Morton SL 2893!

131. ANADELPHIA

Hack. in Engl., Bot. Jahrb. 6: 240 (1885); F.T.A. 9: 388 (1919); Jacques-Félix in Rev. Bot. Appliq. 30: 177; Clayton in Kew Bull. 20: 275 (1966). *APD acc*

- 1 Sessile spikelets 1 in each raceme, embraced by the spatheole:2
Sessile spikelets 2–6 in each raceme:6
- 2 Upper glume of sessile spikelets awnless (rarely with a short awn-point); lower glume coriaceous:3
Upper glume of sessile spikelets with an awn 4–9 mm. long; pedicelled spikelets, if present, with a truncate or obtuse callus:5
- 3 Pedicelled spikelets present, their callus 2-toothed; sessile spikelets 8–10 mm. long; perennial[1. trispiculata](#)
Pedicelled spikelets absent; lower glume of sessile spikelets 2-toothed at the tip; annuals:4
- 4 Awn of fertile lemma 4.5–6 cm. long, the column 1–2 times as long as the limb; sessile spikelet 6–7 mm. long (incl. callus)[2. macrochaeta](#)
Awn of fertile lemma 10–12 cm. long, the column 3 times as long as the limb; sessile spikelet 10–11 mm. long (incl. callus)[3. funerea](#)
- 5 Lower glume of sessile spikelet produced into 2 setae or awns up to 5 mm. long; sessile spikelets 5.5–7 mm.

- long, the lower glume coriaceous [4. trichaeta](#)
- Lower glume of sessile spikelet 2-toothed; sessile spikelets 3·5–5 mm. long, the lower glume firmly chartaceous and finely nerved [5. trepidaria](#)
- 6** Lower glume of the sessile spikelets obtuse at the apex, coriaceous; sessile spikelets 2 per raceme, enclosed by the spatheole: **7**
- Lower glume of the sessile spikelets 2-toothed or 2 awned at the apex; raceme exerted from the tip of the spatheole: **8**
- 7** Perennial; sessile spikelets 5–8 mm. long, including a callus 1·5–2·5 mm. long; pedicelled spikelets 6–9 mm. long; spatheoles 2–3·5 cm. long, green tinged with yellow or brown; panicle containing numerous racemes [6. afzeliana](#)
- Annual; sessile spikelets 10–13 mm. long, including a callus 3–4 mm. long; pedicelled spikelets 15–25 mm. long; spatheoles 4·5–5·5 cm. long, tinged with purple; panicle scanty [7. chevalieri](#)
- 8** Perennial; callus of sessile spikelets obtuse, the lower glume firmly chartaceous and finely nerved; leaf-blades up to 6 mm. broad, rarely narrow and involute; sessile spikelets 3–5 per raceme, 4–5 mm. long; awn of fertile lemma 0·7–1·7 cm. long [8. leptocoma](#)
- Annuals; lower glume of sessile spikelets coriaceous; leaf-blades 1–2 mm. broad: **9**
- 9** Sessile spikelets 5·5–7 mm. long, 2 per raceme, the apex of the lower glume drawn out into 2 awnlets 1–5 mm. long; callus slender and pungent; awn of fertile lemma 2–4 cm. long [9. polychaeta](#)
- Sessile spikelets 3·5–4·5 mm. long, 2-toothed at the apex; awn of fertile lemma 1·5–2·2 cm. long: **10**
- 10** Awn of fertile lemma once geniculate; callus of sessile spikelet slender, narrowly obtuse to pungent, its hairs pallid; leaf-blades 2–8 cm. long; sessile spikelets 4–6 per raceme [10. pumila](#)
- Awn of fertile lemma bigeniculate; callus of sessile spikelet oblong and obtuse, its hairs fulvous; leaf-blades 12–30 cm. long; sessile spikelets 2–3 per raceme [11. bigeniculata](#)

1. *Anadelphia trispiculata* Stapf in F.T.A. 9: 398 (1919); A. Chev. in Rev. Bot. Appliq. 13: 877. *APD acc*

Pobeguinea trispiculata (Stapf) Jac.-Fél. in Rev. Bot. Appliq. 30: 174 (1950).

Hypogynium trispiculatum (Stapf) Roberty in Boissiera 9: 183 (1960).

Stout caespitose perennial about 120 cm. high; panicle stiffly linear, the branches appressed to the main axis; **swampy places**.

Guin.: Conakry (Oct.) Adam 12607! Kanea (Oct.) Adam 12633! Kindia Jac.-Fél. 257! Baffing R. (Oct.) Pobéguin 1787! Fouta Djallon (Oct.) Adam 12574! **S. L.:** Mano Bonjema (Jan.) Adames 3! Whale R. (Oct.) Morton SL 1422! Massa (Sept.) J. W. D. Fisher 1765! Toma, Bonthe Is. (Nov.) Deighton 2293! **Iv. C.:** Abouabou (Mar.) Aké Assi 10008! Moossou (Mar.) Raynal 13578! Mbrabo (Jan.) Hédin! **Ghana:** Atuabo, Nzima (Jan.) Thorold 299! 300! Eikwe (Dec.) Rose Innes GC 30548! **Togo Rep.:** Bombouaka (Nov.) Bille TG 381!

2. *Anadelphia macrochaeta* (Stapf) W. D. Clayton in Kew Bull. 2: 281 (1966). *APD acc*

Monium macrochaetum Stapf in F.T.A. 9: 400 (1919); F.W.T.A., ed. 1, 2: 594.

Hypogynium macrochaetum (Stapf) Roberty in Boissiera 9: 185 (1960).

Slender annual 30–60 cm. high; **ironstone outcrops**.

Guin.: Conakry (Oct.) Adam 12618! Mamou (Oct.) Adam 12647! Téliélé to Pita (Oct.) Pitot! Madina Tossekré (Oct.) Adam 12537! Timbo (Oct.) Pobéguin 1790!

3. *Anadelphia funerea* (Jac.-Fél.) W. D. Clayton in Kew Bull. 20: 281 (1966). *APD acc*

Monium funereum Jac.-Fél. in Rev. Bot. Appliq. 30: 186 (1950).

Tufted annual about 60 cm. high.

Guin.: Kindia (Sept.) Jac.-Fél. 1850!

4. *Anadelphia trichaeta* (Reznik) W. D. Clayton in Kew Bull. 20: 281 (1966). *APD acc*

Monium trichaetum Reznik in Bull. Mus. Hist. Nat. sér. 2, 4: 1046 (1932); A. Chev. in Rev. Bot. Appliq. 13: 877.

Pobeguinea trichaeta (Reznik) Jac.-Fél. in Rev. Bot. Appliq. 30: 174 (1950).

Hypogynium trichaetum (Reznik) Roberty in Boissiera 9: 183 (1960).

Slender annual 30–60 cm. high; **shallow soils and ironstone outcrops**.

Guin.: Conakry (Oct.) Adam 12601! Kanea (Dec.) Adam 12629! Kindia (Oct.) Jac.-Fél. 184! 7198! **S. L.:** Waterloo (Aug.) Melville & Hooker 332!

5. *Anadelphia trepidaria* (Stapf) Stapf in F.T.A. 9: 390 (1919). *APD acc*

Andropogon trepidarius Stapf in Journ. de Bot. 19: 100 (1905).
Monium trepidarium (Stapf) Jac.-Fél. in Rev. Bot. Appliq. 30: 182 (1950).
M. rufum Jac.-Fél. l.c. 182 (1950).
M. congestum Jac.-Fél. l.c. 184 (1950).
M. monianthum Jac.-Fél. l.c. 184 (1950).
Hypogynium trepidarium (Stapf) Roberty in Boissiera 9: 186 (1960).

Annual 30–60 cm. high on ironstone outcrops.

Guin.: Thiangeul Bori (Oct.) Adam 12682! Dalaba (Oct.) Adames 394! Labé (Dec.) Jac.-Fél. 638! Dinguiraye (Dec.) Jac.-Fél. 1472! Kouroussa (Oct.) Pobéguin 524!

6. *Anadelphia afzeliana* (Rendle) Stapf in F.T.A. 9: 397 (1919). *APD acc*

Andropogon afzelianus Rendle in J. Bot. 31: 357 (1893).
Anadelphia eriocoleus K. Schum. (1897).
Anadelphia arrectus Stapf (1905); Chev. Bot. 716.
Anadelphia glaucopurpureus Stapf (1905).
Anadelphia arrecta (Stapf) Stapf in F.T.A. 9: 396 (1919); F.W.T.A., ed. 1, 2: 592; A Chev. in Rev. Bot. Appliq. 13: 877.
Pobéguinea arrecta (Stapf) Jac.-Fél. in Rev. Bot. Appliq. 30: 173 (1950); Berhaut, Fl. Sén. ed. 2, 422.
P. afzeliana (Rendle) Jac.-Fél. l.c. 174 (1950).
Hypogynium arrectum (Stapf) Roberty in Boissiera 9: 183 (1960).

Tufted perennial 1–2 m. high; in savanna.

Sen.: Nioro du Rif (Nov.) Berhaut 1697! Niokolo-Koba (Oct.) Adam 15900! Kolda to Velingara (Oct.) Adam 18554! **Mali:** Zangoula (Oct.) Farrow 102a! Klela (Oct.) Farrow 61! **Port. G.:** Bissau (Nov., Dec.) Pereira & Correia 2095! 2128! Comura (Nov.) Raimundo & Guerra 155! **Guin.:** Fouta Djallon Chev. 18665! Filicoundji (Oct.) Adam 12594! Kindia Jac.-Fél. 242! Timbo (Oct.) Pobéguin 1794! Kouroussa (Sept.) Pobéguin 520! **S. L.:** Benekoro (Nov.) Glanville 319! Mange to Kambia (Oct.) Adames 260! Tabe to Jama (Sept.) Deighton 3031! Jigaya (Sept.) Thomas 2487! Kasanko (Oct.) Jordan 649! **Lib.:** Warner 63! 65! Paynesville Warner 27! **Iv. C.:** Toumodi to Yamoussokro (Oct.) Adjanohoun 329a! Bagoué to Boundiali (Dec.) Adjanohoun 225a! M'Brabo (Jan.) Hédin! Bingerville to Eloka (Sept.) Hédin! Abouabou (Mar.) Raynal 13646! **U. Volta:** Leo to Ouassa (Oct.) Rose Innes GC 31113! Vane (Sept.) Rose Innes GC 31493! Bobo-Dioulasso (Oct.) Koechlin 6959! **Ghana:** Tamale to Bolgatanga (Oct.) Rose Innes GC 31113! Vane (Sept.) Rose Innes GC 30901! Tonogo (Nov.) Morton A3497! Essiama (Mar.) Rose Innes GC 30878! Atuabo (Jan.) Thorold 298! **Togo Rep.:** Badou to Atakpame (Sept.) Rose Innes GC 31356! **Dah.:** Sémé, Cotonou (Feb.) Raynal 13537! **N. Nig.:** Kontagora (Nov.) Oche MRK94! Samaru (Oct.–Nov.) Thatcher S517! Freeman S163! Shendam (Nov.) Clayton 1464! William Camp, Jos (Sept.) Lawlor & Hall 641! **S. Nig.:** Ogoja Prov. Rosevear 12/30a! 13/30a! Ekoyi, Lagos (Mar., June) Maitland 160! Dalz. 1317! Lagos (Feb.) W. MacGregor 320!

Also in the Congos. (See Useful Plants.)

7. *Anadelphia chevalieri* Reznik in Rev. Bot. Appliq. 14: 199 (1934). *APD acc*

Pobeguinea chevalieri (Reznik) Jac.-Fél. l.c. 30: 173 (1950).

Handsome annual about 1 m. high.

Guin.: Kindia (Oct.) Jac.-Fél. 351! 488!

8. *Anadelphia leptocoma* (Trin.) Pilger in Engl., Bot. Jahrb. 54: 284 (1917); F.T.A. 9: 391; Aké Assi, Contrib. 2: 302. *APD acc*

Andropogon leptocomus Trin. in Mém. Acad. Sci. Petersb. sér. 6, 2: 264 (1832).
Anadelphia tenuiflorus Stapf in Journ. de Bot. 19: 103 (1905).
Anadelphia virgata Hack. in Engl., Bot. Jahrb. 6: 241 (1885).
Anadelphia longifolia Stapf in F.T.A. 9: 393 (1919); F.W.T.A., ed. 1, 2: 592.
Anadelphia tenuifolia Stapf in F.T.A. 9: 392 (1919); F.W.T.A., ed. 1, 2: 592; Aké Assi, Contrib. 2: 302.
Anadelphia pubiglumis Stapf in F.T.A. 9: 394 (1919); F.W.T.A., ed. 1, 2: 592.
Anadelphia trisetata Reznik in Rev. Bot. Appliq. 14: 198 (1934); F.W.T.A. ed. 1, 2: 592; Berhaut, Fl. Sén. ed. 2, 423.
Hypogynium leptocomum (Trin.) Roberty in Boissiera 9: 188 (1960).

Handsome perennial 0.9–1.6 m. high in low-lying savanna, less often on shallow soils and then stunted with narrow leaves.

Mali: Sikasso (Oct.) Demange 2744! **Guin.:** Fouta Djallon (Sept.) Chev. 18277! 18284! Kindia Jac.-Fél. 253! Baffing R. (Oct.) Pobéguin 1789 bis! Timbo Pobéguin 1788! **S. L.:** Northern Prov. (Nov.) Glanville 336! Mange to Kambia (Oct.) Adames 257! Rokon (Oct.) Jordan 566! Kitchom (Jan.) Deighton 931! Kent (Sov.) Deighton 5631! **Lib.:** Vonjama dist. (Oct.) Baldwin 10028! Kolahun dist. (Nov.) Baldwin 10082! Bushrod Is. (Aug.) Baldwin 13042! Brewerville (Sept.) Barker 1428! Monrovia (Nov.) Linder 1432! **Iv. C.:** Dabou (Oct., Nov.) Leeuwenberg 1939! Chev. 17145! 17236! Mont Mofa (Nov.) Aké Assi 10368! Toumodi to Dimbokro (Aug.) Chev. 22258! **Ghana:** Cape Coast (Nov.) Hall 1165! **S. Nig.:** Lagos (Feb.) W. MacGregor 57! Brass (Aug.) Anderson 1379!

9. **Anadelphia polychaeta** *W. D. Clayton* in Kew Bull. 20: 281 (1966); Berhaut, Fl. Sén. ed. 2, 422. *APD acc*

Annual, about 60 cm. high; **damp soils.**

Sen.: Diouloulou (Oct.) Adam 18222! Marécage de Bayottes (Aug.) Berhaut 6329! **Guin.:** Youkounkoun (Oct.) Pitot! Iles Tristão (Nov.) Jac.-Fél. 7336!

10. **Anadelphia pumila** *Jac.-Fél.* in Rev. Bot. Appliq. 30: 178 (1950). *APD acc*

Hypogynium pumilum (*Jac.-Fél.*) *Roberty* in Boissiera 9: 187 (1960).

15–60 cm. high, **on dry sandy soils or hardpan.**

Guin.: Gangan Mt. (Oct.) Schnell 7486! Kindia (Oct., Nov.) Jac.-Fél. 7196! 2075! Friguiagbé (Nov.) Chillou 3387! **Ghana:** Sampa to Wenchi (Oct.) Rose Innes GC 31637!

11. **Anadelphia bigeniculata** *W. D. Clayton* in Kew Bull. 20: 283 (1966). *APD acc*

Annual, 30–60 cm. high; **on ironstone outcrops.**

Guin.: Dalaba (Oct.) Adames 390! Kanea (Oct.) Adam 12627! Madina Tossekré (Oct.) Adam 12530! Télimélé to Pita (Oct.) Pitot! **S. L.:** Bumban (Oct.) Deighton 3279!

132. VOSSIA

Wall. & Griff. in J. Asiat. Soc. Bengal 5: 572 (1836); F.T.A. 9: 41 (1917); nom. cons.

- 1 Racemes 1–6 or more, subdigitate, up to 25 cm. long; internodes and pedicels setulose; lower glume of both sessile and pedicelled spikelets with a flat herbaceous tail up to 3 cm. long and 2 mm. wide *cuspidata*

Vossia cuspidata (*Roxb.*) *Griff.* Not. 3, Index 12 (1851); F.T.A. 9: 41; A. Chev. in Rev. Bot. Appliq. 13: 849; Berhaut, Fl. Sén. ed. 2, 390, 398; including var. *polystachya* Koechl. in Bull. Soc. Bot. Fr. 108: 243 (1961). *APD acc*

Ischaemum cuspidatum *Roxb.*, Fl. Ind. 1: 325 (1820).

Vossia procera *Wall. & Griff.* (1836)—Chev. Bot. 714.

Perennial, the spongy culms submerged or floating, rooting from the submerged nodes; **in water near the margins of lakes and rivers.**

Mali: Dari (Nov) Farrow 105a! Ouatagouana (Sept.) Hagerup 431! Gao (Jan.) Chev. 43057! Mopti (Sept.) Matthes 1! **S. L.:** Bum-Kittam R. (Sept.) Fisher 1770! Bap to Pazehun (Dec.) Sampson 54! Subu (Oct.) Jordan 600! **U. Volta:** Ouagadougou (Dec.) Scholz 195! **Ghana:** Battor (Nov.) Lawson VBS 767! **N. Nig.:** Sokoto (Oct.) Dalz. 508! Kworre (Sept.) Palmer 19! Katagum Dalz. 291! Kukawa (Feb.) Davey FHI 27168! Kalkala (Oct.) Gwynn 103!

Throughout tropical Africa and in **India**. (See Useful Plants.)

133. URELYTRUM

Hack. in E. & P., Pflanzenfam. 2, 2: 25 (1889); F.T.A. 9: 42 (1917).

- 1 Racemes numerous, usually 30 or more, in whorls along the axis of a panicle 30–60 cm. long; leaf-blades up to about 20 mm. broad; sessile spikelet 5–6 mm. long, its lower glume subacute and smooth between the spinously ciliate keels; callus rounded, obtuse; awn 7–15 mm. long, rarely wanting *l. giganteum*

- Racemes 1–9, subdigitate; leaf-blades up to 6 mm. broad:2
- 2 Lower glume of sessile spikelets conspicuously muricate on the keels:3
- Lower glume of sessile spikelets smooth on the keels or spinulose-ciliolate near the tip:4
- 3 Annual; racemes solitary; sessile spikelets 5–7 mm. long, glabrous; pedicelled spikelets 3–7 mm. long or almost suppressed; awns 2.5–3.5 cm. long, spirally coiled about the raceme below, the upper part horizontally spreading [2. *anuum*](#)
- Perennial; racemes 2–4; sessile spikelets 6–8 mm. long, usually shortly pubescent on the back; pedicelled spikelets more or less reduced; awns 5–7 cm. long, falcate [3. *muricatum*](#)
- 4 Ligule 4–16 mm. long, adnate to auricles from the top of the sheath:5
- Ligule 1–2 mm. long; pedicelled spikelets more or less reduced; awns falcate:6
- 5 Sessile spikelets 8–11 mm. long; pedicelled spikelets suppressed, the awn 6.5–10 cm. long, falcate; racemes 1–3; ligule 7–16 mm. long [4. *auriculatum*](#)
- Sessile spikelets 6 mm. long; pedicelled spikelets 5 mm. long, the awn 4.5 cm. long and spirally coiled about the raceme with the upper part spreading horizontally; racemes 1; ligule 4–5 mm. long [5. *semispirale*](#)
- 6 Racemes 4–9; sessile spikelet 6–7 mm. long, glabrous; awns 2.5–4 cm. long [6. *fasciculatum*](#)
- Racemes solitary:7
- 7 Awn up to 5 cm. long; sessile spikelets 6–8 mm. long, pubescent [7. *gracilius*](#)
- Awn 1–2 cm. long; sessile spikelets 8–10 mm. long, glabrous [8. *pallidum*](#)

1. **Urelytrum giganteum** *Pilger* in Engl., Bot. Jahrb. 34: 125 (1904); F.T.A. 9: 46. *APD acc*

Urelytrum thyrsoides *Stapf* in F.T.A. 9: 47 (1917); F.W.T.A., ed. 1, 2: 599; A. Chev. in Rev. Bot. Appliq. 13: 850.
Rhytachne gigantea *Stapf* (1908).

Robust perennial up to 2.5 m. high; **swampy places**.

N. Nig.: Ward 703! Abinsi (Aug.) Dalz. 902! Fadan Karshi, Wamba (Oct.) Kennedy FHI 8041! Yankari (Sept.) Oche & Tuley 1657! **S. Nig.:** Ogoja (Aug.) Nwanzo 770! **W. Cam.:** Boku, Donga plain Brunt 999!

Extends south to the Congo and east to the **Sudan**. (See Useful Plants.)

2. **Urelytrum annuum** *Stapf* in Mém. Soc. Bot. Fr. 2, 8: 99 (1908); F.T.A. 9: 44; Chev. Bot. 714; Berhaut, Fl. Sén. ed. 2, 389. *APD acc*

Erect annual about 1.2 m. high; **shallow or rocky soils**.

Sen.: Maleine Hiani (Oct.) Adam 15498! Kanéméré (Sept.) Fotius K445! Kounkouba (Oct.) Diallo 482! **Guin.:** Soumbalako to Boulivel (Sept.) Chev. 18667! Timbo (Oct.) Pobéguin 1773! Baffing (Oct.) Adam 12664bis! **U. Volta:** Gaona (Oct.) Rose Innes GC 31533! **Ghana:** Nakpanduri to Yendi (Oct.) Rose Innes GC 30736! Bolgatanga to Tamale (Oct.) Rose Innes GC 30237! Bawku to Bolgatanga (Oct.) Rose Innes GC 30507! Bawku (Oct.) Ankrah GC 20293! **Togo Rep.:** Sansanné Mango to Kande (Oct.) Rose Innes GC 31413!

3. **Urelytrum muricatum** *C. E. Hubbard* in Kew Bull. 4: 367 (1949). *APD acc*

Up to 2.5 m. high; **in savanna**.

Sen.: Kanéméré (Sept.) Fotius K 389! **Mali:** Sikasso (Sept.) Adam 15058! Niena (Oct.) Demange 3023! **Iv. C.:** Ferkessédougou (Oct.) Adjanahoun 199a! **U. Volta:** Batié to Gaoua (Oct.) Rose Innes GC 31535! Varalé (Sept.) Aké Assi 6492! Tondolira (Oct.) Scholz 89! **Ghana:** Kete Krachi to Yendi (Sept.) Ankrah GC 20246! Salaga to Tamale (Oct.) Rose Innes GC 30511! Gambaga (Oct.) Rose Innes GC 30760! Gambaga to Walewale (Oct.) Rose Innes GC 30267! Kpandai to Salaga (Oct.) Ankrah GC 20405! **Togo Rep.:** Sokode to Lama Kara (Oct.) Rose Innes GC 31390! **N. Nig.:** Gwada, Niger Prov. Lamb 3192! Plateau Prov. (Sept.) Lely P759! Anara F.R. (Oct.) Keay FHI 20135! Samaru, Zaria (Aug., Sept.) Thatcher S.466! Clayton 1299!

4. **Urelytrum auriculatum** *C. E. Hubbard* in Kew Bull. 4: 368 (1949). *APD acc*

Perennial, 90–120 cm. high.

N. Nig.: Vodni, Pankshin Saunders 36a!

5. **Urelytrum semispirale** *W. D. Clayton* in Kew Bull. 20: 257 (1966).

APD: *Synonym of Urelytrum agropyroides (Hack.) Hack.*

Ghana: Ahamansu (Sept.) Rose Innes GC 31325!

6. *Urelytrum fasciculatum* Stapf ex C. E. Hubbard in Kew Bull. 4: 370 (1949).

APD: Synonym of Urelytrum digitatum K. Schum.

Caespitose perennial up to nearly 2 m. high.

N. Nig.: Gembu to Donga R., Mambila (Aug.) De Leeuw 1804! **W. Cam.:** Jakiri (June) Brunt 689!

Also in **E. Cameroun** and **C. African Rep.**

7. *Urelytrum gracilius* C. E. Hubbard in Kew Bull. 4: 369 (1949).

APD: Synonym of Urelytrum agropyroides (Hack.) Hack.

Perennial about 1 m. high.

N. Nig.: Shika, Zaria Bumpus 29!

8. *Urelytrum pallidum* C. E. Hubbard in Kew Bull. 4: 376 (1949).

APD: Synonym of Urelytrum agropyroides (Hack.) Hack.

Perennial up to 2·5 m. high.

Ghana: Yendi (Aug.) Hinds 6! Yendi to Gambaga (Sept.) Ankrah GC 20255! Kpandai to Salaga (Oct.) Ankrah GC 20404!

134. JARDINEA

Steud., Syn. Pl. Glum. 1: 360 (1854); F.T.A. 9: 50 (1917).

- 1 Racemes numerous, up to 25 cm. long, fasciculate from a short common axis; sessile spikelets 4–7 mm. long, acuminate to apiculate, muricate on sides and back or the smaller spikelets on the sides only; callus truncate; pedicelled spikelets similar, with or without an awn-point up to 2 mm. long [congoensis](#)

Jardinea congoensis (Hack.) Franch. in Bull. Soc. Hist. Nat. Autun 8: 321 (1895); F.T.A. 9: 53; A. Chev. in Rev. Bot. Appliq. 13: 850. *APD acc*

Rhytachne congoensis Hack. in DC., Monogr. Phan. 6: 277 (1889).

Perennial, 1·6–3·6 m. high; best distinguished from awnless forms of *Urelytrum giganteum* by the truncate, square-cornered callus of the sessile spikelets; **swampy places**.

Ghana: Avedo, Sogakope, Adidome junction (Sept.) Rose Innes GC 31280! Kete Krachi to Yendi (Oct.) Rose Innes GC 30950! Navrongo to Lawra (Oct.) Rose Innes GC 30290! Tumu (Oct.) Rose Innes GC 32292! **Togo Rep.:** Lomé Warnecke 235! Kande to Lama Kara (Oct.) Rose Innes GC 31402! **N. Nig.:** Ilorin (Aug.) Ward L104! Badeggi (Sept.) Clayton 300! Nupe Barter 1381! Zaria (Aug.) Keay FHI 28017! Abinsi Dalz. 898! **S. Nig.:** Lagos (Feb., Aug.) Millen 131! Dalz. 1421! W. MacGregor 86! Shaki (Aug.) Latilo & Taylor FHI 41477! Ogoja to Abakaliki (Aug.) Nwango 809!

Extends east to the **Sudan**, and south through the Congo to **Angola** and Zambia. (See Useful Plants.)

135. LASIURUS

Boiss., Diagn. Pl. Nov. Or. sér. 2, 4: 145 (1859); F.T.A. 9: 60 (1917).

- 1 Perennial, almost subwoody at the base, with wiry glaucous culms; blades linear, long-attenuate to a setaceous tip, glaucous, glabrous except for a few hairs near the ligule; racemes up to 10 cm. long, densely white villous, the spikelets often three at each node, two sessile and one pedicelled; sessile spikelets 6–9 mm. long, pale green, the lower glume flat, hirsute, emarginate or 2-toothed at the tip [hirsutus](#)

Lasiurus hirsutus (Forsk.) Boiss. Diagn. Pl. Nov. Or. sér. 2, 4: 146 (1859); F.T.A. 9: 60; A. Chev. in

Rev. Bot. Appliq. 13: 851; De Miré & Gillet in J. Agric. Trop. 3: 733.

APD: Synonym of Lasiurus scindicus Henrard

Saccharum hirsutum Forsk., Fl. Aegypt.-Arab. 16 (1775).

Up to 90 cm. high; **dry soils**.

Mali: Bouresaa to Tessalit (Sept.) Rossetti 194/1959! **Niger:** Agades (Feb.) Bradley 3! Aïr (fide De Miré & Gillett).

Also in N. Africa and eastwards through Iraq, **Egypt**, **Sudan**, **Somalia** and **Arabia** to India.

136. ELIONURUS

Kunth ex Willd., Sp. Pl. 4: 941 (1806); F.T.A. 9: 62 (1917).

- 1 Lower glume of the sessile spikelet with tooth-like warts bearing tufts of hair on the margin:2
- Lower glume of the sessile spikelet merely ciliate:4
- 2 Perennial; leaf-sheaths villous to tomentose; blades stiff, glabrescent to villous above, closely ribbed and scaberulous on the veins below; racemes long-exserted [1. hirtifolius](#)
- Annuals:3
- 3 Racemes distant, long-exserted; leaf-sheaths glabrous to pilose; blades thin, usually rolled, glabrescent or with a few sparse hairs [2. elegans](#)
- Racemes gathered in bundles, embraced below by the spatheoles [3. royleanus](#)
- 4 Lower glume of both spikelets with awns up to 20 mm. long [4. euchaetus](#)
- Lower glume of sessile spikelet with awns up to 4 mm. long, the pedicelled spikelet at most apiculate:5
- 5 Culms much branched, the flowering branches 2–3-nate, forming a spathate false panicle; leaf-blades 2–5 mm. broad, often involute:6
- Culms simple, with a terminal raceme and sometimes 1–2 axillary racemes; leaf-blades filiform, or (in our area) up to 3 mm. broad [7. argenteus](#)
- 6 Callus of sessile spikelet 2 mm. long, the lower glume glabrous on the back; hairs fringing glume short, stiff, up to 0.5 mm. long 5. platypus..... [5. platypus](#)
- Callus of sessile spikelet 1 mm. long, the lower glume glabrescent to villous; hairs fringing glume usually longer, up to 1 mm. long [6. pobeguinii](#)

1. *Elionurus hirtifolius* Hack. in DC., Monogr. Phan. 6: 341 (1889); F.T.A. 9: 63; A. Chev. in Rev. Bot. Appliq. 13: 851. *APD acc*

Tufted perennial, 30–60 cm. high.

Ghana: Burufo (Dec.) Adams 4423! Zuarungu (Dec.) Adams & Akpabla 4306! Lawra (May) Morton GC 7617! **N. Nig.:** Zongon Daji, Kabba Prov. (Nov.) Clayton 597! Abinsi (Mar.) Dalz. 878! Nupe Barter 1176! Birnin Gwari (Mar.) Meikle 1345! Samaru, Giwa Dist. (May) Keay FHI 25730! **S. Nig.:** Abakaliki (Mar.) Jackson 2500b!

Also in **C. African Republic**.

2. *Elionurus elegans* Kunth, Rev. Gram. 361 (1830); F.T.A. 9: 64; Chev. Bot. 715, and in Rev. Bot. Appliq. 13: 851; Berhaut, Fl. Sén. ed. 2, 396. *APD acc*

Andropogon elegans (Kunth) Gay ex Steud. (1854).

Annual, 30–60 cm. high; **dry soils**.

Sen.: Heudelot 384! Niokolo-Koba (Oct.) Adam 15500! Walo (May) Roger 66! Bougouni (Sept.) Adam 15468! **Gam.:** Sankuli-Kunda (Sept.) Pirie 32/33! **Mali:** Sanga Dieterlen 126! Dioura (Aug.) Davey 044! **Port. G.:** Bafatá (Sept.) Esp. Santo 2751! Nova Lamego (Oct.) Pereira 3339! Piche (Sept.) Pereira 3191! 3242! **Guin.:** Koulikoro Chev. 2201! **U. Volta:** Po (Sept.) Aké Assi 6440! Bondoukuy (Sept.) Aké Assi 6401! Gaoua (Oct.) Rose Innes GC 31528! Leo to Po (Oct.) Rose Innes GC 31472! Mossi (Aug.) Chev. 24758! **Ghana:** Bolgatanga to Tamale (Oct.) Rose Innes GC 30235! Lawra (Oct.) Rose Innes GC 30295! Jirapa to Lawra (Oct.) Ankrah GC 20457! Gambaga (Oct.) Ankrah GC 20274! Bolgatanga to Bawku

(Oct.) Rose Innes GC 31442! **Togo Rep.:** Kande to Sansanné Mango (Oct.) Rose Innes GC 31410! **Niger:** Niamey (Oct.) Hagerup 494! **N. Nig.:** 110 miles N. of Gusau (Oct.) De Leeuw & Magaji 1966! Nupe Barter 993!

3. **Elionurus royleanus** *Nees ex A. Rich.* Tent. Fl. Abyss. 2: 471 (1851); F.T.A. 9: 65; A. Chev. in Rev. Bot. Appliq. 13: 852. *APD acc*

Caespitose annual about 15 cm. high; dry soils.

Sen.: Perrottet 895!

Also in the **Cape Verde Is.**, extending through **Uganda**, **Kenya**, **Ethiopia** and **Sudan**, to **Arabia** and India.

4. **Elionurus euchaetus** *Adjanohoun & Clayton* in Adansonia 4: 199 (1964). *APD acc*

Tufted perennial 1 m. high.

Iv. C.: Dabakala to Bondoukou (Jan.) Adjanohoun 236a! 237a! Sanlo to Kakpin (Nov.) Aké Assi 9279! **U. Volta:** Linguekoro (Nov.) Scholz 84!

5. **Elionurus platypus** (*Trin.*) *Hack.* in Bol. Soc. Brot. 3: 135 (1885); F.T.A. 9: 66; Chev. Bot. 715, and in Rev. Bot. Appliq. 13: 852. *APD acc*

Andropogon platypus *Trin.* in Mém. Acad. Sci. Petersb. sér. 6, 2: 261 (1832).

A. donianus *Benth.*, Fl. Nigrit. 570 (1849).

Elionurus vallisus *K. Schum.* in Engl., Bot. Jahrb. 24: 326. (1897).

Caespitose perennial, 0.6–1.8 m. high, with flattened basal sheaths.

Guin.: Diaguissa Chev. 12659! **S. L.:** (May) Barter! Freetown (Aug.) Deighton 2053! Karina (Feb.) Glanville 156! Matotoka (July) Thomas 1249! Rokupr (May) Jordan 864! **Lib.:** Nimba (Dec.) Adam 20365! **Iv. C.:** Danané (June) Adjanohoun 230a! Kong (Oct.) Boudet 3091!

6. **Elionurus pobeguini** *Stapf* in Journ. de Bot. 19: 99 (1905); F.T.A. 9: 67; A. Chev. in Rev. Bot. Appliq. 13: 852.

APD: Synonym of Elionurus ciliaris Kunth

Elionurus tenax *Stapf* in Kew Bull. 1909: 422; F.T.A. 9: 68; F.W.T.A., ed. 1, 2: 600; A. Chev. in Rev. Bot. Appliq. 13: 852.

Tufted perennial up to 2 m. high, with aromatic leaves and silvery racemes.

Guin.: Timbo (Oct.) Pobéguin 1772! 1772bis! Madina Tossekré (Oct.) Adam 12376! Kouroussa (Sept.) Pobéguin 517! Kankan Bardou! **S. L.:** Mt. Loma (Dec.) Jaeger 8413! **Iv. C.:** Téhini (Dec.) Aké Assi 7511! Kong (Oct.) Boudet 3089! **U. Volta:** Samandeni (Sept.) Kmoch 112! Gaoua (Oct.) Rose Innes GC 31527! Leo to Ouassa (Oct.) Rose Innes 31500! Leo to Po (Oct.) Rose Innes GC 31072! Banfora to Mangodara (Nov.) Scholz 88! **Ghana:** Banda to Bui (Oct.) Rose Innes GC 31602! Babile Agric. Sta. (Oct.) Rose Innes GC 30296! Navrongo to Tumu (Oct.) Rose Innes GC 30781! Sawla (Oct.) Rose Innes GC 30666! Bolgatanga to Bawku (Oct.) Rose Innes GC 30503! **Togo Rep.:** Sokode to Lama Kara (Oct.) Rose Innes GC 31395! **Dah.:** Parakou (Nov.) Risopoulos 1288! **N. Nig.:** Gwada, Niger Prov. Lamb 3187! Kangimi, Anara F.R. (Oct.) Keay FHI 5485! Shika (Oct.) Clayton 133! Gindiri, Jos Plateau (Oct.) Hepper 1139! Okene (Nov.) Clayton 570!

7. **Elionurus argenteus** *Nees* Fl. Afr. Austr. 95 (1841); F.T.A. 9: 70; A. Chev. in Rev. Bot. Appliq. 13: 852.

APD: Synonym of Elionurus muticus (Spreng.) Kuntze

Elionurus chevalieri *Stapf* in Mém. Soc. Bot. Fr. 2, 8: 100 (1908); F.T.A. 9: 70; F.W.T.A., ed. 1, 2: 600; Chev. Bot. 715, and in Rev. Bot. Appliq. 13: 852.

Densely caespitose perennial about 60 cm. high.

Guin.: Sangorola (Feb.) Chev. 341! **S. L.:** Mt. Loma (Jan.–June) Jaeger 8846! 9394! 9417! 9782! Tingi Mts. (Apr.) Morton & Gledhill SL 1884! **U. Volta:** Bobo-Dioulassa (June) Scholz 102! **N. Nig.:** Abinsi (Mar.) Dalz. 866! Minna to Zungeru (Feb.) Meikle 1227! Bauchi (Jan.) Lely P92! **W. Cam.:** Bali, 4,100 ft. (Apr.) Brunt 1054! Gembu, 4,500 ft. (Jan.) Hepper 2826!

Throughout tropical and S. Africa.

[Specimens from W. Africa, Congo, Uganda and Ethiopia differ from typical *E. argenteus* in their harder basal sheaths and broader leaf-blades; but the two forms intergrade and cannot be reliably separated.

The generic name was spelled *Elyonurus* by Willd., but eventually published by Kunth (1816) as *Elionurus*; the etymology leaves no doubt that Willd. miscopied it. Several of the species are closely allied to, perhaps conspecific with, American species, but the taxonomy of the latter is not clear and it would be premature to attempt a correlation.]

137. LOXODERA

Launert in Bol. Soc. Brot. 37: 80 (1963), and in Senck. Biol. 46: 121 (1965).

- 1 Pedicelled spikelets awnless *1. ledermannii*
 Pedicelled spikelets with awns 5–15 mm. long *2. strigosa*

1. *Loxodera ledermannii* (Pilger) W. D. Clayton ex Launert in Senck. Biol. 46: 121 (1965); Clayton in Kew Bull. 20: 258 (1966). *APD acc*

Elionurus ledermannii Pilger in Engl., Bot. Jahrb. 45: 207 (1910).

Lasiurus maitlandii Stapf & C. E. Hubbard in Kew Bull. 1927: 264.

Densely caespitose perennial about 60 cm. high.

Niger: Gaya (Oct.) Boudet 5259! **N. Nig.:** 17 miles N. of Kaduna (May) Keay FHI 25759! Shaganu (June) J. Hall 1283!

Also in **E. Cameroun** and **Uganda**.

2. *Loxodera strigosa* (Gledhill) W. D. Clayton in Kew Bull. 23: 295 (1969). *APD acc*

Urelytrum strigosum Gledhill in Bol. Soc. Brot. sér. 2, 41: 58 (1967).

Tufted, perennial up to 1 m. high, the basal sheaths becoming fibrous at maturity.

S.L.: Loma Mts. (Feb.) Gledhill 369!

138. HACKELOCHLOA

O. Ktze., Rev. Gen. 2: 776 (1891).

- 1 Leaf-blades linear-lanceolate, rounded and amplexicaul at the base, coarsely setose with tubercle-based hairs, up to 10 cm. long and about 1 cm. broad; racemes solitary, 1–2 cm. long, supported by spatheoles; sessile spikelet 1.5 mm. long, the lower glume pitted and tubercled; pedicelled spikelet ovate, 1.5 mm. long, herbaceous; pedicel fused to the adjacent internode *granularis*

Hackelochloa granularis (Linn.) O. Ktze. Rev. Gen. Pl. 2: 776 (1891); Berhaut, Fl. Sén. ed. 2, 421. *APD acc*

Cenchrus granularis Linn., Mant. 2, App. 575 (1771).

Manisuris granularis (Linn.) Linn. f., Nov. Gram. Gen. 40 (1779); F.T.A. 9: 57; Chev. Bot 715, and in Rev. Appliq. 13: 850.

M. polystachya P. Beauv. (1804).

Rottboellia granularis (Linn.) Roberty (1960).

Annual, up to 60 cm. high or more; **weed of cultivated land**.

Gam.: Saunders 35! **Mali:** Nyamino to Koulikoro (Oct.) Chev. 2280! Labézenga (Sept.) Hagerup 438! Dioura (Sept.) Davey 074! **Guin.:** Chillou 976! Kindia Jac.-Fél. 176! Timbo (Oct.) Pobéguin 1770! Bambaya (Oct.) Jaeger 2139! **S. L.:** Kortright (Oct.) Gledhill 44! Musaia (Dec.) Deighton 4429! Kambia (Aug.) Jordan 300! Kabala (Sept.) Thomas 2262! Pendembu (Oct.) Glanville 83! **iv. C.:** Vavoua to Séguéla (Oct.) Adjanohoun 414a! Bouaké (July) Chev. 22121! Nambonkaha (Nov.) Leeuwenberg 2045! Tehini (Aug.) de Wilde 688! **U. Volta:** Zabré (Oct.) Scholz 128a! **Ghana:** Cape Coast Rose Innes GC 30016! Achimota (May) Irvine 690! Bamboi to Bole (Oct.) Rose Innes GC 30648! Gambaga (Oct.) Vigne FH 4636! Tamale to Bolgatanga (Oct.) Rose Innes GC 30225! **Togo Rep.:** Lomé Warnecke 172! Kande (Oct.) Rose Innes GC 31406! **N. Nig.:** Lokoja to Kabba (Oct.) Parsons 22! Nupe Barter! Zaria Taylor 5! Gindiri, Plateau (Oct.) Hepper 1082! Yola (July) Dalz. 273! **S. Nig.:** Ibadan (June) Jones FHI 4353! Igboora (Oct.) Haines 344! Ogurude (Jan.) Holland 272! Enugu (Oct.) Jones FHI 6766! Abakaliki (July) Nwanzo 766! **W. Cam.:** Gurum, Vogel Peak (Nov.) Hepper 1314! Gangumi, Gashaka (Dec.) Latilo & Daramola FHI 28798!

Throughout the tropics. (See Useful Plants.)

139. OXYRHACHIS

Pilger in Not. Bot. Gart. Berl. 11: 655 (1932).

- 1 Spikes solitary on the end of the culms, erect, up to 16 cm. long, the spikelets sunk in hollows; internodes of the rhachis 5–10 mm. long, disarticulating very obliquely along a line some 3 mm. long; spikelets lanceolate, 4–6 mm. long, subacute, furnished with 2 glumes and 2 lemmas, the lower barren, the upper bisexual and sometimes accompanied by a tiny palea [gracillima](#)

Oxyrhachis gracillima (Baker) C. E. Hubbard in Hook., Ic. Pl. t. 3454 (1947), incl. subsp. *occidentalis* Gledhill in Bol. Soc. Brot. 41: 61 (1967). *APD acc*

Rottboellia gracillima Baker in J. Linn. Soc. Bot. 22: 553 (1887).

Oxyrhachis mildbraediana Pilger in Not. Bot. Gart. Berl. 11: 655 (1932).

Caespitose perennial with filiform leaves; **marshy soils**.

S. L.: Loma Mts. (Jan.) Jaeger 9409! 9485! **N. Nig.:** Maisamari, Mambila (Aug.) De Leeuw 1746! **W. Cam.:** Jakiri, Bamenda Div. (Feb.) Hepper 2069!

Also in **Tanzania**, **Zambia** and **Madagascar**.

140. HEMARTHRIA

R. Br., Prodr. Fl. Nov. Holl. 207 (1810); F.T.A. 9: 54 (1917).

- 1 Racemes solitary to fasciculate, 5–7 cm. long; sessile spikelet linear-oblong to oblong, 5–7 mm. long, glabrous; lower glume laterally 2-keeled, obtuse at the tip; pedicelled spikelet similar, but with the lower glume acute [altissima](#)

Hemarthria altissima (Poir.) Stapf & C. E. Hubbard in Kew Bull. 1934: 109; Berhaut, Fl. Sén. ed. 2, 421. *APD acc*

Rottboellia altissima Poir., Voy. Barb. 2: 105 (1789).

R. fasciculata Lam., Tab. Encycl. Méth. Bot. 1: 204 (1791).

Hemarthria fasciculata (Lam.) Kunth, Rev. Gram. 1: 153 (1829); F.T.A. 9: 55; A. Chev. in Rev. Bot. Appliq. 13: 850.

Manisuris altissima (Poir.) Hitchc. (1934).

Perennial up to 1.6 m. high; the culms ascending from a decumbent rooting base; **wet places**.

Sen.: fide Raynal in Adansonia 7: 331 (1967). **Mali:** N. of Mopti (July) Lean 48! **N. Nig.:** Ward 54! Argungu (July) Latilo FHI 62756! Kworre (Sept.) Palmer 32! Daura (Aug.) J. Hall 467!

Chad, **Tanzania**, **south tropical** and **S. Africa**, extending east through Madagascar and Mauritius to India and Burma; also on the shores of the Mediterranean and, probably introduced, in tropical America.

141. ROTTBOELLIA

Linn. f., Nov. Gram. Gen. 23 (1779); F.T.A. 9: 72 (1917); nom. cons.

- 1 Racemes cylindric, 8–15 cm. long, borne in a leafy panicle, the uppermost spikelets barren and forming a slender tail-like appendage; internodes of the rhachis 4–6 mm. long; sessile spikelets a little shorter than the internodes; lower glume coriaceous, ovate, subacute; upper glume boat-shaped, sharply keeled, laterally compressed; pedicelled spikelet as long as the sessile, but green, striate, chartaceous and dorsally compressed [exaltata](#)

Rottboellia exaltata Linn. f. Nov. Gram. Gen. 40, t. 1 (1779); F.T.A. 9: 73; Chev. Bot. 713 and in Rev. Bot. Appliq. 13: 852; Berhaut, Fl. Sén. ed. 2, 392.

APD: *Synonym of Rottboellia cochinchinensis* (Lour.) Clayton

A tall annual up to 3·5 m. high, often supported by stilt roots, with leaf-blades up to 2·5 cm. broad; lower sheaths painfully hispid with stiff hairs; **fallow land, particularly where fertility is high.**

Gam.: McCarthy Is. (Sept.) Pirie 49/33! Wallikunda (Sept.) Macluskie 18! **Guin.:** Dyeke (Oct.) Baldwin 9675! Kindia Jac.-Fél. 212! Timbo (Oct.) Pobéguin 1804! Kouroussa (Nov.) Pobéguin 532! **S. L.:** Rokon, Samu (Oct.) Jordan 569! Njala (Feb.) Deighton 493! Bumbuna (Oct.) Thomas 3805! Makump (Oct.) Glanville 55! Kambia (Dec.) Deighton 859! **Lib.:** Fishtown (July) Baldwin 6670! Ganta, Sanokwele Dist. (Oct.) Harley 1019! Jabrocca (Dec.) Baldwin 10875! **Iv. C.:** Kongasso (Oct.) Adjanohoun 387a! Man (Oct.) Adjanohoun 298a! Niapidou Leeuwenberg 2427! **U. Volta:** Ouagadougou (Aug., Sept.) Chev. 24737! Scholz 150! **Ghana:** Achimota (June) Irvine 5025! Kpandu (Sept.) Ankrah GC 20195! Adawso (May) Howes 903! Kumasi (Apr.) La Danso 49! Tamale (Dec.) Williams 804! **Dah.:** Cotonou to Allada (Oct.) Risopoulos 1228! **N. Nig.:** Abinsi (Sept.) Dalz. 870! Wamba Div. (Oct.) Kennedy 8039! Katagum Dist. Dalz. 288! Zaria Dist. Taylor 28! Sokoto (Oct.) Dalz. 509! **S. Nig.:** Lagos (June, July) Dalz. 1315! Haines 310! Aguku Dist. Thomas 532! Awka (Oct.) Thomas! Jones 6793! **W. Cam.:** Victoria (Jan.) Maitland 900! Nankon, 3,800 ft. (Apr.) Brunt 1122! **F. Po:** (Nov.) T. Vogel 91!

Throughout the Old World tropics, and in the **West Indies**. (See Useful Plants.)

142. ROBYNSIOCHLOA

Jac.-Fél. in J. Agric. Trop. 7: 406 (1960).

- 1 Racemes 4–10 cm. long, borne in a scanty leafy panicle; internodes of the rachis 3–4 mm. long; sessile spikelets about as long as the internodes; lower glume coriaceous, oblong, laterally 2-keeled, the apex truncate, emarginate and winged; upper glume boat-shaped, with a winged keel; pedicelled spikelet 5–7 mm. long, ovate, acute, green, chartaceous, striate *purpurascens*

Robynsiochloa purpurascens (Robyns) Jac.-Fél. in J. Agric. Trop. 7: 406 (1960).

APD: *Synonym of Chasmopodium purpurascens (Robyns) Clayton*

Rottboellia purpurascens Robyns, Fl. Agrost. Congo Belge 1: 66 (1929); F.W.T.A., ed. 1, 2: 602; *Jac.-Fél.* in Rev. Bot. Appliq. 32: 548; Ballard in Hook., Ic. Pl. t. 3139.

Robust swamp grass up to 1·6 m. high, rooting at the lower nodes.

Guin.: Baffing R. (Oct.) Pobéguin 1806! **S. L.:** Bandakor (Sept.) Fisher 1768! Rokon, Samu (Oct.) Jordan 570! Subu, Nongoba Bullom (Oct.) Jordan 598! Bumbe (Apr.) Glanville 234! Kambia (Sept.) Jordan 307!

Also in the **Congo**.

143. CHASMOPODIUM

Stapf in F.T.A. 9: 76 (1917).

- 1 Culms 2–4 m. high; leaf-blades 1–4·5 cm. broad, smooth or scaberulous, often with a false petiole at the base; racemes fragile, 5–13 cm. long, the glumes of the terminal spikelet foliaceous and produced into a tail up to 2·5 cm. long; joints and pedicels glabrous or ciliate; lower glume of the sessile spikelet rigidly coriaceous, ovate to oblong, smooth, laterally winged towards the tip and bifid or emarginate at the apex, 20–35-nerved; pedicelled spikelet almost as long as the sessile, its lower glume variously winged at the tip, usually on one side only *caudatum*

Chasmopodium caudatum (Hack.) Stapf in F.T.A. 9: 76 (1917); A. Chev. in Rev. Bot. Appliq. 13: 854; Berhaut, Fl. Sén. ed. 2, 392. *APD acc*

Rottboellia caudata Hack. in DC., Monogr. Phan. 6: 298 (1889).

R. afzelii Hack. l.c. 300.

R. kerstingii Pilger in Engl., Bot. Jahrb. 34: 126 (1904).

Chasmopodium afzelii (Hack.) Stapf in F.T.A. 9: 77 (1917).

Annual **savanna** grass, with a considerable range of variation in both spikelet and vegetative characters.

Guin.: Kindia Jac.-Fél. 180! Timbo (Mar.) Pobéguin 1805! Macenta (Oct.) Baldwin 9839! **S. L.:** (Dec.) Sc. Elliot 3938! Bumbuna (Oct.) Thomas 3346! Makump (Oct.) Glanville 59! Rokupr (Nov.) Jordan 691! Kambia (Dec.) Deighton 855! **Lib.:** Robertsport (Dec.) Baldwin 10888! Vonjama (Oct.) Baldwin 9947! **Iv. C.:** Vavoua to Séguéla (Jan.) Adjanohoun

238a! Singrobo (Oct.) Adjanohoun 357a! Bouna to Bondoukou (Oct.) Rose Innes GC 31554! Bondoukou (Dec.) Aké Assi 7486! Sorobango (Dec.) Adjanohoun 437a! **U. Volta:** Ouaga (Oct.) Scholz 164! **Ghana:** Kpandu (Sept.) Rose Innes GC 30400! Kafeiro, Hohoe Dist. (Nov.) St. Cl.-Thompson 1644! Kintampo to Bamboi (Oct.) Rose Innes GC 30621! Banda (Oct.) Rose Innes GC 31591! Gambaga to Bawku (Oct.) Rose Innes GC 30269! **Togo Rep.:** Kersting 237! **N. Nig.:** (Aug.) Lely P499! Vodni Saunders 16! Naraguta F.R. (July) Lawlor & Hall FHI 46531! Onyi F.R. (Oct.) Jackson 1! **S. Nig.:** Lagos (Feb.) W. MacGregor 168! Ago-Are F.R. (Nov.) Keay FHI 37691! Ogoja Prov. Rosevear 6/30a!

Extends southward through the Congo to **Angola**; also in the **Sudan**. (See Useful Plants.)

144. COELORHACHIS

Brongn. in Duperr., Voy. Coq. Bot. 64, t. 14 (1831); F.T.A. 9: 78 (1917).

- 1 Racemes 5–7 cm. long, with closely overlapping spikelets; lower glume of the sessile spikelet thinly coriaceous, lanceolate-oblong, smooth, 5-nerved with narrow lateral wings produced into a notched or emarginate tip; upper glume broadly curved with a low median keel; pedicelled spikelets a little smaller than the sessile; pedicel with a lanceolate wing-like appendage 1·5 mm. long from the top [afraurita](#)

Coelorhachis afraurita (*Stapf*) *Stapf* in F.T.A. 9: 80 (1917); Berhaut, Fl. Sén. ed. 2, 421. *APD acc*

Rotthoellia afraurita *Stapf* in Mém. Soc. Bot. Fr. 2, 8: 98 (1908); Chev. Bot. 713.

A tall perennial up to nearly 2 m. high, with strongly compressed basal sheaths; **marshy places**.

Sen.: Niokolo-Koba Adam 17507; 17561. Raynal 6900. Kédougou (Nov.) Adam 19935! **Mali:** Bamako Chev. 232. **Guin.:** Konkouré (Mar.) Pitot 578! **S. L.:** Giema (Nov.) Fisher 64! Kenema (Nov.) Deighton 455! Cameron to Badugri (Jan.) Morton SL 459! Benekoro & Dankawali (Nov.) Glanville 320! **Iv. C.:** Sanlo to Kakpin (Nov.) Aké Assi 9286! Vavoua to Séguéla (Jan.) Adjanohoun 175a! **N. Nig.:** Maisamari, Mambila (Aug.) De Leeuw 1749! **W. Cam.:** Pinyin, 5,500 ft. (Apr.) Brunt 1093! Jakiri, Bamenda Div. (Feb.) Hepper 2073!

Throughout tropical Africa. (See Useful Plants.)

145. RHYTACHNE

Desv. in Hamilt., Prodr. Fl. Ind. Occ. 11 (1825); F.T.A. 9: 81 (1917); Clayton in Kew Bull. 20: 258 (1966), and in Kew Bull. 24: 309 (1970).

- 1 Plants perennial:2
Plants annual:6
- 2 Pedicelled spikelets similar to the sessile:3
Pedicelled spikelets suppressed or up to 1 mm. long; basal sheaths not fibrous; spikelets glabrous:4
- 3 Spikelets and internodes glabrous; basal sheaths fibrous; lower glume longitudinally striate, and sometimes also transversely rugose; spikelets at most mucronate [1. glabra](#)
Spikelets and internodes densely pubescent; basal sheaths not fibrous; lower glume smooth; spikelets with an awn 2–2·5 cm. long from their upper glumes [2. perfecta](#)
- 4 Lower glume smooth; rhachis internodes 6–8 mm. long; leaf-blades flat or convolute, up to 4 mm. broad; spikelets awnless; upper glume concealed [3. megastachya](#)
Lower glume transversely rugose, at least on the keels:5
- 5 Leaf-blades filiform; rhachis internodes 3–5 mm. long; glumes of sessile spikelet and rudimentary pedicelled spikelet with or without awns up to 5 mm. long; upper glume smooth, concealed [4. rotthoellioides](#)
Leaf-blades flat, basal sheaths compressed and keeled; internodes of rhachis 6–7 mm. long; glumes awnless; upper glume rugose on the keel, visible between the slightly parted pedicel and internode [5. furtiva](#)
- 6 Rhachis internodes 4–6 mm. long, the pedicel 1–2 mm. longer; lower glume with deep transverse corrugations; glumes of sessile and rudimentary pedicelled spikelets with awns usually 5–7 mm. long [6. triaristata](#)
Rhachis internodes 2–3 mm. long, the pedicel as long; lower glume inconspicuously rugose; glumes of sessile and rudimentary pedicelled spikelets with awns usually 3–5 mm. long [7. gracilis](#)

1. **Rhytachne glabra** (*Gledhill*) *W. D. Clayton* in Kew Bull. 23: 295 (1969). *APD acc*

Lepargochloa glabra *Gledhill* in Bol. Soc. Brot. 40: 65 (1966).

Densely tufted perennial 30–45 cm. high; mountain [grassland](#).

Guin.: Mt. Nimba Schnell 969. **S. L.:** Tingi Mts. (Apr., Dec.) Morton & Gledhill SL 1885! SL 3083! Loma Mts. (Jan.–Apr.) Morton & Gledhill SL 1096! Jaeger 8845! 9779!

2. *Rhytachne perfecta* Jac.-Fél. in J. Agric. Trop. 1: 41 (1954). *APD acc*

Caespitose plant about 60 cm. high.

Guin.: Massif du Benna Brun 7!

3. *Rhytachne megastachya* Jac.-Fél. in Rev. Bot. Appliq. 32: 552 (1952). *APD acc*

Robust perennial about 1 m. high; [wet land subject to flooding](#).

Guin.: (May) Adam 5163! Fouta Djallon (Dec.) Jac.-Fél. 7432! **S. L.:** Mateboi (July) Glanville 283! Bowankiliboli, Mateboi (Nov.) Jordan 831! **Ghana:** Babile (Oct.) Addei SLUS 1!

4. *Rhytachne rottboellioides* Desv. in Hamilt., Prodr. Fl. Ind. Occ. 12 (1825); F.T.A. 9: 83; Chev. Bot. 714, and in Rev. Bot. Appliq. 13: 854; Berhaut, Fl. Sén. ed. 2, 389; Aké Assi, Contrib. 2: 303; incl. var. *guineensis* Schnell in Rev. Gen. Bot. 57: 291 (1950). *APD acc*

Rhytachne setifolia K. Schum in Engl., Pfl. Ost-Afr. C: 96 (1895).

Densely caespitose grass 30–60 cm. high, [typically on shallow soils over ironpan](#); very variable in length of spikelets and awns, and in degree of corrugation of lower glume.

Sen.: Diégoune, Casamance R. (Sept.) Adam 18076! **Mali:** Bamako (Mar.) Chev. 44072! **Guin.:** Kindia Jac.-Fél. 182! Dalaba (Nov.) Chev. 34595! Nzo to Sakonanta (Mar.) Chev. 21084! Madina Tossekré (Oct.) Adam 12519! Friguigbé (Sept.) Chillou 708! **S. L.:** Mano Bonjema (Apr.) Deighton 3714! Gbap (June) Adames 58! Wellington (June) Deighton 5550! Port Lokko (Apr.) Sc. Elliot 5737! Kobolou & Mabang (Jan.) Glanville 132! **Lib.:** Robertsfield (Mar.) Harley 2120! Painesville (Feb.) Harley 1860! Monrovia (June) Baldwin 5919! Nimba (Sept., Dec.) Adam 16460! Adames 602! **Iv. C.:** Oumé (Sept.) Adjanohoun 255a! Toumodi (Oct.) Adjanohoun 324a! **Ghana:** Essiama (Feb.) Irvine 2337! Atuabo (Apr.) Thorold 38! Kwahu Tafo to Adawso (Oct.) Rose Innes GC 30563! Tamale to Yendi (Oct.) Rose Innes GC 30682! Bimbila (Mar.) Hepper & Morton A3095! **Dah.:** Sémé (Feb.) Raynal 13538! **N. Nig.:** Nupe Barter 1383! Bida Div. (Mar.) Meikle 1324! Abinsi (July) Dalz. 873! Wuya Ferry, Kaduna R. (Sept.) Clayton 357! Jos (Dec.) Haines 123! **S. Nig.:** Obudu Plateau, 5,000 ft. (Dec., May) Tuley 46! 624! **W. Cam.:** Mamfe (Mar.) Richards 5227! Bafut-Ngemba F.R., 5,500–7,400 ft. (Feb., Mar.) Coombe 214! Hepper 2128! High Lava Plateau, 6,500 ft. (Mar.) Brunt 1024! Mbiami, 6,000 ft. (June) Brunt 750!

Throughout tropical Africa. (See Useful Plants.)

5. *Rhytachne furtiva* W. D. Clayton in Kew Bull. 20: 259 (1966). *APD acc*

Caespitose, about 60 cm. high; [disturbed places](#).

U. Volta: Batié to Gaoua (Oct.) Rose Innes GC 31536! **Ghana:** Bole to Bamboi (Oct.) Rose Innes GC 30651! Kintampo to Tamale (Oct.) Rose Innes GC 31120! Damongo to Tamale (Oct.) Rose Innes GC 30217!

6. *Rhytachne triaristata* (Steud.) Stapf in F.T.A. 9: 85 (1917); A. Chev. in Rev. Bot. Appliq. 13: 855; Berhaut, Fl. Sén. ed. 2, 389. *APD acc*

Lepturopsis triaristata Steud., Syn. Pl. Glum. 1: 358 (1854).

Rhytachne trisetata Hack. (1889)—Chev. Bot. 714.

Rottboellia triaristata (Steud.) Roberty in Boissiera 9: 71 (1960).

Slender annual 60 cm. high; [shallow soils over rock outcrop, soils disturbed by cultivation, sometimes by muddy stream sides](#).

Sen.: Kaolak (Nov.) Berhaut 2800! Bodi, Simenti (Nov.) Adam 15928! **Mali:** Ségou (Sept.) Chev. 2329! Marigot Balasoko, Niger Delta (Nov.) Duong! Kirilouba, Niger Delta (Nov.) Duong! **Guin.:** Chillou 757! Timbo (Oct.) Pobéguin 1769! Ditinn Schnell 7405bis! Seriba (Oct.) Adam 12699! **S. L.:** Brookfield (Oct.) Deighton 2142! Newton (Nov.) Deighton 1464! Port Loko (Oct.) Jordan 638! Njala (Oct.) Deighton 1775! Roboli, Rokupr (Nov.) Jordan 171! **Iv. C.:** Séguéla (Oct.) Aké Assi 6583! 9697! **U. Volta:** Gaoua to Batié (Oct.) Rose Innes GC 31531! Po to Navrongo (Oct.) Rose Innes GC 31465! Banankéléda, Bobo-Dioulasso (Oct.) Kmoch 145! Zabré (Oct.) Scholz 159! **Ghana:** Yendi (Oct.) Rose Innes GC 30690! Tamale (Nov.) Thorold 290! Mirigu (Oct.) Vigne FH 4645! Burufu (Nov.) Harris! Gambaga (Oct.) Ankrah GC 20273! **Togo Rep.:** Sansanné Mango (Oct.) Rose Innes GC 31416! **N. Nig.:** (Oct.) Lely! Kaduna (Oct.) Thatcher S542! Kufena

Hill, Zaria (Sept.) Clayton 1313! Anara F.R. (Oct.) Keay FHI 20103! Fodama (Dec.) Moiser 178! **S. Nig.:** Enugu to Agbami (May) Onochie FHI 35813! **W. Cam.:** Vogel Peak, 3,000 ft. (Nov.) Hepper 1415!

Also in the **Sudan** and **Zambia**. (See Useful Plants.)

7. *Rhytachne gracilis* Stapf in Journ. de Bot. 19: 98 (1905); F.T.A. 9: 86; A. Chev. in Rev. Bot. Appliq. 13: 855; Berhaut, Fl. Sén. ed. 2, 392, 395. **APD acc**

Rhytachne minor Pilger in Engl., Bot. Jahrb. 54: 280 (1917); F.W.T.A., ed. 1, 2: 601.

Slender grass 15–60 cm. high; **sandy or shallow soils**.

Guin.: Koba (Nov.) Jac.-Fél. 7280! Conakry (Oct.) Adam 12621! Madina Tossekré (Oct.) Adam 12524! Kouroussa (Aug.) Pobéguin 494! Friguiajbé (Nov.) Chillou 853! **S. L.:** Waterloo (Aug.) Melville & Hooker 294! Lungi (Nov.) Glanville 103! Kitchom (Jan.) Deighton 933! Rolip, Sanda-Tenraron (Sept.) Jordan 535! Rokupr (Nov.) Jordan 177! **U. Volta:** Ouasso (Nov.) Jac.-Fél. 7255! **Iv. C.:** Séguélo (Nov.) Aké Assi 9728!

146. ZEA

Linn., Sp. Pl. 971 (1753), and Gen. Pl. ed. 5, 419 (1754); F.T.A. 9: 26 (1917).

- 1** Leaf-blades linear-lanceolate, up to about 1 m. long and 10 cm. broad or more; male spikelets paired, one sessile or subsessile, the other stalked, in large terminal panicles (the “tassel”); female spikelets in axillary sheathed “ears”, the spikelets paired, both sessile, in longitudinal rows on a thick spongy axis (the “cob”); styles very long, exserted from the ear in a silky tassel (the “silk”) [mays](#)

Zea mays **Linn.** Sp. Pl. 971 (1753); F.T.A. 9: 26; Chev. Bot. 712, and in Rev. Bot. Appliq. 13: 848; De Miré & Gillet in J. Agric. Trop. 3: 740. **APD acc**

The common maize, cultivated throughout the area. Originally from the New World, now introduced to all tropical and warm temperate regions. (See Useful Plants.)

147. COIX

Linn., Sp. Pl. 972 (1753), and Gen. Pl. ed. 5, 419 (1754); F.T.A. 9: 27 (1917).

- 1** Annual up to about 2 m. high; leaf-blades lanceolate, rounded or subcordate at the base, up to 45 cm. long and 5 cm. broad; male spikelets paired or in threes, one pedicelled, the other(s) sessile, in a raceme 2.5–5 cm. long, subtended by a hard, polished, white or bluish sheath 8–10 mm. long; female inflorescence reduced to a solitary spikelet enclosed within the sheath and forming with it a false fruit [lacryma-jobi](#)

Coix lacryma-jobi **Linn.** Sp. Pl. 972 (1753); F.T.A. 9: 27; Mimeur in Rev. Bot. Appliq. 31: 198; Vallayes in Bull. Agric. Congo Belge 39: 247; Chev. Bot. 712, and in Rev. Bot. Appliq. 13: 848; Berhaut, Fl. Sén. ed. 2, 420. **APD acc**

“Job’s Tears”; **stream banks and moist places**.

Mali: Kawlauba (Oct.) Rogeon 217! **Guin.:** Garret 4! Mali to Labé (Nov.) Chev. 34918! Mafindi to Kabaya (Jan.) Chev. 20493! **S. L.:** Yonibana (Oct.) Thomas 4165! Binkolo (Aug.) Thomas 1733! Tungie (Mar.) Marino 80! Mambolo (Dec.) Jordan 740! Mt. Aureol, Freetown (Aug.) Melville & Hooker 110! **Lib.:** Kakatown Whyte! Jabrocca (Dec.) Baldwin 10876! Ganta (Dec.) Harley 18! **Iv. C.:** Niapidou (Jan.) Leeuwenberg 2029! **Ghana:** Sukum (Sept.) Ankrah GC 20072! Kumasi (Mar.) La Danso 30! Tafo (July) Irvine 4972! **N. Nig.:** Share (Jan.) Ejiofor FHI 30801! **S. Nig.:** Umudike (Feb.) Ariwaodo 643! Nikrowa Nedo, Iyekuselu (Nov.) Emwiogbon FHI 57520! **W. Cam.:** Tiko (Feb.) Maitland 978!

A native of tropical Asia, and probably introduced into Africa. (See Useful Plants.)

The false fruit can vary much in shape and size, but so far only the typical form (var. *lacryma-jobi*) has been found in W. Africa

KEY TO THE PRINCIPAL GROUPS OF PLANTS AS ARRANGED IN THIS FLORA

KEY TO THE PRINCIPAL GROUPS OF PLANTS AS ARRANGED IN THIS FLORA

- 1 Plants without flowers or seeds; producing spores which develop into prothalli bearing the reproductive organs, antheridia (male) and archegonia (female):
Plants with flowers and seeds; pollen-grains (containing within their walls the microgametophytes which do not produce antheridia) represent the male gametophytes; the embryo-sac represents the megaspore, which develops into a minute parasitic prothallus within the ovule (equivalent to the megasporangium) and after fertilization develops into a seed (SPERMATOPHYTA):2
- 2 Ovules not enclosed in an ovary; plants dioecious or monoecious; apparent flowers usually arranged (in one or both sexes) in cones of slender spikes; no-perianth; pollen-sacs ("anther-cells") ovoid, closely set on the lower face of the cone-scales, or (when flowers spicate) borne on free or fused filaments (Gnetum); female cone-scales imbricate, stipitate and peltate, or fertile scales solitary or paired, bearing a pair of sessile inverted ovules on the lower side; seeds drupe-like, with a fleshy outer coat or sometimes an aril; endosperm copious with a slender embryo; cotyledons 2:.....3
Ovules enclosed in a closed ovary; flowers not or very rarely arranged in cones; stamens usually differentiated into filament and anther; seeds with or without endosperm; cotyledons 2 or 1 (ANGIOSPERMAE):5
- 3 Leaves parallel-veined, alternate; male flowers in cones; shrubs or trees (GYMNOSPERMAE):.....4
Leaves net-veined, simple, opposite; male and female flowers in spikes; sperm cells eciliate, not motile; slender climber (CHLAMYDOSPERMAE, GNETALES)3. [Gnetaceae](#)
- 4 Leaves pinnatisect, in a terminal tuft crowning the thick simple stem, circinate in bud; sperm cells ciliate, motile; female flowers in large cones (CYCADALES)1. [Cycadaceae](#)
Leaves simple, alternate; sperm cells eciliate, not motile; female fertile cone-scale solitary or paired (CONIFERALES)2. [Podocarpaceae](#)
- 5 Leaves usually net-veined, alternate or opposite; floral parts mostly in fours or fives, or in multiples of these numbers, very rarely in threes or sixes (Annonaceae and Menispermaceae); cotyledons 2, rarely more; herbs, shrubs or trees; stem in cross-section showing the vascular bundles arranged in a ring or rings: [DICOTYLEDONES](#)
Leaves usually parallel-veined, mostly alternate; floral parts usually in threes or sixes; cotyledon 1; mostly herbs, rarely trees; stem in cross-section showing the vascular bundles scattered and not arranged in regular rings:[MONOCOTYLEDONES](#)

KEY TO THE FAMILIES OF MONOCOTYLEDONS

KEY TO THE FAMILIES OF MONOCOTYLEDONS

- 1 Gynoecium composed of 2 or more free or almost free carpels with separate styles and stigmas: [Group 1](#)
 Gynoecium composed of 1 carpel or of 2 or more united carpels with free or united styles and stigmas: [2](#)
- 2 Ovary superior; perianth present or absent: [3](#)
 Ovary inferior or Semi-inferior; perianth present: [6](#)
- 3 Perianth present, composed of 4 or more free or united segments, not reduced to bristles: [4](#)
 Perianth absent or reduced to bristles or to 1-3 free or united scales: [5](#)
- 4 Perianth composed of separate calyx and corolla, the calyx often herbaceous, the corolla petaloid or otherwise different from the calyx, the sepals and petals either free or united among themselves but not all united into a single perianth-tube [Group 2](#)
 Perianth composed of similar or subsimilar segments in 2 series, petaloid or sometimes herbaceous or dry and glumaceous, either free or all united into a single perianth-tube [Group 3](#)
- 5 Flowers solitary or few together or arranged in heads or spikes, not enclosed by scale-like bracts; ovary 1- or more-locular with 1 or more ovules [Group 4](#)
 Flowers (florets) arranged in small spikes (spikelets) and enclosed by scale-like bracts (glumes or lemmas), the spikelets sometimes 1-flowered; ovary 1-locular with 1 ovule; grasses and sedges [Group 5](#)
- 6 Androecium composed of 2 or more fertile stamens [Group 6](#)
 Androecium composed of 1 fertile stamen sometimes accompanied by 1 or more petaloid staminodes .. [Group 7](#)

Group 1

- 1 Saprophytic herbs; leaves reduced to scales [166. Triuridaceae](#)
 Plants not saprophytic; leaves well developed, not reduced to scales: [2](#)
- 2 Leaves pinnate; palms [193. Palmae](#)
 Leaves simple; aquatic or marsh herbs: [3](#)
- 3 Perianth absent; stamens 2, free or united; submerged aquatic plants with narrow linear leaves: [4](#)
 Perianth present, composed of 2-6 free segments; stamens 3 or more: [5](#)
- 4 Flowers bisexual, in 2-flowered spikes; anthers free; carpels 4 or more, with sessile peltate stigmas; plants of saline water [169. Ruppiaceae](#)
 Flowers dioecious, solitary, axillary; anthers united; carpels 2, with 2 filiform stigmas; plants marine [170. Zannichelliaceae](#)
- 5 Flowers with bracts, whorled in simple or compound inflorescences, the inflorescence sometimes spike-like or forming an umbel of 1 or more flowers; perianth composed of 3 sepals and 1-3 petals, or sometimes without petals: [6](#)
 Flowers without bracts, spicate; perianth composed of 2-4 similar segments; plants aquatic: [7](#)
- 6 Carpels slightly united at the base, in 1 whorl, with numerous ovules scattered over the wall of the ovary; marsh plants; inflorescence an umbel, sometimes with an additional whorl of flowers below [163. Butomaceae](#)
 Carpels free, in 1 whorl or spirally arranged, with 1 basal ovule; aquatic or marsh plants [165. Alismataceae](#)
- 7 Leaves radical; spikes simple or 2-branched on elongated peduncles, at first enclosed in a spathe; perianth-segments 2-3; anthers borne on elongated filaments; ovules 2 or more in each carpel ... [167. Aponogetonaceae](#)
 Leaves borne on elongated stems; spikes simple on axillary peduncles, without a spathe; perianth-segments 4; anthers sessile; ovule 1 in each carpel [168. Potamogetonaceae](#)

Group 2

- 1 Leaves pinnate or flabellate or bifurcate; palms, sometimes climbing [193. Palmae](#)
 Leaves simple, not flabellate or bifurcate; herbs: [2](#)
- 2 Ovary 1-locular with 3 parietal placentas bearing numerous ovules; petals united below into a tube; stamens 3, inserted at the mouth of the corolla-tube and alternating with staminodes; leaves all or mostly radical; flowers in bracteate spikes or heads on elongated peduncles [174. Xyridaceae](#)
 Ovary 2-3-locular with axile or apical placentas bearing 1 or more ovules; petals free or united; stamens 6 or fewer, sometimes accompanied by staminodes: [3](#)
- 3 Style 2-6-branched; flowers monoecious, small, in bracteate heads on elongated peduncles; corolla inconspicuous, not brightly coloured, often minute in the male flowers; leaves narrow, radical or crowded [176. Eriocaulaceae](#)
 Style simple, unbranched; flowers bisexual or polygamous; corolla conspicuous, often blue or yellow: [4](#)

KEY TO THE FAMILIES OF MONOCOTYLEDONS

- 4 Anthers opening by a terminal pore; flowers actinomorphic, in shortly pedunculate bracteate heads; petals united, below into a slender tube; stamens 6, all fertile; ovary with 1 ovule in each loculus [175. Rapateaceae](#)
- Anthers opening by longitudinal slits; flowers actinomorphic or zygomorphic, in lax or dense cymes or panicles often subtended by spathaceous bracts; petals free or united below; stamens 6, all or only 2-5 fertile; ovary with 1 or more ovules in each loculus [172. Commelinaceae](#)

Group 3

- 1 Perianth-segments dry and glumaceous, free; flowers small, clustered in lax or dense (sometimes head-like) terminal panicles; leaves narrow or reduced to sheaths; rushes [200. Juncaceae](#)
- Perianth-segments petaloid or herbaceous, free or united: **2**
- 2 Aquatic herbs; leaves with a lanceolate to ovate-orbicular lamina, or linear and submerged; flowers solitary or in spikes or racemes; perianth-segments free or united below into a tube [184. Pontederiaceae](#)
- Plants terrestrial: **3**
- 3 Leaves reduced to spines, their function fulfilled, by leaf-like acicular or flattened branches (cladodes); herbs or shrubs, often climbing [182. Liliaceae](#)
- Leaves well developed, sometimes appearing after the flowers: **4**
- 4 Inflorescence a spadix enclosed in a spathe; ovary 1-2-locular; leaves radical, with a cordate or sagittate or hastate lamina [186. Araceae](#)
- Inflorescence not a spadix enclosed in a spathe; ovary 3-locular: **5**
- 5 Flowers dioecious, small, in axillary umbels; leaves with reticulate venation and stipular tendrils; climbing shrubs with prickly branches [185. Smilacaceae](#)
- Flowers bisexual; leaves without stipular tendrils: **6**
- 6 Ovary with 2 or more ovules in each loculus; fruit a loculicidal or septicidal capsule; herbs, sometimes climbing [182. Liliaceae](#)
- Ovary with 1 ovule in each loculus; fruit not a capsule: **7**
- 7 Perianth-segments free; fruit a drupe; climbing herbs, the leaves ending in tendrils [173. Flagellariaceae](#)
- Perianth-segments united below into a tube; fruit a berry or with a thin pericarp falling away from the berry-like seeds; herbs or shrubs or trees, sometimes climbing, the leaves not ending in tendrils [192. Agavaceae](#)

Group 4

- 1 Leaves absent; minute aquatic herbs, the plant body reduced to a thallus-like "frond" with or without 1 or more pendent rootlets [187. Lemnaceae](#)
- Leaves (or solitary leaf) present, well developed, sometimes appearing after the flowers: **2**
- 2 Leaves (or solitary leaf) petiolate, sometimes 3-partite or much divided, the lamina if undivided often cordate or sagittate or hastate; inflorescence a spadix subtended by or enclosed in a spathe, sometimes with a terminal sterile appendix above the flowers; flowers small, unisexual or sometimes bisexual; herbs or woody climbers, sometimes epiphytic or aquatic [186. Araceae](#)
- Leaves sessile, simple and undivided, not cordate or sagittate or hastate; flowers unisexual: **3**
- 3 Leaves opposite, linear, coarsely or minutely toothed, borne on elongated stems; flowers solitary or few together in the axils of the leaves; submerged aquatic herbs [171. Najadaceae](#)
- Leaves alternate; flowers in spikes or heads: **4**
- 4 Trees with aerial roots; leaves broadly linear, armed with spiny teeth on the margin and often also on the midrib beneath [194. Pandanaceae](#)
- Herbs, often aquatic; leaves without spiny teeth: **5**
- 5 Floating aquatic plants; leaves obovate or oblong-spathulate, hairy, arranged in a cup-like rosette; inflorescence a spadix enclosed in a spathe and adnate to it below, with 1 female flower at the base and several male flowers above [186. Araceae](#)
- Plants not floating; leaves linear or filiform, glabrous: **6**
- 6 Flowers in bracteate heads; ovary 2-3-locular with 1 ovule in each loculus; style branched, with 2-3 filiform stigmas [176. Eriocaulaceae](#)
- Flowers in dense cylindric spikes, the female below, the male above; ovary 1-locular with 1 ovule; style simple, unbranched, with 1 stigma [188. Typhaceae](#)

Group 5

- 1 Florets each enclosed by a bract (lemma) on the outside and a bracteole (palea) on the inside, the spikelet often having 2 empty bracts (glumes) at its base; perianth absent or represented by 2-3 minute scales (lodicules); stems terete or compressed and often with hollow internodes; seed adnate to or sometimes free from the pericarp of the fruit; grasses, herbaceous or sometimes woody (bamboos) [202. Gramineae](#)

KEY TO THE FAMILIES OF MONOCOTYLEDONS

Florets each enclosed by a single bract (glume) on the outside, without a bracteole or female florets each surrounded by a closed bracteole (utricle); perianth absent or represented by bristles or scales; stems often triquetrous and often solid; seed free from the pericarp of the fruit; sedges, herbaceous or sometimes arborescent[201. Cyperaceae](#)

Group 6

- 1 Aquatic herbs with submerged leaves:[2](#)
Plants terrestrial:.....[3](#)
- 2 Perianth composed of 3 free sepals and 3 free petals, or the petals sometimes vestigial or absent; flowers bisexual or dioecious, borne in 1- or more-flowered tubular spathes; ovary 1-locular with parietal placentas; styles 3 or more, simple or 2-branched[164. Hydrocharitaceae](#)
Perianth composed of 6 similar petaloid segments united below into an elongated tube; flowers bisexual, borne in few-flowered umbels subtended by 2 free spathaceous bracts; ovary 3-locular with axile placentas; style 1, simple[189. Amaryllidaceae](#)
- 3 Fertile stamens 5; flowers bisexual or unisexual, zygomorphic, in clusters subtended by large spathaceous bracts; perianth 2-lipped, the median inner segment free, the others united into a 3-5-toothed sheath; tall herbaceous plants with large leaves[178. Musaceae](#)
Fertile stamens 3 or 6:[4](#)
- 4 Flowers unisexual, small; leaves simple or digitate, with reticulate venation; fruit a 3-winged capsule; climbing plants[191. Dioscoreaceae](#)
Flowers bisexual:.....[5](#)
- 5 Leaves deeply divided with pinnately lobed segments, radical; flowers in bracteate umbels, the outer bracts broad, the inner bracts long and filiform; herbs with a tuberous rootstock[197. Taccaceae](#)
Leaves (or solitary leaf) simple and undivided, sometimes reduced to scales:[6](#)
- 6 Stamens 3:[7](#)
Stamens 6:[8](#)
- 7 Stamens opposite to the inner perianth-segments; flowers actinomorphic; perianth-segments united below into a tube; saprophytic herbs with a few narrow basal leaves or the leaves all reduced to scales [198. Burmanniaceae](#)
Stamens opposite to the outer perianth-segments; flowers actinomorphic or zygomorphic; perianth-segments free or united below into a tube; narrow-leaved herbs with a cormous or rhizomatous rootstock, not saprophytic[190. Iridaceae](#)
- 8 Saprophytic herbs, the leaves reduced to scales; ovary 1-locular with 3 parietal placentas; perianth with an inflated tube[198. Burmanniaceae](#)
Plants not saprophytic, the leaves (or solitary leaf) well developed; ovary 3-locular:.....[9](#)
- 9 Flowers in umbels (sometimes 1-flowered) subtended by 1 or more spathaceous bracts and borne on naked peduncles; herbs with a bulbous rootstock and radical leaves[189. Amaryllidaceae](#)
Flowers solitary or in racemes or fascicles not subtended by spathaceous bracts; rootstock not a bulb: [10](#)
- 10 Anthers opening by an apical pore; ovary semi-inferior, with 2 ovules in each loculus; herbs with a cormous rootstock, each corm bearing a solitary petiolate ovate-cordate leaf[183. Tecophilaeaceae](#)
Anthers opening by longitudinal slits; ovary with numerous ovules in each loculus; leaves not solitary or ovate-cordate:..... [11](#)
- 11 Perianth composed of 3 free sepals and 3 longer free petals; ovary semi-inferior; herbs with flowers in racemes[177. Bromeliaceae](#)
Perianth composed of 6 subequal segments free or united below into a slender tube; ovary completely inferior: [12](#)
- 12 Anthers sagittate; perianth (at least the outer segments) hairy outside; ovules 2-seriate on axile placentas; herbs with a cormous or tuberous rootstock[195. Hypoxidaceae](#)
Anthers not sagittate; perianth glabrous outside; ovules multiseriate on axile placentas intruded into the loculi; plants with a woody stem densely covered with the persistent bases of fallen leaves[196. Velloziaceae](#)

Group 7

- 1 Stamen not accompanied by petaloid staminodes; pollen agglutinated into masses (pollinia); ovary 1-locular with numerous ovules on parietal placentas; flowers zygomorphic, the median petal (lip or labellum) more or less different from the lateral petals; terrestrial or epiphytic herbs, sometimes climbing or saprophytic[199. Orchidaceae](#)
Stamen accompanied by 1 or more petaloid staminodes; pollen granular, not agglutinated into masses; terrestrial herbs:.....[2](#)
- 2 Calyx tubular; flowers zygomorphic; stamen with a 2-theous anther, the filament sometimes petaloid; ovary 3-locular with numerous ovules in each loculus[179. Zingiberaceae](#)

KEY TO THE FAMILIES OF MONOCOTYLEDONS

Calyx composed of 3 free sepals; flowers asymmetric; stamen semi-staminodial with a 1-theous anther, the staminodial part petaloid:**3**

3 Ovary 3-locular with numerous ovules in each loculus [180. Cannaceae](#)

Ovary 1-3-locular with 1 ovule in each loculus [181. Marantaceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

KEY TO THE FAMILIES OF DICOTYLEDONS

By J. E. Dandy

(This key is specially designed to cover plants represented in this Flora. The basic arrangement is that of Hutchinson, *The Families of Flowering Plants*, ed. 2, vol. I, Dicotyledons, Oxford, 1959.)

Key to Groups

- 1 Gynoecium composed of 2 or more free or almost free carpels with separate styles and stigmas :.....2
Gynoecium composed of 1 carpel or of 2 or more united carpels with free or united styles and stigmas, or if carpels free below then the styles or stigmas united into 1 :.....3
- 2 Petals present, free at least at the base..... [Group 1](#)
Petals present, all united at least at the base [Group 2](#)
Petals absent..... [Group 3](#)
- 3 Ovules 2 or more in the gynoecium, attached to the wall or walls of the ovary (placentation parietal) :4
Ovules 1 or more in the gynoecium, if more than 1 then attached to the central axis or the base or apex of the ovary :7
- 4 Ovary superior :.....5
Ovary inferior or semi-inferior :.....6
- 5 Petals present, free at least at the base..... [Group 4](#)
Petals present, all united at least at the base [Group 5](#)
Petals absent..... [Group 6](#)
- 6 Petals present, free at least at the base..... [Group 7](#)
Petals present, all united at least at the base [Group 8](#)
Petals absent..... [Group 9](#)
- 7 Ovary superior :.....8
Ovary inferior or semi-inferior :.....9
- 8 Petals present, free at least at the base..... [Group 10](#)
Petals present, all united at least at the base [Group 11](#)
Petals absent..... [Group 12](#)
- 9 Petals present, free at least at the base..... [Group 13](#)
Petals present, all united at least at the base [Group 14](#)
Petals absent..... [Group 15](#)

Group 1

- 1 Leaves opposite, simple ; stamens and carpels as many as the petals ; herbs, often succulent [24. Crassulaceae](#)
Leaves alternate:.....2
- 2 Sepals 6–18 in 2 or more series, free or the inner ones united ; flowers dioecious, small ; leaves simple or sometimes 3-foliolate ; woody climbers or sometimes erect shrubs or small trees [12. Menispermaceae](#)
Sepals 5 or fewer in 1 series, free or united, sometimes forming a spatheous calyx :3
- 3 Leaves all or mostly compound with 3 or more leaflets :4
Leaves simple or 1-foliolate, sometimes lobed or deeply divided. :8
- 4 Stamens numerous, more than twice as many as the petals ; carpels indefinite in number, often numerous ; leaves with stipules or sheathing at the base ; leaflets toothed or lobed :5
Stamens as many or twice as many as the petals ; carpels 2–5 ; leaves without stipules, not sheathing at the base ; leaflets entire or crenate ; trees or shrubs, sometimes climbing :6
- 5 Shrubs, erect or scrambling, with prickles ; sepals united below ; petals and stamens perigynous, inserted at the mouth of the calyx-tube ; carpels with 2 ovules, drupaceous in fruit [87. Rosaceae](#)
Herbs, without prickles ; sepals free ; petals and stamens hypogynous, not inserted on the calyx ; carpels with 1 ovule, achenial in fruit..... [9. Ranunculaceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- 6 Flowers bisexual ; stamens twice as many as the petals ; leaves pinnate or 1-3-foliolate[122. Connaraceae](#)
 Flowers unisexual or polygamous ; stamens as many as the petals ; leaves pinnate :7
- 7 Leaflets dotted with pellucid glands ; carpels with 2 ovules ; branches armed with prickles [114. Rutaceae](#)
 Leaflets without pellucid glands ; carpels with 1 ovule ; branches unarmed [115. Simaroubaceae](#)
- 8 Sepals valvate or forming a spathaceous calyx ; trees or shrubs, sometimes climbing :9
 Sepals imbricate, not forming a spathaceous calyx : 11
- 9 Leaves without stipules ; petals 6 in 2 series, or 6 or 4 or 3 in 1 series ; anthers commonly with a prolongation of the connective above the thecae [4. Annonaceae](#)
 Leaves with stipules ; petals 5 in 1 series ; anthers without a prolongation of the connective above the thecae :10
- 10 Flowers bisexual, with an androgynophore bearing the stamens and carpels at its apex ; stamens accompanied on the inside by 5 petaloid staminodes [75. Sterculiaceae](#)
 Flowers unisexual, without an androgynophore ; stamens not accompanied by petaloid staminodes [74. Tiliaceae](#)
- 11 Herbs ; leaves palmately lobed or deeply divided ; flowers zygomorphic ; sepals petaloid, the median (adaxial) one spurred at the base ; upper (adaxial) pair of petals spurred at the base, the spurs fitting into the calyx-spur [9. Ranunculaceae](#)
 Trees or shrubs, sometimes climbing ; leaves entire or toothed ; flowers actinomorphic ; sepals and petals not spurred : 12
- 12 Stamens twice as many as the petals ; carpels with 2 ovules.....[122. Connaraceae](#)
 Stamens numerous, more than twice as many as the petals ; carpels with several (more than 2) ovules[49. Dilleniaceae](#)

Group 2

- 1 Leaves opposite or the lower ones peltate ; corolla-lobes 4–5, as many as the sepals or calyx-lobes ; corolla-tube often longer than the lobes ; herbs or shrubs, often succulent [24. Crassulaceae](#)
 Leaves alternate, not peltate ; corolla-lobes 6, twice as many as the sepals ; corolla- tube much shorter than the lobes ; trees or shrubs, sometimes climbing [4. Annonaceae](#)

Group 3

- 1 Flowers zygomorphic, unisexual, the perianth produced unilaterally into an elongated lobe ; anthers opening by upcurving valves ; carpels sunk in the receptacle ; trees or shrubs [5. Monimiaceae](#)
 Flowers actinomorphic ; anthers opening by slits ; carpels not sunk in the receptacle :2
- 2 Stamens united into a column or synandrium ; flowers unisexual :3
 Stamens free :4
- 3 Leaves with stipules ; sepals or calyx-lobes 3-8 in 1 series ; trees or shrubs..... [75. Sterculiaceae](#)
 Leaves without stipules ; sepals 6-12 in 2 or more series ; woody climbers..... [12. Menispermaceae](#)
- 4 Sepals united below ; stamens perigynous, inserted at the mouth of the calyx-tube ; leaves all or mostly compound or palmately lobed, with stipules ; shrubs or herbs, sometimes scrambling with prickles[87. Rosaceae](#)
 Sepals free ; stamens hypogynous, not inserted on the calyx :5
- 5 Leaves all or mostly compound ; sepals more or less petaloid ; herbs or woody climbers or trailers [9. Ranunculaceae](#)
 Leaves simple ; sepals not petaloid :6
- 6 Herbs with opposite or subopposite leaves ; flowers bisexual or unisexual [30. Molluginaceae](#)
 Woody climbers with alternate leaves ; flowers dioecious :7
- 7 Sepals 6-18 in 2 or more series ; stamens 3-6 ; flowers in clustered cymes [12. Menispermaceae](#)
 Sepals 5 in 1 series ; stamens 10-15 ; flowers in elongated racemes[35. Phytolaccaceae](#)

Group 4

- 1 Gynoecium composed of 1 carpel, thus with only 1 placenta in the ovary :2
 Gynoecium composed of 2 or more united carpels, thus with 2 or more placentas in the ovary :9

KEY TO THE FAMILIES OF DICOTYLEDONS

- 2 Leaves 2-pinnate, with stipules or stipular spines :3
- Leaves simple or 1-pinnate or 1-3-foliolate :4
- 3 Petals valvate, sometimes coherent above the base ; flowers in heads or spikes or spike-like racemes ; trees or shrubs or herbs, sometimes climbing or aquatic.....[90. Mimosaceae](#)
- Petals imbricate ; flowers in lax or dense racemes or spikes, sometimes paniculate ; trees or shrubs, sometimes climbing[89. Caesalpiniaceae](#)
- 4 Flowers zygomorphic ; leaves simple or compound ; trees or shrubs or herbs, sometimes climbing:.....5
- Flowers actinomorphic :6
- 5 Corolla papilionaceous; petals 5, the uppermost (adaxial) one outside the others in bud, the lower (abaxial) pair forming a carina enclosing the stamens and ovary[91. Papilionaceae](#)
- Corolla not papilionaceous ; petals 1–6, the uppermost (adaxial) one often inside the others in bud, the lower ones not forming a carina[89. Caesalpiniaceae](#)
- 6 Leaves with stipules :7
- Leaves without stipules ; trees or shrubs, sometimes climbing :8
- 7 Stamens as many as and opposite to the petals, the filaments united below into a tube ; ovary with 2 ovules ; leaves simple, toothed ; herbs or shrublets[75. Sterculiaceae](#)
- Stamens more numerous than the petals, or as many as the petals and alternating with them, free or the filaments united towards the base ; ovary with 2 or more ovules ; leaves simple or pinnate or 2-foliolate ; trees or shrubs[89. Caesalpiniaceae](#)
- 8 Flowers bisexual; stamens as many as the petals, not accompanied by staminodes; leaves pinnate or 3-foliolate, the leaflets dotted with pellucid glands ; branches often armed with prickles[114. Rutaceae](#)
- Flowers unisexual; stamens twice as many as the petals, or as many as the petals and alternating with staminodes ; leaves pinnate or 1–3-foliolate, without pellucid glands ; branches unarmed[122. Connaraceae](#)
- 9 Stamens 6, tetradynamous (the outer 2 shorter than the inner 4) ; sepals 4 ; petals 4 or fewer ; ovary divided by a false septum connecting the 2 placentas ; herbs, sometimes aquatic[19. Cruciferae](#)
- Stamens 2 or more, if 6 then not tetradynamous :10
- 10 Leaves all or mostly compound :11
- Leaves simple (sometimes lobed) or absent :14
- 11 Leaves 1-3-pinnate ; trees or shrubs :12
- Leaves digitate, or mostly digitate and some 1-foliolate :13
- 12 Leaves 2-3-pinnate ; flowers zygomorphic ; stamens as many as the petals, free, alternating with staminodes[18. Moringaceae](#)
- Leaves 1-pinnate ; flowers actinomorphic ; stamens twice as many as the petals, the filaments united into a tube, not accompanied by staminodes[118. Meliaceae](#)
- 13 Styles 3, free or united at the base ; ovary subsessile ; stamens as many as the petals, surrounded by a fimbriate corona ; flowers actinomorphic ; climbing shrubs with tendrils.....[58. Passifloraceae](#)
- Style 1 or stigma sessile ; ovary often borne on an elongated gynophore ; stamens numerous or few, sometimes accompanied by staminodes but not surrounded by a fimbriate corona ; flowers actinomorphic or zygomorphic ; trees or shrubs or herbs, sometimes climbing, without tendrils[17. Capparidaceae](#)
- 14 Flowers unisexual :15
- Flowers bisexual :20
- 15 Leaves opposite ; stamens numerous, united into 5 spatulate bundles opposite to the petals ; trees.....[72. Guttiferae](#)
- Leaves alternate :16
- 16 Petals in the male flowers united into an elongated tube, free in the female flowers ; stamens twice as many as the corolla-lobes, inserted at the mouth of the corolla- tube ; trees with palmately lobed leaves.....[61. Caricaceae](#)
- Petals free in both the male and female flowers :17
- 17 Stamens more numerous than the petals ; trees or shrubs, sometimes climbing :18
- Stamens as many as the petals :19
- 18 Ovary borne on an elongated gynophore ; sepals 4 ; branches armed with stipular spines[17. Capparidaceae](#)
- Ovary sessile or shortly stipitate ; sepals 2-5 ; branches unarmed.....[53. Flacourtiaceae](#)
- 19 Petals smaller than the sepals ; leaves with 1–2 glands at the top of the petiole, the lamina sometimes palmately lobed ; herbaceous or woody climbers with tendrils[58. Passifloraceae](#)
- Petals larger than the sepals ; leaves without glands at the top of the petiole, the lamina unlobed ; trees or shrubs, without tendrils.....[50. Pittosporaceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- 20 Stamens as many as the petals : 21
- 21 Herbaceous or woody climbers with tendrils ; flowers with a fimbriate corona outside the stamens ; leaves entire or 3-lobed [58. Passifloraceae](#)
Plants without tendrils ; flowers with or without a corona : 22
- 22 Style 1, elongated and unbranched : 23
Styles 3-5, free or united below, sometimes branched : 25
- 23 Stamens alternating with petaloid staminodes, surrounded by an outer series of filiform staminodes ; leaves with pectinate stipules ; herbs..... [63. Ochnaceae](#)
Stamens not accompanied by staminodes : 24
- 24 Connective of the anthers prolonged above the thecae into an appendage ; leaves with stipules ; flowers actinomorphic or zygomorphic ; trees or shrubs or herbs..... [20. Violaceae](#)
Connective of the anthers not prolonged above the thecae ; leaves without stipules; flowers actinomorphic ; trees or shrubs..... [50. Pittosporaceae](#)
- 25 Leaves bearing numerous sticky stipitate glands ; styles 3, deeply 2-branched : 26
- 26 insectivorous herbs..... [26. Droseraceae](#)
Leaves without sticky stipitate glands ; styles unbranched ; plants not insectivorous : 27
- 27 Flowers with a hairy fimbriate corona outside the stamens ; stigmas capitate : 28
Stamens more numerous than the petals : 30
- 28 trees or shrubs [58. Passifloraceae](#)
Flowers without a corona but sometimes with a hairy scale at the base of each petal ; stigmas not capitate : ... 29
- 29 Herbs ; sepals united below into a tube ; seeds arillate at the base ; leaves often pinnately lobed . 16. Turneraceae
Trees ; sepals free ; seeds not arillate ; leaves unlobed..... [53. Flacourtiaceae](#)
- 30 Flowers zygomorphic : 31
Flowers actinomorphic : 32
- 31 Sepals 5-6 ; petals at least the upper (adaxial) ones lacinate ; fruit a capsule gaping at the apex ; leaves entire or 3-lobed ; herbs with flowers in dense terminal racemes [21. Resedaceae](#)
Sepals 4 ; petals not lacinate ; fruit indehiscent or dehiscent throughout its length by 2 valves ; leaves entire or sometimes absent ; herbs or shrubs [17. Capparidaceae](#)
- 32 Leaves opposite ; herbs : 33
Leaves alternate : 34
- 33 Sepals free ; stamens numerous ; styles 2-4, free ; leaves dotted with minute pellucid glands.... [71. Hypericaceae](#)
Sepals united below into a tube ; stamens 6 ; style 1, 2-4-branched at the apex ; leaves without pellucid glands [56. Frankeniaceae](#)
- 34 Anthers opening at the top by 1-2 pores or short pore-like slits : 35
Anthers opening by longitudinal slits : 37
- 35 Leaves palmately lobed ; seeds covered with long cottony hairs ; shrubs or shrublets [52. Cochlospermaceae](#)
Leaves not palmately lobed ; seeds without long hairs ; trees or shrubs : 36
- 36 Anthers horseshoe-shaped, opening at the top of the bend ; sepals 5, caducous, leaving large persistent glands at the base of the flower ; fruit a 2-valved bristly capsule [51. Bixaceae](#)
Anthers straight, opening at the apex ; sepals 3 ; fruit a 5-8-valved smooth or prickly capsule [53. Flacourtiaceae](#)
- 37 Leaves pinnately lobed ; sepals 2-3, horned at the apex, caducous ; fruit a capsule dehiscent by short valves at the top ; prickly herbs..... [15. Papaveraceae](#)
Leaves not pinnately lobed : 38
- 38 Ovary borne on an elongated gynophore ; trees or shrubs, often climbing or scrambling with stipular spines [17. Capparidaceae](#)
Ovary sessile or subsessile : 39
- 39 Herbs ; stamens 6 ; flowers in racemes [77. Capparidaceae](#)
Trees or shrubs, sometimes climbing ; stamens 10 or more : 40
- 40 Stamens 10, twice as many as the petals ; seeds few, large, disciform, with an annular wing, developing in the open capsule ; leaves often 2-hooked at the apex, or sometimes reduced to the midrib bearing stipitate glands ; climbing shrubs [54. Dioncophyllaceae](#)
Stamens numerous, more than twice as many as the petals ; seeds unwinged, with apical hooks, not reduced to the midrib ; erect shrubs or trees : 41

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- 41 Stamens arranged in bundles opposite to the petals ; petals twice as many as the sepals ; styles 3-4 [55. *Samydaceae*](#)
- Stamens not arranged in bundles ; petals as many as the sepals or more numerous ; styles 1-5 : 42
- 42 Flowers with a fimbriate or hairy corona outside the stamens..... [58. *Passifloraceae*](#)
- Flowers without a corona but sometimes with a hairy scale at the base of each petal [53. *Flacourtiaceae*](#)

Group 5

- 1 Gynoecium composed of 1 carpel, thus with only 1 placenta in the ovary ; leaves compound, with stipules or stipular spines ; flowers in heads or spikes or spike-like racemes : 2
- Gynoecium composed of 2 or more united carpels, thus with 2 or more placentas in the ovary ; leaves simple or 1-pinnate, without stipules, sometimes reduced to scales : 3
- 2 Leaves 3-foliolate ; corolla zygomorphic, papilionaceous, with imbricate lobes, the uppermost (adaxial) lobe outside the others in bud, the lowest (abaxial) pair of lobes forming a carina enclosing the stamens and ovary ; herbs [91. *Papilionaceae*](#)
- Leaves 2-pinnate ; corolla actinomorphic, with valvate lobes ; trees or shrubs or herbs, sometimes climbing [90. *Mimosaceae*](#)
- 3 Flowers zygomorphic ; stamens fewer than the corolla-lobes, inserted on the corolla- tube : 4
- Flowers actinomorphic ; stamens as many as the corolla-lobes or more numerous : 6
- 4 Leaves reduced to scales ; fleshy herbs parasitic on roots ; stamens 4 [154. *Orobanchaceae*](#)
- Leaves (or solitary leaf) well developed ; plants not parasitic : 5
- 5 Trees ; leaves pinnate ; stamens 4 ; fruit large, subcylindric, indehiscent [157. *Bignoniaceae*](#)
- Herbs, sometimes epiphytic ; leaves (or solitary leaf) simple ; stamens 2 or 4 ; fruit a capsule [156. *Gesneriaceae*](#)
- 6 Flowers unisexual, the petals united into a tube in the male flowers but often free in the female flowers ; leaves palmately lobed ; trees..... [61. *Caricaceae*](#)
- Flowers bisexual ; leaves not palmately lobed : 7
- 7 Stamens more numerous than the corolla-lobes, not inserted on the corolla; corolla- lobes twice as many as the sepals or calyx-lobes or more numerous ; trees or shrubs with alternate leaves : 8
- Stamens as many as the corolla-lobes, inserted on the corolla-tube ; corolla-lobes as many as the sepals or calyx-lobes : 9
- 8 Corolla-lobes 6 in 1 series or in 2 unequal series ; anthers subsessile, with a broad prolongation of the connective above the thecae ; ovary with numerous ovules and sessile radiating stigmas [4. *Annonaceae*](#)
- Corolla-lobes more than 10 in 3-4 irregular series ; anthers borne on elongated filaments, without a prolongation of the connective above the thecae ; ovary with 4 ovules and a 2-branched style [128. *Hoplostigmataceae*](#)
- 9 Leaves alternate, the lamina cordate-orbicular ; corolla-lobes induplicate-valvate : aquatic herbs [141. *Menyanthaceae*](#)
- Leaves opposite, sometimes reduced to scales ; corolla-lobes contorted ; plants terrestrial : 10
- 10 Trees or shrubs, often climbing, sometimes with tendrils ; fruit a large berry..... [134. *Apocynaceae*](#)
- Herbs, sometimes saprophytic with the leaves reduced to scales ; fruit a septicidal capsule..... [140. *Gentianaceae*](#)

Group 6

- 1 Leaves opposite ; fruit a circumscissile capsule ; herbs..... [31. *Ficoidaceae*](#)
- Leaves alternate ; fruit not circumscissile : 2
- 2 Gynoecium composed of 1 carpel, thus with only 1 placenta in the ovary ; leaves pinnate or 1-3-foliolate, with stipules ; trees or shrubs [89. *Caesalpinaceae*](#)
- Gynoecium composed of 2 or more united carpels, thus with 2 or more placentas in the ovary : 3
- 3 Herbs ; leaves pinnate ; fruit a 2-valved silique..... [19. *Cruciferae*](#)
- Trees or shrubs ; leaves simple : 4
- 4 Perianth absent ; flowers in catkins, unisexual ; seeds with a basal tuft of long fine hairs [93. *Salicaceae*](#)
- Perianth present ; flowers not in catkins ; seeds without a tuft of long fine hairs : 5
- 5 Ovary borne on an elongated gynophore ; stigma sessile or terminating a short style [17. *Capparidaceae*](#)
- Ovary sessile : 6
- 6 Style 1 ; sepals more or less united below ; stamens perigynous, inserted at the mouth of the calyx-tube ; flowers bisexual ; branches unarmed [55. *Samydaceae*](#)
- Styles 2-6, free or united at the base ; sepals free ; stamens hypogynous, not inserted on the calyx ; flowers

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bisexual or unisexual ; branches often armed with spines[53. Flacourtiaceae](#)

Group 7

- 1 Flowers unisexual ; stamens 3–5, the anthers straight or flexuous or folded ; climbing or trailing herbs or shrubs with tendrils ; leaves often palmately lobed or divided[59. Cucurbitaceae](#)
Flowers bisexual ; stamens with straight anthers ; plants without tendrils :[2](#)
- 2 Leaves absent or reduced to scales ; succulent shrubs, sometimes epiphytic[62. Cactaceae](#)
Leaves present, well developed, not reduced to scales :[3](#)
- 3 Aquatic herbs ; leaves peltate, cordate, long-petiolate ; flowers solitary, long-pedunculate, large and conspicuous ; petals and stamens numerous ; ovary multilocular[11. Nymphaeaceae](#)
Trees or shrubs ; leaves not peltate ; flowers grouped in inflorescences ; petals 5-8, persistent and often accrescent in fruit ; stamens arranged singly or in bundles opposite to the petals ; ovary 1-locular[55. Samydaceae](#)

Group 8

- 1 Flowers unisexual ; leaves alternate, often lobed or divided or sometimes digitate or pedate ; stamens 3-5, the anthers straight or curved or flexuous or folded ; climbing or trailing herbs or shrubs with tendrils[59. Cucurbitaceae](#)
Flowers bisexual ; leaves opposite or verticillate, simple, entire, with interpetiolar stipules ; stamens with straight anthers ; trees or shrubs, sometimes climbing but without tendrils[137. Rubiaceae](#)

Group 9

- 1 Herbs or shrubs, often climbing, with alternate simple leaves ; perianth with an elongated tube inflated below, the mouth 2-6-lobed or produced unilaterally into a single lobe ; stamens 6-24, the anthers adnate to the style[13. Aristolochiaceae](#)

Group 10

- 1 Ovary 1-locular, sometimes septate towards the base :[2](#)
Ovary 2- or more-locular, completely or almost completely septate :[31](#)
- 2 Leaves compound :[3](#)
Leaves simple :[6](#)
- 3 Flowers bisexual ; leaves 1-2-pinnate, with stipules :[4](#)
Flowers unisexual ; leaves 1-pinnate or 3-foliolate, without stipules ; trees or shrubs, sometimes climbing :[5](#)
- 4 Herbs ; corolla papilionaceous, the uppermost (adaxial) petal outside the others in bud, the lowest pair forming a carina enclosing the stamens and ovary ; stamens diadelphous, the uppermost (adaxial) one free, the filaments of the others united into a sheath ; leaves 1-pinnate[91. Papilionaceae](#)
Trees ; corolla not papilionaceous, the uppermost (adaxial) petal inside the others in bud, the lower ones not forming a carina ; stamens free or the filaments shortly united at the base ; leaves 1-2-pinnate[89. Caesalpiniaceae](#)
- 5 Ovary with 2 ovules ; leaflets dotted with pellucid glands[114. Rutaceae](#)
Ovary with 1 ovule ; leaflets without pellucid glands[121. Anacardiaceae](#)
- 6 Leaves opposite or verticillate :[7](#)
Leaves alternate :[12](#)
- 7 Herbs ; ovary with 3 or more ovules on a free-basal or free-central placenta :[8](#)
Trees or shrubs ; ovary with 1-2 ovules :[10](#)
- 8 Leaves with stipules[29. Caryophyllaceae](#)
Leaves without stipules :[9](#)
- 9 Petals and stamens perigynous, inserted on the calyx-tube ; style 1[47. Lythraceae](#)
Petals and stamens hypogynous or subhypogynous, not inserted on the calyx ; styles 2-6[29. Caryophyllaceae](#)
- 10 Flowers unisexual or polygamous ; styles 3, free or united at the base ; stamens as many as and alternating with the petals or twice as many, free[121. Anacardiaceae](#)
Flowers bisexual ; style 1 :[11](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- 11 Leaves with stipules ; stamens as many as and opposite to the petals, free ; ovules 2, erect from the base of the ovary [112. Rhamnaceae](#)
 Leaves without stipules ; stamens numerous, united into 5 bundles fused to form a 5-lobed tube surrounding the ovary ; ovule 1, pendulous from the apex of the ovary [71. Hypericaceae](#)
- 12 Leaves peltate or subpeltate ; woody climbers with small dioecious flowers [12. Menispermaceae](#)
 Leaves not peltate : 13
- 13 Stamens as many as and opposite to the petals ; trees or shrubs, sometimes climbing : 14
 Stamens as many as and alternating with the petals, or more numerous or fewer : 19
- 14 Stamens alternating with as many or fewer staminodes : 15
 Stamens not accompanied by staminodes : 16
- 15 Petals imbricate ; staminodes much longer than the petals ; ovary with 6–8 ovules pendulous from the apex of a free-central axis ; styles 3–4, short [107. Medusandraceae](#)
 Petals valvate ; staminodes shorter than the petals ; ovary with 3 ovules pendulous from the apex of a free-basal placenta ; style 1 [104. Olacaceae](#)
- 16 Leaves with stipules ; ovary with 1-2 basal ovules [112. Rhamnaceae](#)
 Leaves without stipules : 17
- 17 Petals imbricate ; flowers unisexual or polygamous [130. Myrsinaceae](#)
 Petals valvate ; flowers bisexual : 18
- 18 Stamens united into a tube surrounding the ovary ; anthers opening by down- curving valves ; ovary with 2-3 ovules pendulous from the apex of a free- basal placenta ; fruit surrounded by the persistent accrescent calyx [104. Olacaceae](#)
 Stamens free ; anthers opening by longitudinal slits ; ovary with 1 ovule pendulous from the apex of a free-basal placenta ; fruit not surrounded by a persistent calyx [106. Opiliaceae](#)
- 19 Ovary with 1 ovule : 20
 Ovary with 2 or more ovules : 24
- 20 Perianth zygomorphic, the lowest (abaxial) petal or pair of petals forming a carina enclosing the stamens and ovary : 21
 Perianth actinomorphic, the petals not forming a carina : 22
- 21 Herbs ; leaves with stipules ; carina composed of 2 coherent petals ; fruit not winged [91. Papilionaceae](#)
 Trees or shrubs, sometimes climbing ; leaves without stipules ; carina composed of 1 petal ; fruit with an elongated subterminal wing [22. Polygalaceae](#)
- 22 Leaves with stipules ; ovary with 3 subsessile stigmas ; herbs [34. Illecebraceae](#)
 Leaves without stipules ; ovary with 1-3 styles : 23
- 23 Flowers bisexual, in involucre heads or solitary or few together in the axils of the leaves ; petals and stamens perigynous, inserted high up on the elongated calyx-tube ; stamens twice as many as the petals, not accompanied by staminodes ; herbs or shrubs or trees [46. Thymelaeaceae](#)
 Flowers unisexual or polygamous, in lax or dense panicles ; petals and stamens hypogynous, not inserted on the calyx ; stamens as many or twice as many as the petals, or reduced to 1-2 and accompanied by staminodes ; trees or shrubs [121. Anacardiaceae](#)
- 24 Leaves minute, scale-like ; ovary with 3 short styles and numerous ovules on basal placentas ; trees or shrubs [57. Tamaricaceae](#)
 Leaves well developed, not scale-like ; ovary with 1-3 styles : 25
- 25 Petals valvate ; trees or shrubs, sometimes climbing : 26
 Petals imbricate or contorted : 28
- 26 Stamens as many as the petals, not accompanied by staminodes ; ovules 2, pendulous from the apex of the ovary ; flowers bisexual or unisexual [102. Icacinaceae](#)
 Stamens more numerous than the petals, or fewer than the petals and accompanied by staminodes ; ovules 2 or more on a basal or free-basal placenta ; flowers bisexual : 27
- 27 Ovules 6 on a basal placenta ; stamens twice as many as the petals ; flowers solitary or paired in the axils of the leaves [131. Styracaceae](#)
 Ovules 2-4, pendulous from the apex of a free-basal placenta ; stamens twice as many as the petals, or fewer and accompanied by staminodes ; flowers in axillary racemes [104. Olacaceae](#)
- 28 Herbs with fleshy leaves ; sepals 2, free ; flowers in lax terminal racemes or panicles [32. Portulacaceae](#)
 Trees or shrubs, sometimes climbing ; sepals 5 or more, free or united below : 29

KEY TO THE FAMILIES OF DICOTYLEDONS

- 29** Styles 3 ; ovules 6, pendulous from the apex of a free-central axis ; flowers in axillary spikes [107. Medusandraceae](#)
- Style 1 ; ovules 2 or more, basal : **30**
- 30** Sepals free, persistent and accrescent in fruit, 2 becoming wing-like and one of these much larger than the other ; petals and stamens hypogynous, not inserted on the calyx ; ovary central, with a terminal style and numerous ovules [63. Ochnaceae](#)
- Sepals united below, not becoming wing-like in fruit ; petals and stamens perigynous, inserted at the mouth of the calyx-tube ; ovary central or inserted laterally on the calyx-tube, with a terminal or basal style and 2 ovules [87. Rosaceae](#)
- 31** Stamens as many as and opposite to the petals : **32**
- Stamens as many as and alternating with the petals, or more numerous or fewer : **37**
- 32** Filaments united at least below into a tube or cup and sometimes alternating with staminodes : **33**
- Filaments free, sometimes very short or absent, not alternating with staminodes : **34**
- 33** Leaves with stipules ; anthers opening by longitudinal slits ; fruit a capsule, not surrounded by a persistent calyx ; shrubs or herbs, sometimes climbing [75. Sterculiaceae](#)
- Leaves without stipules ; anthers opening by downcurving valves ; fruit a drupe surrounded by the persistent accrescent calyx ; trees or shrubs [104. Olacaceae](#)
- 34** Ovary with 4–5 ovules in each loculus ; fruit a loculicidal capsule ; herbs [75. Sterculiaceae](#)
- Ovary with 1–2 ovules in each loculus ; fruit a berry or drupe : **35**
- 35** Ovules 2 in each loculus ; inflorescences leaf-opposed, sometimes pseudo-axillary ; leaves simple (sometimes palmately lobed) or digitate or pedate, sometimes caducous ; herbs or shrubs, often climbing or trailing with tendrils [113. Ampelidaceae](#)
- Ovule 1 in each loculus ; inflorescences axillary ; leaves simple, undivided ; trees or shrubs without tendrils : **36**
- 36** Leaves with stipules or stipular spines ; ovules erect from the base of the loculi ; fruit not enclosed by an accrescent receptacle [112. Rhamnaceae](#)
- Leaves without stipules or stipular spines ; ovules pendulous from the apex of the loculi or central axis ; fruit wholly or partly enclosed by the accrescent receptacle [104. Olacaceae](#)
- 37** Leaves compound with 2 or more leaflets : **38**
- Leaves simple or 1-foliolate, sometimes lobed or deeply divided : **52**
- 38** Inflorescences bearing tendrils ; leaves pinnate or biternate ; climbing shrubs or herbs [119. Sapindaceae](#)
- Inflorescences without tendrils : **39**
- 39** Anthers 1-theous ; leaves digitate ; trees with large flowers [76. Bombacaceae](#)
- Anthers 2-theous : **40**
- 40** Styles 3–5 : **41**
- Style 1 or stigma sessile : **42**
- 41** Herbs ; flowers bisexual ; petals contorted ; ovary with 1 or more ovules in each loculus ; fruit capsular ; leaves pinnate or 3-foliolate [40. Oxalidaceae](#)
- Trees or shrubs ; flowers unisexual or polygamous ; petals imbricate or valvate ; ovary with 1 ovule in each loculus ; fruit drupaceous ; leaves pinnate [121. Anacardiaceae](#)
- 42** Leaves opposite, pinnate or 2–3-foliolate, with stipules or stipular spines ; herbs or shrublets ; stamens twice as many as the petals [85. Zygophyllaceae](#)
- Leaves alternate ; trees or shrubs, sometimes climbing : **43**
- 43** Leaves with intrapetiolar stipules, pinnate ; flowers zygomorphic, in racemes ; stamens 4–6. [120. Melianthaceae](#)
- Leaves without stipules ; flowers actinomorphic or zygomorphic : **44**
- 44** Filaments united into an entire or lobed tube, the anthers included within the tube or exerted from it ; leaves 1–3-pinnate [118. Meliaceae](#)
- Filaments free : **45**
- 45** Leaflets dotted with pellucid glands ; leaves pinnate or digitately 3–5-foliolate [114. Rutaceae](#)
- Leaflets without pellucid glands : **46**
- 46** Ovary with 2 ovules in each loculus : **47**
- Ovary with 1 ovule in each loculus : **48**
- 47** Leaves paripinnate ; flowers unisexual [119. Sapindaceae](#)
- Leaves imparipinnate or 3-foliolate ; flowers bisexual or unisexual [117. Burseraceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- 48 Ovules erect or ascending from the middle or below the middle of the loculi ; leaves paripinnate or 2-3-foliolate ; flowers unisexual [119. Sapindaceae](#)
- Ovules pendulous from the apex or upper part of the loculi : 49
- 49 Leaves 2-foliolate ; branches often armed with straight spines ; flowers bisexual [85. Zygophyllaceae](#)
- Leaves 3- or more-foliolate ; flowers bisexual or unisexual : 50
- 50 Filaments each with a hairy scale-like appendage at the base ; branches unarmed or armed with hooked prickles [115. Simaroubaceae](#)
- Filaments without a scale-like appendage ; branches unarmed : 51
- 51 Petals 5, hairy ; stamens 10, with hairy filaments [115. Simaroubaceae](#)
- Petals 4, glabrous ; stamens 8, with glabrous filaments [121. Anacardiaceae](#)
- 52 Flowers strongly zygomorphic, the median sepal petaloid and produced dorsally into a spur ; median petal free ; lateral petals united into 2 pairs, the pairs free from each other or sometimes coherent ; stamens 5, the anthers united round the ovary ; fruit an explosively dehiscent capsule ; herbs [41. Balsaminaceae](#)
- Flowers actinomorphic or zygomorphic, the sepals not spurred ; petals all free : 53
- 53 Leaves opposite or verticillate, not fasciculate : 54
- 54 Stamens more than twice as many as the petals : 55
- Stamens twice as many as the petals or fewer : 61
- 55 Leaves with free or interpetiolar stipules : 56
- Leaves without stipules : 57
- 56 Trees or shrubs ; petals laciniate at the apex ; stamens 15-45, the filaments not united into bundles [70. Rhizophoraceae](#)
- Herbs ; petals not laciniate ; stamens 15, the filaments united below into 5 bundles of 3 [39. Geraniaceae](#)
- 57 Petals and stamens perigynous, inserted on the calyx-tube ; stamens free ; leaves without glands ; herbs or shrublets [42. Lythraceae](#)
- Petals and stamens hypogynous, not inserted on the calyx ; stamens free or united into 2-5 bundles ; leaves often dotted or streaked with pellucid or opaque glands : 59
- 59 Styles 4-5, free or united in the lower part ; trees or shrubs or herbs ; flowers bisexual [71. Hypericaceae](#)
- Style 1 or stigma sessile ; trees or shrubs : 60
- 60 Fruit a capsule ; style elongated, the stigma small and subentire ; flowers bisexual ; leaves sessile [71. Hypericaceae](#)
- Fruit a berry ; style elongated or short or absent, the stigma disciform or 2-5-lobed ; flowers bisexual or unisexual ; leaves petiolate or sometimes subsessile [72. Guttiferae](#)
- 61 Sepals united below into a tube : 62
- Sepals free or almost free : 65
- 62 Petals and stamens inserted on the calyx-tube ; ovary with numerous ovules in each loculus ; herbs or shrubs or trees ; leaves without stipules : 63
- Petals and stamens not inserted on the calyx ; ovary with 2-4 ovules in each loculus ; trees or shrubs, sometimes climbing : 64
- 63 Anthers opening by an apical pore ; connective often appendaged below the anther ; leaves with 3 or more parallel longitudinal nerves [68. Melastomataceae](#)
- Anthers opening by longitudinal slits ; connective unappendaged ; leaves without parallel longitudinal nerves [42. Lythraceae](#)
- 64 Stamens 10, twice as many as the petals, the filaments free or united into a tube ; leaves with interpetiolar stipules [70. Rhizophoraceae](#)
- Stamens 3, fewer than the petals, the filaments free ; leaves with or without small free stipules [100. Celastraceae](#)
- 65 Ovary with 1 ovule in each fertile loculus (sometimes 1 or 2 of the loculi empty) : 66
- Ovary with 2 or more ovules in each loculus : 67
- 66 Shrubs, often climbing ; ovary 3-locular, sometimes with 1 or 2 empty loculi ; styles 3, elongated ; fruit winged, indehiscent or separating into 2-3 cocci [78. Malpighiaceae](#)
- Herbs ; ovary 2-locular, without empty loculi ; styles 2, short ; fruit not winged, separating into 2 cocci [30. Molluginaceae](#)
- 67 Leaves palmately lobed or deeply divided, with stipules ; ovary beaked, the beak surmounted by a 5-branched style ; herbs [39. Geraniaceae](#)
- Leaves not lobed or divided ; ovary unbeaked : 68

KEY TO THE FAMILIES OF DICOTYLEDONS

68	Styles 3-5, free :	69
	Leaves alternate, sometimes fasciculate :	73
69	Leaves with stipules ; sepals entire ; ovules numerous in each locus :	70
	Style 1 or stigma sessile :	71
70	herbs or shrublets, sometimes aquatic	28. Elatinaceae
	Leaves without stipules ; sepals toothed or lobed at the apex ; ovules 2 in each locus ; annual herbs	84. Linaceae
71	Stamens as many as or fewer than the petals ; trees or shrubs, often climbing	100. Celastraceae
	Stamens twice as many as the petals :	72
72	Trees with flowers in short terminal panicles ; leaves with interpetiolar stipules ; ovary 2-locular with a 2-branched style ; seeds with a fibrous pectinate aril	83. Ctenolophonaceae
	Herbs or small shrublets with solitary axillary flowers ; leaves with free stipules or stipular spines ; ovary 4-5-locular with an unbranched style ; seeds without an aril	85. Zygophyllaceae
73	Ovary with 1 ovule in each fertile locus (sometimes 1 or 2 of the loculi empty) :	74
	Ovary with 2 or more ovules in each locus :	92
74	Flowers unisexual or polygamous :	75
	Flowers bisexual :	78
75	Leaves without stipules ; petals 4 ; shrubs with small flowers in narrow spikelike or raceme-like panicles	119. Sapindaceae
	Leaves with stipules ; petals 5-6 or sometimes reduced to 3 :	76
76	Calyx cupular, open in bud ; style-branches 3-4, entire ; fruit a drupe ; stamens twice as many as the petals ; trees	101. Pandaceae
	Calyx composed of 5 sepals or splitting into 2-5 valvate lobes ; styles or style- branches 2 or more, lobed or divided ; fruit a capsule ; stamens as many as the petals or more numerous ; trees or shrubs or herbs, sometimes climbing	86. Euphorbiaceae
78	Anthers 1-theous ; stamens numerous, the filaments more or less united into a tube ; sepals valvate, with or without an epicalyx of bracteoles ; herbs or shrublets, often with stellate hairs	77. Malvaceae
	Anthers 2-theous :	79
79	Leaves with stipules ; trees or shrubs :	80
	Leaves without stipules :	84
80	Petals and stamens perigynous, inserted at the mouth of the calyx-tube ; ovary lateral, inserted on one side of the calyx-tube ; style arising laterally from the base of the ovary	87. Rosaceae
	Petals and stamens hypogynous, not inserted on the calyx ; ovary central ; style or styles central or terminal on the ovary :	81
81	Ovary deeply lobed, with 1 style, the carpels separating in fruit ; stamens free, twice as many as the petals or more numerous	63. Ochnaceae
	Ovary entire, with 1 or 3 styles, the carpels not separating in fruit ; stamens free or the filaments united below :	82
82	Filaments united below into a tube or cup, twice as many as the petals ; styles or style-branches 3 ; ovary with 1 fertile locus and 2 empty loculi	81. Erythroxylaceae
	Filaments free ; style 1, unbranched ; ovary with 2-6 fertile loculi :	83
83	Shrubs with spiny branches ; leaves mostly fasciculate ; stipules not leaving annular scars round the nodes ; stamens twice as many as the petals or more numerous	85. Zygophyllaceae
	Trees without spines ; leaves not fasciculate ; stipules leaving annular scars round the nodes ; stamens twice as many as the petals	116. Irvingiaceae
84	Herbs ; sepals 4 ; petals 4 ; stamens 6 ; leaves (at least the basal ones) more or less pinnately divided	19. Cruciferae
	Trees or shrubs, sometimes climbing ; sepals 4-6 ; petals 4-10 ; stamens 8 or more ; leaves entire or crenulate :	85
85	Styles 2-5 :	87
	Style 1 :	88
87	Stamens numerous, united into 5 bundles opposite to the petals ; styles 5 ; fruit a berry, not winged	71. Hypericaceae
	Stamens twice as many as the petals, free ; styles 2-3 ; fruit winged	78. Malpighiaceae
88	Petals 8-10, twice as many as the sepals ; stamens as many as and alternating with the petals	46. Thymelaeaceae

KEY TO THE FAMILIES OF DICOTYLEDONS

Petals 4-6, as many as the sepals :	89
89 Petals valvate ; stamens twice as many as the petals or more numerous ; ovary 3-4-locular, sometimes incompletely septate at the top	<u>104. Olacaceae</u>
Petals imbricate ; stamens twice as many as the petals ; ovary 4-5- locular, completely septate :	90
90 Leaves dotted with pellucid glands ; petals glabrous, gland-dotted ; filaments equal	<u>114. Rutaceae</u>
Leaves without pellucid glands ; petals hairy outside, not gland-dotted ; filaments unequal	<u>79. Humiriaceae</u>
92 Stamens as many as or fewer than the petals :	93
Stamens more numerous than the petals :	101
93 Ovary 5-locular :	94
Ovary 2-4-locular :	96
94 Sepals valvate, surrounded by an epicalyx of 3 bracteoles ; stamens alternating with liguliform staminodes ; herbs or shrublets with stellate hairs.....	<u>75. Sterculiaceae</u>
Sepals imbricate, without an epicalyx ; stamens not accompanied by staminodes ; trees or shrubs :	95
95 Anthers opening by apical pores ; ovules numerous in each loculus ; seeds winged, without an aril.....	<u>63. Ochnaceae</u>
Anthers opening by longitudinal slits ; ovules 2 in each loculus ; seeds with an aril, not winged.....	<u>80. Ixonanthaceae</u>
96 Styles 2-3, free or united at the base, often lobed or branched ; flowers unisexual ; trees or shrubs	<u>86. Euphorbiaceae</u>
Style 1 or stigmas sessile ; flowers bisexual or unisexual :	97
97 Herbs ; sepals valvate ; fruit covered with hooked prickles	<u>74. Tiliaceae</u>
Trees or shrubs, sometimes climbing ; sepals imbricate ; fruit without hooked prickles :	98
98 Stamens 3, fewer than the petals ; ovules 2 or more in each loculus	<u>100. Celastraceae</u>
Stamens 4-5, as many as the petals ; ovules 2 in each loculus :	99
99 Ovules erect from the base of the loculi	<u>100. Celastraceae</u>
Ovules pendulous from the apex or near the apex of the loculi :	100
100 Style absent, the stigmas sessile ; flowers unisexual ; petals short and scale-like, entire ; fruit a capsule	<u>86. Euphorbiaceae</u>
Style present, elongated ; flowers bisexual or unisexual ; petals 2-lobed or sometimes entire ; fruit a drupe	<u>88. Chaillotiaceae</u>
101 Leaves without stipules ; trees or shrubs, sometimes climbing :	102
Leaves with stipules :	107
102 Ovules 2 in each loculus :	103
Ovules numerous in each loculus :	105
103 Filaments united into a tube ; petals imbricate ; fruit a capsule	<u>118. Meliaceae</u>
Filaments free or shortly united at the base ; petals valvate :	104
104 Stamens twice as many as the petals ; calyx 4-lobed ; fruit drupaceous ; flowers bisexual or unisexual	<u>117. Burseraceae</u>
Stamens numerous, more than twice as many as the petals ; calyx cupular ; fruit a capsule or drupe ; flowers bisexual	<u>73. Scytopetalaceae</u>
105 Leaves dotted with pellucid glands ; branches often armed with axillary spines.....	<u>114. Rutaceae</u>
Leaves without pellucid glands ; branches unarmed :	106
106 Petals valvate ; calyx cupular ; stamens numerous ; anthers opening by apical pore-like slits ; flowers bisexual	<u>73. Scytopetalaceae</u>
Petals imbricate, with thick scale-like bases ; calyx composed of 5 free sepals ; stamens 9-13 ; anthers opening by longitudinal slits ; flowers polygamous.....	<u>105. Pentadiplandraceae</u>
107 Sepals imbricate ; ovules 2 in each loculus ; trees or shrubs, sometimes climbing :	108
Sepals or calyx-lobes valvate, sometimes with an epicalyx of bracteoles ; ovules 2 or more in each loculus :	111
108 Flowers unisexual, in short sessile catkin-like racemes or fascicles ; petals imbricate ; petioles jointed at the top	<u>82. Lepidobotryaceae</u>
Flowers bisexual ; petals contorted ; petioles not jointed :	109
109 Stamens numerous, more than twice as many as the petals ; fruit indehiscent, surrounded by the 5 persistent accrescent wing-like sepals	<u>65. Dipterocarpaceae</u>
Stamens twice as many as the petals ; fruit not surrounded by persistent wing-like sepals :	110

KEY TO THE FAMILIES OF DICOTYLEDONS

- 110** Styles 3-5 ; petals fugacious ; fruit a drupe ; branches often armed with hooked spines [84. Linaceae](#)
 Style 1 ; petals persistent ; fruit a septicidal capsule ; branches unarmed [80. Ixonanthaceae](#)
- 111** Anthers 1-theous ; filaments united into a tube surrounding the ovary ; calyx with or without an epicalyx ; trees or shrubs or herbs [77. Malvaceae](#)
 Anthers 2-theous : **112**
- 112** Stamens all fertile, not accompanied by staminodes, free or the filaments united below into a short tube or into bundles opposite to the petals ; trees or shrubs or herbs [74. Tiliaceae](#)
 Stamens accompanied by staminodes : **113**
- 113** Stamines petaloid or liguliform or filiform, inserted inside or in the same whorl as the stamens and often united with them to form a tube or cup ; stamens often grouped into bundles of 2-4 alternating with the staminodes ; trees or shrubs [75. Sterculiaceae](#)
 Stamines filiform, inserted outside the stamens and free from them ; stamens not grouped into bundles ; herbs or shrubs [74. Tiliaceae](#)

Group 11

- 1** Ovary 1-locular, sometimes septate towards the base : **2**
 Ovary 2- or more-locular, completely or almost completely septate or the loculi free : **12**
- 2** Leaves peltate or subpeltate ; flowers dioecious, the males with united petals, the females with 1-3 free petals ; stamens united into a synandrium ; woody climbers [12. Menispermaceae](#)
 Leaves not peltate ; flowers bisexual or sometimes dioecious, all with united petals ; stamens free or with united filaments : **3**
- 3** Ovary with 1 ovule : **4**
 Ovary with 2 or more ovules : **6**
- 4** Stamens twice as many as the calyx-lobes, inserted on the elongated calyx-tube ; corolla ring-like, inserted at the mouth of the calyx-tube ; ovule pendulous from the apex of the ovary ; shrubs [46. Thymelaeaceae](#)
 Stamens as many as the calyx-lobes, not inserted on the calyx ; corolla 4-5-lobed ; ovule arising from the base of the ovary : **5**
- 5** Leaves alternate ; stamens opposite to the corolla-lobes ; calyx covered outside with stalked glands ; climbing shrubs [143. Plumbaginaceae](#)
 Leaves opposite ; stamens alternating with the corolla-lobes ; calyx without stalked glands ; trees or shrubs [103. Salvadoraceae](#)
- 6** Stamens fewer than the corolla-lobes ; flowers more or less zygomorphic : **7**
 Stamens as many as the corolla-lobes ; flowers actinomorphic or slightly zygomorphic : **9**
- 7** Ovules 2 ; calyx enclosed by 2 opposite ovate bracteoles ; climbing plants with opposite leaves ; stamens 4 [159. Acanthaceae](#)
 Ovules numerous ; calyx not enclosed by bracteoles ; herbs, often aquatic or sub-aquatic or sometimes epiphytic : **8**
- 8** Stamens 2 ; corolla-tube spurred ; leaves undivided or much divided and often bearing insectivorous bladders [155. Lentibulariaceae](#)
 Stamens 4 ; corolla-tube not spurred ; leaves undivided, without bladders [153. Scrophulariaceae](#)
- 9** Stamens opposite to the corolla-lobes : **10**
 Stamens alternating with the corolla-lobes : **11**
- 10** Trees or shrublets ; fruit a berry ; flowers in fascicles of 3 or more [130. Myrsinaceae](#)
 Herbs ; fruit a capsule ; flowers solitary or in fascicles of 2-3 [142. Primulaceae](#)
- 11** Ovules 4, pendulous from the apex of a 4-winged free-basal placenta ; fruit a compressed 2-valved capsule ; flowers bisexual ; corolla-lobes and stamens 4 ; leaves opposite ; littoral trees or shrubs [161. Avicenniaceae](#)
 Ovules 2, pendulous from the apex of the ovary ; fruit a drupe ; flowers bisexual or unisexual ; corolla-lobes and stamens 3-5 ; leaves alternate or opposite ; trees or shrubs, sometimes climbing [102. Icacinaceae](#)
- 12** Corolla-lobes numerous ; trees or shrubs, sometimes climbing or epiphytic : **13**
 Corolla-lobes fewer than 12 : **15**
- 13** Leaves opposite ; corolla-lobes contorted ; stamens as many as the corolla-lobes, the filaments united below into a tube or cup ; ovary with numerous ovules in each loculus [132. Loganiaceae](#)
 Leaves alternate ; corolla-lobes imbricate or valvate : **14**

KEY TO THE FAMILIES OF DICOTYLEDONS

- 14 Ovary with numerous ovules in each loculus ; corolla-lobes in 1 series, much shorter than the broad-campanulate many-ribbed tube ; stamens numerous, not accompanied by staminodes ; branches with foliaceous wings [67. Lecythidaceae](#)
 Ovary with 1 ovule in each loculus ; corolla-lobes imbricate in 2 or more series, as long as or longer than the tube ; stamens as many as and opposite to the inner corolla-lobes and alternating with staminodes ; branches not winged [129. Sapotaceae](#)
- 15 Stamens more numerous than the corolla-lobes : **16**
 Stamens as many as or fewer than the corolla-lobes : **22**
- 16 Leaves with stipules ; trees or shrubs or herbs, sometimes climbing : **17**
 Leaves without stipules : **18**
- 17 Flowers bisexual ; anthers 1-theous ; filaments united into a tube surrounding the ovary ; leaves simple, sometimes palmately lobed or divided [77. Malvaceae](#)
 Flowers unisexual ; anthers 2-theous ; filaments free or some or all united ; leaves simple (often palmately lobed) or digitate [86. Euphorbiaceae](#)
- 18 Flowers zygomorphic, the lowest (abaxial) corolla-lobe forming a carina bearing 1.00 stamens and enclosing the ovary ; herbs or shrublets ; ovary 2-locular with 1 ovule in each loculus [22. Polygalaceae](#)
 Flowers actinomorphic, the corolla not forming a carina ; trees or shrubs : **19**
- 19 Anthers opening by apical pores or pore-like slits ; ovary with more than 2 ovules in each loculus ; leaves alternate or opposite or verticillate, sometimes small and heath-like [126. Ericaceae](#)
 Anthers opening by longitudinal slits ; ovary with 1-2 ovules in each loculus ; leaves alternate : **20**
- 20 Leaves pinnate or 1-3-foliolate ; flowers bisexual ; corolla-lobes valvate ; stamens twice as many as the corolla-lobes, united into a tube [118. Meliaceae](#)
 Leaves simple ; flowers unisexual or sometimes bisexual ; corolla-lobes imbricate or contorted ; stamens free or the filaments united in pairs or at the base : **21**
- 21 Corolla-lobes imbricate ; stamens arranged in groups opposite to the corolla-lobes and alternating with staminodes ; style 1, unbranched [129. Sapotaceae](#)
 Corolla-lobes contorted ; stamens sometimes paired but not arranged in groups alternating with staminodes ; styles (or style-branches) 2-5 [127. Ebenaceae](#)
- 22 Stamens fewer than the corolla-lobes : **23**
 Stamens as many as the corolla-lobes : **35**
- 23 Ovary with numerous (more than 4) ovules in each loculus : **24**
 Ovary with 1-4 ovules in each loculus : **29**
- 24 Leaves pinnate ; stamens 4 ; fruit a loculicidal capsule with winged seeds ; trees or shrubs [157. Bignoniaceae](#)
 Leaves simple or digitate, sometimes deeply divided or reduced to scales : **25**
- 25 Stamen 1 ; climbing shrubs with opposite entire leaves ; fruit a septicidal capsule with winged seeds [132. Loganiaceae](#)
 Stamens 2-4 : **26**
- 26 Ovary completely or incompletely 4-chambered, each of the 2 original loculi becoming divided into 2 by a false septum ; flowers solitary or cymose in the axils of the leaves ; stamens 4 ; herbs [158. Pedaliaceae](#)
 Ovary 2-locular, the loculi not divided by false septa : **27**
- 27 Ovules arranged in 1-2 series on each placenta ; fruit a loculicidal capsule, the seeds often borne on hardened hook-like funicles (retinacula) ; leaves opposite or sometimes alternate ; herbs or shrublets.. [159. Acanthaceae](#)
 Ovules arranged in more than 2 series on each placenta ; fruit a septicidal or loculicidal capsule, the seeds not borne on hardened hook-like funicles : **28**
- 28 Corolla-lobes very short, alternating with claviform processes ; stamens 2 ; leaves alternate ; herbs [151. Solanaceae](#)
 Corolla-lobes not alternating with claviform processes ; stamens 2-4 ; leaves alternate or opposite or verticillate, sometimes reduced to scales ; herbs or shrublets, sometimes aquatic or parasitic on roots [153. Scrophulariaceae](#)
- 29 Peduncles adnate to the petioles of the subtending leaves ; leaves alternate, simple, with stipules ; stamens 2-3 ; trees [88. Chailletiaceae](#)
 Peduncles free from the leaves ; leaves without stipules : **30**
- 30 Perianth actinomorphic ; stamens 2 ; leaves simple or 3-foliolate, opposite or sometimes ternate ; trees or shrubs, sometimes climbing [133. Oleaceae](#)
 Perianth zygomorphic : **31**
- 31 Ovary more or less deeply 4-lobed, the style gynobasic ; fruit separating into 4 nutlets (or fewer by abortion) ;

KEY TO THE FAMILIES OF DICOTYLEDONS

- leaves simple, opposite or verticillate or sometimes alternate ; herbs or shrubs, often aromatic [162. Labiatae](#)
- Ovary not deeply 4-lobed, the style not gynobasic : **32**
- 32** Fruit a loculicidal capsule, the seeds often borne on hardened hook-like funicles (retinacula) ; leaves simple, opposite ; herbs or shrubs, sometimes climbing [159. Acanthaceae](#)
- Fruit indehiscent or separating into 2-4 pyrenes or cocci, the seeds not borne on hardened hook-like funicles : **33**
- 33** Flowers solitary, axillary ; fruit indehiscent, armed with 4 lateral spines ; stamens 4 ; leaves simple, opposite ; herbs [158. Pedaliaceae](#)
- Flowers grouped in inflorescences ; fruit drupaceous or separating into 2-4 pyrenes or cocci, without spines ; stamens 4 or 2 ; leaves simple or digitate, opposite or verticillate ; herbs or shrubs or trees, sometimes climbing [160. Verbenaceae](#)
- 35** Leaves absent or reduced to scales : **36**
- Leaves present, well developed, sometimes appearing after the flowers : **37**
- 36** Slender twining parasitic herbs ; corolla-tube with a series of fimbriate scales below and opposite to the stamens ; ovary with 2 ovules in each loculus ; fruit a capsule [152. Convolvulaceae](#)
- Shrubs (sometimes climbing) or succulent plants, not parasitic ; corolla-tube with a 1-2-seriate corona above the stamens or adnate to the outside of the united filaments ; ovary with numerous ovules in each loculus ; fruit formed of 2 separated follicular carpels (or 1 by abortion) [136. Asclepiadaceae](#)
- 37** Leaves opposite or verticillate, not all radical : **38**
- Leaves alternate, sometimes all radical : **53**
- 38** Stamens hypogynous, not inserted on the corolla, the anthers opening by apical pore-like slits ; heath-like shrubs with small verticillate leaves [126. Ericaceae](#)
- Stamens inserted on the corolla-tube ; plants not heath-like : **39**
- 39** Ovary with 1-2 ovules in each loculus : **40**
- Ovary with 3 or more ovules in each loculus : **45**
- 40** Style 2-branched, the branches again 2-branched ; trees or shrubs : **41**
- Style unbranched or with 2 simple branches : **42**
- 41** Calyx-lobes longer than the tube ; ovary 2-locular with 2 ovules in each loculus ; fruit a compressed 2-lobed loculicidal capsule [132. Loganiaceae](#)
- Calyx-lobes shorter than the tube ; ovary 4-locular with 1 ovule in each loculus ; fruit a drupe [150. Boraginaceae](#)
- 42** Corolla-lobes valvate ; leaves with interpetiolar stipules ; trees or shrubs [137. Rubiaceae](#)
- Corolla-lobes imbricate or contorted ; leaves without stipules : **43**
- 43** Corolla-lobes 4, imbricate ; herbs or shrubs or trees, sometimes climbing [160. Verbenaceae](#)
- Corolla-lobes 5, contorted : **44**
- 44** Herbs, often hispid with bulbous-based hairs ; anthers hairy, connivent into a twisted cone protruding from the corolla-tube ; ovary 4-locular [150. Boraginaceae](#)
- Trees or shrubs ; anthers glabrous, included in the corolla-tube, not connivent into a twisted cone [134. Apocynaceae](#)
- 45** Ovary-loculi free or almost free, connected above by the style ; fruit formed of 2 or more separated carpels (or 1 by abortion) : **46**
- Ovary-loculi completely united ; fruit a capsule or berry : **48**
- 46** Pollen granular, liberated freely, without pollen-carriers ; corolla-tube without a corona or sometimes with scales or appendages at the mouth or above the stamens ; fruiting carpels follicular or baccate ; seeds with or without hairs, sometimes arillate ; trees or shrubs, sometimes climbing [134. Apocynaceae](#)
- Pollen granular or waxy, transported by 5 pollen carriers at first resting on the style ; corolla-tube with a 1-2-seriate corona above the stamens or adnate to the outside of the filaments ; fruiting carpels follicular ; seeds with an apical tuft of silky hairs ; herbs or shrubs, often climbing : **47**
- 47** Pollen agglutinated into waxy masses (pollinia) attached in pairs or fours to the pollen-carriers ; filaments united into a tube or ring [136. Asclepiadaceae](#)
- Pollen granular, in tetrads, transported on glandular spatulate carriers ; filaments free [135. Periplocaceae](#)
- 48** Corolla-lobes valvate ; trees or shrubs or herbs, sometimes climbing, the branches often bearing spines or hooked tendrils [132. Loganiaceae](#)
- Corolla-lobes imbricate or contorted : **49**
- 49** Corolla-lobes imbricate : **50**
- Corolla-lobes contorted : **51**

KEY TO THE FAMILIES OF DICOTYLEDONS

- 50 Herbs ; flowers solitary or paired in the axils of the leaves [153. Scrophulariaceae](#)
 Trees or shrubs ; flowers in cymes or cymose panicles [132. Loganiaceae](#)
- 51 Herbs ; fruit a septicidal capsule [140. Gentianaceae](#)
 Trees or shrubs, sometimes climbing or epiphytic ; fruit a berry : **52**
- 52 Corolla-lobes and stamens 6–11; filaments united below into a tube or cup [132. Loganiaceae](#)
 Corolla-lobes and stamens 5 ; filaments free [134. Apocynaceae](#)
- 53 Leaves all radical ; corolla-lobes and stamens 4 ; fruit a circumscissile capsule ; scapigerous herbs with small flowers in spikes [144. Plantaginaceae](#)
 Leaves not all radical : **54**
- 54 Ovary with numerous ovules in each loculus : **55**
 Ovary with 1-2 ovules in each loculus : **60**
- 55 Corolla-lobes contorted ; fruit formed of 2 separated follicular carpels (or 1 by abortion) ; shrubs [134. Apocynaceae](#)
 Corolla-lobes imbricate or valvate or plicate ; fruit a capsule or berry : **56**
- 56 Styles 2 ; corolla-lobes imbricate ; fruit a capsule ; herbs [149. Hydrophyllaceae](#)
 Style 1 : **57**
- 57 Corolla-lobes plicate or valvate ; herbs or shrubs or trees, sometimes climbing [151. Solanaceae](#)
 Corolla-lobes imbricate : **58**
- 58 Flowers subsessile in long scorpioid cymes ; fruit a circumscissile capsule enclosed in the persistent accrescent calyx ; herbs [151. Solanaceae](#)
 Flowers solitary or paired in the axils of the leaves, pedicellate ; fruit not circumscissile : **59**
- 59 Spiny shrubs ; fruit a berry [151. Solanaceae](#)
 Herbs or shrublets, not spiny ; fruit a capsule [153. Scrophulariaceae](#)
- 60 Petals united below into a sheath open on the upper (adaxial) side and bearing the stamens, the filaments also united below into a sheath ; flowers zygomorphic ; trees or shrubs, sometimes climbing [22. Polygalaceae](#)
 Petals united at least at the base into a tube ; flowers actinomorphic or slightly zygomorphic : **61**
- 61 Stamens opposite to the corolla-lobes ; fruit a berry ; trees or shrubs : **62**
 Stamens alternating with the corolla-lobes : **63**
- 62 Leaves 2-3-pinnate ; corolla-lobes valvate ; filaments united into a lobed tube [113. Ampelidaceae](#)
 Leaves simple ; corolla-lobes imbricate ; filaments free, sometimes alternating with staminodes [129. Sapotaceae](#)
- 63 Flowers unisexual ; style absent, the stigma sessile ; trees [99. Aquifoliaceae](#)
 Flowers bisexual ; styles 1–2, sometimes branched : **64**
- 64 Ovules pendulous from the apex of the loculi ; leaves with stipules ; trees or shrubs, sometimes climbing **88. Chaillotiaceae**
 Ovules erect from the base of the loculi ; leaves without stipules : **65**
- 65 Styles 2, free, sometimes 2-branched : **66**
 Style 1, sometimes with 2 or 4 branches : **67**
- 66 Corolla-lobes and stamens 4 ; leaves toothed or pinnately lobed ; annual herbs **150. Boraginaceae**
 Corolla-lobes and stamens 5 ; leaves entire ; herbs or shrubs, sometimes climbing **152. Convolvulaceae**
- 67 Fruit separating into 2-4 nutlets ; style terminal or gynobasic ; herbs or shrublets **150. Boraginaceae**
 Fruit not separating into nutlets ; style terminal : **68**
- 68 Corolla-lobes imbricate; sepals united at least at the base ; fruit drupaceous ; trees or shrubs .. **150. Boraginaceae**
 Corolla-lobes plicate or valvate ; sepals free ; fruit a capsule or sometimes indehiscent ; herbs or shrubs, often trailing or climbing [152. Convolvulaceae](#)

Group 12

- 1 Ovary 1- or more-locular with 2 or more ovules in each loculus : **2**
 Ovary 1- or more-locular with 1 ovule in each loculus : **24**
- 2 Plants aquatic, moss-like or liverwort-like in habit, growing on rocks ; flowers small and inconspicuous, with 1–2 stamens ; ovary with numerous ovules ; fruit a capsule [27. Podostemaceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

	Plants terrestrial or sometimes aquatic but not moss-like or liverwort-like in habit :	3
3	Leaves compound ; trees or shrubs with unisexual or polygamous flowers ; ovary or more-locular :	4
	Leaves simple, sometimes lobed :	6
4	Leaves pinnate ; ovary with 2 ovules in each loculus.....	<u>119. Sapindaceae</u>
	Leaves digitate :	5
5	Leaves alternate ; stamens united into a column ; ovules numerous (more than 2) in each loculus ; fruit formed of 3 or more separated follicular carpels (or fewer by abortion).....	<u>75. Sterculiaceae</u>
	Leaves opposite ; stamens free ; ovules 2 in each loculus ; fruit a woody loculicidal capsule ..	<u>86. Euphorbiaceae</u>
6	Leaves all or some opposite or verticillate, sometimes all radical :	7
	Leaves alternate, not all radical :	13
7	Flowers unisexual ; woody plants :	8
	Flowers bisexual ; herbs, sometimes aquatic :	9
8	Climbing shrubs with tendrils ; perianth-segments valvate ; stamens as many as and alternating with the perianth-segments ; ovary 1-locular with 2 pendulous apical ovules.....	<u>102. Icacinaceae</u>
	Shrubs or trees without tendrils ; perianth-segments imbricate ; stamens 6, 2 opposite to the outer perianth-segments, 4 in pairs opposite to the inner perianth- segments ; ovary 3-locular with 2 ovules in each loculus	<u>92. Buxaceae</u>
9	Style 1 :	10
	Styles 2-5 :	11
10	Leaves with stipules ; sepals free ; stamens hypogynous ; style with 3 stigmatic branches ...	<u>29. Caryophyllaceae</u>
	Leaves without stipules ; sepals united into a tube ; stamens or single stamen perigynous, inserted on the calyx-tube ; style unbranched.....	<u>42. Lythraceae</u>
11	Ovary 1-locular with a free-basal or free-central placenta ; leaves without stipules	<u>29. Caryophyllaceae</u>
	Ovary 2-5-locular with axile placentas ; leaves with or without stipules :	12
12	Sepals united below ; stamens perigynous, inserted on the calyx-tube ; fruit a circumscissile capsule	<u>31. Ficoidaceae</u>
	Sepals free ; stamens hypogynous or subhypogynous ; fruit a loculicidal capsule	<u>30. Molluginaceae</u>
13	Ovary 1-locular :	14
	Ovary 2- or more-locular :	17
14	Stamens numerous (more than 10) ; style arising from the base of the ovary ; flowers polygamous, in panicles ; trees	<u>87. Rosaceae</u>
	Stamens 3-8 ; style or sessile stigma terminal or lateral, not arising from the base of the ovary ; flowers in racemes or spikes or fascicles :	15
15	Herbs, sometimes climbing ; flowers bisexual ; fruit a circumscissile capsule	<u>37. Amaranthaceae</u>
	Trees or shrubs, sometimes climbing ; flowers unisexual ; fruit indehiscent, often drupaceous :	16
16	Leaves with stipules ; perianth-segments imbricate ; stamens as many as and opposite to the perianth-segments or more numerous.....	<u>86. Euphorbiaceae</u>
	Leaves without stipules ; perianth-segments valvate ; stamens as many as and alternating with the perianth-segments.....	<u>102. Icacinaceae</u>
17	Flowers bisexual :	18
	Flowers unisexual or polygamous :	19
18	Ovary borne on an elongated gynophore ; stamens numerous (more than 10) ; fruit indehiscent, unwinged ; flowers solitary, axillary, pedunculate ; shrubs or herbs.....	<u>17. Cappariaceae</u>
	Ovary sessile or subsessile ; stamens 5-8 ; fruit a septeidal capsule with 2 or more longitudinal membranous wings ; flowers in panicles or racemes ; shrubs or trees.....	<u>119. Sapindaceae</u>
19	Filaments completely united into a column :	20
	Filaments all or some free at least above :	21
20	Calyx-segments valvate ; anthers 5 or more ; fruit formed of 3 or more separated follicular or indehiscent carpels (or fewer by abortion) ; trees or shrubs	<u>75. Sterculiaceae</u>
	Calyx-segments imbricate ; anthers 2-3 ; fruit a capsule ; herbs or shrubs.....	<u>86. Euphorbiaceae</u>
21	Stamens 10 or more ; trees or shrubs :	22
	Stamens fewer than 10 :	23

KEY TO THE FAMILIES OF DICOTYLEDONS

- 22 Stigmas terminating 2 or more styles ; branches often armed with axillary spines [53. Flacourtiaceae](#)
 Stigmas sessile or subsessile, 2 or more, entire or 2-lobed ; branches without spines [86. Euphorbiaceae](#)
- 23 Leaves with stipules or stipular spines ; styles 2-4, free or united below, or stigmas sessile ; fruit an unwinged capsule or indehiscent or separating into 2 winged cocci ; trees or shrubs or herbs, sometimes climbing [86. Euphorbiaceae](#)
 Leaves without stipules ; style 1 ; fruit a septieidal capsule with 2 or more longitudinal membranous wings ; shrubs or trees [119. Sapindaceae](#)
- 24 Ovary 2- or more-locular : 25
 Ovary 1-locular : 34
- 25 Flowers bisexual : 26
 Flowers unisexual or polygamous, sometimes grouped in involucre inflorescences simulating bisexual or male flowers : 27
- 26 Trees or shrubs ; sepals united into a tube ; stamens twice as many as the calyx-lobes, perigynous, inserted on the calyx-tube ; fruit a drupe [46. Thymelaeaceae](#)
 Herbs ; sepals free ; stamens hypogynous or subhypogynous ; fruit separating into 2 cocci sometimes winged along the back [30. Molluginaceae](#)
- 27 Male flowers reduced to a single stamen with or without a minute vestigial calyx : 28
 Male flowers with 2 or more stamens and with a calyx of 2 or more free or united sepals : 29
- 28 Flowers solitary or paired in the axils of the leaves ; ovary 4-locular ; leaves opposite ; aquatic or subaquatic herbs [45. Haloragaceae](#)
 Flowers grouped in involucre inflorescences, the involucre either cupular or composed of free bracts and containing a number of male flowers with or without a female flower ; ovary 2-4-locular ; leaves alternate or opposite, sometimes reduced to scales or stipular spines ; terrestrial herbs or shrubs or trees, sometimes succulent [86. Euphorbiaceae](#)
- 29 Leaves pinnate ; trees or shrubs [119. Sapindaceae](#)
 Leaves simple or digitately 3-foliolate : 30
- 30 Filaments completely united into a column bearing 8-20 anthers ; trees with simple or 3-foliolate leaves [86. Euphorbiaceae](#)
 Filaments all or some free at least above ; leaves simple, sometimes lobed or deeply divided : 31
- 31 Stamens 2-5 ; trees or shrubs or herbs, sometimes climbing [86. Euphorbiaceae](#)
 Stamens 6 or more : 32
- 32 Branches armed with axillary spines ; fruit a berry ; shrubs or trees [53. Flacourtiaceae](#)
 Branches without spines : 33
- 33 Leaves with stipules ; ovary 2-4-locular ; styles or stigmas 1-4, often branched or lobed ; fruit a capsule, sometimes tardily dehiscent or indehiscent ; trees or shrubs or herbs, sometimes climbing .. [86. Euphorbiaceae](#)
 Leaves without stipules ; ovary 5-7-locular ; styles 5-7, not branched or lobed ; fruit a berry ; climbing shrubs with flowers in elongated racemes [35. Phytolaccaceae](#)
- 34 Leaves absent or reduced to scales ; flowers spicate : 35
 Leaves present, not reduced to scales : 36
- 35 Slender twining parasitic plants ; flowers not immersed in the rachis of the spike ; stamens 6-9, accompanied by staminodes ; anthers opening by upcurving valves [6. Lauraceae](#)
 Succulent salt-marsh herbs with articulated branches, not parasitic ; flowers immersed in the rachis of the spike ; stamens 1-2 ; anthers opening by longitudinal slits [36. Chenopodiaceae](#)
- 36 Leaves with stipules or with a sheathing or annular base surrounding the stem : 37
 Leaves without stipules, the base not sheathing or surrounding the stem : 49
- 37 Leaves 1-4-pinnate or 2-foliolate : 38
 Leaves simple or digitate with 3 or more leaflets : 39
- 38 Herbs ; leaves 2-4-pinnate ; fruit a small stipitate achene, not winged [9. Ranunculaceae](#)
 Trees ; leaves 1-pinnate or 2-foliolate ; fruit large, sessile or stipitate, woody or winged [89. Caesalpiniaceae](#)
- 39 Ovule pendulous from the apex or near the apex of the ovary ; flowers unisexual or polygamous : 40
 Ovule arising from the base or near the base of the ovary : 43
- 40 Leaves all or mostly digitate ; male flowers in elongated panicles, female flowers spicate and enclosed by bracts ; annual herbs [98. Cannabinaceae](#)
 Leaves simple : 41

KEY TO THE FAMILIES OF DICOTYLEDONS

- 41 Flowers densely spicate or capitate, or arranged on or in a flat or cupular receptacle or inside a hollow almost closed receptacle (fig), the females sometimes solitary on a bracteate receptacle or sometimes immersed in the tissue of the receptacle ; perianth present or absent ; trees or shrubs or herbs, sometimes epiphytic [96. Moraceae](#)
 Flowers solitary or fasciculate or in cymes or racemes or panicles ; perianth present ; trees or shrubs : 42
- 42 Style 2-branched with simple or divided stigmas ; fruit a drupe or a membranous-winged samara.. [95. Ulmaceae](#)
 Style short, unbranched ; fruit a capsule or indehiscent, not winged [86. Euphorbiaceae](#)
- 43 Leaves opposite : 44
 Leaves alternate : 45
- 44 Flowers unisexual ; stamens as many as and opposite to the calyx-segments or reduced to 1 ; leaves marked with cystoliths ; herbs or shrubs [97. Urticaceae](#)
 Flowers bisexual ; stamens as many as and alternating with the calyx-segments ; leaves small, fleshy, not marked with cystoliths ; herbs..... [31. Ficoidaceae](#)
- 45 Perianth absent ; flowers minute, in dense spikes ; shrubs, sometimes climbing [14. Piperaceae](#)
 Perianth present, sometimes vestigial in female flowers : 46
- 46 Styles or style-branches 2–3 ; stamens 5 or more ; leaves often with a basal sheath (ocrea) or annulus surrounding the stem ; herbs or shrubs or trees, sometimes climbing or aquatic [33. Polygonaceae](#)
 Style 1, unbranched, or stigma sessile ; stamens 1–8 : 47
- 47 Flowers bisexual, in spike-like racemes ; stamens as many as and alternating with the calyx-segments or more numerous ; herbs or shrublets..... [35. Phytolaccaceae](#)
 Flowers unisexual ; stamens as many as and opposite to the calyx-segments or reduced to 1 : 48
- 48 Stamens or single stamen erect in bud ; flowers dioecious, the males densely crowded in panicle spikes or heads, the females in pedunculate heads ; leaves simple or digitately compound ; trees or shrubs [96. Moraceae](#)
 Stamens inflexed in bud ; flowers monoecious or dioecious, cymose, the cymes often dense or head-like and sometimes enclosed in an involucre ; leaves simple, sometimes pinnately lobed or palmately 3-lobed, often marked with cystoliths ; herbs or shrubs, sometimes climbing or epiphytic [97. Urticaceae](#)
- 49 Submerged aquatic herbs ; leaves verticillate, deeply dichotomously divided into linear or filiform segments ; flowers unisexual, solitary and sessile in the axils of the leaves [10. Ceratophyllaceae](#)
 Plants terrestrial ; leaves alternate or opposite or verticillate, sometimes pinnately lobed but not dichotomously divided : 50
- 50 Perianth absent ; flowers in spikes : 51
 Perianth present : 52
- 51 Trees ; flowers unisexual ; stamens 3–12 ; styles 2, free or shortly united below ; leaves alternate, mostly toothed [94. Myricaceae](#)
 Herbs, sometimes climbing or epiphytic ; flowers bisexual; stamens 2 ; style absent, the stigma sessile ; leaves alternate or opposite or verticillate, entire [14. Piperaceae](#)
- 52 Stamens united into a column ; seed arillate ; flowers dioecious, in small solitary or clustered (sometimes paniculate) umbels or heads ; trees or climbing shrubs [8. Myristicaceae](#)
 Stamens free or the filaments united at the base into a cup ; seed not arillate : 53
- 53 Anthers opening by upcurving valves ; calyx with 6–8 lobes in 2 series ; stamens 6–12 in 2-3 series, accompanied on the inside by staminodes ; trees or shrubs [6. Lauraceae](#)
 Anthers opening by longitudinal slits ; calyx with 3-6 segments or lobes in 1 series : 54
- 54 Stamens more numerous than the calyx-segments or -lobes : 55
 Stamens as many as or fewer than the calyx-segments or -lobes, sometimes alternating with staminodes : 57
- 55 Ovule arising from the base of the ovary ; stamens fewer than twice as many as the calyx-lobes ; calyx tubular, petaloid, the lower portion persistent round the fruit and often bearing glands on the outside ; herbs or shrubs, sometimes climbing..... [47. Nyctaginaceae](#)
 Ovule pendulous from the apex of the ovary ; stamens twice as many as the calyx-segments or -lobes or more numerous : 56
- 56 Flowers bisexual ; sepals united into an elongated tube ; stamens inserted on the calyx-tube ; leaves alternate or opposite ; shrubs or herbs, sometimes climbing [46. Thymelaeaceae](#)
 Flowers unisexual ; sepals shortly united at the base ; stamens not inserted on the calyx ; leaves opposite or subopposite ; shrubs or trees [5. Monimiaceae](#)
- 57 Leaves opposite : 58
 Leaves alternate : 59
- 58 Calyx petaloid, the sepals united into a tube constricted above the ovary, the lower portion persistent round the

KEY TO THE FAMILIES OF DICOTYLEDONS

- fruit and often bearing glands on the outside ; stamens not accompanied by staminodes ; herbs, sometimes climbing [47. Nyctaginaceae](#)
- Calyx dry and scarious, the sepals free or shortly united at the base, not forming a tube constricted above the ovary ; stamens often alternating with staminodes ; herbs or shrubs, sometimes climbing ... [37. Amaranthaceae](#)
- 59** Calyx with 3-4 valvate segments or lobes : **60**
- Calyx with 3-5 imbricate segments or lobes : **61**
- 60** Trees or shrubs ; flowers bisexual, in large bracteate heads or in elongated spikes; stamens inserted on the calyx-segments [48. Proteaceae](#)
- Herbs, sometimes climbing ; flowers unisexual or polygamous, in small dense or lax cymes in the axils of the leaves ; stamens not inserted on the calyx [97. Urticaceae](#)
- 61** Stamens 4, as many as and alternating with the calyx-segments ; calyx zygomorphic; herbs with flowers in racemes [35. Phytolaccaceae](#)
- Stamens 1-5, as many as and opposite to the calyx-segments or -lobes or fewer ; calyx actinomorphic : **62**
- 62** Sepals united below into a tube with 2 adnate bracteoles outside ; twining herbs with flowers in axillary pedunculate spikes [38. Basellaceae](#)
- Sepals free or shortly united below, without adnate bracteoles ; herbs or shrubs, not twining : **63**
- 63** Calyx dry and more or less searious ; stamens sometimes alternating with staminodes ; leaves entire [37. Amaranthaceae](#)
- Calyx herbaceous ; stamens not accompanied by staminodes ; leaves entire or toothed or pinnately lobed [36. Chenopodiaceae](#)

Group 13

- 1** Parasitic shrubs growing on branches of other shrubs or trees ; ovule scarcely distinguishable from the surrounding tissue of the ovary ; calyx truncate or shortly lobed ; stamens as many as and inserted on the petals ; leaves simple, entire [109. Loranthaceae](#)
- Plants not parasitic ; ovule or ovules clearly distinguishable within the ovary : **2**
- 2** Ovary 1-locular : **3**
- Ovary 2- or more-locular, septate up to or almost up to the apex : **11**
- 3** Ovule 1 : **4**
- Ovules 2 or more : **7**
- 4** Leaves digitate with 3-5 leaflets ; anthers opening by upcurving valves ; stamens as many as the petals ; fruit with 2-4 broad lateral wings ; climbing shrubs [7. Hernandiaceae](#)
- Leaves simple, sometimes palmately lobed ; anthers or single anther opening by longitudinal slits : **5**
- 5** Leaves opposite ; flowers zygomorphic, the median (adaxial) sepal with 2 superposed spurs ; stamen 1 ; fruit indehiscent, crowned by the persistent accrescent sepals, 2 much larger than the others and wing-like ; trees [23. Vochysiaceae](#)
- Leaves alternate ; flowers actinomorphic ; stamens as many as or more numerous than the petals : **6**
- 6** Petals contorted ; fruit indehiscent, crowned by the persistent accrescent winglike sepals ; leaves equal-sided ; climbing shrubs with hooked spines [64. Ancistrocladaceae](#)
- Petals valvate ; fruit a drupe, not crowned by accrescent wing-like sepals ; leaves often unequal-sided; trees without spines [123. Alangiaceae](#)
- 7** Style 1, unbranched ; trees or shrubs, sometimes climbing : **8**
- Styles or style-branches 2-6 ; herbs or shrublets : **9**
- 8** Ovules pendulous from the apex or near the apex of the ovary ; fruit indehiscent, often with 2-6 longitudinal wings or angles ; flowers in racemes or spikes or heads ; leaves opposite or verticillate or alternate [69. Combretaceae](#)
- Ovules borne on a free-basal or free-central placenta ; fruit a berry, not winged or angled ; flowers in lax or dense cymes or fascicles or umbels, sometimes paniculate ; leaves opposite [68. Melastomataceae](#)
- 9** Ovules numerous on 1 or more free-basal placentas ; sepals 2, often deciduous ; fruit a circumscissile capsule [32. Portulacaceae](#)
- Ovules pendulous from the apex of the ovary or on pendulous apical placentas ; sepals or calyx-lobes 4-5 ; fruit not circumscissile : **10**
- 10** Ovules numerous on 2-3 pendulous placentas ; flowers bisexual, in axillary pairs ; petals and stamens 5 ; leaves opposite [25. Saxifragaceae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- Ovules 4, pendulous from the apex of the ovary ; flowers bisexual or unisexual, in axillary clusters ; petals and stamens 4 ; leaves opposite or alternate..... [45. Haloragaceae](#)
- 11** Ovary with 2 or more ovules in each loculus : **12**
- Ovary with 1 ovule in each loculus : **17**
- 12** Leaves with free or interpetiolar stipules : **13**
- Leaves without stipules : **14**
- 13** Leaves alternate, sometimes all radical, often unequal-sided ; flowers unisexual ; stamens numerous, more than twice as many as the petals ; ovules numerous in each loculus ; herbs or shrubs, sometimes climbing or epiphytic, not viviparous [60. Begoniaceae](#)
- Leaves opposite ; flowers bisexual ; stamens twice as many as the petals ; ovules 2 in each loculus ; viviparous littoral trees or shrubs [70. Rhizophoraceae](#)
- 14** Anthers opening by a terminal pore ; connective often appendaged below the anther ; leaves with 3 or more longitudinal parallel nerves, opposite, sometimes all radical ; herbs or shrubs, sometimes climbing or epiphytic [68. Melastomataceae](#)
- Anthers opening by longitudinal slits ; connective unappendaged ; leaves without parallel longitudinal nerves : **15**
- 15** Stamens as many or twice as many as the petals ; herbs or shrubs, sometimes aquatic [43. Onagraceae](#)
- Stamens numerous, more than twice as many as the petals : **16**
- 16** Leaves alternate ; fruit with 4 longitudinal membranous wings ; trees [67. Lecythidaceae](#)
- Leaves opposite ; fruit a berry, unwinged ; trees or shrubs or sometimes herbs [66. Myrtaceae](#)
- 17** Stamens twice as many as the petals : **18**
- Stamens as many as the petals : **19**
- 18** Annual herbs ; leaves toothed or pinnately lobed ; flowers solitary, axillary ; fruit a prickly capsule [87. Rosaceae](#)
- Trees or shrubs ; leaves entire ; flowers in solitary or aggregated spikes ; fruit a drupe, not prickly [70. Rhizophoraceae](#)
- 19** Stamens opposite to the petals : **20**
- Stamens alternating with the petals : **21**
- 20** Ovules erect from the base of the loculi ; leaves with stipules ; fruit unwinged or with 1–3 wings, sometimes separating into 3 cocci ; trees or shrubs, sometimes climbing with or without tendrils [112. Rhamnaceae](#)
- Ovules pendulous from the apex or near the apex of the loculi ; leaves without stipules ; fruit drupaceous, not winged ; trees [104. Olacaceae](#)
- 21** Flowers solitary in the axils of the leaves ; floating aquatic herbs ; leaves alternate, rosulate, with a more or less inflated petiole ; fruit large, indehiscent, with hard endocarp and armed with 2 horns [44. Trapaceae](#)
- Flowers grouped in inflorescences ; plants not floating on water : **22**
- 22** Fruit separating into 2 cocci ; herbs or sometimes shrubs or trees ; flowers in simple or compound umbels, sometimes capitate or spicate ; leaves often much divided or compound [125. Umbelliferae](#)
- Fruit drupaceous, not separating into cocci ; trees or shrubs, sometimes climbing : **23**
- 23** Leaves pinnate or digitate ; flowers in umbels or racemes or spikes or heads, sometimes paniculate [124. Araliaceae](#)
- Leaves simple, often unequal-sided ; flowers in axillary cymes [123. Alangiaceae](#)

Group 14

- 1** Parasitic shrubs growing on branches of other shrubs or trees ; ovule scarcely distinguishable from the surrounding tissue of the ovary ; calyx truncate or lobed ; stamens as many as and inserted on the corolla-lobes ; leaves simple, entire [109. Loranthaceae](#)
- Plants not parasitic ; ovule or ovules clearly distinguishable within the ovary : **2**
- 2** Ovary 1-locular : **3**
- Ovary 2- or more-locular : **7**
- 3** Ovule 1 ; flowers actinomorphic or zygomorphic, in involucre heads ; fruit indehiscent, often crowned by the persistent calyx forming a pappus of bristles or scales : **4**
- Ovules numerous or several on 1 or more free-basal placentas ; flowers actinomorphic, not in involucre heads : **5**
- 4** Anthers united into a tube surrounding the style ; ovule erect from the base of the ovary ; herbs or shrubs or trees, sometimes climbing ; corolla of the outer (ray) flowers often differing from that of the inner (disk) flowers [139. Compositae](#)

KEY TO THE FAMILIES OF DICOTYLEDONS

- Anthers free ; ovule pendulous from the apex of the ovary ; herbs with opposite leaves [138. *Dipsacaceae*](#)
- 5** Calyx composed of 2 often deciduous sepals ; stamens more numerous than the corolla-lobes ; fruit a circumscissile capsule ; herbs.....[32. *Portulacaceae*](#)
- Calyx 4-5-lobed ; stamens as many as and opposite to the corolla-lobes ; fruit not circumscissile :**6**
- 6** Herbs ; flowers bisexual, in terminal racemes ; fruit a 5-valved capsule.....[142. *Primulaceae*](#)
- Trees or shrubs, sometimes climbing ; flowers unisexual or polygamous, in axillary racemes or panicles ; fruit a berry [130. *Myrsinaceae*](#)
- 7** Climbing herbs with tendrils ; flowers unisexual ; stamens 3, with flexuous anthers[59. *Cucurbitaceae*](#)
- Plants without tendrils ; flowers bisexual or unisexual ; anthers not flexuous :**8**
- 8** Corolla forming a deciduous cap (calyptra) ; stamens very numerous ; trees or shrubs with gland-dotted leaves[66. *Myrtaceae*](#)
- Corolla not forming a deciduous cap :**9**
- 9** Leaves opposite or verticillate, with interpetiolar or intrapetiolar stipules, the stipules sometimes leaf-like ; trees or shrubs or herbs, sometimes climbing [137. *Rubiaceae*](#)
- Leaves alternate or sometimes opposite, without stipules : **10**
- 10** Flowers with a 2-seriate lacinate corona outside the stamens ; corolla many-ribbed, the ribs ending in short teeth ; trees or shrubs, sometimes climbing[67. *Lecythidaceae*](#)
- Flowers without a corona ; corolla 5-lobed : **11**
- 11** Corolla zygomorphic, split down the upper (adaxial) side : **12**
- Corolla actinomorphic, not split down one side ; herbs : **13**
- 12** Anthers united into a tube surrounding the style ; ovules numerous in each loculus; fruit a capsule ; herbs[147. *Lobeliaceae*](#)
- Anthers free ; ovule 1 in each loculus ; fruit a drupe ; littoral shrubs or herbs[148. *Goodeniaceae*](#)
- 13** Corolla-lobes imbricate ; fruit a circumscissile capsule ; flowers in terminal spikes [145. *Sphenocleaceae*](#)
- Corolla-lobes valvate ; fruit a capsule dehiscent by apical valves ; flowers in cymes or panicles[146. *Campanulaceae*](#)

Group 15

- 1** Ovary 2- or more-locular with numerous clearly distinguishable ovules in each loculus ; plants with well-developed, leaves :**2**
- Ovary 1-locular, the ovule or ovules sometimes scarcely distinguishable from the surrounding tissue ; plants with or without well-developed leaves :**3**
- 2** Flowers unisexual ; perianth composed of 2 or more free petaloid segments ; stamens numerous, the anthers free ; leaves with stipules, often unequal-sided ; herbs or shrubs, sometimes climbing or epiphytic [60. *Begoniaceae*](#)
- Flowers bisexual ; perianth with an elongated tube inflated below, the mouth 2-6-lobed or produced unilaterally into a single lobe; stamens 6-24, the anthers adnate to the style ; leaves without stipules ; herbs or shrubs, often climbing [13. *Aristolochiaceae*](#)
- 3** Leaves reduced to scales ; plants parasitic on roots :**4**
- Leaves well developed, not scale-like :**5**
- 4** Flowers unisexual, in involucre heads ; ovule 1, scarcely distinguishable from the surrounding tissue of the ovary ; fleshy herbs with unbranched flowering stems densely covered with scale-leaves [111. *Balanophoraceae*](#)
- Flowers bisexual, solitary or clustered or in short spikes ; ovules 2-4, pendulous from the apex of a slender free-basal placenta ; herbs or shrublets with slender branches.....[110. *Santalaceae*](#)
- 5** Parasitic shrubs growing on branches of other shrubs or trees ; ovule or ovules scarcely distinguishable from the surrounding tissue of the ovary ; flowers unisexual ; anthers as many as and sessile on the perianth-segments ; leaves opposite [109. *Loranthaceae*](#)
- Plants terrestrial, not parasitic ; ovule or ovules clearly distinguishable within the ovary :**6**
- 6** Ovule 1 :**7**
- Ovules 2 or more :**9**
- 7** Flowers unisexual, densely capitate or arranged on or in a flat or cupular receptacle, the females sometimes solitary in the receptacle ; anthers opening by longitudinal slits ; leaves with stipules ; trees or shrubs or herbs[96. *Moraceae*](#)
- Flowers bisexual or unisexual, in cymes or panicles ; anthers opening by up-curving valves ; leaves without stipules :**8**

KEY TO THE FAMILIES OF DICOTYLEDONS

- 8 Stamens 9 ; anthers 4-valved ; perianth-segments 6 ; trees[6. Lauraceae](#)
 Stamens 3–7 ; anthers 2-valved ; perianth-segments 4–10 ; trees or climbing shrubs[7. Hemandiacae](#)
- 9 Stamens 6–10, more numerous than the perianth-segments or -lobes ; flowers in racemes or spikes or heads ; fruit indehiscent, often with 2–5 longitudinal wings ; trees or shrubs[69. Combretaceae](#)
 Stamens 4–5, as many as the perianth-segments or -lobes : **10**
- 10 Styles 4 ; stamens 4 ; ovules 4, pendulous from the apex of the ovary ; herbs or shrublets with flowers in axillary clusters[45. Haloragaceae](#)
 Style 1 with an entire or lobed stigma ; stamens 5 : **11**
- 11 Stigma large, with radiating lobes ; stamens opposite to the perianth-segments ; ovules 3-4, pendulous from the apex of the ovary at the top of a slender free-central axis ; flowers with stellate hairs on the outside of the perianth and ovary, in racemes or spikes or panicles ; trees[108. Octoknemataceae](#)
 Stigma small, entire ; stamens alternating with the perianth-lobes ; ovules 2, pendulous from the apex of the ovary ; flowers without stellate hairs, in dense heads; maritime shrubs[69. Combretaceae](#)